

Women Hygiene for Environmental Sanitation

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Abstract

The present study is focused on the status of women hygiene in India in relation to environmental management. Menstrual hygiene is considered as a human right, and it has become a public health issue too. Because poor menstrual hygiene is responsible for infections, reproductive health, and other problems. The management of menstrual hygiene is much needed to accomplish the targets of sustainable development goals such as SDG 3, 4, 5, and 6. India is also advancing in menstrual health management by introducing several schemes. Awareness and availability of safe menstrual hygiene products are ensured by these schemes. To protect women hygiene, National Menstrual Hygiene Policy is conscripted in 2023. However, regular monitoring of the guidelines actions is much needed. The policy would be a benchmark for women empowerment and gender equality. Hence, women hygiene is essential for environmental sanitation and to accomplish all sustainable development goals and environmental sustainability.

Keywords: Environmental management, gender equality, menstrual health, sustainable development goals, women hygiene

INTRODUCTION

Sanitation is a cornerstone of public health, directly influencing human well-being and the quality of life. Access to clean air, safe drinking water, and uncontaminated food not only reduces the burden of disease but also fosters healthier communities. Within this broader framework, women's hygiene holds particular significance, as it is closely linked to both environmental sustainability and social equity. Inadequate hygiene practices, especially those related to menstrual health, can contribute to the contamination of water bodies and soil, thereby intensifying ecological challenges. Conversely, sustainable menstrual hygiene management reduces infection risks and minimizes environmental pollution, making it a critical component of holistic health and ecological stewardship.

The global development agenda recognizes this interconnection. Sustainable Development Goal (SDG) 6.2 explicitly emphasizes universal access to adequate sanitation and hygiene by 2030, with a strong focus on the needs of women, girls, and vulnerable populations [1–2]. This target not only seeks to end open defecation but also highlights the importance of equitable sanitation facilities that safeguard dignity and promote gender equality. Furthermore, ensuring menstrual hygiene aligns with broader environmental objectives, as it encourages the adoption of eco-friendly practices such as biodegradable sanitary products and improved waste management systems. By integrating women's hygiene into environmental and developmental discourse, societies can advance toward achieving sustainable health outcomes, gender equity, and ecological resilience.

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Poor menstrual hygiene often leads to infections and reproductive health complications. Effective MHM includes access to clean materials, privacy for changing, and proper disposal facilities [3]. It is directly linked to SDG 4 (quality education), SDG 5 (gender equality), and SDG 6 (water and sanitation) [4]. This paper critically examines the status of menstrual hygiene management in India.

IMPACTS OF MENSTRUAL HYGIENE

Menstrual hygiene indirectly affects the economy of the country. It has impacts on the economy, society, environment, and health which are discussed here.

Economic and Social Impacts

Many girls either absent or left school because of insufficient menstrual hygiene facilities. The contributing factors include:

- Lack of private sanitation facilities.
- Unavailability of menstrual material.
- Cultural norms that stigmatize menstruation.
- Fear of ridicule [5–6].

Environmental Impacts

Menstrual health is a significant environmental concern. Menstrual products, such as disposable pads and tampons, are composed largely of plastics and synthetic materials, which are non-biodegradable and persist in landfills and water bodies for centuries. A single sanitary pad contains up to 90% plastic, contributing substantially to solid waste accumulation and microplastic pollution in aquatic ecosystems [7]. Improper disposal practices, including open dumping and burning, further exacerbate environmental degradation by contaminating soil and groundwater and releasing toxic emissions such as dioxins [8]. These impacts highlight the dual challenge of safeguarding women's health while mitigating ecological harm [9].

Inadequate facilities lead to unsafe practices, causing sewer blockages and pollution, while improper disposal of menstrual waste harms the environment. Thus, eco-friendly disposal systems are needed to mitigate these impacts.

Health Impacts

Using unsuitable menstrual materials can cause infections. Furthermore, societal taboos often result in early marriages and pregnancies, adversely affecting the health of young girls and their offspring [10–13]. Poor menstrual hygiene remains a pressing public health concern, as it is directly associated with infections and long-term reproductive health complications.

Unhygienic menstrual practices, such as the prolonged use of damp or unclean absorbents, significantly increase the risk of urinary tract infections and reproductive tract infections among adolescent and adult women. Nearly one-fourth of young Indian females engage in unhygienic menstrual habits, with approximately 8% reporting reproductive tract infections consequently [14].

Further, inadequate intimate hygiene practices contribute to recurrent infections, skin irritation, and fungal overgrowth, which can quietly damage reproductive health and, in severe cases, elevate the risk of cervical cancer [15]. Lack of awareness and poor sanitary conditions increase vulnerability to urinary tract infections and perineal infections, particularly in rural populations [16]. These findings underscore that menstrual hygiene is not merely a matter of personal comfort but a determinant of women's health, dignity, and environmental sustainability.

The crucial factors required for safe and effective management of menstrual hygiene are classified into four categories as shown in Figure 1.

MENSTRUAL HYGIENE MANAGEMENT IN INDIA

Despite progress, challenges persist in managing menstrual hygiene in India which can be realized by analyzing the 2019–2021 India National Family Health Survey report [17–19]. According to the survey, 52% of adolescent girls are unaware of menstruation before menarche while 77% face restrictions during menstruation. 50% women still use unhygienic methods. Figure 2 lists states where more than 50% of women used cloth during menstruation in NFHS 5 [20].



Figure 1. Prime factors for effective menstrual hygiene management [11].

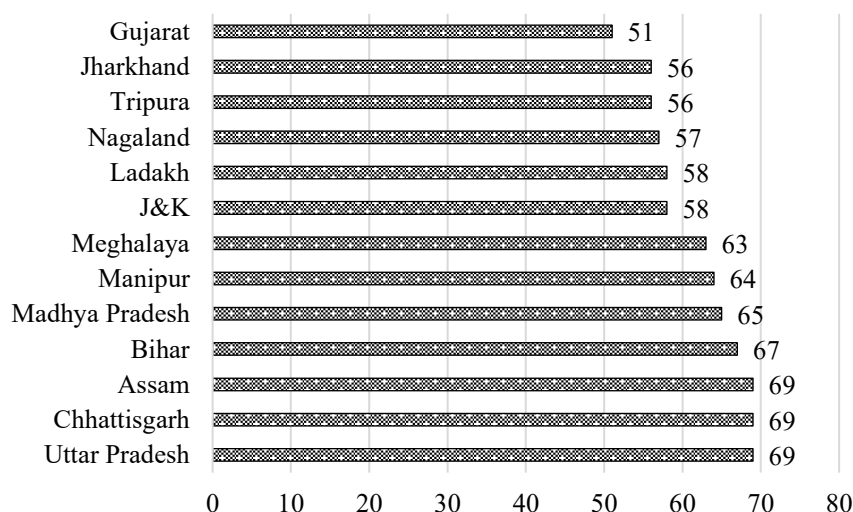


Figure 2. Percentage of women using cloth for period aged 15–24 years [20].

Efforts to Improve MHM Include

- Awareness campaign.
- Distribution of eco-friendly sanitary pads.
- Involvement of stakeholders like NGOs and local governments.
- Government initiatives.

Various schemes have been announced for promotion of menstrual hygiene management at government level. These are illustrated in Figure 3 and discoursed here.

- Rashtriya Kishor Swasthya Karyakram (RKSK)*: The scheme focuses on awareness and distribution of sanitary napkins.
- Swachh Bharat Abhiyan*: SBA developed guidelines for MHM in rural areas.
- Samagra Shiksha*: This scheme is applicable in schools where vending machines for sanitary pads and incinerators for their disposals are facilitated.
- Pradhan Mantri Bharatiya Janaushadhi Pariyojana (PMBJP)*: The scheme offers biodegradable sanitary pads at subsidized rates.
- Scheme for Adolescent Girls (SAG)*: The Ministry of Woman and Child Development aims to improve adolescent girls' health with focus on menstrual hygiene.

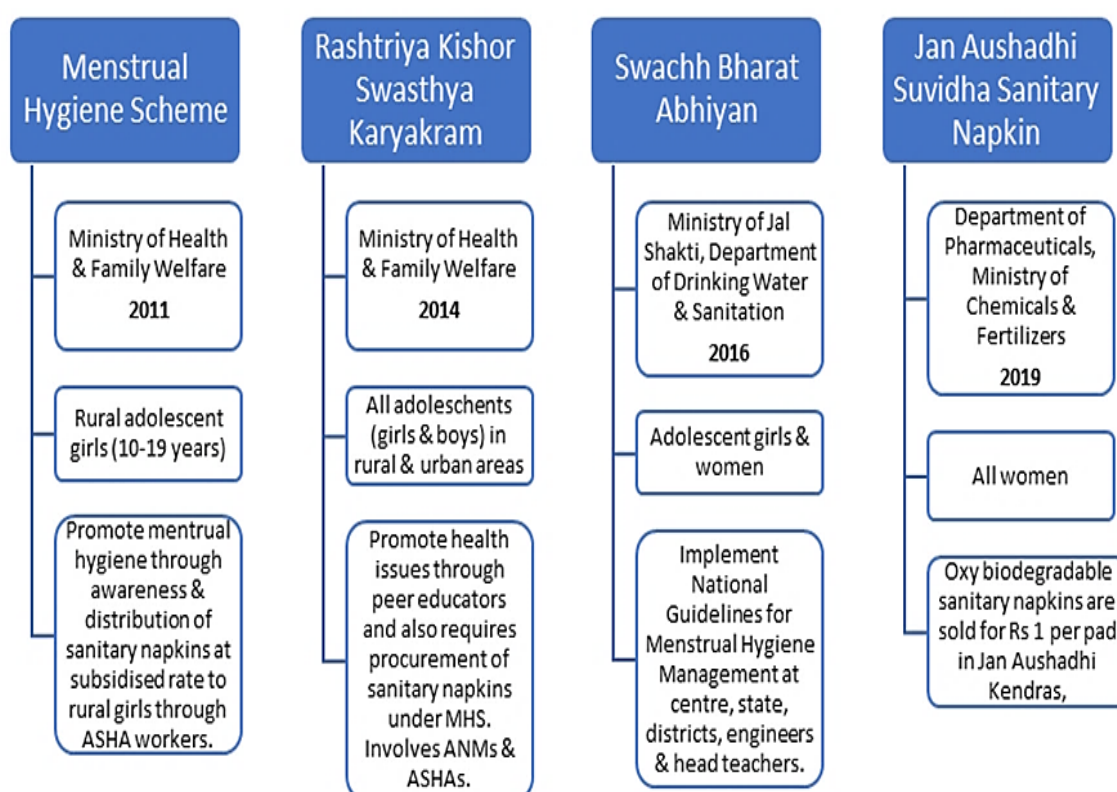


Figure 3. Government initiatives for MHM [21].

The challenges of MHM include stigma, lack of facilities, and insufficient training for frontline workers [22–24]. Community-based initiatives have further empowered rural women by introducing low-cost, locally produced reusable products that reduce waste and improve reproductive health outcomes [25]. These efforts not only mitigate the ecological burden of menstrual waste but also enhance women's dignity and agency by providing affordable, safe, and environmentally responsible options. Hence, integration of eco-friendly menstrual practices into national policy frameworks is essential for tackling period poverty, reducing plastic pollution, and advancing gender equity. A comparative analysis of conventional and Eco-friendly menstrual products is tabulated in Table 1.

Effective menstrual hygiene management in India is possible through following recommendations:

- Develop low-cost, biodegradable menstrual products.
- Improve waste management systems for menstrual materials.
- Train health workers to raise awareness about menstrual hygiene.
- Regularly monitor the implementation of MHM policies [26–29].

Table 1. Comparative analysis of conventional and eco-friendly menstrual products in India.

Characteristics	Conventional products	Eco-friendly products
<i>Composition</i>	Pads or tampons. Mostly plastics (up to 90%), synthetic fiber and super-absorbent polymers	Menstrual Cups, Cloth Pads, Biodegradable Pads. Natural fibers (cotton, bamboo), medical-grade silicone, and biodegradable materials.
<i>Lifecycle impact</i>	Non-biodegradable; persist in landfills and water bodies for centuries; contribute to microplastic pollution	Reusable or biodegradable; reduce solid waste; lower carbon footprint over product lifespan.
<i>Waste generation</i>	Each woman generates ~125 to 150 kg of menstrual waste in her lifetime	Reusable cups last up to 10 years; cloth pads last 2–3 years; biodegradable pads decompose faster.
<i>Health concerns</i>	Risk of infections if not changed frequently; exposure to chemicals and dioxins during disposal or incineration	Safer materials; reduced chemical exposure; reusable products require proper cleaning practices.
<i>Economic cost</i>	Recurring monthly expense; burden for low-income women	Higher initial cost but long-term savings; affordable in community-based production models.
<i>Policy implications</i>	Government programs (e.g., Swachh Bharat Mission) focus on awareness and disposal infrastructure; limited emphasis on sustainability	Policies increasingly promote eco-friendly alternatives; NGOs and state initiatives distribute menstrual cups and cloth pads in rural areas.
<i>Link to environmental policy</i>	Disposal challenges highlighted in solid waste management policies; incineration often criticized for toxic emissions	Aligns with SDG 6.2 (sanitation and hygiene) and SDG 12 (responsible consumption and production); supports India's plastic reduction goals.
<i>Social acceptance</i>	Widely accepted; stigma around reuse and alternatives persists	Growing acceptance in urban areas; rural adoption requires awareness campaigns and cultural sensitivity.

CONCLUSION

Addressing menstrual hygiene is essential for gender equality, environmental sustainability, and achieving SDGs. Collaborative efforts from all stakeholders, including policymakers, educators, and community leaders, are necessary to create a supportive environment for women and girls.

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