

## **SUPPLEMENTARY MATERIAL**

**Title: Identification and Quantification of emission hotspots of air pollutants over  
Bhubaneswar: A smart city in Eastern India**

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**Table S1: Sector specific collected primary and secondary activity data**

<b>Sectors</b>	<b>Activity data</b>	<b>Source</b>
Transport	Number of registered Vehicles: 1462741	Ministry of Road, Transport and Highways, 2018
	VKT/day and Fuel type (Table 2)	Primary data collection
Wind-blown road dust	The average speed of the vehicles: 25 kmph	Primary data collection
	Total weight of the Vehicles: 1.53 tons	Primary data collection
	Types and length of the road network	Ministry of Road, Transport and Highways, 2018
	Road Condition (Paved/Unpaved)	Primary data collection
	Surface moisture content: 8%	Mangaraj et al., 2022a
	Silt load is 10% for paved roads and 11% for unpaved roads	SAFAR city-wise studies
	Average rainfall in 2018: 1400 mm	IMD, 2020
Number of precipitation days per year: 90	IMD, 2020	
Industry	Registered Industries: 88	City development plan report, CCIPL, 2006
Household	Total population: 1.1 million	Dept. of Economic and Social affairs population dynamics, 2018
	Average household size: 4	Primary data collection
	Percentage use of cooking fuel	PPAC, 2016 and Primary data collection
Slum	Fuel quantity used per month (Table 3)	Primary data collection
	Slum Population: 301611	Ministry of Housing and Urban Affairs
	Average household size: 5	Primary data collection
Street Vendors	Percentage use of cooking fuel	Primary data collection, Dash, 2015; Das and Pal, 2019
	Fuel quantity used per month (Table 3)	Primary data collection
	Number of street vendors: 25000	Odisha Street Vendors' Association
Diesel Generator	Percentage use of cooking fuel	Primary data collection
	Fuel quantity used per month (Table 3)	Primary data collection
Aviation	Number of BTS towers: 1800	Business Standard, 2019
	Diesel consumption by a standard DG per year	Sahu et al.,2015
MSW burning	Air traffic movement (ATM) per year: 30390	AAI, 2019
	MSW generation per day: 520 tons	Bhubaneswar Municipal Corporation (BMC)
	Waste burnt: 30%, waste dumped: 70%	Mangaraj et al., 2022a

MSW plants	No waste to energy (WTE) plant in Bhubaneswar	CPCB, 2019
Construction dust	Number of vehicles used for construction purposes	Ministry of Road, Transport and Highways, 2018
Brick kilns	No brick kilns in the study area	Primary data collection
Incense sticks, mosquito coil, Cigarettes	Number of Hindu households, street vendors, temples	Primary data and secondary estimations
	Composition of mosquito coil and incense sticks	Cohen et al., 2013; Kumar et al., 2014
	Percentage of the urban population using mosquito coil: 32%	Primary data collection
	Average mosquito coil used per day: 2	Primary data collection
	The average weight of coil: 12 g	Primary data collection
Crematories	Percentage of adults with smoking habit: 39%	TISS, 2016–17
	Death rate: 6.5	DES, 2018
	Percentage of Hindu population: 93% of the total population	2011 census data
	Wood required per pyre: 550 kg	Primary data collection, Chakrabarty et al., 2014
	Time to complete burn of one body: 6 hours	Primary data collection, Chakrabarty et al., 2014

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