

Towards Sustainable Menstrual Waste Management in India

Brainstorming Workshop, 3 September 2025

www.cps.iitb.ac.in/pbs-2025-006

PBS № 2025-006

This document is made possible by compiling the inputs from the brainstorming workshop held on 3 September 2025. The Ashank Desai Centre for Policy Studies thanks all the workshop participants.

Context and Rationale

Menstrual waste has emerged as a pressing yet under-addressed environmental and public health challenge in India. With over 121 million women using sanitary napkins and generating nearly 113,000 tonnes of menstrual waste annually¹, the problem is both massive in scale and complex in character. Sanitary pads, which take long years to decompose, are predominantly disposed of through open dumping, land-filling, or unsafe incineration, creating risks for sanitation workers, waste pickers, and ecosystems.

The Brainstorming Workshop on Menstrual Waste Management, held at IIT Bombay on 3rd September 2025, brought together academics, policy-makers, scientists, industry leaders, and civil society actors. It sought to critically assess the scale, impacts, regulatory gaps, and technological innovations in menstrual waste management and to develop a comprehensive set of policy recommendations.

The deliberations positioned menstrual waste management at the intersection of environmental protection, public health, gender justice,

public participation, circular economy, and innovation.

Key Challenges Identified

The workshop identified key challenges in menstrual waste management in the following thematic areas;

a) Policy and Regulatory Gaps

Regulatory clarity and certainty are essential pillars of a good policy for effectively achieving desired objectives. Presently, there is a lack of clear classification of menstrual waste as it falls ambiguously between biomedical waste and solid waste, creating confusion at the field level for urban local bodies (ULBs). There are also fragmented frameworks across the Solid Waste Management Rules, the Biomedical Waste Rules, and the Swachh Bharat Mission (SBM) that lead to inconsistent practices. The weak enforcement of segregation at source and the absence of standardized disposal protocols across cities are other challenges due to such policy and regulatory gaps. There are no norms presently mandating the manufacturers to disclose the material composition of the sanitary pads, including environmental and product dis-

¹ Source: Down to Earth, Published on: 03 June 2021.





closure, that would facilitate the customers' choice of product, and identify the opportunities for reuse.

b) Collection and Disposal Failures

The collection of menstrual waste was identified as the main constraint in its scientific disposal in the workshop deliberations. The distinct collection system and robust reverse logistics are essential for any alternatives for sound disposal practice. It was noted that only a fraction of municipal solid waste is effectively collected; sanitary waste often remains mixed with household garbage. There is an absence of a dedicated collection system and bins in most public spaces. It was noted that there is heavy reliance on incineration, with limited scientific evaluation of emissions or environmental impacts.

c) Risks to Informal Workers

Informal sector workers (Rag pickers) and sanitation workers are exposed to unwrapped pads, blood-soaked waste, and other sanitary products without protective equipment. This creates dignity and health concerns, disproportionately affecting marginalized women in the informal waste sector. In that sense, this becomes a public health issue and also an environmental

justice and dignity issue, leading to human rights concern.

d) Limited Awareness and Social Taboos

Menstruation continues to be stigmatized, and any discussions at public forums are restrictive in nature. The waste disposal practices are shaped by silence and shame rather than informed choice. Even where systems exist, a lack of awareness leads to misuse or underutilization. There are several initiatives of the government for increasing the use of sanitary napkins, particularly among young girls, like Menstrual Hygiene Scheme (MHS) – 2011 and Suvidha Initiative (2018). At state level, there are initiatives like Asmita in Maharashtra, Kerala's 'She Pad' scheme, Odisha's 'Khushi' scheme and Tamil Nadu's 'Pudhu Yugam' scheme. However, social taboos of use and lack of awareness of menstrual waste disposal remain.

e) Weak Economic Incentives

There are some media reports that the sanitary pads have quality issues. On the other hand, the sustainable alternatives (cups, bamboo-based pads) face cost barriers and require strong education campaigns. There are several localised efforts through some ULBs and CSR initiatives

to promote the supply of sanitary napkins, promotion of justifiable alternatives and waste collection mechanisms, though these geographical footprints are generally restricted to urban areas. Absence of robust Extended Producer Responsibility (EPR) funding further limits systemic solutions.

Innovations and Emerging Solutions

The waste management problem needs to be addressed through technological innovations and economic solutions for its sustainability. PadCare Labs showcased India's first patented recycling technology for sanitary pads, converting them into cellulose pulp and plastic granules usable in other industries. They are also expanding it to 24 cities, demonstrating proof of scalability, though further support is needed for integration into municipal contracts. IIT Bombay research also showed the opportunities of co-gasification and co-incineration of used menstrual waste with other pelletized waste from garden. Mumbai Waste Management Ltd. showed the use of an IT application to improved and focussed menstrual waste collection system, which they are commissioning soon. There is a need to provide policy support and also financial support to innovation and emerging solutions that will improve waste collection and disposal, including recycling.

Civic society groups like RNisarg Foundation are working to promote alternatives that offer long-term sustainability, but face cultural barriers and economic challenges. Initiatives like Saathi's Eco-friendly bamboo-based pads and RNisarg Foundation's biodegradable product advocacy provide biodegradable solutions.

There are several community and CSR-led Models operational in the country. However, there is a need to streamline these efforts and document their success stories, including their benefits for women's health, social impacts and benefits for the informal sector in the waste collection system. Rotary Club, Satara, under Project Asmita, installed pad vending machines and used napkins incinerators in schools, combined with training and sensitization, demonstrating a replicable CSR-based model. RNisarg Foundation trained 30,000 menstrual educators and distributed 18,000 menstrual cups with a 70% acceptance rate in Thane and Mumbai.

Stakeholders' Perspectives

The workshop deliberations highlighted the views of various stakeholders. The Academia (IIT Bombay, NEERI, Northumbria University) advocated integrated frameworks, adoption of technology innovation and circular economy models, gender rights, and justice. Industry



Significant work is being done on innovative and sustainable alternatives for sanitary napkins, including the menstrual cups promoted by companies like: HLL Lifecare and Ami Polymers.

Innovators (PadCare Labs, Ami Polymers, HLL Lifecare) brought forward scalable technological and product innovations, awareness, and education. Civil Society (RNisarg Foundation,

Rotary Club) highlighted the importance of education, awareness, and community engagement. The stakeholders also identified the health improvement aspects as a co-benefit of the improved menstrual waste management. Waste Management Companies (Mumbai Waste Management) stressed infrastructure deficits, cost challenges, and the need for regulatory clarity.

Policy Recommendations

Based on deliberations, the following policy recommendations are made:

1. Establish Policy Clarity and a Unified Framework

- ◆ The Central Government should develop a National Framework for Absorbent Hygiene Product (AHP) Waste.
- ◆ Clear definitions and categorization must harmonize the Solid Waste Management Rules and the Biomedical Waste Rules.

2. Mandate and Enforce Segregation

- ◆ Adopt a three-bin system (wet, dry, sanitary/AHP) with standardized colour codes.
- ◆ Implement through municipal bylaws, with large-scale awareness campaigns for compliance.
- ◆ Issue operational guidelines and training manuals.

3. Redesign and Strengthen EPR

- ◆ Introduce a dedicated EPR framework for sanitary products, mandating producer-funded collection and processing infrastructure.
- ◆ Provide higher incentives for recycling and material recovery over incineration.

4. Promote and Incentivize Circular Solutions

- ◆ Offer government grants, subsidies, and GST relief for biodegradable and reusable products.
- ◆ Mandate product composition disclosure and certification of eco-friendly designs.

- ◆ Encourage municipal tenders that prioritize recycling technologies over land filling.

5. Invest in Education and Behaviour Change

- ◆ Integrate menstrual health, hygiene, and waste awareness into school curricula.
- ◆ Fund training of menstrual educators and local women's groups to sustain awareness at the community level.

6. Promote and Incentivize Circular Solutions

- ◆ Recognize waste pickers as part of the formal AHP waste chain.
- ◆ Provide protective gear, insurance, and occupational safety standards for all sanitation workers handling menstrual waste.

7. Support Research and Innovation

- ◆ Fund pilot projects in co-gasification, recycling, and biodegradable design.
- ◆ Promote academia-industry partnerships for scaling up safe and cost-effective technologies.

Conclusion

The IIT Bombay workshop underscored that technology or policy in isolation cannot solve India's menstrual waste challenge. It demands a multi-pronged strategy that unifies regulatory clarity, financial responsibility, technological innovation, and social transformation.

By moving from disposal to circularity, taboo to dialogue, and from fragmented rules to a cohesive national mission, India can turn this challenge into an opportunity for sustainable waste management, women's empowerment, women's health, and environmental justice. The new EPR provides an opportunity to provide financial impetus to the waste collection mechanism and also spur innovation in waste disposal practices and demands for product material disclosures.

The recommendations from this workshop offer a blueprint for designing a National Menstrual Waste Management Strategy, ensuring that the issue is addressed not just as a sanitation concern but as a cross-cutting agenda of gender dignity, public health, and sustainability.