

# NEWSLETTER

# Aakash

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Newsletter for An Interdisciplinary Study toward Clean Air, Public Health and Sustainable Agriculture: The Case of Crop Residue Burning in North India

## Clean Air and Imagined Sustainability: The case of India

*What does clean air on account of Covid-19 virus induced lockdown hold for environmental sustainability in India?*

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As of April 19, 2020 Covid-19 pandemic has resulted in more than hundred-fifty thousand deaths and about 2.2 million people infections [1]. To suppress the spread of virus, more than 40 countries have enforced mandatory quarantines (popularly referred to as “lockdown”) or non-mandatory recommendations of quarantine, social distancing, closure of certain businesses and gatherings [2]. During a lockdown, a partial or complete suspension of non-emergency services takes place. This suspension of non-emergency services, which include various polluting sources, has produced an unexpected withdrawal of emissions

into environment. At the same time, the public in many polluted cities is experiencing cleaner air quality days. This implies that a third of the global population is experiencing restrictions but also seeing cleaner air. As a researcher of human-environment interaction pertaining to air quality, I am interested in how this co-occurrence may change public perception of environmental sustainability in severely polluted countries like India. The answer to this question would be immensely important for promoting people’s behavioural change and policies that incorporate environmental sustainability. Although survey-based studies would better answer this question, we would like to offer our view based on a compilation from popular news articles. This letter aims to offer some glimpses into how the coronavirus induced lockdown and clean air are shaping public’s imagined sustainability.



*Figure 1 Himalayan Dhauladhar range from a distance of about 200km at Jalandhar, Punjab, India. It was said to be seen for the first time in 30 years. Picture credits from Twitter user @Deewalia*

## Clean air and changed lifestyle during lockdown

National lockdown was initiated on 24 March, 2020 in India. The lockdown approach was first applied in mid-January in China's Wuhan province to enforce "social-distancing" for reducing coronavirus spread. After little over a month into the lockdown, first reports emerged about a visible decrease in nitrogen dioxide over Wuhan, which was observed from European Space Agency's TROPOMI sensor. Similarly, a week into the lockdown in India, various observations emerged on probable air quality improvement due to lockdown of transport and industries. In cities like New Delhi, people started sharing their experience of consecutive blue skies on social media. Some news reports quantifying the reduction in fine particulate matter (PM<sub>2.5</sub>) in both pre and post lockdown periods from various corners of the country also began to appear. These reports showed a decrease of 20%-50% in cities, most notably for cities in Indo-Gangetic plains. In addition, the public imagination was captured when an interesting observation made in Jalandhar city, Punjab, showed up. Over there, previously hidden Himalayan Dhauladhar range could now be seen for the first time in 30 years. This "blue sky experience" has convinced the public that lockdown resulted in clean skies in Indian cities.

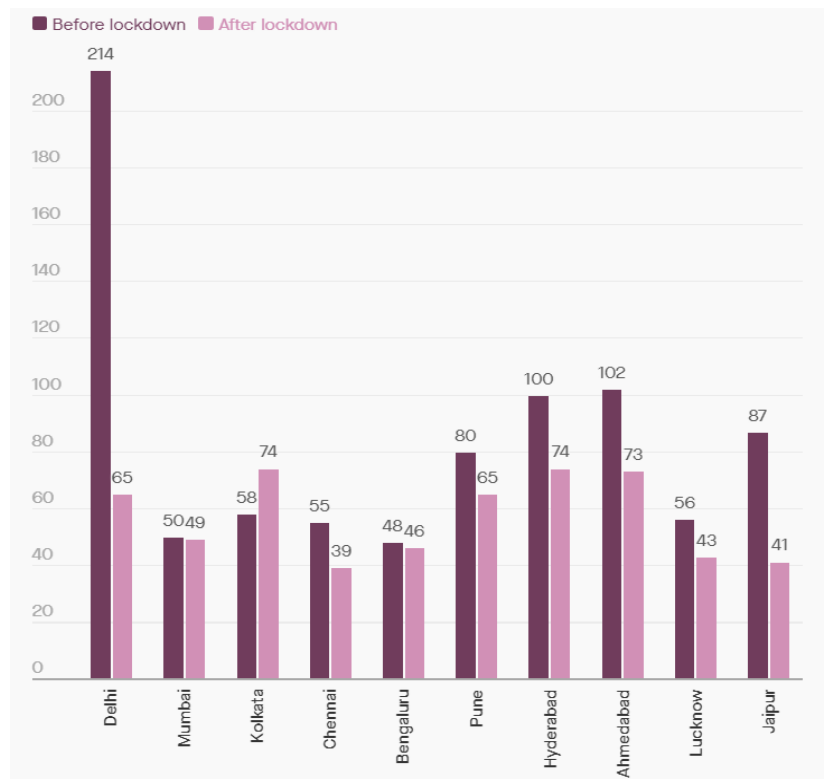


Figure 2 Decrease in air quality index pre-lockdown (March 22) and during lockdown (March 29) in Indian cities. Reproduced from [3].

At the same time, there are indications that adaptations to the pandemic at the level of daily lifestyle may translate to future behavioural change. For instance, masks are not commonly worn by Indian public possibly due to the feeling of social awkwardness and claustrophobia associated with them [6]. Even during extreme air pollution episodes, wearing a mask is limited to only those who are gravely conscious of the effects of pollutants. Currently as masks have emerged as an important tool for self-defence against the virus spread, there is now a wider adoption of wearing masks. People are strongly encouraged to wear masks with some municipalities even punishing those who are not wearing them [7]. Lockdown's economic costs are being paid for by the government, industries and the general populace, including those people who are outside the social security net. Some industries are adopting telework to survive the lockdown-induced employment loss. It is becoming clear to them that teleworking would save costs for renting office space, air-conditioning, etc. and allow mothers to be part of the workforce. Similarly, the Indian government has expanded the features of National Agricultural Market web-platform (e-NAM) as a response to the rural lockdown. It now allows remote bidding, and e-payment for farmers' produce so that the farmers do not need to physically visit market or banks. These decisions are not only helping in surviving through the coronavirus but they are also beneficial for air quality as they lead to a lower travel and energy related emissions of pollutants.

### How long will it sustain?

However, questions loom regarding the efficacy of lockdown in cleaning the environment. It has been pointed out that the optimum level of emission from the traffic cannot and should not be considered as zero since trucks supplying essential food supplies, medical vehicles as well as law and order vehicles are plying through the city. Residential emissions from biomass-fuel combustion, large contributor to urban air pollution, remain active and it is unlikely that the lockdown would significantly reduce them. The lack of enforcement of environmental management regulatory protocols during the lockdown might give industries

like steel and mining a free hand to pollute without any watchdog. Furthermore, as the fossil fuel industry is the only industry that can provide energy and materials that are needed immediately, environmental regulations are being relaxed in US [4] and China [5] to restart economic growth. Thus, any gains in clean air on account of low emissions are to be short-lived.

Social responses to the policy interventions during the virus spread potentially point to the need for a more serious embracing of a broader idea of sustainability. In 1983, Benedict Anderson came up with the notion of “imagined community”, in which any large community could be “imagined” by the people who perceive themselves as part of that group. The concept can be invoked to describe the emergence of an “imagined sustainability”, within which people share a mainstream perception of sustainability without necessarily realizing it. According to this perception economic growth always adversely affects environmental health. This was evident during the clean air episodes when social environmentalists urged the government to heed this “wake-up call” to stop “obsession” with “(economic) development at the cost of environment”. This is an imagined sustainability invoked specifically by the virus spread. Such an interpretation can be naïve, and does not serve well for a full sharing of a sense of sustainability beyond the short-term behavioural change. We need a wider appreciation and elaboration of a variety of eco-economic decoupling strategies, including the one that promotes economic growth without corresponding increase in environmental pressures. These strategies often incorporate environmental accounting into economic growth. Concepts, such as quality of living, green growth and inclusive wealth are examples of such strategies.

The current clean air is unequivocally incidental to policy enabled national lockdown. However, it has offered two encounters which may have a bearing on subsequent public perception. First, the short “blue sky experience” may offer a vision for future policies to adopt technologies which decouple economic growth and air pollution. Second, the temporary public behavioural change may lead to greater concern for public health. The strong willpower of governance and public engagement is clearly being demonstrated during the current national lockdown in India. It remains to be seen how the same willpower can be exercised to invest in green growth. In a recent op-ed [8], the former President of Indian Academy of Science made an apt summary in context of India’s war on Covid-19 which remains true for environmental sustainability as well: we need “detection, protection, prevention, prescription and, last but not least, ... participation”.

-- Postscript--

As a technical note we may add that concentrations of pollutant are determined not only by the emission but the also the dynamics of regional meteorology. Quantifying the role of the lockdown in air quality improvement is scientifically a challenging question. Currently our team at Aakash is investigating this using our original surface data from PM2.5 monitors installed in Delhi and satellite datasets.

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