

Persisting air pollution and its governance

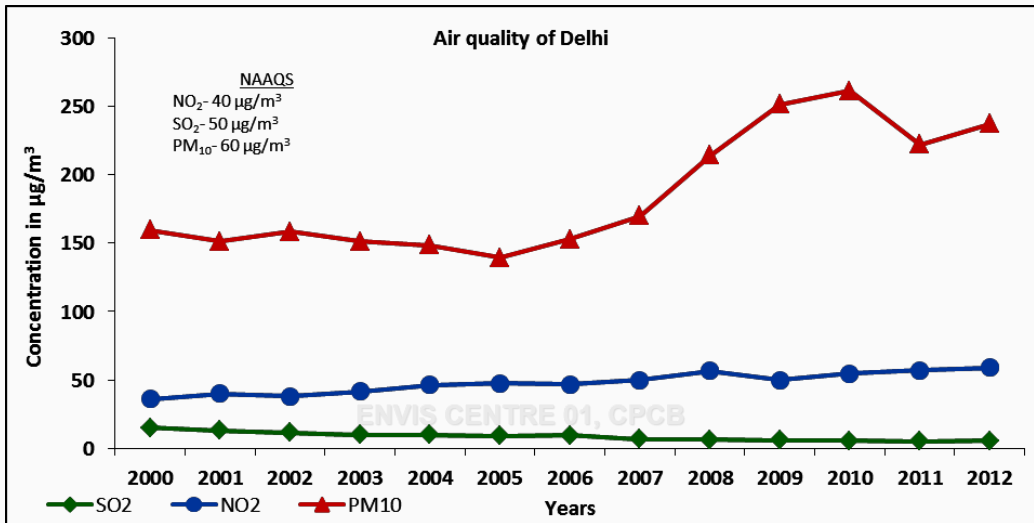
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The Air Pollution Problem

Persisting problem

1. The problem is not new, acknowledged since 1970s
2. Multiple government agencies have tried to solve it
3. It keeps getting worse



Air pollution today

Area/City	PM 10	PM 2.5
Jawaharlal Nehru Stadium	299	324
Lucknow	—	411
Patna	—	302
Agra	—	370

Source: Sameer App, CPCB India

Attempted solutions

Executive measures

Series of programmes and standard setting

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1. **1972:** National Committee on Environment Planning and Coordination (NCEPC)
2. **1980:** Department of Environment
3. **1984:** Introduction of National Ambient Air Quality Monitoring (NAMP)
4. **1994:** Introduction of National Ambient Air Quality Standards (NAAQS)
5. **2009:** Introduction of Comprehensive Environmental Pollution Index (CEPI) monitoring for Polluted Industrial Areas (PIA)
6. **2018:** Introduction of National Clean Air Programme (NCAP)

Legislative measures

Multiple laws with inadequate procedural detail

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1. **1974:** Water (Prevention and Control of Pollution) Act, 1974
2. **1981:** Air (Prevention and Control of Pollution) Act, 1981
3. **1986:** Environmental Protection Act, 1986
4. **1992:** Article 243W of the Constitution (inserted) legislation may empower municipalities to protect environment
5. **2010:** National Green Tribunal Act, 2010

Piecemeal approach and directing executive functions

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1. **1986:** Polluting, hazardous chlorine plant closed and victims compensated
2. **1991:** Polluting stone crushing units in Delhi closed down with immediate effect
3. **1998:** Conversion of diesel buses to Compressed Natural Gas, set up Environment Pollution (Prevention and Control) Authority (EPCA)
4. **1996:** Improve garbage disposal in Delhi
5. **2016:** Order to suspend licences for sale of fireworks in Delhi NCR
6. **2017:** Introduction of Graded Response Action Plan (GRAP) and Comprehensive Action Plan (CAP) by EPCA

Why does the problem persist?

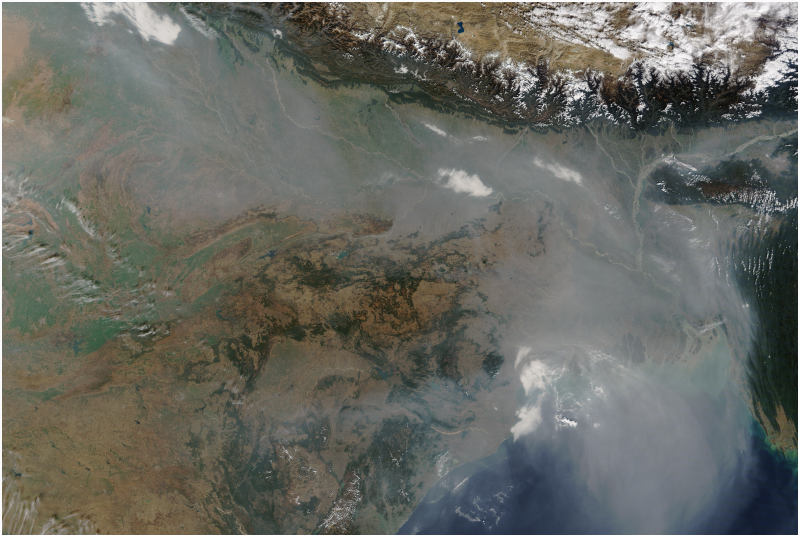
Holistic approach missing

1. Air pollution is complex, has cause and effect relationship with multiple agencies at individual, private and state level
2. One way to look at problem is to focus on type of source
3. Sources can be classified into local and inter-state

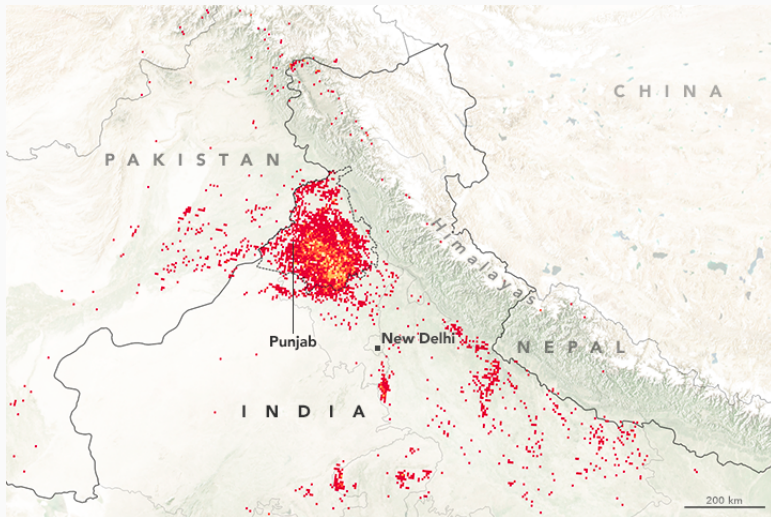
Gaps in legislation

1. Inter-state pollution absent in the legal framework
2. Local sources of air pollution not addressed

Inter-state nature of problem



Source: NASA Earth Observatory. January 3, 2016



Source: NASA Visible Earth. November 2, 2016

1. Air pollution legislation operates at the state level
2. However, the problem is an inter-state in nature
3. Legislation for solving inter-state problems are a class apart

Local Problem

1. India wrote its pollution legislation in the 80s
 - 1.1 It was believed that industry/vehicles causes pollution
 - 1.2 Environment Protection Act was written as a response to the Bhopal tragedy

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 - 1.1 It was believed that industry/vehicles causes pollution
 - 1.2 Environment Protection Act was written as a response to the Bhopal tragedy
2. No legislative provisions to deal with identified pollutants
 - 2.1 Industry is *one of the* the major contributor to air pollution
 - 2.2 Source apportionment studies started only in the 2010s

Causes of air pollution in Delhi

Pollutant	Source	Percentage
PM 10	Road dust	56
PM 10	Concrete batching	10
PM 10	Industry	10
PM 2.5	Road dust	38
PM 2.5	Vehicles	20
PM 2.5	Domestic	12

Source: *Comprehensive Study on Air Pollution and Green House Gases (GHGs) in Delhi, 2016*

Solving inter-state problem

Inter-state problem

1. Apportionment studies indicate inter-state pollution
2. Downwind states are at a loss
3. Current mechanisms insufficient to deal with inter-state air pollution

Constitutional resolution mechanisms

1. *Article 131*: Supreme Court has original jurisdiction over inter-state or centre-state disputes
2. *Article 262*: Parliament may legislate to adjudicate inter-state river or *river valley*

Issues: Unresolved and delayed

1. The inter-state proceedings are time consuming
2. Judicial resolution of inter-state matters is rare
3. The inter-state matters need clear, principle based legislation to enable resolution

Example: Inter-state water dispute resolution mechanism

Water Dispute Tribunal	Status of dispute	Time Taken (years)
Godavari	Adjudicated	11.25
Krishna	Adjudicated	7.08
Narmada	Adjudicated	10.08
Ravi-Beas	Pending	31
Cauvery	Pending	21

The US example

Principles based provisions

1. Inter-state issues require laws to lay down principles
2. Better enforced than agreements & negotiations

U.S. Good Neighbour Provision

1. Introduced as 1977 Amendment to the Clean Air Act
2. Each state must have a State Implementation Plan (SIP)
3. Upwind states cannot contribute to downwind SIP failure
4. States contributing more than 1 percent of the National Ambient Air Quality Standards (NAAQS) to other states classified as upwind states

How does it work?

1. Identify affected downwind & upwind states
2. Calculate cost of per ton of emissions prevented by a upwind state (e.g. through installing cleaning technology in power plant)
3. Identify tipping points for substantial pollution reduction
4. Map back to quantity of emissions the upwind state has to eliminate
5. Union plans where State plans are inadequate

Solving local problem

Stronger municipal laws

1. Constitution allows legislature to empower municipality to work on local issues
Urban forestry, protection of the environment and promotion of ecological aspects.
2. Local sources of air pollution neglected, but responsible for more than 50% air pollution in city
3. Well-functioning municipalities can contribute in reducing air pollution

Discussion

State participation for inter-state problem

1. Reduction of inter-state air pollution requires participation of states
2. Impartial coordination at the centre level
3. Central body to be responsible for cost-benefit exercise and approving state plans
4. Pollution reduction plans to be implemented at state level
5. Constant monitoring by central agency

Involving municipalities to solve local problem

1. Role of municipalities demarcated
2. State and municipal coordination in pollution reduction plans
3. Cost-benefit exercise while implementation

Thank you!