

# The Environmental Silver Lining: How COVID-19 Transformed India

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## Abstract

This article explores the environmental impact of COVID-19 and how the crisis has changed our country and our relationship with the environment. It emphasises the temporary but significant ecological changes and examines the potential for sustainable practices to maintain these benefits after the pandemic. The findings stress the importance of integrating environmental considerations into policy planning. They also suggest that the lessons learned from this period could lead to a more resilient and ecologically balanced future for India.

**Keywords:** COVID-19, Environment, Pollution, Lockdown, India.

## Introduction

In the aftermath of the COVID-19 pandemic, societies across the globe have struggled with the devastating effects on both human health and economies. However, amidst the chaos and uncertainty, a surprising narrative has emerged: the pandemic has profoundly impacted the environment. Lockdown measures and restrictions have unintentionally led to unprecedented changes in the natural world, from cleaner air to resurging wildlife. Although this silver lining is temporary, it offers a glimpse into a world where human activity has paused, allowing nature to reclaim its spaces.

The COVID-19 pandemic posed unprecedented challenges to nations worldwide, disrupting economies, healthcare systems, and daily life. However, amidst the chaos and uncertainty, a surprising transformation unfolded, revealing an unexpected benefit: a renewed emphasis on environmental sustainability. In India, this crisis period prompted significant changes in how society approached environmental issues, leading to a shift towards more sustainable practices across various sectors.

During the pandemic, industries shut down, and human activity was reduced, improving air and water quality in India. The lockdowns highlighted the potential for a cleaner environment, raising public awareness and prompting governmental action to promote sustainable living. This crisis emphasised the significance of resilience and self-reliance, encouraging investments in renewable energy, local manufacturing, and sustainable agriculture.

## Air Quality Improvement

Before the COVID-19 pandemic, India encountered substantial difficulties related to air pollution, particularly in its urban areas. Cities such as Delhi, Mumbai, and Kolkata frequently grappled with elevated levels of particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>), as well as pollutants like nitrogen dioxide (NO<sub>2</sub>) and sulphur dioxide (SO<sub>2</sub>). This was primarily attributable to vehicular emissions, industrial operations, construction, and biomass burning.<sup>[1]</sup>

During the nationwide lockdowns imposed to curb the spread of the virus, there was a noticeable improvement in air quality across India. With restricted movement of vehicles, closure of industries, and

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<sup>[1]</sup> Indian Institute of Technology Delhi, "Impact of Lockdown on Air Quality in Major Indian Cities".

reduced human activities, pollution levels dropped significantly. Satellite imagery and ground-level monitoring stations reported a considerable reduction in pollution levels during the lockdown periods. For instance, during the lockdown, air quality in Delhi, one of the world's most polluted cities, significantly improved. The Central Pollution Control Board (CPCB) noted a noteworthy decrease in PM2.5 and PM10 levels compared to the pre-lockdown period. Similar positive changes were also seen in other major cities and industrial areas nationwide.

However, as restrictions eased and economic activities resumed, air pollution levels began to rise again, although not immediately returning to pre-pandemic levels. The challenge now is to maintain the environmental progress achieved during the lockdowns while also jump-starting the economy.

The pandemic has emphasised the urgent need for long-term solutions to address India's air pollution crisis. This includes investing in cleaner technologies, promoting renewable energy sources, implementing stricter emission norms, and adopting sustainable transportation systems. While the temporary improvements in air quality during the lockdowns offer a glimpse of what is possible with concerted efforts, sustained action is essential to ensure lasting improvements in India's air quality and public health.

### Wildlife resurgence in India

During the COVID-19 lockdowns in India, there was a significant increase in wildlife sightings. Many species were spotted in urban and semi-urban areas due to reduced human activity and lower pollution levels. Here are some examples and insights into the wildlife resurgence in India during this period:

#### Examples of Wildlife Resurgence

##### Peacocks and Other Birds

- **Urban Sightings:** Peacocks, usually found in rural areas or on the fringes of forests, were observed freely roaming in cities such as Mumbai and Delhi. Reducing noise pollution and human presence made urban environments more accommodating for these birds.
- **Increase in Birdsong:** People reported hearing birdsong more clearly and frequently with less vehicular traffic and industrial noise. Species like the Indian robin and koels were more noticeable in residential areas.

##### Deer and Other Herbivores

- **Increased Sightings:** Deer species like spotted deer and sambar were spotted venturing into urban areas and highways in states such as Kerala and Uttarakhand. Reduced human interference and traffic encouraged these animals to explore new habitats.

##### Leopards and Big Cats

- **Frequent Sightings:** Leopards, which are mainly active at night and tend to be cautious, have been observed more frequently near human settlements in areas such as Maharashtra and Karnataka. The decrease in human activity has provided these predators with a safer environment for roaming and hunting.

##### Marine Life <sup>[2]</sup>

- **Coastal Revival:** Coastal areas experienced a resurgence in marine life due to a decline in tourism and fishing activities. For example, the beaches of Odisha observed an increase in the number of Olive Ridley turtle hatchlings.
- **Clearer Waters:** The pollution reduction led to clearer water in rivers and coastal areas, making it easier to spot various aquatic species.

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<sup>[2]</sup> Richa Pinto, "Dolphins Return to Mumbai's Shores Amid Lockdown," *Times of India*, April 2020

### Wild Elephants and Other Large Mammals <sup>[3]</sup>

- **Urban Encounters:** Wild elephants were sighted in various towns and cities in states such as Uttarakhand, West Bengal, and Tamil Nadu. These sightings were attributed to the animals venturing into quieter urban areas for food and water.

### Insights and Implications

#### Reduction in Human Disturbance

The primary driver for the resurgence of wildlife was the significant reduction in human activity. Lockdowns meant fewer people in public spaces, less traffic, and a temporary halt to industrial activities, all contributing to a more hospitable environment for wildlife.

#### Temporary Nature of Changes

While the resurgence of wildlife was impressive, it was mostly temporary. As lockdowns were lifted and normal activities resumed, interactions between humans and wildlife returned to pre-pandemic levels, emphasising the necessity for sustainable coexistence strategies.

#### Increased Awareness and Appreciation

The visibility of wildlife during the lockdowns led to increased public awareness and appreciation of biodiversity. Many people experienced the beauty of nature and wildlife in their immediate surroundings, fostering a greater interest in conservation efforts.

#### Policy Implications

The pandemic's temporary resurgence of wildlife highlighted the need for sustainable urban planning and wildlife conservation measures. It offered a chance to reinforce natural habitat protection and reduce human-wildlife conflicts.

### Renewed focus on sustainable practices in India

The COVID-19 pandemic highlighted the importance of sustainable practices worldwide, including in India. The disruption caused by the pandemic led to a renewed focus on sustainability, as various stakeholders recognised the interconnections between human health, environmental health, and economic resilience. The COVID-19 pandemic prompted a re-evaluation of sustainability practices across various sectors in India. The lockdowns and the subsequent economic slowdown emphasised the need for sustainable development and the importance of integrating environmental considerations into policy and business practices.

### Key Developments

#### Government Initiatives:

The Indian government launched several initiatives to promote sustainable development. One such initiative is the "Garib Kalyan Rojgar Abhiyaan," which was launched in June 2020. It aims to create employment opportunities for migrant workers in rural areas through projects such as water conservation, afforestation, and rural infrastructure development. <sup>[4]</sup>

#### Renewable Energy:

- There was a significant push towards renewable energy sources. The Ministry of New and Renewable Energy (MNRE) continued to promote solar, wind, and bioenergy projects. India reaffirmed its commitment to achieving 175 GW of renewable energy capacity by 2022. <sup>[5]</sup>

<sup>[3]</sup> Ananda Banerjee, "Elephants Reclaim Forests and Roads in Uttarakhand," *Mongabay India*, May 2020.

<sup>[4]</sup> <https://rural.gov.in/en/press-release/programmes-garib-kalyan-rojgar-abhiyan>. Visited on 5<sup>th</sup> July 2024.

<sup>[5]</sup> "MNRE Annual Report 2020-21," Ministry of New and Renewable Energy, Government of India.

- The pandemic has sped up the implementation of rooftop solar installations and decentralised renewable energy solutions, particularly in rural areas. <sup>[6]</sup>

#### **Sustainable Agriculture:**

- The pandemic has highlighted the significance of sustainable agricultural practices. Efforts to encourage organic farming, conservation agriculture, and water-efficient irrigation methods have gained momentum. <sup>[7]</sup>
- The Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) aimed at improving water use efficiency in agriculture and saw renewed focus and implementation during this period. <sup>[8]</sup>

#### **Urban Planning and Green Spaces:**

- The lockdowns highlighted the need for better urban planning and the importance of green spaces in cities. Initiatives to create more parks, urban forests, and green corridors in cities like Delhi, Mumbai, and Bangalore gained momentum. <sup>[9]</sup>
- The Smart Cities Mission included components focused on sustainable urban development, such as promoting non-motorized transport and improving waste management systems. <sup>[10]</sup>

#### **Challenges and caveats**

During the COVID-19 pandemic, India faced numerous challenges and difficulties that complicated its response to the crisis and impacted various aspects of society, the economy, and governance. Some of the major challenges included:

#### **Healthcare System Strain:** <sup>[11]</sup>

- **Overburdened Healthcare Infrastructure:** The healthcare system faced challenges due to insufficient infrastructure, including a lack of hospital beds, ventilators, and medical supplies.
- **Lack of Medical Personnel:** There was a significant shortage of healthcare workers, exacerbated by the high infection rates among medical staff.
- **Access to Healthcare:** Rural areas and underprivileged communities have significant difficulties in accessing healthcare services.

#### **Economic Impact:** <sup>[12]</sup>

- **Job Losses and Unemployment:** The lockdowns and economic slowdown resulted in significant job losses, particularly in the informal sector, which makes up a large part of the Indian economy.
- **Poverty and Inequality:** The pandemic exacerbated existing inequalities, with vulnerable populations such as migrant workers, daily wage labourers, and low-income families being hit the hardest.
- **Business Closures:** A large number of small and medium enterprises (SMEs) encountered financial challenges, which resulted in closures and bankruptcies.

#### **Supply Chain Disruptions:** <sup>[13]</sup>

- **Food Supply Chains:** Lockdowns and transportation restrictions disrupted the food supply chain, leading to shortages and increased prices of essential items.
- **Medical Supplies:** There were significant challenges in procuring and distributing medical supplies, including PPE, testing kits, and vaccines.

<sup>[6]</sup> Impact of COVID-19 on Rooftop Solar Adoption," Bridge to India, August 2020.

<sup>[7]</sup> "Sustainable Agriculture in India: Challenges and Opportunities," International Journal of Agriculture and Food Science Technology, 2020.

<sup>[8]</sup> "Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)," Department of Agriculture, Cooperation & Farmers Welfare, Government of India.

<sup>[9]</sup> "Urban Green Spaces and COVID-19: The Indian Context," Urban Studies Journal, 2020.

<sup>[10]</sup> "Smart Cities Mission: Sustainable Urban Development," Ministry of Housing and Urban Affairs, Government of India

<sup>[11]</sup> Vikas Dandekar, "India's Health System Struggles Under COVID-19 Surge," *The Economic Times*, April 2020

<sup>[12]</sup> Raghav Bahl, "Impact of COVID-19 on Key Sectors," *Bloomberg Quint*, July 2020

<sup>[13]</sup> Kirtika Suneja, "Supply Chain Disruptions Amid COVID-19," *Economic Times*, April 2020.

**Social and Psychological Impact:**

- **Mental Health Issues:** The pandemic and the associated lockdowns resulted in increased mental health issues, such as anxiety, depression, and stress. <sup>[14]</sup>
- **Social Isolation:** The long isolation and social distancing measures have impacted social cohesion and community support systems. <sup>[15]</sup>

**Environmental Impact:** <sup>[16]</sup>

- **Waste Management:** The increased usage of disposable masks, gloves, and other PPE has raised environmental concerns regarding waste management.
- **Industrial Pollution:** As industries resumed operations, there was a risk of increased pollution levels.

**Conclusion**

As we navigate the aftermath of the pandemic, there are valuable lessons to be learned from its environmental impact. The pandemic has underscored the interdependence of human health, economic prosperity, and environmental sustainability. It has emphasised the urgency of addressing systemic vulnerabilities and promoting inclusive, equitable solutions to environmental challenges. While the pandemic has caused unprecedented disruptions to lives and livelihoods, it has also offered a glimpse of a more sustainable future. The environmental changes observed during the pandemic have highlighted the potential for transformative action to mitigate climate change, protect biodiversity, and enhance resilience. As we emerge from this crisis, let's remember our lessons and work towards creating a world where human well-being and planetary health are intricately intertwined.

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<sup>[14]</sup> Shubhangi Misra, "Mental Health Crisis During Pandemic," *The Print*, May 2020.

<sup>[15]</sup> Priyanka Pulla, "Lack of Mental Health Services in India," *Nature*, July 2020.

<sup>[16]</sup> Nihar Gokhale, "Environmental Rollbacks Amid Pandemic," *Mongabay India*, July 2020