



Dahini: Economical and Practical Solution to Sanitary Waste

CSR Project Proposal

Abstract

Dahini is a compact wall mounted machine which is capable of disposing the sanitary waste without human intervention. A decentralized solution to menstrual waste, Dahini is extremely economical and convenient. It is also capable of eradicating the water and soil pollution to a great extent. A practise as simple as taking care of your own waste will create a great impact on basic sanitation and health of the nation.

Introduction

The Problem: Sanitary waste is one of the biggest issues our environment and community is facing. With no way to recycle, the sanitary napkins lie in the landfills or are flown away through the river producing infections for 400-500 years. These used pads are also seen choking the drainage pipes, where they are forced to be removed manually. The waste pickers that handle the sanitary waste from households often complain of infections and diseases. Moreover, it is beyond human dignity to handle such kind of waste.

The Solution (Dahini): To overcome the above mentioned problems, we have come up with a compact destroyer of the size of a letterbox that can be installed at any household/institutional toilet. We urge ladies to put their used sanitary pads into Dahini and simply push a start button. With our machine getting installed into every public or private washrooms, we can ensure optimum sanitary hygiene for the ground level workers and waste pickers and ultimately to the society. This decentralized solution would ensure that not a single used sanitary pad is getting mixed with other MSW (Municipal Solid Waste).

Brief about the Innovation

The napkins in Dahini would be destroyed in a 15 minutes of cycle. We have used a 500 Watt heater than runs for only 4 minutes per cycle resulting into an extremely low electrical consumption. The cost to burn one napkin in Dahini is just Rs.0.04 as against the cost of Rs.5 paid by the Pune Municipal Corporation to destroy each sanitary pad.



Uniqueness of Dahini

We are aware that there are multiple ways to destroy the napkin, but the most scientific and hygienic way is to incinerate it. While there are a lot of companies making these incinerators at the moment, we possess,

1. **Longer Life** - The internal chambers are made out of ash, thus making the life of Dahini machines 10 times longer than competitor's machines.
2. **Electric Shock and Leak Proof Design.**
3. **Carbon Filter** – Dahini has an inbuilt pollution filter to ensure no carbon particulate matter comes out in the air directly.
4. **Compact Size** - The size is extremely compact which can be easily installed in any toilet.
5. **User Friendly** - It is very user friendly and the emissions have been tested with approved MPCB laboratory.
6. **Authenticity** - Dahini as a solution to sanitary waste has been approved and recognized worldwide at Italy's International Sustainability Conference, Rome.
7. **Minimal Cost of Incineration** – Dahini enables the pads to be destroyed at source and with least running cost of electricity usually within one rupee.

Impact and sustainability of the solution on Environment, Social and Economic front

1. **Prevent soil pollution** - Since the destroyer discourages from putting any sanitary waste into the dustbins or landfills, there would be eventually reduced number of landfill requirement for sanitary waste.



2. **Prevent water pollution** - A huge chunk of menstrual waste is openly thrown into the rivers and other water bodies in India. With the introduction and acceptance of such convenient destroyers, we could save our water bodies from a huge chunk of pollutants.
3. **Minimal air pollution** – We have an inbuilt filter in our exhaust that ensures that no carbon particulate matter comes out of the exhaust. We have also conducted a lab test approved by Maharashtra Pollution Control Board (MPCB) to check for the emission gases and to our emission and 10 times lesser than the prescribed limits of MPCB.
4. **Improved health and sanitation** - When not even a single infectious napkin comes out of a building or house or institution, we would ensure increased overall sanitary health and awareness.
5. **Lesser probability of infections** - Since the filthy waste would no longer be in contact with any other human being or exposed for a prolonged duration, the chances of infections due to them goes away.
6. **Reduced costs for disposal** - The humongous cost attached to incinerate sanitary waste gets reduced up to 10 times which in turn encourages more usage. The cost to burn one pad is only Rs.0.04.
7. **Utility** – This machine is so compact and lightweight that it can get installed or even wall-mounted to each and every woman’s washroom.
8. **Scalability** – Since we have made our machine affordable to all, Dahini can be installed to each and every public toilet, schools, colleges and hostel’s washroom, in every apartment or building floor, bungalow and offices or institutions. With the increased demand for sanitary pads, Dahini can get installed to rural as well as urban places.
9. **Ease of Maintenance** – Dahini works with any single phase electric supply that can be even wall mounted. User would only have to insert the napkin and push the start button. The pad gets burnt automatically and the heater would be switched off after 7 minutes.
10. **Health and dignity of waste pickers** - A large impact of this project would be on the lives of waste pickers and towards extricating them from the violations of basic human integrity.
11. **Dignity of a woman remains intact** - No need for a woman to feel embarrassed for her menstrual napkin being exposed and handled by another human being. She can now take charge of the situation by managing her own waste.

Cost of the project

Affordability – There are already some destroyers available in the market, but they are ranging very high. Any normal household would not afford it. Thus to make the solution for sanitary waste practical and feasible, we have developed our machine at a very low price.

Replicability of the Project

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Before Implementation:



Waste pickers segregating the pads



Open littered pads causing infections



Sanitary pads flown into rivers



Sanitary pads exposed to open landfills

After Implementation:



Decentralized disposal mechanism



Completely elimination of all the above processes

Scope of Project Dahini –

We intend to install Dahini at every public or private washroom making the scope of Dahini as huge as the number of washrooms in the country. With a population of 35 Crore menstruating women in India, for us sky is the limit.



Success Story So Far

- Recognized by **Pune Municipal Corporation** for our contribution towards Swachh Bharat and our DAHINI project stood second for their **Swachh Awards 2019**.
- Presentation and publication of our **research paper** internationally on sanitary waste and Dahini project by the **European Center of Sustainable Development in Rome, Italy**.
- Featured in editions of **Sakal, Times of India, Lokmat, Loksatta and Bytes of India** for our contribution.
- Achieved **Gold medal** for Symbiosis Institute's Social Business Plan Competition, Manthan 2018.
- Shortlisted as **top 100 startups in Maharashtra Startup Week, 2019** by the Government of Maharashtra.
- Supported by **myGov Innovation platform** of Government of India.

Outcome / Conclusion of the Project

We would be able to completely eradicate all the health hazards caused by the used sanitary pads. It would promise to maintain the dignity of waste pickers. Dahini is a promising solution for the huge sanitary waste in the nation. It is Cost-effective, Compact, Safe for the environment to not cause any air, water or soil pollution and Scalable across villages and institutions such as schools, colleges, etc.



About the Company

Green Earth Equipment is an incredible partnership of innovation and empathy between Mr. Ravindra Gadre and Ms. Sayali Pongshe. We develop economical and practical solution to many problems that we observe in the society. While there are numerous ways to serve, we have chosen waste management as our segment with a vision to make India a ZERO WASTE nation one day; and to make our dream into reality, we ensure continuous innovation and learnings to come up with best solution that we could for each category of waste. We strongly believe that every type waste should be treated separately and at its generation point to make the most out of otherwise wasted resources.

Vision – Make India a ZERO WASTE nation with our continuous innovation and service.

Company Details

Address: Raje Manor, CTS No. 694, B1/2, Hingne Budruk, Karve Nagar, Pune - 411052

Website: www.greenearthequipment.in

Mail Id: greenearthequip@gmail.com

Number: +91-9665-487-833