MANAGEMENT OF MENSTRUAL WASTE

Calls to Action

- Management of menstrual waste to include the entire value chain including awareness, access, use, and waste management across urban and rural settings, and communities and institutions.
- Menstrual hygiene management programs to incorporate effects of disposal and treatment for the complete range of menstrual hygiene products (reusable, compostable and non-compostable disposable products) on users and on the environment.
- Clarity and agreement needed on classification of menstrual waste as solid waste or bio-medical waste across government departments and other stakeholders.
- Uniform standards and guidelines to be drafted and implemented for currently available menstrual waste management technologies, especially incinerators, composting pits, and waste to resource technologies.
- Catalyse support for research and development of environmentally sound waste management technologies.

TABLE 1: MENSTRUAL WASTE DISPOSAL PRACTICES AMONG ADOLESCENT GIRLS IN INDIA

<table>
<thead>
<tr>
<th>Disposal of menstrual absorbents</th>
<th>Total pooled proportion*</th>
<th>Rural pooled proportion*</th>
<th>Urban pooled proportion*</th>
<th>Slum pooled proportion*</th>
<th>Comments with disposal method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thrown with routine waste/dustbin</td>
<td>65</td>
<td>28</td>
<td>70</td>
<td>51</td>
<td>Mensural waste enters the solid waste stream and is subject to the same treatment as other solid waste – placed in landfills to disintegrate over hundreds of years</td>
</tr>
<tr>
<td>Thrown away in the open (e.g., streets, lakes, roadsides etc.)</td>
<td>23</td>
<td>28</td>
<td>15</td>
<td>30</td>
<td>Mensural waste can contaminate water sources, fog drains</td>
</tr>
<tr>
<td>Burning (open)</td>
<td>17</td>
<td>15</td>
<td>23</td>
<td>-</td>
<td>Burning of commercially available pads at low temperatures can create odours and expose nearby population</td>
</tr>
<tr>
<td>Burning</td>
<td>25</td>
<td>33</td>
<td>12</td>
<td>-</td>
<td>Burning is not always effective, and without appropriate composting, waste will later be handled using incineration etc.</td>
</tr>
<tr>
<td>In latrines (flushing down the toilet, throwing into pit latrine)</td>
<td>9</td>
<td>10</td>
<td>7</td>
<td>-</td>
<td>Used pads mixed with faecal sludge, complicates disposal of that sludge (in the case of septic tanks) or interferes with the production of usable manure (in the case of manure pits)</td>
</tr>
</tbody>
</table>

*Pooled proportion is a percentage that has been derived from data in studies included in the above systematic review.

The government of India has been a global leader in its concerted efforts to make sanitary pads available to young women across the country, and sanitary pad manufacturers are making a variety of products available in urban as well as rural settings. The latest National Family Health Survey 4 (2015-16) reflects such efforts with 57.3 per cent of women aged 15-24 years reporting the current use of safe, hygienic products1. Increased availability and use of disposable sanitary pads underscores the need for appropriate and safe management of menstrual waste.

Two main concerns are central to the management of menstrual waste in India: first, many girls and women lack access to appropriate waste management options that may lead to the unhygienic use of safe absorbents, for instance, girls using a single pad for 2 days2. Secondly, the lack of disposal and treatment options may lead to the unsafe management of a mounting volume of menstrual waste.

If an estimated 121 million girls and women are currently using an average of eight disposable (non-compostable) sanitary pads a month, the waste that is generated in India is estimated to be:

- **1.021 BILLION PADS** disposed monthly
- **12.3 BILLION PADS** disposed annually
- **113,000 TONNES** of menstrual waste annually

Against this backdrop, two solutions currently exist. Incinerators have emerged as a favoured disposal and treatment option, particularly in schools. With inputs from the Swachh Bharat Mission, specifically the MWH Guidelines for Schools and the recently released policy guidelines published by the Ministry of Drinking Water and Sanitation, the use of incinerators is likely to grow. On the other hand, cities like Bangalore and Pune are implementing solid waste interventions to effectively segregate and manage menstrual waste during routine garbage collection. These two solutions meet a growing need for waste management solutions.

### TABLE 2: OPTIONS FOR MANAGEMENT OF MENSTRUAL WASTE

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<thead>
<tr>
<th>Waste management option</th>
<th>Clay pots (matka)</th>
<th>Low-cost, locally made incinerators</th>
<th>Electric Incinerators</th>
<th>High-temperature incineration for bio-medical waste</th>
<th>Incinerators with waste to energy technology</th>
<th>Segregation and identification of menstrual waste</th>
<th>Composting pits for biodegradable menstrual products</th>
<th>Technologies that make production of waste out of waste to resource technologies</th>
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<tr>
<td>Advantages</td>
<td>• Low cost</td>
<td>• Cost-effective, available in urban markets</td>
<td>• Electro-kinetic (dielectric destruction)</td>
<td>• Waste burned in large scale incinerators designed to deal with bio-medical waste</td>
<td>• Waste incinerated to produce electricity</td>
<td>• Pad waste is collected in schools and segregated at source</td>
<td>• Large pad waste, low moisture content at source</td>
<td>• Bio-digester technology for treatment of sanitary waste</td>
</tr>
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<td></td>
<td>• Bio-compatible, biodegradable, compostable</td>
<td>• Low cost</td>
<td>• Energy recovery, no need for further treatment</td>
<td>• Can be located in institutional settings; schools</td>
<td>• Waste to energy innovations applicable to community and institutional settings</td>
<td>• Can be used for organic waste</td>
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<td>• Easy to use, particularly in households</td>
<td>• Easy to install in institutional settings; schools</td>
<td>• Ideal in institutional settings; schools</td>
<td>• Can be located in institutional settings; schools</td>
<td>• Effective source segregation of menstrual waste</td>
<td>• Cost-effective</td>
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<td>• Not readily available from local vendors</td>
<td>• Not easily available in rural areas</td>
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### Disadvantages

- **Clay pots (matka)**
  - **Inadequate**
  - **Not readily available in rural areas**
  - **High moisture content at source**

- **Low-cost, locally made incinerators**
  - **Inadequate**
  - **Limited operational capacity and safety features**
  - **Not easily available in rural areas**

- **Electric Incinerators**
  - **Inadequate**
  - **Limited operational capacity and safety features**
  - **High maintenance costs**

- **High-temperature incineration for bio-medical waste**
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- **Incinerators with waste to energy technology**
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- **Composting pits for biodegradable menstrual products**
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- **Technologies that make production of waste out of waste to resource technologies**
  - **Inadequate**
  - **Limited operational capacity and safety features**
  - **High maintenance costs**

### Critical considerations for use

- **Type and composition of product disposed of**
- **Setting the use and placement of incinerator**
- **Volume of product to be incinerated at a go**
- **Operation and maintenance**

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2. Based on anecdotal evidence from MHM interventions in India.
3. These figures have been calculated based on the National Family Health Survey 4 data, market penetration data, and available to young women across the country, and sanitary pad manufacturers are making a variety of products available in urban as well as rural settings. The latest National Family Health Survey 4 (2015-16) reflects such efforts with 57.3 per cent of women aged 15-24 years reporting the current use of safe, hygienic products. Increased availability and use of disposable sanitary pads underscores the need for appropriate and safe management of menstrual waste.

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