

# Tobacco Vendor Density and Tobacco Vendor Proximity to Educational Institutions in Siliguri, West Bengal

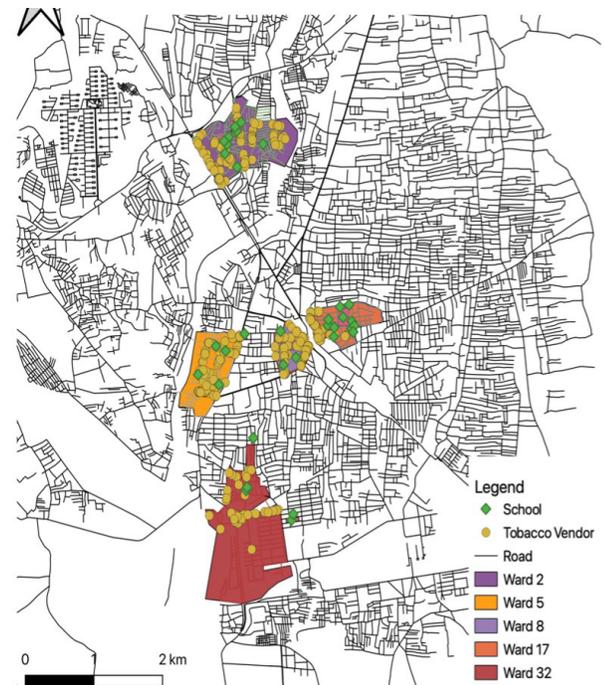
## Background

In India, the Cigarettes and Other Tobacco Products Act (COTPA, 2003) restricts tobacco advertising and product display at the point-of-sale (POS). COTPA further prohibits tobacco promotions at POS and requires vendors to display the appropriate warning signage to limit minors from accessing tobacco products.<sup>1</sup> The local government in Siliguri is planning to implement policies to strengthen enforcement of COTPA through the Tobacco Vendor Licensing (Siliguri Municipal Corporation memo order No. 29/SMC/TL/20-21, 2021).

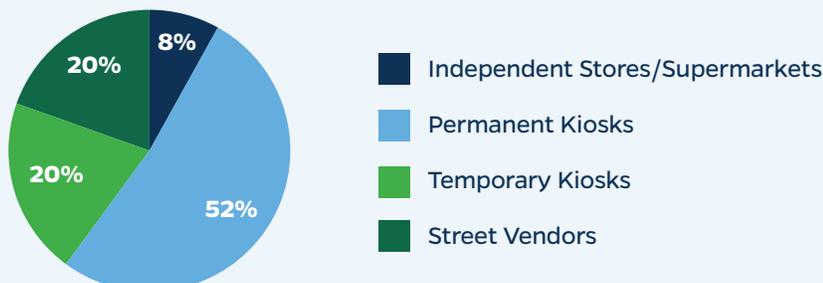
This study conducted a census of all tobacco vendors across five wards in Siliguri (2, 5, 8, 17 and 32) between November 2019 and January 2020, assessing the density of these vendors and their proximity to educational institutions.

## Key Findings

- ➔ A total of **367 tobacco vendors** were present in the five wards surveyed (range 56 to 113)
- ➔ **Vendor density was very high** with 99 tobacco vendors/km<sup>2</sup> across the five wards
- ➔ The **highest tobacco vendor density** was observed in **Ward no.8, with 237 retailers/km<sup>2</sup>** [9 retailers per km of road]
- ➔ The most common retailer was a permanent kiosk at 52% (n=192). Approximately **40% of vendors (n=146) were temporary kiosks or street vendors**
- ➔ **96% (n=354) of stores sold food items (such as candies, sweets, chips etc.) in addition to tobacco**
- ➔ **23% (n=84) of vendors observed were operating within 100-yards of a school**
- ➔ On average there were **3 tobacco vendors operating within 100-yards of each school (range 0-15)**



**Figure 2: Percentage of tobacco vendor by vendor-type**



**Figure 1: A temporary kiosk selling tobacco products in Siliguri**

**Table 1.** Percent reduction in vendor density if all vendor within 100-yards of educational institutions and all remaining temporary vendors (temporary kiosks, street vendors) were removed as per licensing policy and COTPA

Ward	Ward Area (km <sup>2</sup> )	Total Vendors	Overall Vendor Density (vendors/km <sup>2</sup> )	Total Permanent Vendors Outside 100-yards of School Boundaries	Permanent Vendor Density (vendors/km <sup>2</sup> )	Percent Reduction in Density
2	0.94	113	120.2	46	48.9	59%
5	0.60	72	119.8	24	39.9	67%
8	0.26	61	237.4	27	105.1	56%
17	0.39	56	142.0	12	30.4	79%
32	1.50	65	43.4	54	36.0	17%
<b>Overall</b>	<b>0.69</b>	<b>367</b>	<b>99.4</b>	<b>163</b>	<b>44.2</b>	<b>56%</b>

## Discussion

There is very high tobacco vendor density in Siliguri with 99 tobacco vendors per km<sup>2</sup> (range 43 to 237). By comparison, New York City has approximately 10 tobacco vendors/km<sup>2</sup>.<sup>1</sup> While the total number of vendors in Siliguri is unknown, based on the population of the five wards, it can be estimated that over 3,500 vendors are selling tobacco in the city (for a total city population of half a million).<sup>2</sup> In contrast, New York City has twice as many vendors (n=7,010) for a population over 16 times larger (8.3 million people).<sup>3</sup>

The study identified 84 vendors selling tobacco within 100 yards of schools; if all these vendors stopped selling tobacco, as per Section 6a of COTPA (prohibition of sale to and by minors), this would result in an estimated 23% reduction in density. By also restricting sales to only permanent and semi-permanent structures, density would be reduced by approximately 56% as shown in Table 1.

The findings of this study suggest the need for enhanced enforcement of COTPA with regards to selling tobacco near educational institutions, and for tobacco vendors to be informed of the city's licensing law. There is an opportunity for Siliguri to reduce vendor density by restricting licenses to permanent and semi-permanent retailers only. Tobacco control studies conducted around the world have demonstrated that the presence and density of tobacco retailers around schools and in neighborhoods is directly associated with smoking behavior, tobacco use and initiation, and with the notion that smoking is common and acceptable.<sup>4,5,6</sup> In addition to fully implementing and enforcing the licensing law, Siliguri government could consider further restrictions including limiting the number of licenses available by area or by population.

## Methods

Johns Hopkins Bloomberg School of Public Health's Institute for Global Tobacco Control, with partners from the International Union Against Tuberculosis and Lung Disease and the Postgraduate Institute of Medical Education and Research, conducted an observational study in Siliguri from November 2019 to January 2020 to assess the density and location of tobacco vendors in five of the city's wards. The study further observed whether tobacco vendors were situated near educational institutions. Trained data collectors conducted a census of all tobacco vendors operating in Wards 2, 5, 8, 17 and 32 by traversing all roads in each ward. These wards were selected based on a diversity of demographic features, and the presence of retail activity, schools, and public amenities such as parks. The locations of vendors and schools were recorded using a mobile data collection app and mapped using GIS software.

<sup>1</sup> Ministry of Health and Family Welfare Notification S.O 2814(E), November 28, 2008. Retrieved from <https://www.tobaccocontrollaws.org/files/live/India/India%20-%.pdf>

<sup>2</sup> Siliguri Municipal Corporation (2021) Ward level populations. International documentation

<sup>3</sup> Tobacco Retailer Density Fact Sheet for New York City, NY (May, 2020), Advancing Science & Practice in the Retail Environment (ASPIRE, [aspirecenter.org](http://aspirecenter.org)), funded by the National Cancer Institute #P01-CA225597

<sup>4</sup> Novak SP, Reardon SF, Raudenbush SW, et al. Retail tobacco outlet density and youth cigarette smoking: a propensity-modeling approach. *Am J Public Health* 2006;96:670-6

<sup>5</sup> Schleicher NC, Johnson T, Fortmann S, Henriksen L. Tobacco outlet density near home and school: Associations with smoking and norms among US teens. *Prev Med.* 2016;91:287-293. doi:10.1016/j.ypmed.2016.08.027