

Women at the Forefront: Gendered Leadership in Household Waste Segregation and Sustainable Community Practices

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Abstract -This study explores the vital yet underrecognized role of women in household waste segregation and grassroots waste management initiatives in urban Maharashtra, focusing specifically on Mumbai and Thane. Drawing from secondary data including government reports, case studies, and academic literature it examines the intersection of gender, environmental stewardship, and sustainability. Women across Mumbai and Thane lead efforts by organizing waste systems, educating communities, and advocating for improved practices. Their involvement significantly enhances segregation at source, recycling rates, and urban cleanliness. Despite these contributions, women face systemic challenges such as restrictive societal norms, limited resources, and exclusion from decision-making in environmental governance.

Keywords: Women in waste management, Waste segregation, Urban Maharashtra, Mumbai, Thane, Grassroots sustainability, Gender and environment, Swachh Bharat Mission, Self-help groups (SHGs)

I. INTRODUCTION

Waste segregation at source is a foundational component of sustainable solid waste management. In urban India, where population density and consumption patterns generate large volumes of waste daily, managing this waste effectively is essential. Mumbai and Thane, two of Maharashtra's largest urban centres, face mounting waste management challenges, making community engagement a critical part of policy execution.

At the heart of this community-driven success are women, often overlooked in formal waste governance frameworks. Their contributions range from managing domestic segregation practices to leading self-help groups (SHGs) that conduct door-to-door campaigns, run composting units, and supervise recycling

clusters.

This paper analyzes the leadership roles of women in urban waste segregation efforts across Mumbai and Thane, with an emphasis on how national frameworks like the Solid Waste Management Rules, 2016 and Swachh Bharat Mission (SBM-Urban) intersect with grassroots action. It also explores systemic barriers that hinder full recognition of women's environmental leadership in urban governance.

II. OBJECTIVES OF THE STUDY

1. To examine the role of women in household waste segregation practices in Mumbai and Thane.
2. To analyse case studies and secondary data that showcase the impact of women-led waste initiatives in urban Maharashtra.
3. To explore the relationship between gender, environmental action, and local civic leadership in Maharashtra's metropolitan areas.
4. To identify structural challenges and social barriers hindering women's full participation and recognition in sustainable waste governance.
5. To assess how national frameworks such as SBM and SWM Rules support or marginalize women-led urban waste management initiatives.

III. LITERATURE REVIEW

Urban Waste Practices in Mumbai & Thane: A study by Sawant & Mudalkar (2024) identified women as primary actors in household waste segregation in Mumbai and Pune. In low-income settlements, SHG-led initiatives have substantially improved source-level segregation. The study found that gender-focused awareness programs under Swachh Bharat Urban significantly improved behavioural adoption in

women-headed households.

Hiranandani Estate: A Thane Success Case: At Thane's Hiranandani Estate, over 344 women were employed to manage waste collection and segregation, operating under a structured residential sustainability program aligned with SBM and the SWM Rules (2016). This initiative enabled the township to reduce its landfill burden by over 60%, while improving community participation and household compliance. **Mumbai's Civic Strategy and SHG Involvement:** According to Sanjay Rode (2025), Mumbai's SHG networks were critical in reducing organic waste through household-level composting and dry-wet segregation compliance. In areas where SHGs collaborated with the municipal wards, there was a 20–30% increase in segregation rates between 2020 and 2023.

Safai Karamchari Women and Urban Informality: A 2019 SAGE study by Salve et al. focused on Safai Karamchari women working across Mumbai and Thane's municipal wards. These women form the backbone of frontline waste handling but are often excluded from formal environmental leadership due to their caste and informal labor status. Despite managing over 70% of manual segregation efforts, they receive low wages and minimal safety infrastructure.

IV. METHODOLOGY

This study employs qualitative secondary data analysis, synthesizing findings from peer-reviewed research, government publications, NGO documentation, and municipal performance reports spanning 2015–2025. The focus is strictly on urban Maharashtra, particularly Mumbai and Thane, and how women-led initiatives contribute to sustainable waste segregation. The analysis centres on community-level segregation practices led by women, the participation of SHGs in urban environmental systems, the informal labour dynamics among Safai Karamcharis, and the challenges in policy implementation and institutional recognition.

V. FINDINGS / ANALYSIS

1. Women as Environmental Leaders in Urban Maharashtra

In both Mumbai and Thane, women-led SHGs and

informal collectives are emerging as critical agents of change in solid waste segregation. From managing awareness drives to overseeing household composting units and liaising with local authorities, their leadership is driving tangible results. For example, in Mumbai's D Ward, waste segregation rates increased by 25% in 2022 after women-led eco-clubs initiated structured educational drives.

2. Grassroots Innovation and Urban Circular Economy

In Dharavi, women waste pickers segregate, sort, and redirect plastic and dry waste into recycling hubs supporting an informal circular economy that diverts waste from landfills. In Thane's residential zones, SHGs have established neighbourhood-level Material Recovery Facilities (MRFs) and are turning segregated waste into compost and eco-products. These innovations show that women are not just service providers but urban entrepreneurs and sustainability enablers.

3. SHGs and Urban Civic Partnerships

Thane's municipal partnerships with SHGs have institutionalized women's roles in ward-level waste planning. Through memoranda of understanding (MoUs), SHGs have been granted rights to operate composting units and run educational campaigns across gated communities and public housing complexes, increasing community compliance with SWM Rules, 2016.

4. Structural Exclusion and Equity Gaps

Despite clear evidence of women's leadership, municipal structures rarely reflect this in official documentation or policy frameworks. Most SHG workers and Safai Karamchari women remain informally employed, without pensions, health insurance, or decision-making roles. Their sustainability efforts remain invisible in reporting, even as municipalities claim compliance with SBM and state-level mandates.

5. Expanding the Frontline: Women and Urban Sustainability Beyond Waste

Beyond waste segregation, women's leadership in Mumbai and Thane has extended into other urban sustainability domains. SHGs and housing society committees led by women have initiated rooftop gardening projects that utilize compost to grow vegetables, promoting food self-sufficiency and reducing urban heat. In Chembur and Borivali, women spearheaded plastic-free campaigns, introducing steel

tiffin's, cloth bag banks, and refill stations in markets. In Thane's low income neighbourhoods, women led initiatives to reuse greywater for gardening, managing both education and implementation. These examples show how women's environmental stewardship extends far beyond the dustbin into water, food, and energy domains, redefining community sustainability.

VI. CONCLUSION

This study highlights the critical yet often undervalued role of women in driving sustainable waste segregation and environmental practices in urban Maharashtra, particularly in Mumbai and Thane. Women, through self help groups, informal labour networks, and community leadership, have emerged as the frontline change-makers in household waste segregation, localized recycling economies, and broader sustainability initiatives such as rooftop gardening, plastic-free movements, and greywater reuse.

As natural nurturers and caretakers of both home and community, women bring a unique sense of responsibility and continuity to environmental stewardship. Their leadership directly supports the objectives of this study showcasing how gendered participation strengthens community sustainability. For cities to meet environmental goals, women must be seen not just as participants but as key drivers of change. Institutional support and policy recognition are essential to scale and sustain their impact.

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