

Assessing and Classifying Tobacco Waste in Urban Outdoor Environments in Kolkata, India

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Significance

In India, numerous forms of tobacco are used, including smokeless, cigarettes and bidis, as well as e-cigarettes and heated tobacco products (HTPs). Each can contribute to tobacco litter, including discarded packaging, butts, and e-waste.

We conducted an observational study to assess and classify the presence of tobacco litter in different urban outdoor environments in Kolkata, India.

Methods

- Observations took place during June and July 2022.
- Observations routes (500-700m) were predetermined in three regions of the city.
- In each region, routes were identified in a business district, a government office district, a commercial district in a low socio-economic (SES) area, and a transit hub, for a total of 12 observation routes, each observed twice, for a total of 24 observations.
- Data collectors used a mobile app to record the location and type of tobacco litter identified (cigarette or bidi butts, cigarette or bidi or SLT packaging, e-cigarette or HTP waste).

Tobacco **litter was present** in all study locations observed in Kolkata, India (n=2,227 pieces of tobacco litter over 12,934m)

Smokeless tobacco product packaging represented the **largest proportion** of the **sample (45%)**.



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Results

- The study identified n=2,227 pieces of tobacco litter over 12,934 meters
- Tobacco litter was identified during each observation event (range: 39-217 pieces of litter).
- The study did not observe any e-cigarette/HTP waste. Government office districts had the greatest proportion of litter (31%, n=696), followed by business districts (24%, n=534), commercial areas in lower SES areas (23%, n=507), and transit hubs (22%, n=490).

Conclusion

- Tobacco litter was present in each of the routes included in this study.
- No litter from e-cigarettes or HTPs was observed, which may be credited to the national ban prohibiting these products since 2019.
- Notable was the high proportion of litter that was SLT packaging and cigarette butts; these are typically made of plastic that can stay in the environment in perpetuity.
- Cities like Kolkata are working to reduce single-use plastics and may expand their focus to include tobacco products as they have high environmental and health burdens.

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