

SOCIAL, ENVIRONMENTAL, AND ECONOMIC EFFECTS OF COVID-19

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ABSTRACT

Environmental change is one of the 21st century's major threats. Despite all the attempts to preserve the natural world, humans have hardly moved towards progress, at least not to an impressive degree. However, COVID-19 has effectively restored the atmosphere to a considerable degree over the last several weeks. These changes in the atmosphere can have a favorable impact on the overall climate change. It affects the everyday actions of humans as well as the natural environment that surrounds them. This research throws light on the various effects of lockdowns on social, environmental, and economic activities worldwide.

Keywords: *Coronavirus, Environmental Challenges, Global Economy, Green Theory, Social Effects.*

INTRODUCTION

In the 1960s, widespread acknowledgment of the global environmental problem was caused by the ‘tragedy of the commons,’ the belief that humans will exploit shared resources such as land, freshwater, and fish as self-interested individuals (McGlinchey et al., 2020). The United Nations’ first meeting on the issue took place in the 1970s, and by the 1980s, green political parties and public policies had arisen. It occurred along with a desire for a ‘green’ theory to explain and comprehend these emerging challenges. By the 1990s, social sciences had come to recognize the natural environment as a growing source of theoretical and practical concerns for the discipline – all the more so in light of mounting evidence that human actions were significantly altering the global climate and posing security as well as ecological problems (Stephen et al., 2020).

Human and animal health are inextricably linked to the environment. COVID-19 is a twenty-first-century worldwide health threat. The appearance of SARS-CoV-2 in Wuhan, China, in December 2019, and its subsequent spread to regional nations and, more recently, to countries globally, marks the first time in history that a coronavirus has been created a pandemic. COVID-19

has had a profound effect on virtually every facet of human activity, as well as on the economic and health care systems (Van-Doremalen et al., 2020).

Lockdowns, quarantines, and border closures enacted in response to the pandemic have resulted in significant reductions in air pollution due to reduced travel and output (Adams, 2020). While these favorable environmental benefits are likely to be transient, they highlight how changes in our way of life may have an immediate positive impact on the environment and the utility of travel-reducing technologies such as teleconferencing (Berman & Edisu, 2020). Thus, by recognizing that COVID-19 is primarily a worldwide calamity, the epidemic may motivate future behavioral adjustments that benefit the environment (EEA, 2020).

Some individuals have contracted the virus; however, they do not show any symptoms or fall sick. The majority of the patients (about 70) recuperate from the illness without special care being required. About 1 in 6 people who are infected with the virus become critically sick and have trouble breathing. People already have chronic medical conditions such as increased blood pressure, cardiac issues, increased blood sugar levels, and aged patients are most likely to experience critical ailments (Kumari & Shukla, 2020).

The new virus has four dispersal phases, e.g., phase-1 (imported cases), phase-2 (local transmission), phase-3 (community transmission), and phase-4. These figures change very quickly (transmission out of control). The word “transmission” denotes the spread of pathogens from one sick person to a healthy person, whether it is through coming directly in contact with the infected person, through particles in the air, or via contact that is indirect, for example, through contaminated surfaces (Ankita & Sangeeta, 2020).

This research was formed by a systematic review method. The research objectives are determined in this method, and an extensive literature review is done on the subject (Komba & Lwoga, 2020). The research findings are classified according to the subject’s content (Petticrew & Roberts, 2006). Classified information is included in the study by organizing it as headings (Pawson et al., 2005). The flow of the study is formed by evaluating classified information and titles (Rahi, 2017). Thus, integrity is ensured by evaluating the researched subject with its contents (Victor, 2008).

SOCIAL EFFECTS OF COVID-19

Social life

The pandemic has impacted all members of society, and it has been

significantly damaging to those members of society in the most disadvantaged positions and needy individuals. People who are homeless, for instance, are particularly vulnerable to the virus, and they will not be able to shelter comfortably on the spot (World Health Organization, 2020).

Several regimes have asked young people to join attempts to safeguard themselves and other people in society. Young people are now in a place where they can support the most disadvantaged folks in society and increase their community's health and awareness programs. Young people are, therefore, vital when it comes to reducing the dissemination of the pathogen and its effects on healthcare, culture, and economies overall (Anser et al., 2020).

New behaviors of surviving and finding new ways to meet loved ones are established through social distancing. It creates differences among family and friends (Verma & Prakash, 2020). Cell phones and the internet do a great job in helping people stay in contact with one another. People are gradually adjusting to living at home and forming new routines to remain active in their professional work and the work they do at home (World Health Organization, 2019).

Because of the lockdown, natural resources as being used very carefully. People have now realized that they require very little to survive and have wasted resources to obtain a social standing. The lockdown shows us all how to accomplish the 'Sustainable Development Goal' in realistic terms. The world's shutdown has helped the earth repair itself from anthropogenic actions to regenerate itself (Anser et al., 2020).

Family life

Family members are now forced to stay at home together, resulting in family members getting closer to each other. Each day, they are expected to eat, sleep and talk to each other, which was not the case before Coronavirus disease (COVID-19) as they were busy with work and other duties. In certain situations, life was different as people used to leave for work very early in the morning and return when their kids slept. It was even heard that some kids would only get to meet them on weekends because they were busy with their businesses (Verma & Prakash, 2020). Thus the life of the family and social engineering during lockdown does seem nice.

Individuals working from home can now get full sleep, a fundamental prerequisite for a healthy lifestyle and productivity. Better sleep also enhances one's immunity. Working from home also saves time for people

as they no longer need to drive to and from work; this gives them more time to work, resulting in more reliability and efficiency. Secondly, individuals save gas from not going to work, which, in turn, reduces air pollution. Thirdly individuals are free from any stress from travel, which means greater productivity.

Amidst the pandemic, several nations have reported a rise in domestic violence and violence experienced by spouses because of the lockdowns. Increased violence within homes has contributed to financial instability, tension, and confusion, with many offenders attempting to monitor their victims' vast quantities of lives (Verma & Prakash, 2020).

Fertility rate

Industrialized and third-world countries have accepted various family planning initiatives to reduce the overall birth rate possible through women's awareness. However, it is relatively early to conclude that perhaps the interventions under Coronavirus disease (COVID-19) raise fertility (Anser et al., 2020). Therefore, the lockdown has helped families resume their homes and enjoy their leisure time.

Education

The pandemic has significantly affected academic structures globally, which has led to most schools, colleges, and other educational institutions getting closed down (Dennis, 2020). As reported by the UNICEF monitoring, almost 180 nations are executing national closures, while 13 countries carry out local closures, affecting around 73.5% of students worldwide (Verma & Prakash, 2020).

Closing down educational institutions has not just affected students, teachers, and families; it has also had extensive socioeconomic effects. For needy children, the impact was more severe, resulting in disrupted schooling, poor health, healthcare concerns resulting in financial costs for households unable to work. With the colleges and higher education closing down in several countries, above 1 billion young people are currently not attending school in person. The daily schooling sessions were disrupted because of the lockdown. Middle and high school pupils are primarily impacted as they are mostly detached from their educator's learning experiences (Dennis, 2020).

Through initiatives by teachers, management of schools, local and national regimes to deal with the extraordinary situations of electronic learning, the disorder in schooling and education might have a moderate and lasting effect

on teaching standards. In reaction to the shutting of classrooms, UNESCO proposed that online learning facilities and open educational apps and networks be used by universities and educators to reach students distantly and to reduce education disorders.

Various universities have requested their faculty to continue offering online classes and providing e-mails and other social media with reading content. Briefly, conventional classroom education is translated into an e-classroom education system for more innovative students. It is a defining international moment for embracing this emergent culture of e-education system and work from home supported by companies and people (Dennis, 2020).

Studies and their methods would be affected by re-education. One does not amass practical knowledge of real workshop work throughout schoolings, such as controlling equipment and tools. Therefore, only for training, virtual presentations, model development, online material design, and modeling, the degree holder in science by e-education could be helpful. Many colleges and campuses would be robbed of excellent students and resources that could suspend physical campuses. Many successful research centers might thus be decreased, creating low-quality and structured examinations. However, customary researchers' books would be less efficient than the notions provided by a layman through online YouTube videos and Tik Tok portals (Dennis, 2020).

Knowledge spillover

The knowledge spillover is believed to limit the Coronavirus (COVID-19) epidemic by increasing education spending by disseminating information to ordinary people. The preventive steps against Coronavirus disease (COVID-19) pandemics that are the only method to survive should be well-established (Anser et al., 2020). Hence, global interventions and national policies were established, and print and social media and social networking platforms were employed to disseminate awareness activism to curb the issue (Dennis, 2020).

ENVIRONMENTAL EFFECTS OF COVID-19

Global warming

Since the dawn of humanity, people have tried to exploit nature for their benefit. Industrial development and sub-urbanization were necessary to meet the rising population's demands, and the apparent importance showed

to be highly harmful to the changes in the earth's climate. Humans started to destroy nature without considering environmental growth to drive nature according to their wants and urges. Due to this, environmental contamination is now a significant issue that we have to face. Environmental changes are responsible for spreading various vector-borne illnesses, including microbial and pathogenic, which is evident (Verma, 2019).

However, because of COVID-19, nearly all towns and cities with the virus are in complete or partial lockdowns that last from a few weeks to several months. The authorities have ordered to shut down of academic institutions and enforced bans on the free movement of citizens for things that are not important (Singh et al., 2020). Almost all events, religious, cultural, societal, or sport such as the Hajj, Olympics were postponed or canceled altogether. Many businesses stopped operating all means of transport are prohibited or canceled; these include airlines, buses, rails, and private cars.

The attempts to reduce SARS-CoV-2 spread by limiting mobility have a remarkable effect on the atmosphere. Toxic waste emissions from plants have significantly reduced due to the factories shutting down (Somani et al., 2020). There are barely any automobiles found on roads, which has resulted in nearly zero percent leakage of greenhouse gases and tiny toxic droplets floating in the air. Minimum activities from industries, plants, and construction have led to a reduction in air pollution. Hence, in 2018, the discharge of pollutants from aircraft, which contributed to nearly 3% of carbon dioxide emissions, has decreased considerably (Chakraborty & Prasenjit, 2020).

The quality of air has gone up significantly, due to less traffic of vehicles. Since severe Coronavirus disease (COVID-19) lockdowns were placed, various outlets have documented how the air quality in many cities has risen dramatically. "NASA's" extra-terrestrial satellites have displayed dramatic decreases in pollution of air, thus confirming the findings of "Eco Watch" that the new Coronavirus disease (COVID-19). The global epidemic has resulted in reduced pollution in the atmosphere (Zambrano-Monserrate et al., 2020).

During the COVID-19 lockdown, China has seen a dramatic decline in NO_x, CO₂, and other hydrocarbons emissions compared to numbers in the year before 2019. East and China's main cities regions reported a substantial decrease in NO₂ (10-30 percent) (Kulshrestha, 2020).

The lockdown is a practical solution to eliminate noise pollution as well as

emissions. It suggests that the Coronavirus disease (COVID-19) catastrophe has thus far triggered the largest ever annual fall in CO² emissions in 2020, more than during any previous economic crisis or period of war (Plumer & Popovich, 2020). The USA has also reported a significant decline in air emissions in some of its metropolitan cities.

Scientists claim this would never be possible to achieve the 'Paris Agreement' targets to prevent the earth's temperature from increasing more than 1.5°C. However, it is a piece of promising news. The usage of fossil fuels or traditional renewable resources has dropped significantly because of factories' reduced energy consumption. Different kinds of birds are spotted in towns as a consequence of COVID-19 lockdowns. Air pollution has also decreased significantly in tourist destinations such as parks, beaches, and rivers, helping restore the ozone layer (Kulshrestha, 2020).

The global epidemic has shown its strikingly different effects on the human race; for example, on one side, it has carried out a worldwide catastrophe, however at the same time, it has had a beneficial effect on the climate of the world. These lockdowns have served as a healer for humans' well-being, the destruction of the ozone layer, brown haze, and the changing climate. It has been reported that the Ozone layer in Antarctica is healing amid the pandemic (Financial Express, 2020).

Ecosystem

Three types of variations are required for an ecosystem: biological, genetic, and functional. The animal's biodiversity in a particular area is known as biological diversity. Genetic diversity relates to a specific organism's response to the evolving conditions of nature, whereas functional diversity is similar to bio-physical procedures in that region. Genetic diversity acts as a shield for bio-diversity (Verma, 2017a).

For the planet's well-being, humanity has to consider the degrees and principles of biodiversity (Verma, 2016). A varied range of plants and animals living together in their habitats is known as biodiversity or biological diversity. Biodiversity is defined in 3 parts: (a) ecosystem diversity, (b) species diversity (c) genetic diversity. Ecological stability is essential for extensive biodiversity.

Several consequences of anthropogenic behavior and intensive agriculture disrupt ecological stability. Ecological balance is an essential need of humanity. It is challenging to achieve holistic and sustainable growth

without restoration of habits and minimization of anthropogenic activities. Sustainable growth is linked to the moral values of the environment and, in some ways, appears to be rethinking and redefining them. Climate change has a significant effect on biodiversity (Verma, 2017b).

Nature often favors and supports all species' plurality and cohabitation by supplying everyone with an acceptable climate (Verma, 2017c; Verma 2017d). Since human beings are a too advanced result of nature, they have always sought to manipulate the world and their ways to create a suitable environment (Verma, 2018). However, we are still experiencing global warming and Coronavirus disease (COVID-19) as unprecedented challenges because of the over-utilization of environmental assets, increased anthropogenic activities, and human-centered environmental strategies (Prakash & Srivastava, 2019; Verma, 2019).

Nowadays, thanks to the application of ICT, the planet is a global village where we live and obtain all the rewards of nature. However, when we derive the advantages of nature, we have to shoulder a few obligations. To utilize the natural capital to promote equitable and balanced growth with all different creatures on the planet, we must adopt an environment-centered strategy. Thus, the lockdown incentivized us to change our philosophy from anthropocentric or human-centered to the world's eco-focused view (Anser et al., 2020).

The previous view of the world places humanity in the middle, offering them the supreme power, and finds the man to be the most competent when it comes to handling the earth, as well as recognizes that humans are the most powerful race in this world and are in control of the remainder of existence. It stresses that the world has infinite resources for human beings and that a sustainable atmosphere relies on growing economies. The world's current view notes that the resource assets of the universe are scarce and belong to all creatures in existence (Verma & Prakash, 2020).

While people can extract their environmental needs, not to the degree that it destroys the ecosystems and harms humans and other creatures, the eco-focused worldview encourages humans to survive and sustainably live their lives as a part of this planet. This worldview acknowledges that stable economies rely upon a sustainable climate (a healthy environment does not depend upon a healthy economy).

A substantial number of birds, namely vultures, are starting to emerge

thanks to the lockdown. Insects of pollination have appeared on seeds as well as on other plants in a large amount. All of these are robust markers of the equilibrium of ecology, as well as biodiversity. Anthropogenic practices, including the over-utilization of nature's resources, have been reduced by the complete lockdown because of the COVID-19 epidemic. Most of the people remain in homes, thus prohibiting different forms of emissions. The surrounding atmosphere is sterile and green. Now we can all see an ecosystem where all species such as birds can thrive (Prakash & Srivastava, 2019).

With almost no significant healthcare issues, nearly all humans feel well. During the lockdown, the authors found out that the rivers in towns have become clean and translucent because of the less waste from factories. It was not possible to check the quality of water amidst the lockdown. However, just by looking at that clean state of rivers, it can be assumed that the degree of contamination has decreased to a large degree. Due to the decrease in contamination in rivers, it is easier for aquatic creatures to thrive.

ECONOMIC EFFECTS OF COVID-19

Global supply chain and economy

The supply chain includes a structure of entities or activities collaborating to plan, produce, and trade goods or services, ranging from mining raw materials to delivering finished goods or services. It plays a crucial part in the automotive and information technology sectors, although all the automotive, industrial, and information segments that impacted the supply chain worldwide had to be closed because of the COVID-19 epidemic (Verma & Prakash, 2020). Accounts on the effects of the Coronavirus disease epidemic on the supply chain and the global disruption of manufacturing activities are rising every day. Thousands of businesses have already been compelled by the Coronavirus disease (COVID-19) to hold up or briefly close assembly and development factories in the USA, Europe, and India (Pawar, 2020).

The Coronavirus disease (COVID-19) is a significant failure in health and economic terms as well. It will impede the organization and the economy as well (Raut, 2020). The adverse and significant impacts of Coronavirus disease (COVID-19) would retard the economy for a few years, and the government must take radical steps. Current and potential strategies to resolve this state would have to be addressed by the regime.

Employment

The Coronavirus disease (COVID-19) epidemic is having a devastating

worldwide impact on jobs and incomes. The International Labour Organization (ILO) study reveals that in the 2nd quarter of 2020, the Coronavirus disease (COVID-19) calamity is projected to destroy 6.7 percent of working hours globally, equal to 95 million permanent jobs. The ILO accounts for the world's unemployment frequency are nearly 13 million (Economic Policy Institute, 2020).

Coronavirus disease would significantly affect the efficacy of the labor market (Congressional Research Service, 2021). However, the present situation is horrible since earnings are ended, and businesses have retrenched their workforce not to pay during the Coronavirus disease (COVID-19) period (Dennis, 2020). In the universal population of 3.3 billion, greater than 80 percent of individuals are presently impacted by a complete or limited workplace shutdown. It decreases permanent work, and most wages are not fixed (The World Bank, 2020). When they evade working only to support themselves or their households, it is expected to impact them. As a result of interim plant closings, COVID-19 has already shown its effects on the trade industry (Economic Policy Institute, 2020).

CONCLUSION

The Coronavirus disease has proven that while humans are a powerhouse and possess armaments that can destroy the entire world and create chaos with nature, Coronavirus disease having typical signs, namely cold and cough, is powerful enough to kill human beings. The Coronavirus sickness has demonstrated that nature has endowed us all with the opportunity to live decent lives and that we should love and be grateful for them. At the sustainability stage, random growth and over-misuse of natural resources must be decreased.

While science has learned a great deal about SARS-CoV-2 and made unique and unparalleled progress toward developing COVID-19 vaccines, there is still much uncertainty as the epidemic unfolds. COVID-19 vaccinations are being distributed in several countries, but this does not indicate imminent catastrophe. We have entered a new phase of the epidemic. What happens next will be determined in part by the ongoing evolution of SARS-CoV-2, citizen behavior, government decisions about responding to the pandemic, progress in vaccine development and treatment. A broad range of disciplines in the sciences and humanities are focused on ending this pandemic and learning how to mitigate the effects of future pandemics and the extent to which the international community can stand together.

REFERENCES

- Adams, M. D. (2020). Air pollution in Ontario, Canada, during the COVID-19 state of emergency. *Science Total Environment*, 742, 140516.
- Ankita, A., & Sangeeta, A. (2020). Outbreak of novel coronavirus in India: Lethal pandemic. *Acta Scientific Agriculture*. 4(5), 44-45.
- Anser, M. K., Yousaf, Z., Khan, M. A., Voo, X. H., Nassani, A. A., Alotaibi, S. M., Abro, M. M. Q., & Zaman, K. (2020). The impacts of COVID-19 measures on global environment and fertility rate: Double coincidence. *Air quality, Atmosphere & Health*, 13, 1083-1092. <https://doi.org/10.1007/s11869-020-00865-z>
- Berman, J. D., & Edisu, K. (2020). Changes in U.S. air pollution during the COVID-19 pandemic. *Science Total Environment*, 739, 139864.
- Chakraborty, I. & Prasenjit, M. (2020). COVID-19 outbreak: Migration, effects on society, global environment, and prevention. *Science of the Total Environment*, 728. 10.1016/j.scitotenv.2020.138882
- Congressional Research Service. (2021). *Global economic effects of COVID-19*. <https://fas.org/sgp/crs/row/R46270.pdf>
- Dennis, M. J. (2020). *The impact of COVID-19 on the world economy and higher education*. <https://onlinelibrary.wiley.com/doi/10.1002/emt.30720>
- Economic Policy Institute. (2020). *Employment in Covid-19*. <https://files.epi.org/uploads/EmploymentPieCut>
- EEA. (2020). *Air pollution goes down as Europe takes hard measures to combat Coronavirus*. European Environmental Agency. Copenhagen. <https://www.eea.europa.eu/highlights/air-pollution-goes-down-as>
- Financial Express. (2020). *Ozone layer is healing*. <https://www.financialexpress.com/lifestyle/science/ozone-layer-ishealing-amidst%EF%BF%BEEcoronavirus-gloom-ozone-cover-above-antarctica-records-substantialrecovery/>
- Komba, M. M., & Lwoga, E. T. (2020). *Systematic review as a research method in library and information science*. 10.4018/978-1-7998-1471-9.ch005.
- Kulshrestha, U. C. (2020). Environmental changes during COVID-19

- lockdown: Future implications. *Current World Environment*, 15(1), 1-5. <http://cwejournal.org/vol15no1/environmental-changes-during-covid-19-lockdown-future-implications/>
- Kumari, T. & Shukla, V. (2020). Covid-19: Towards confronting an unprecedented pandemic. *International Journal of Biological Innovations*. 2(1), 1-10. <https://doi.org/10.46505/IJBI.2020.2101>
- McGlinchey, S., Waters, S., & Scheinpflug, C. (2020). *Green theory*. Social Science Libre Texts. [https://socialsci.libretexts.org/Bookshelves/Sociology/Book%3A_International_Relations_Theory_\(McGlinchey_Walters_and_Scheinpflug\)/11%3A_Green_Theory](https://socialsci.libretexts.org/Bookshelves/Sociology/Book%3A_International_Relations_Theory_(McGlinchey_Walters_and_Scheinpflug)/11%3A_Green_Theory)
- Pawson, R., Greenhalgh, T., Harvey, G., & Walshe, K. (2005). Realist review - A new method of systematic review designed for complex policy interventions. *Journal of Health Services Research & Policy*, 10(1), 21-34.
- Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences: A practical guide*. 10.1002/9780470754887
- Plumer, B. & Popovich, N. (2020). *Traffic and pollution plummet as U.S. cities shut down for coronavirus*. <http://www.nytimes.com/interactive/2020/03/22/climate/coronavirus-USA-traffic.html>
- Prakash, S. & Srivastava, S. (2019). Impact of climate change on biodiversity: An overview. *International Journal of Biological Innovations*, 1(2), 60-65. <https://doi.org/10.46505/IJBI.2019.1205>
- Rahi, S. (2017). Research design and methods: A systematic review of research paradigms, sampling issues, and instruments development. *International Journal of Economics & Management Sciences*, (6). 10.4172/2162-6359.1000403.
- Raut, D. N. (2020). Effects of COVID-19 on employment of India. *IRE Journals*, 3(11), 33-36.
- Singh, N., Tang, Y., & Ogunseitan, O. A. (2020). Environmentally sustainable management of used personal protective equipment. *Environmental Science Technology*.
- Somani, M., Srivastava, A. N., Gummadivalli, S. K., & Sharma, A. (2020). Indirect implications of COVID-19 towards sustainable environment: An investigation in Indian context. *Bioresource Technology Reports*, 11, 100491.

- The World Bank. (2020, June 8). *The global economic outlook during the COVID-19 pandemic: A changed world*. <https://www.worldbank.org/en/news/feature/2020/06/08/the-global-economic-outlook-during-the-covid-19-pandemic-a-changed-world>.
- Van-Doremalen, N., Bushmaker, T., Morris, D. H., Holbrook, M. G., Gamble, A., Williamson, B. N., & Lloyd-Smith, J. O. (2020). Aerosol and surface stability of SARS-CoV-2 as compared with SARS-CoV-1. *The New England Journal of Medicine*, *16*, 1564-1567.
- Verma, A. K. (2016). Biodiversity: Its different levels and values. *International Journal on Environmental Sciences*, *7*(2), 143-145.
- Verma, A. K. (2017^a). Genetic diversity as a buffer in biodiversity. *Indian Journal of Biology*, *4*(1), 61-63. <http://dx.doi.org/10.21088/ijb.2394.1391.4117.9>
- Verma, A. K. (2017^b). Necessity of ecological balance for widespread biodiversity. *Indian Journal of Biology*, *4*(2), 158-160.
- Verma, A. K. (2017^c). Multiple effects of unsustainable agriculture. *International Journal on Agricultural Sciences*, *8*(1), 24-26.
- Verma, A. K. (2017^d). Environmental ethics: Need to rethink. *International Journal on Environmental Sciences*, *8*(1), 7-9.
- Verma, A. K. (2018). Ecological balance: An indispensable need for human survival. *Journal of Experimental Zoology India*, *21*(1), 407-409.
- Verma, A. K. (2019). Sustainable development and environmental ethics. *International Journal on Environmental Sciences*. *10*(1),1-5. https://www.researchgate.net/publication/342624965_SUSTAINABLE_DEVELOPMENT_AND_ENVIRONMENTAL_ETHICS
- Verma, A., & Prakash, S. (2020). Impact of COVID-19 on environment and society. *Journal of Global Biosciences*, *9*(5), 7352-7363. www.mutagens.co.in/jgb/vol.09/05/090506.pdf
- Victor, L. (2008). Systematic reviewing in the social sciences: Outcomes and explanation. *Enquire*, *1*(1), 32-46.
- World Health Organization. (2019). *Coronavirus disease (COVID-19) pandemic*. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- World Health Organization. (2020). *Mental health and psychosocial considerations during the COVID-19 outbreak*. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/mental-health>

who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf

Worldometer. (2021). *COVID-19 Coronavirus pandemic*. <https://www.worldometers.info/coronavirus/>

Zambrano-Monserrate, M. A., Ruanob, M. A., & Sanchez-Alcalde, L. (2020). Indirect effects of COVID-19 on the environment. *Science Total Environment*, 728, 138813.