

Introduction:

The project aims to provide people in rural areas access to clean drinking water through provision of Terafil Water Filters and expand the income generation possibilities of potters simultaneously.

Objectives:

The project aims to serve a **dual objective by providing a long-term solution to improve the quality of drinking water and increasing income generation possibilities for the potter communities.**

We plan to sell portable Terafil Water Filters, designed in association with the Government of India's Research Department- Council for Scientific and Industrial Research (CSIR), to households in rural areas pan India.

Need:

The need that we aim to address through the business plan is divided into two broad categories:

- **Lack of availability and access to clean drinking water:** The World Health Organization estimates that 97 million Indians lack access to safe water today, second only to China. Diarrhea alone causes more than 1,600 deaths daily. Most villages in India do not have access to clean drinking water; there have been numerous reports of Cancer, Cholera, Diarrhea and other waterborne diseases owing to the absence of a proper filtration mechanism in such areas.
- **Decline in the art form of Pottery:** The art form of Pottery is gradually **losing its recognition**, leading to **exploitation of the potter communities**. Despite being skilled in their art, the potters are **facing competition** from machine made products, as a result of which, demand for their products is becoming **scattered, seasonal and irregular**.

Business Model:

The business model can be explained in four steps:

1. **Identification and mobilization of potters:**

Uttam Nagar in West Delhi is the largest settlement of potters in India. Through extensive surveys, we have identified potters in Uttam Nagar who shall be provided requisite training to make the filters. Currently, we are working with one potter, Sooraj, and are in touch with other potters who will be included in the model as the project expands.

2. Identification of areas and target markets:

With the help of various NGO's and Government authorities and Bureaucrats such as the District Magistrate, we plan to identify villages where the filters can be sold.

We have identified villages in Greater Noida and Gurgaon such as Silani and Bhondsi of Sohna district, Farooq Nagar, Sadopur village and a few others. We are also in touch with other NGO's working in this area like Shodh.

Water samples in each village will be collected and tested by certified laboratories to check for the presence of contaminants and ascertain the efficiency of the filter. The water samples collected so far have been tested by Farelabs, a private organization based in Gurgaon.

We will be identifying local dealers in each village who will act as dealers for our water filters.

3. Undertaking demand assessments and procuring orders

We plan to conduct extensive demand assessments to decipher the issues faced by the villagers and through street plays, health check up camps and workshops; we aim to spread awareness about the importance of clean drinking water.

In Khedi Sadh and Balliyana, the villagers procure water from bore wells and consume it without any form of filtration. The water is highly contaminated and can cause a lot of diseases especially to the infants.

In the above two villages, we have distributed pamphlets and shown Power Point presentations (in their local language- Hindi) to the villagers to sensitize them about the need to purchase and use water filters. We are also in talks with a few local dealers in these villages.

4. Setting up of proper transport mechanisms to transport the filters

An efficient, speedy and safe transportation mechanism, in association with transport agencies, will be developed to transport the filters from Uttam Nagar to the concerned villages. At present, we are in contact with transport agencies in Uttam Nagar. Clay based products are exempted from Interstate taxes.

The Terafil Water Filter

The filter comprises of two clay pots placed one on top of the other with two Terafil candles placed in between, to filter the water.

Terafil, the filtering agent, is prepared in the shape of a solid disc. It is made from a mixture of red clay (silt clay), river sand and wood sawdust, without using any chemicals.

Initially, CSIR will supply the candles to us for free and at a later stage, they will train the community in making these candles. We plan to apply for a license to manufacture the candles.

Unfiltered water poured into the upper clay pot flows through the Terafil candle for purification. The filtered water flows into the lower clay pot and can be used directly for drinking purposes.

One is only required to clean the Terafil filter every three weeks using a brush. Also, electricity is not required in the operation of the Terafil water purification system. Additionally, filters made of clay ensure acceptance in rural communities.

We have obtained certification for the credibility of the filter from CSIR.

Placement of candles in the filter



Terafil Water Filter



Impact

Social Impact

- The TeraFil filter will ensure that the customers get access to fresh and clean drinking water and this, in turn, will improve the status of health and hygiene in these areas.
- There will be a reduction in the number of water-borne diseases like Typhoid and Hepatitis.

- There will be a revival of the art of pottery, which is gradually declining in today's time.
- There will be an enhancement in the income of the potters with an increase in indirect savings of Rs. 300 per person per year (2000 villagers*2 visits to the doctor each year on an average* Rs 150 (Rs. 50 doctor consultation + Rs. 100 for medicines) = Rs.6,00,000)

Economic Impact

□ We expect an exponential **increase in the income of the potters**. The potters currently earn Rs 7000-8000 per month on an average. The estimated profit from the sale of filters in a village is Rs 125 (Profit/filter)*400 (No. of filters) = Rs. 50,000. **Profit per potter = (50,000/2) = Rs. 25,000** over a period of two months i.e. Rs 12,500 per month.

□ In subsequent years, the sale of filters shall increase, as more villages will be identified. Simultaneously, more potters will be included in the ambit of the project.

□ There will be an increase of Rs. 30,000 {Rs 75 (Commission per filter) * 400 (No. of filters)} in the earnings of the local dealers.

Environmental Impact

□The making of the candles and pots used in the filter cause no pollution and carbon emission of any sort.

□Since the filter is made of clay and sand, there are no harmful effects on the body. Plastic possesses harmful chemicals like Bisphenol A that cling onto the water molecules and pose several health hazards. Drinking water stored in clay pots can help improve metabolism as it provides water with a proper pH Balance.

Competitors:

The following competitors have been identified in the market:

- Tata Swacch
- Hindustan Unilever's Pureit
- Aquaguard

	Tata Swach	HUL Pureit	Aquaguard Aquasure
Price (INR)	1,000	1,454	1,599
Market	Urban Areas/Cities	Urban Areas/Cities	Urban Areas/Cities
Materials used	Plastic	Plastic	Plastic

Electricity Requirement	No	No	No
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Unique Selling Proposition (USP):

- The Terafil filter is very cheap as compared to the competitors and therefore, is within the purchasing power of the target market.
- In rural areas, people have traditionally been using clay pots. The use of clay and sand in the filter adds a traditional touch to it, thereby increasing the general acceptability of the filter.
- Acknowledging the presence of a highly erratic electricity supply in these areas, our water filter is made in such a way that it does not require electricity for its operation and management.
- It is capable of treating biological and pathological contaminants and has insulating properties, which are highly in demand.

Financials:

Assumptions

- Initial market coverage will be 1 village.
- The average population of a village is around 10,000.
- The number of members in one family is 5. Therefore, the number of households = $(10,000/5)=2,000$.
- Based on a survey of 50 households, 30 households (60%) were willing to buy our filters. After accounting for other constraints, we assume that 20% of the households demand our filter. Therefore, the number of filters in one village = 20% of 2000 = **400**.

VARIABLE					
S No.	Particulars	Details	Per Unit Cost	Quantity	Total
1.	Clay	Black Clay – Rs. 6000 (per truck) Yellow Clay – Rs. 5000 (per truck)	11,000/80 (no. of filters that can be made per truck)	400	Rs. 55,000
2.	Baruda	Cost of one sack – Rs.200 No. of sacks required to bake 80 filters – 20 Total – $200*20=$ Rs. 4000	4000/80= Rs. 50	400	Rs. 20,000

3.	Design		Rs. 30	400	Rs. 12,000
4.	Transportation	Cost of 1 truck – Rs. 2200 Rickshaw of dry grass – Rs. 500	2700/60 (No. of filters per truck) = Rs. 45	400	Rs. 18,000
5.	M-Seal		Rs. 10	400	Rs. 4,000
6.	Tap		Rs. 15	400	Rs. 6,000
7.	Miscellaneous		Rs. 10	400	Rs. 4,000
	TOTAL		Rs. 297.50	400	Rs. 1,19,000

- The projected selling price is Rs. 500 (subject to negotiation). The price has been determined after consultation with the villagers.
- Cost per filter = Rs. (1,19,000/400) = Rs. 300 (Approximately).
- Commission to dealers (15% of SP) = Rs. 75
- Profit per filter = Rs. (500-375) = Rs. 125.