



## Technical Brief No. 1 on Menstrual Hygiene Safe Disposal

Observations from Menstrual Waste Disposal Practices in Shared and Public Toilet Spaces (India)

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## Background: Incinerator technologies as a feasible menstrual waste management solution for urban India

With increasing sanitary pad use, incinerators are a popular technology solution to handling menstrual waste in institutional settings such as schools, as well as in community and public toilet sites. Incinerator technologies in India vary widely, and include simple fuel-assisted burning chambers made of brick, tin or terracotta, small-scale electric incinerators, large and mid-sized commercial electric incinerators, and bio-medical incinerators.

In India, incinerators are gaining in popularity as they potentially offer a complete on-site menstrual waste management solution. While incineration requires that menstrual waste is separated from other solid waste for treatment, it need not always involve the various steps required for solid waste management in terms of transportation of segregated waste, secondary segregation, storage, treatment and final disposal. Further, given the socio-cultural norms around seeing and handling menstrual blood, incinerators are one solution to minimize handling of such waste.

Incinerators, however, pose certain health and environmental related risks and challenges. With the lack of regulatory standards for small and medium scale incinerators in India, many of the incinerators available in the market do not adhere to sound design principles and do not incorporate emission control measures to reduce toxic emissions. Often times, small scale incinerators are placed in closed spaces (within the toilet complex) or near the toilet, where by emissions can pose a threat to health. Many incinerators are installed with limited training of operators on how to run the machine and how best to maintain it. Anecdotal evidence suggests that small electric incinerators quickly become dysfunctional and cease to serve their purpose. Socio-cultural norms associated with burning of menstrual blood-born products can influence the use of incinerators directly by users and by operators, and need to be considered when installing such technologies.

## Informing safe disposal of menstrual waste in urban public spaces – Observations from novel primary studies on menstrual waste disposal in urban public toilets in three Indian cities

The primary study was done in Ahmedabad (by SEWA), Coimbatore (by PSG) and Delhi (by WaterAid India) with women who used public and community toilets in May-August 2018. The purpose of the on-site work was to understand their preferences and challenges related to the use of public facilities during menstruation, and their preferred design of public facilities that will make disposal of used products more convenient, and their preferences regarding incineration as a disposal method. The design and development of effective technologies to manage menstrual waste on-site depends upon understanding common practices and preferences.

The study found that sanitary pad use was prevalent in urban areas, and that women accessing public toilets do change and discard their used materials in these public sites. However, public toilets were often poorly equipped with discrete and safe disposal options.

Women expressed preference for discrete on-site disposal, mechanical collection and handling of waste, reliable female caretakers, well-lit toilet stalls that offered privacy, water and soap for washing, paper to wrap used materials before throwing. Women had mixed views about thermal treatment of menstrual waste. Those in favour, viewed incineration as a convenient technology to deal with menstrual waste on site in an efficient manner. Other expressed discomfort with burning menstrual waste due to socio-cultural norms related to menstrual waste or expressed concerns over the smoke released from incinerators during combustion.

The findings from this study reiterate the need for responsive public sanitation facilities that cater to the menstrual hygiene needs of women in low and middle income settings. The findings also point to the need for facility design and operational guidelines, and waste appliance standards.

The following recommendations are proposed related to 1) the design and operations of public toilet facilities; 2) research; and 3) policy.

### Design and operations of public toilet facilities:

1. Presence of well-designed, safe, context appropriate, and conveniently located on-site disposal systems:
  - a. At the very minimal, dustbins with lids to be made available to ensure privacy and be placed to facilitate discrete disposal within the toilet complex. Where possible, dustbins to be located within individual toilet stalls to aid disposal.
  - b. Installation of incinerators must be done correctly to minimize risks of harmful emissions within the toilet complex. The exhaust vent, for instance, must be lead outside the toilet complex. If emissions from the incineration process are released into the toilet complex, the incinerator must not be operated until modifications are made to the vent to allow for proper outlet for fumes.
  - c. Paper or paper bags (fashioned from old newspaper, for instance) can be placed inside the toilet complex or individual toilet stalls to encourage wrapping of used products before throwing. This will enable discrete disposal in dustbins and prevent sanitation workers from directly handling menstrual waste.
  - d. While manual emptying of bins may continue into the immediate future, options for mechanical emptying or solutions for dealing with waste that requires minimal contact must be tested and scaled up based on feasibility and context appropriateness

2. Clear instructions (in English and the local language) for users on how to dispose of menstrual waste to be prominently displayed in toilet facilities, including guidance on wrapping and disposing used absorbents, and on how to operate incinerators (if handled by users directly).
3. Detailed instructions (in English and the local language) on waste handling to be prominently displayed for caretakers and sanitation workers. These instructions should include guidance on menstrual waste management, including segregation of menstrual waste, collection, storage, transportation, and final disposal and treatment, as well as on the use of protective gear when handling waste materials. Clear guidance on the operations and maintenance of incinerators to be displayed in facilities having such amenities.
4. Caretakers and sanitation workers in public toilets to receive training on operating incinerators and to guide appropriate disposal of waste by users, and be provided protective gear (e.g., gloves, aprons) for dealing with waste and incinerators.
5. Fund allocations for operations and maintenance of public toilets for women to include funds for maintenance of waste disposal systems (e.g., funds to purchase dustbins to replace broken pieces, incinerator repairs, training of caretakers/sanitation workers to correctly operate incinerators, signage/posters on appropriate disposal of waste and use of incinerators).

Research:

1. Research on the health and environmental risks of poorly installed or unsafe incineration, with clear-cut recommendations for robust design and operations of such technology
2. In-country research on existing small-scale incinerator designs and their use in public toilets to assess acceptability, use, feasibility and safety, with recommendations for the installation and operations of small-scale incinerators in public toilets.
3. Research on the solid waste management of menstrual waste in public sites (that is not incinerated), to provide guidance on appropriate steps to be taken to facilitate waste segregation, collection, storage, transportation, and finally disposal and treatment of waste.
4. Research with caretakers and sanitation workers in public toilets to understand the enablers and barriers to safe and appropriate menstrual waste disposal (for users and caretakers) to identify feasible and sustainable on-site waste management solutions and safe working environments.

Policy:

1. Evidence on robust designs of small-scale incinerators for use in institutional (educational settings, worksites, health facilities) and public toilet settings must be generated, collated and widely shared with relevant government and non-government stakeholders to enable the procurement and installation of safe and appropriate technology solutions that minimize harm to users and the environment.
2. Regulations on small-scale incinerators must be enforced to conform to standards set by country governments with regard to operations and emissions. Manufacturers of sanitary pads can facilitate safe disposal by including instructions on sanitary pad packets to wrap and dispose of used materials in the dustbin.
3. Policy documents on solid waste management and design of community and public toilets to include guidance on the management of menstrual waste in public sites.
4. Policy documents related to the full cycle of menstrual hygiene management to emphasize the MHM responsive design features for community and public toilets.