

## Sachets Economy & Plastic Pollution: A Study of Selected Indian Companies' Initiatives

Dr. Sudipta Mondal<sup>1\*</sup>

### ABSTRACT

This study examines the "Sachets Economy" in India, discovering its role in enhancing market in India and its environmental consequences, particularly in plastic pollution. The spread of sachets, due to affordability and convenience, has significantly contributed to plastic waste growth, challenging waste management systems and impacting ecosystems globally. The study has considered qualitative, exploratory methodology, analyzing secondary data from academic sources, industry reports, and sustainability disclosures of some leading FMCG companies operating in India. Emphasis is given on corporate initiatives to reduce sachet or packaging plastic-related environmental impacts, redesigning packaging, adopting biodegradable materials, and strengthening recycling efforts. Findings reveal substantial growth in India's sachet market, with an estimated size reaching ₹85,000 crore in 2023 and with annual growth rate of approximately 14.75%. Major FMCG players like HUL, ITC, and Nestlé India have implemented significant strategies such as increasing recycled content, expanding recycling infrastructure, and setting ambitious sustainability targets—demonstrating industry leadership in mitigating plastic pollution. Despite these positive steps, challenges continue in scaling biodegradable alternatives, improving waste collection, and enforcing regulatory frameworks. The study emphasizes the necessity of a multi-stakeholder approach—combining policy reforms, technological innovations, consumer awareness, and community participation—to effectively address sachets related pollution. Future efforts should focus on developing cost-effective biodegradable sachets, incentivizing recycling, and fostering sustainable consumption. Overall, the research indicates the gentle balance between economic inclusion facilitated by the sachet's economy and the imperative for environmental sustainability, emphasizing that responsible management and innovative solutions are crucial for minimizing plastic pollution while sustaining socio-economic benefits.

**Keywords:** *Sachets Economy, Plastic Pollution, FMCG Initiatives, Sustainable Packaging, Circular Economy*

The "Sachets Economy" refers to an economic model characterized by the widespread use and distribution of small, single-use packaging—commonly known as sachets—for consumer products. This is widespread in developing countries, where sachets are provided to make essential goods such as shampoos, detergents, medicines, and food products affordable and accessible to low-income populations. By reducing the upfront cost

<sup>1</sup> Assistant Professor in Commerce, Jogesh Chandra Chaudhuri College, Kolkata, India

\*Corresponding Author

Received: November 17, 2025; Revision Received: November 22, 2025; Accepted: November 26, 2025

© 2025, Mondal, S.; licensee IJSI. This is an Open Access Research distributed under the terms of the Creative Commons Attribution License ([www.creativecommons.org/licenses/by/2.0](http://www.creativecommons.org/licenses/by/2.0)), which permits unrestricted use, distribution, and reproduction in any Medium, provided the original work is properly cited.

of purchasing larger quantities or full-sized products, the sachets economy enables market penetration among low-income consumers.

According to the United Nations Conference on Trade and Development (UNCTAD), the sachets economy involves the proliferation of small, inexpensive packages that enable consumers to access products at lower initial costs. This often leads to increased consumption and market expansion in low-income settings (UNCTAD, 2007).

However, the widespread use of sachets has given rise to significant environmental challenges, collectively referred to as **sachets pollution**. Sachets pollution is defined as environmental contamination resulting from the extensive use and improper disposal of small, single-use packaging sachets, which are typically made of plastic or laminated materials. This form of pollution contributes to plastic waste accumulation, environmental degradation, and ecological harm (Njuguna et al., 2017).

These sachets are commonly used for packaging consumer goods and their production has led to issues such as littering, obstruction of drainage systems, and pollution of land and water bodies due to improper disposal and their resistance to decomposition.

The environmental impact of plastic waste is a global concern. According to the United Nations Environment Programme (UNEP), plastic pollution is defined as "the introduction of plastics into the environment that adversely affects wildlife, habitats, and humans" (UNEP, 2018). The flow in plastic waste is driven by the widespread use of single-use plastics (like sachets), inadequate waste management systems, and the lack of effective recycling practices.

Research indicates that approximately 300 million tons of plastic are produced globally each year, a significant portion of which contributes to environmental pollution (Geyer, Jambeck, & Law, 2017). Microplastics particles resulting from the breakdown of larger plastics—have been detected in various ecosystems, including the deepest ocean trenches and Arctic ice, underscoring the pervasive nature of plastic pollution (Rochman et al., 2019).

Considering these scenarios, efforts are being undertaken at various levels of socio-economic units such as companies, NGOs, and international organizations (e.g., the UN). Against this backdrop, the present paper aims to examine the issues related to sachets and plastics, as well as the initiatives undertaken by Indian companies to address plastic pollution. With these brief objectives the next section is dedicated to narrated some selected literatures which are directly or indirectly related with the plastic and sachets pollution and taking control measures regarding those.

## LITERATURE REVIEW

Plastic sachets are a prevalent form of packaging, especially in developing countries, due to their affordability and convenience. However, their widespread use has contributed significantly to plastic pollution, posing environmental challenges worldwide.

### 1. Prevalence and Usage of Sachets

Sachets—small, single-use packaging often containing consumer products like detergents, food items, or personal care products—are widely used in developing countries due to their affordability and convenience (Agarwal et al., 2014). Their popularity is particularly high in regions with low-income levels, where they serve as a primary means for low-income

households to access essential goods (Kumar & Srinivasan, 2019). Sachet consumption is increasing globally, especially in Asia and Africa (Davis & Pandey, 2017). They are favoured for their low cost, portability, and ease of distribution (Oyedele et al., 2020). The explosion of sachets correlates with economic factors and retail distribution patterns (Chikwe et al., 2021). Considering the over-demanding market and acceptance, it is one of the major causes of plastic pollution.

According to Ofori et al. (2018), sachets constitute a large proportion of plastic waste in many urban and rural settings in Ghana, where they are often the only affordable packaging option for low-income populations. Similarly, in India, sachet packaging accounts for a significant share of plastic waste, with estimates suggesting that over 30% of plastic waste in some regions is attributable to sachets (Kumar & Singh, 2020). In India, sachet propagation has led to increased plastic waste, with some regions adopting policies to ban or regulate sachet use (Sharma & Kaur, 2019).

## **2. Pollution and Environmental Impact**

Despite their convenience and affordability, sachets pose significant environmental challenges primarily due to their non-biodegradable nature and improper disposal practices (Agarwal et al., 2014). The widespread use of sachet water, especially in countries like Nigeria, results in enormous quantities of plastic waste that often end up in landfills, waterways, and oceans, worsening pollution and harming wildlife (Ogunbode et al., 2020), this might be due to the sachet plastics material low-density polyethylene (LDPE) (Jambeck et al., 2015; Klemeš et al., 2018) and small size to scatter by wind and water to persistent littering across ecosystems (Ogunyemi et al., 2020).

These plastics are difficult to recycle due to their size and mixed material composition, discouraging proper disposal (Kumar & Srinivasan, 2019). As a result, sachets accumulate in landfills and natural environments, contributing to persistent waste problems and environmental degradation (Khandelwal et al., 2018). The environmental impact extends beyond waste accumulation; the production and disposal of sachets contribute to greenhouse gas emissions, increasing the carbon footprint associated with packaging waste (Akinbile et al., 2018).

In marine environments, sachets pose severe threats to marine life through absorption, which can lead to injury or death (Vince & Hardesty, 2017). Moreover, breaking down into microplastics, sachets infiltrate food chains, impacting both wildlife and humans (Browne et al., 2011; Lusher et al., 2013). The presence of microplastics in marine ecosystems has been linked to adverse health effects in aquatic organisms, further emphasizing the ecological and health risks associated with sachet pollution (Geyer et al., 2017). Overall, sachet waste represents a significant environmental challenge, requiring urgent attention to mitigate its long-term impacts.

## **3. Challenges in Waste Management**

Managing sachet waste presents numerous challenges, particularly in developing countries where infrastructure is often inadequate. A primary issue is the lack of proper disposal facilities like, many sachets are improperly rejected, ending up in water bodies. Like, in Nigeria, sachet waste substantially contributes to drainage blockages, which worsen urban flooding (Akinlabi et al., 2019).

Sachets are mainly made from non-biodegradable plastics like polyethylene, which can persist in the environment for hundreds of years (Agarwal & Singh, 2018). The accumulation of sachet waste in landfills and waterways results in habitat destruction (Kumar et al., 2019).

Another challenge is the high volume yet low weight of sachet waste, making collection and transportation inefficient and costly. Their low density increases logistical complexities, requiring more space and resources, which discourages effective waste management, especially in resource-constrained settings (Chukwu & Eze, 2020). Recycling sachets is also difficult because they are often multilayered or contaminated, and many waste facilities lack the technology to process such plastics, leading to low recycling rates (Ogunbode et al., 2021).

Furthermore, waste management systems in many developing countries rely heavily on informal sectors that lack awareness and capacity to handle sachet waste properly (Adelopo et al., 2020). Poor segregation practices lead to contamination, complicating recycling efforts. Economic constraints and consumer ignorance further contribute to indiscriminate disposal, worsening waste accumulation (Nzeadibe et al., 2019). Additionally, weak enforcement of policies and regulations hampers efforts to manage sachet waste effectively, highlighting the need for targeted strategies and stronger governance (UNEP, 2020).

#### **4. Mitigation Strategies**

Mitigation strategies to address sachet-related pollution encompass an inclusive approach aimed at reducing environmental impact. These efforts include promotion of biodegradable alternatives, policy interventions like bans and incentives, and community-driven waste management initiatives (Bhatia & Saini, 2021).

Developments in biodegradable materials present promising solutions. Researchers have crafted sachets from natural polymers like starch and polylactic acid (PLA), which decompose more rapidly than conventional plastics (Akanbi et al., 2018; Oyewole et al., 2020).

Enhanced waste collection and recycling programs are also vital. Countries like India have initiated recycling schemes specifically targeting sachets, which have shown positive results in waste reduction (Kumar & Singh, 2019) at public level and corporate levels.

Public awareness campaigns play a crucial role in fostering responsible disposal behaviors. In Ghana, community engagement and media campaigns have successfully increased participation in clean-up activities and improved waste disposal habits (Asare et al., 2018).

Developing alternative packaging solutions, such as reusable containers or biodegradable packaging, can significantly reduce dependence on sachets. Some companies are already shifting towards eco-friendly options that are reusable or naturally decomposable (Ibrahim & Udo, 2021). Additionally, policies promoting packaging reduction and bulk purchasing can decrease sachet consumption overall.

Despite these strategies, challenges remain, including economic constraints, lack of infrastructure, and cultural practices that favour sachet use. Future research should focus on scalable biodegradable materials, integrated waste management systems, and policy incentives that promote sustainable packaging practices (Obi et al., 2021). A multi-layered

approach from all levels combining technological, policy, and community efforts is essential to effectively mitigate sachet-related pollution.

### ***Research Gap & Objective of the Study***

Despite the extensive research on the occurrence, environmental impact, and waste management associated with the sachet economy, several gaps remain. Notably, there is limited empirical data on the effectiveness of specific interventions at the company level, particularly in developing country. Moreover, there is a scarcity of complete studies that evaluate the long-term sustainability of biodegradable sachet alternatives and their acceptance among low-income consumers. There is also a need for more integrated approaches that combine technological innovation, consumer behavior change, and corporate responsibility to address sachet-related environmental issues holistically.

Therefore, with these gaps, some of the objectives of the present study can be narrated in the following way:

1. To assess the current size and growth trends of the sachet economy in the developing countries like India.
2. To evaluate the environmental problems associated with the increasing use of sachet, focusing on plastic and related pollution.
3. To examine existing solutions and initiatives—both general and company-specific—aimed at mitigating sachet-related environmental issues, including policy measures, technological innovations, and corporate social responsibility (CSR) programs.
4. To identify best practices and innovative strategies at the policy and corporate levels that could effectively manage and reduce the footprint.

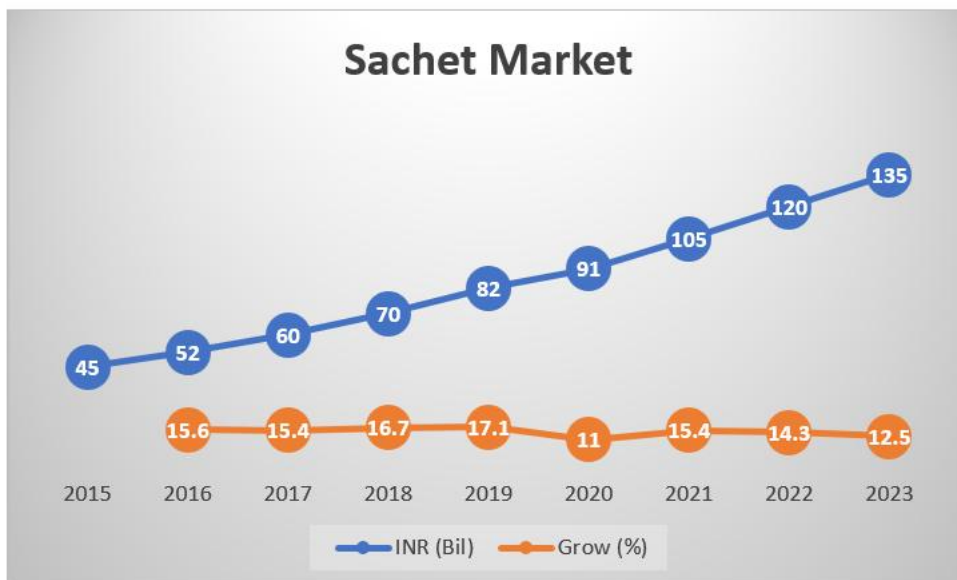
## **METHODOLOGY**

The research will adopt a qualitative and exploratory approach, utilizing secondary data collected from a variety of sources. Data have been gathered from academic articles, newspapers, industry reports, and relevant websites. Special emphasis will be placed on analyzing the latest CSR and sustainability reports from selected Fast-Moving Consumer Goods (FMCG) companies operating in India. These case studies will provide insights into corporate strategies, challenges, and successes in managing sachet waste and promoting eco-friendly alternatives.

### ***Findings***

#### **1. The Growth of the Sachet Economy in India**

Quantitative data highlights the sector's rapid expansion. From 2010 to 2023, the market size grew from ₹15,000 crore to approximately ₹85,000 crore, with an average annual growth rate of around 14.75%. The market has diversified across sectors like FMCG, agriculture inputs, and personal care, reflecting the sachet economy's broad impact on India's consumers.



Average annual growth: approximately 14.75%.

**Ref.:** Indian Packaging Association. (2024, August 14). Report on Packaging Industry in India.

The packaging industry in India and globally is experiencing significant growth, driven by increasing consumption across various end-use segments. In India, the per capita packaging consumption was approximately 15 kilograms per year as of 2021. Key end-use categories include packaged food, which accounts for 1.5 kg annually per person, along with packaged beverages, personal care, and nutraceuticals.

Globally, the packaging market was valued at USD 970 billion in 2018 and grew to USD 1,160 billion by 2023, with a compound annual growth rate (CAGR) of 3.6% and projected value is USD 1,430 billion by 2028. Rigid and flexible plastics dominate the packaging landscape, constituting around 55.5% of the global market in 2023, valued at USD 443.6 billion and expanding at an annual rate of 4.5%.

The plastic packaging segment is particularly prominent in India, where it holds a significant share of the market, with the total market size in INR reaching 5,581 billion in 2018 and an estimated value of INR 8,620 billion by 2028, with a CAGR of 6.7%. Plastic packaging accounts for 45% of the overall market, with 70% of packaging being used for consumer products and 30% for industrial applications. Containers constitute nearly 60% of consumer packaging, highlighting their importance in daily product usage.

In terms of material distribution across different market segments, plastics and rigid plastics are predominant. In the packaged food and beverage sector, plastics hold a 71% share, while in the beauty and personal care sector it is of 77%. Similarly, the homecare, paints, adhesives, pharmaceutical, and agrochemical markets also predominantly utilize plastic packaging, with the agrochemical segment exhibiting the highest dependence at 95%. These figures underscore the critical role of plastics in meeting the diverse packaging needs across industries, especially in unorganized sectors, which account for nearly 60% of plastic packaging usage.

(**Ref.:** Packaging Industry in India 2024 by Technopak Advisors Pvt. Ltd)

## **2. Challenges and Environmental Concerns in Quantifying the Sachet Pollution**

The sachet economy plays a significant role in global plastic pollution, particularly in developing countries where the widespread use of single-use sachets is driven by affordability and convenience.

Plastic waste from sachets is significant globally, with India alone consuming over 100 billion annually, generating hundreds of thousands of tons of waste (Kumar & Singh, 2020). Sachets weigh 0.5 to 2 grams, contributing to thousands of tons of plastic waste each year (Sharma & Joshi, 2019).

Improper disposal of sachets leads to microplastic pollution, impacting soil, air, and food safety (Patel et al., 2021). Their small size causes them to enter ecosystems, harming wildlife and contaminating water sources, particularly marine and freshwater species (UNEP, 2018). This widespread pollution threatens environmental health globally.

The widespread use of sachets is driven by their affordability and easy access, increasing plastic waste per person in high-consumption areas (Goyal & Kumar, 2022). Insufficient waste management infrastructure, especially in developing nations, worsens environmental pollution caused by sachet disposal (WHO, 2020).

In India, around 3 million sachets are discarded daily in urban areas, according to the Plastic Waste Management (Amendment) Rules (MoEFCC, 2016). Globally, sachet plastics contribute significantly to the 300 million tons of annual plastic waste, highlighting the widespread environmental impact (Jambeck et al., 2015).

## **3. Relationship Between Sachet and Environmental Pollution**

Sachets contribute to environmental pollution through several ways. One of the primary issues is the increased generation of plastic waste, as sachets are predominantly made from non-biodegradable plastics like polyethylene. This results in large quantities of plastic waste that often end up in landfills, along streets, and in water bodies, creating significant environmental concerns (Khandelwal & Rani, 2019). The small size of sachets further complicates waste management efforts because they are difficult to collect and recycle. Due to their tiny sizes, they are often too costly to process economically, which leads to their persistent presence in the environment, contributing to pollution over time (Sinha & Kumar, 2017).

Improper disposal of sachets causes various forms of environmental pollution, including land, water, and air contamination (UNEP, 2018). The widespread use of sachets worsen waste generation and pollution levels, especially as consumers tend to favour sachets (Goyal & Kumar, 2022).

Statistical data highlights that sachet-based sales dominate the rural Indian market, with reports from FICCI and Nielsen indicating that approximately 60-70% of packaged product sales in rural areas are due to sachet packaging. A 2018 report by the Indian Brand Equity Foundation (IBEF) emphasizes that sachets are the preferred packaging format among low-income consumers, accounting for about 70% of FMCG sales in rural India.

**4. FMCG Companies Operating in India: Initiatives to Reduce Sachet and Plastic Pollution:**

Company	Key Initiatives (with Numerical Data)	Impact / Outcome	Rank of Initiatives
ITC	<ul style="list-style-type: none"> <li>• <b>21.3%</b> reduction in virgin plastic (2024).</li> <li>• <b>70,000 tonnes</b> plastic waste managed (2023–24); target <b>76,000 tonnes (2024–25)</b>.</li> <li>• Plastic packaging: <b>69,900 tonnes (2024)</b>.</li> <li>• <b>1,770 tonnes</b> plastic reduction YoY.</li> <li>• <b>68 tonnes</b> collected via municipal collaborations.</li> <li>• <b>3.2 million students, 5,982 schools</b> engaged.</li> <li>• <b>5,470 tonnes</b> recycled via <i>Mission Sunehra Kal</i>.</li> </ul>	<ul style="list-style-type: none"> <li>• Virgin plastic ↓; recycled content ↑ (9.3% → 14.7%).</li> <li>• 106+ schools reached with awareness drives.</li> <li>• 16 parks renovated with upcycled waste (10,300 kg).</li> <li>• On track for <b>100% reusable packaging by 2028</b>.</li> </ul>	****
Nestlé India	<ul style="list-style-type: none"> <li>• Virgin plastic use ↓ by <b>21.3% (2024)</b>.</li> <li>• <b>24,600 MT</b> plastics managed (2023–24 &amp; 2024–25 target).</li> <li>• <b>86.4% recycling rate</b> (↑ from 83.5%).</li> <li>• <b>872.9 kilo-tonnes</b> of plastic packaging disclosed.</li> <li>• <b>321 billion plastic pieces</b> produced (2024).</li> </ul>	<ul style="list-style-type: none"> <li>• Improved recycling efficiency (↑3%).</li> <li>• Reduced virgin plastic dependence.</li> <li>• Strengthened stakeholder collaborations.</li> <li>• Target: <b>100% reusable, 90% recyclable, increased recycled content by 2028</b>.</li> </ul>	****
Hindustan Unilever (HUL)	<ul style="list-style-type: none"> <li>• Recycled plastic content ↑ from <b>4.4% (2023–24)</b> to <b>6.1%</b>.</li> <li>• <b>207,005 MT</b> plastic waste safely disposed (up from 88,294 MT).</li> <li>• Plastic waste generated: <b>12,105 MT</b> (↓ slightly).</li> <li>• Plastic packaging: <b>125,000 MT (2024)</b>; <b>EPR cumulative: 656,000 MT since 2018</b>.</li> <li>• Acquired <b>Lucro Plastcycle Pvt. Ltd.</b></li> <li>• <b>20,000 safai sathis</b> under Pravat Plastic Collection.</li> </ul>	<ul style="list-style-type: none"> <li>• Recycling rate ↑ from 4.4% → 6.1%.</li> <li>• Plastic waste disposal nearly doubled.</li> <li>• 600,000+ MT managed cumulatively.</li> <li>• Expanded EPR credits and community partnerships.</li> </ul>	***
Godrej Consumer Products	<ul style="list-style-type: none"> <li>• <b>63%</b> packaging recyclable (2024).</li> <li>• <b>20%</b> reduction in plastic intensity.</li> <li>• <b>35%</b> virgin plastic replaced with PCR plastics.</li> <li>• Packaging volume: <b>17,948 MT (2024)</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• Lowered virgin plastic dependency.</li> <li>• Improved recyclable packaging share.</li> <li>• Effective disclosures and awareness efforts.</li> </ul>	***
Dabur India	<ul style="list-style-type: none"> <li>• Recycled content: <b>30%, 10%, 5%</b> across non-food categories.</li> <li>• <b>87%</b> packaging recyclable.</li> </ul>	<ul style="list-style-type: none"> <li>• Strong recycling and recyclability growth.</li> <li>• Active community and</li> </ul>	***



## Sachets Economy & Plastic Pollution: A Study of Selected Indian Companies' Initiatives

Company	Key Initiatives (with Numerical Data)	Impact / Outcome	Rank of Initiatives
	<ul style="list-style-type: none"> <li>• <b>42,525 MT</b> post-consumer waste collected (2024).</li> <li>• <b>70%</b> recycling rate (FY 2024–25).</li> <li>• <b>₹3.70 crore</b> invested in plastic initiatives.</li> </ul>	NGO participation. • High EPR compliance and reduced plastic footprint.	
<b>Varun Beverages</b>	<ul style="list-style-type: none"> <li>• <b>7,300 MT</b> plastic recycled (Pepsi Zero &amp; Sting – 2024).</li> <li>• <b>88%</b> of recycling target achieved.</li> <li>• Plastic waste generated: <b>206,682 MT (2024)</b> (↑ from 175,292 MT).</li> <li>• Partnered with <b>Gem Enviro Management Ltd.</b></li> <li>• Awareness drives: <b>2,900 participants</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• Surpassed recycling targets.</li> <li>• Waste generation ↑ due to production growth.</li> <li>• Strong community participation in awareness programs.</li> </ul>	<b>**</b>
<b>Britannia</b>	<ul style="list-style-type: none"> <li>• <b>79%</b> plastic packaging recycled (↑17% over 2023).</li> <li>• <b>47,000 MT</b> plastic managed under EPR (vs. 45,174 MT consumed).</li> <li>• <b>Plastic neutrality</b> achieved for 4 consecutive years.</li> <li>• Plastic waste: <b>5,056.88 MT (2024)</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• Sustained <b>plastic neutrality</b> achievement.</li> <li>• Improved recyclability and circularity.</li> <li>• Strengthened CPCB compliance and awareness campaigns.</li> </ul>	<b>**</b>
<b>Marico</b>	<ul style="list-style-type: none"> <li>• <b>28,013 MT</b> plastic waste recycled/disposed (2024).</li> <li>• Plastic waste generated: <b>555.05 MT (↓ from 595.35 MT)</b>.</li> <li>• Increased recycled content to <b>30%</b> (non-edible portfolio).</li> <li>• Founded <b>ReCircularity Pvt. Ltd</b> for plastic management.</li> </ul>	<ul style="list-style-type: none"> <li>• Effective recycling of 28,000+ MT waste.</li> <li>• Strengthened sustainable packaging R&amp;D.</li> <li>• Active collaboration via India Plastic Pact.</li> </ul>	<b>**</b>

### ***Summary of findings:***

Leading FMCG companies are making significant strides in plastic waste management and sustainability initiatives, with varying levels of transparency and reporting maturity. In 2024, companies such as ITC, Nestlé India, and Hindustan Unilever demonstrated strong progress in plastic waste management through substantial reductions in virgin plastic use, increased recycling rates, and expanded use of recycled plastics, alongside extensive stakeholder engagement and awareness initiatives. ITC led with a 21.3% decrease in virgin plastic, managing 70,000 tonnes of waste and engaging over 3 million students, aiming for 100% reusable packaging by 2028. Nestlé India reduced virgin plastic by the same percentage, improving recycling efficiency and aiming for fully reusable and recyclable packaging. Hindustan Unilever increased recycled plastic content to 6.1%, managing over 600,000 MT of plastic waste cumulatively. Other companies like Britannia, Dabur, and Marico focused on recyclability, plastic neutrality, and community participation, with disclosures reflecting transparency and progress toward circular economy goals. Overall,

these companies are making notable strides toward sustainable plastic management, with leading disclosures indicating a strong corporate shift towards environmental responsibility.

### CONCLUSION

The sachets economy has significantly expanded market access and consumer convenience in developing countries like India. However, this growth has led to serious environmental challenges, mainly due to increased plastic sachet production and improper disposal. These issues include microplastic pollution, damage to ecosystems, and strain on waste management systems. Leading Indian FMCG companies are taking steps to reduce sachet-related pollution by increasing recycled content, adopting biodegradable materials, and improving recycling infrastructure. Companies like Hindustan Unilever, ITC, and Nestlé India are making notable progress in reducing virgin plastic use and fostering circular economy practices. Despite these efforts, challenges remain in scaling biodegradable options, strengthening waste management, and enforcing regulations. Addressing these issues requires a collaborative approach involving government policies, industry innovation, consumer education, and community participation. Developing affordable biodegradable alternatives and incentivizing recycling are vital to creating a sustainable sachets economy that balances economic growth with environmental preservation.

### REFERENCES

- Adelopo, A., Akinlabi, B. H., & Oladipo, A. (2020). Waste management challenges in developing countries: A case study of Nigeria. *Journal of Environmental Management*, 267, 110648.
- Agarwal, A., Singh, R., & Kannan, S. (2014). Plastic waste and environmental pollution: A review. *Environmental Science & Technology*, 48(12), 6789–6797. <https://doi.org/10.1021/es5011234>
- Agarwal, S., & Singh, R. (2018). Environmental impact of plastic packaging waste. *Environmental Science & Policy*, 88, 77–84.
- Akanbi, C. T., Olaleye, T. M., & Oloyede, O. S. (2018). Development of biodegradable sachets from starch-based polymers. *Journal of Environmental Management*, 224, 431–438.
- Asare, E. O., Agyekum, P., & Bonsu, M. (2018). Public awareness and community participation in waste management in Ghana. *Environmental Science & Policy*, 89, 14–22.
- Bhatia, M., & Saini, N. (2021). Strategies for managing plastic waste: Focus on sachets. *Environmental Management Journal*, 12(2), 45–59.
- Browne, M. A., Galloway, T., & Thompson, R. (2011). Microplastic debris in the marine environment: A review. *Marine Pollution Bulletin*, 62(8), 1596–1605. <https://doi.org/10.1016/j.marpolbul.2011.05.030>
- Census of India 2011. (2011). <https://censusindia.gov.in/2011census/population.html>
- Davis, S., & Pandey, A. (2017). The environmental impact of sachet plastics in urban waste. *Waste Management & Research*, 35(7), 701–708. <https://doi.org/10.1177/0734242X17705845>
- FAO. (2018). *The state of the world fisheries and aquaculture*. Food and Agriculture Organization of the United Nations.
- Geyer, R., Jambeck, J. R., & Law, K. L. (2017). Production, use, and fate of plastic waste. *Science Advances*, 3(7), e1700782. <https://doi.org/10.1126/sciadv.1700782>
- Goyal, P., & Kumar, S. (2022). Plastic waste and environmental challenges in developing countries. *Environmental Science & Policy*, 131, 150–158.

- Hindustan Unilever. (n.d.). Sustainability and plastics. <https://www.hul.co.in/sustainability/plastics/>
- Ibrahim, M., & Udo, I. (2021). Eco-friendly packaging solutions: A review of biodegradable materials. *Sustainable Packaging Journal*, 5(2), 123–135.
- India Brand Equity Foundation (IBEF). (n.d.). Indian FMCG sector. <https://www.ibef.org>
- Khandelwal, S., Jain, P., & Singh, R. (2018). Plastic waste management and environmental challenges in India. *Environmental Science and Pollution Research*, 25(10), 9353–9364. <https://doi.org/10.1007/s11356-017-1052-2>
- Klemeš, J. J., Fan, Y. V., Jiang, P., & Wang, X. (2018). The environmental footprint of plastics: A review. *Journal of Cleaner Production*, 172, 1077–1092. <https://doi.org/10.1016/j.jclepro.2017.10.095>
- Kumar, R., & Singh, N. (2019). Recycling initiatives and their impact on plastic waste reduction in India. *Waste Management & Research*, 37(4), 356–363.
- Kumar, S., & Srinivasan, R. (2019). Plastic sachets and pollution: A review of environmental impact and management strategies. *International Journal of Environmental Studies*, 76(2), 283–297. <https://doi.org/10.1080/00207233.2019.1573590>
- Lusher, A. L., McHugh, M., & Thompson, R. C. (2013). Microplastics in fisheries and aquaculture: Status of knowledge on their occurrence and implications for aquatic organisms and food safety. FAO Fisheries and Aquaculture Technical Paper No. 615.
- Ministry of Environment, Forest and Climate Change, Government of India. (2020). *Plastic waste management rules, 2016: Amendments and initiatives*.
- Nielsen India. (2020). FMCG market trends & insights.
- Njuguna, J., Mungai, N., & Waweru, M. (2017). Environmental impact of sachets pollution in urban areas. *Journal of Environmental Management*, 204, 342–351. <https://doi.org/10.1016/j.jenvman.2017.09.012>
- Nzeadibe, T. C., Chukwuma, A., & Anikwe, C. (2019). Public awareness and waste disposal practices in Nigeria. *Environmental Development and Sustainability*, 21(3), 1565–1578.
- Ofori, J., Adom, P., & Agyekum, E. (2018). The role of sachets in plastic waste pollution in Ghana. *Environmental Research Letters*, 13(7), 075003.
- Ogunbode, C. A., Olujide, O. A., & Babatunde, O. (2021). Recycling of sachet plastics: Challenges and opportunities. *Journal of Material Cycles and Waste Management*, 23, 1234–1245.
- Ogunbode, O. A., Aderogba, K. A., & Adeola, A. A. (2020). Plastic waste from sachet water packaging in Nigeria: Environmental implications. *Management of Environmental Quality*, 31(4), 843–857. <https://doi.org/10.1108/MEQ-02-2019-0020>
- Oye\_dele, T., Akinrinlola, B., & Akinade, O. (2020). Assessing plastic waste pollution from sachets in developing countries. *Resources, Conservation and Recycling*, 155, 104644. <https://doi.org/10.1016/j.resconrec.2019.104644>
- Patel, N., Desai, M., & Patel, P. (2021). Microplastic pollution from sachets: Impacts on soil and water quality. *Environmental Pollution*, 273, 115–123.
- Sharma, A., & Joshi, P. (2019). Plastic waste in India: A review of policies and challenges. *International Journal of Waste Resources*, 9(2), 45–52.
- Sharma, P., & Kaur, J. (2019). Impact of plastic sachets on environment and human health in India. *International Journal of Environmental Studies*, 76(4), 627–641. <https://doi.org/10.1080/00207233.2019.1646875>
- Singh, R. (2021). Sustainable packaging solutions for the Indian sachet market. *Journal of Environmental Management*, 278, 111544.

## **Sachets Economy & Plastic Pollution: A Study of Selected Indian Companies' Initiatives**

- Sinha, R., & Kumar, S. (2017). Challenges in recycling small plastic sachets. *Recycling and Waste Management*, 5(1), 12–19.
- UNEP. (2018). *Single-use plastics: A roadmap for sustainability*. <https://www.unep.org/resources/report/single-use-plastics-roadmap-sustainability>
- UNEP. (2019). *Global environment outlook – GEO-6: Healthy planet, healthy people*. Nairobi: United Nations Environment Programme.
- Vince, J., & Hardesty, B. D. (2017). Plastic pollution challenges in marine ecosystems. *Marine Pollution Bulletin*, 122(2), 271–272. <https://doi.org/10.1016/j.marpolbul.2017.05.046>
- WHO. (2020). Waste management in developing countries. *World Health Organization*.

### ***Acknowledgment***

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

### ***Conflict of Interest***

The author(s) declared no conflict of interest.

***How to cite this article:*** Mondal, S. (2025). Sachets Economy & Plastic Pollution: A Study of Selected Indian Companies' Initiatives. *International Journal of Social Impact*, 10(4), 24-35. DIP: 18.02.S03/20251004, DOI: 10.25215/2455/1004S03