

SARS Coronavirus: Learn from the Past and Present Outbreak

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SUMMARY

Every organism in the nature are in a stable equilibrium until an external stress imposed on it. In ecosystem every individuals viz., Plants and Animals have intrinsic characteristics to adjust itself as per the stress to bloom and maintain its presence in the environment. Even a minor adjustment will be followed by some negative feedbacks, which will return the parameter to its original "balance point" with rest of the system. Like in the year 2020, we are witnessing sever disasters likes Earthquake, Floods, and other sever epidemics. The article is mainly focused on a recent Pandemic, of which humans are struggling hard to overcome and stabilize itself. This time, a Virus 'SARS' which is even invisible to naked eye turmoil the humans. The disaster caused by this virus is so big and dangerous that this will be consider a hallmark in the history of humans.

INTRODUCTION

The first incidence of this virus, as per WHO way back in the year 2002 at Guangdong province of southern China. The reservoir virus is yet not confirmed but seems to be originate from Bats or Palm civets. The virus were later identified and named as SARS (Severe Acute Respiratory Syndrome) coronavirus (SARS-CoV or SARS-CoV1). It adversely affected the health, social life and economy of China. According to the WHO report, 648 of the 8082 probable cases of SARS in mainland China and Hong Kong died from November 1, 2002 to July 31, 2003. The social life was also disturbed, they started isolating themselves from the crowd and wearing masks. A case study published by Qiu *et al.*, 2018, state that during the epidemic of SARS virus in china in 2003, a rumor that Banlangen (*Radix isatidis*) and Vinegar could cure the SARS was very popular and everybody was panic for buying *R. isatidis* and was completely sold out. Though the effect of *R. isatidis* and Vinegar in controlling the SARS coronavirus is yet not scientifically proved. This virus not only impacted people's health and social life, but also had a significant effect on the economy as well, a study showed that the SARS epidemic in 2003 resulted in losses of USD 12.3-28.4 billion and an approximate decline of 1% in GDP in China and 0.5% in Southeast Asia (Mackellar, 2007). In between 2003 to last quarter of 2019 the incidence of this was not clearly mentioned or found on any forum but on 31st December 2019 a new strain of SARS virus was identified as SARS-CoV2, causing severe respiratory infections in Wuhan City, Hubei province of China. On 11th February 2020 WHO gave the name of this new strain of virus as "COVID-19."

Sequence of events in Spread of COVID-19

As the nature of this virus was sporadic and communicable, soon it started infecting number of peoples and get transmitted from one person to another. Few important events occurred during its spread is mentioned in the table 1 below

Table 1: Timeline of events during SARS-CoV2 (COVID-19)

Sl. No.	Date	Events
1	31 st Dec 2019	Samples of 27 pneumonia patient from Wuhan's Huanan Seafood Market tested positive for novel coronavirus.
2	10 th Jan 2020	Genomic sequence of first novel coronavirus was made.
3	20 th Jan 2020	Reported outside China viz., Japan, Thailand and South Korea
4	24 th Jan 2020	First case was reported from European continent in France.
5	30 th Jan 2020	- WHO declared this outbreak a Public Health Emergency of International Concern. - First case in India reported from Thrissur district of Kerala, in a student of Wuhan University, China who returned to home.

6	11 th March 2020	WHO declared COVID-19 as pandemic
6	12 th March 2020	First death of a patient recovered from COVID-19 in India
7	24 th March 2020	India prime minister ordered nationwide lockdown for 21 days.
7	15 th May 2020	Death tolls to 100 in India.

Source: ECDC, 2020; Anonymous

Presently, India has entered in its 5th stage of lockdown and government ordered to start few public places *viz.*, Shopping mall, Private hospitals and religious places with special guidelines. Now lockdown has reached to approximately 90 days and in these days several economic, social, environmental changes occurs, some of which are beneficial for mankind and are harmful. According to 'The Hindu' the total no. of confirmed case, Active cases and total number of death due to COVID- 19 has reached to 411385, 169662 and 13280 respectively on 21st June 2020. Aarogya Setu recorded confirmed cases of 410461, recovered of 227756 and death of 13254 till 21st June 2020.

Effect of Novel Corona virus (COVID-19)

The continuous emergency due to pandemic COVID-19 has influenced varying backgrounds globally (Economic, Social, Environment and other).

A) Effect of COVID-19 on Indian as well as global economy:

As per the International Monetary Fund (IMF), the worldwide economy is relied upon to contract by more than 3 percent in 2020 – the steepest log jam since the Great Depression of the 1930s (The Indian Express). COVID-9 has affected both, the public and private sector employees in term of employment but has severe impact on the private sector workers. The people works on daily wages, rickshaw puller and those who works in hotels, restaurants, theaters, sports clubs, gymnasiums and many more become unemployed because of this virus. As the number of peoples in the market decreases, the flow of cash in the market slowdown result in the significant slowdown of the revenue growth.

B) Effect on social life:

The virus, COVID- 19 has created a nuisance in the societies. No doubt that the virus has a lethal impact on the human beings but it has badly affected the social life also. It has affected all segments of the population and is particularly detrimental to members of those social groups, living in poverty situations and others like older persons, persons with disabilities, youth, and indigenous peoples. Peoples became afraid of meeting and chatting with their friend and even to their family members. The virus has created a hindrance in celebration of many religious, cultural and festival events. Many examination is canceled or postponed due to the spread of virus. Peoples were stuck, where they are because of cancelation of all most all national and international travelling services.

C) Environmental effect:

Among the distressing Covid-19 pandemic, an unusual positivizes has been the significant global decrease in air pollution levels. The severity of the virus has taken the country in a position of lockdown. As an outcome, power plants and industrial services halted their production. Also, the use of vehicles decreased considerably. All this led to a dramatic reduction in the concentrations of Nitrogen Dioxide (NO₂) and Particulate Matter. A considerable decrease in the noise pollution is also recorded, the imposition of quarantine measures by most governments has caused people to stay at home. With this, the use of private and public transportation has decreased significantly. All these changes have caused the noise level to drop considerably in most cities around the world. On the other hand, there are also negative secondary aspects such as the reduction in recycling and the increase in waste, further endangering the contamination of physical spaces (water and land), in addition to air.

D) Effect on Farming Community:

This pandemic has resulted into delay in sowing and harvesting of crops due to the unavailability of farm input products. The entry of this pandemic in our country unluckily coincided with *rabi* season, which is very unfortunate as crops like gram, wheat, lentil etc. are at maturing stage and farmers accepted the family budget

from that. In this situation, farmers are looking upon the government for a conformation of unremitting harvesting of the crops with as smooth earning procedures. Also the sale of poultry and fisheries products, has been badly affected. The nationwide lockdown influenced the agricultural supply chain. However, the government has issued permits to some transporters to supply grains. But many of the farmers are not benefitted from this opportunity and this leads to increase in the time for their products to reach the market. So, the farmers have to sell the products at low price. According to a published report of Ministry of Railways, cargo loadings have also plummeted which leads to a loss of ₹ 2129 crore. If talking about the Indian farm product exports, according to APEDA, India has been a large agri-exporter globally with an export of nearly ₹ 685 billion in 2018-19. But now all the exports have been restricted, which will definitely hamper the country's economy.

CONCLUSION

The new coronavirus (SARS-CoV2) has produced an exceptional effect in many nations of the world. It has spread rapidly across the globe, posing huge health, economic, environmental and social challenges for the entire human population. The infection by this virus has influenced pretty much every nation on the planet (213 altogether), spread to in excess of 2 million individuals, and caused around 130,000 death. The outbreak of coronavirus has created a serious disruption to the global and national economy. It has affected all segments of the population. Each demonstration, either by humans or by nature, has different sides of results and how you acknowledge that relies upon you. Before the beginning of the COVID-19 pandemic, the air around us had been esteemed exceptionally harmful to take in because of the ozone-depleting substances that had been produced throughout hundreds of years. Episodic proof shows a decrease in biochemical oxygen request and coliform levels in waterways, improvement in air quality because of a decrease in the stacking of nitrous oxide, particulate issue, and different contaminations.

REFERENCES

https://play.google.com/store/apps/details?id=nic.goi.aarogyasetu&hl=en_IN

MacKellar, L. (2007). "Pandemic influenza: A review," *Population and Development Review*", 33(3) 429–451.

Qui W., Chu, C., Mao, A. and Wu, J. (2018). The Impacts on Health, Society, and Economy of SARS and H7N9 Outbreaks in China: A Case Comparison Study. *Journal of Environmental and Public Health.*: 7.

The ECDC. 2020. European Centre for Disease Prevention and Control. Event background COVID-19. (<https://www.ecdc.europa.eu/en/novel-coronavirus/event-background-2019>).

The Economic Times. Railways misses freight loading target by 15 million tonnes, earnings dip by Rs 2,129 crore due to COVID-19. 8th April 2020.

The Hindu. COVID-19, India tracker. 21.06.2020.

The Indian Express. Explained: How Covid-19 has affected the global economy. 16.06.2020.