

Pandemic-Induced Global Transformations and Future Directions

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Abstract

The new pandemic COVID-19 has sent shockwaves across the world but it has given birth to a new era of thinking and implementation. Nature redesigned the world's beauty with its self-healing feature. Before this pandemic, Remote learning was always considered a poor substitute experience for learning, but the COVID-19 situation has changed the teaching and learning methods across the globe. The spread of the COVID-19 pandemic all over the world adversely affects Global hyperconnectivity disturbing Global business. this pandemic has enhanced the essentiality of smarter tools for the prevention and protection of human beings. The world needs stronger, unified responses to our highest-priority health threats. It is the need for the new era to develop stronger solutions as the highest priority to fight against such new pandemics and sustain the present as well as future generations.

Keywords: Pandemic, COVID-19, IT Sector, HealthCare Services, Digital Education, Pollution, New Normal, WHO.

1. Introduction

COVID-19 is a worldwide spread of nature's warning against climate change. It dramatically stops the whole world for a few months and affects industrial activities, business, transport, traffic, and tourism. WHO found that Coronavirus was the main reason for this pandemic on

January 12, 2020. The Director-General of WHO announced this spherical novel coronavirus (nCOVs) as 'COVID-19' which is an acronym of 'Coronavirus disease 2019' [1][2].

COVID-19 lockdown-initiated distractions that had never been seen before. It is not clear what will be the new normal for human society to survive on this planet this pandemic provides a chance to change the routine and improve the work-life balance with the importance of collaboration and teamwork. All these measures can improve the quality of work. In the new world, there is a necessity to adopt a hybrid model of work in which remote work can also be more efficient due to the absence of buildings, and the presence of an eco-friendly green atmosphere which can give an aesthetic sense as well as productivity [21].

2. Improvement in Health Care Services

Across the world, core public health services, are politically neglected all the time. During this situation, public healthcare services proved their irreplaceable value. Although, nearly 80%-90% of critical COVID-19 cases are treated under public health services.

This pandemic situation has led to a positive impact on the healthcare services and it becomes the frontline service with the priority in terms of availability of funds, and providing insurance to members of the healthcare system. In this situation, the respective governments immediately take action for budget availability to strengthen the public healthcare services, and even security aspects of members of the public Healthcare system also revised with parity [3]. This was the time to reinvent and rejuvenate public health services across the world with upgraded health budgets.

To provide benefits to around 22 lakh health workers devoted to COVID-19 crises across India, the Ministry of Health and Family Welfare, government of India launched an insurance scheme of 50 lakhs per person. This insurance is especially for public health care providers including medical staff, sanitation staff, paramedics, and nurses who may have to be in direct contact with and care for COVID-19 patients. The government of India traces the COVID-19 cases using the Aarogya Setu app to control the active cases [4]. By 2022, the healthcare market can increase three-fold to Rs 8.6 trillion. Even, the Government of India is ready to increase public health expenditure to 2.5% of the country's GDP by 2025[5]. Improved healthcare services build the infrastructure of a healthy nation and a sustainable future.

3. Self-Healing of Environment

Many countries are following social distancing and self-quarantine for two months or more, it is nature's "healing time" with less human interference in the natural environment [6]. In most parts of the world, main industries as well as other regular activities halt, improving the air quality index. During the lockdown, the use of private and public transportation, a fall in commercial activities in many countries, has caused a noise reduction also. Beaches around the world get cleaned up due to a reduction in visitors and tourists [7].

3.1 Improved Air Quality

It is unfortunate to say that around 91% of the world's population lives in poor air quality [6][9]. India has always been a focal point of pollution with heavy traffic and polluting industries, but after the declaration of lockdown due to COVID-19, the quality of air has started to improve dramatically [10][11]. Greenhouse gas emission drop rate never-before-seen as shown in Figure 1 [8]. The country-wide carbon emission is reduced in every part of the world (Figure 2).

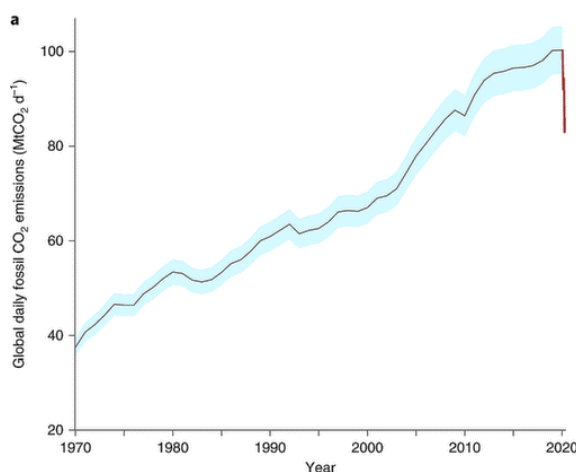


Fig. 1: Global Emissions during the Coronavirus Pandemic

(Source: Nature Climate Change, 2020, Global Carbon Project)

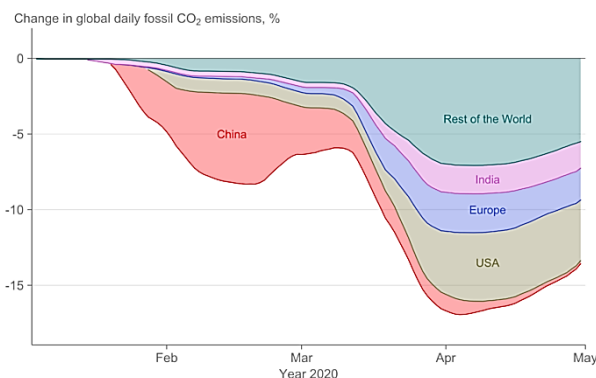


Fig. 2: Country-wise Carbon Emission

(Nature Climate Change, 2020, Global Carbon Project)

The social distancing policies adopted by every government, drastically reduce energy demand around the world. As governments halted the production of power plants and industrial facilities, it led to a drastic reduction of air pollutants like NO₂ and PM_{2.5}. Traffic was also less, as citizens planned to stay at home, which resulted in a decrease in greenhouse gas emissions around all parts of the world.

3.2 Reduction in Noise Pollution

The unwanted sound generated by anthropogenic activities is identified as environmental noise. The top three most hazardous pollutants illustrated by the World Health Organisation (WHO) are water pollution, air pollution, and Noise pollution. There was a significant reduction in noise levels witnessed at all levels during the lockdown period due to reductions in both road and air traffic movements.

3.3 Regaining Clean Water

As around 70% of the Earth's surface is covered by water, Water pollution is one of the main issues for the environment [19]. Human activity is mostly responsible for water pollution, but the novel coronavirus disease (COVID-19) lockdown has given the realization that humans are inadvertently been cruel to nature, and it seems that "Coronavirus is Earth's vaccine. We're the virus" [19]. The closure of almost all industries and fewer tourism activities make the water less pollutant [120]. There can be the following reasons that reduce water pollution during the lockdown period-

- Fewer discharges of industrial effluent
- Less Radioactive waste

- No disposal of worshipped puja materials and garbage
- Less marine dumping
- Less Sewage and Wastewater Collection
- No outdoor bathing and washing of clothes
- No pilgrimage activities
- Reduction in cattle movement for washing them in rivers.

In the advanced era of Science and Technology, this COVID-19 pandemic made us realize what is the importance of natural resources and a green planet for the survival of human beings. Nature has the power to self-heal by its way, but the question generates in mind to re-think–

- Is it essential to get such positive symptoms in nature at the cost of a pandemic only?
- Is there any other way to develop paradigms, lifestyles, and economic pursuits without impacting our planet?

If we don't follow the rules of nature then the smallest entity like a virus can disrupt the life of evolutionary most advanced human beings. This pandemic taught a lesson that making progress in Science and Technology is ready to face the challenges in the form of pandemics and it is essential to set priorities that are most relevant in the 21st century.

4. Stimulus Packages for Pandemic Sustainability

A special economic package is being announced by most of the government to make the country self-reliant,” during the COVID crisis. These packages focus on land, labor, liquidity, and laws for various segments including MSMEs, the Education Sector, laborers, middle class, and industries [15]. G20 member countries in October 2020 had committed to fiscal stimulus packages to recover from the effects of the COVID-19 pandemic. Out of all G20 countries, Japan had passed the largest fiscal stimulus package which amounts to about 21.1% (about 117.1 trillion Yen) of its gross domestic product (GDP).[16] The statistics of the top 10 expense ratios during COVID-19 of G20 countries are Japan, Canada, Australia, United States, Turkey, Brazil, Germany, China, India, and France shown by statistics in the graph (Figure 3).

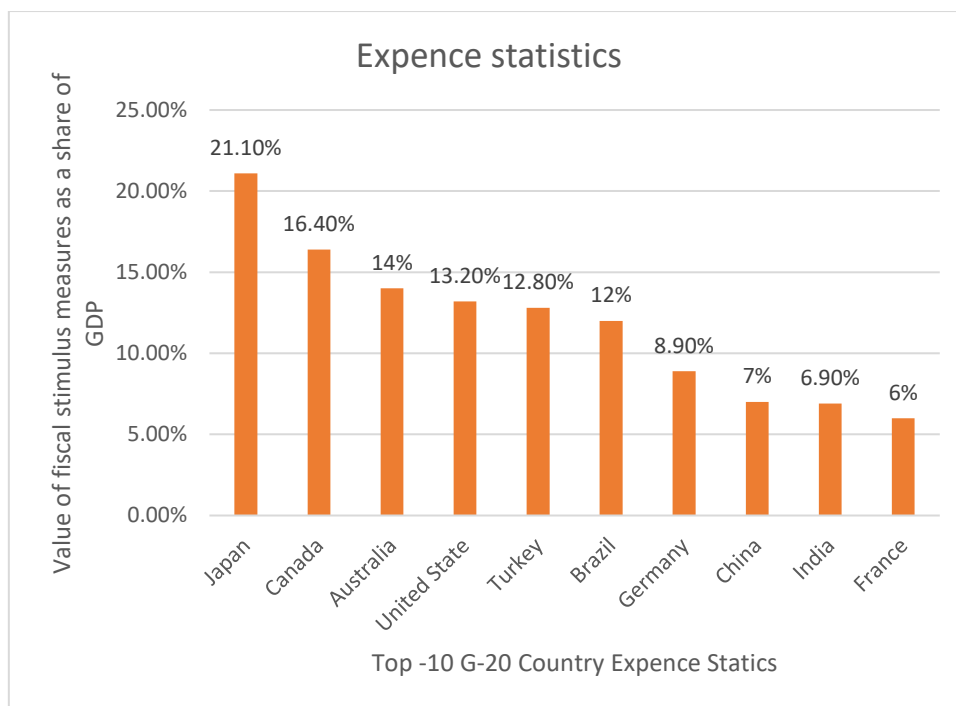


Fig 3: Expense Statics

5. The Upswing in IT Sector

The COVID pandemic has resulted in a slowdown but few services during this pandemic became essential to have grown with a positive sign, e.g. Online education platforms, VDI's, cloud and business continuity, Hardware/software, IT services, Semiconductors, Network equipment sectors, as suggested by Director, Deltakraft Solutions [12]. The duration of COVID-19 promoted Cloud, Security, and Services.

According to the Managing Director, of Hitachi Systems Micro Clinic [12], the social distancing protocol requires zero physical interaction, it leads to managing the tasks remotely in various areas like remote management, automation, monitoring, patch management, etc. Therefore infrastructure needs to transfer from cable to cloud with less physical and secure communication.

5.1 Work-from-Home Culture

With a Work-from-Home culture, IT industries start investing in Endpoint devices and collaborative Tools such as Cisco WebEx, Secure Cloud, email security, etc. According to Director, of Cisco Practice BU DigitalTrack Solutions, they have started migrating many applications to the cloud for seamless access and availability of services to customers [12].

5.2 Effect of COVID-19 in IT Services -

IT companies have a 20-20 IPL like the opportunity to make a dramatic change in the world. Some of the changes in the IT sector are listed here.

- Accepts Hybrid Work environment using both Works from Home (WFH) and Works from Office (WFO) with work time flexibility
- Focus on remote services/managed services
- Emphasis on Cloud business
- Highlight the presence on the social media platform
- Grab Solution centric approach.
- Quicker adoption of Cloud Applications
- Priority on Data Security increases
- Implementing Virtual working methodologies for productivity
- Fast digital transformation and infrastructure modernization
- keeping data more secure with robust security features
- Use of AI for digital transformations
- Ease of handling huge traffic volume for web services
- Promoting IVR systems, chatbots, and applications, to resolve complex issues

6. Digital Era of Education

The COVID-19 pandemic has affected educational systems worldwide. As an attempt to lessen the spread of COVID-19, educational institutions including schools, coaching classes, and the university have been closed for a few months for around 60% of the target population [17]. However, higher education institutions and Universities were quick to replace face-to-face lectures with online/web-based learning. [13]

This new era of the pandemic situation made many drastic decisions in the education sector, some of which are listed below -

- Many governments provide Higher Education Relief Packages to schools, coaching institutions, and universities.
- The cost of short online courses has been reduced to approach distance learners.
- Try to provide international exposure to students for learning.
- Provides exemptions from loan fees for domestic students for starting six months of COVID-19 duration.
- The government supports financially to post-secondary students financially also.

- Faculty training and recruitment for online teaching and learning.
- Encourage the blended mode of education (Online and Offline support like MOOC courses).
- Elevated the schools by providing funds to support them
- Sponsor in distance learning support.
- Increasing the use of web-based virtual platforms for meetings/webinars/ Conferences.
- UNESCO recommends 10 online learning engagement tips [14].
- Provided funds to equip schools/Colleges/Universities with digital platforms and tools.

7. Conclusion

Lockdown and Social distancing during pandemic situations make routine work more difficult or impossible and that's why it is now essential to redesign the world with a new approach. This new era of the pandemic COVID-19 obligates us to rethink the reconstruction of a sustainable world. Therefore, the world is running during the COVID-19 situation with the tag mark “दो गज की दूरी, मास्क है जरूरी” that means it is mandatory for a distance of two yards and a mask. Now organizations and institutions are planning to reopen in blended mode to allow all staff and students to access the responsibilities. The moral of this chapter is to develop an interaction between nature and humans with collaboration without harm to each other. The future symbiotic association of humans and nature can create a sustainable lifestyle for future generations.

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