

GOOD NEIGHBOURS

ADVANCING REGIONAL INTEGRATION, COOPERATION
AND ENGAGEMENT IN SOUTH ASIA

Breaking taboos and transforming lives: India's Pad Man to Sri Lanka's Pad Women

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In South Asia, taboos and myths around menstruation ignore geographical, social, linguistic and political borders. Women and girls in these countries occupy very distinct landscapes, eat different food, speak different languages, follow different faiths, and yet share many experiences when it comes to their periods.

For starters, whether you are a girl growing up in the shadows of the Himalayas or by the bustling ports of Colombo, whether you are a teenager or a mother of two, you have likely been told that your periods are somehow impure. In Sri Lanka, the subject is rarely discussed and 66 percent of girls¹ were unaware of menstruation until their first period. Nearly half² of married women in northern

India do not share a bedroom with their husband while menstruating. And Nepal's poorest communities still practice chhaupadi — a tradition banishing women and girls to live in unheated mud huts during their periods.

The shame and secrecy surrounding menstruation has a cumulative impact on women's education, job prospects, home life, and overall health. An estimated one-third of girls in South Asia miss school³ during their periods because they do not have access to sanitary pads, toilets, or hand washing facilities. Menstruation pads available in stores are expensive luxuries for many women, and the plastic components in most commercially made products make them difficult to dispose of properly.

An entrepreneur from India tackled the problem by designing low-cost machinery to produce sanitary pads and jobs for women. The invention of Arunachalam Muruganantham – known as Muruga – has inspired a partnership between India and Sri Lanka that is expected to expand to Nepal and Afghanistan. The initiative empowers women in poor, remote areas to take charge of their own menstrual health and earn an income. As of 2019, small manufacturing sites have been established in some 5,300 locations across 27 countries, with the number set to grow.

It is an extraordinary movement that began with one man, his wife, and a pile of rags.

India's 'menstrual man' entrepreneur

The son of two weavers, Muruga was born in Coimbatore, in the South Indian state of Tamil Nadu. After his father died in an accident, Muruga dropped out of school to support his family with a series of jobs as a farm labourer, welder, and machine tool operator – jobs requiring mechanical know-how and versatility.

Muruga met and married his wife, Shanthi, in 1998. Theirs was a conventional marriage until Muruga realised Shanthi was hiding something from him: she was collecting rags to use instead of sanitary napkins. Muruga was confused and then worried. The rags seemed less than hygienic — “I wouldn’t even use it to clean my scooter,” Muruga recalled — and Shanthi was uncomfortable talking because of the social stigma around menstruation.

Muruga decided to buy Shanthi menstrual pads but was shocked by the price. He calculated that each lightweight pad was made with just 10 grams of cotton, then worth about 10 paise, but sold for 4 Indian rupees (INR) – 40 times the cost of raw materials. Muruga felt certain he could figure out a way to make cheaper, effective sanitary pads.

Muruga first turned to Shanthi to test his experimental pads but was frustrated by having to wait a month in-between trials. He needed more volunteers. However, few women were interested in helping and even his sisters turned him down. Muruga eventually decided he would test the pads on himself. He filled a rubber football with animal blood from a local butcher and added an anti-coagulant to keep it from clotting. He attached the football to his waist and connected it to a tube that led to his underwear. The device slowly leaked blood into his makeshift sanitary pads, allowing him to measure absorption rates as he moved throughout the day. The experience was revelatory.

"That makes me bow down to any woman in front of me to give full respect... Those five days I'll never forget – the messy days, the lousy days, that wetness. My God, it's unbelievable." –Muruga

Muruga’s pads didn’t always work, leaving his pants stained with blood. He washed his clothes at a community well, and some assumed the blood stains were from a sexually transmitted disease. Suspicious neighbors ostracized him while others thought Muruga had lost his mind. Then Shanthi left him. “I started the research for my wife, and after 18 months she left me,” he said. Even his elderly mother moved out of his house after she

saw Muruga closely examining used sanitary pads in the backyard. Eventually, the entire village turned against him. Convinced that Muruga was possessed by an evil spirit, they prepared to chain him to a tree so a local soothsayer could heal him. Muruga escaped by promising that he would leave the village.

Though profoundly shaken, Muruga wasn't ready to call it quits after investing so much time testing and refining his invention. He had learned that pure cotton was ineffective and the key absorption component in sanitary pads is cellulose, made from the bark of pinewood and other trees. However, expensive, large factory machines were typically needed to produce cellulose.

It took Muruga four years to create alternative tools and equipment that were simple, affordable, and suitable for rural areas. He designed a sanitary pad that could be made in four simple steps. First, cellulose sheets were inserted into a machine similar to a kitchen grinder to break down the fibers until they were light and fluffy. Next, another machine pressed the fluff into rectangular cakes, forming the core of a pad. The cakes were wrapped in non-woven cloth and disinfected with ultraviolet light. And lastly, a plastic rectangle was added to the back to protect the sticky side of the pad. The simple manufacturing process could be taught to anyone in an hour. The machines he designed cost about INR 75,000 for a basic version that created jobs for 10 women and produced 200 pads a day.

Muruga had realized his vision: an effective, affordable, and environmentally friendly sanitary napkin that rural women could make and sell for a source of income. He showed his invention to faculty at the Indian Institute of

Technology in Madras and they entered it in a national competition for innovation. Out of 943 entries, Muruga's machine came first. Pratibha Patil, then the President of India, handed him his award. Overnight, Muruga was famous.

Over 18 months, Muruga built 250 machines to make pads and took them to poor, underdeveloped states in Northern India. Women there face difficult conditions, often walking miles each day to fetch water.

"My inner conscience said if I can crack it in Bihar, a very tough nut to crack, I can make it anywhere." —Muruga

Encouraging poor women to make pads was at times difficult because of menstrual taboos but Muruga found supporters among NGOs and community-based organizations for women. Over time, the machines spread to 27 of India's 29 states. In each location, women run the business and choose their own brand name. As his fame grew, Muruga became something of a legend. He spoke at the prestigious Indian Institutes of Management and was the subject of a 2013 documentary, "Menstrual Man." He gave a TED talk that has been viewed more than 1.6 million times. And in 2018, his story was made into a Bollywood film, "Pad Man."

As interest soared in his designs, Muruga remained committed to the vision that started him on his journey. He refused to sell his patents to corporations, determined to keep the technology accessible to poor communities. Accordingly, he provided the blueprints of the machines for free to community-based businesses where women made the pads and sold them for a small profit. His organization would continue to provide the raw material for

a cost. (The latter process has been somewhat complicated by the pandemic, as additional requirements and constraints around exports have come into play.) Muruga's approach has its critics and many have since attempted to improve on it.

At home, things also changed as his community learned more about his innovation. Muruga's neighbors welcomed him back. And Shanthi reached out to him, proud of his work to help poor, rural women. Today, she speaks about menstrual hygiene to women across the country and is no longer embarrassed to talk about periods.

Ending period poverty in Sri Lanka

In a dark hall in Kitulwatte, a neighborhood in the Sri Lankan city of Colombo, M. Kamala was among a group of women who giggled awkwardly as the movie, "Pad Man," flickered to life on the TV in front of them.

Kamala watched as Akshay Kumar, the actor playing Muruga in "Pad Man," struggled with a design for an affordable pad. "It was funny," she remembers, "but I could see he was doing it to make his wife happy." The group of women watched the film as part of their training to use Muruga's technology to launch a menstrual pad business in Sri Lanka. Kamala said the evening helped her understand why the Indian inventor made it available to women who lived in a different country but had much in common with his wife.

For Jazaya Hassadeen, the evening program was the result of a yearlong campaign to

persuade Muruga to share his technology with Sri Lankan women. Hassadeen, treasurer for the SAARC Chamber Women Entrepreneurs Council, read about Muruga in a book and wanted to replicate the pad-making business for poor women in Sri Lanka. It took months to convince him that the council had the right intentions and should be his first expansion outside India.

Before agreeing to a partnership, Muruga asked Hassadeen to visit a manufacturing site to see how the technology worked. She remembers walking into a Delhi shelter for abused women, and seeing a young, disabled girl using her feet to operate the machine – clear evidence that the technology could empower women as well as provide affordable menstrual pads. The SAARC team gathered data showing some 63 percent of Sri Lankan households with a menstruating female bought sanitary pads but nearly 40 percent of the households purchased the product only once or twice a year. Many of the households said they could not afford to buy menstrual pads regularly because of the high cost.

The SAARC team decided to sponsor a project for manufacturing sites, or production centers, in Sri Lanka. "We could see that there was a common interest for women across the region," said Rifa Mustapha, then Council Chairperson for the SAARC team, adding the process would nurture entrepreneurial skills and empower the women involved.

"Each production center could come up with their own plan. They could run it for just three or four hours, or increase their labour force and produce more, depending on what they chose." – Rifa Mustapha

The SAARC group arranged imports of raw materials, which incurred heavy taxes, and equipment and several months later they were ready to run a pilot. Because Muruga made the design of his machine freely available, the council was able to build its own equipment with local metalworkers. The group timed the launch for the same day that the Bollywood movie, "Pad Man," premiered.

In January 2019, the Kithulwatte plant opened its doors. Fifteen women, including Kamala, learned the manufacturing process from trainers with Muruga's organization in India. The women decided to sell their pads under the brand name, Sinidu, which means soft in Sinhala. Sales have steadily increased for Sinidu packets, each containing 10 pads. "Today, there is a lot of demand," said Rifka, one of the early trainees, who earns a steady income from selling about 100 packets a month, each for 75 Sri Lankan rupees (LKR). A packet costs LKR 60 to make and Rifka keeps the profit. The LKR 75 sales price is much lower than a similar package of commercially-made pads that command between LKR 130 and LKR 470, including taxes.

Customers said they were pleased that the Sinidu pads are easy to wear and rarely result in rashes or discomfort. Rifka is eager to tell potential customers how the pads are made and their benefits. "Without fear, I can recommend these pads to women because I make them myself," she said. Some customers are motivated by other factors – such as having water available only three hours a day from a community well. Washing bloodstained clothing in public is embarrassing so women rush through the process and hide the items instead of drying them out in the sun, she said.

Kamala also sells about 100 packets a month, mostly to teachers at her son's school, the local church, and neighbors. "And because it is cheap, women are able to use pads for their whole period," she said. Another plus is that used Sinidu pads do not need special waste management and can be thrown out with household food waste. That is not the case with most commercially-made pads containing non-biodegradable plastics.

Garbage disposal is a serious challenge throughout South Asia. In 2017, Sri Lanka's Meethotamulla garbage dump collapsed during the night, triggering a landslide that buried nearby houses and killed 32. Before the collapse, the 21-acre garbage dump was more than 150 feet tall, according to some estimates. Hassadeen said the accident showed why waste management must be improved. "When we visited the site, the women were talking to us and one of the things they said is that even after two or three years, the sanitary napkins in the dump had stayed intact," she said. The community-made pads, however, are completely biodegradable except for one strip of plastic that can be pulled off and separately disposed.

Transforming women's lives

Kamala said being an employee of Sinidu has changed her life in significant ways. The young mother can count on her income to pay for her son's medical needs and her financial independence has made her more confident. "Before I used to stay at home only," she says, "but now I feel like I can do anything." Kamala's confidence was put to the test when the SAARC team identified



her as a potential trainer of other women. Even more challenging was the location for Kamala's course — Colombo's Welikada Prison, where more than 300 women are confined. The SAARC team proposed that the prison sponsor a manufacturing site where women inmates could make menstrual pads and learn business skills.

Prison officials approved the project and the pads produced are distributed to inmates, who formerly received only three sanitary napkins per person because of the prison's tight budget. "Women were trying to get relatives to bring them napkins or stealing each other's napkins. For the authorities, our machines were really a godsend," Hassadeen said.

Jani Perera, a member of the SAARC group, donated funds to have local metalworkers build pad-making machines. Kamala went to the prison and trained 10 women. In total, the women had 45 days of training and mentorship, resulting in production of about 80 pads a day. "These are women that have been put aside by society, and I was glad I could help them," Kamala said. "It is about giving women, wherever they are, some dignity." When the women leave prison, they have marketable skills to earn a living. The women are also likely to be ambassadors for Sinidu within their own communities. The prison supplies commissioner, Chandana Ekanayake, said he was impressed with the results.

"This production, we are planning to send all over Sri Lanka's prisons... This is a sustainable project." – Chandana Ekanayake

Women trainers such as Kamala can have a big impact on other women who are searching for livelihoods. "It's good that

we have women as trainers," says Deepa Edirisinghe, a municipal councillor in Colombo. As a city official, Edirisinghe has visited the neighborhood where Kamala and the other Sindhu employees live and sees great potential for women entrepreneurs. "The women are interested in self-employment," she said. "All we think about is teaching them how to make garments and sell food, but this is an option we haven't explored." Younger women, in particular, are more open to unconventional jobs like those offered by Sinidu, she said.

In the early days of the pandemic, when Sri Lanka's case count was low, the factory remained operational providing a much needed source of income to the women. Unfortunately, as cases soared in the latter half of 2020, health authorities asked them to halt work. With the vaccine roll-out now underway, Hassadeen says they will open their doors again as soon as it is safe to do so.

The SAARC Chamber Women Entrepreneurs Council wants to expand the pad-making technology to other communities in Sri Lanka and to Nepal, Bangladesh, and Afghanistan where women face similar challenges. Mustapha said conversations are in the preliminary stages. The SAARC team envisions building more machines in Sri Lanka then shipping the equipment to interested communities that could then contact Muruga's organization directly to obtain the raw material made of cellulose. (The recipe to make the cellulose remains a closely guarded secret.) Their first stop will be Nepal, where the local SAARC chapter has shown a great deal of interest.

The SAARC team members believe that the model that has worked so well in India and Sri

Lanka will gain traction across South Asia. "The strength of this approach is that it is community-based," and driven by women, Mustapha said. "We have seen such a change in their lives." The pad manufacturing sites create jobs, teach women business skills, and give women confidence. And the environmentally friendly product improves the quality of life – and opportunities – for poor women.

The Sinidu employees, who began with so little, have been empowered by their

manufacturing jobs, says Hassadeen. The work gives women from poor communities a greater measure of freedom from taboos that have held them back for decades. Kamala's journey from a woman at home without independence or work, to a confident ambassador for Sinidu, is an example of how entrepreneurial ventures change lives. "This girl was sitting at home looking after her disabled child, but today she is an international trainer, getting ready to board a plane to Nepal!" Hassadeen said with a smile.

Endnotes

1. https://reliefweb.int/sites/reliefweb.int/files/resources/WA_MHM_SNAPSHOT_SRILANKA.pdf
2. <https://qz.com/india/252419/the-full-extent-of-what-urban-india-believes-about-menstruation-is-extraordinary/>
3. <https://www.reuters.com/article/us-india-women-health/third-of-girls-in-south-asia-miss-school-during-periods-study-idUSKCN1IN00F>

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