



# IMPACT OF POLLUTION ON COVID-19 – A STUDY

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## ABSTRACT

Pollution is harmful to health of living beings and it is pervaded everywhere. Multiple pollutants are causing disease and epidemics like COVID-19 contributing to a situation where pandemics seriously threatening the health of people, economy and sustainable development. The worsening panic like situation of accelerated spread of COVID cases across the world particularly in pollution shrouded cities, sudden announcement and extensions of lockdowns necessitated the need of the study of the impact of pollution on rapid spread of novel coronavirus. The study employs a qualitative approach to collect the data and it is used to study the relation between the high pollution and pacing novel coronavirus.

**Key words:** Pollution, COVID-19, Novel Coronavirus, Health, Lockdown.

## I. INTRODUCTION

Pollution is the introduction of harmful material contaminants into the natural environment that cause adverse change. It can take the form of chemical substances or energy, such as noise, heat or light. Air pollution, light pollution, littering, noise pollution, plastic pollution, soil contamination, radioactive contamination, thermal pollution, visual pollution, water pollution are considered to be major forms of pollution. Air pollution occurs when harmful or excessive quantities of substances are introduced into earth's atmosphere. Sources of air pollution include gases, particulates, and biological molecules. It may cause diseases, allergies and even death to humans; it may also cause harm to other living organisms such as animals and food crops, and may damage the natural or built environment. Both human activity and natural processes may generate air pollution. The release of chemicals and particulates in to the atmosphere cause air pollution. Any form of pollution that can trace its immediate source to industrial practices is known as industrial pollution. Industrial pollution takes on many faces. Carbon monoxide, sulphur dioxide, chlorofluorocarbons (CFCs) and nitrogen oxides are the common gaseous pollutants produced by industry and motor vehicles. Photochemical ozone and smog are created as

nitrogen oxides and hydrocarbons react to sunlight. They contaminate many sources of drinking water, releases unwanted toxins into the air and reduce the quality of air and soil.

## CAUSES FOR AIR POLLUTION

The important causes like transportation, fuel combustion in thermal power plants, burning of fossil fuels like coal, wood, dry grass, construction activities, and industrial chimney wastes, etc., are responsible for air pollution in India. Besides pollution, changing demographics and socio-economic conditions, unplanned urbanization, environmental degradation, climate change, geological hazards are some of the causes for epidemics and pandemics like COVID-19 contributing to a situation where pandemics seriously threatening the health of population, economy and sustainable development.

## COVID-19

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. A coronavirus is a kind of common virus that causes an infection in your nose, sinuses, or upper throat. Most coronaviruses aren't dangerous. But, COVID-19 is a disease that can cause what doctors call a respiratory tract infection. It can affect the upper respiratory tract including sinuses, nose and throat or lower respiratory tract like windpipe and lungs. It spreads the same way other coronaviruses do, mainly through person-to-person contact. Infections range from mild to serious. A new type of coronavirus, SARS-CoV-2, called COVID-19 was identified by the World Health Organization in early 2020, after a December 2019 outbreak in China. The SARS-CoV-2 is one of seven types of coronavirus, including the ones that cause severe diseases like Middle East respiratory syndrome (MERS) and sudden acute respiratory syndrome (SARS). It is so dangerous that it outbreak quickly spread around the world.

Since the first outbreak of which started in Wuhan, Hubei, China the COVID-19 has spread in accelerated manner and now as on 7<sup>th</sup> May, 2020, it is a horrible pandemic pervaded in more than 227 countries with a total of 3,772,367 confirmed cases out of which 2,255,938 are active cases and 264,189 deaths. The United States of America is experiencing the horrible pandemic with the total cases of 1,261,860 constituting 33.45 per cent of the total cases of 3,772,367 of the worlds. The death cases of the US accounts for 28.26 per cent of the total mortality. India occupies the 14<sup>th</sup> place among 227 coronavirus countries with the total of 53,045 COVID patients and 1,787 deaths accounting 1.41 per cent and 0.68 per cent of total and death cases of the 227 countries respectively.

The first case of the COVID-19 pandemic in India was reported on 30 January 2020 and it has reached the total of 53,045 COVID cases on the 7<sup>th</sup> May, 2020 showing the minimum growth and it is because of the clamping of the lockdown and strictly following by the discipline people of thickly and second most populous country, India.

## **LOCKDOWN**

Lockdown is considered to be one of the best available measures prevent and contain the affect and spread of the novel Coronavirus. This lockdown is a situation in which people are confined to their homes and neither allowed to enter and leave building or area freely not go groups because of the scary, contagious, infectious pandemic. The lockdown process in India began with observation of a 14-hour voluntary public curfew at the instance of the Prime Minister Shri Narendra Modi on 22 March, 2020. The government followed it up with lockdowns in 75 districts and all major cities where in COVID-19 cases had occurred. On 24 March, 2020, the Prime Minister ordered a nationwide lockdown for 21 days and since then the entire 1.3 billion population of India have been obeying the ongoing nationwide extended lockdown. The first phase lockdown for 21 days had originally come into effect on March 25, announced by Prime Minister Shri Narendra Modi and three weeks later on April 14, the second phase lockdown 2.0 extended till May 3. Again, the Central Government clamped additional extension lockdown for a second time, by two weeks as the third phase of the lockdown 3.0 which will be in effect till at least May 17.

## **II. METHODOLOGY**

The unpredictability and repeated extensions of lockdown necessitates the study on the COVID-19 which is considered as the novel Coronavirus pandemic. The prime aim of the study is to focus on the prime causes for the spread of the novel Coronavirus in vulnerable areas with special reference to the impact of pollution on COVID-19. This study utilizes a qualitative approach focusing on obtaining data through open ended and online conversational communication to analyse the impact of pollution on the COVID-19. The study is covering the nationwide lockdown period announced in a bid to control the novel Coronavirus pandemic, COVID affected states and the critically polluted areas. It is hypothesised that there is a possible relationship between infringements of the air pollution limits and the number of cases of COVID infections. It is also presumed that there is a link between long-term exposure to pollution and Covid-19 death rates. The more pollution, the more cases, and the less pollution, the less cases. Fast changing numbers of Coronavirus hour by hour, day by day limits of the validity of the analysis and hence, the data is considered as on 7 May, 2020.

## **III. POLLUTION AND COVID-19**

Air pollution causes diseases and deaths. It triggers non-communicable diseases: cardio-vascular diseases, hypertension, heart-attack, stroke; lung and respiratory diseases; cancers; diabetes; obesity; and cognitive and mental illnesses; among others. In some cases, the air pollution ends up compromising and weakening the human lungs, making the affected more vulnerable to respiratory viruses like the SARS, MERS and now the novel-corona virus, the SARS-CoV-2, which causes Covid-19.

#### IV. DISCUSSION AND ANALYSIS

The COVID-19, found to be a new highly potent and more contagious, has become worrisome world over. It is becoming more dangerous with much higher rate of transmission spreading fast and faster in certain areas in spite of people practicing social distancing. The number of cases of Coronavirus patients which had begun with the reported the first case on 30<sup>th</sup> January, 2020, increased to 519 by 24<sup>th</sup> March and the number augmented in accelerated manner and reached total of 52,952 cases leading 1783 deaths in the country.

The Government of India had drawn up plans and announced a complete nationwide lockdown on 24<sup>th</sup> March starting from midnight for 21 days and extended twice to deal with a worsening of the pandemic in the country. The situation of pandemic is analysed based on the of lockdown periods. The COVID – 19 cases in India during pre-lockdown period are shown in table – 1.

**TABLE – 1: COVID – 19 CASES IN INDIA DURING PRE-LOCKDOWN PERIOD (30<sup>th</sup> JANUARY TO 24<sup>th</sup> MARCH, 2020)**

Date	No. of COVID Cases	No. of Deaths
2020-01-30	1 (N.A.)	0 (N.A.)
⋮	1 (Nil)	
2020-02-02	2 (+100%)	0 (N.A.)
2020-02-03	3 (+50%)	0 (N.A.)
⋮	3 (Nil)	
2020-03-02	5 (+67%)	0 (N.A.)
2020-03-03	6 (+20%)	0 (N.A.)
2020-03-04	28 (+367%)	0 (N.A.)
2020-03-05	30 (+7.1%)	0 (N.A.)
2020-03-06	31 (+3.3%)	0 (N.A.)
2020-03-07	34 (+9.7%)	0 (N.A.)
2020-03-08	39 (+15%)	0 (N.A.)

2020-03-09	44 (+13%)	0 (N.A.)
2020-03-10	50 (+14%)	0 (N.A.)
2020-03-11	60 (+20%)	0 (N.A.)
2020-03-12	74 (+23%)	1 (N.A.)
2020-03-13	81 (+9.5%)	2 (+100%)
2020-03-14	84 (+3.7%)	2 (Nil)
2020-03-15	110 (+31%)	2 (Nil)
2020-03-16	114 (+3.6%)	2 (Nil)
2020-03-17	137 (+20%)	3 (+50%)
2020-03-18	151 (+10%)	3(Nil)
2020-03-19	173 (+15%)	4 (+33%)
2020-03-20	223 (+29%)	4 (Nil)
2020-03-21	315 (+41%)	4 (Nil)
2020-03-22	360 (+14%)	7 (+75%)
2020-03-23	468 (+30%)	9 (+29%)
2020-03-24	519 (+11%)	10 (+11%)

Source: Ministry of Health and Family Welfare, Government of India

( <https://www.mohfw.gov.in/>)

COVID-19 pandemic lockdown in India, Wikipedia.

([https://en.wikipedia.org/wiki/COVID-19\\_pandemic\\_lockdown\\_in\\_India](https://en.wikipedia.org/wiki/COVID-19_pandemic_lockdown_in_India))

Table-1 displays the evolution of coronavirus to India with lone case. The reports say that the intrusion of the coronavirus was happened with the first case in Kerala on 30<sup>th</sup> January, 2020 and then it rose to three cases

by 3 February. On the 4<sup>th</sup> March 28 new cases came to light. On 12<sup>th</sup> March, the first case of death came to light. It was a 76-year-old Saudi Arabia returnee became the first victim of the virus in the country. The pace of the spread of coronavirus picked up and crossed 100 recording 110 cases by the 15<sup>th</sup> March and crossed 500 by 24<sup>th</sup> March with total of 519 cases. The period of the lockdown had begun on 25<sup>th</sup> March, then extended on April 14 and later additional extension has been pushed to May 17. The details of Coronavirus cases reported in India during post-lockdown period are furnished in Table-2.

**TABLE-2**  
**COVID – 19 CASES IN INDIA DURING POST-LOCKDOWN PERIOD**  
**(25 MARCH TO 8 MAY, 2020)**

Date	No. of COVID Cases	No. of Deaths
<b>Lockdown 1.0, 25 March to 14 April ( 21 days)</b>		
2020-03-25	606 (+17%)	10 (=)
2020-03-26	694 (+15%)	16 (+60%)
2020-03-27	834 (+20%)	19 (+19%)
2020-03-28	918 (+10%)	19 (=)
2020-03-29	1,024 (+12%)	27 (+42%)
2020-03-30	1,251 (+22%)	32 (+19%)
2020-03-31	1,397 (+12%)	35 (+9.4%)
2020-04-01	1,834 (+31%)	41 (+17%)
2020-04-02	2,069 (+13%)	53 (+29%)
2020-04-03	2,547 (+23%)	62 (+17%)
2020-04-04	3,072 (+21%)	75 (+21%)
2020-04-05	3,577 (+16%)	83 (+11%)
2020-04-06	4,281 (+20%)	111 (+34%)

2020-04-07	4,789 (+12%)	124 (+12%)
2020-04-08	5,274 (+10%)	149 (+20%)
2020-04-09	5,865 (+11%)	169 (+13%)
2020-04-10	6,761 (+15%)	206 (+22%)
2020-04-11	7,529 (+11%)	242 (+17%)
2020-04-12	8,447 (+12%)	273 (+13%)
2020-04-13	9,352 (+11%)	324 (+19%)
2020-04-14	10,815 (+16%)	353 (+9%)
<b>Lockdown 2.0, 15 April to 3 May (19 days)</b>		
2020-04-15	11,933 (+10%)	392 (+11%)
2020-04-16	12,759 (+6.9%)	420 (+7.1%)
2020-04-17	13,835 (+8.4%)	452 (+7.6%)
2020-04-18	14,792 (+6.9%)	488 (+8%)
2020-04-19	16,116 (+9%)	519 (+6.4%)
2020-04-20	17,656 (+9.6%)	559 (+7.7%)
2020-04-21	18,985 (+7.5%)	603 (+7.9%)
2020-04-22	20,471 (+7.8%)	652 (+8.1%)
2020-04-23	21,700 (+6%)	686 (+5.2%)
2020-04-24	23,452 (+8.1%)	723 (+5.4%)

2020-04-25	24,942 (+6.4%)	779 (+7.7%)
2020-04-26	26,917 (+7.9%)	826 (+6%)
2020-04-27	28,380 (+5.4%)	886 (+7.3%)
2020-04-28	29,974 (+5.6%)	937 (+5.8%)
2020-04-29	31,787 (+6%)	1,008 (+7.6%)
2020-04-30	33,610 (+5.7%)	1,075 (+6.6%)
2020-05-01	35,365 (+5.2%)	1,152 (+7.2%)
2020-05-02	37,776 (+6.8%)	1,223 (+6.2%)
2020-05-03	40,263 (+6.6%)	1,306 (+6.8%)
<b>Lockdown 3.0, 4 May to present (scheduled to end on 17 May)</b>		
2020-05-04	42,836 (+6.4%)	1,389 (+6.4%)
2020-05-05	46,711 (+9%)	1,583 (+14%)
2020-05-06	49,391 (+5.7%)	1,694 (+7%)
2020-05-07	52,952 (+7.2)	1,783 (+5.3)

Figures in parenthesis indicate the growth of cases.

Source: Ministry of Health and Family Welfare. Government of India (<https://www.mohfw.gov.in/>)

COVID-19 pandemic lockdown in India, Wikipedia. ([https://en.wikipedia.org/wiki/COVID-19\\_pandemic\\_lockdown\\_in\\_India](https://en.wikipedia.org/wiki/COVID-19_pandemic_lockdown_in_India))

At the beginning of the first lockdown on 25 March, 2020 there was a total of 606 COVID patients and 10 deaths reported. The number crossed 1,000 on 28 March, 5,000 on 7 April and 10,000 on 14 April, at the end of the Lockdown 1.0, the total recorded 10,815 cases. During the Lockdown 2.0, the number of COVID cases crossed 20,000 on 22 April, 30,000 on 29 April and at the end of the lockdown it reached over 40,000 on 3 May. And, on 7 May, the total COVID cases reported to the total of 52,952. The death toll is also rising with the progress of time. There were 10 death cases on 25 March, the day on which the Lockdown 1.0 announced. The

death cases crossed 50 on 1 April, 100 on 5 April, 500 on 19 April and 1,000 on 29 April, 1500 on 5 May and today, on 7 May, 2020 the death toll has reached to 1,783 reflecting the spread growth rate of COVID pandemic.

The COVID – 19 pandemic in India is further studied by state and union territory. Table – 3 shows the state wise total confirmed cases, deaths, recoveries and active cases in India as 8 May, 2020.

**TABLE – 3: COVID PANDEMIC IN INDIA BY STATE AND UNION TERRITORY  
(AS ON 8 MAY, 2020)**

Sl. No.	State/Union Territory	Total cases	Deaths	Recoveries	Active cases
1	Andaman and Nicobar Islands	33	0	32	1
2	Andhra Pradesh	1,777	36	729	1,012
3	Arunachal Pradesh	1	0	1	0
4	Assam	45	1	32	12
5	Bihar	542	4	188	350
6	Chandigarh	120	1	21	98
7	Chhattisgarh	59	0	36	23
8	Dadra and Nagar Haveli and Daman and Diu	1	0	0	1
9	Delhi	5,532	65	1,542	3,925
10	Goa	7	0	7	0
11	Gujarat	6,625	396	1,500	4,729
12	Haryana	594	7	260	327
13	Himachal Pradesh	45	2	38	5
14	Jammu and Kashmir	775	8	322	445
15	Jharkhand	127	3	37	87
16	Karnataka	693	29	354	310
17	Kerala	503	4	469	30
18	Ladakh	41	0	17	24
19	Lakshadweep	0	0	0	0
20	Madhya Pradesh	3138	185	1099	1854
21	Maharashtra	16,758	651	3,094	13,013
22	Manipur	2	0	2	0
23	Meghalaya	12	1	10	1
24	Mizoram	1	0	0	1
25	Nagaland	0	0	0	0
26	Odisha	185	2	61	122
27	Puducherry	9	0	6	3

28	Punjab	1,516	27	135	1,354
29	Rajasthan	3,317	92	1,596	1,629
30	Sikkim	0	0	0	0
31	Tamil Nadu	4,829	35	1,516	3,278
32	Telangana	1,107	29	628	450
33	Tripura	43	0	2	41
34	Uttar Pradesh	2,998	60	1,130	1,808
35	Uttarakhand	61	1	39	21
36	West Bengal	1,456	144	364	948
	Total	52,952	1,783	15,267	35,902

Source: [https://en.wikipedia.org/wiki/COVID-19\\_pandemic\\_in\\_India](https://en.wikipedia.org/wiki/COVID-19_pandemic_in_India)

It can be seen from the table – 3 that out of 36 states and union territories the state Maharashtra is facing the worsening of the pandemic followed by Gujarat and Delhi. The top ten states and bottom ten states in terms of total COVID cases are taken in consideration for discussion. The top worst COVID affected states and the number of critically polluted areas in the respective states in India are shown in table – 4.

**TABLE – 4: TOP TEN HIGHLY COVID AFFECTED STATES AND CRITICALLY POLLUTED AREAS (CPAS)**

Sl. No.	State/Union Territory	Total cases	Deaths	Recoveries	Active cases	No. of Critically Polluted Areas
1	Maharashtra	16,758	651	3,094	13,013	5
2	Gujarat	6,625	396	1,500	4,729	6
3	Delhi	5,532	65	1,542	3,925	1
4	Tamil Nadu	4,829	35	1,516	3,278	4
5	Rajasthan	3,317	92	1,596	1,629	3
6	Madhya Pradesh	3,138	185	1,099	1,854	1
7	Uttar Pradesh	2,998	60	1,130	1,808	6
8	Andhra Pradesh	1,777	36	729	1,012	1
9	Punjab	1,516	27	135	1,354	2
10	West Bengal	1,456	144	364	948	3
	TOTAL	47,946	1,691	12,705	33,550	32

Source: [https://en.wikipedia.org/wiki/COVID-19\\_pandemic\\_in\\_India](https://en.wikipedia.org/wiki/COVID-19_pandemic_in_India)

[http://www.cpcbenvvis.nic.in/industrial\\_pollution.html#](http://www.cpcbenvvis.nic.in/industrial_pollution.html#)

The pursuance of state-wise status of coronavirus cases in India, the first top ten states record the total of 47,946 cases constituting 90.55 per cent of the pandemic concentrated in the country. Maharashtra leads the list,

with the total cases at 16,758, peaks in all terms the deaths of 651, recoveries 3,094 and 13,013 active cases. Gujarat has the second the greatest number of the active cases at 4,729, followed by Delhi with 3,925. Among the top ten, Maharashtra, Gujarat and Delhi states constitute more than half of the country's total COVID cases and total active COVID cases with 54.61 per cent and 60.35 per cent respectively.

The Central Pollution Control Board of India found industrial clusters and identified 43 critically polluted areas with potential impact zones covering 16 states and the CPCB is monitoring ambient air, surface water and ground water quality in the critically polluted areas in India. Surprisingly 43 CPAs as many as 32 CPAs are there in all the top ten COVID worst affected vulnerable states. In Maharashtra there are 5 CPAs and 6 critically polluted areas in Gujarat state. The analysis of the COVID data with the data of the critically polluted areas with potential impact zones deduces that there is some sort of COVID connotation with the pollution. It is further pursued the least COVID affected bottom states and the data is shown in table -5.

**TABLE -5: UNFAVOURABLE COVID VULNERABLE STATES AND CRITICALLY POLLUTED AREAS**

Sl. No.	State/Union Territory	Total cases	Deaths	Recoveries	Active cases	No. of Critically Polluted Areas
1	Lakshadweep	0	0	0	0	0
2	Nagaland	0	0	0	0	0
3	Sikkim	0	0	0	0	0
4	Dadra and Nagar Haveli and Daman and Diu	1	0	0	1	0
5	Arunachal Pradesh	1	0	1	0	0
6	Mizoram	1	0	0	1	0
7	Manipur	2	0	2	0	1
8	Goa	7	0	7	0	0
9	Puducherry	9	0	6	3	0
10	Meghalaya	12	1	10	1	0
	<b>TOTAL</b>	<b>33</b>	<b>1</b>	<b>26</b>	<b>6</b>	<b>1</b>

Source: [https://en.wikipedia.org/wiki/COVID-19\\_pandemic\\_in\\_India](https://en.wikipedia.org/wiki/COVID-19_pandemic_in_India)

It can be observed from table - 5 that the states/UTs of Lakshadweep, Nagaland and Sikkim are COVID free and recorded zero cases. It also depicts that the best bottom ten states recorded only the total of 33 cases out of which 6 are active cases constituting mere 0.062 per cent of the country's total cases of 52,952 and 0.017 per cent of the total active cases of 35,902. The only north-eastern state Manipur is listed under critically polluted areas. It can be once again assumed that there is some relation between pollution and COVID virus.

## AIR QUALITY INDEX

The National Air Quality Index (AQI) in India was launched on 17 September 2014 in New Delhi under the Swachh Bharat Abhiyan by the Environment Minister Shri Prakash Javadekar. The air quality index is composed of 8 pollutants namely PM10, PM2.5, NO2, SO2, CO, O3, NH3, and Pb., and the identified 43 critically polluted areas (CPAS) and potential impact zones in India assessed and monitored by the Central Pollution Control Board (CPCB).

**TABLE – 6: AIR QUALITY INDEX OF TEN STATES**

Sl. No.	State/Union Territory	No. of Critically Polluted Areas	AQI		PM 2.5		PM10	
			24 hr mean	2020 - January mean	24 hr mean	2020 - January mean	24 hr mean	2020 - January mean
1	Maharashtra	5	94	76	51	47.3	58	106
2	Gujarat	6	59	101	36	69	42	157
3	Delhi	1	101	94	58	102	68	142
4	Tamil Nadu	4	36	48	22	47	24	53
5	Rajasthan	3	85	96	51	85	61	146
6	Madhya Pradesh	1	60	283	29	177	30	413
7	Uttar Pradesh	6	177	111	110	128	130	176
8	Andhra Pradesh	1	53	116	16.2	173	46.2	186
9	Punjab	2	43	57	23	43	28	69
10	West Bengal	3	231	86	104		118	126

Source: [https://www.aqi.in/#Realtime\\_big\\_cities](https://www.aqi.in/#Realtime_big_cities)

As per the air quality index data furnished in Table-6 show that the mean of air quality index is moderate to poor, particularly people in West Bengal, Uttar Pradesh and Delhi have been breathing the unhealthy air which may cause people to suffer from respiratory problems. The AQI levels in other states also poor and they are also experiencing respiratory lung problems, asthma and heart diseases besides cancer and skin allergies because of the prolonged breathing of particulate material. Breathing unhealthy air in the fore mentioned ten states might have lowered immunity and caused various respiratory illness such as feeling nauseous, running temperature, cough & cold, etcetera, hypertension, diabetes etc. Similar are the symptoms of COVID-19 such as common symptoms like fever, dry cough, tiredness, etc., and serious symptoms such as difficulty breathing or shortness of breath, chest pain or pressure and loss of speech or movement. The foregoing analysis may say that there is co-relation between high air pollution levels and incidence of COVID-19. The high polluted areas are experiencing high incidence of coronavirus cases because the patients who are already suffering from the lung based respiratory may be highly vulnerable to the COVID and leading to rapid spread over larger critically polluted areas. Out of the ten least affected states/UTs

only one state has only one critically polluted area and as there are no CPAs no pollution monitoring network is present in the nine other states/UTs.

The study supports the assumption that there is a possible relationship between potentially impact zones of air pollution limits and the number of cases of COVID infections. The lockdowns are resulting the lowering of pollution and the cases of COVID infections tend to decline as people are following the safety measures and physical immunity development.

## V. CONCLUSION

It can be concluded that Coronavirus threat is greater in polluted areas and low pollution levels slow the spread of COVID-19. Pollution is causing ailments and ailments are contributing to COVID infection. Those living in critically polluted areas naturally got damaged the ability to fight the infection and spoiled their health are tend to get more at risk from COVID-19. Respiratory diseases, hypertension, cold, cough, sneezing, running temperature, etc., are common in both the cases. Lowering air pollution levels, maintenance of cleanliness, social distancing can help to prevent the deadly COVID instances and contain it from spread and possible future pandemics. People of India are so disciplined and accustomed with the precautions that they have become professionals of social distancing, cleaning up surroundings and environment, the basic investment for a healthier future.

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