

Case study: Evaluating the effects of COVID-19 on society, Environment, Economy and Education.

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### Abstract

The COVID-19 pandemic has caused drastic changes across the globe, affecting all areas of life. This paper provides a comprehensive study on the influence of COVID-19 in various fields such as the economy, education, society, the environment, and globalization. In this study, both the positive and negative consequences of the COVID-19 pandemic on education are studied.

Modern technologies are combined with conventional teaching to improve the communication between instructors and learners. COVID-19 also greatly affected people with disabilities and those who are older, with these persons experiencing more complications in their normal routine activities.

Additionally, COVID-19 has had negative impacts on world economies, greatly affecting the business, agriculture, entertainment, tourism, and service sectors. The impact of COVID-19 on these sectors is also investigated in this study, and this study provides some meaningful insights and suggestions for revitalizing the tourism sector. The association between globalization and travel restrictions is studied.

In addition to economic and human health concerns, the influence of a lockdown on environmental health is also investigated. During periods of lockdown, the amount of pollutants in the air, soil, and water was significantly reduced. This study motivates researchers to investigate the positive and negative consequences of the COVID-19 pandemic in various unexplored areas.

Keywords: coronavirus; COVID-19; SARS-CoV-2; environment; economy; education; society.

### Introduction

A pandemic is an outbreak of an infectious disease throughout the whole world, spread by human interactions [1]. Many outbreaks of infectious diseases, such as the Hong Kong Flu, severe acute respiratory syndrome (SARS), Spanish Flu, and Asian Flu, have been studied in the literature [2]. In recent years, seven major outbreaks, namely hantavirus syndrome, H1N1 influenza, H5N1 influenza, SARS, Middle East respiratory syndrome (MERS), Ebola, and coronavirus, occurred [3]. Among these

pandemics, the first to occur was H1N1 influenza, in 2009. H1N1 was responsible for more than 18,000 fatalities [4]. Similarly, more than 11,000 persons died due to the Ebola virus [5]. Both Ebola and SARS drastically affected socio-economic aspects in Africa and China [6]. Similarly, Zika virus spread in 64 different countries and affected more than 200,000 persons [2]. In 2009, H1N1 also disturbed various sectors such as healthcare, education, and tourism. Pandemics are not only responsible for high mortality rates but also have negative impacts on the economy, education, health, tourism, and the environment.

Recently, a new pandemic named coronavirus disease 2019 (COVID-19) arose in Wuhan, the capital of China's Hubei province [7]. COVID-19 is a very infectious disease caused by a new coronavirus named Severe Acute Respiratory Syndrome coronavirus-2 (SARS-CoV-2). SARS-CoV-2 has a higher affinity to human ACE 2 [8] than the original SARS virus strain [9]. SARS-CoV-2 is an enveloped positive-sense single-stranded RNA virus [10,11]. The virion releases RNA into the cell. Copies of the virus are created, which infect and capture more cells, especially those within the lungs. The outbreak of COVID-19 was first identified in Wuhan in December 2019. The World Health Organization (WHO) declared this outbreak a 7a pandemic on 11 March 2021 [12]. As of 21 September 2021, about 221 countries and territories have reported 4,716,983 deaths and 230,028,186 cases.

In the initial phases of the COVID-19 pandemic, most countries emphasize social distancing and screening people infected by COVID-19 to prevent the spread of the novel coronavirus. Travel restrictions were imposed by many countries to control infections by the novel coronavirus. Moreover, countries enforced strict lockdown policies to control the spread of COVID-19 and to decrease the mortality rates.

Lockdowns have negative consequences on society, the economy, and education. However, it has a positive impact on the environment due to the low emission of pollutants from vehicles and industries [14]. Stock market crashes, manufacturing unit closures, and migrant labor movement are some of the major consequences of this pandemic. The demand and supply of goods were greatly affected by these lockdowns. There is a close association between the development of economic activities and environmental pollution

## **2. Effect of COVID-19 on Society.**

The COVID-19 pandemic has affected both the economic and health conditions of all age groups people [17]. It shows a drastic impact on the various people, who are living below the poverty line, with disabilities, coming under older age groups, belonging to indigenous communities, etc. The entire world has seen a rapid increase in the number of positive cases due to the lack of prior awareness of these types of coronaviruses. This can create a serious risk for humans and other living beings.

Specific groups are striving for their basic amenities and medical treatment as young people are given more preference over old people. This is responsible for generating feelings of inequality, discrimination, and isolation among the weaker sections [18]. The COVID-19 pandemic has created many trade-offs unknowingly in our society. Although the coronavirus can attack any age group of people, tobacco-taking people are more vulnerable than others as this virus tends to attack on lungs and causes severe acute rupturing of the respiratory system [19]. This virus created major shifts in

the way of thinking, socializing, communication, and living.

### *2.1. Older Generation.*

The initial reports on the COVID-19 pandemic revealed that approximately 80% of fatalities occurred in people whose age over 65 years [20]. The International Human Rights Law guarantees everybody obtains the highest attainable standards of health, in contrast to the shortage of services during a pandemic, the treatment of older people was perceived as of less importance than that of young and healthy people [21]. The elderly population with diabetes, asthma, and cardio-vascular attacks, are more susceptible to the infection caused by coronavirus. To combat the scarcity of essentials amid the pandemic, isolating oneself is an essential measure that resulted in further increment in emotional imbalance in society.

### *2. 2. Young Generation*

Young people are one-fourth of the world's population. Young people participated in various economic and social activities enthusiastically. They are working to help the economically weaker sections. They provided innovative ideas to solve social and economic problems [24]. However, young persons were suffering from the social and economic impacts of the COVID-19 pandemic. It is observed from a report that 267 million out of 1.8 billion young population (aged 15 to 24) were not involved in education and employment before the pandemic [25]. After the COVID-19 pandemic, this crisis became more widespread than the previous situation. According to a global survey on Youth and COVID-19.

### *2.3. Disabled People*

The disabled population faces various challenges such as medical care, personal hygiene, and implementing social distancing. These persons may be dependent on external help for doing their daily routine and solving other issues [30]. Disabled populations are more vulnerable to the COVID-19 pandemic. The following challenges are confronted by the disabled population during this pandemic [31].

Incapability of offering offerings

Some disabled persons are unable to wear masks due to their disability or health issues. Some people may feel uncomfortable breathing and panic. Some persons wearing masks are unable to communicate with others through lip reading [32]. Hence, there is no need to make it compulsory for every disabled person should wear a mask.

## **3. Effect of COVID-19 on Environment**

Nowadays, the lifestyle of human beings has caused a drastic impact on the environment. The population has increased from 1 billion (1800) to 7.7 billion in 2020 [34]. Human beings are drastically utilizing natural resources for new developments in industries, infrastructure, and habitats. Due to the increase in human population, the demands for dairy and meat products, such as eggs, meat, and milk, have also increased. This has encouraged poultry farming and livestock raising, which are considered the main door for persuading the transmission of various viruses from the wildlife world to the human world [35]. The reduction in green cover of the Earth will severely affect our lives in the long run. Amazonian evergreen forests are known as the carbon stores of the

ecosystem. According to the World Wildlife Fund, forests cover more than 30%.

### *3.1. Effect on Air*

The COVID-19 pandemic has affected the environment more lethally. During this pandemic, air quality has significantly improved due to a reduction in human activity and manufacturing operations [40]. This pandemic has helped nature in rejuvenating itself. Rivers are clean and skies are clearer.

A study on the outbreak of SARS reported that the mortality rate in China's most air-polluted areas was twice as high as in the least-least-polluted. The pathogens along with pollutants can form a strong bond, which might help them to stay intact in the atmosphere for a long duration and give them an easy way to enter the human body. According to the Annual State of Global Air Report [42], 95%

### *3.2. Effect on Water*

In this pandemic, the formation of acid rain is drastically reduced due to the decrease in air pollutants. The industrial wastewater was extremely reduced due to the lockdown period [49]. The restriction in religious activities, fishing, and social functions may lead to less disposal of solid waste.

The self-cleaning properties of rivers are improved with better water quality. The dissolved oxygen level in the river is increased to approximately 5 mg/L in Yamuna River, Delhi [50]. In Italy, the water of Venice's canals was cleaner than the previous year [51]. The fishes are seen in the Ve's canals. The marine ecosystem is also recovering after the decline in fishing activities and reducing the blue carbon [52].

There is no evidence about the survival of coronavirus in drinking water supplies. However, it is possible in untreated drinking water. Since the structure of SARS-CoV-2 is the same as that of the previously detected coronaviruses, the same precautions have to be taken, which were mentioned for the previously discovered coronaviruses [48].

## **4. Effect of COVID-19 on Education**

**The educational system is drastically affected** by the COVID-19 pandemic. Nationwide lockdown imposed the closure of schools, colleges, tuitions, examinations, and universities. According to the UNICEF, 98.5%

The worldwide student population is affected by the closure of education hubs in around 186 countries [87]. In total, 60% of children's learning loss is observed in the least educated family. It was assumed that the closure of educational institutions may help in preventing the spread of coronavirus. Recent studies on COVID-19 have predicted that the closure of educational institutions has decreased the mortality rate by 2%.

### *4.1. Impact on Students*

Due to the closure of educational institutions, students have adopted distant learning methods. However, still many, schools are striving to execute online learning. Some children are unable to take electronic gadgets and an appropriate Internet facility in their areas [91]. This imposed a major challenge in the use of distance learning programs. For working parents, it is very difficult to keep an eye on their ward and maintain a balance in their home environment. To overcome the above-mentioned problems, there is a need to develop a strong infrastructure system [92]. It will accelerate the learning of students suffering from learning loss during summer or weekend breaks. It will also

help to grab a few extra global opportunities for interacting and learning outside their school by connecting them to the entire world. Figure 9 depicts the impact of COVID-19 on Students.

### Conclusions

The COVID-19 pandemic has caused a dramatic loss of human life. It has drastically affected almost all the areas of human life. This study investigated the environmental health, social-economic impacts, and strategic plans to alleviate the influence of COVID-19 on different sectors. The disabled and old persons were unable to use modern technologies for subscription services and the latest information on the pandemic. Governments should take the initiative to provide basic amenities, accommodation, and digital technology to older and disabled persons. The education sector is not an exception. Online learning mechanisms were used to compensate for the theoretical concepts. However, practical learning is drastically affected by this pandemic.

The number of foreign tourist arrivals decreased by 84%

from March to December 2020 as compared to the previous year. After the relaxation of COVID-19 restrictions and vaccination, a modest improvement has been shown in the tourism industry especially in.

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