

AIR POLLUTION IN DHAKA CITY: ITS SOURCES, IMPACT AND MITIGATION




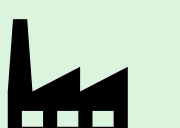




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INTRODUCTION

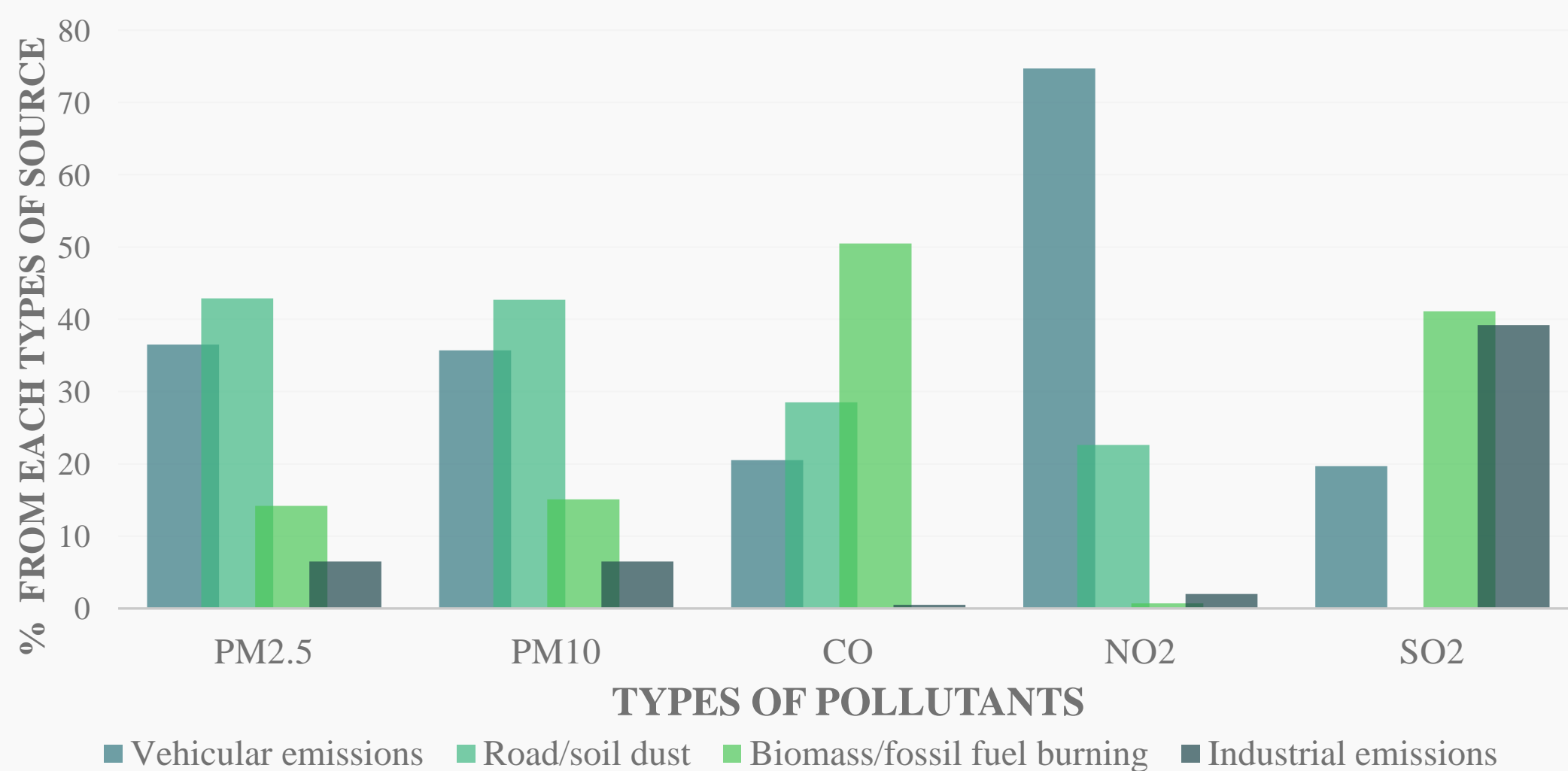
The air we breathe is under attack in today's modern society as a result of excessive air pollution. Cities all across the world, including the busy streets of Dhaka, Bangladesh, are battling the pervasive problem of dirty air. Numerous emissions from cars, factories, power plants, and other types of human activity are carried by the atmosphere, putting us on the brink of an impending environmental crisis.

CONTRIBUTING SOURCES




	Vehicular Emission	Motor vehicles emit pollutants like nitrogen dioxide, particulate matters and volatile organic matters.
	Industry Emissions	Powerplants are responsible for emission of sulfur dioxide, nitrogen dioxides and particulates.
	Construction Sites	Mostly dusts and particulates are the prime pollutants in construction sites. Volatile matters contribute too.
	Brick Kilns	Black carbon and particulate matters are emitted due to combustion of earth and coal.
	Diesel Generators	Incomplete combustion causes black smog emission from different petrol based generators
	Waste Incineration	Waste matters (mostly organic) emits bad odor. Besides, carbon monoxides are also emitted
	Agricultural Activities	Uses of chemical and organic fertilizers reacts and due to hydrolysis produces different types of gases.
	Biomass Burning	Biomass are organic matters that produce carbon monoxide due to partial combustion

AIR POLLUTANTS DISTRIBUTION

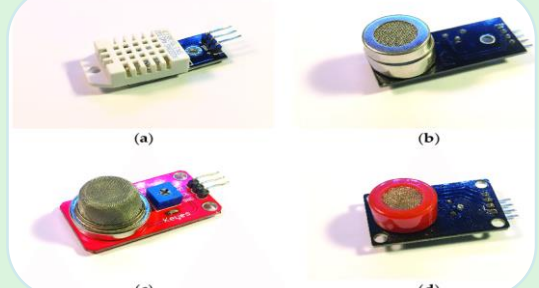
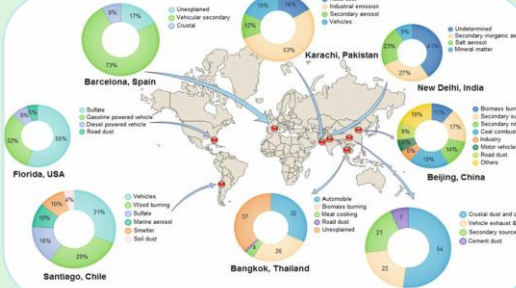


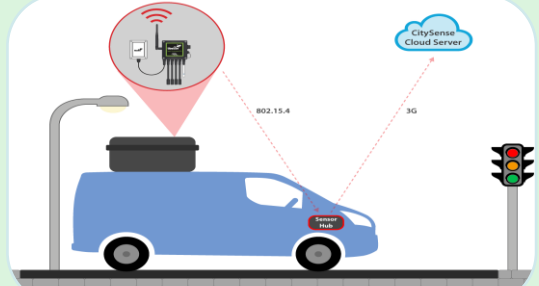



Types of Air Pollutants from Different Sources



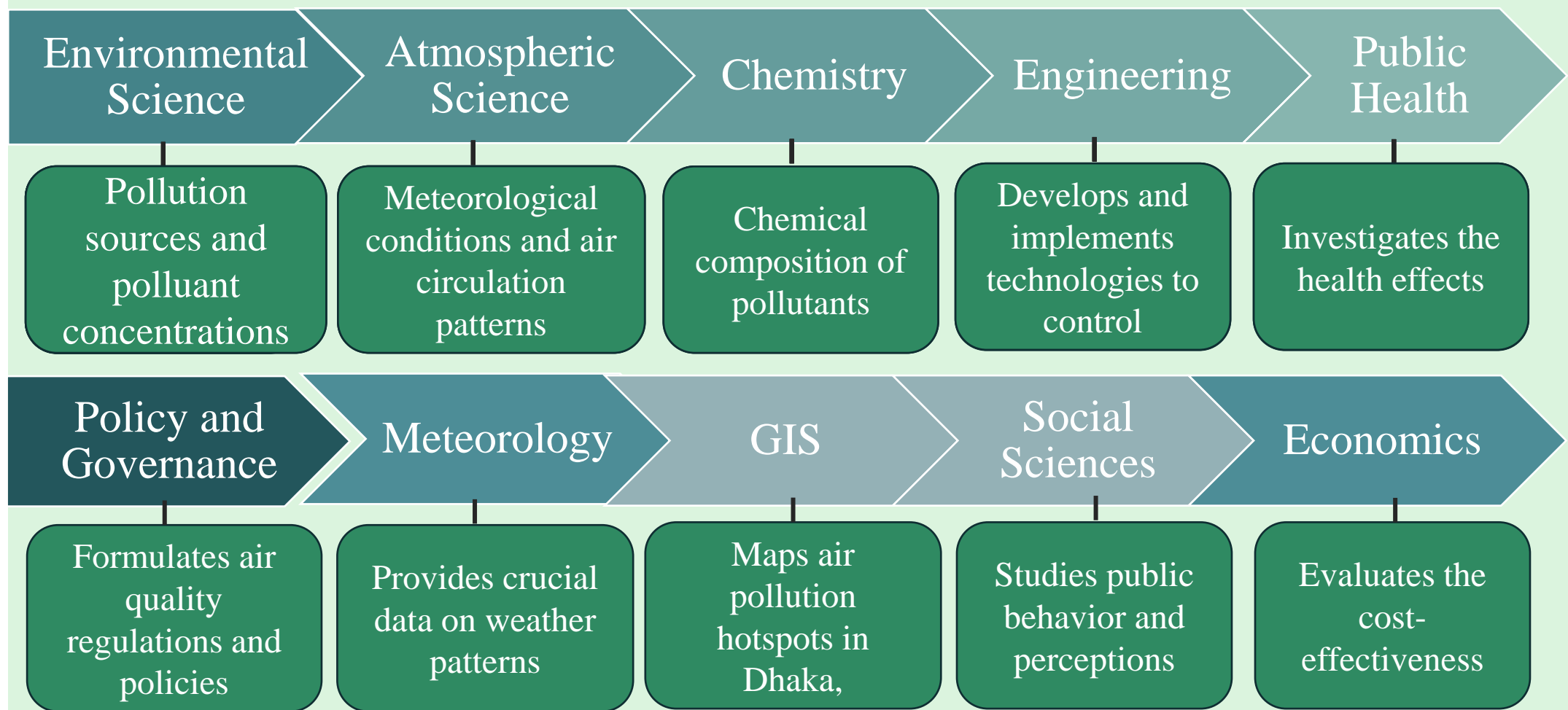
IMPACT OF AIR POLLUTION

	Reduced Life Expectancy		Environmental Degradation
	Climate Change		Economic Issue
	Impaired Visibility		Acid Rain
	Strained Healthcare		Lower Indoor AQI
	Respiratory Disease		Loss of fertility

METHODOLOGY

	Low-cost sensors for real-time data		Source apportionment models
	Satellite-based remote sensing technology		Social Media and Crowdsourcing
	Mobile monitoring vehicle		Portable Gas Chromatography
	Unmanned Aerial Vehicles with sensors		Machine learning algorithms

INTERDISCIPLINARY APPROACH



SOLUTION & POLICY RECOMMENDATION

Purpose	Policy
Reduce carbon footprint	Industries and companies should aim to reduce use of different packaging materials
Emission trading system	Allowance of emission can be implemented across companies and made tradable, so a balance can be maintained.
Incentivize Public Transport	Incentivizing public transport by prioritizing them on road will reduce private cars hence reduce emission
Incentivize catalytic converters	Catalytic converter installed vehicles can get tax exempts up to a specific percentage which benefits the environment
Implement Green building codes	Implement green building codes and provide incentives for energy-efficient building constructions.
Solid Waste Management	Strengthen solid waste management systems to reduce open burning and promote recycling and waste-to-energy initiatives.
Air Quality Index Regularization	Establish and enforce comprehensive air quality standards and regulations, including emission limits for vehicles, industries, and other pollution sources, to ensure compliance and reduce pollution levels.

CONCLUSION

An urgent global concern that has an impact on both the environment and human health is air pollution. The difficulties faced by highly populated cities struggling with dangerously high pollution levels are best illustrated by Dhaka City, which is representative of many urban centers. Reductions in life expectancy, cardiovascular disease, and respiratory conditions are some of the detrimental effects on human health. In order to ensure a cleaner, safer, and healthier future for everyone, the conclusion underlines the need for collaborative action, cleaner technologies, and sustainable habits.

REFERENCE

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