Educational Administration: Theory and Practice
2022,28(3) 389-398
ISSN:2148-2403
https://kuey.net/

Research Article

COVID-19 Reset the Recovery Button of Nature Environment: A Review

Khursheed Ahmad Bhat[1*], Tahmeed Ahmad Badam[2]

[1]Lecturer, Department of Public Administration Govt.Degree College Tangmarg Kashmir, Srinagar
[2]Lecturer, Department of Tourism Studies Govt.Degree College Tangmarg Kashmir, Srinagar

***Corresponding Author**: Khursheed Ahmad Bhat
*Email: dkbutt99@gmail.com

Citation: Khursheed Ahmad Bhat, et al (2022), COVID-19 Reset the Recovery Button of Nature Environment: A Review Educational Administration: Theory and Practice, 28(3), 389-398
Doi: 10.53555/kuey.v28i03.8113

ARTICLE INFO

ABSTRACT

Corona-virus Disease (COVID-19) is the official name of a respiratory infectious disease caused by a novel corona-virus that started first in Wuhan, China, and outspread globally with fast acceleration. Bearing in mind the potential threat and the contagious nature of the Covid-19 pandemic, lockdowns have been implemented across the globe to resist the incessant spread of this novel virus. Transportation services, market affairs, and other socio-economic activities have been abandoned altogether. The natural resources from local to global scales have witnessed apparent positive impacts due to minimal human mobility. Global lockdowns have drastically altered the patterns of energy demand and have caused an economic downturn but at the same time, have provided an upside-cleaner global environment. Overall carbon emissions have dropped, and the COVID-19 lockdown has led to an improvement in air quality and immaculate beaches/hill stations, water bodies in many cities around the globe. Such immense unintended advantages offer opportunities for unprecedented insights into the dynamics of our natural resources that can lead to viable paths for the conservation and perpetuation of the recovered environments. However this article proposed the general objectives; [1] To review the positive impacts of Covid-19 in respect to environmental resources. [2] To pinpoint the scale of environment resilience in compass to pandemic 19. As a result, the study can help tourism stakeholders to well notify the prospective challenges and urgently develop pertinent strategies towards sustainability of natural resources.

Key Words: Covid-19, Natural-resources, Tourism, Environment, impacts

1. INTRODUCTION

Pandemics are catastrophes related to large-scale outbreaks of infectious diseases that can amplify morbidity to the highest degree and mortality over a vast geographic area and cause considerable economic, socio-political disturbance. Six major pandemic and epidemic outbreaks swept the planet between 2000 and 2019, namely Severe Acute Respiratory Syndrome (SARS) (2002–2004), H1N1 influenza (2009), Avian influenza (2008–2014), Middle East respiratory syndrome (MERS) (2012–2020), the West-African Ebola virus epidemic (2013–2016), and the Zika fever (2015–2016),none of these, however, achieved the huge extent and the global spread impacts that the novel coronavirus-19 also called 'black-swan' did. Cucinotta, and Vanelli, (2020,p.158), on 13 March 2020, the World Health Organization (WHO) declared the novel coronavirus disease (COVID-19) a pandemic. The foremost case of coronavirus that specialists had never seen before in humans had begun to pervade among the population of Wuhan city in the province of Hubei in China on 31of December 2019. Since then it is spreading like anything to all over the humankind. "COVID-19 is a novel disease and we are still in a learning phase about its genetic characteristics.

The novel coronavirus has four stages of transmission *namely* stage-1 (imported cases), stage-2 (local transmission), stage-3 (community transmission) and stage-4 (transmission out of control). Speaking about a spread of disease among humans, the term transmission refers to the transmission of microorganisms from

one infected individual to another uninfected person, either through direct contact, through droplets, or through indirect contact such as surface contamination. The novel disease seemed very contagious and has quickly spread globally. As on April 03, 2020, there have been a minimum of 52,869 deaths and quite 10,10,066 confirmed cases of this Coronavirus pandemic. On May 18, 2020, confirmed cases increased to 46,79,511 with deaths of 3,15,005 (WHO, 2019). By 17th of March-2021 the virus positive cases increases to 130million (13/crore) and deaths tolls to 2.84million (20.84/lac).These numbers are changing rapidly.

Pushing humankind into an ongoing global crisis, which is unique in the recent history at least by its spatial extent, rapid onset and its complexity of consequences. The COVID-19 pandemic provides substantial challenges to different socio-ecological systems, with clear impacts on many aspects of the environment. Most countries responded by social distancing measures and severely diminished economic and other activities. Consequently, with the increasing wave, the COVID-19 pandemic has led to numerous environmental impacts, both positive such as enhanced air and water quality in urban areas, and negative, such as shoreline pollution due to the disposal of sanitary consumables. *Bang, and Khaddakar, (2020,p.997),* the current pandemic, the subsequent lockdown, and the post-lockdown flurry to return to normalcy will have vital positive consequences for biodiversity conservation. The rapid and visible changes in environmental variables within a few weeks of the lockdown were surprising even for experts, which should create an optimistic attitude toward biodiversity conservation. That modern human consumption practices create a large environmental footprint, resulting in carbon emissions, habitat degradation, biotic homogenization, eventually causing a decline in biodiversity, needs to be realized, curtailed, and levied. Our failure to arrive at standard, agreeable solutions in the face of impending disasters is less a reflection of our abilities to devise and implement stringent solutions and more a reflection of our priorities. The pandemic has shown us that seemingly extreme solutions and their implementation, such as a mandatory lockdown of human activities for a specific duration every year, may restore the planetary environment, even if temporarily.

2. LITERATURE REVIEW

Epidemiologists have predicted that a disease pandemic Covid-19 would eventually happen, although nobody really knew exactly how it might develop and evolve. Now it has happened and it is changing the planet. It is changing the people on the planet and is changing how the cultures on the planet will evolve moving forward, possibly redefining travel and tourism to align it more with the goals of global consciousness. Ugur and Akbiyik, (2020,p.1), the first cases of previously unknown lung disease were reported in the Wuhan (Hubei province) region of China in December 2019, initially appeared in a market where live animals were traded. A new form of the coronavirus was identified as the causative agent and discovered in numerous patients with pneumonia. Its global spread is keeping the whole world in suspense. The novel coronavirus (CoV) is now called SARS-CoV-2, the infection Covid-19. “COVID” stands for “Corona Virus Disease” and 19 for the year of discovery. Galvani, and Lew, et al. (2020, p.571), a calamity of inconceivable proportions is evident before our eyes. In the outbreak of the Covid-19 pandemic, the global tourism industry has all put ground to a halt, as have many other aspects of everyday life as the populations of whole countries go into lockdown to contain and resist the spread of the virus. There is a need to revert these challenges to practical means to sustain activities for survival by making adjustments to combat the pandemic through identifying practical strategies to renovate their functions. Bartik et al., (2020,p.4), due to the Covid-19 pandemic, the world’s economy was shut down almost overnight. The pandemic has confronted the tourism industry with an unprecedented challenge. Strategies to flatten the Covid-19 curve such as community lockdowns, social distancing, stay-at-home orders, travel and mobility restrictions have resulted in temporary closure of many hospitality businesses and significantly decreased the demand for businesses that were allowed to continue to operate. Ugur and Akbiyik, (2020,p.2), the fear of Covid-19 led to significant uncertainty and chaotic conditions in many industries. The tourism industry has experienced sharply falling revenues and is an economic sector among those most severely affected by the pandemic. The shock affects both the demand side (restrictions on freedom of movement, border closings, and guests’ fear of infection) and the supply-side (closure of accommodation and catering establishments as well as leisure facilities used for tourism).

Haedrich, Kaspar, et al. (2020), tourism as an open system being characterized by its high degree of networking with the environment. The numerous interactions with the various dimensions of the outside world not only influence the tourism system itself but also influence the environment. The environment as a whole can be divided into technological, socio-cultural, political, economic, and ecological dimensions. Due to the many interrelationships, tourism, with all its components, is very susceptible to changes in all dimensions of the environment. There are also a variety of external influences that can have a significant impact on traveler mobility. These potential external factors can be summarized in two main categories; the natural offer of the destination and the potential risk of crises based on the different environmental dimensions. The recent pandemic, COVID-19 figures out a pessimistic scenario for all industries but especially the tourism industry in terms of very low or no mobility. Because the virus is spreading rapidly outside of China, the economic impact will not only result from the decline in Chinese demand but also directly in the countries

concerned. In the pessimistic scenario of the OECD, global GDP growth and global trade volume will decrease drastically. Hoque, Shikha, et al., (2020, p.5), Tourism-related activities also have been negatively affected due to internal processes. The recent spread of the virus (with or without state quarantine measures) leads to a noticeable decline in so-called "social consumption". The restrictions include restaurant visits, domestic tourism, visits to cultural events, trade fairs. Several prominent events have already been postponed or even canceled in many countries. Given the high number of cancellations, the airline industry has reduced the flight plans by almost half.

The pollution level in tourist spots such as mountainous areas, wild woods, sea beaches, desert regions etc. is also shrinking tremendously. Ozone layer (stratosphere) has been found to have recuperated to some extent. The pandemic-19 has displayed its contrasting consequence on human civilization, in the sense that, on one hand, it has caused global mayhem situation, but created incredibly positive impact on the entire environment on the other. Kumar, Malla, et al., (2020, p.4), nature seems to have hit the reset button, reclaiming the spaces to heal itself as the anthropogenic activities have slowed down. Amidst all the gloom and doom that the Covid-19 pandemic is giving, there seems to be a proverbial silver lining and some positive consequences as well.

3. OBJECTIVES OF STUDY

The significant objective for the present piece of study can be formulated here as;

1. The study intended to review the positive impacts of Covid-19 with respect to nature environment of various destinations.
2. To pinpoint the scale of environment resilience in compass to pandemic 19.

4. METHODOLOGY

The study is undertaken to focus and found the impacts of covid-19 on the environmental resources so in this connection the basic help has been taken from secondary research studies. The data that has been gathered from materials published by various sources like, governmental organizations, private boards, universities, institutions in the form of reports, research papers, manuals, articles, newspapers, internet blogs, etc. The published literature was extensively reviewed henceforth relevant data has been executed to phrase-out the outcome of the problem. Further the discussions with research experts, and teachers were initiated to make the study significant and purposive.

5. POSITIVE IMPACT OF COVID-19 ON ENVIRONMENTAL RESOURCES

From the beginning of civilization, human beings gradually started manipulating the nature as per its own benefit. In order to satisfy the demand of increasing population; industrialization and urbanization became inevitable, and the obvious significance was proved to be detrimental on the global climatic changes. The desire to drive the nature as per their own whims and desire, human beings started to destroy the nature in numerous ways by anthropogenic activities without caring for sustainable development (Kumar, 2019,p.3). As an inevitable consequence, environmental pollution has become a big issue of the present day.

But, due to the unusual outbreak of COVID-19, almost every big and small cities and villages in the affected countries is under partial or total lockdown for a long period of time ranging from a few weeks up to a few months. All local and central administrations instructed to close the academic institutions and imposed a ban on free movement of their citizens outside their home and non-essential businesses in order to avoid community transmission. The various religious, cultural, social, scientific, sport, and political mass gathering events like Hajj, Olympics etc. are cancelled. Various industries are not functioning and all types of travels like airplanes, rails, buses and private vehicles are restricted or cancelled.

The drop off of NO_2 levels has been indicated in many countries. The impact of COVID-19 on the improvement of water bodies was noticed, such as the improvement of Ganga river in India (*Rupani, Nilashi, et al. 2020, p.2)*. The lockdown rules have led to a release of human-dominated areas to be free for wildlife movement. We believe that the current pandemic, the subsequent lockdown, and the post lockdown flurry to return to normalcy will have vital positive consequences for natural resource conservation. Furthermore, that these repercussions present an opportunity to learn important lessons for the contemporary human civilization how to deal with biodiversity in future course of time without compromising the sustainability of natural attractions.

A. Improvement in Air Quality at various Tourism Destinations

Before the start of the COVID-19 pandemic, the air around us had been deemed very toxic to breathe in due to the amount of greenhouse gases that had been emitted over the centuries. The Earth faced rising temperatures, which in turn led to the melting of glaciers and rising of sea levels. Environmental degradation

was happening fast due to the depletion of resources such as air, water and soil. But after the coronavirus lockdown commenced, there have been slight changes in the environment (*Nongrum, June,3, 2020*). After the lockdown was put in place in many countries, there was lesser travelling done by people, whether it were by their own cars, or by trains and flights. Even industries were closed down and not allowed to function. This in turn led to the pollution in the air dropping significantly, as there was a marked decline in nitrous oxide emission. The significant decline in number of on-road vehicles, anthropogenic activities, like fossil combustion etc. resulted reduction in NOx, PM2.5, SO2, NO, PM10 and CO levels in National capital region-Delhi. There has been observed tremendous average variation towards diminishing scale of air pollutants from pre-pandemic to pro-pandemic crisis. The level of CO (Carbon monoxide) was reduced from point 4 to 3, NH3 (Ammonia) from117 to 43, NO (Nitric Oxide) from 220 to 94, NO2 (Nitrogen dioxide) from 139 to 99, NOX (Oxides of Nitrogen) from 270 to 139, PM10 from664 to 462,, PM2.5 from 410 to 286, SO2 (Sulfur dioxide) declined from point 17 to 11 in the stipulated period of time (see tab.1 and 2).

Comparing Concentration of air Pollutants in Delhi (Pre-pro COVID Scenario)

Tab.1- (31.Oct-2019 Pre-Covid-19)

Parameter	Unit	Min. Value	Max. Value	Average
CO (Carbon monoxide)	mg/m3	1.2	9.5	4
NH3 (Ammonia)	ug/m3	92.2	139.1	117
NO (Nitric Oxide)	ug/m3	41.4	484.4	220
NO2 (Nitrogen dioxide)	ug/m3	72.2	213.2	139
NOX (Oxides of Nitrogen)	Ppb	105.9	499.8	270
Ozone	ug/m3	8.7	18.9	13
PM10	ug/m3	465	946	664
PM2.5	ug/m3	258	562	410
SO2 (Sulfur dioxide)	ug/m3	7.4	30.8	17

Source: CPCB-Delhi

Tab.2- (31.Oct-2020 Pro-Covid-19)

Parameter	Unit	Min. Value	Max. Value	Average
CO (Carbon monoxide)	mg/m3	1.5	4.5	3
NH3 (Ammonia)	ug/m3	28.4	61.8	43
NO (Nitric Oxide)	ug/m3	3.2	240.2	94
NO2 (Nitrogen dioxide)	ug/m3	57	143.1	99
NOX (Oxides of Nitrogen)	Ppb	37.5	299.1	139
Ozone	ug/m3	13.6	72.8	31
PM10	ug/m3	180	722	462
PM2.5	ug/m3	61	555	286
SO2 (Sulfur dioxide)	ug/m3	2.7	19.5	11

Source: CPCB-Delhi

The reduction of contrails will probably lead to a decrease in air temperature due to the decreasing greenhouse effect. The wedge on the running of transport system and other anthropogenic activities at the global level has result the substantial reduction in the particulate matter (PM2.5) in different tourist destinations of the world. This environmental pollution parameter exhibited a tremendous average downturn variation during covid19 induced lockdown as compared to the pre-pandemic scenario. A particulate matter (PM) called PM2.5 which is one of the most dangerous pollutants. It is included in the group-I carcinogens. The 2.5 refers to the particulate size (in microns), or about one thirtieth of the width of a human hair (Xu and Ren 2019). PM2.5 is so small that it can travel from lungs to blood stream which will not only cause respiratory problems but also heart attack and can also cause early deaths. After COVID-19-induced lockdown, the level of PM2.5 has decreased drastically and thousands of lives have been protected from its worse impacts. Table 3 shows the analysis of IQAir about PM2.5 levels during the period of COVID-19-induced lockdown in some of the most tourist visiting cities in the world.

PM2.5 levels in some of the prominent world tourist destinations during the period of COVID-19-induced lockdown (Tab.3**)**

Destination/City	Average PM2.5 (µg/m3)2019 pre-covid19 crisis	Average PM2.5 during lockdown 2020 (µg/m3)	Reduction Compared to 2019 (µg/m3)	Reduction in % Compared to 2019	Average reduction compared to prior 4 year	Lockdown period, 2020
Delhi, India	52.48	32.8	19.68	−60%	−55%	March 23–April 13
London, UK	30.78	16.2	14.58	−90%	+6%	March 23–April 13
Los Angeles, US	7.205	5.5	1.705	−31%	−51%	March 23–April 13
Madrid, Spain	7.14	6.4	0.704	−11%	+2%	March 23–April 13
New York City, US	5.5	4.4	1.1	−25%	−29%	March 23–April 13
São Paulo, Brazil	13.332	10.1	3.232	−32%	−26%	March 23–April 13
Seoul, South Korea	37.114	24.1	13.014	−54%	−32%	Feb 26–March 18
Wuhan, China	50.544	35.1	15.444	−44%	−50%	Feb 3–Feb 24
Lahore, Pakistan	40.75	25	15.75	−63%	−59%	March 23–April 13

Source: compiled from Shah, and Shah, et al. 2020,p.523

The variable PM2.5 in pro-covid19 induced lockdown has been identified at the rate of 32.8(ug/m3) in Delhi city which signifies reduction of -60% (19.68ug/m3) as compared to 2019 (52.48ug/m3), the average reduction was noticed by -55% compared to prior 4 years period. Likely, in Los Angeles city the variable PM2.5 was recorded at the rate of 5.5(ug/m3) subsequently in eve of calamity and denotes down size of -31% (1.705ug/m3) as compared to 2019 (7.205ug/m3), instead the average reduction was assessed by -51% compared to prior 4 years period. In Seoul city the PM2.5 was analyzed at the rate of 24.1(ug/m3) that imply decline of -54% (13.014ug/m3) as compared to 2019 (37.114), since the average reduction was evaluated by -32% compared to prior 4 years period. Consecutively, in Wuhan city the very parameter was figured at the rate of 35.1(ug/m3) which signifies the cut-down of -44% (15.444ug/m3) as compared to 2019 (50.544), since the average reduction was appraised by -50% compared to prior 4 years. Indeed, this improvement in air quality at different destination of the world is a healthy sign of covid19 catastrophe. It is assumed that most of the industrial asset has been remained shutoff and the usual demand of human consumption declined at optimum level which consequences the recovery of natural environment all around.

B. **Revitalize the Water Quality in eve of Covid19 Crisis:**

Since there were no boats, whether they are fishing or pleasure ones, plying on the rivers and waterways, the water has cleared up. In areas like Venice, the water became so clear that the fish could be seen and there was better water flow. No doubt, because of the lesser human footfall even the oceans are recovering and marine life is thriving. *Bang, and Khaddakar, (2020,p.997),* A considerable drop in consumer demand and goods production has led to decreased energy consumption by industries, leading to a decline in shipping and trade through water channels that's also had an impact on, ship/vessel spillages, cruise movement in waters etc. consequently this leads to the control of effluents from such logistics (supply chain) and augment the quality of water resources.

Before the outbreak of corona-virus the data highlights the water quality level of some lakes at various tourist destinations of India with respect to different chemical determinants during 2019 (*See tab.4*). The minimum concentration of dissolved O2 (mg/l) in waters of Kolleru-Lake has been observed at the rate of 4.9 and maximum 5.5. Here pH has been identified min. 6.7 and max. 8.2 in waters of the lake. The pH (Potential of Hydrogen) is a term used to indicate the alkalinity or acidity of a substance. Below 7.0 the water can be acidic (there are more hydrogen ions than hydroxide ions) when it is above 7.0 water is alkaline, or base (there are more hydroxide ions than hydrogen ions). When both types of ions are in equal concentration, the pH is 7.0 or neutral. The biological oxygen demand (BOD) expressed the minimum concentration of 2.20 and max. at 2.80. Nitrates (mg/l) observed at the minimum scale of 0.46 and maximum scale of 2.80 respectively. Similarly, it is obvious from the data available that minimum concentration of fecal coliform (mpn/100ml) in the waters of very lake has been assessed at the rate 3 and max. at 4. Taken into view the pre-covid19 water quality of Sukhna-lake one of the buzzing tourist spots of Chandigarh; continuously floating with enormous boats and other small ships. The minimum concentration of dissolved O2 (mg/l) in waters of the Lake has been analyzed at the rate of 6.2 and maximum 9.6. Here pH has been identified min. 7.2 and max. 8.5 in waters of the lake. The biological oxygen demand (BOD) expressed the minimum concentration of 1.00 and max. at 19.00. Nitrates (mg/l) observed at the minimum scale of 0.00 and maximum scale of 3.00 respectively. Since, the concentration of fecal coliform (mpn/100ml) in the waters of very lake found at minimum level 2 and max. at 4900000.

Pre-Covid19 Water Quality at various Tourist Destinations -2019

Station Name	Type Water Body	State Name	Dissolved O2 (mg/l)		PH		BOD (mg/l)		Nitrate N + Nitrite N (mg/l)		Fecal Coliform (MPN/100ML)	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Kolleru Lake	Lake	Andhra Pradesh	4.9	5.5	6.7	8.2	2.20	2.80	0.46	2.80	3	4
Deepar Beel	Lake	Assam	4.6	11.0	7.1	8.0	2.70	4.80	1.10	2.00	2	360
Sukhna Lake	Lake	Chandigarh	6.2	9.6	7.2	8.5	1.00	19.00	0.00	3.00	2	4900000
Mayem Lake	Lake	Goa	6.0	8.2	5.6	8.0	BDL	2.70	BDL	0.14	780	4900
Renuka Lake	Lake	Himachal Pradesh	5.7	7.1	7.4	8.1	0.50	2.80	0.01	0.67	14	31
Dal Lake	Lake	Jammu & Kashmir	4.6	8.6	7.3	7.7	1.60	3.30				

Tab.4: Source: CPCB-India

Pro-Covid19 Water Quality at various Tourist Destinations -2020

Station Name	Type Water Body	State Name	Dissolved O2 (mg/l)		PH		BOD (mg/l)		Nitrate N + Nitrite N (mg/l)		Fecal Coliform (MPN/100ML)	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Kolleru Lake	Lake	Andhra Pradesh	6.4	7.8	7.7	8.9	1.17	2.10	0.24	1.40	1	3
Deepar Beel	Lake	Assam	5.8	12.2	7.9	9.3	1.67	3.80	0.30	1.70	1	252
Sukhna Lake	Lake	Chandigarh	7.2	10.6	7.9	9.6	0.70	17.2	0.00	2.10	2	4400000
Mayem Lake	Lake	Goa	7.3	9.4	6.8	9.4	BDL	1.30	BDL	0.09	570	4300
Renuka Lake	Lake	Himachal Pradesh	6.9	8.5	7.8	9.7	0.30	1.80	0.01	0.36	12	27
Dal Lake	Lake	Jammu & Kashmir	5.7	9.7	8.3	9.2	1.20	2.40				

Tab.5: Source:(CPCB)

However, during the span of indefinite lockdown in eve of corona pandemic a significant improvement were analyzed in water quality of Kolleru Lake Andhra Pradesh. Taking in to consideration the pre-pandemic and pro-pandemic statistical figures it notices a tremendous variation in the data while the comparisons has made between tab.4 and tab.5. Pro-covid19 lockdown data reflected that the waters of corresponding lake in connection to variables like dissolved O2 (mg/l), pH, Nitrates (mg/l), Biological Oxygen Demand (BOD), Fecal coliform (mpn/11000) a significant variation (*see tab.5*). The minimum concentration of dissolved O2 in the lake waters scores at 6.4 (increased by 1.5 compared to pre-covid19) while maximum at 7.8 (increased by 2.3). Since, pH has been identified min. 7.7 (increased by 1 as compared to pre-covid19) and max. at 8.9 (increased by 0.7). The biological oxygen demand (BOD) expresses the minimum concentration of 1.17 (decreased by -1.03) and max. at 2.10 (decreased by -0.7). Nitrates (mg/l) observed at the minimum scale of 0.24 (decreased by -0.22) and maximum scale of 1.40 (decreased by -1.4). Likely, it is found from the data available that minimum concentration of fecal coliform (mpn/100ml) in the waters of said lake was at the rate 1(decreased by -2) and max. at 3 (decreased by -1). Hence the like variations and improvements has been found in waters of rest of the lakes at various destinations of India like, Mayem, Loktak, Chilka, Hebbal, Pichola lake etc. during global pro-covid19 calamity as shown in above statistical data. Indeed this can be said a positive sign of pandemic upon the natural resource/environment of the green planet.

C. Impact of Pandemic Covid-19 on Wildlife:

COVID-19 crisis has stopped people's activities; it gives wildlife an emerging release to get out of its allocated habitats. In people-dominated areas wildlife activities are restricted and banned. At present, most of the protected areas appear to be safe, and, biodiversity seems to be benefitting from the reduced human activities. Wildlife Institute of India, published a new data through a platform "Lockdown Wildlife Tracker" to show easy wildlife movement in people reigned areas (*Paital, 2020,p.5)*. This platform enables volunteers to document wildlife actions, the collected data then can be available to the research community to use and

investigate. Many reports have spotted a movement of wild animals in people-dominated areas: coyotes and dears are seen in the USA, wild boars are spotted in Italy, peacocks are rooming in Bangor, goats are moving in Wales, and beautiful insects take the chance to discover the plants in the UK (*Loring, 2020).* While the appearance of wild animals in cities around the world has prompted some online commentators to declare that the Earth is undergoing a process of 'healing', conservationists have indicated that the influx is not the start of any significant rewilding event but merely the result of a temporary lull in human activity (Davidson, 2020, cited in Crossley, 2020, p.537). In the short-run time of quarantine, animal movements have been impacted rapidly, comparing to previous years, in which people-dominated actions have resulted in catastrophic results on biodiversity of the earth. This short-term change in human behaviors raises the demand for reducing the consumption of natural resources. This indicates how the earth can restore its wellness without people disturbance.

J&K observed sudden rise in bird sightings during COVID-19 lockdown in urban as well as in rural areas of Kashmir. The respondents in majority reported the adequate spike in alien bird sightings. The data (*see tab.6*) reveals that majority of the respondents from rural as well as from urban areas showed interest towards birds. It was reported by 12.5% urban and 8.0 rural people understudy that they are seeing 1-3 guest birds around home daily, 48.5% urban and 16.5% rural people reported that they are seeing 4-6 birds around home daily and 39.0% urban and 74.5% rural people reported that they are seeing 7-10 exotic birds around home daily (Bhat, Riyaz et al. p.186). Similarly, the wildlife seems to have regained all their absolute rights and is enjoying the freedom of nature. Similar cases were found in the Indian beaches with flocks of flamingos flying to these beaches with the number increasing by more than 25% compared with previous years.

Table 6: Birds seen by the respondents understudy in J&K during lockdown-Covid19

Location	Different Birds seen by respondents around home		
	7-10 birds (%)	4-6 birds (%)	1-3 birds (%)
Urban	78 (39%)	97 (48.5%)	25 (12.5%)
Rural	149 (74.5%)	33 (16.5%)	16 (8.0%)

Source: Bhat, Riyaz et al. (2020)

In addition to this, it is highly likely that the pressures brought about due to over-tourism and the inappropriate use of protected areas have also eased since international bans on travel have been applied on eve of covid19 catastrophe . Moreover, advances have been made in raising awareness, at all levels, of the global bush meat trade which remains a significant pressure on the integrity of wildlife populations everywhere (Reuters, 2020a,). Wittemyer (2020) observes that the trade in wildlife has had a high environmental cost in Africa and this is likely to decline alongside the COVID 19 pandemic due to loss of human life and the ensuing economic downturn.

6. COVID-19 AND ECOLOGICAL RESILIENCE

The influence of the covid-19 pandemic on environmental sustainability is reflected by the stunning natural resource healing during the crisis at the global level. It is anticipated that such a change in the global nature, in a short time, would not be possible without the so called 'black swan' pandemic and its consequences. Rupani, Nilashi, et al. (2020. p.9), the desirable outcome on nature has influenced wild animals to overcome human-dominated areas' restrictions. As the lockdown forces a broad stop of public and private means of transportation, animals are experiencing noise free areas in people-dominated zones. It is like that the globe is restoring its wellness rapidly. People started to realize that modern life can be carried on without harming the environment dramatically. It is a glance of what the globe might be like without fossil energy sources and the hope that people could survive from this pandemic into a healthier, cleaner globe. The self-refreshed environment, without people interference effort, can become permanent with human awareness of the post-COVID-19 times. Mandal and Pal, (2020.p.139), developed countries could be more substantially influenced by lockdown, as industrial activities remain largely suspended. The lockdown effects are larger in rich and cold areas and cities with more traffic volumes experience a more substantial reduction in air pollution because richer countries have higher electricity demands and colder areas have higher coal demands, respectively. All these changes have caused a considerable drop in the noise level in most cities in the world. The reports show that noise reductions have gone deep, with seismologists reporting less seismic noise. For example, in Brussels, the seismic noise caused by anthropogenic activities is reported to be down by 1/3 compared with the pre-lockdown levels.

Likewise, the decrease in the use of public and private transport along with other commercial activities has caused a significant fall in the levels of noise pollution. With cruises temporarily being on hold, oceans are more in a state of calm. This calmness and decrease in ocean noise is likely to reduce the stress of aquatic creatures. Like these hint that mother earth is an unintended beneficiary of the Covid-19 pandemic.

The non-responsible and improper use by people has caused many of the global beaches to present pollution problems. These aggregated anthropogenic pollutant impacts are now destabilizing and damaging the potential ability of the beaches and other marine environments to provide key ecosystem services such as coastal livelihood and economic stability, global climate stability, and biological integrity (Saadat, Rawtani, et al. 2020). With the global states undergoing lockdown and the WHO declaring emergency and social distancing measures to combat the novel coronavirus pandemic, tourism around the world beaches has been affected. Moreover, the complete closure of various industrial activities has almost halted the pollution from these sources. All these unintended measures have caused a remarkable change in the appearance of many beaches in the world. Prominent examples are the beaches of Salinas (Ecuador), Barcelona (Spain), and Acapulco (Mexico), all these beaches now look cleaner and with clear waters (WHO,2020, cited in Kumar, Malla et al.2020,p.7).

Yunus , Masago, (2020, p.162), while studying the effect of Covid-19 lockdown on the surface water quality, found that the water quality of Vembanad Lake, Kerala, increased significantly. The authors also in their study noticed a significant decrease in the suspended particulate matter (SPM) concentration of the lake water during the lockdown period. Since, all these studies suggest that the virus (Covid-19) crisis has evolved with it the unintended benefits for the environmental resilience. Valle, (2020,p.4), Seeing the danger up close, not in neighboring or unknown countries, but in our own environment; observing with absolute clarity that our inaction allows the pollution of the planet to be reduced, that water bodies recover their natural color, that many animals recover their natural habitat; this makes us more aware of the importance of sustainability, respect for life, social inclusion and the health of each one of us. Notwithstanding, from an anthropocentric perspective, the pandemic may lead to a more sustainable future, including increased resilience of the socio-ecological systems or shorter supply chains, which is a positive development.

7. DISCUSSIONS AND IMPLICATIONS

Prior to COVID-19 the entire world was entangled in the state of chaos of environmental pollutions rendered by incessant anthropogenic activities like, mining, digging, combustion of fuels, running of automobiles, releasing effluents i.e., contrails, aerosols, CFC, HFC, SOX, NOX etc. Due to the natural check (Covid-19) green-houses effluents realized altogether under control in view of lockdown imposition worldwide. On the meanwhile human affairs associated to, travel, cargo-aviation, industries, agriculture, construction etc. stopped immediately after the declaration of global emergency by WHO on 13 march 2019. Consequently significant improvement in the physical characteristics (air, water bodies, wildlife, and vegetation) of the natural environment came to be analyzed almost every corner of the globe. As it is evident from the statistical figures obtained regarding Delhi during pro-covid19 pandemic while analyzing the various environmental variables of the destination. The temporary moratorium on-road vehicles, anthropogenic activities, like fossil combustion etc. outcome a significant reduction in atmospheric pollutants viz. NOx, PM2.5, SO2, NO, PM10 and CO levels in National capital region-Delhi one of the prominent tourist destination of India. There has been observed remarkable average variation towards retreating scale of air pollutants from pre-pandemic to pro-pandemic crisis. The level of CO (Carbon monoxide) was reduced by point -1 (from 4 to 3), NH3 (Ammonia) by -117 (from117 to 43), NO (Nitric Oxide) by -126 (from 220 to 94), NO2 (Nitrogen dioxide) by -40 (from 139 to 99), NOX (Oxides of Nitrogen) by -131 (from 270 to 139), PM10 by -202 (from 664 to 462), PM2.5 by -124 (from 410 to 286), SO2 (Sulfur dioxide) downturned by -6 (from point 17 to 11) during the stipulated time period of pre-pro pandemic crisis (*see tab.1 and 2*).

However at global level the decline in the concentration of pollutants like PM2.5 has been observed considerably from pre pandemic to pro pandemic crisis. According to *tab.3*, the concentration of variable PM2.5 in London down sized by -90% (from 30.78 to 16.2 ug/m3), los Angeles -31% (7.205 to 5.5 ug/m3), Madrid -11% (7.14 to 6.4 ug/m3), New York -25%, Delhi -60% (52.48 to 32.8 ug/m3), Sao Paulo -32% (13.332 to 10.1 ug/m3), Seoul -54% (37.114 to 24.1 ug/m3), Wuhan -44% (50.544 to 35.1 ug/m3) and in Lahore cut-down by -63% (40.75 to 25 ug/m3) approximately during corona-virus induced lockdown in 2020.

With respect to improvement in the quality of different water bodies at various tourism destinations of India, a magnificent recovery seems to be prompted by the outbreak of this corona pandemic. Taking into consideration the improving water quality of Kolluru Lake (Andhra Pradesh) connected to variables like dissolved O2, pH (potential hydrogen), BOD, Nitrates/Nitrites, and Fecal coliform amidst covid17 induced lockdown. The minimum concentration of dissolved O2 in the waters of lake scores at 6.4 (increased by 1.5 compared to pre-covid19), while maximum at 7.8 (increased by 2.3). Since, pH has been identified min. 7.7 (increased by 1 as compared to pre-covid19) and max. at 8.9 (increased by 0.7). The biological oxygen demand (BOD) expresses the minimum concentration of 1.17 (decreased by -1.03) and max. at 2.10 (decreased by -0.7). Nitrates (mg/l) observed at the minimum scale of 0.24 (decreased by -0.22) and maximum scale of 1.40 (decreased by -1.4). Likely, it is found from the data available that minimum concentration of fecal coliform (mpn/100ml) in waters of corresponding lake was at the rate 1(decreased by -2) and max. at 3 (decreased by -1). Hence the like variations and improvements has been found in waters of

rest of the lakes at various destinations of India like, Mayem, during global pro-covid19 calamity (see tab.5). Indeed this implies a positive sign of epidemic upon the natural resource of different tourist destinations.
On the mean course of time the free movement of various wildlife species came to be seen at different regions of the green planet. Before the outbreak of virus so called 'black-swan' the spaces like beaches, urban centres, rural settlements etc. buzzed with the human footfall has been found roaming by diverse animal species. Remarkable sum of exotic birds were noticed in Jammu and Kashmir at different spots in pro-covid19 crisis. Instead, Conservation groups, however, believe the real risk to the critically endangered wild life populations in Africa is likely to be decreased due to a lack of human footfall and other tourism related activities in eve of covid19 so called 'Black-swan' catastrophe. The pandemic has reset the button of environmental resilience and retrieving the nature from grief to its hope. This havoc has inadvertently transform the civic sense, business culture, ideology, social behavior, consumption practices of the humankind and resulted positive impacts to natural environment.

CONCLUSION

The COVID-19 pandemic crisis is one of the more significant human experiences of century that humankind experienced ever before. Nonetheless in this piece of study, we have observed intersections between the COVID-19 crisis and natural resources. Building on available tourism research literature we have exhibited how positive impacts of global pandemic can be an expression of hope and serendipitous lessons for the stakeholders of tourism industry. Observing the revitalization of natural resources may help to advance our understanding of guest-host behavior during pro-post crisis in relation to eco-centric tourism practices. Widely shared web 2.0 (social media) clips and stories of wildlife, aquatic life reclaiming different spaces emptied by the lockdowns, including famous tourist destinations (beaches, wetlands etc.), form a sign of environmental hope that symbolizes life, regeneration and resilience. The notion that the planet can heal itself in the absence of human interference has clearly reverberated and begot an ease to millions of people. Now destination managers' prime challenge is to design for pro-post covid-19 tourism practices as per the lessons learnt from such event crisis by harnessing and channeling environmental hope in a way that truly does heal the natural resources. While we may not reach utopia, a better version of the tourism industry we currently know is surely not beyond our clutch if we work collectively being one.

REFERENCES

1. *Cucinotta, D., and Vanelli, M. (2020). WHO declares Covid-19 a pandemic. Acta Bio-Medica Atenei Parm. Vol. 91, pp. 157–160*
2. *https://www.who.int/emergencies/diseases/novel-coronavirus-2019. Accessed on 26.03.2021.*
3. *Bang, A., and Khaddakar, S. (2020). Biodiversity Conservation during a Global Crisis: Consequences and the Way Forward. PNAS. Vol.117 (48), p. 995-99*
4. *Ugur, N.G., and Abiyik, A. (2020). Impacts of Covid-19 on global tourism industry: A cross-regional comparison. Tourism Management Perspectives. Vol.36.pp.1-13*
5. *Galvani, A., and Lew, A., et al. (2020). COVID-19 is expanding global consciousness and the sustainability of travel and tourism. Tourism Geographies. Vol. 22, No. 3, pp. 567–576*
6. Bartik, A. W., Bertrand, M., et al. (2020). *How are small businesses adjusting to Covid-19? Early evidence from a survey*. National Bureau of Economic Research. No.2, p.4
7. *Ugur, N.G., and Abiyik, A. (2020). Impacts of Covid-19 on global tourism industry: A cross-regional comparison. Tourism Management Perspectives. Vol.36.pp.1-13*
8. Centeno, R. S., & Marquez, J. P. (2020). How much did the tourism industry lost? Estimating earning loss of tourism in the Philippines. https://arxiv.org/abs/2004.09952. *accessed on 14.02-2021*
9. Hoque, A., Shikha, F. A., et al. (2020). The effect of coronavirus (Covid-19) in the tourism industry in China. *Asian Journal of Multidisciplinary Studies, Vol.3*(1), p.5
10. *FCO (The Foreign & Commonwealth Office). (2020). Foreign Secretary advises all British travelers to return to the UK now. Retrieved March 31, 2020, from https://www.gov.uk/government/news/foreign-secretary-advises-all-british-travellers-to-return-to-the-uk-now . accessed on 12.03-2021*
11. *Mallapaty, S. (2020). What the cruise-ship outbreaks reveal about Covid-19. Nature. https://www.nature.com/articles/d41586-020-00885-w . accessed on 15.04-2021*
12. *Crossley, E. (2020). Ecological grief generates desire for environmental healing in tourism after COVID-19. Tourism Geographies. Vol. 22, No. 3, pp.536–546*
13. *Seraphin, H., Sheeran, P., & Pilato, M. (2020). Over-tourism and the fall of Venice as a destination. Journal of Destination Marketing & Management. Vol. 9, pp. 374–376.*
14. *Davidson, J. (2020, Mar, 26). How Covid-19 shutdowns have affected the animal kingdom. CBC News. https://www.cbc.ca/news/technology/what-on-earth-newsletter-covid-19-animalkingdom- accessed on 15.02-2021*

15. *Lertzman, R. (2013). The myth of apathy. In S. Weintrobe (Ed.) Engaging with climate change: Psychoanalytic and interdisciplinary perspectives. Routledge. pp. 117–133*
16. *Kumar, A., Malla, M.A., et al. (2020). With Corona outbreak: Nature started hitting the Reset Button Globally. Frontiers in Public Health. Vol.8.pp.1-10*
17. *Kumar,V.A. (2019). Sustainable Development and Environmental Ethics. International Journal on Environmental Sciences. 10(1), pp.1-5.*
18. *Chakraborty, I., and Maity, P. (2020). Covid-19 outbreak: Migration, effects on society, global environment and prevention. Science of the Total Environment. p.728*
19. *Bang, A., and Khaddakar, S. (2020). Biodiversity Conservation During a Global Crisis: Consequences and the Way Forward. PNAS. Vol.117 (48), p. 995-99*
20. *Rupani, P.F., Nilashi, R., et al. (2020). Coronavirus pandemic (Covid-19) and its natural environmental Impacts. International Journal of Environmental Science and Technology. pp.1-10*
21. *Nongrum, D. (June,3, 2020).World Environment Day 2020: Positive Impact of Covid-19 Lockdown on Environment. https://www.india.com/festivals-events/world-environment-day-2020-positive-impact-of-covid-19-lockdown-on-environment-4047703. Accessed on 15.01.2021*