

# Legal and Environmental Implications of COVID-19 Outbreak in India

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## Abstract

The present work is an attempt to look at the legal and environmental implications of coronavirus disease-2019 outbreak in India. It looks at both sides of this tragedy focusing specifically on the environmental and legal aspects in the Indian context. However, the article does not refrain from discussing examples of other countries or some global aspects if necessary.

**Keywords:** Coronavirus disease-2019, environment, law, pandemic, SARS-CoV-2

## INTRODUCTION

Human civilization has faced many tragedies since its beginning. These man-made and natural tragedies have tested the human survival several times and have been playing an important role in shaping almost every aspects of human existence. Whether it be a natural calamity such as draught and epidemic or a human created challenge like the two world wars, Hiroshima-Nagasaki bombing, all have affected every section of human society globally or at least at the national and international levels. These have made human realize the mediocrity of his existence on this planet by affecting him in expected as well as unexpected ways. Recent happenings of spread of coronavirus disease-2019 (COVID-19) at the global level have been the example of such tragedies and have again made human to recall that he cannot play God.

This pandemic caused due to coronavirus (SARS-CoV-2) was first reported in December 2019 in Wuhan, in Hubei province of China and spread to more than 180 other countries and territories.<sup>[1]</sup> As reported on 25<sup>th</sup> April 2020, there were 2,719,897 confirmed cases around the world with about 187,705 deaths reported.<sup>[1]</sup> It has put huge pressure on many economies and has affected the poor as well as rich, weak and powerful, old and young, along with changing international relations, disrupting world economy, shortage of resources, and many more small and big issues to count. However, the ill effects of this pandemic represent only one side of the coin.

There have also been certain beneficial effects associated with this disaster, which have been taking place as apparent and non-apparent effects.

## CORONAVIRUS DISEASE-2019 OUTBREAK: DIRECT EFFECTS

The COVID-19 is a pandemic which affected many people worldwide irrespective of their age, sex, and race. The number is still increasing in many countries. For a few, it only brought symptoms such as dry cough, high fever, and weakness, but for many it proved fatal. It is expected that many people may not even know that they had SARS-CoV-2 infection, and they just recovered but for some, it posed serious threat to life with symptoms such as fibrosis of lungs, difficult breathing, and other serious health issues. The mortality rate is low for young people, but mortality rate for people aged 20–29 years infected with COVID-19 is 33 times higher than that from seasonal influenza.<sup>[2]</sup> It has been suggested that it proved more dangerous for children below 6 years of age and people above

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60 years of age because these groups have under-developed and declining immunity, respectively. People having other health conditions such as high blood pressure, diabetes, and cardiovascular problems have also been at greater risk of losing life upon getting SARS-CoV-2 infection. According to recent studies, the chance of survival is nearly 95% in the absence of comorbid conditions, but it gets considerably decreased if the patient has other health conditions and continues to decrease with increasing age beyond 60 years.<sup>[3,4]</sup> India has also suffered due to this pandemic and condition here is no different. As per the European CDC, the 1<sup>st</sup> case in India was reported on January 29, 2020.<sup>[5]</sup> The number remained 3 till February 29, 2020, but by March 28, 2020, the number of cases rose to 979 and by April 26, 2020, the number reached to over 26,000<sup>[5]</sup> [Figure 1]. According to European CDC, the 1<sup>st</sup> death due to COVID-19 in India was reported on March 13, 2020 and the total number of deaths reported till April 26, 2020 here was 824<sup>[5]</sup> [Figure 2]. In order to restrict the spread of this disease and to avoid its reaching the 3<sup>rd</sup> stage (community stage), complete national lockdown was enforced from March 25, 2020, to April 15, 2020, in India. The lockdown was extended from April 15, 2020, to May 3,

2020. This disease led to the disruption of many families and created an atmosphere of threat, fear, and rumors for people in general. All these fatalities, fear, and lockdown comprise the direct effects of COVID-19 pandemic.

### CORONAVIRUS DISEASE-2019 OUTBREAK: INDIRECT EFFECTS

In addition to the direct impact of COVID-19, there are also many indirect effects which are either harmful or beneficial in some way or the other. These direct and indirect effects are listed in Table 1.

### EFFECTS OF CORONAVIRUS DISEASE-2019: LEGAL ASPECT

To restrict the spread of this pandemic, many legal steps have been taken with immediate effect. These include many sections, articles, and laws mentioned in our constitution. The central and the state governments have exercised their powers to impose various restrictions on public to prevent this disease. As per our Constitution's article 246 which provides the distribution of legislative participants among the state

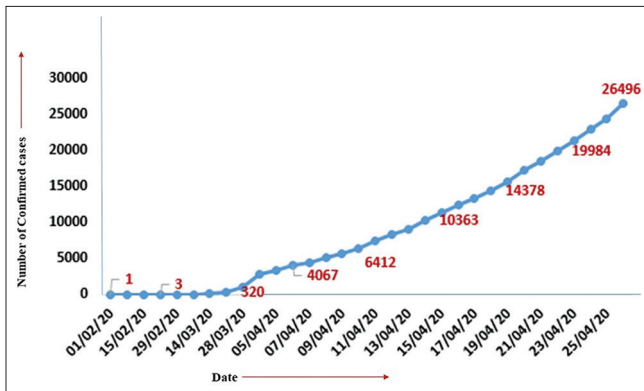


Figure 1: Total number of confirmed coronavirus disease-2019 cases in India

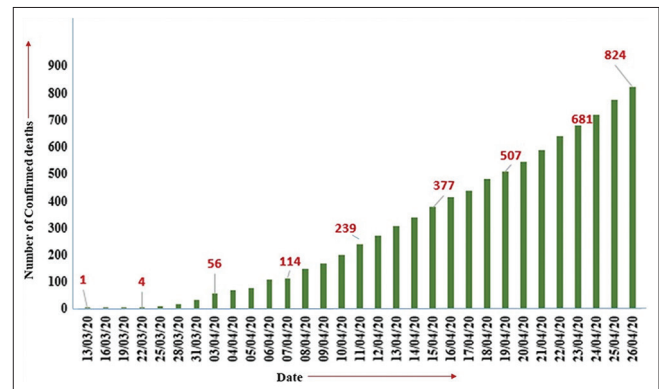


Figure 2: Total number of deaths due to coronavirus disease-2019 in India

Table 1: Some indirect and direct effects of coronavirus disease-19 outbreak

Cause	Effect
Infection	Deaths, economic loss to all sections of society, family life disturbance and disruption, fear, rumors, shortage of medical equipment like ventilators, and consumables like sanitizers, masks etc. Pressure on health facilities, Abandonment of pets by many people due to fear of infection, and many more
Lockdown	Black-marketing, hoarding, unavailability of basic items such as vegetables, grocery shops, cancellation of trains, buses, air transport, sealing of inter-state and intra-state borders, economic loss due to temporary shutting of shops, private firms, factories, increased poverty and hunger among daily wagers, and poor people, disturbance in daily life of citizens, postponement of many events, university level, college level and school level exams, and loss in academics for students. Restriction of spread of infection, decrease in pollution, improvement of environmental indices such as air quality, etc., decrease in crimes (Example: In Delhi, a 44% decrease in crimes has been reported as per a news report) <sup>[6]</sup>
Social distancing	Disturbance in social life of people, cancellation of programs organized at temples, mosques, marriages, people being unable to attend funerals of their relatives, drastic decrease in number of tourists visiting a tourist place, loss to film industry due to shutting down of multiplexes and single theaters, feeling of loneliness, boredom and frustration among people that affects their mental health, loss of availability of food for stray animals Restriction of spread of disease
Isolation/quarantine	Feeling of loneliness, boredom and frustration among people that affects their mental health, constant fear of being infected, staying away from loved ones, depression, and anxiety Restriction of spread of disease, identification of infected individuals at early stage to support them medically

and central governments, the state government is actually empowered to look in to the matters related to public health and order but according to entry 29 of concurrent list, both state and central governments have the power to legislate on matters related to the prevention of an infectious disease spreading from one state to the other.<sup>[7]</sup> In order to contain the spread of COVID-19, Prime Minister Shri Narendra Modi declared “Janta Curfew” on March 22, 2020 and he later called for a nation-wide lockdown from March 25, 2020, to April 14, 2020. The Home ministry directed the other departments of Government of India, state and union territory governments as per section 6 (2) (i) of Disaster Management Act (2005), to enforce measures laid down in the central government order such as restriction on the movement of citizens out of their homes, closing of shops, offices, factories, firms except those of essential goods and services. Furthermore, the movement of private vehicles has been prohibited except for emergency situations. Trains, flights, hotel bookings, sports, and other events have been cancelled for the same reason. Section 144 CrPC was imposed to enable social distancing and to break the continuous chain of COVID-19 infection and spread.

Another section 188 of Indian Penal Code (IPC) which is related to disobey of public servant’s lawful order, directives were issued in many states to prevent the violation of mandatory quarantine. People have been allowed to come out of their homes only for permitted activities along with the strict observation of social distancing. Violation of section 188 would lead to 1 month jail and Rs. 200 fine or both. Further, if disobedience causes danger to human health, life or safety, the violator could be punished for 6 months jail term and Rs. 1000 fine or both.<sup>[8]</sup> Furthermore, sections 269, 270, and 271 of the IPC have been imposed. Negligent act known to be likely to spread the infection of a disease dangerous to life by any person is booked under section 269 while doing so malignantly is included under section 270 of the IPC, and it may cause imprisonment of 2 years or fine or both. According to section 271, a person is booked if he knowingly disobeys any quarantine rule bringing an imprisonment for 6 months or fine or both.<sup>[9]</sup>

There have been debates whether this pandemic be considered as a *force majeure* event which is a clause that protects those parties who have been rendered unable to fulfil their commitment according to the terms and conditions of the contract due to the event. Since, due to this pandemic, there is shortage of workforce, raw material supplies, prohibition on movement, and many other hindering factors due to which timely performance of the job to be done as per the contracts made is difficult. According to the office memorandum issued by the Government of India on February 19, 2020, *force majeure* is characterized as a natural calamity and this clause does not excuse a party’s nonperformance entirely but only suspends it for a duration of the *force majeure*.<sup>[10]</sup> It also tells about mitigation of the event where there is delay in the performance in part or in the whole of the obligation during the force majeure event for more than 90 days, the parties

can opt to terminate the contract without financial worry from either side.<sup>[10]</sup> There is actually no clear interpretation of *force majeure* event which can help identification of this pandemic as one of the categories of *force majeure* clause. The parties should therefore consider and opt what is best for them during this crisis. Furthermore, conditions of the contracts and agreements will get priority under this condition.<sup>[10]</sup>

The central government also requested Supreme Court for a blanket order to prevent news outlets from publishing any news related to COVID-19 without government clearance. They seek such an order to avoid panic due to fake and inaccurate reporting in the country. This request was, however, denied by the Supreme Court.<sup>[11]</sup> Union Home Minister Shri Amit Shah has directed the authorities to take the steps with support of the state governments to prevent black marketing and hoarding of different commodities during the nation-wide lockdown.<sup>[12]</sup> Furthermore, the center has invoked the various clauses under disaster management act to make sure regulation of prices of medicines. The National Pharmaceutical Pricing Authority is directed to monitor the prices of hand sanitizers, protective masks, gloves to prevent hoarding, and black-marketing.<sup>[13]</sup> In this way, many laws and rules have come in to effect since the beginning of this pandemic in India to contain it and to make sure that the public does not suffer any shortage of essential goods and services.

Apart from these legal actions to contain the spread of COVID-19, the central and state administration had to face many other challenges where law and order needed to be maintained and enforced strictly. In order to keep people in their homes, the police forces had to take strict actions and many people were actually beaten up and harassed. Furthermore, the police used various tactics such as shaming and embarrassing the violators to make people follow the lockdown. Eventually, there were cases in which the public turned out violent and attacked the police. A recent example of such incident was the brutal chopping off of the hand of an ASI in Patiala, Punjab, when they were asked for curfew passes. Seven people, including 5 who were allegedly participating in the attack, were arrested for the attack on police.<sup>[14]</sup> There were also instances of violent attack by public on health-care workers and doctors who visited them for their health check-up in relation to COVID-19 infection. Stone pelting and beating incidents were reported in many cases. The central government thus brought an ordinance, amending the old epidemic act on April 22, 2020, under which any person attacking a health worker who is treating COVID-19 cases may be jailed for a maximum 7 years.<sup>[15]</sup> Union minister Prakash Javdekar said in a press conference that this ordinance is brought in to protect health workers and corona warriors and under this law, such an attack is considered a cognizable and nonbailable offence.<sup>[15]</sup>

As mentioned in Table 1, there have been reports of a 44% decrease in crime in Delhi, but there have been many reports from the different parts of the country where the cases of domestic violence and child abuse were found to increase.

This is proved by the fact that about 92000 calls were received on child helpline numbers across the country during the first 11 days of the lockdown and to attend to this issue an NGO has filed a petition in Delhi High Court.<sup>[16]</sup> Some cases of suicides were also reported in Maharashtra,<sup>[17,18]</sup> Noida,<sup>[19]</sup> where corona-infected patients and even suspects have committed suicide.

## EFFECTS OF CORONAVIRUS DISEASE-2019: ENVIRONMENTAL ASPECT

### Improvement in air and water quality Evidences from news reports

Human existence on earth depends completely on nature. Human has, however, over-exploited nature and by pushing things too far, increasingly negative effects are faced. The major cause for COVID-19 to occur was the consumption of wild animals such as bats, which carry these viruses. COVID-19 is thus a zoonosis (a disease carried to human from animals) that is now threatening our economy, health and well-being and also ecosystem integrity. According to the UNEP's Frontiers 2016 report on emerging issues of environment concern, emerging diseases in the last two decades have direct cost of more than 100 billion US dollars and with this outbreak, the cost will be further increased.

Apart from all the economic losses and other harmful effects of COVID-19, there are some beneficial environmental implications of this pandemic as well. Due to the lockdown, there is an overall decrease in air pollution in many parts of the world. Recently Marshall Burke (March 2020), the Environmental resource economist from Stanford University, suggested that lives saved locally from reduction of pollution in China due to lockdown exceed deaths that occurred due to COVID-19 there.<sup>[20]</sup> According to his calculations, the 2 months of reduced pollution there has saved 4000 children under 5 years of age and about 73,000 adults exceeding 70 years and this total number of saved lives is significantly higher than the current global death toll from the virus itself.<sup>[20]</sup> Considering the Indian scenario, there have been the reports of better air quality in many industrially developed cities. Strict traveling restrictions and shutting down of all avoidable and nonessential activities have decreased the nitrogen oxide levels all over India. As per System of Air Quality and Weather Forecasting and Research, the levels of nitrogen oxide produced from fuel combustion have gone down by nearly 45% in Pune and Mumbai and by about 50% in Ahmedabad since March 5, 2020 in comparison to the levels observed in year 2018 and 2019.<sup>[21]</sup> In case of Delhi, however, no such significant changes have been seen but the particulate matter 2.5 (PM2.5) have been showing a tendency to reduce.<sup>[21]</sup> Eventually, Delhi also observed a "satisfactory" air quality (AQI: Air quality index: 92; satisfactory range of AQI: 51–100) on March 23, 2020 due to the combined effect of lockdown and good weather conditions.<sup>[21]</sup> This impact has been brought about due to decline in the number of vehicles running on road along with

minimum or no operation of factories and industrial units. In addition to accepting the localized improvement in quality of air, the World Meteorological Organization stated that actually it is too early to assess the implications for green-house gases which determine the direction of climate change in the long term.<sup>[21]</sup> Another example of improvement in air quality and decrease in air pollution came from Jalandhar, Punjab, when Dhaulandhar mountain range of Himachal Pradesh became visible from there due to clean air and no pollution.<sup>[22]</sup> Not only air, but water-quality also seems to improve due to lockdown. For instance, the Yamuna river water has become clearer and fuller than before. Since last 1 month, there have been the reports of Yamuna river bed getting under water and return of birds behind Taj Mahal, Agra.<sup>[23]</sup> It is supposed that due to the lockdown due to COVID-19, industries in Delhi and Haryana are not drawing water from the river and there have been some rainfall at times which have raised the water level of this river.<sup>[23]</sup> The pollution control board officers, social organizations, and others have been crediting the lockdown for cleaner Yamuna water.<sup>[24]</sup> Water polluting activities such as industrial affluent discharge in the river, bathing, throwing flowers, and worshipping items have come to a halt leading to gradual cleaning of Yamuna waters.<sup>[24]</sup>

### Is coronavirus disease-2019 outbreak the prime reason behind changes in the behavioral patterns of certain wild animals?

Wildlife has also begun to show change in its behavior. There have been many reports of wild animals returning to their previous habitats, breeding grounds. According to a news report of the New Indian Express, 4.2 lakh Olive Ridley turtles (an endangered species) have reached the Gahirmatha beach to lay eggs while nearly 3.7 lakh Olive Ridelys turtles have turned up at Rushikulya Rookery in Odisha.<sup>[25]</sup> Some people also associated the visit of Dolphins near Marine Drive, Mumbai, with this lockdown but as per wildlife conservationists, this is not due to the lockdown and the Indian Ocean Humpback Dolphins have been seen frequently there earlier also.<sup>[26]</sup> Not only this, wildlife has started taking over the streets. There are many reports of wild animals freely roaming the streets in many areas. For instance, an Indian civet was spotted roaming the streets in Meppayur in Kozhikode district, wild Sika deer lazing by side of the Coimbatore-Ooty road<sup>[27]</sup> and many more but experts say that attributing these events to COVID-19 outbreak and subsequent lockdown is not right. They opined that sudden reduction in noise pollution, improved water, and air quality due to the lockdown must have positively affected the urban wildlife, but these instances must be happening before the lockdown also. It is just that people have now got the time to observe them and they are looking at these animals with a new-found interest.<sup>[27]</sup>

### Has the lockdown to handle coronavirus disease-2019 spread been a major driving force in ozone healing?

There have been certain trends such as poleward shift in mid latitude jet,<sup>[28,29]</sup> positive trend in the southern annular mode<sup>[28,30]</sup> and others, which have been driven by ozone layer depletion

in Antarctic stratosphere due to emission of ozone-depleting substances, since many years. Banerjee *et al.* have shown in their work that these widely reported trends have paused or slightly reversed around the year 2000, and this pause is not only because of natural variability of the climatic system but due to forced human activities.<sup>[31]</sup> They demonstrated that a major key driver for this change is the Montreal Protocol,<sup>[31]</sup> agreed upon internationally in 1987, which banned the production of ozone-depleting substance. Before the year 2000, the mid-latitude jet stream (a belt of air currents) in the southern hemisphere was slowly shifting toward the south-pole. The Hadley cell (another tropical jet stream responsible for trade winds, hurricanes, and subtropical deserts) was getting wider.<sup>[32]</sup> But both these trends stopped and started getting reversed slightly in year 2000.<sup>[26]</sup> Banerjee *et al.* (2020) suggest it to be the direct effect of recovery of ozone layer.<sup>[31]</sup> Many people look at this change as a direct effect of lockdown in different countries around the globe to avoid COVID-19 spread and a resultant reduction in air pollution. However, this news of ozone recovery is not intrinsically related to COVID-19 outbreak and the eventual halting of harmful industrial practices, but some positive environmental effects have taken place due to world-wide decrease in emission.<sup>[33]</sup> As per World Meteorological Organization, to slowdown the rapid spread of COVID-19, economic activity has been largely limited leading to decline in CO<sub>2</sub> emission.<sup>[33]</sup> However, many scientist cannot say it with confirmation that this change has been due to the lockdown.<sup>[33]</sup> Hence, it can be said that this change has come over a long period of time since Montreal Protocol was adopted and this lockdown due to coronavirus attack may have also contributed to a small extent to ozone healing as it resulted in an overall decrease in the air pollution. Hence, it can be speculated that lockdown in India to handle COVID-19 spread may also have contributed to this positive change (if any); however, there have been no confirmatory reports in this regard.

## CONCLUSION

COVID-19 outbreak is an unfortunate event which has taken many lives all over the world, and it is still proving fatal to many around the globe till completion of writing of this article. It has brought down the economy of many developed and developing countries. It has affected every section of the society in every part of the world. Its unexpected so-called benefits also appear temporary because as soon as the lockdown shall come to an end, people may again attain their age-old behavior that has harmed our environment, wildlife, and other resources. The Indian government and governments in other countries are trying their best to contain this pandemic through the application of laws, prohibitions, etc., but it has proved to be a tough challenge so far. It is therefore necessary for the people to comply and support the government by obeying its orders strictly. The benefits of this lockdown and social distancing can be later harnessed if we, as responsible citizens of our country, exercise some discipline that we have been bound to follow during this period.

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## Conflicts of interest

There are no conflicts of interest.

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