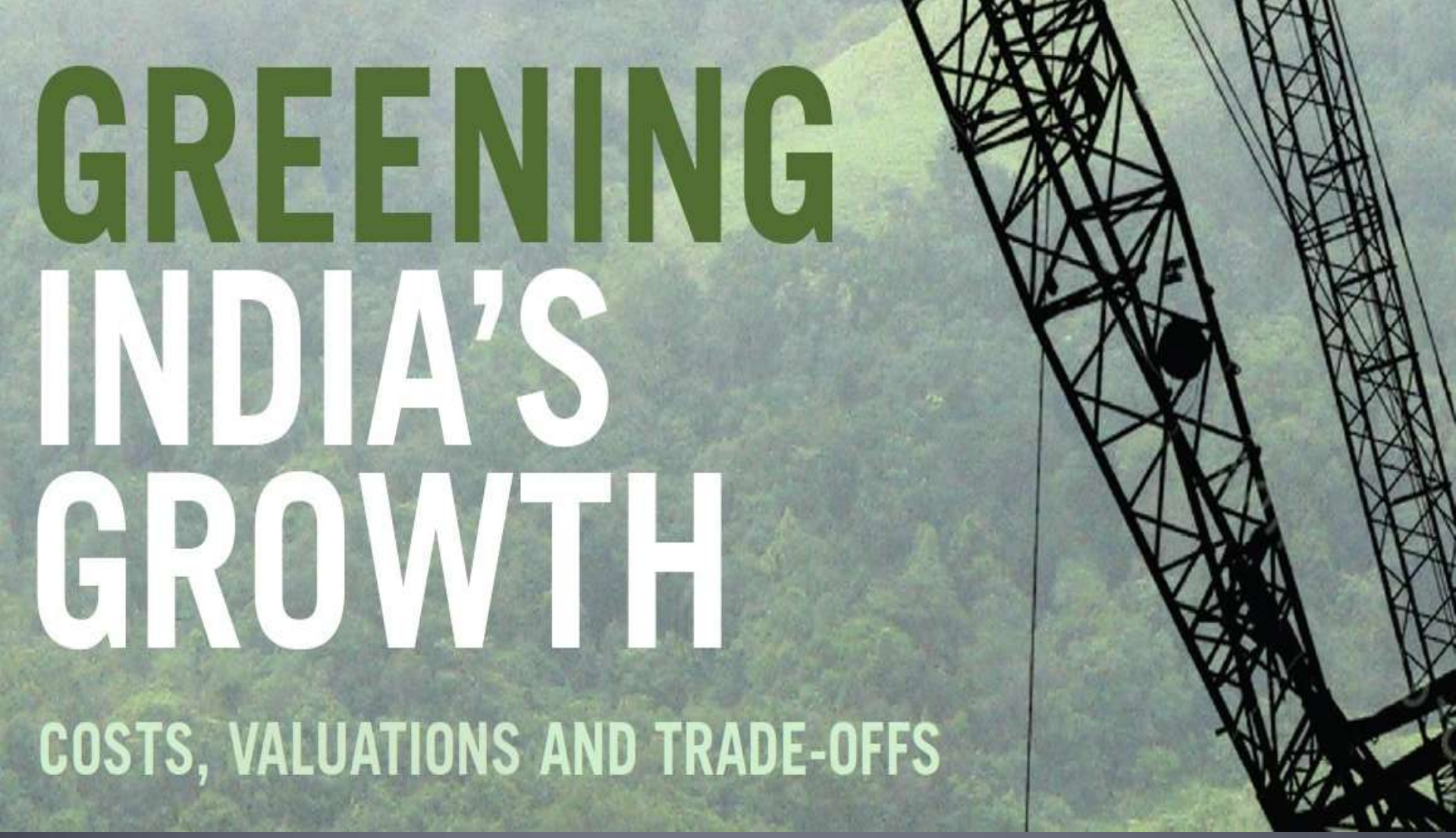

GREENING INDIA'S GROWTH

COSTS, VALUATIONS AND TRADE-OFFS

Muthukumara Mani
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World Bank

Definition of Green Growth

Green growth means fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies.

Green growth … is about fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies. It is also about fostering investment and innovation which will underpin sustained growth and give rise to new economic opportunities……policy action requires looking across a very wide range of policies, not just explicitly „green“ (i.e. environmental) policies.

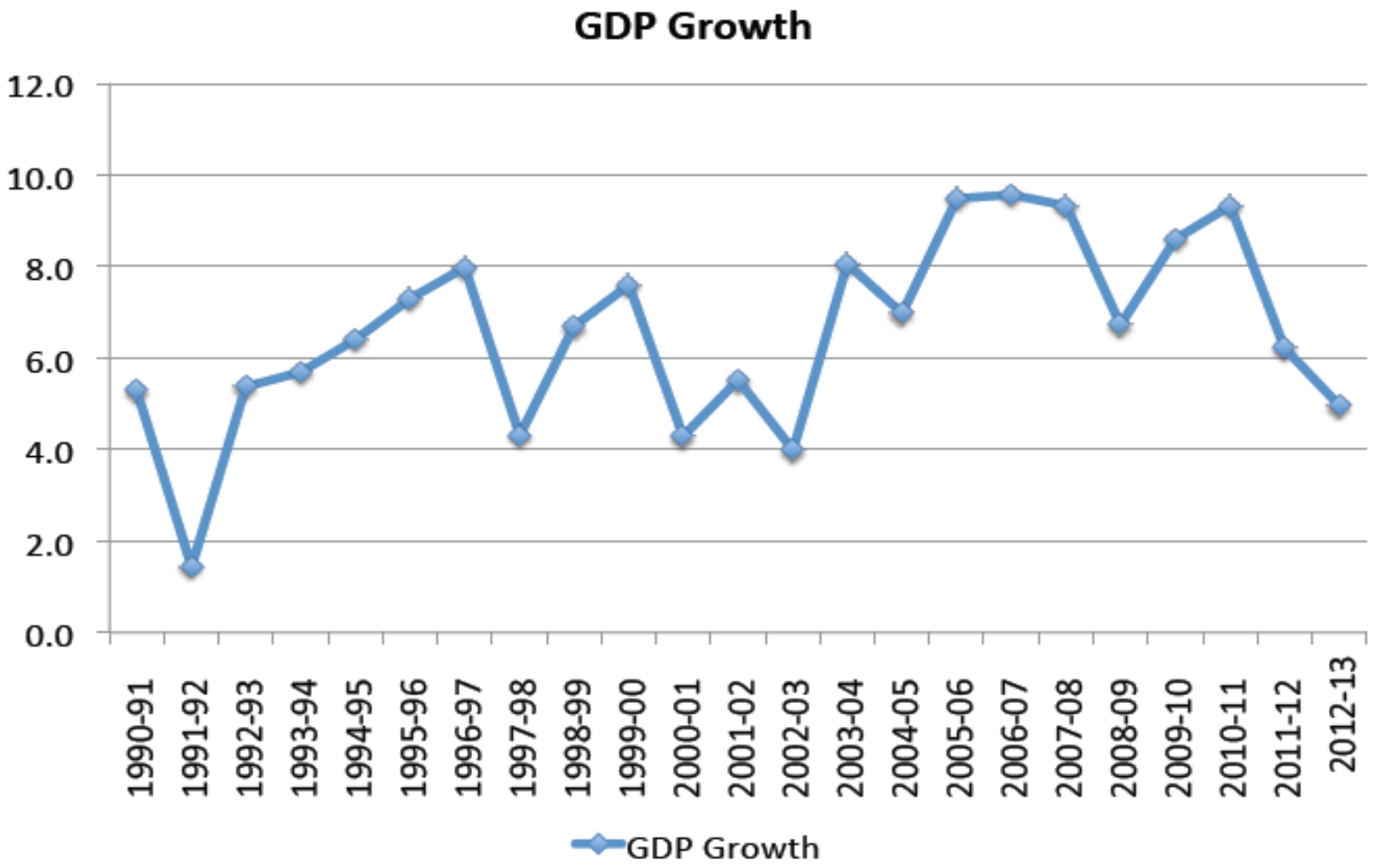
Three stories…

- Growth story
- Development story
- Environment story

Storyline 1: The economic success story

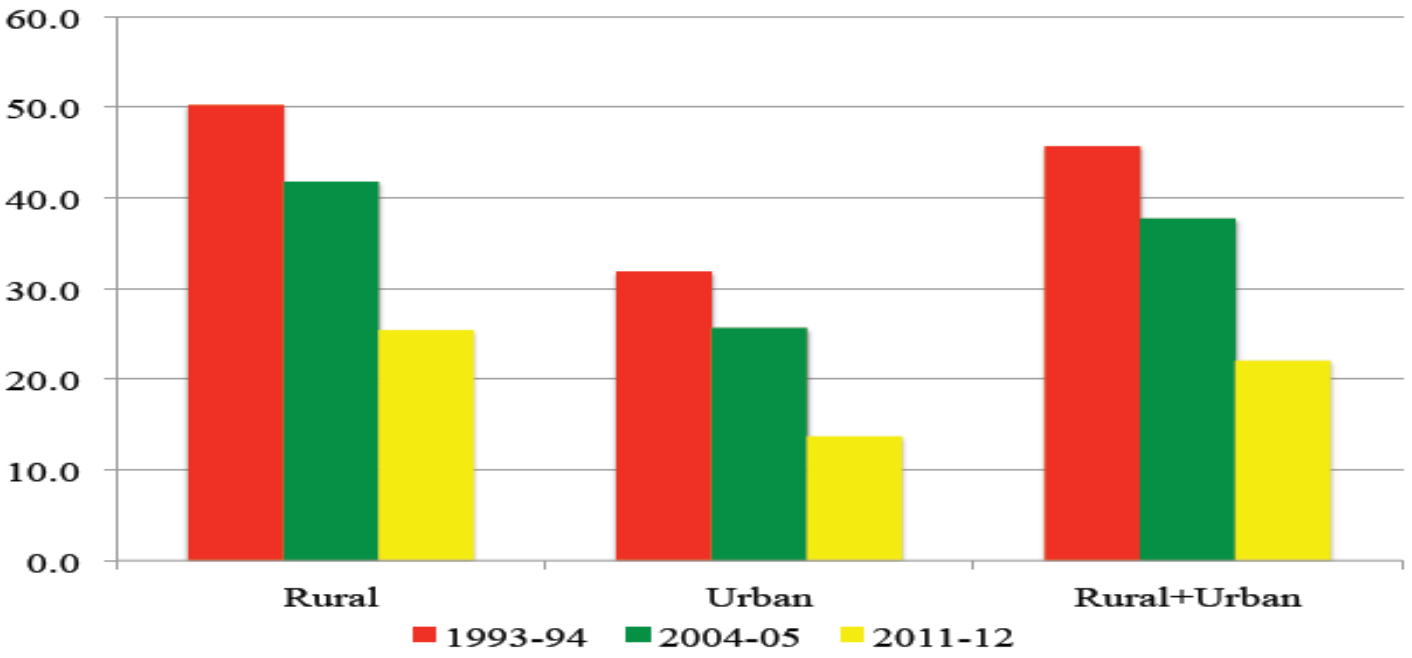
- India enjoyed an unprecedented economic growth exceeding 7% a year for almost a decade
- Strong momentum in investments, healthy corporate profits, robust exports and high business confidence
- India became the world's third largest economy (in purchasing power terms), surpassing Japan and now behind only China and the United States ($4.7 trillion).

Storyline 1: The economic success story



Storyline 2: Substantial developmental gains in terms of employment creation, poverty reduction, etc.

Poverty: Rural and Urban (93-94 to 11-12)



India on track to achieve most of the MDGs

Storyline 3: But growth fails to deliver on environmental outcomes..

- In a recent survey of 178 countries whose environments were surveyed, India ranked 155th overall (far below all BRIC countries, China (118), Brazil (77), Russia (73), and South Africa (72)).
- India ranked among the last (177) in the 'Air Pollution' (average exposure to particulate emissions) ranking.
- Recent WHO survey of G-20 economies showed that 13 of the 20 most polluted cities are in India and over 50% of the sites across India had critical levels of PM10 pollution

Recognition of the Issue

"Economic policies designed to promote growth have been implemented without considering their full environmental consequences, presumably on the assumption that these consequences would either take care of themselves or could be dealt with separately. These are serious consequences, and it has become clear today that economic development must be environmentally sustainable"

Dr. Manmohan Singh, Former Prime Minister of India
Workshop on Green National Accounting for India in New Delhi, April 2, 2013

Recognition of the Issue-media

Air pollution 5th largest killer in India

New Delhi, Feb 15: Outdoor air pollution has become the fifth largest killer in India after high blood pressure, indoor air pollution, tobacco smoking, and poor nutrition, says a new set of findings of the Global Burden of Disease report. The India and South Asia-specific findings were officially released on Wednesday at a Dialogue Workshop jointly organised by Centre for Science and Environment (CSE), Indian Council of Medical Research and the US-based Health Effects Institute. The Global Burden of Disease (GBD) report is a world-wide initiative involving the World Health Organization which tracks deaths and illnesses from all causes across the world every 10 years. The new findings were released by Aaron Cohen, principal epidemiologist of the Health Effects Institute and co-chair of the GBD Ambient Air Pollution Expert Group.

The report says that about 620,000 premature deaths occur in India from air pollution-related diseases. GBD has ranked air pollution as one of the top 10 killers in the world, and the sixth most dangerous killer in South Asia. In fact, particulate air pollution is now just three places behind indoor air pollution, which is the second highest killer in India. "This is shocking and deeply disturbing news. This calls for urgent and aggressive action to protect public health," said Sunita Narain, director general, CSE. The key finding in India states that air pollution is the fifth leading cause of death in India, with 620,000 premature deaths. This is up from 100,000 in 2000 – a six-fold increase. It is seventh leading cause behind the loss of about 18 million healthy years of life due to illness. It comes after indoor air pollution, tobacco smoking, high blood pressure, childhood underweight, low nutritional status, and alcohol use. These diseases include stroke (25.48%), chronic obstructive pulmonary disease (17.32%), Ischemic heart disease (48.6%), lower respiratory infections (6.4%), and trachea, bronchus and lung cancer (2.02%). Meanwhile, the key findings in South Asia and the world points out that air pollution related diseases cause 3.2 million deaths worldwide every year.

Questions

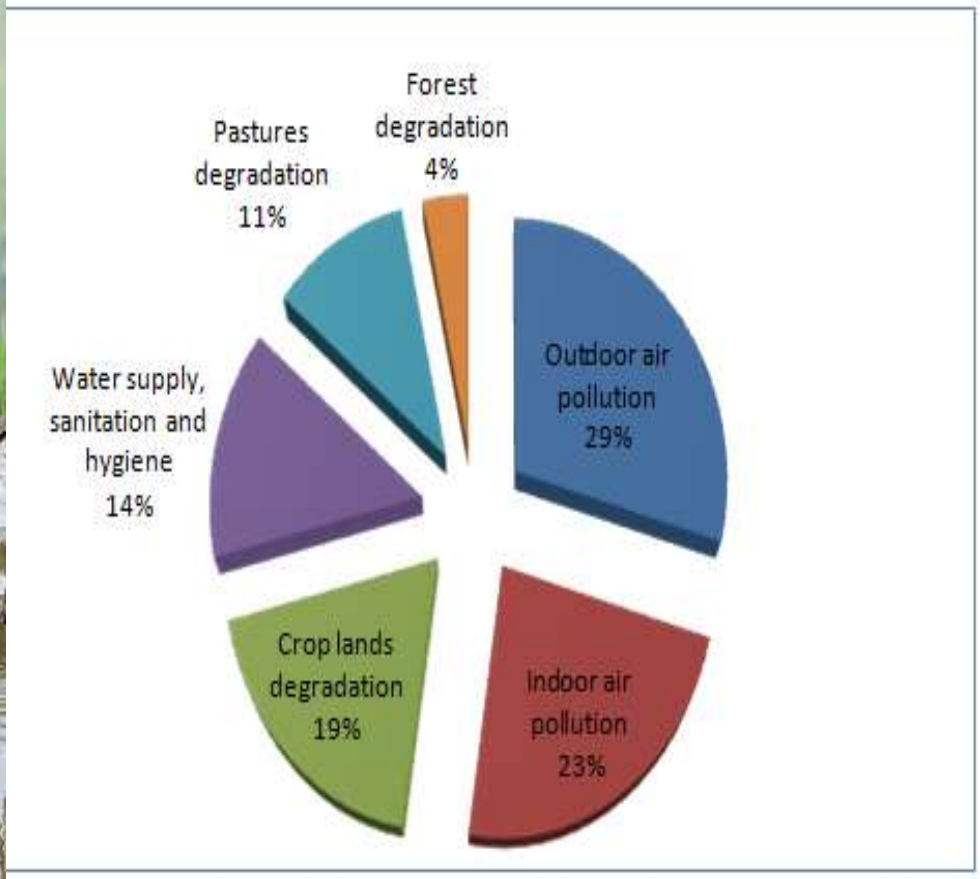
India's stellar economic performance not matched by its environmental performance

- Is India's economic growth sustainable?
- What is sustainable growth and sustainable development for India?
- Why is it important? How do we measure it? How do we ensure it?
- Where might the balance lie between rising GDP and declining environmental assets?

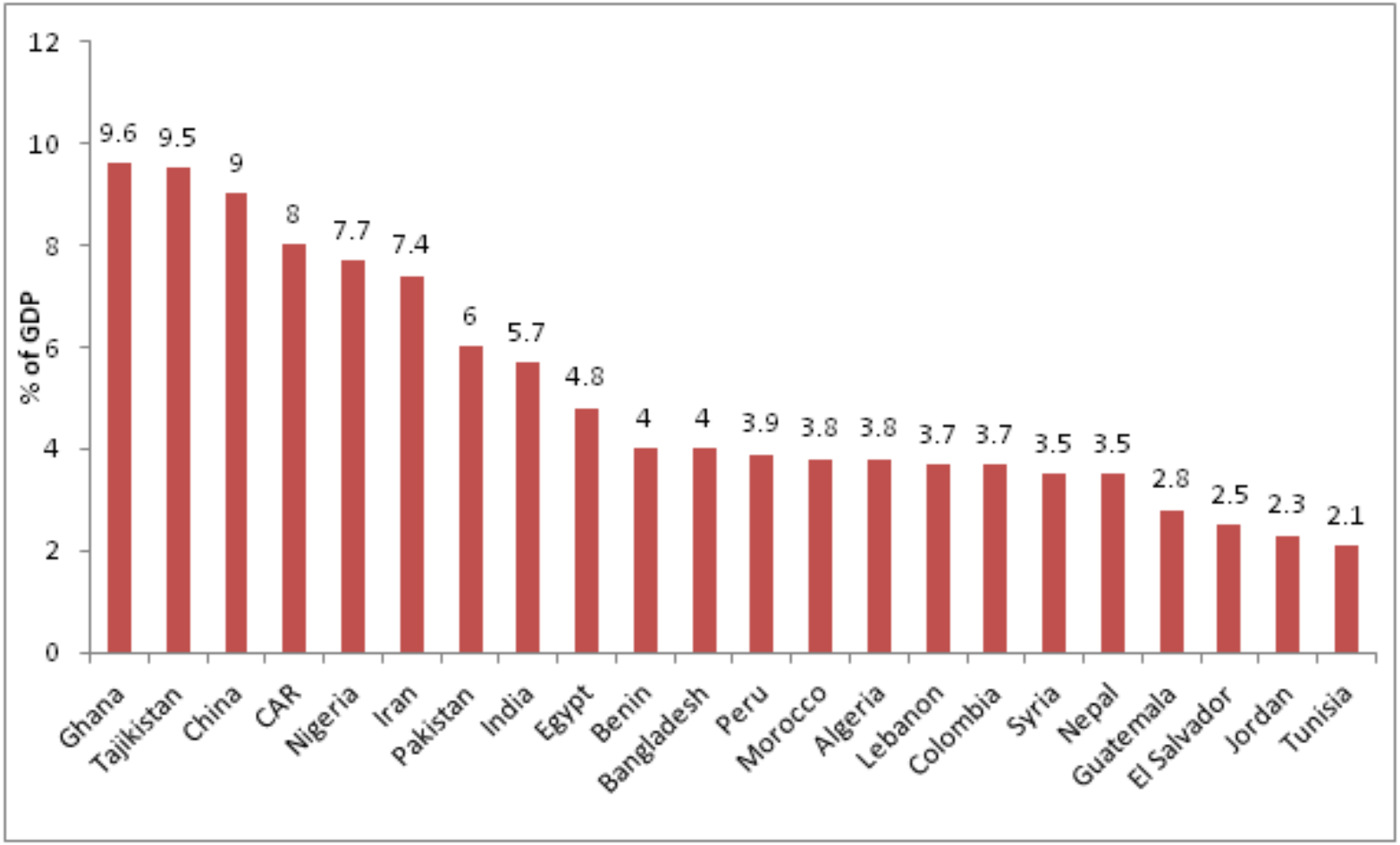
Economic growth at what cost?

Total cost of environmental degradation in India at about Rs. 3.75 trillion (US$ 80 billion) annually, is equivalent to 5.7 percent of GDP in 2009

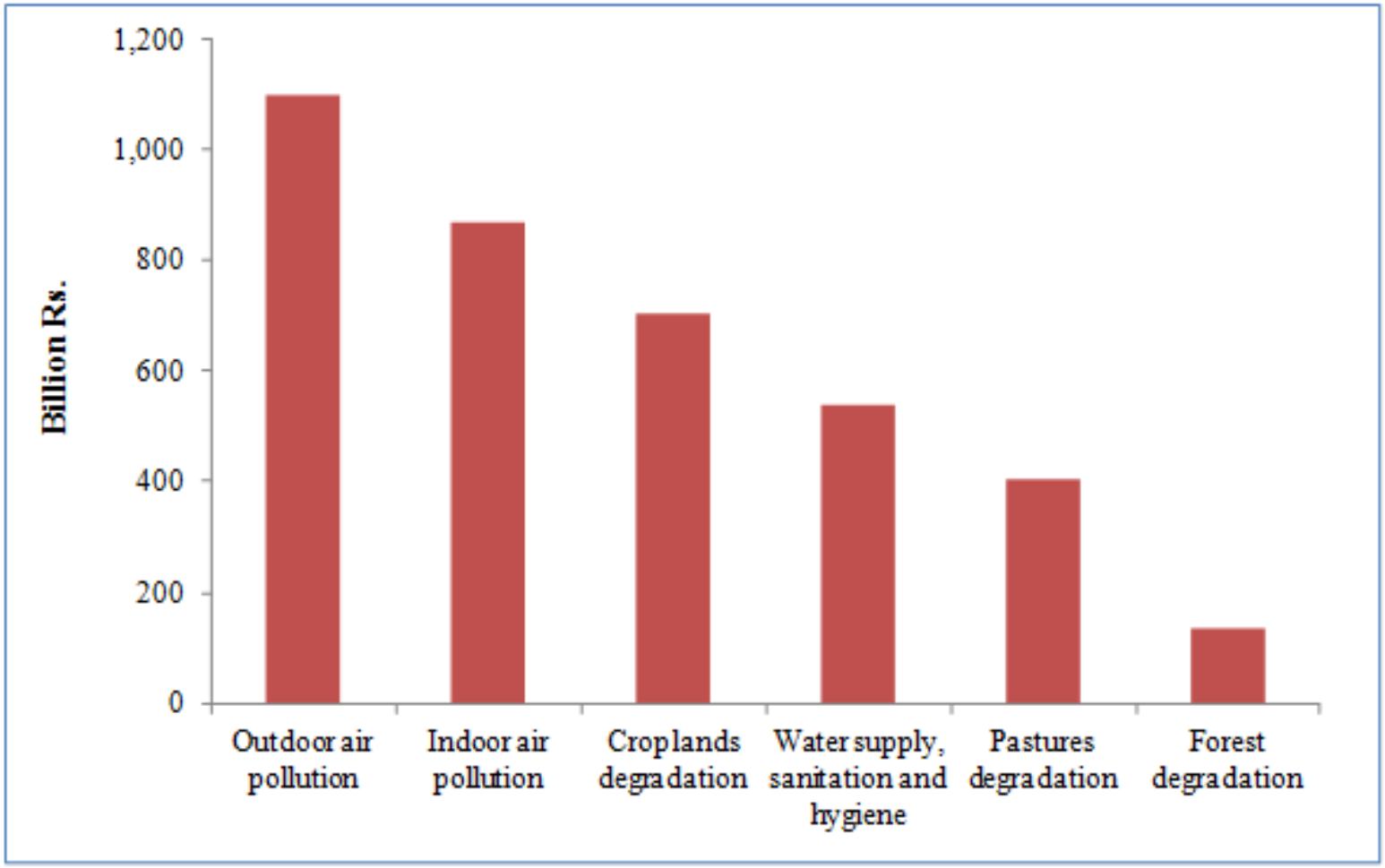
Economic growth at what cost?



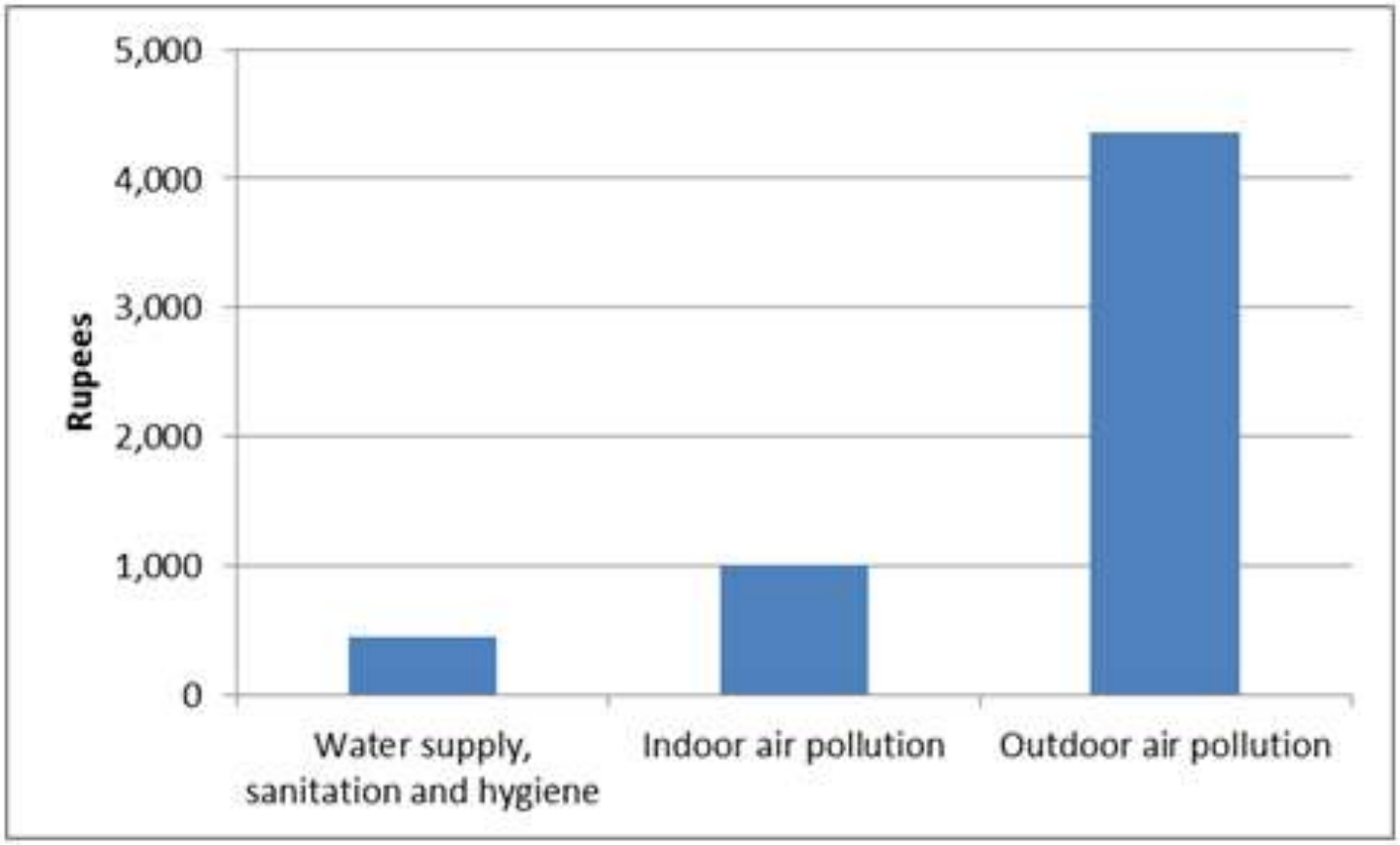
How does India compare with other countries?



Relative share of Damage Cost by Environmental Category



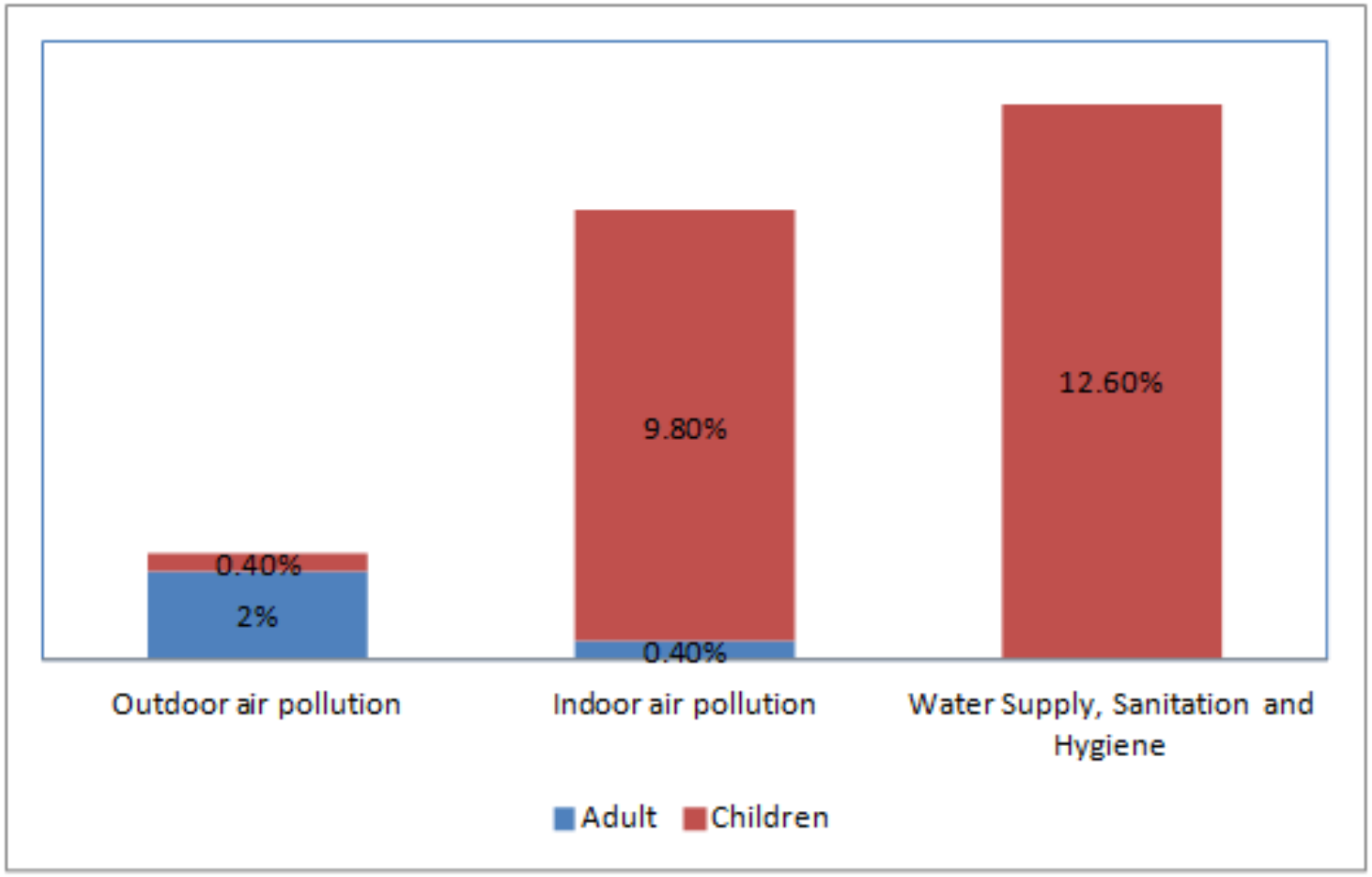
Annual Environmental Health Losses per Person of the Exposed Population



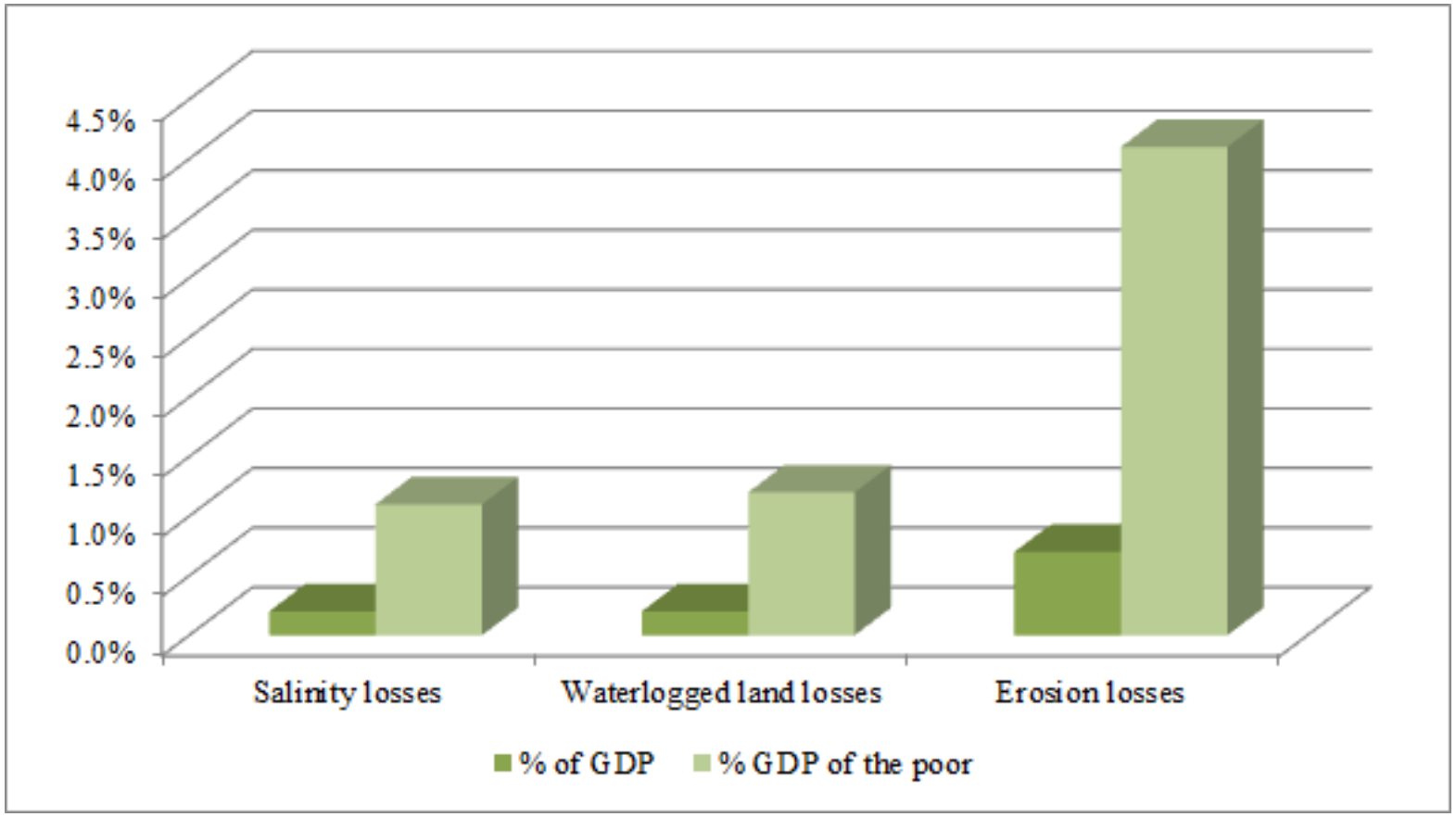
Who bears the costs?

Health Categories	Total Annual Cost (Billion Rs.)	Percentage of Total Cost
Mortality		
Adults	1,018	92.2%
Children under 5	13	1.2%
Morbidity		
Chronic bronchitis	1	0.1%
Hospital admissions	3	0.3%
Emergency room visits	8	0.7%
Restricted activity days (adults)	46	4.2%
Lower respiratory illness in children	14	1.3%
Total Cost (Mortality and Morbidity)	1,103	100%

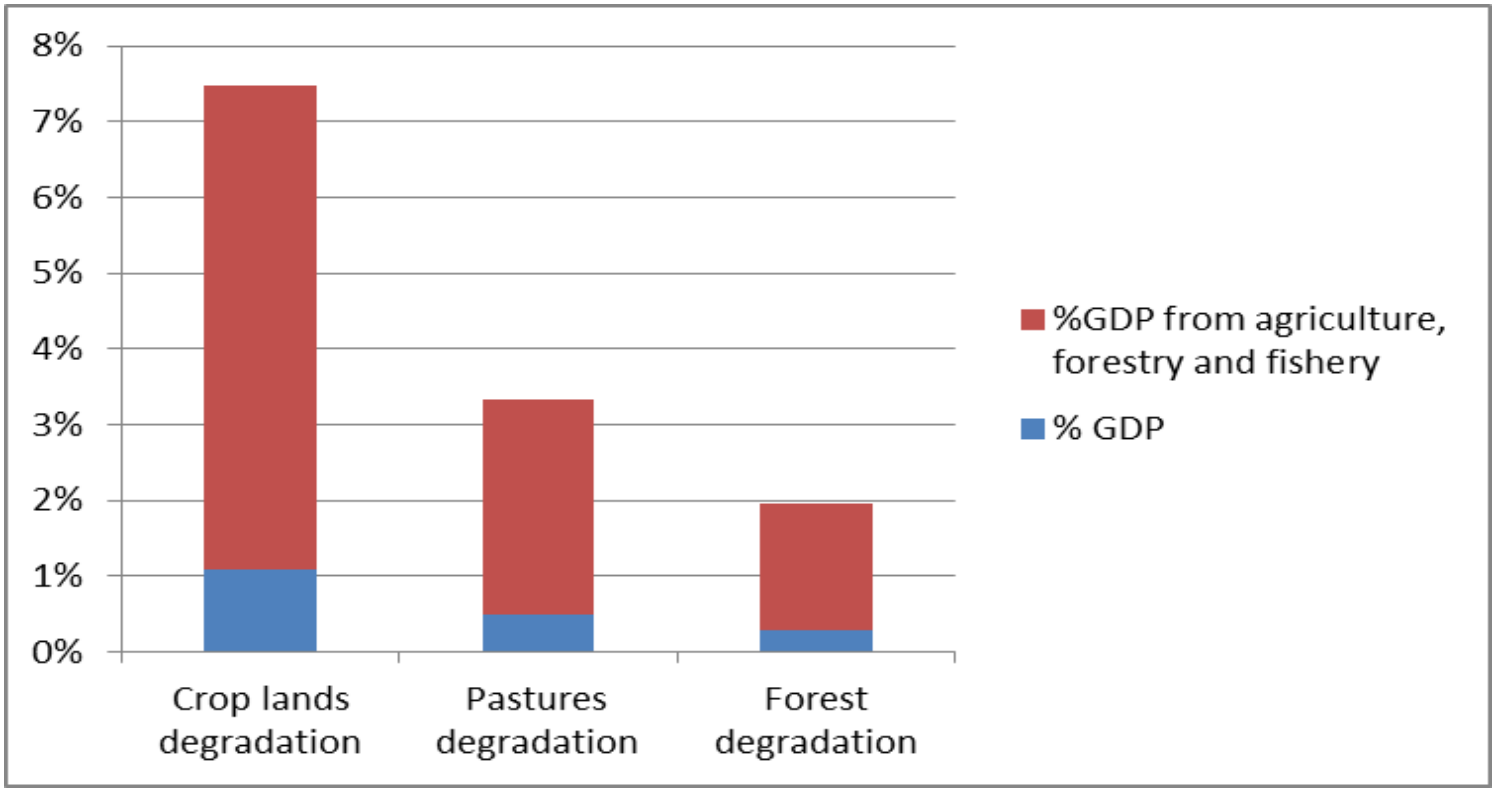
Environmental degradation a major factor in child (Under 5) mortality



Annual Cost of Crop Losses Due to Land Degradation



Natural Resources Degradation and GDP of the Poor



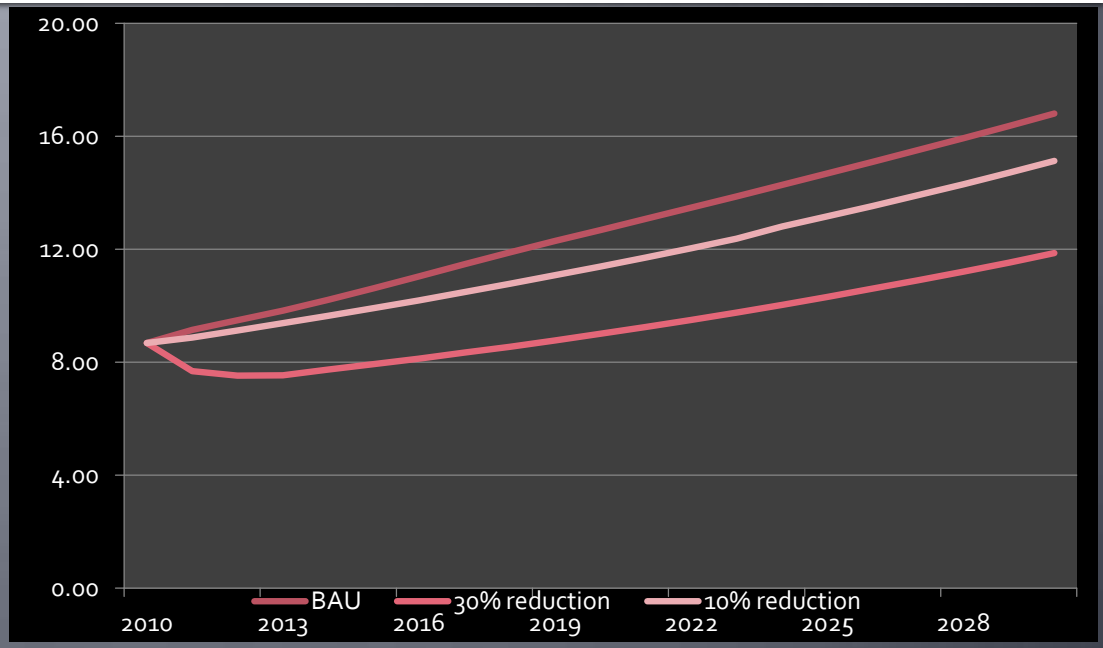
Is Green Growth Affordable?

How much will it cost to reduce particulate emissions?

Business As Usual (BAU): Conventional Growth with existing policies

Scenario 1 : 10% reduction in PM10 emissions in 2030 wrt BAU

Scenario 2 : 30% reduction in PM10 emissions in 2030 wrt BAU



Policy options: Incentivizing technology upgradation through economic instruments, securing efficiency improvements, strengthening enforcement, enhancement of technology and efficiency standards

Findings

	% Loss in GDP wrt BAU in 2030	% Loss in Average Annual GDP Growth wrt BAU
10% reduction in PM10 wrt BAU		
PM10 tax	0.33	0.02
Coal Tax	0.50	0.03
30% reduction on PM10 wrt BAU		
PM10 tax	0.70	0.04
Coal Tax	1.07	0.06

Other Co-Benefits

Savings from Reduced Heath Damages	CO_2 Emission Reduction
10% PM10 reduction (US$ Billion)	
24 – 54	10-20%
30% PM10 reduction (US$ Billion)	
47 – 105	30-60%

Why is Green Growth desirable?

Why is Green Growth desirable?

Economic growth has implications of use of natural capital but its full value is not often factored in the development context.

Given that India is a hotspot of unique biodiversity and ecosystems, it is necessary to have a more structured approach to such valuation to assess trade-offs in the context of rapid growth

There are tools available now to estimate the significant contribution of natural capital in the form of ecosystem services

Valuing Biodiversity and Ecosystem Services

- First ever comprehensive assessment of value of ecosystem services from various biomes across India (Forests, Wetlands, Mangroves, Coral Reefs, Grasslands)
- The values of ecosystem services from the major biomes in India amounts to about 3.0 to 5.0 percent of GDP (13 percent of GDP of the poor)

Key Findings

- Green Growth is necessary: At current rate of degradation, environmental sustainability could become the next major challenge as India surges along its projected growth trajectory
- Green Growth is Affordable: A low-emission, resource-efficient greening of the economy should be possible at a very low cost in terms of GDP growth. It also promises to deliver greater co-benefits
- Green Growth is Measurable: For an environmentally sustainable future, India needs to value its natural resources, and ecosystem services to better inform policy and decision-making

Challenges

- Globalization
- Urbanization
- Climate Change
- Governance
- Poverty

Challenges

- Energy
- Water
- Land

Thank you