



SAFE DRINKING WATER PROJECT PROPOSAL OVERVIEW

Our very life depends on clean drinking water. We can survive without food for up to 2 months, but without water, we will die within 3 days. Contaminated drinking water is a worldwide crisis, and the situation is getting worse, not better. The impact in under-developed counties is staggering, resulting in needless suffering and death where the struggle for life is already difficult. Consider the facts:

- 80% of all illnesses result directly from waterborne pathogens.
- 5 million people, most of them children, die each year from diarrhea. The primary cause of diarrhea is contaminated drinking water.
- 2.5 billion incidents of illness are caused by contaminated water every year.
- 50% of hospitalizations result from waterborne disease.
- The leading cause of death for children under the age of five is infection from waterborne diseases.
- At any one time, approximately one billion people suffer from diseases contracted by consuming contaminated water.
- 1.2 billion people do not have access to safe drinking water. The World Health Organization predicts that by 2025, this number will increase to more than 2 billion.

Safe Water Systems is proud to offer a solution: Solar Water Pasteurizers.

SOLAR WATER PASTEURIZATION TECHNOLOGY

Solar Water Pasteurizers disinfect microbiologically contaminated water by combining two time-tested technologies: pasteurization and solar water heating. Solar Water Pasteurizers use the heat of the sun to kill water-borne pathogens and make water safe to drink.

It is a common misconception that water must be boiled to be disinfected. In fact, water can be pasteurized, just like milk, juices, wine and beer. Independent laboratory tests confirm that our Solar Water Pasteurizers are 99.999% effective in destroying microbiological contaminants, including all disease-causing bacteria, viruses and protozoa. Solar Water Pasteurizers are more effective in purifying water than chlorine, UV radiation, household filters or slow sand filters.

Solar Water Pasteurizers are a simple, effective, long-term solution to the contaminated drinking water crisis. Our mission is to improve the health, well-being and quality of life for millions of people worldwide.

The impact of having safe drinking water is tremendous:

- Lives are saved
- Illnesses are greatly reduced
- Health is dramatically improved
- Economic conditions improve
- Educational opportunities improve

Solar Water Pasteurizers offer many benefits:

- After initial purchase, there are no on-going expenses
- No electricity or fuel is needed—they can be used anywhere the sun shines
- No replacement parts or supplies are needed
- Low per-capita cost, less than \$0.50 per person per year
- No operating cost
- Automatic operation. A skilled technician is not required
- Practically no maintenance
- High reliability for sustainable, long-term operation
- Life expectancy of 15+ years
- Saves time or money where fuel is gathered or purchased to boil water
- Reduces deforestation and air pollution where wood is used to boil water

SCOPE OF SERVICES

The purpose of this conceptual proposal is to describe the scope of services that can be provided by Safe Water Systems and how our solar water pasteurization technology offers a cost-effective solution to the contaminated drinking water crisis. The proposed project has 4 phases:

1. Project Design
2. Project Implementation
3. Health and Sanitation Education
4. Project Monitoring and Evaluation

PHASE 1: Project Design

Scope: Safe Water Systems (SWS), in conjunction with the Project Partners, will design, specify, coordinate, manage, implement, monitor and evaluate a program to install Solar Water Pasteurizers in the selected location. Project Partners may include a funding organization, an implementing organization, one or more government agencies, and the project beneficiaries.

Identify In-Country Partner: The Project Partners will identify a suitable local organization to act as an In-Country Partner (ICP). Non-governmental organizations,

non-profit organizations and faith-based organizations are types of ICPs that can manage safe drinking water projects.

Because of their involvement in the communities they serve, ICPs are able to identify and describe the social, cultural and political conditions. Since ICPs typically have excellent working relationships with community leaders, they are well-positioned to interface between the beneficiaries, Safe Water Systems and the Project Partners.

Site Selection: In conjunction with the funding organization and the ICP, SWS will specify site selection criteria in order to maximize the potential for successful installations. Selection criteria includes aspects such as water supply conditions, public health indicators, community involvement/level of organization, ambient temperature, sunlight conditions, as well as social, cultural and political considerations.

Detailed Planning: SWS will prepare a detailed implementation plan for each installation site. To help ensure a successful project, the In-Country Partner, community leaders and beneficiaries will all be engaged from the initial stages to participate in the planning process. Community involvement is essential for 1) determining the best sites for the Solar Water Pasteurizers, 2) discussing social and cultural aspects of the project, and 3) coordinating a health education program.

Technical Design and Equipment Specification: Once the installation sites are chosen, the technical design aspects of the project can be determined. An important factor in the design process is determining how the water source (river, lake, stream, shallow well, etc.) will be connected to the Solar Water Pasteurizer. Once this and other site-specific conditions are identified, the project budget may be finalized.

The project size is easily scalable and can be sized according to the available funding, the number of people to be served, or the number of systems to be installed. For the purpose of scaling the project, each Solar Pasteurizer unit can provide safe drinking water for approximately 500 people. Possible installation sites may include village centers, health clinics, hospitals, schools and orphanages.

Safe Water Systems will provide all the necessary equipment for a complete installation. The equipment components include:

- Solar Water Pasteurizer system
- Installation kit including filter, pipe, pipe fittings
- Foundation materials and installation hardware kit
- Safe water tank and supply tank (if required)
- Tower kit (if required)
- Spare parts

PHASE 2: Project Implementation

Equipment Procurement and Delivery: Once specified, the equipment can be ordered and purchased. During the procurement process, SWS will handle shipping arrangements; including coordinating freight forwarders, shipping companies, and import agents. Equipment will be shipped by ocean freight in container-load quantities. Import duty waivers for humanitarian projects, if available, will be obtained in advance of shipment.

Installation Crew Training: SWS will travel to the project country to train installation crews. Installation of Solar Water Pasteurizers is not difficult and can be accomplished by people with basic mechanical or plumbing experience. Crews will be trained to accomplish pre-installation site analysis, Solar Water Pasteurizer installation, system maintenance, troubleshooting, and repair service.

Quality Control. SWS will supervise the installation crews and carry out quality control inspections to insure proper installation and system performance.

PHASE 3: Health and Sanitation Education

A key element in the success of a safe drinking water project is including an educational component. It is essential to teach users the importance of clean water, how water becomes contaminated, how people get sick from contaminated water, how safe water can become re-contaminated, how illness can be prevented through proper sanitation and hand washing, etc.

SWS will coordinate a comprehensive health education program for the project recipients with the ICP and local health officials. Independent, health-oriented NGOs may be contracted to perform the work. Community leaders will be involved in the planning and implementation of the health and sanitation education program.

PHASE 4: Project Monitoring and Evaluation

To evaluate the effectiveness of the project, a comparison will be made of conditions before and after the installation. SWS will coordinate testing of the water to document effectiveness, and monitor the system's performance for a period of time. Independent organizations or the ICP may be requested to carry out the testing and evaluation. Findings and conclusions will be provided in the final report.

ROLES AND RESPONSIBILITIES

Project Recipients

- Participate in project development
- Provide secure location for equipment
- Prepare installation site fencing & foundations
- Provide service and support personnel
- Participate in cost-sharing or purchase of water
- Implement health and hygiene education program

In-Country Partner

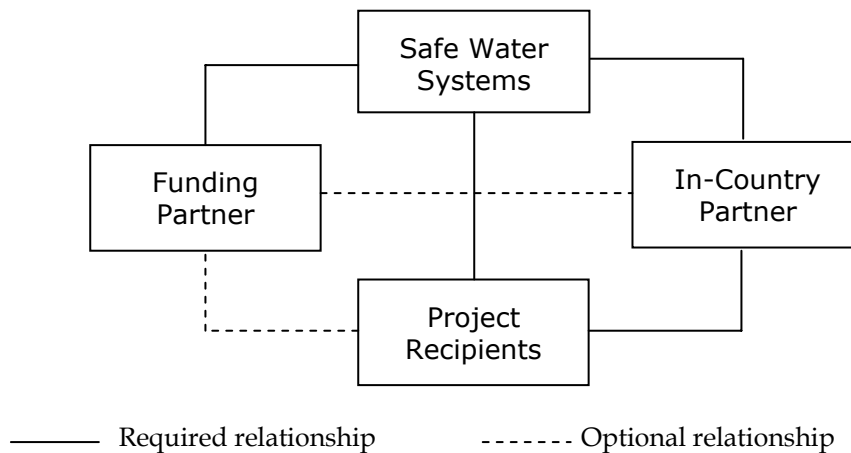
- Identify appropriate project recipients and sites
- Develop project in conjunction with recipients
- Perform site survey
- Coordinate social, cultural and political concerns
- Coordinate equipment arrival, customs clearance and delivery to project sites
- Coordinate health and hygiene education program
- Monitor and evaluate project performance

Funding Partner

- Provide seed funding for project development
- Provide funding for project implementation
- Optional: specify In-Country Partner and/or project recipients

Safe Water Systems

- Provide overall project planning & coordination
- Provide technical design and equipment specification
- Create project budget
- Coordinate equipment procurement & shipping
- Provide installation and service crew training
- Provide quality control & technical support
- Write final project report



CONCLUSION

10,000 people, mostly children, die every day because of diseases contracted from contaminated water. By working together with our Project Partners, we have the capability to implement large-scale safe drinking water programs that will immediately save lives, reduce human suffering and greatly improve the quality of life for those served.