

Textile Waste in India: The Need for Legal Reforms and Policies

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Abstract:

The quick broadening of India's textile industry, is operated by fast running fashion and rise in consumerism, and has conducted to a gush in textile waste production. Although it is having serious public health and environmental issues then also India is having not having sufficient customized legal framework to govern textile waste effectively. In this paper the research critically analyses the current regulatory systems, like as the Solid Waste Management Rules, 2016, and the Environment Protection Act, 1986, pointing their drawbacks in labelling textile- related matters. Moreover, researcher discovers the necessity for exhaustive legal reforms and targeted policy measures that regulates sustainable textile production, responsible disposal, and circular economy practices. Emphasis is placed on integrating the constitutional mandate under Article 21, which guarantees the right to life and a clean environment, into future legislative and policy efforts. The study advocates for the introduction of a National Textile Waste Management Policy, enforcement of Extended Producer Responsibility (EPR), support for recycling infrastructure, and increased public awareness to achieve a sustainable and legally robust approach to textile waste management in India.

Keywords: Textile Waste, Legal Reforms, Environmental Policy, Article 21, Sustainable Development, Extended Producer Responsibility (EPR)

1. INTRODUCTION

India is one of the biggest textile producers in the world, generates a substantial amount of textile waste annually. The rapid growth of the fashion industry, coupled with increasing consumerism and fast fashion trends, has led to a significant rise in cloth waste generation. According to estimates, millions of tons of textile waste are discarded each year, with a large portion ending up in landfills or incineration sites. This waste accumulation poses severe environmental threats, including pollution, excessive resource consumption, and greenhouse gas emissions. The informal sector, which plays a crucial role in textile waste collection and recycling, faces challenges such as inefficient processing techniques, lack of proper infrastructure, and minimal regulatory support. Addressing textile waste in India requires a systematic approach to ensure effective waste reduction, recycling, and sustainable management practices.

1.1 The Necessity For Textile Waste Management laws

Sustainable textile waste management is essential to mitigate the adverse environmental and socio-economic impacts of textile waste accumulation. The improper disposal of textile waste contributes to soil contamination, water pollution, and increased carbon footprints. Implementing sustainable waste management practices can help conserve resources, reduce landfill burden, and promote a circular

economy within the textile industry. Strategies such as recycling, upcycling, reusing, and adopting eco-friendly production methods can significantly lower waste generation. Additionally, awareness campaigns, government policies, and industry collaborations play a vital role in fostering sustainable waste management practices. Encouraging responsible consumer behaviour, developing efficient waste treatment facilities, and promoting technological advancements in recycling can further strengthen India's efforts toward sustainable textile waste management. The research will focus on evaluating sustainable solutions such as circular economy approaches, innovative recycling technologies, and government initiatives promoting waste reduction. Additionally, this study will highlight the role of consumers, businesses, and policymakers in fostering a sustainable textile industry. By providing actionable insights and recommendations, this research seeks to contribute to the development of a more environmentally responsible and economically viable textile waste management framework in India.

1.2 Research Objectives and Scope

The primary objective of this research is

- 1.2.1 To explore the current state of textile waste management in India.
- 1.2.2 To study the impact of textile waste on the environment and society.
- 1.2.3 To assess the effectiveness of existing waste management policies.
- 1.2.4 To propose strategies for improving textile recycling and reuse.

1.3 Literature Review

Articles

Textile Wastes Crisis in India (2024),¹ In this article author talks about Indian textile industry is the is facing a growing threat due to massive pile up of textile waste crisis.

Ojas Malpani, Mansha Balecha, Anushka Sureka, Vyoma Uchil & Deepanshu Kansal (2023),² The researcher aims to analyze cloth waste management in India through a legal and policy-driven lens, with a particular focus on Article 21 of the Indian Constitution, which guarantees the right to life, including a clean and healthy environment. The study highlights the growing issue of textile waste, the inefficiencies in current waste management practices, and the need for stronger legal frameworks and policy interventions to address this environmental challenge.

The textile industry in India contributes substantially to pollution, particularly through the improper disposal of fabric, dye, and chemical waste. According to a report by the **Central Pollution Control Board (CPCB)**, textile waste constitutes a significant portion of solid waste generated in urban areas. It is estimated that India's textile industry generates millions of tons of waste annually, much of which is not properly recycled or managed.³

Sharma et al. (2018) found that communities in close proximity to textile mills and landfills suffer from high rates of respiratory problems, skin diseases, and other health conditions. These conditions are linked to exposure to toxic chemicals found in textile waste, including carcinogens like benzene and phthalates, which leach into groundwater and soil. The growing body of literature indicates that these health issues are

¹ **Textile Wastes Crisis in India** (2024) available at: <https://www.shankariasparliament.com/current-affairs/textile-wastes-crisis-in-india> (last visited on Feb. 17, 2025)

² Ojas Malpani, Mansha Balecha, Anushka Sureka, Vyoma Uchil & Deepanshu Kansal "Unveiling India's Textile Waste Landscape: A Cost Analysis (2023)", available at: https://www.idhsustainabletrade.com/uploaded/2023/09/IDH_textile-waste-cost-analysis_2023.pdf (last visited on Feb. 17, 2025)

³ Central Pollution Control Board, **Annual Report on Environmental Quality and Management** (2019-2020), 21-22.

exacerbated in regions with high concentrations of textile industries, where pollution levels are often not adequately monitored or regulated.⁴

Nair and Thakur (2017) emphasize that the poor enforcement of environmental regulations and lack of awareness about the health risks of textile waste are key factors contributing to the public health crisis in textile-producing regions. This situation calls for stronger policies and better enforcement of environmental laws to mitigate the health risks associated with textile waste.⁵

The Indian legal framework concerning waste management is evolving but remains inadequate in effectively addressing textile waste. The **Solid Waste Management Rules, 2016**, for instance, do not explicitly address the disposal or recycling of textile waste, although they regulate the general waste disposal practices for various industries. However, there is growing recognition of the need for more specific regulations targeting textile waste management.

Kumar and Sharma (2019) argue that the absence of stringent regulations and enforcement mechanisms has contributed to the unchecked accumulation of textile waste across India's urban landscapes.⁶

The **Extended Producer Responsibility (EPR)** model, as outlined in the **Plastic Waste Management Rules, 2016**, is one potential solution that could be applied to the textile industry. **Rathore and Yadav** (2021) have suggested that introducing EPR for textile producers could incentivize companies to adopt sustainable practices such as recycling and waste reduction, similar to those seen in the plastic industry. However, this approach requires robust enforcement and monitoring mechanisms to ensure compliance.⁷

Moreover, the **National Green Tribunal (NGT)** has played a crucial role in addressing industrial pollution, including textile waste. **Chaudhary** (2020) highlights several NGT rulings in which textile mills were held accountable for their role in water pollution, demonstrating the judicial commitment to environmental protection.⁸

Article 21 thus serves as a legal framework to protect citizens from the harmful effects of textile waste but requires more robust enforcement and public awareness to be fully effective in safeguarding public health.

2. Cloth Waste Management in India: Current Scenario

The textile waste management scenario in India is a growing concern due to the vast amount of waste generated and the limited infrastructure in place to address it. India produces approximately 7,800 kilo tones of textile waste annually, with post-consumer waste accounting for 51% and pre-consumer waste, such as fabric scraps and offcuts, making up 42%. The country's textile industry, which plays a pivotal role in the global supply chain, faces significant challenges, primarily due to the dominance of synthetic fibers like polyester, which are non-biodegradable and difficult to recycle. Furthermore, the recycling sector remains largely informal, with limited technological advancements and inefficient waste handling practices. The absence of comprehensive policies and regulations targeting textile waste also hinders systemic change, though informal policies are emerging to promote recycling and upcycling.

⁴ Sharma, P., Patel, M., & Kumar, S., "Public Health Issues Due to Textile Waste Disposal: A Case Study of Textile Industries in Gujarat," **Health Impact Journal**, 27(1), 2018, 87-93.

⁵ Nair, K., & Thakur, M., "Regulation and Environmental Health: Textile Pollution and Public Health Risks," **Journal of Environmental Law and Policy**, 14(4), 2017, 234-247.

⁶ Kumar, P., & Sharma, R., "Regulatory Gaps in Textile Waste Management in India," **Environmental Governance Review**, 23(3), 2019, 61-74.

⁷ Rathore, D., & Yadav, R., "Extended Producer Responsibility in Textile Waste Management: Lessons from the Plastic Industry," **Journal of Waste Management and Sustainability**, 16(5), 2021, 212-224.

⁸ Chaudhary, A., "The Role of National Green Tribunal in Managing Textile Pollution," **Environmental Law Journal**, 21(2), 2020, 118-132.

2.1 Sources of cloth waste

Textile waste comes from two main sources: **pre-consumer** and **post-consumer**.

Pre-consumer waste is generated during manufacturing. It includes fabric scraps from cutting patterns, defective materials, and unsold clothing from factories and brands.

Post-consumer waste is what we throw away after use. This consists mainly of discarded clothing and household textiles like bedsheets and towels, largely driven by the "fast fashion" trend and a lack of easy recycling options.

2.2 Environmental and Social Impacts of Unmanaged Textile Waste

Unmanaged textile waste, primarily driven by fast fashion, poses severe environmental and social challenges. Environmentally, textile waste accumulates in landfills, where non-biodegradable materials like polyester persist for centuries, releasing methane and contributing to climate change. Additionally, the waste leaches harmful chemicals and microplastics into the soil and water, polluting ecosystems and harming aquatic life. The textile industry also depletes natural resources, as discarded materials are not recycled or repurposed, further straining the environment.

Socially, fast fashion's reliance on cheap labour in developing countries perpetuates exploitation and poor working conditions. Improper textile waste disposal also threatens public health, with burning or inadequate handling of waste releasing toxic substances into the air. Furthermore, the overconsumption fueled by fast fashion undermines traditional, sustainable craftsmanship and economic growth, while marginalized communities bear the brunt of pollution and hazardous waste management conditions.

Addressing these impacts requires improved waste management, sustainable production practices, and a shift toward circular economies to reduce and recycle textile waste.

3. Legal Framework on Waste Management in India

India has a comprehensive legal framework for waste management, encompassing policies, regulations, and guidelines aimed at addressing the challenges posed by various types of waste, including municipal, industrial, hazardous, and e-waste. The legal structure focuses on waste minimization, recycling, and safe disposal to mitigate the environmental and public health impacts of improper waste management.

Key legislations and regulations include:

a. The Environment Protection Act, 1986

This is the umbrella legislation for environmental protection in India. It empowers the central government to take measures to protect and improve the environment, including waste management. It authorizes the creation of rules for handling hazardous substances and pollution control, which forms the foundation for various specific waste management regulations.

b. The Solid Waste Management Rules, 2016

The **Solid Waste Management (SWM) Rules, 2016** govern the collection, segregation, storage, transportation, and disposal of solid waste. The rules mandate source segregation of waste into biodegradable, recyclable, and hazardous categories and emphasize the role of local authorities in waste management. They also require waste processing and disposal to be done in an environmentally sound manner.

c. The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

These rules regulate the handling, storage, transportation, and disposal of hazardous waste and other wastes, such as industrial or biomedical waste. They also govern the import and export of hazardous waste,

aligning with international conventions like the Basel Convention. The rules aim to prevent environmental contamination and ensure safe disposal.

d. The E-Waste (Management) Rules, 2016

The **E-Waste Management Rules, 2016** address the growing issue of electronic waste in India. These rules provide guidelines for the collection, storage, recycling, and disposal of e-waste, with an emphasis on reducing the environmental impact of discarded electronics. They also require producers to establish take-back systems for end-of-life electronic products and ensure proper recycling practices.

e. The Plastic Waste Management Rules, 2016

The **Plastic Waste Management Rules, 2016** regulate the collection, disposal, and recycling of plastic waste. They encourage reducing single-use plastics, promote alternatives, and introduce extended producer responsibility (EPR) for plastic manufacturers, requiring them to ensure proper collection and recycling of plastic products.

f. The Biomedical Waste Management Rules, 2016

These rules govern the collection, storage, transportation, and disposal of biomedical waste, which poses significant health risks. The rules emphasize the segregation of biomedical waste at the point of generation, treatment of waste in incinerators or autoclaves, and safe disposal to protect public health and the environment.

g. The Construction and Demolition Waste Management Rules, 2016

The **Construction and Demolition Waste Management Rules, 2016** focus on managing waste generated from construction and demolition activities. These rules mandate the segregation, recycling, and reuse of construction debris, aiming to reduce landfill waste and promote sustainable construction practices.

h. National Policy on Waste Management (2016)

The **National Policy on Waste Management, 2016** aims to create a more sustainable waste management system by focusing on waste reduction, recycling, and circular economy principles. It encourages industries to adopt cleaner technologies and seeks to integrate informal waste pickers into formal waste management systems.

i. State and Local Level Regulations

Various states and municipalities in India have also introduced their own waste management rules, which complement the national framework. These local rules address specific regional challenges related to waste collection, recycling, and disposal. Many cities have also set up dedicated bodies or commissions to oversee waste management efforts.

4. Constitutional Perspective: Article 21 and Right to a Clean Environment

Article 21 of the Indian Constitution guarantees the fundamental right to "life and personal liberty", stating that "No person shall be deprived of his life or personal liberty except according to procedure established by law." Over time, the Supreme Court of India has expanded the interpretation of this right to include the **right to a clean and healthy environment**, emphasizing that a clean environment is essential for the full realization of the right to life.

Key judicial decisions have shaped this perspective. In **Subhash Kumar v. State of Bihar (1991)**, the Supreme Court held that the right to life under Article 21 includes the right to a healthy environment. This was further reinforced in **Vellore Citizens Welfare Forum v. Union of India (1996)**, where the Court ruled that pollution and environmental degradation directly affect citizens' right to life. In **MC Mehta v. Union of India (1997)**, the Court emphasized that industrial pollution and environmental harm violate the

right to live in a healthy environment. Additionally, in **Olga Tellis v. Bombay Municipal Corporation (1985)**, the Court linked the right to life to the right to livelihood, which is intertwined with living in a clean environment.

This judicial interpretation has led to the enactment of several environmental laws, including the **Environment Protection Act, 1986**, and the **Water and Air Pollution Acts**, all designed to protect public health and the environment. These laws are seen as part of the state's duty to safeguard citizens' rights under Article 21.

5. Global Best Practices in textile Waste Management

As textile waste becomes a growing environmental concern worldwide, various countries and organizations have adopted innovative and sustainable practices to manage cloth waste more effectively. These best practices focus on waste reduction, recycling, reuse, and promoting a circular economy. Below are some notable global best practices in cloth waste management:

5.1. Extended Producer Responsibility (EPR)

Germany and the European Union: EPR programs have been widely adopted in Europe, requiring textile producers to take responsibility for the entire lifecycle of their products, including post-consumer textile waste. Under these programs, manufacturers and retailers are responsible for collecting, recycling, and disposing of their products at the end of their life. This encourages companies to design products with recyclability in mind and reduces the burden on landfills.

Sweden: Sweden's EPR program for textiles has focused on integrating textile recycling into existing waste management systems, where consumers can return unwanted clothes for recycling. This system ensures that textile waste is collected separately from other municipal waste, making it easier to manage.

5.2. Textile Recycling and Upcycling

The Netherlands: The Netherlands has become a leader in textile recycling. The country is home to several initiatives that focus on the recycling and upcycling of textiles. For instance, the company Circle Economy has developed a textile recycling process that transforms old clothes into new fibres, promoting a circular economy where textile waste is continuously repurposed.

United Kingdom: In the UK, initiatives like the "Love Your Clothes" campaign promote sustainable fashion choices and the reuse of clothing. Additionally, several UK-based companies are experimenting with textile recycling technologies to break down garments into fibres that can be reused to create new clothes, reducing the need for virgin resources.

5.3. Clothing Collection and Donation Programs

Japan: Japan has a well-established textile collection system, where clothing waste is sorted into categories for reuse or recycling. Used clothes are often donated through programs like "Fukushikai" and "Kiryoku Recycling", where textiles are collected from donation boxes in public spaces and repurposed for second-hand sale, charitable causes, or converted into industrial products.

United States: In the U.S., nonprofit organizations like Goodwill and Salvation Army run donation programs, encouraging consumers to donate unwanted clothes. These donations are either resold in second-hand stores or redistributed to individuals in need, thereby extending the life of the garments and reducing waste.

5.4. Repair and Remanufacture Initiatives

France: France has promoted initiatives to repair and refurbish old clothes through repair cafes and workshops. The French government has provided funding for various repair programs, encouraging

consumers to fix rather than discard clothes. This helps reduce the demand for new clothing and diverts textiles from landfills.

United Kingdom: In the UK, the “Repair and Renew” initiative encourages the repair of textiles and garments. Some companies offer repair services as part of their sustainability efforts, and several clothing brands have introduced programs where consumers can send their damaged clothes for repairs or alterations, thus promoting product longevity.

5.5. Circular Fashion Models

Denmark: Denmark’s fashion industry has made strides in adopting a circular model. Companies like Filippa K have pioneered closed-loop textile production, where garments are made from sustainable materials and are designed to be easily recyclable. The company also runs a “Take Back” program, where customers return old clothes to be either recycled into new garments or upcycled into other products.

France: The French clothing retailer H&M has introduced a “Garment Collecting Initiative” where customers are encouraged to drop off used clothing for recycling. The company processes the collected textiles to make new garments or repurpose fibers into other products, reducing textile waste and fostering circularity.

5.6. Sustainable Fashion and Eco-Design

Finland: Finland has pioneered the development of sustainable fashion through initiatives like “Design for Recycling”. This focuses on creating garments with materials that are easy to recycle or decompose, and with designs that allow for the garment to be disassembled and reused.

Italy: In Italy, brands like Patagonia and Econyl use recycled fibres, often made from discarded clothes, fishing nets, and other textiles. These companies focus on sustainable production and eco-friendly designs, ensuring that their products are less harmful to the environment throughout their life cycle.

5.7. Waste-to-Energy and Landfill Diversion

Switzerland: Switzerland has an efficient waste-to-energy program where textile waste that cannot be recycled or reused is processed in waste incineration plants, converting it into energy. This reduces the reliance on landfills and ensures that non-recyclable textiles still contribute positively by generating energy.

India: India, while still in the early stages, is exploring waste-to-energy technologies for non-recyclable textiles. The government has been pushing for sustainable waste management practices in textile hubs like Surat, where textiles are converted into fuel or energy through innovative processing methods.

5.8. Public Awareness Campaigns

Australia: Australia’s “National Clothing Recycling Scheme” and public awareness campaigns emphasize the importance of reducing textile waste, recycling clothes, and making sustainable fashion choices. The government, alongside NGOs, educates the public on the environmental and social impacts of textile waste, encouraging responsible consumer behaviour and promoting sustainable alternatives.

6. Need for Stronger Laws and Policies in India

India, as one of the largest producers and consumers of textiles, faces a growing challenge in managing textile waste. The rapid rise in textile consumption, particularly due to fast fashion, and the lack of effective recycling systems have resulted in significant environmental and social impacts. Despite some existing regulations like the **Solid Waste Management Rules, 2016** and the **Environment Protection Act, 1986**, these do not adequately address textile waste. The country generates millions of tonnes of textile waste annually, much of which ends up in landfills or is incinerated. There is an urgent need for

stronger laws that not only address this issue but also promote **Extended Producer Responsibility (EPR)** to hold manufacturers accountable for the lifecycle of their products, including their disposal and recycling. Furthermore, the enforcement of existing regulations remains weak due to inadequate infrastructure, monitoring, and penalties. To remedy this, stronger enforcement mechanisms and penalties for non-compliance are essential. Moreover, India's current laws do not provide enough incentives for **textile recycling** or **upcycling**, and there is a lack of financial support and technological development in this area. Policies that promote recycling through subsidies, R&D support, and formal recycling channels are needed to close the loop on textile waste. Public awareness and education about the environmental impact of textile waste are also crucial, as many consumers are unaware of how their habits contribute to the problem. Additionally, integrating **circular economy principles** into textile production, where garments are designed for reuse and recycling, will reduce waste significantly. India's waste management infrastructure is currently inadequate for handling textile waste, particularly in urban areas, where better segregation and processing systems are needed. The creation of centralized textile waste management facilities and upcycling hubs is a key part of the solution.

7. CONCLUSION

In conclusion, textile waste management in India is a pressing issue that requires urgent attention. The rapid growth of the textile industry, fueled by increasing consumption and fast fashion trends, has led to a significant rise in textile waste, much of which is disposed of irresponsibly, contributing to environmental pollution. Although India has some regulatory frameworks, such as the **Solid Waste Management Rules** and the **Environment Protection Act**, these regulations do not fully address the complexities of textile waste, particularly regarding **Extended Producer Responsibility (EPR)** and recycling practices. To tackle this challenge, there is an urgent need for stronger laws and policies that promote sustainable textile production, recycling, and waste management. These laws should focus on encouraging eco-friendly designs, incentivizing textile recycling technologies, improving waste segregation and processing systems, and fostering public awareness about responsible consumption. Additionally, implementing a **circular economy** approach to textiles and aligning policies with international best practices, such as those seen in the EU and Japan, would help reduce textile waste and its environmental impact. Strengthened enforcement and better infrastructure are also essential for ensuring compliance and encouraging a shift toward sustainability. Ultimately, stronger and more comprehensive laws are crucial for addressing textile waste in India, promoting sustainability, and reducing the environmental footprint of the textile industry.

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