

A Review of the Impact of COVID-19 on the Biodiversity

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ABSTRACT: *One of the 21st century's major threats is environmental change. In spite of all their efforts over the last few decades to restore nature, humans could only move a few steps forward, not to the degree commendable. The emergence and spread of the current 2019 coronavirus (2019-nCoV) or the severe acute respiratory syndrome coronavirus 2 is presenting the world with a new public health crisis (SARS-CoV-2). The virus originated in bats and was transmitted to humans in December 2019 in Wuhan, Hubei province, China by still unknown intermediate animals. Around 96,000 confirmed coronavirus disease cases have been reported in 2019 (COVID-2019) and 3300 reported deaths to date (05/03/2020). But the effects of the COVID-19 pandemic have, over the last few months, effectively restored the atmosphere to a significant degree, which could certainly have a positive effect on global climate change. It, of course, affects the everyday actions of humans and the ecological environment around them. This review paper discusses the various effects of lockdown on the biodiversity.*

KEYWORDS: *Biodiversity; Coronavirus; Economy; Employment; Environment.*

INTRODUCTION

Several corona viruses are known to cause respiratory infections in humans, ranging from the common cold to more serious diseases like Middle East Respiratory Syndrome (MERS) and Extreme Acute Respiratory Syndrome (SARS). In December 2019, in Wuhan, Hubei province, China, a new infectious respiratory disease emerged and was called COVID-19 by the World Health Organization (coronavirus disease 2019). This is due to a newly discovered corona virus type, known as SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2). It is essentially a single RNA virus that is stranded. The viral particles of SARS-CoV-2 are spherical and have mushroom-shaped proteins called spikes protruding from their surface, giving a crown-like appearance to the particle. The spikes attach to human cells and allow the entry of the virus. The novel corona virus spike protein shares a 98 percent sequence identity with the bat coronavirus spike protein. The researchers found that the SARS-CoV-2 spike protein binds to the angiotensin-converting enzyme 2 cellular receptor, which is the entry point in human cells. It has a 10 to 20-fold greater affinity for binding than SARS. The higher binding affinity allows higher transmission from human to human.

Regardless of the degree of virus effect on the citizens of individual nations, it has had a severe impact on global and national economies. There is no border, no religion and the novel corona virus spread beyond cast and creed. In nature, it is extremely infectious and easily unpredictable. This kind of pandemic, where we are in a race to create a vaccine against its spread, has never been planned for the world.

The new COVID-19 seemed to be very infectious and spread globally rapidly. There were a minimum of 52,869 deaths and 10,10,066 confirmed cases of this coronavirus pandemic as of

April 03, 2020. Reported cases rose to 46,79,511 on May 18, 2020, with deaths of 3,15,005. These numbers are rapidly changing. There are four stages of transmission of the novel coronavirus, namely stage 1 (imported cases), stage 2 (local transmission), stage 3 (community transmission) and stage 4 (transmission out of control). The term transmission refers to the transmission of microorganisms from one infected individual to another uninfected person, either by direct contact, through droplets, or through the spread of illness among humans Or by indirect touch, such as contamination of surfaces. On the WHO website at <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>, detailed up-to-date information on COVID-19 is available.

The interval between receiving the virus and the beginning of the disease's symptoms is known as the duration of incubation. This varies from 1-14 days for COVID-19, but most commonly about five days. Fever, weakness and dry cough are the most common symptoms of COVID-19. Aches and pains, nasal congestion, runny nose, sore throat or diarrhea can be present in some patients. Typically, these symptoms are mild and begin gradually. Some individuals become sick, but they do not develop any symptoms and do not feel unwell. Most people (about 70%) recover from the disease without special treatment being required. Around 1 out of every 6 individuals who get COVID-19 gets seriously ill and Difficulty in breathing grows. Older people are more likely to develop serious conditions and those with underlying medical issues such as high blood pressure, heart problems or diabetes.

COVID-19 is an intermediate-host zoonotic disease. Though there is no simple awareness of the intermediate source of origin and transmission to humans. The SARS-CoV intermediate host is the palm civet and camel, while pangolin or snakes are the potential intermediate host for SARS-CoV-2. For all three, the reserve host is Bat. Without getting ill, Bat brings too many viruses and about 200 Corona viruses. So the primary transmission mode is from bats to humans to the intermediate host. COVID-19 can be transmitted directly in the form of droplets formed during sneezing, coughing, speaking, and unintentional inhalation of droplets in the vicinity of an infected individual. Droplets are water-holding entities greater than 5µm in diameter and can be caught within a certain range of approximately 1 m by a healthy person. The indirect transmission is when the virus is deposited on a dead surface such as door bells, lift buttons, stairs, vegetables, fruits, etc. that can often come into contact with healthy people who are resting. The virus enters the eyes, nose and mouth from here, and eventually leads to a new patient with corona. Even the contaminated person's fecal matter is discovered to be the transmitter. It can thus spread by fecal-oral transmission from the source. Studies have shown that the virus reaches the respiratory mucosa through the abundance of angiotensin receptor 2 (ACE2) present in the lower respiratory tract, primarily in alveolar type 2 cells. SARS-CoV uses the same receptor.

It has spread rapidly across the world, presenting the entire human population with immense health, economic, environmental and social challenges. The global economy is being seriously affected by the coronavirus outbreak. Through testing and treating patients, quarantining suspicious individuals by touch tracing, limiting large gatherings, maintaining maximum or partial lock down, etc., almost all nations are trying to slow down the spread of the disease. COVID-19 has spread across the globe and has significantly impacted many industries and associated economies. The effect of COVID-19 on biodiversity is defined in this review article, and the potential ways in which the disease can be regulated have also been addressed.

COVID-19 AND BIODIVERSITY

Three kinds of diversity are required for an ecosystem: biological, genetic and practical. Biological diversity refers to the species' richness in a specific area; genetic diversity refers to a specific species' way of adapting to changing conditions, while functional diversity is equal to the biophysical processes that take place in the area. Genetic diversity serves as a biodiversity buffer[1]. For the greater interest of the globe, humans should consider the levels and values of biodiversity[2].

The presence of a wide range of biodiversity or biological diversity refers to the existence of their natural habitats, plant and animal species or the diversity of plant and animal life in a specific ecosystem. Biodiversity is normally defined at three levels: (a) genetic diversity, (b) diversity of organisms and (c) diversity of ecosystems. Ecological equilibrium is important for widespread biodiversity[3]. There are several effects of anthropogenic activities and unsustainable agriculture[4], disrupting the ecological balance[15]. An imperative need for human survival is ecological balance. It is almost difficult to achieve equitable and sustainable growth without the conservation of biodiversity and the minimisation of anthropogenic activities. Sustainable development is specifically linked to environmental ethics and often, in the current sense, tends to reconsider and redefine environmental ethics. There is an immense effect of climate change on biodiversity[5].

Nature often favors and encourages diversity and coexistence among all species by providing everyone with an adequate climate. Since human beings are a highly evolved result of nature, they have always tried to manipulate the world and their own culture in order to create a suitable environment. Yet we face global warming and COVID-19 as unprecedented challenges because of overexploitation of natural resources, intensified anthropogenic activities and a human-centered environmental approach. Academics, policy makers and other stakeholders are forced by such global challenges to introspect their visions and actions.

Today, because of the use of information and information, the planet is a global village.

Communication technology, and there we work and derive all the advantages of nature. When we derive the advantages, we must have some obligations to bear. To use natural resources in such a way that we can achieve equitable and sustainable growth with the coexistence of all other species of organisms in the world, we must adopt an environment-centered approach. Therefore, the lockdown presented us with an opportunity to shift our ideology from anthropocentric to human-centered. Worldview to an environmentally-centered worldview.

The former worldview places human beings at the center of the world and gives them considering man to be the most capable of handling the planet earth, the highest status acknowledges that man is the most powerful species of the planet and is in charge of the rest of nature. It stresses that the world only has infinite human resources and that a sustainable environment relies on a healthy economy. The later worldview notes that the resources of the planet are scarce and belong to all the organisms of nature that exist. While humans have the right to extract their environmental requirements, but definitely not the degree to which the ecosystem degrades and affects other animals and living beings. Therefore, this eco-centric worldview is based on Earth-wisdom and urges us to live and live sustainably on this Earth as

part of it, like every other creature of nature. It recognizes that a stable economy relies on a healthy climate (healthy environment does not depend upon a healthy economy).

A large number of birds, including vultures, are obviously starting to appear due to the lockdown. Insect pollinators have appeared on crops and other plants in abundance. These are all strong indicators of ecological equilibrium and biodiversity. Anthropogenic practices, including overexploitation of natural resources, have been reduced by almost complete lockdown due to the COVID-19 outbreak. The vast human population is bound to remain in their homes, preventing different forms of emissions from being caused automatically. The surrounding atmosphere is clean and green. We all observe a clean atmosphere where it has been stated that almost all species, including birds etc., can thrive. Without any big clinical issues, nearly all human beings feel well. The authors observed that the water of the Rapti, Saryu, Ganga and Yamuna rivers in cities also became clear and transparent during the current lockdown cycle due to less deposition of domestic and industrial waste. The water quality parameters could not be estimated during lockdown, but the transparent water state of these holy rivers clearly shows that the level of contamination has certainly decreased to a great extent. These decreases in the amount of emissions allow marine species, including fish, to thrive.

CONCLUSION

While humans are a superpower and the corona has proved guns that are capable of destroying the entire world, but even though humans make a mess with nature, nature itself is able to kill humans with this tiny virus that has very normal symptoms such as cold and cough. The best way to avoid and hamper transmission is to cover yourself and via regular washing of hands or using an alcohol-based infection, others also rub, do not touch the lips, and obey expectations of social distance. If anyone has to go out of home due to an urgent job, use of the mask is helpful. Staying at home and operating from home should be practiced during the lockdown. Different businesses do not operate and all modes of transport are reduced or cancelled, such as aircraft, rails, buses and private cars.

Yoga is the best methods for good health which rejuvenates our body in terms of enhancing our immunity system, concentration of mind and confidence levels. Spiritual development is essential for immunity, humanity and positive personality development. There are a number of online yoga classes given by the experts, which is proving the utilization of lockdown time fruitfully. No need to worry about the future because time heals everything. If there are negative impacts, we have various positive things to learn from this. The COVID-19 has proved that Nature has provided us with all the resources for leading a beautiful life and she nourishes us like a mother, humans should respect and nurture her. Indiscriminate development and overexploitation of natural resources should be minimized at the level of sustainability.

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