

# Menstrual Product Disposal: An Under-Addressed Challenge

## THE PROBLEM

*Used product disposal is an important, persistent, and under-addressed challenge within the menstrual health (MH) sector, particularly in low and middle-income countries (LMICs).*

*Among women and children, an estimated 38% lack safe water, 19% lack sanitation, and 35% lack water and soap for hand-washing and/or menstrual product washing.<sup>1</sup>*

*There is an unmet need for product disposal systems that are safe, culturally appropriate, accessible, and sustainable.<sup>2-5</sup>*

## RESEARCH APPROACH

Based on a systematic review of 60 peer-reviewed papers, interviews with 15 global experts, and qualitative interviews with 30 menstruators in urban and rural India and the Bidi Bidi refugee settlement in Uganda, we have identified:

1. Key impacts of poor disposal systems on the daily lives of menstruators,
2. Limitations of current common disposal interventions,
3. Design principles for creating more effective disposal technologies.

## WHY DISPOSAL MATTERS

A lack of appropriate disposal systems has negative impacts on both the individual and community levels.

1. *The “when,” “where,” and “how,” of disposal is constantly on the mind of menstruators, leading to psychological stress, anxiety, and social trauma.*

- The stigma surrounding menstruation in many cultures leads to restrictions on work, movement, and social participation for menstruators.<sup>6</sup> The taboo nature of menstrual blood in particular induces a deep sense of fear and shame in menstruators.<sup>7-10</sup>
- Sociocultural expectations that menstruators should contain, conceal, and eradicate traces of menstrual blood profoundly affect

behaviors related to product disposal.

For example, a key factor in a menstruator’s product choice is the perceived ease of discreet disposal of the product.<sup>10, 11</sup>

2. *Menstruators often have to put their own physical health at risk to accommodate disposal access.*

- Menstruators may use a product for longer than desired due to lack of access to a disposal site, putting them at greater risk for bacterial vaginosis, sores, and both urinary and reproductive tract infections (RTIs).<sup>12-14</sup>

- For instance, a study conducted in Ethiopia found that changing absorbent MH material only once per day had significantly greater odds of acquiring an RTI compared to changing twice or above (AOR:8.99; 95%CI:4.51–17.92).<sup>15</sup>

3. *A lack of suitable disposal options creates an enormous opportunity cost for menstruators, including the loss of potential income and educational possibilities.*

- Menstruators sacrifice significant time during the days of their active cycle in order to accommodate their flow, particularly if private and secure disposal options are not easily available. This often leads menstruators to regularly miss work or school.<sup>16-20</sup>

- For example, a study from the Philippines and Vietnam in 2008 estimated annual national losses of USD 13.5 million and USD 1.5 million respectively, when women missed a single day of work each month due to the lack of adequate WASH and disposal facilities at their workplace.<sup>16</sup>

4. *The lack of a waste management system forces hazardous disposal practices onto the environment, leading to toxicity exposure and chemical pollution.*

- When functional disposal infrastructure is absent, menstruators may resort to user-driven disposal methods such as burning, burying, or dumping their menstrual products in water bodies. This puts a significant burden on the menstruator and also has serious consequences to the environment.<sup>21, 22</sup>

- Burning of disposable pads results in harmful dioxin emissions, which put menstruators and nearby community members at risk. Inhalation is strongly correlated with cancer, reproductive damage, and developmental delays.<sup>23</sup>

**Poor disposal options mean girls face tough choices when managing their menstruation.**

**She is anxious leading up to her period**



1. Do I need to ration food money or school fees to buy expensive pads from the market?
2. Will I have water access to wash myself and/or my product when I need to change?
3. Will my teachers ask me to leave if they find out I am on my cycle?

**She has heavy flow day at school**



1. Will I have to skip class if I start to leak through my clothes?
2. Will other students see me when I'm disposing of my used products?
3. If I wait to change my pad until I'm home, will I get a rash or sores?

**She needs to change her pad at night**



1. Is it safe for me to leave the house to go to a disposal site at night?
2. How can I sneak out of my house to change my pad without my father seeing me?
3. Will my reusable pad be dry in time before my neighbors see it?

**She is looking for a private place to dispose of her product**



1. Will I have to ask someone's permission to use the washroom facility?
2. Will people be able to see my pad in the pit latrine if it's almost full and then will I get in trouble with the community?
3. If I bury my product, will a dog or other animal dig it up?

## CURRENT DISPOSAL TECHNOLOGIES

Existing disposal interventions have had limited success to date. Some common disposal interventions that have been implemented are:

1. **Waste bins:** Waste bins placed within pit latrines or other WASH facilities. Waste bins are easy to use but lack discretion; many menstruators express anxiety and fear of others seeing or stealing their used products. Waste bins can also become unhygienic to use if not regularly maintained.<sup>24</sup>
2. **Chutes:** Chutes are able to discreetly carry menstrual waste from the source (e.g., latrine cubicle) to the destruction site (e.g., on-site incinerator) but are costly to install and maintain.<sup>25</sup> A common challenge is incomplete incineration, which happens when products contain excessive moisture and cannot combust. Excessive moisture can occur from product overuse (i.e., being completely saturated with blood) or because many menstruators feel social pressure to wash their products before disposing of them due to the social taboo surrounding menstrual blood. Incomplete incineration can result in the blowback of carcinogenic gases into the bathroom cubicle through the chute opening.<sup>26, 27</sup>

3. **Incinerators:** Incinerators are able to achieve both pathogen and volume reduction in menstrual waste; however, they are costly to install and maintain, and harbor a risk of incomplete incineration.<sup>24, 28, 29</sup> Weak waste management systems and low awareness of this technology among menstruators also hinder successful adoption of incinerators.<sup>30</sup>

## RECOMMENDATIONS FOR FUTURE DISPOSAL SYSTEM DEVELOPMENT

Based on our systematic review, expert interviews, and qualitative research with menstruators in India and Uganda, we have identified several recommended design principles for creating disposal systems. New disposal technologies and systems need to:

1. **Be co-designed with menstruators and diverse community stakeholders** in order to adapt to the heterogeneity of local sanitation infrastructure systems and beliefs about menstruation. There is no silver bullet disposal solution that will work in every context.
2. **Complement “hardware” (infrastructure) with “software” (social behavioral interventions).** Software interventions are becoming increasingly pivotal in tackling the psychosocial effects of poor menstrual

health and stigma on menstruators by shifting social beliefs about menstruation and engaging the wider community, including men and boys.

3. **Be compatible with existing regional and national waste management systems,** rather than function as a stand-alone point-of-disposal technology.
4. **Reassure the user of complete eradication** of product or blood at or after the point-of-disposal. Menstruators are more likely to use a disposal system if they feel confident that their product - now or in the future- cannot be traced back to them.
5. **Provide the user privacy and safety** during disposal or washing at any time of day or night. WASH facilities are frequently not designed with menstruators’ need for private disposal in mind. Limited locations and hours of disposal facilities also constrain menstruators’ product decisions and limit their freedom of movement.
6. **Function with low upfront capital requirements** and low-cost ongoing maintenance, or have mechanisms for cost recovery. Technologies that are cost-prohibitive will not be adopted or maintained by community organizations or governments.

## CALL TO ACTION

*Waste disposal systems have been largely overlooked by menstrual health and WASH initiatives.*

*Poorly designed and/or maintained menstrual waste disposal systems are an under-addressed barrier to menstruators effectively managing their cycles, with significant repercussions for their physical and mental health, as well as income and educational attainment.*

*Future investment and development is needed to create dignified, sustainable, and safe disposal systems in LMIC and humanitarian contexts.*

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