

Air pollution governance in India

December 5, 2017

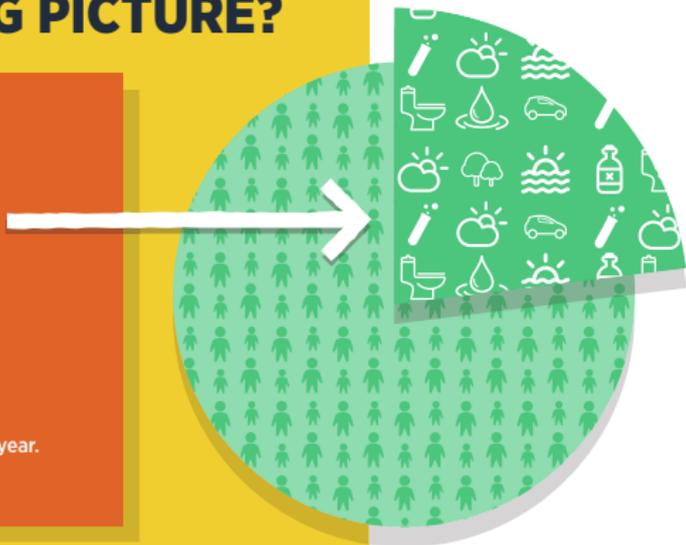
WHAT IS THE BIG PICTURE?

FACT:

23%

of all global deaths are linked
to the environment.

That's roughly **12.6 million deaths** a year.



Source:World Health Organisation, 2017

How does it kill

Deaths attributable to environment risks

Disease	Outdoor (ambient) air pollution (%)	Indoor air pollution (%)
Ischaemic heart disease	19	31
Stroke	19	35
Chronic obstructive pulmonary disease	10	39
Lung cancer	33	37

Deaths due to air pollution in South East Asia; World Health Organisation, 2017

Prada et al., 2017, *The Lancet Planetary Health*

Our findings support an association between long-term exposure to particulate air pollution and reduced bone health, particularly among low-income older individuals.

Indo-gangetic Air Basin

Pollution across state boundaries



Source: Wikimedia Commons

Section 1

Public administration challenges

Three public administration challenges

- ▶ *Legislation*: Industry designed laws which lack clarity

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- ▶ *Legislation*: Industry designed laws which lack clarity
- ▶ *Constitutional*: Inter-state challenge
- ▶ *Evidence*: Lack of information

Section 2

Legislation

Industry oriented

Written when we thought that industry would be the problem

... power to direct—

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(b) stoppage or regulation of the supply of electricity or water or any other service.

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The current challenge is from agriculture, construction and transportation

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- ▶ *EPA 1986 says*: planning and execution of a nation-wide programme for the prevention, control and abatement of *environmental pollution*;

Challenges to enforcement

- ▶ Large industry enforcement is relatively easy
- ▶ Population wise enforcement:
 - ▶ Agriculture
 - ▶ Vehicle density
 - ▶ Municipal waste

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- ▶ Population wise enforcement:
 - ▶ Agriculture
 - ▶ Vehicle density
 - ▶ Municipal waste
- ▶ **Modern public administration:**
 - ▶ Cost benefit analysis
 - ▶ Funding for alternatives

Section 3

Thinking about inter-state disputes

Coordination will not be automatic

I fail to understand why the Delhi chief minister is trying to force his hand, knowing well that any such discussion would be meaningless and futile

–Chief Minister of Punjab on Nov. 14

Indian Constitution

Pollution was not envisaged

- ▶ **Union List** Covers air-navigation
- ▶ **Directive Principles:** Article 47: *Protect and improve the environment*
- ▶ **Powers to Municipalities (243W):** States may by law empower municipalities to take steps to conserve environment (1992)
- ▶ In case of pollution, Union gains jurisdiction from treaty enforcement Article (253)

Inter-state water disputes

Analogy

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- ▶ It has been in operation since 1990
- ▶ There are zonal sub-councils,
 - ▶ Indo-Gangetic Air Basin council?

Section 4

Information

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- ▶ One-off, state govt. funded studies are not efficient
- ▶ Independent data, aligned with weather information may reduce the debate.

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- ▶ 2002 Amendment to Inter-State Water Disputes Act (1956) makes data collection *mandatory*

Air Quality Monitoring in India

Indo-gangetic Air Basin

State	Number of Stations
Punjab	3
Haryana	4
Delhi	20
Uttar Pradesh	7
India	74

Number of Air Quality Stations in states. CPCB data (December 2017)

- ▶ There are 676 weather monitoring stations in India

Section 5

Another example

U.S. Good Neighbour Provision

1977 Amendment to the Clean Air Act:

- ▶ Each state must have a State Implementation Plan
- ▶ Upwind states cannot contribute to downwind SIP failure
- ▶ **1990 Amendment:** Standard raised:
prohibit emissions activity in state that will contribute significantly to non-attainment of, or interfere with maintenance of National Ambient Air Quality Standards (NAAQS) by other state.
- ▶ States contributing more than 1 percent of the NAAQS to other states classified as upwind states

Setting targets

1. Identify which downwind states are directly affected and link them
2. Look at cost of per ton of emissions prevented (e.g. through installing cleaning technology in power plant)
3. Identify tipping points - i.e. where the amount spent reduces emissions substantially (CBA) rather than a marginal amount
4. Map this cost threshold back to quantity of emissions the upwind state has to eliminate
5. Federal Implementation Plans (FIPs) were circulated where SIPs were inadequate

Section 6

Conclusion

- ▶ Inter-state pollution is an administration challenge

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- ▶ It is normal for India:
 - ▶ First round was about the amount of resources
 - ▶ Second round will be about the quality of resources
- ▶ It requires thinking about the legislation, relationship between states and the information which drives policy decision

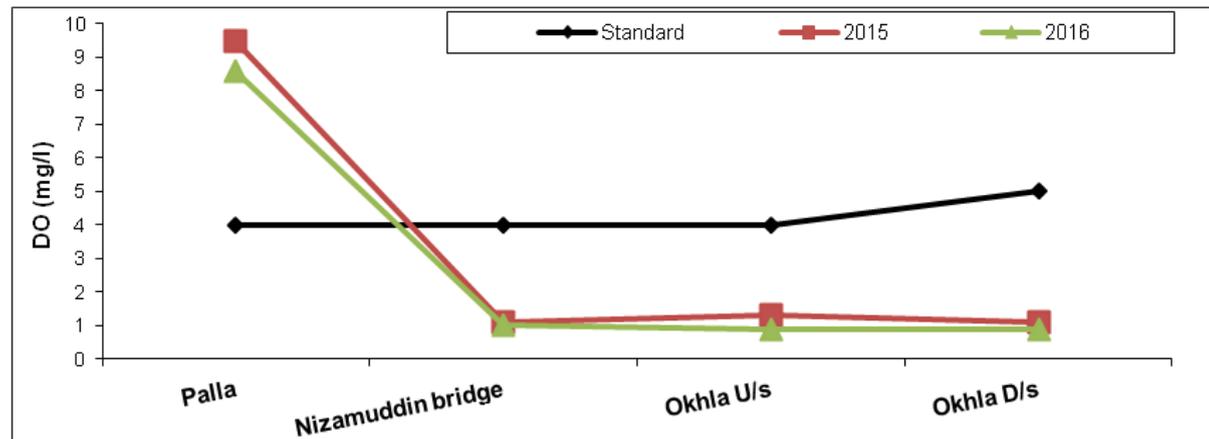
Yamuna River Stretch

Length and course

- ▶ Total length of Yamuna river = 1376 kms
- ▶ Length of Yamuna traversing through Delhi = 22 kms

70% of pollution of Yamuna from Delhi

Dissolved Oxygen data



Source: Central Pollution Control Board, 2017

Thank You

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