

Technical Cooperation Project: Air Pollution Reduction in Bangalore, India

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Introduction

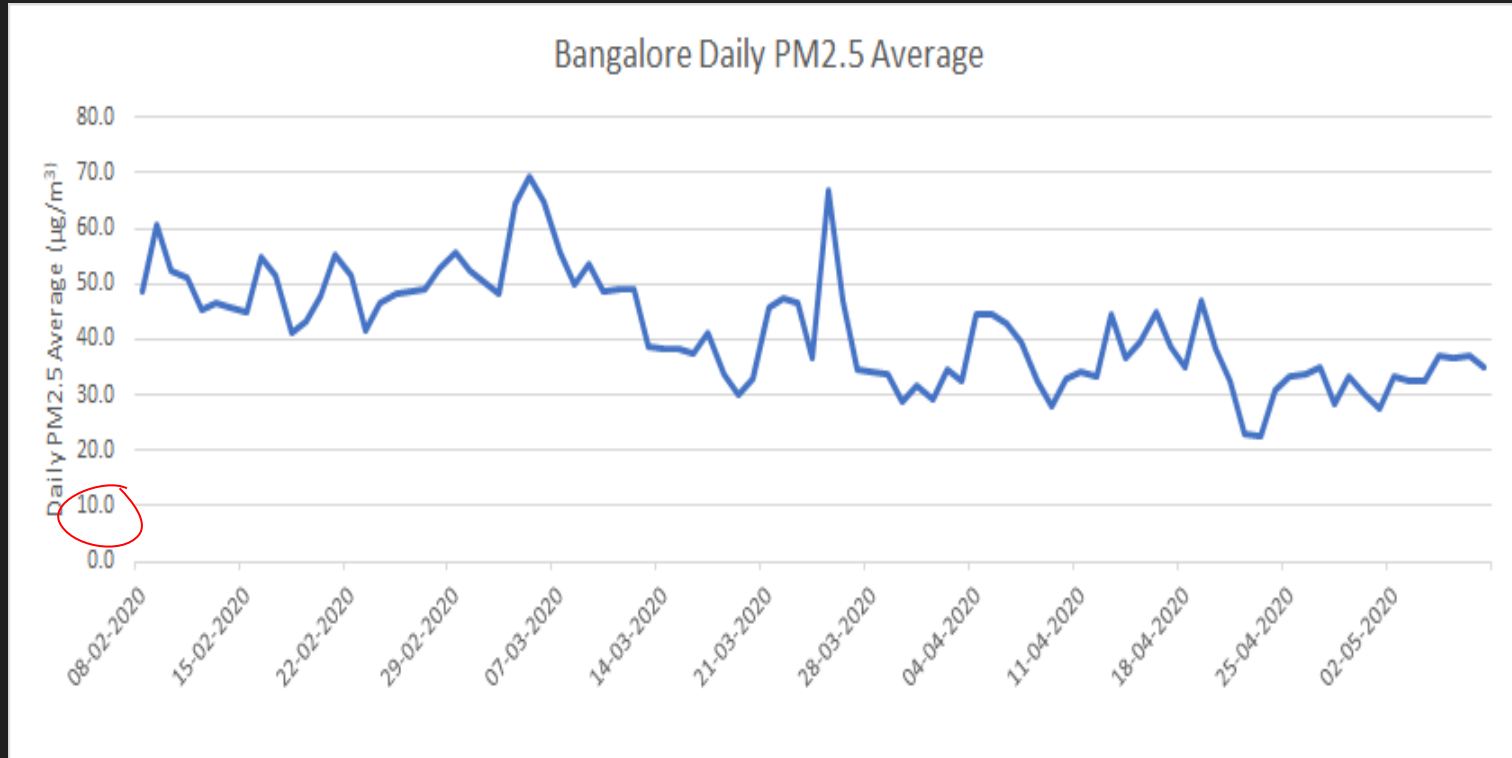
Estimated Air pollution impacts in major Indian cities (2020)

Name	Estimated Deaths absolute	Estimated Cost (USD)	Estimated Cost (INR) cr
Delhi	54,000	8.1 billion	58,895
Mumbai	25,000	3.7 billion	26,912
Bengaluru	12,000	1.7 billion	12,365
Hyderabad	11,000	1.6 billion	11,637
Chennai	11,000	1.5 billion	10,910
Lucknow	6,700	1.1 billion	80,01

Myllyvirta, L. (2020) Revealing the Cost of Air Pollution in World's Cities – in Real Time. July 2020. CREA.

<https://energyandcleanair.org/revealing-the-cost-of-air-pollution-in-real-time/>

Rationale - PM 2.5, minimum 10 $\mu\text{g}/\text{m}^3$



Source: adapted by the author; Heal Health and Environment Alliance, 2020.

Rationale



- Bengaluru, often referred to as the "Silicon Valley of India," sees significant life expectancy reductions due to air pollution, with individuals potentially losing 4 to 5 years of life. (Source: Company Clarity, 2019).
- Rapid increase in vehicular traffic.
- Note: Peenya, a neighborhood in Bangalore.

Image: Traffic congestion in Bangalore.

Objectives and Expected Outcomes

STAGE III OBJECTIVES TREE

General Objective:
Promote the reduction of air pollution in Bangalore.

Specific Objective:
Reduce pollution and serious health issues in the region.

Result A:
Reduce the emission of NO₂, CO₂, and CH₄ from industries.
Significant percentage reduction in emissions of polluting gases.

Result B:
Reduce the circulation of motorized vehicles.
Programs with industries to create less polluting vehicles, more sustainable programs with governmental agencies on vehicle compliance and regulations with environmental parameters.

Result C:
More efficient regulatory institutions combating air pollution.
Imposition of stricter sanctions or directives for non-compliance with minimum air pollution requirements.

Work Plan

- Duration: 60 months.
- Increase in sustainable vehicles by 50% (including electric models and better CO2 filtration).
- 70% reduction in traffic congestion.
- Verification reports from BMTC and BMRDA and annual or quarterly sustainability reports from regional hospitals like Ayu Health Bangalore Baptist Hospital.

External Cooperation

- Institutional Framework: BMRDA/OECD/MRE.
- Rationale: WHO guidelines (Australia) recommend a PM 2.5 limit of 10 $\mu\text{g}/\text{m}^3$.
- Long-term collaboration with researchers (profiles include experts or engineers).

External Cooperation

Training on Compliance and Metrics for Tabulating Atmospheric Impurity Indices.



External Cooperation

Experts/Specialists: USD 2,550,000.

Training: USD 300,000.

Total Budget: USD 2,850,000.

External Cooperation

Counterpart Funding - Tax incentives (ranging from 15% to 10%).

The corporate income-tax (CIT) rate applicable to an Indian company and a foreign company for the tax year 2020/21 is as follows:

Income*	CIT rate (%)					
	Turnover does not increase INR 4 billion in FY 2018/19		For other domestic companies		Foreign companies	
	Basic	Effective**	Basic	Effective**	Basic	Effective**
Less than INR 10 million	25	26.00	30	31.20	40	41.60
More than INR 10 million but less than INR 100 million	25	27.82	30	33.38	40	42.43
More than INR 100 million	25	29.12	30	34.94	40	43.68

* Surcharge of 10% is payable only where total taxable income exceeds INR 10 million.

Source: PWC, (2021).

Conclusion

Bangalore suffers from severe air pollution, leading to numerous health problems and fatalities. Implementing this project with the aforementioned regulatory agencies could significantly improve the region's quality of life.