



SAFewater
PROJECT

BUSINESS MODULE





PART 1 : MARKET & FIELD ASSESSMENT

The purpose of this Market Assessment is to determine the needs and capacity to support a safe water project in your area by engaging members of the community. These should include families, health care workers, government representatives, NGOs, and other professionals as necessary. This guide will outline key activities that should be completed during the assessment phase with links to helpful resources.

PART 1.1: CONSULT EXISTING ORGANISATIONS

The project team should consult existing organisations related to safe water in the community to prevent duplication of effort and to work together in a way which complements each group's goals and mission. There may be charities, NGOs, or other volunteer or missions groups already operating in your area and doing water-related work. It is important to understand their vision, how they operate, and if there is any possibility to work together. Start by asking these questions:

- Are there any existing charities or NGOs in the area with an interest in Safe Water?
- If so, what kind of work do they do? Is it related to the work you want to do?
- How does the community feel towards them? What do they like (what is working) and what do they not like (what isn't working)?
- What is their mission? Is there a possibility to partner together?


If there are existing charitable NGOs who are providing safe water for free, you can consider partnering with them since it is likely that you share the same goal. Some ways you could partner are:

- Have them sponsor filters for vulnerable groups (and to be clear who is eligible for a free filter and hence who will need to purchase their own)
- Have them provide water test kits if needed
- Have them provide molds or other parts if needed. Each mold is approximately \$1000-\$1500 USD. Each project typically needs 1-2 molds depending on demand.
- You provide filters to purify water from contaminated wells or pumps they own

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PART 1.2 : KEY COMMUNITY STAKEHOLDERS & OPINION LEADERS

KEY COMMUNITY STAKEHOLDERS

The project team should identify all key stakeholders in the community and engage them to help identify and assess the need. It is recommended to interview ( **DOWNLOAD survey forms** to use during interviews):

- 25 community members.
- 10 health care workers.
- Relevant government officials. Also ask them which locations they would recommend for your project.
- Relevant NGOs and also inquire about potential locations for your project.

KEY OPINION LEADERS

Key Opinion Leaders In addition to health workers, doctors, religious leaders, and other community leaders can be valuable partners in communicating the benefits of your project. It is a good idea to introduce yourself and the project at the beginning so they will be more likely to support sales later. These people can include:

- Community leaders
- Churches/Religious leaders
- Government officials
- Elders
- Doctors
- Teachers

Key Opinion Leaders may ask for a free filter. Do not give them one for free because this will create an expectation of donations and will make it very difficult to earn money and continue the project later on.

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PART 1.3 :

WATER QUALITY TESTING (OPTIONAL)

If a water source is contaminated, water quality testing will enable you to demonstrate it to community members. This will help your project educate the community and build a stronger case for water related illness prevention using a filter.

The following water quality testing resource can be consulted to guide you through the process of testing a specific source of water in your community. If a water source is contaminated, water quality testing will enable you to demonstrate it to community members to help your project educate the community and build a stronger case for water related illness prevention.

HOW TO DO WATER QUALITY TESTING

Performing tests on water quality in your area will help you, as well as community members, determine the need for treatment. This is not necessary, as the surveys may provide enough information on local health effects/costs of unsafe water. However, in some communities, it could be helpful for raising awareness and providing proof to some who may not believe their water is unsafe. Some suggestions of testing methods are as follows:

- 1. COLIPLATE :** The Coliplate method tests for E.Coli bacteria which is found in feces and is harmful to our health if it is in our drinking water. After placing the samples in an incubator overnight, they will turn blue if there is E.Coli in the water. The Safe Water Project and Kambagiri Foundation like to use these kits from Bluewater Biosciences Inc. as they can be easily interpreted by community members. A community health agent from Jerusalem, South Sudan literally grabbed the test from Figure 2 below and ran home to meet with the community elders. <http://bluewaterbiosciences.com>. The standard incubators are relatively expensive. Alternatively, egg incubators operate at the same temperature for a fraction of the cost:
 - a) Small Scientific Incubator:** Boekel microplate incubator for holding 12 Coliplate™ units, or 5 Watercheck™ units, 20cm x 16cm x 16cm; 120v/60Hz/25W

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b) Basic Bacterial Analysis/Monitoring Kit: Includes a large incubator (IN02), a UV lamp (UV01), and 50 Coliplate™ kits



Figure 2 An example of contaminated water tested by the Safe Water Project with Coliplate

2. 3M Petrifilm : This method uses special plates that show different coloured dots depending on the bacteria that is present in the water. CAWST has provided workshops for explaining how to count colonies CAWST ppt (includes picture demonstrations). The Safe Water Project and Kambagiri Foundation have used the 3M™ Petrifilm™ E. coli/Coliform Count Plates (www.3m.com, USA).

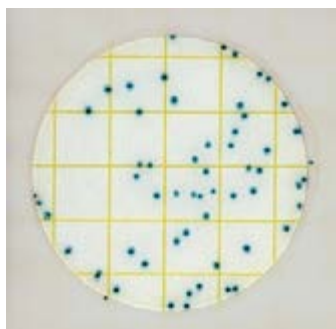


Figure 3 An example of Petrifilm with bacteria colonies

3. Wagtech Test Kits : These kits can test for more micro-organisms and can be found at (<http://www.wagtechprojects.com/wp-content/uploads/2016/11/wagtech-water-catalogue.pdf>, United Kingdom).

If you need training to perform the tests, CAWST has available resources. Visit CAWST.org at (https://resources.cawst.org/training_toolkit/53e64080/drinking-water-quality-testing-workshop). Tests may need to be sourced externally so volunteers or donations may be necessary. If so, seek out partnerships with organizations in your area.

PART 2 : PREPARING A BUSINESS PLAN

BUSINESS PLANNING

BUSINESS PLAN [↓ DOWNLOAD](#)

A successful business plan needs to balance the expenses required to operate a project with the income needed to grow the business. Based on the interviews, you will quantify a family's expected costs to treat water related illnesses over the 25 years life of the water purifiers. Together with the local costs to construct a water purifier, you will complete a break-even analysis to determine the price and quantity of water purifiers that you will need to make and sell each month to at least cover your expenses. Enclosed is a link to a business plan template. Feel free to modify it to suit your purposes.

SECTION 2.1:

SWOT ANALYSIS [↓ DOWNLOAD](#)

To the right is a blank SWOT analysis with considerations for you to make about your project. Below you will see an example from another project. It contains interesting observations that may guide you as you complete your own SWOT.

[CLICK HERE](#) to download and fill out your own SWOT Analysis.



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EXAMPLE SWOT ANALYSIS (completed by another BSF project) :

<p>STRENGTH</p> <ol style="list-style-type: none">1. Proven success in Koboko, Arua and Neighboring South Sudan2. No business competitions3. Available technical staff4. Demand have been tested and is attractive for BSF sustainability	<p>WEAKNESS</p> <ol style="list-style-type: none">1. Limited Trained personnel (Technician, CHA)2. High start-up capital3. Increase in operational cost as prices of goods fluctuate which will affect cost of BSF
<p>OPPORTUNITIES</p> <ol style="list-style-type: none">1. Willingness of the local government to cooperate2. The high Need for safe water has been identified3. Willingness of the youths learn to become technicians, Community Health Agents (CHA)4. Willingness to pay for the BSF eventually promote sustainability	<p>THREATS</p> <ol style="list-style-type: none">1. Higher number of vulnerable citizens2. Staff turnover due to low pay3. High cost of Transportation4. Poor infrastructure5. Fluctuating market of goods6. Cultural beliefs

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SECTION 2.2 :

BREAK-EVEN ANALYSIS DOWNLOAD

If the project has a good chance for success based on the previous steps, use the break-even analysis tool to determine the minimum effort (required sales) per month to operate a self-sustaining project. The tool is intended to help your project figure out how many bio-sand filters (BSF) you must produce and sell each month to be a profitable and sustainable organization.

Please follow the steps outlined below to successfully use this tool. Go to the appropriate tab for each step. (Please note, when you enter currency, ensure you always use your local currency) :

- 1. SUMMARY TAB:** For this tab, select your local currency from the drop-down menu.
- 2. VARIABLE COSTS:** Variable costs are costs that increase or decrease based on the number of biofilters that you produce (such as cement). Enter the cost for the required items. If a variable cost item is not displayed on the table, please insert a new row, and add the item name, cost in your local currency, and the number of filters that can be constructed from that material. Please ensure the total at the bottom of the list includes all line items in your variable costs tab. (For example, one bag of cement can produce 3 BSF filters so the unit cost is total cost of cement divided by 3.)
- 3. FIXED COSTS:** Fixed costs are costs that recur whether or not you make & sell any biofilters (such as rent). Enter your project's fixed costs. As discussed in step 2, if a fixed cost item is not present in the list, please insert a new row and add the item name and cost. Ensure the bottom total includes all line items in your fixed costs tab.
- 4. CHECK YOUR COSTS:** After step 3, review the summary tab and ensure the unit cost to manufacture BSF and monthly fixed costs are correct. These values are referenced from the information input in steps 2 and 3.
- 5. SELLING PRICE:** Next determine a selling price for each category. The tool has three optional presents: 100% purchase, 50% discount, and donation or sponsored. Use 100% when a customer purchases a BSF at full price, 50% discount when customers who need a BSF can only afford half the price (Please note: This discounted price needs to be higher than or equal to the unit cost to manufacture in cell G7 so that your project is not losing money.) The donation or sponsored option is when a donor or sponsor of your project donates to your organization

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SELLING PRICE (continued) : for the price of a BSF for someone else. This price can be determined by your project. This area of the summary tab is highlighted in blue. (Please note that distributing free filters without communicating a clear policy regarding who is eligible for a free one and who needs to purchase their own biofilter can permanently damage a safe water project.)

6. BREAK EVEN PRODUCTION: Next you need to determine the quantity of filters your project must produce to break even or become profitable. This is the number of filters the project must build and sell each month to become a sustainable organization. Enter numbers for each purchase option under the “monthly installations” header. This area of the summary tab is highlighted in blue.

PLEASE NOTE: Notice how the chart changes when you enter values in steps 5 and 6. The intersection of the grey line and the yellow line is the break even point for the project based on the associated costs you entered in steps 2 and 3, the selling price and the number of monthly installations you entered in steps 5 and 6. You will need to sell approximately that many filters based on the ratio of 100% purchases, sponsored, and 50% discounted filters.

The number in G17, “monthly project profit”, should be a positive number indicating that your project is going to be sustainable if you sell the number of filters per month that is entered into the tool. If this number is negative, you need to either modify the selling price or the quantity of filters you must sell each month.

SECTION 2.3 :

BUSINESS PLAN DOWNLOAD

BUSINESS MODELS - Outcome: The structure of your organization.

1. Conventional Charity Model: This is where we are starting as it is the typical model that charities and NGOs use. With this model, funding from donors and sponsors is used to provide goods and services to people in need. While this is helpful to reach those who cannot afford to pay, it can create dependency because people do not develop the capacity to improve their own situation. If funding stops, the project cannot continue and the people are not helped in the long-term.

“Donation and sponsorship is important, especially to initiate the project, but it is a disadvantage because it takes too much dependency. It helps because of the

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situation, but when it reaches a certain extent people need to be self-reliant. They need to do their own things by their own hands.” - Robert, project manager with bio-sand filter projects for Connect Africa

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2. Enterprise Model: Another option is to treat your water project as a business. The local communities are both your customers and team members. The customers will pay for the filters which provide income for your organization and team members. You will need to at least break even (costs = revenue) every year and ideally the sales will produce a profit (income is greater than costs) that will enable your project to grow in beneficial impact.

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3. Hybrid Model: This option is a combination of both the charity and enterprise model. Donation-based charities can complement the enterprise model by paying for a portion of the product for vulnerable groups or by providing materials such as quality test kits that cannot be found locally. This allows for both models to work in harmony towards a common goal without taking away the ability of locals to support themselves. Donations will help start or support the organization, but it does not depend on donations in order to move forward. The Safe Water Project uses this model.

PAYMENT OPTIONS:

Different payment options are designed to make safe water available to as many community members as possible since people will have different levels of income. The Kambagiri Foundation and the Safe Water Project use the following payment options:

- 1. Pay in full:** customers pay 50% deposit to cover transportation and upkeep and the remaining 50% once the filter is installed
- 2. Installment:** customers pay 50% for transportation and upkeep and pay the remaining 25% for the next two months until it reaches 100%
- 3. Discount:** Provided for those whose monthly income is less than the BSF cost or members of a vulnerable group. Customer pays 25% for transportation and 25% once it is installed for a total of 50% of original price. A donor pays for the other 50% (as a price discount).

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These numbers can be changed depending on your location. More payment options can be added if needed, but too many can make organization and budgeting difficult. Another option to consider is “joint liability”, where groups of 2-20 people can share responsibility for each others’ payments. This has the potential to work well in very close communities or large families.

ORGANIZATIONAL MODELS:

Ideally, your organization’s income will be greater than your costs each year, producing a profit that allows you to expand or raise wages. Different models decide how this profit is shared between the organization, employees, and the community. The three main options are:

1. Co-op Model:

With this model, the organization is controlled democratically by the members. Each member has an equal say in any business decisions through a vote. There is an option to elect different committees to have specific roles within the organization. For example:

Management Committee: record financials, prepare business plan, manage money

Surveillance Committee: overlook operations and management to ensure integrity and honesty

Education Committee: train employees, advertise and communicate with the community

The benefit to this model is it encourages fairness and teamwork. It also may slow down decision-making.

2. Non Profit Model:

With this model, all of your profits are spent to achieve your mission instead of paying more to the leaders or members. For example, profits can go towards:

Developing better training programs and materials for CHAs

Supporting outstanding CHAs or community members to start their own projects

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2. Non Profit Model: (continued)

Sponsoring more filters for vulnerable community members

Donating to local clinics, hospital, or other services

Renting or buying a larger location to expand operations

3. Benefit Corporation Model

This is a for-profit model that has a positive impact on the community, workers and the environment. The profit can be used for the organization or the community, but it can also be used to pay bonuses to the owners or employees. The amount for each is up to you. It is important to make sure that profit doesn't become the main goal. Use the mission statement to remind the team of the bigger goal and make sure that your spending is helping to achieve it.

Please Note: All of the documents you need are available for download. Click on the download icons in this document or download the additional files from the Resources folder on thesafewaterproject.org where you can also find additional support materials.