Mali Water Project: Creating a Sustainable Water System for the village of Konilo-Coura, Mali

Objective 1: Creation of a Water Distribution System

The implementation of the water distribution system will enable easy access to water, thus allowing residents to allocate time to work, education, and family. The MWP has:

- Researched and designed a solar powered water distribution system to pump water from village well to various strategically placed spigots.
- Developed a technical design with costs and needs specific to the village.

Water Distribution System Components

- Drilled well
- Submersible solar powered pump
- Solar panels
- Raised reservoir
- Force Main: takes water from pump to reservoir
- Distribution network: pipelines and spigots

The pump, the tank, and the pipelines are sized to supply water at an appropriate flow rate and pressure to the village.

Background

Mali Water Project (MWP), part of the Learning in Community (LINC) program, works with residents in the village of Konilo-Coura in Mali, Africa.

- Village population is about 750 people, a majority of whom work in agriculture and earn less than $2/day
- Access water from dug wells via a rope and bucket system, which is physically demanding
- Water collection is time intensive, which decreases opportunities for education and business
- Lack of sanitation leads to waterborne infections & diseases

In Summer 2014, the MWP team taught the water committee to build biosand filters.

We are developing a business & operations plan for filter construction & distribution.

This will generate revenue and improve the quality of life for people in the village.

MWP team with a biosand filter constructed on the 2014 trip

Konilo-Coura residents building their own biosand filter

Objective 2: Biosand Filters

Biosand filters (BSFs) are used to remove pathogens from water that can cause waterborne diseases. They are relatively inexpensive and made from materials that are easily available in developing countries.

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- This will generate revenue and improve the quality of life for people in the village.

NGO partnership with Sahel Eco

Created partnership with Sahel Eco, a non governmental organization, working in Mali to assist in WDS maintenance and training activities

Funding

Applying for multiple grants from funders focused on global development

Business Model

Developing business model to facilitate community-driven operations and maintenance of the system, which will generate funds to reinvest in the community

Business Plan

Working with the community based water committee to develop a sustainable business and operations plan grounded in best practices to meet the specific needs of the villagers. Training the committee to manage the income generated through the business and allocate it efficiently and effectively so that it benefits the entire community.

Operations Plan

Developed a plan for proper construction, use, and maintenance of BSF. Its components include:

- Maintenance Plan: To keep track of regular maintenance for filters and their troubleshooting
- Sales Pitch: To explain the importance of using a BSF to community and generate a demand for sales
- Health Education: To improve the understanding of the filter’s effects on health and well-being and create buy-in for using and maintaining BSF in the village.

- The LINC staff - Valeri Werpetinski and Shikhank Sharma
- Dr. Osee Sanago
- Anaïs Begat

for guidance and support throughout the project

Proposed schematic of WDS

Satellite image of Konilo-Coura, showing the location of the proposed WDS

Photograph of a well where villagers collect water

Children playing in one of the village wells

Explanation of profit allocation for BSF project

Organization plan for the Water Distribution System with all stakeholders

Representative structure and operating principles of a BSF