



Environmental Economy of India

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ABSTRACT

One of the key environmental problems facing India is that of particle pollution from the combustion of fossil fuels. This has serious health consequences and with the rapid growth in the economy these impacts are increasing. At the same time, economic growth is an imperative and policy makers are concerned about the possibility that pollution reduction measures could reduce growth significantly. Here are the tradeoffs involved in controlling local pollutants such as particles. Using an established Computable General Equilibrium model, it evaluates the impacts of a tax on coal or on emissions of particles such that these instruments result in emission levels that are respectively 10 percent and 30 percent lower than they otherwise would be in 2030. The main findings are as follows: (i) A 10 percent particulate emission reduction results in a lower gross domestic product but the size of the reduction is modest; (ii) losses in gross domestic product from the tax are partly offset by the health gains from lower particle emissions; (iii) the taxes reduce emissions of carbon dioxide by about 590 million tons in 2030 in the case of the 10 percent reduction and 830 million tons in the case of the 30 percent reduction; and (iv) taken together, the carbon dioxide reduction and the health benefits are greater than the loss of gross domestic product in both cases.

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Introduction

India, in the last six years since July 2014, has approved over 270 projects in and around its most protected environments, including biodiversity hotspots and national parks, according to an IndiaSpend analysis.¹ At the same time, the Centre has watered down environmental safeguards, prompting stakeholders to warn that such interference not only imperils habitat and ecosystems but also endangers public health. "India is a potential hotspot for emerging and re-emerging infectious diseases," said Abi Tamim Vanak,² a senior fellow at the Ashoka Trust for Research in Ecology and the Environment (ATREE), and a DBT/Wellcome Trust India Alliance fellow. "[This is] Because we have [a] very high density of people and livestock amidst areas of high biodiversity, and potentially very high rates of interaction amongst these." Vanak co-leads the OneHealth and Zoonoses programme of the recently announced National Mission on Biodiversity and Human Wellbeing. Of these 2,256 approvals, IndiaSpend looked at 2,115 approvals that had been granted until March 2020.³ Of these approvals, we analysed data for 2,053 project proposals; the remaining 62 project proposal details could not be analysed due to missing or vague information⁴. The MoEFCC granted 278 approvals for projects in and immediately around Protected Areas (PAs), according to the IndiaSpend analysis; PAs are places such as wildlife sanctuaries and national parks, where human presence is severely restricted by law. In the Environment Undone series, we will dive into how some of India's infrastructure projects are damaging its environment and how legal safeguards are failing to stem this damage. Reporting from central India's coal mining areas, the 1,600-km long Western Ghats, the rivers of Bundelkhand, and coastal Karnataka, we show how the projects also have little or no benefits for locals, and are also poorly-conceived.⁵ This is the first of a multi-part, data-driven series that explores the environmental, ecological and human cost of India's chosen path of development. "My government firmly believes in the path of sustainable development. We are ensuring that development happens without harming the environment," tweeted Prime Minister Narendra Modi on February 17, 2020.⁶ Modi's NDA government has a poor record of caring for the environment since it came to power in 2014. Modi's first term was punctuated by campaigns that incentivised manufacturing (Make in India) and start-ups (Startup India). Environment Minister Prakash Javadekar has consistently projected a business-friendly image for the MoEFCC, promising to improve the 'ease of doing responsible business' while bringing in faster clearances for businesses in India. Javadekar took additional charge of the ministry for Heavy Industries and Public Enterprises in November 2019.⁷

Discussion

Incorporation of economic freedom as measured by the "Size of Government" in the EKC model is unique. "Size of Government" deserves a special mention. The rationale for including this explanatory variable is to understand whether countries with lower government size are more polluting. After all, theory does suggest that goods and services, which have higher social cost vis-à-vis private cost, shall be overproduced in economies that adopt more market-friendly policies, necessitating government intervention⁸. In the study, size of government is measured as per the definition and methodology adopted by Fraser Institute's Economic Freedom of the World Index. To understand if our environment is detrimental to the economy, we need to understand the economic value of healthy environments. The term used in environmental economics for this value proposition is 'ecosystem services'. Water security is one such ecosystem service.⁹ For example, all rivers in peninsular India have their watersheds in the forests and grasslands located in hilly regions, like the Western Ghats. These forests absorb rain water like huge sponges and release them slowly, through the year. If these forests are gone, rains will result in massive floods that reach the ocean in no time, leaving our rivers dry and the entire agrarian

economy and our food security at risk. In the scenario where our organised economic sectors are looking at the rural economy as the next big growth engine, the implications of this are obvious.¹⁰

Disaster prevention is another key ecosystem service. North Kerala and Coorg in Karnataka showed us how denuded hills cause major floods, resulting in the loss of human lives and property. Without the protective shield of mangroves, cyclones cause heavy damage not just in coastal areas but in the hinterland as well. The disappearance of lakes and marshlands is resulting in intense flooding in most of our cities every monsoon.¹¹

The financial and social cost of mitigating these disasters is significant, with collateral impacts like crop losses. Apart from stretching the scarce fiscal resources of our states, each disaster pushes the affected region a few years behind on the economic timeline, with impairment of productive assets and disposable incomes.¹² This, in turn, impacts the overall growth trajectory. On the positive side, a healthy environment provides diverse benefits like better health and productivity of citizens, improved quality of life for the poor, food and water security, higher per capita incomes, etc. – all of which play a key role in growing sustainably.¹³

That a healthy environment is the backbone of a resilient economy is not an exaggeration. The environment provides a wide range of services that in turn drive long-term economic growth. And this mechanism far outweighs short-term gains that can be derived by overlooking the environment. Importantly, the impact of environmental degradation is far greater on India's poor. This fact prompts the question: Is the value of ecosystem services included in our GDP? The answer is 'no' – and this is a part of the reason why environmental protection is not a policy priority. Models of valuation of ecosystem services are emerging globally, and it would be appropriate to take a bold step towards factoring this in our GDP computations. Critics may point to the issue of double-counting but we certainly can find an answer to this.¹⁴

Results

First, we need a formal land-use policy that protects environmentally fragile areas and designates 'safe' zones for industry. There is no dearth of uncultivated, fallow lands in India outside of ecologically sensitive areas. It should be possible to build a 'land bank' for industry out of these.¹⁵

Second, we should incentivise industry to quickly move to environmentally friendly technologies. This includes activities like power generation, where we should aim for three-fourths of our needs being met by renewable energy sources.¹⁶

Third, we need to start building strong 'green' economic models. Sikkim has already shown the way with a mix of livelihoods like organic farming, fruticulture, eco-tourism, value-added food products, etc. This model can be replicated in all hilly regions. Combined with strengthening traditional agriculture, we have the potential to become value-added food product suppliers to the world. And new options like ecological restoration of degraded areas offer potential to generate very high rural livelihoods and simultaneously help build our natural assets.¹⁷

All of these, in turn, can reinvigorate the economy, be major drivers of the GDP and reduce migration to cities as well. And to achieve all these, we need to start believing that the environment is an ally, a benefactor, of the economy, and develop the conviction to firmly implement environmental norms. One is reminded of an old American-Indian saying: "We do not inherit the Earth from our ancestors, we borrow it from our children." We have a moral obligation to leave for our children an Earth that is healthier than the one we were born into – and economically vibrant as well.¹⁸

Green economy has recently emerged as a key concept on the global sustainable development agenda. Over the last decade, India's rapid growth has created job opportunities and helped improved the standard of living. However, its remarkable growth record is restricted by a degrading environment and depleting natural resources, which has necessitated taking major steps to achieve a green and decarbonized economy. COVID-19 has turned consumers' attention to a greener economy, prompting brands to resort to sustainability by default. Consequently, with the aid of the government and corporations, India must make the transition to a circular economy.¹⁹

Urbanization is a global phenomenon, but it is growing rapidly in developing countries such as India. A United Nations report shows that 60% of the global population would live in urban areas by 2030. Currently, Asia is home to 90% of the world's rural population. However, the region is witnessing an exponential increase in urbanization, and its rate is expected to reach 56% by future. Emerging countries such as India have the potential to transform the economy by harnessing the opportunities offered by urbanization,²⁰ mainly driven by the growing population and accelerated industrialization. However, this growth in urbanization is causing the climate to change drastically. Urban areas are responsible for the increasing levels of air, water and soil pollution. Excessive carbon emissions from cars in cities, spatial congestion caused by the urban sprawl, and groundwater depletion owing to overdevelopment and mismanagement are just some of the negative effects of over urbanization. Increasing population in large Indian cities not only puts a huge burden on the overall infrastructure and management of energy, water and transportation, but also has a hazardous effect on the atmosphere, and climate.²¹

According to the 2020 Environmental Performance Index, countries around the world are ranked based on indicators such as waste management, air quality, biodiversity & habitat, fisheries, ecosystem services, and climate change.²²

Among the top six largest economies, India ranked 169 out of 180 countries, indicating it lags in green growth. Individually, for some of the indicators India's ranking are as follows: Air Quality (179), Sanitation & Drinking Water (139), Waste Management (103), Biodiversity & Habitat (149), Fisheries (36), and Climate Change (106).²³

India's poor performance is a cause for worry, with nearly 1.3 billion people facing serious environmental health risks. India is emerging as the one of the fastest growing economies worldwide. It is currently the sixth largest economy globally by GDP and the third largest economy in Asia. According to IMF, the global economy contracted considerably in 2020 due to COVID-19 but is projected to grow 6.0% in 2021 and 4.9% in 2022 driven by macro recovery. India's GDP grew at a record pace of 20.1% to ₹ 32.38 lakh crore during April-June 2021 compared to the corresponding period last year. The World Bank predicts the Indian economy would advance 8.3% and 7.5% in 2021 and 2022, respectively.²⁴

To meet its development goals, the Indian economy must continue to advance. However, the environmental consequences of growth may be huge as it would severely deplete natural resources such as mineral, water, and fossil fuel, thereby pushing the prices of fuel, energy, and raw materials.²⁵

The extent of green growth in India would depend on its ability to reduce dependence on the resources needed to support economic growth over time, thus improving social equity and creating jobs. Green growth can play a vital role in balancing these priorities. However, managing public debt and fiscal deficits the two main hurdles to national policy making, may obstruct the technological changes required for green growth. Additionally, trade balance would play a major role in macroeconomic

policies.²⁶ Therefore, it is necessary to understand and maximize the development benefits of green growth interventions across key sectors, such as energy, trade, and income.²⁷

Government initiative towards Green Energy

The Ministry of Finance has proposed several initiatives for the environment:

Hydrogen Energy Mission - The initiative involves generating hydrogen from green power sources, which has the potential to transform the transport sector. It would also promote the use of clean fuels in India. The budget emphasis on green hydrogen is consistent with the technological advancement and long-term goal of diminishing reliance on batteries of minerals and rare earth elements for energy storage.²⁸

Public Transport - For the first time, the cabinet has allocated private financing of INR 18,000 crores (USD 2.43 billion) for 20,000 buses, along with innovative financing through public-private partnerships, which would completely alter the way public transport system works in India. The initiative aims to minimize dependence on personal vehicles, and thereby reduce the carbon footprint.²⁹

Deep Ocean Mission - The mission would undertake deep ocean survey and exploration as well as carry out projects that would protect deep sea biodiversity. A budget of over INR 4,000 crore would be allocated within five years for this program.³⁰

Urban Swachh Bharat Mission 2.0 - The government intends to effectively manage waste from construction and demolition activities and bioremediate all inherited landfills, focusing on integrated management of manure, sludge, and sewage treatment; the classification of waste sources; the reduction of disposable plastics; and reduction of air pollution.³¹

Consumer preference for Greener Products

A recent study shows the new generation is aware of sustainable products. Consumers prefer to buy products from companies that emphasize waste reduction, carbon footprint reduction, sustainable packaging, commitment to ethical labor practices, and respect for human rights. The pandemic has further increased people's awareness of the environment.³²

Consumers are now opting for recyclable plastic packaging and fibre-based packaging as they reduce environmental waste. They switch products or services when the company scores low on sustainability values, which presents market opportunities for players to innovate in favour of green products. Several FMCG players have committed themselves to sustainable development and have opted for sustainable packaging materials. In 2020, the world's top 10 consumer products companies (Danone, Coca-Cola, Pepsi, Unilever, L'Oréal, etc.) set an ambitious goal of achieving 100% sustainable packaging by future.³³

Conclusions

We have seen how climate change is affecting the pillars of Indian Economy (Agriculture, livestock, etc.) and why adopting harsh climate policies often meet reluctance (energy economy). Although India is the only G20 nation with a 2 °C compatible emissions, there is no harm for it to adopt an even more stringent approach in reducing climate change. The adoption of more carbon-efficient and resilient policies like National Clean Energy Fund and International Solar Alliance will enable it to climate-proof its future developmental endeavors. This will require the collective efforts of the government and the people. This is possible when people abide by the rules and regulations formed by the government towards reduction of climate change. At the same time, the government also boosts the motivation of

the people via rewards. Recently, the Indian government at the COP26 summit committed to a net zero carbon economy in the near future. The words ‘climate’ and ‘economic-development’ are therefore inevitably and closely linked in India for decades to come.³⁴

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