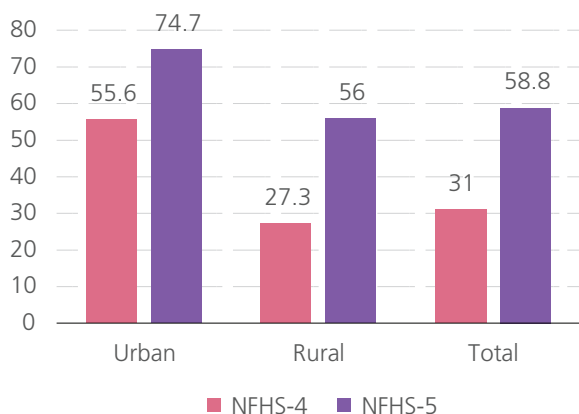


# MENSTRUAL WASTE MANAGEMENT FOR PATNA CITY/ URBAN LOCAL BODIES IN BIHAR

## Why the Patna Municipal Corporation (PMC) needs to address menstrual waste

The Government of Bihar has several initiatives to improve menstrual hygiene management, especially among adolescent girls. The Government's efforts are reflected in improved rates of sanitary pad use in both rural and urban areas between two rounds of the National Family Health Survey (NFHS), namely NFHS 4 (2015-16) and NFHS 5 (2019-2020). Figure 1 highlights increased use of safe menstrual materials, namely sanitary pads in urban and rural Bihar over a five-year period, with 74.7% of young women using sanitary pads in urban areas of Bihar, including Patna.

**FIGURE 1: Proportion of young women, 15-24 years, using hygienic materials/sanitary pads in urban and rural Bihar**



The exact number of sanitary pads used and entering the waste stream in Patna city is not known. An estimated number of sanitary pads discarded in the city can be arrived using available data on the number of women of reproductive age in the city (as per Census 2011), the proportion using sanitary pads (from NFHS-5 factsheet for Patna), and the average number of sanitary pads used per menstrual cycle (Table 1). An estimated 9.8 billion pads may be discarded in Patna city every year.

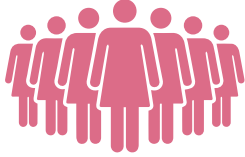


*Dustbins promoting waste segregation in Patna (Photo credit: Arundati Muralidharan/WaterAid India)*

TABLE 1: Estimating the waste load of sanitary pads in Patna

Number of  
WOMEN OF REPRODUCTIVE  
AGE IN PATNA

13,79,977



Half of the total female  
population in Patna as per  
Census 2011- 27,59953

Proportion of  
YOUNG WOMEN FROM PATNA  
USING SANITARY PADS

10,25,323



NFHS-5 urban data: 74.3%  
of young women from Patna  
used sanitary pads

Average number of  
SANITARY PADS  
USED PER CYCLE

8



Based on existing  
literature from India

Total number of  
PADS USED PER MONTH IN PATNA

82,02,583

Number of women using pads  
and the number of pads used  
per menstrual cycle

Total number of  
PADS USED PER YEAR

9,84,30,999

Average of 12 menstrual  
cycles per year per person

The PMC is committed to address solid waste management in Patna. Addressing menstrual waste, which is a component of solid waste (as per the Solid Waste Management Rules, 2016), is an important component of basket of solutions for effective and safe management of solid waste for the city.

### Why PMC needs to address menstrual waste as a part of their solid waste management efforts?

**Menstrual waste** refers to menstrual blood and associated vaginal and uterine discharge, as well as the menstrual material used to soak or collect menstrual blood. Menstrual materials or products include cloth, disposable sanitary pads, tampons, and menstrual cups.

Unsafe management of waste, including, menstrual waste affects both the environment and human health. Patna is dense and growing urban centre. Ensuring health of its population and the surrounding environment will be critical for the city's development.

Inadequate and improper management of menstrual waste can affect the environment:

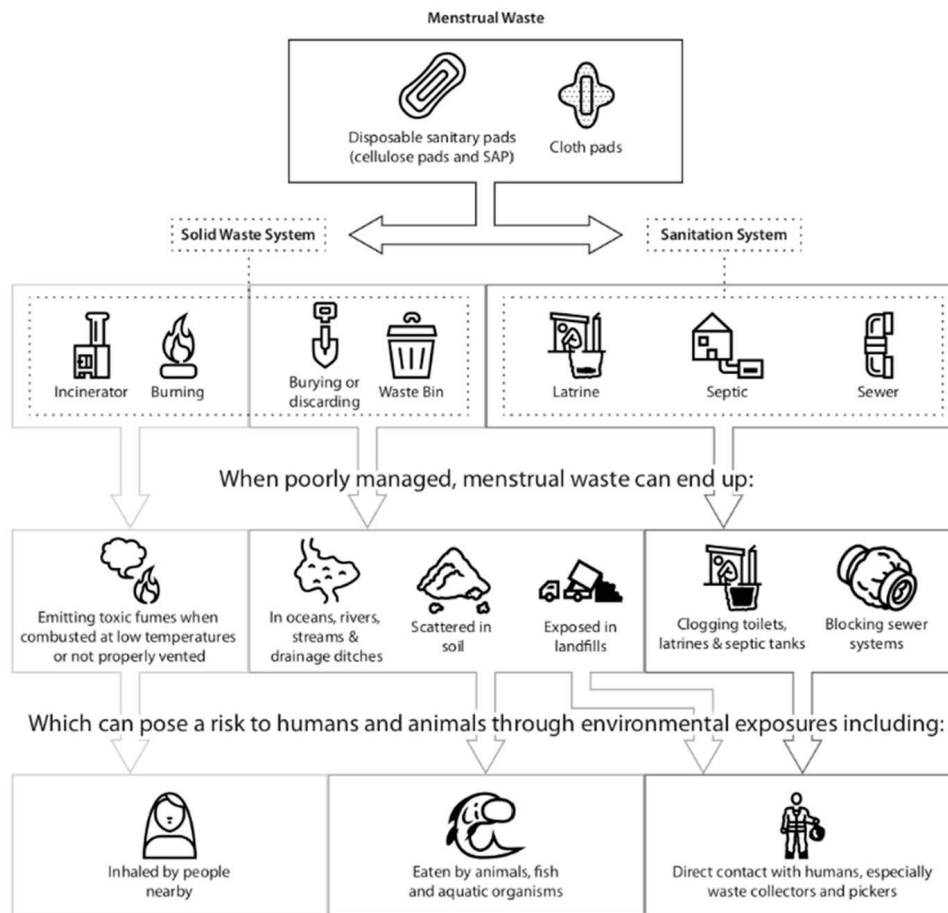
- Inefficient burning of menstrual waste, especially sanitary pads, leads to toxic emissions and contributes to air pollution

- Menstrual waste discarded in the open and in water bodies contributes to contaminating soil and water sources
- Poorly managed waste can block draining and sewerage systems in the city
- Poor waste management affects Swachh Survekshan ranking for the city



Waste collector in Pune collecting sanitary waste (sanitary pads and diapers) in a separate container (Photo credit: SWaCH Cooperative)

**FIGURE 2: Implications of poor menstrual waste management\***



\*Elledge MF, Muralidharan A et al (2018). Menstrual Hygiene Management and Waste Disposal in Low and Middle Income Countries—A Review of the Literature. *Int. J. Environ. Res. Public Health* 2018, 15, 2562; doi:10.3390/ijerph15112562

When used menstrual products are not disposed and managed well, it affects the health of girls and women in several ways:

- Extended and unhygienic use of menstrual products (i.e., girls use menstrual products for longer than recommended, girls may not change their menstrual materials during school hours) []
- Anxiety about the stigma associated with menstruation and menstrual blood, staining clothes, changing and discarding menstrual products in school [..]
- Increased vulnerability to gender based violence (especially if disposal solutions are not easily accessible)
- Missed school days and work days during menstruation [2]
- Unsafe disposal practices (throwing used products in the toilet, in the open, in local water bodies, shallow burial, open burning, unhygienic storage of used pads) [1,7]

Incorporating solutions to menstrual waste as a part of Patna’s solid waste strategy can enable PMC and elected officials to effectively manage all types of waste,

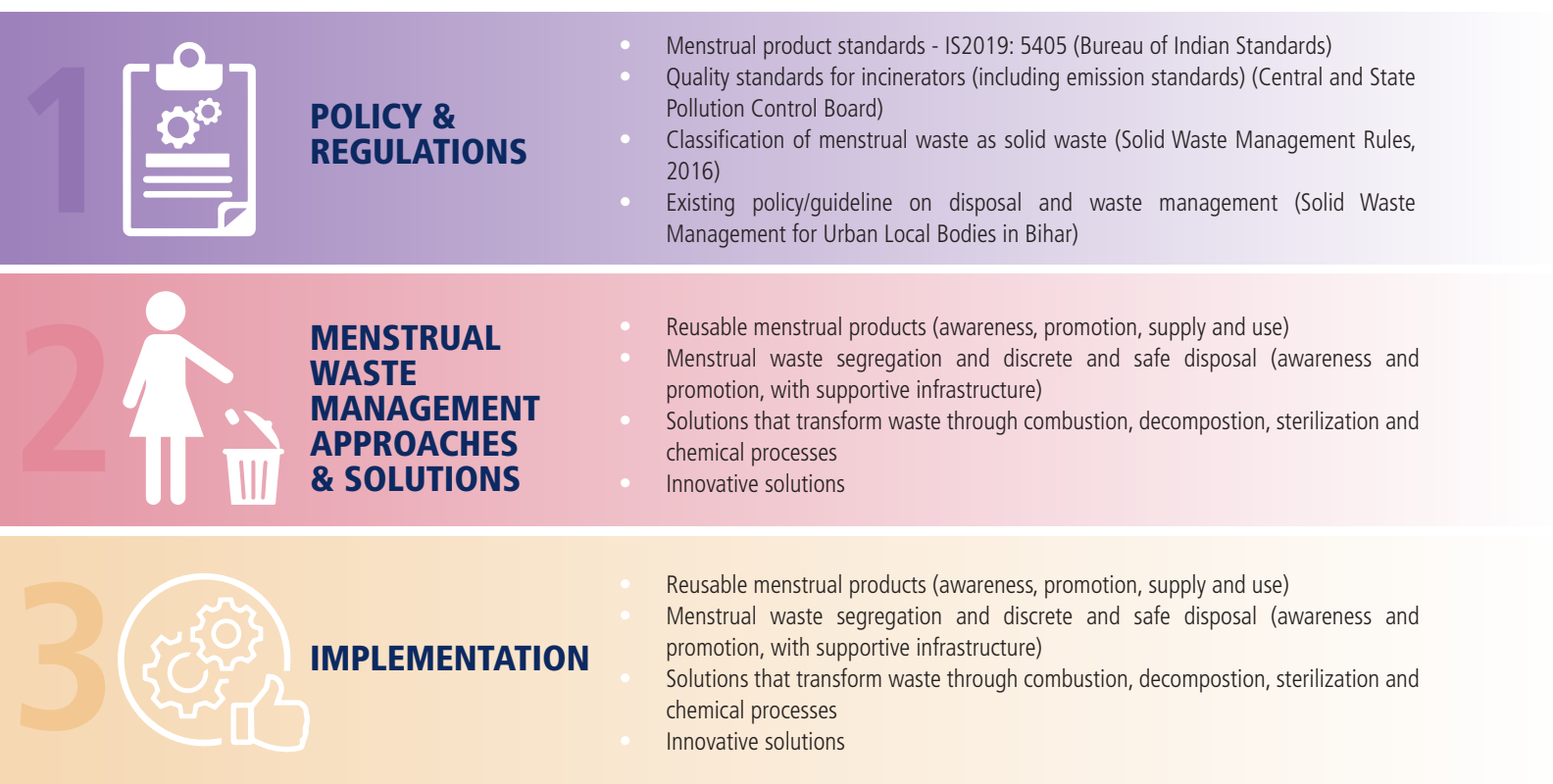
and thereby contribute towards the health and wellbeing of its population and the surrounding environment.

## How PMC can achieve safe and effective management of menstrual waste in Patna

**Safe management of menstrual waste** refers to the disposal and treatment of used menstrual products in a manner that does not cause harm to people who menstruate and/or those who are directly involved in managing menstrual waste; as well as to the environment (in terms of land, air and water sources).

Figure 2 outlines the overarching framework for effective menstrual waste management in Patna. Keeping Patna’s focus on solid waste management central, menstrual waste management can be addressed by understanding this current policy and regulatory framework for solid waste, menstrual products and waste management solutions like incinerators. This then needs to be followed by the identification of feasible and scalable solutions, and considerations for implementation.

**FIGURE 3: Overarching framework for menstrual waste management in Patna**



### Potential menstrual waste management solutions for Patna city

Solutions for menstrual waste borrow from solutions for solid waste management, including reducing the

amount of waste generated, waste segregation at source, and downstream management of waste. Table 2 outlines potential solutions for Patna city.

**TABLE 2: Potential solutions for menstrual waste management in Patna**

Approach	Potential solutions	Purpose	Level of solution
Reduce waste volume	Use of reusable menstrual hygiene products that can be washed, dried, and reused	Lessen the amount/volume of waste that is generated and later managed	City wide Campaign can be tailored for different populations
Safe Disposal of waste	Dustbins (with covers) Disposal chutes	To collect and safely contain waste when discarded by users at home, institutional settings, community and public toilets	City wide
Segregate waste (and collect segregated waste)	Waste segregation at source through separate dustbins, placing of red dots on discarded menstrual waste	Promote and support the segregation of waste at source, collection of segregated waste, and transportation for further processing	City wide
Transform waste	Incineration technologies Burning Deep burial and composting	Reduce waste volume and reduce pathogen content through treatment processes that change the very structure of waste	Selected areas
Sterilize waste	Chemical treatments Autoclaving	Make menstrual waste less hazardous through treatments that make them inert and pathogen free	
Recycle waste	Recycling (combination of waste sterilization and processing)	Treat waste to make it inert and to extract components to recycle into usable products	Piloted in selected areas
Awareness and education on menstrual waste, segregation	Community based/focused campaigns Mass media campaigns Capacity building through orientations or trainings with different stakeholders	Create awareness on what menstrual waste is, and how it can be safely disposed and managed, causing least harm to users, waste and sanitation workers and the environment	City wide Campaign can be tailored for different populations



**FIGURE 4: Integrating menstrual waste management into PMC's Solid Waste Management Strategy**

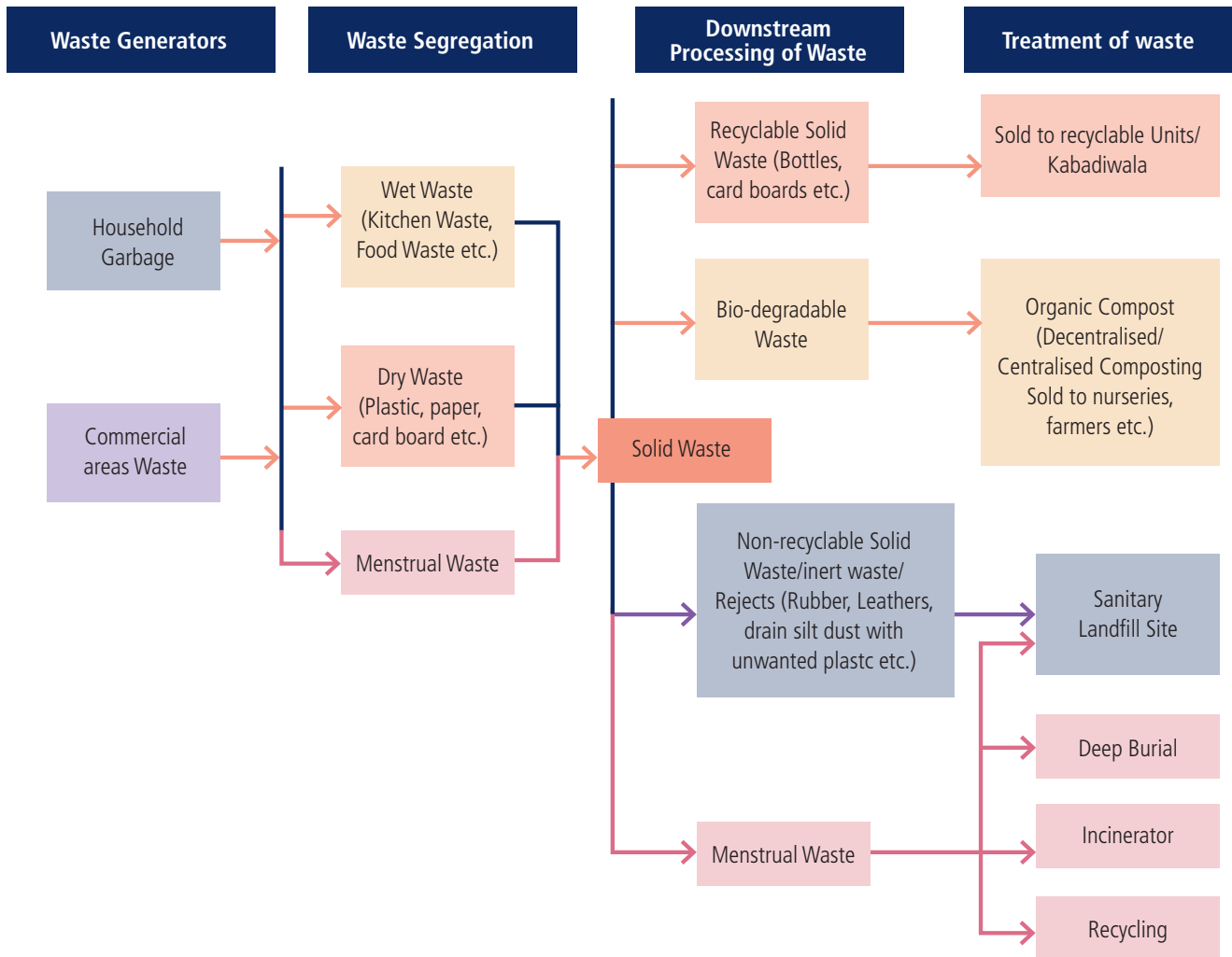


Figure 4 highlights how the management of menstrual waste can be integrated into PMC's ongoing commitment to solid waste management.

### Awareness campaign for safe menstrual waste management

Awareness campaign messages can focus on the following:

- What menstrual waste is
- Why menstrual waste needs to be discarded safely and separately from other waste
- How menstrual waste can be discarded safely
- How segregated waste contributes to health and wellbeing, and a cleaner, safer environment
- Campaign activities:
- Door to door awareness by SHGs members, volunteers, citizen groups, RWAs, and NGOs to include information on what menstrual waste is, and segregation of menstrual waste at the household level, sharing simple tips for how households can undertake this (e.g., separate bin).



Bangalore's 2 Bin 1 Bag model to promote waste segregation (Photo credit: Bangalore Municipal Corporation)

- Recognition of slums, households or residential blocks that practice segregation of menstrual waste from other household waste
- Promotion of menstrual waste segregation in campaign mode for Women’s Day (8 March), MH Day (28 May), Swachhta Divas (2 October), and other relevant days
- Citizen groups, NGOs and CBOs working on reusable menstrual products can create awareness on the use of cloth pads and menstrual cups, as well as compostable sanitary pads
- A campaign or awareness drive can also focus on the rights on waste/sanitation workers, and how citizens can promote their health and dignity through waste segregation practices and safe disposal

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