

CREATIVITY \



An Indian Inventor Disrupts The Period Industry

When Arunachalam Muruganatham decided he was going to do something about the fact that women in India can't afford sanitary napkins, he went the extra mile: He wore his own for a week to figure out the best design.

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When Arunachalam Muruganatham hit a wall in his research on creating a sanitary napkin for poor women, he decided to do what most men typically wouldn't dream of. He wore one himself--for a whole week. Fashioning his own menstruating uterus by filling a bladder with goat's blood, Muruganatham went about his life while wearing women's underwear, occasionally squeezing the contraption to test out his latest iteration. It resulted in endless derision and almost destroyed his family. But no one is laughing at him anymore, as the sanitary napkin-making machine he went on to create is transforming the lives of rural women across India.

Right now, 88% of women in India resort to using dirty rags, newspapers, dried leaves, and even ashes during their periods, because they just can't afford sanitary napkins, according to "[Sanitation protection: Every Women's Health Right](#)," a study by AC Nielsen. Typically, girls who attain puberty in rural areas either miss school for a couple of days a month or simply drop out altogether. Muruganatham's investigation into the matter began when he questioned his wife about why she was trying to furtively slip away with a rag. She responded by saying that buying sanitary napkins meant no milk for the family.

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I thought, 'Why couldn't I create a low-cost napkin for my wife?'

"When I saw these sanitary napkins, I thought 'Why couldn't I create a low cost napkin for [my wife]?' " says Muruganatham. That thought kick-started a journey that led to him being called a psycho, a pervert, and even had him accused of dabbling in black magic.

He first tried to get his wife and sisters to test his hand-crafted napkins, but they refused. He tried to get female medical students to wear them and fill out feedback sheets, but no woman wanted to talk to a man about such a taboo topic. His wife, thinking his project was all an excuse to meet younger women, left him. After repeated unsuccessful research attempts, including wearing panties with his do-it-yourself uterus, he eventually hit upon

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TWO THOUSAND
AND ELEVEN

EDITOR'S PICKS



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That was the last straw for his mother. When she encountered a store room full of bloody sanitary napkins, she left too.

Analyzing branded napkins at laboratories led to Muruganatham's first breakthrough. "I found out that these napkins were made of cellulose derived from the bark of a tree," he said. A high school dropout, he taught himself English and pretended to be a millionaire to get U.S. manufacturers to send him samples of their raw material.

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Demystifying the napkin was only the first step. Once he knew how to make them, he discovered that the machine necessary to convert the pine wood fiber into cellulose cost more than half a million U.S. dollars. It's one of the reasons why only multinational giants such as Johnson & Johnson and Procter & Gamble have dominated the sanitary napkin making industry in India.

It took Muruganatham a little over four years to create a simpler version of the machine, but he eventually found a solution. Powered by electricity and foot pedals, the machine de-fibers the cellulose, compresses it into napkin form, seals it with non-woven fabrics, and finally sterilizes it with ultraviolet light. He can now make 1,000 napkins a day, which retail for about \$.25 for a package of eight.

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My vision is to make India a 100% napkin-using country.

Though he's won numerous awards (and won his wife back) he doesn't sell his product commercially. "It's a service," he says. His company, Jayaashree Industries, helps rural women buy one of the \$2,500 machines through NGOs, government loans, and rural self-help groups. "My vision is to make India a 100% napkin-using country," said Muruganatham at the INK conference in Jaipur. "We can create 1 million employment opportunities for rural women and expand the model to other developing nations." Today, there are about 600 machines deployed in 23 states across India and in a few countries abroad.

The machine and business model help create a win-win situation. A rural woman can be taught to make napkins on it in three hours. Running one of the machines employs four women in total, which creates income for rural women. Customers now have access to cheap sanitary napkins and can order customized napkins of varying thicknesses for their individual needs.

It is not an easy path, though. "Lack of awareness is the major reason, next to the apathy of NGO's," says Sumathi Dharmalingam, a housewife who runs a napkin-making business based around the machine. According to her, rural women are clueless as to how to use them, think twice about spending even the small amount of money to buy a packet, and sadly have a devil-may-care attitude about their health. "When I caution them that they might have to have their uterus removed because of reproductive infections, they just say, 'So what? How long are we going to live anyway?'"

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