ISSN: 2456–5474 RNI No.UPBIL/2016/68367 Vol.-6* Issue-12*January- 2022
Innovation The Research Concept

Effects of Covid-19 on Environment: A Review

Paper id: 15633 Submission: 11/01/2022, Date of Acceptance: 21/01/2022, Date of Publication: 23/01/2022

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Abstract

World Health Organization (WHO) has long called the latest and current SARS-CoV-2 outbreak and spread a pandemic. Tackling and handling of the pandemic is the fundamental duty of mankind and our society as a whole and the smart work technology is proving to be a blessing and helpful in this situation. It is through this work that we aim to spread and increase general and scientific knowledge throughout the world. The pandemic also came with positive environmental news, major environmental problems such as pollution (air, water, and noise) have been reduced to a much greater degree, air and water quality have been cleanest in decades. Nature healed to a much better condition, with flora and fauna thriving.

Keywords: SARS-CoV-2, , Environmental Impacts, flora and fauna.

Introduction

The anomalous outbreak of the SARS-CoV-2 has taken a huge toll on the lives, economy, and social lives of the people all around the globe, the whole world is in a state of panic. “The SARS-CoV-2 (COVID-19) is a respiratory disease originated from Wuhan, China. The pandemic started through zoonosis and soon became transmission from human to human” (Zhou et al. 2020). The virus is identical to SARS and MERS which are from the same virus family.The outbreak of epidemic, which started on 12 December 2019, had caused 2,794 laboratory-confirmed and identified infections including 80 deaths by 26 January 2020. complete genome sequences were obtained from five patients at an early stage of the outbreak of epidemic. The sequences are almost identical and share 79.6% sequence identity to SARS-CoV. . Furthermore, we show that 2019-nCoV is 96% identical at the complete-genome level to a bat coronavirus.” (Zhou et al. 2020). Lockdown has also made a huge psychological and economic impact on society. On the other hand, some positive aspects of the lockdown were also seen, less vehicle movement and closure of industries lead to a significant reduction in pollution levels.

Environmental Impacts of COVID-19

The COVID-19 pandemic had a huge impact on the environmental conditions all around the globe. The nature revived to a much better state it was before the pandemic. The COVID-19 crisis brings forth major positive changes in the environmental conditions along with a few negative effects all around the globe.

Aim of the Study

Effects of Covid-19 on Environment: A Review.

Air Pollution

To ensure the safety of the worker's many industries, companies and cities were forced to close down during the lockdown period imposed by governments all around the world. In India, the lockdown is going on for almost 158 days and is still being lifted in a phased manner with unlock 3.0 in progress. This restricted unnecessary movement of traffic and stalled the industries, which lead to a huge decrease in air pollution levels all around India especially in metropolitan cities. The Air Quality Index (AQI) was back to very good in heavily polluted cities like Delhi, Mumbai, Bangalore, Kolkata, Haryana, etc. In Delhi alone, the pm 2.5 and NO2 levels dropped significantly, with pm 2.5 dropping down to 35 straight from an average of 400.

	State/UT	Station Name	AQI Before Lockdown	AQI After Lockdown			
			14 Jan' 2020	24 March' 2020	31 March' 2020	7 April' 2020	14 April' 2020
1	Andhra Pradesh	Anand Kala Kshetram, Rajamahendravaram– APPCB	216	62	69	29	37
2	Bihar	MuzaffarpurCollectorate, Muzaffarpur - BSPCB	367	266	134	65	84
3	Chandigarh	Sector-25, Chandigarh – CPCC	75	35	38	41	45
4	Delhi	IHBAS, Dilshad Garden, Delhi - CPCB	301	99	24	37	53
5	Haryana	Sector- 16A, Faridabad – HSPCB	315	151	121	121	78
6	Karnataka	Peenya, Bengaluru – CPCB	143	105	50	57	63
7	Maharashtra	ChhatrapatiShivaji Intl. Airport (T2), Mumbai – MPCB	122	94	68	55	67
8	Punjab	Model Town, Patiala – PPCB	106	49	26	43	51
9	Tamil Nadu	Alandur Bus Depot, Chennai – CPCB	172	42	40	29	27
10	Telangana	ICRISAT Patancheru, Hyderabad - TSPCB	130	64	64	47	77

Water Pollution

Water pollution was reduced significantly during the lockdown period in India as the industries were forced to close down. The industries were stalled, no production led to zero effluents and waste discharged in the water bodies. This lockdown brought rivers and lakes back to life. There is a dramatic change in pH, biological oxygen demand, chemical oxygen demand, dissolved oxygen, a fecal coliform. BOD is the oxygen concentration required by the river micro-biome to decompose organic matter. 3 milligrams per liter (mg/l) is the optimum BOD level. Lower the BOD, the better is the water quality.COD is the amount of oxygen required to chemically oxidize the organic matter.Lower COD means Lower effluents in the river. DO is an indicator of oxygen required for the survival of aquatic life. Higher DO is better for river health.

S No.	Locations	pH	COD (mg/L)	BOD (mg/L)	DO (mg/L)	Faecal coliform (MPN/100 mL)

1	Palla	7.70 ± 0.26	32.5 ± 45.70	2.73 ± 0.22	7.83 ± 0.86	506
2	Surghat (downstream of Wazirabad barrage)	7.63 ± 0.42	11.5 ± 3.42	3.45 ± 0.53	5.03 ± 1.21	3567
3	KhajoriPalton pool (downstream of Najafgarh drain)	6.99 ± 0.94	103 ± 17.70	31.25 ± 2.75	Nil	44×10^5
4	Kudsia Ghat	7.37 ± 0.26	80 ± 14.24	28.25 ± 2.87	Nil	36×10^5
5	ITO bridge	7.61 ± 0.25	69 ± 26.81	26.75 ± 4.27	2.3	46×10^5
6	Nizamudin bridge	7.64 ± 0.19	68.5 ± 17.77	25 ± 6.83	1.73 ± 0.64	94×10^4
7	Agra canal (Okhla)	7.72 ± 0.09	103.5 ± 42.53	31.5 ± 11.47	4.8	25×10^5
8	After meeting Shahdara drain (downstream Okhla barrage)	7.91 ± 0.19	141 ± 45.88	51 ± 18.96	Nil	47×10^5
9	Agra canal (Jaitpur)	7.64 ± 0.19	76 ± 20.91	26 ± 7.35	4.2	70×10^5

Noise Pollution

Any unpleasant/unwanted sound produced by any natural or human activity is called noise.

It can cause irritation, health problems like hypertension, heart palpitation, hearing loss, etc. and can disturb the ecosystem. The decreased use of private and public transportation stalled industrial activities significantly reduced anthropogenic noise pollution.

As per the central pollution control board, the permissible noise level in residential areas is 55dB(A) during the day and 45dBA while at night which drops by 10dB(A) and 11.3dB(A) at day and night respectively during the lockdown period. These values fall in the category of silent zones for which noise level should be below 50dB(A) and 40dB(A) at day and night respectively.

Conclusion

The daily increase in new cases is very high in numbers, and there is also a significant decline in the world economy and development. Yet the pandemic has also brought with it some important developments in terms of environmental regeneration. The main environmental loss associated with pollution is minimized to a greater degree with river water once again accessible and air quality returning to safe and breathable conditions. Nature has rejuvenated and restored significant damage done in decades, and the ozone layer has also nearly returned to its original state as the ozone hole over the poles has completely healed. Not all the positive ones mean the negatives should be ignored.

The pandemic caused unprecedented damage to the victim's psychological condition. With growing cases of mental abuse and suicides, mental disorders like stress, anxiety, and depression are on the rise. The unregulated infection-related fear is at its height and rises day by day with no conceivable cure and medication. The epidemic has both positive and negative consequences but it can definitely not be used as a way to bring about positive environmental change by putting the physical and mental health of people at risk and putting millions of lives at stake.

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