RunTech’s: Raahi, A woman’s period partner

Mumbai, India
Ketan Mahajan

Year Founded:
2014

Organization type:
for profit

Project Stage:
Idea

Budget:
$10,000 - $50,000

- Business
- Sustainable development
- Technology
- Eco Products
- Environment
- Reproductive health
- Sanitation
- Women’s issues
- Conscious consumerism
Concise Summary: Help us pitch this solution! Provide an explanation within 3-4 short sentences.

Feminine hygiene is still a taboo with extremely poor scenario across the world. Toxicity and non-biodegradability of commercial pads is major discomfort. Our mission is to revolutionize and adaptation of healthy eco-friendly way of feminine hygiene maintenance in India as well as across the globe.

WHAT IF - Inspiration: Write one sentence that describes a way that your project dares to ask, "WHAT IF?"

What if every woman can manage her menstrual hygiene in healthy, safe, and dignified manner? What if ever rising consumption of Toxic and non-biodegradable commercial sanitary napkins reaches to 100% and poses threats to women (Cancer, RTI, TSS) and our earth?

About Project

Problem: What problem is this project trying to address?

The realm of Feminine hygiene is intensely poor in most part of the world. Affordability, availability & disposability of hygiene product are major concerns. Old (rags, clothes) & modern (pads, tampons) ways of maintaining feminine hygiene poses severe health risks to women. Generation of 125-150 kg of 90% plastic, toxic, non-biodegradable menstrual waste by a single woman in her lifetime exacerbate risks to climate and environment, underlining need of action.

Solution: What is the proposed solution? Please be specific!

envoTech will provide Raahi, a medicated, multilayered, affordable and biodegradable sanitary napkin. It contains novel, natural polymer hydrogel as superabsorbent (SAP) material replacing toxic SAP. Its components are free from dioxin (a potent carcinogen) and of organic origin. This scalable innovation will help women to manage menstrual needs and disposal in healthy and eco-friendly way. Both of these will improve feminine hygiene scenario, reduce toxic/non-biodegradable menstrual waste and improving lives of women. envotech will help women self help groups, NGOs, micro-entrepreneurs to distribute Raahi thereby bringing new income, improving employment. Our solution will promote gender equality, health and climate care, decent work and economic growth.

Awards

2nd prize in Biotechnology Entrepreneurship Student Team (BEST 2015) competition organised by Association of Biotechnology led Enterprises (ABLE) & Department of Biotechnology (DBT), Government of India. Appreciated for innovation and business potential.

Example: Walk us through a specific example(s) of how this solution makes a difference; include its primary activities.

“I hate menstruation because I have to miss school during those days. My mother always makes me stay home.” Kishori from Bettiah, India. “Women assume that the FDA or other bodies have looked at the matter, and whatever product is on the market is safe, and that’s incorrect.” Philip Tierno, Jr. PhD, Professor at NYU School of Medicine. “SWaCH’s Send it Back sends used pads to J&J, P&G.” Incineration of pad costs Rs. 2/pad. In India, 12% of total female population uses 58000 million pads per year. Medicated, affordable and biodegradable Raahi will eliminate toxic chemicals from pads and improve women health. It will provide long-term sustainable solution to protect the environment and reduce economical expenses of government for solid waste management.

Impact: What is the impact of the work to date? Also describe the projected future impact for the coming years.

Our solution will have enormous impact as it addresses criticality of feminine hygiene and toxic/hazardous waste management with socioeconomic benefits. Natural SAP based Raahi will help women to avoid using toxic commercial pads and posed health hazards. Eco-friendly disposal will improve worsening condition of hazardous non-biodegradable sanitary waste generation. Our project can stimulate economic development through creation of new jobs, small industry development. It is capable of creating niche segment of biodegradable sanitary pads in world feminine hygiene market of US$5 billion and competing Proctor and Gamble, Johnson and Johnson for their 70% market share. We will be able to reduce the percentage of school drop-out rate and female population prone to infections (from 26% and 70% resp.) It can reduce a financial burden of Rs. 116 crores spent by Govt. of India for managing menstrual waste.

Spread Strategies: Moving forward, what are the main strategies for scaling impact?

Research and development of prototype at our research institute Mumbai is under process. We are looking for generating grants, investments and funds. Our cutting edge innovation gives us competitive advantage allowing us to expand and scale-up rapidly through partnerships/collaborations. We aim for growth through strategic collaborations with established market players and government schemes. Our distribution-networking model will bring our innovation to local consumer through local franchise, NGOs, government schemes/projects, social and online media. We plan continuous customer education/awareness.

Sustainability

Financial Sustainability Plan: What is this solution’s plan to ensure financial sustainability?

Funding through corporate social responsibility and grants is what we seek as we have cutting edge innovation having immense socioeconomic importance. We have IP rights for said innovation and thus licensing as well as partnerships can help us to launch and enter markets. Revenue will arise through profit sharing. Penetration to rural markets through government schemes will be done to keep the costs low. We seek to get subsidies from the government.

Marketplace: Who else is addressing the problem outlined here? How does the proposed project differ from these approaches?

Presently, no competitor addresses issue of feminine hygiene health and reduction of toxic waste generation, simultaneously. Established players (J & J, P & G etc) produce toxic SAP based non-biodegradable pads. Cotton/clot based pads (Natracare, ecowatte etc.) and innovative pads (Janipads, Makapads) address affordability and degradability (partial) but compromise on performance in absorption. We have technological edge as we developed natural superabsorbent polymer hydrogel to give at-par performance. It has fast clotting and antiseptic action. This innovation can taste...
success in India as well as globe.

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**Team**

**Founding Story**

The idea was conceptualized for Biotechnology Entrepreneurship Student Teams (BEST 7th edition) organised by Department of Biotechnology and Government of India. The scenario of feminine hygiene in India and developing countries is very poor. The consumption of sanitary napkins poses enormous burden on environment. None of the leading brands available are biodegradable, but induce severe toxicities (e.g., Toxic Shock Syndrome, breast and cervical cancer). Whereas, the market potential for feminine hygiene products is enormous in developed and developing countries. Professional pursuit of providing an innovative, biodegradable, super-absorbent, medicated, deodorising sanitary product began here.

**Team**

envoTech is an initiative taken up by budding scientists with a dream of becoming responsible entrepreneurs. We aim to provide innovative green earth concept solutions to address socioeconomic concerns. Our team consists of four members. Preeti Wavikar and Ketan Mahajan are PhD research fellows studying Pharmaceutics. Nilesh Dhakar and Alok Shukla have completed master studies in Pharmaceutics. Ketan Mahajan (Master in business administration, research fellow) is responsible for business strategy and partnership development. Preeti Wavikar (research fellow) is responsible for design, research and deployment of the technology. Nilesh Dhakar handles communications and marketing. Alok Shukla is responsible for operations and consumer analysis. envoTech plans to research, establish, expand and market entry through entrepreneurial partnerships/collaborations. We plan for grant writing, techno-economic analysis and operational assistance and will likely consult experts from relevant field to make better technology as well as organizational structure.

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**Background**

Please confirm how you heard about the Unilever Awards:

Email from ABLE (Association of Biotechnology led Entrepreneurs), India

Please confirm your role in the initiative (eg Founder/co-Founder) and your organisational title:

Co-founder

Which of the 8 UN Global Goals (Sustainable Development Goals) pre-selected for this competition does your solution relate most closely to? [select all that apply]

- Responsible Consumption and Production
- Climate Action

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**Leadership and the Unilever Awards**

Please provide examples of any previous entrepreneurial initiatives you have pioneered.

Our previous initiatives and engagements can not be perfectly termed as entrepreneurial initiatives but our lab has rich experience of developing and delivering successful products and technologies to various industries such as Johnson and Johnson, Bayer healthcare, Raptim Research, Rusan Pharma etc. These efforts have delivered successful marketed products. I, Ketan have been selected for proposing innovative ideas with strong business potential in reputed competitions such as Merck Sereno Innovation Cup, Novartis Biocamp (India), BEST ABLE (India), Young innovator choice competition etc.

Beyond your existing team, who else are you working with to achieve your objectives, eg partners, advisors, mentors?

We are working under guidance Prof. P. R. Vavia, Professor and Academic dean, Institute of Chemical Technology, Matunga, Mumbai (India) and in research and infrastructure facilities provided by Institute of Chemical Technology, Matunga, Mumbai (India).

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