

## Social Impacts of COVID-19: Predicting the Unpredictability

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### Abstract

This paper aims at making an inquiry into the ongoing societal effects of the COVID-19 focusing on futuristic dimensions in the post-COVID-19 scenario while taking stock of the expected social changes in the world in general and Pakistan in particular. The main thesis of the subject matter is that the cosmic outreach and destructive nature of this menace have introduced a few extraordinary changes in our social lives. Pandemics, since time immemorial have decimated millions of lives and spread grief, gloom and tribulation all around. The occurrence frequency of pandemics has been on the rise since the last century because of increased global integration, exponential growth in population, mass urbanization, increased mobility and excessive exploitation of the environment. Major pandemics endured by humanity are; plague, smallpox, flu or influenza, cholera, tuberculosis, Ebola and few others. All of these pandemics overwhelmed populations socially and economically, hence COVID-19 being accosted globally is hinting at the evolution of the new normal.

**Keywords:** Pandemic, plague, online business, distance learning, telehealth.

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## COVID-19'un Sosyal Etkileri: Öngörülemezliği Öngörmek

### Öz

Bu makale, COVID-19 sonrası senaryoda fütüristik boyutlara odaklanarak COVID-19'un devam eden toplumsal etkilerine dair bir araştırma yapmayı ve genel olarak dünyada ve özelde Pakistan'da beklenen sosyal değişimleri değerlendirmeyi amaçlamaktadır. Konunun ana tezi, bu tehdidin kozmik erişiminin ve yıkıcı doğasının, sosyal hayatlarımızda birkaç olağanüstü değişikliğe neden olduğudur. Pandemiler, hatırlanan zamandan beri milyonlarca hayatı yok etmiş ve her yere keder, kasvet ve sıkıntı yaymıştır. Pandemilerin ortaya çıkma sıklığı, artan küresel entegrasyon, nüfustaki üstel büyüme, kitlesel kentleşme, artan hareketlilik ve çevrenin aşırı sömürülmesi nedeniyle geçen yüzyıldan beri artmaktadır. İnsanlığın katlandığı başlıca pandemiler veba, çiçek hastalığı, grip, kolera, tüberküloz, ebola ve diğerleridir. Tüm bu pandemiler, toplumları sosyal ve ekonomik olarak yıkıma uğratmış, bu nedenle COVID-19'un küresel olarak ele alınması yeni normalin evrimine işaret etmektedir.

**Anahtar Kelimeler:** Pandemi, veba, çevrimiçi iş, uzaktan eğitim, telesağlık.

### Introduction

Since the expulsion of Adam & Eve from Garden of Eden, humanity has encountered multiple calamities like; earthquakes, floods, famines, drought, hunger and epidemics. Out of all these catastrophes, pandemics have a global reach for mass human destruction respecting no borders, caste and creed.

Historically, pandemics have been most devastating than any other calamity because of their morbidity and higher mortality rates. During the last century, pandemics that hit humanity included plague, polio, tuberculosis, smallpox and influenza. More recently Severe Acute Respiratory Syndrome (SARS), H1N1 “swine” Influenza, Ebola, Middle East Respiratory Syndrome (MERS) and COVID-19 is the latest addition into the list. The most devastating epidemic in history has been Spanish Influenza (1918-1919) killing 20-40 million (estimated) people in its two years of outbreak.

Josep Borrell EU Minister for Foreign Affairs while addressing to European Parliament on 23 March 2020, said:

***COVID-19 will reshape our world. We don't yet know when the crises will end. But we can be sure that by the time it does, our***

***world will look very different. How different will depend on the choice we make today.*<sup>1</sup>**

Regrettably, the death toll during the two years of Spanish Influenza was even more than the number of deaths caused by Bubonic Plague (1347-1351) in four years of its outbreak<sup>2</sup>. Although modern medical science is helping in early detection and control and treatment thus reducing the number of victims yet there has been a steady rise in infectious disease outbreaks over the past three decades<sup>3</sup>. The outbreak of five pandemics during the last two decades is the highest in number as compared to pandemics of last one century and these are threatening global health, security and social fibre of societies having wider spatial distribution<sup>4</sup>. Few reasons for the increase in the outbreak of pandemics include; exponential increase in world population, ease in road, sea and air travel, urbanization and the phenomenon of climate change. These factors generously contribute to the transmission of diseases and infectious organisms<sup>5</sup> both. Augmented freedom of global mobility of people is a major cause for the spread of diseases. For example, during Hajj over 2 million Muslims travel to Saudi Arabia. Similarly, over 20 Million perform Umrah every year over and above the Hajj pilgrims. About 25 million Shia Muslims visit Karbala (Iraq) annually. Other notable Muslim religious congregations (Tableeghi Jammah assembly) in Pakistan, Malaysia, Indonesia and Bangladesh attract millions of devotees yearly. Annual Christian congregation in Vatican City pulls around 5 million people. These people come from all over the world from different countries and continents giving rise to the potential of major health and infection control problems<sup>6</sup>.

The outbreak of pandemics can increase morbidity and mortality both over a wide geographic area and can cause significant *economic, social* and *political* disruptions. Their frequent resurgence has greatly impacted the societies. This article will examine the social impact of the latest pandemic (COVID-19) on the world in general and Pakistan in particular.

### **Viral Eye-View of Pandemics**

The history of pandemics is as old as human civilization and nothing has killed more human beings than infectious diseases. The formally recorded history of epidemics starts from the twelfth century onwards when medical science had made few advancements.

Therefore, it is imperative to have a brief overview of a few pandemics which prevailed in history.

Plague (the disease caused by bacteria carrying rodents) was the 1<sup>st</sup> disease which became an epidemic and later pandemic in the early 12<sup>th</sup> century. The deadliest of its type is known as the Bubonic plague or 'Black Death' which played havoc to humanity from 1347-1351. The geographic area of its prevalence was mainly Europe including some parts of Asia. It wiped out 30-50% of the European population which is estimated to be 78 million at that time<sup>7</sup>. Though Plague has been completely eradicated from the developed world however sporadic occurrence in Africa still exists<sup>8</sup>.

The next epidemic confronted by humanity was Smallpox which has existed since 1100 BC. This has been claimed by scientists who examined the mummy of pharaoh Rameses V. They determined that Rameses V died in 1157 BC because of Smallpox<sup>9</sup>. This disease caused serious human decimation in the early 1500 in the Americas. The extent of loss of life was over 50% of the population including few native communities of the affected regions<sup>10</sup>. World Health Organization (WHO) conducted a global vaccine administering campaign and eradicated the disease completely from the globe on 9 December 1979<sup>11</sup>.

Cholera is another epidemic which took many lives during the last 200 years. Since then there have been 10 outbreaks of cholera in different regions globally. The most serious outbreak of Cholera occurred in 1881 killing over 1.5 Million people<sup>12</sup>. Though advancements in medical research have helped in controlling disease to an extent yet 1.3 to 4 million cases appear mostly in Asia and Africa causing 21000 to 143000 deaths annually<sup>13</sup>.

Influenza is commonly known as "Flu or Cold" is another pandemic which has a long history of eruptions. Out of many outbreaks in different parts of the world, the one which occurred in 1918 resulted in deaths of alarming proportion. This became known to be Spanish Flu/Influenza as it started in Spain but later spread all over the world. Its estimated mortality was 50 million (5% of the world population) lives<sup>14</sup>. In 1957 and 1968 variants of Spanish Influenza named Asian and Hong Kong Flu respectively erupted globally and killed about 2 million people. Flu has cumulatively wiped out about 3 million people from the face of the earth living in different countries and continents<sup>15</sup>. In 2009,

another flue variant named as ‘Swine Flu’ erupted in different parts of the world killing about 575,500 people<sup>16</sup>.

Next deadly epidemic which hit the globe was HIV/AIDS (Human Immune-deficiency Virus/ Acquired Immune Deficiency Syndrome) in 1981. The disease is transmitted through bodily fluids. HIV generally spreads through unprotected sex, sharing of needles for drug use<sup>17</sup>. As per the World Health Organization (WHO), 75 million people have been infected with HIV and about 32 million people have died<sup>18</sup> till the end of 2018 since the start of the pandemic.

Severe Acute Respiratory Syndrome (SARS) was another flu-like pandemic which started affecting people in Guangdong province of South China in 2002-3. The disease quickly spread to 26 countries infecting 8000 people<sup>19</sup> before the health professionals realized its severity as it was initially considered as a new form of Pneumonia.

Middle East Respiratory Syndrome (MERS) pandemic appeared in the Arab peninsula in 2012. Few cases of the illness were traced in Saudi Arabia however many infected people were found throughout the Arab world. The disease killed 575 people with 1611 infection cases till 6 November 2015<sup>20</sup>.

Ebola Virus Disease (EVD) gripped Africa in 2013. It started in Guinea. The virus could develop haemorrhagic fever which was often fatal for humans. The Source of the disease was traced to be wild animals and EVD had a fatality rate of about 50%. The outbreak affected 10 West African countries and killed 11315 people in Liberia, Guinea, Sierra Leone, Nigeria and Mali<sup>21</sup>.

The latest (ongoing) pandemic is the novel coronavirus COVID-19. It is a respiratory illness which started in Chinese city of Wuhan. After analysing the available information and its spread rate, WHO declared Public Health Emergency of a global scale on 30 January 2020. In a very short span of time, this highly infectious disease spread to almost every nook and corner of the world affecting millions and killing thousands.

### **General Effects of Pandemics**

Historically pandemics have been a major source of instigating *economic, political and social* disruptions for communities. The devastating economic impact of pandemics initiates a cycle of paucity and poverty for the populace. The dwindling demand for goods

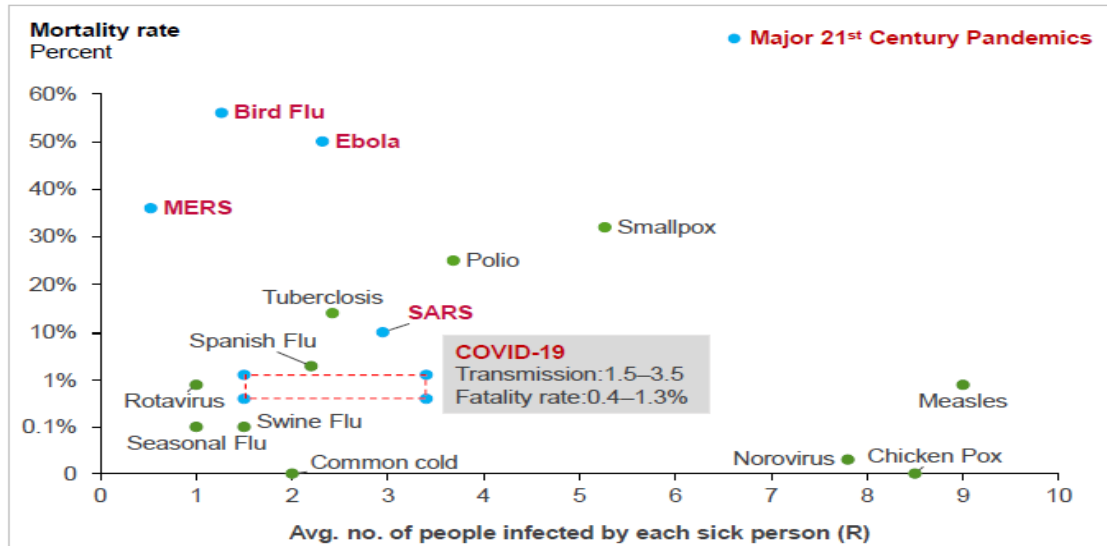
due to shrinkage of population results in forced closures of many large and small production units contributing in the overall economic woes of the countries. In a post-pandemic scenario, labour becomes scarce and expensive. Plague pandemic of 1347 witnessed wiping out of labour force however their subsequent high cost forced landowners to develop efficient mechanized methods for increasing production from their lands. Plague pandemic initiated the colonialization process of different regions by Europeans for grabbing cheap labour and valuable resources. Additionally, plague pandemic hastened the end of the feudal system in Europe<sup>22</sup> prevalent for centuries. The Smallpox pandemic of early 1500 destroyed many native communities facilitating hegemony of the European countries<sup>23</sup> which lasted for over 300 years.

The widespread morbidity and mortality of pandemics have long term social effects resulting in an imbalance in the age distribution of societies because certain pandemics affect specific age groups. The outbreak affects more to the population of less developed countries than advanced countries. Medical infrastructure and wherewithal of advanced states can manage the pandemic emergency more effectively than the poor states.

Pandemics are great challenge for the ruling governments as they are to lead response by making tough decisions. The governments are obliged to provide additional resources for initiating tangible response measures. However, the implementation of response guidelines becomes a real test for the governments. Sometimes response measures like quarantine have sparked violence between state and citizens. Countries having weak institutions and legacies of political instability face increased political temperature and tensions<sup>24</sup>. The role of electronic and social media has become very vital since the last pandemic of SARS. It helps in passing information very quickly and shapes public perception. Weaker and ineffective governments which are unable to handle the situation buckle under the pandemic pressure and loose appeal for their re-election.

Pandemics outbreak result in psychological stress for all segments of societies. Social fibre of societies comes under stretch directly proportional to the mortality rate of the disease<sup>25</sup>. Social relations become subordinate to human survival efforts and behavioral responses of the people also change. The protracted suffering with no end in sight results in escalating worries and distress. Longer incubation period of the disease virus induces more fear, anxiety and distress in the social life of the people.

**Figure 1:** COVID-19 is less deadly but more contagious than all previous outbreaks this century.



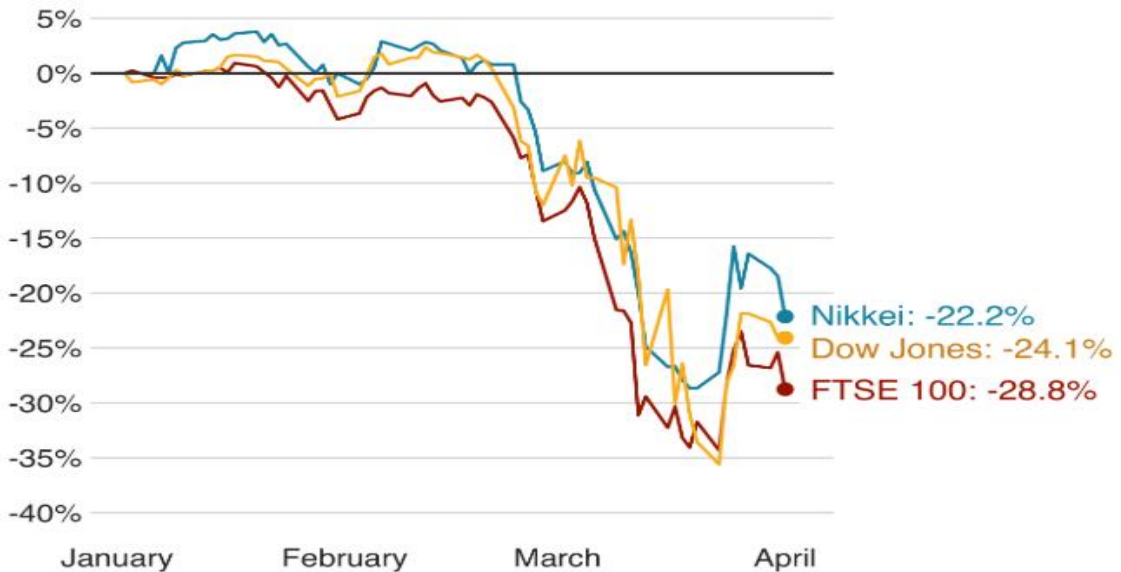
### COVID-19 – The Latest Shock

The generalized impact of pandemics has been highlighted in previous paragraphs. Let's explore how much damage COVID-19 would cause being most contagious of all previous pandemics.

The negative economic impact, being 1<sup>st</sup> during any pandemic is the mother of all woes in societies. The economic downslide drives all other social changes. To estimate the exact global economic damage from COVID-19 is extremely difficult at this stage as the pandemic is still out of control. However, there is widespread agreement amongst economists that it will cause irreparable loss to world economies. Leading financial experts agree that world major economies will lose at least 2.4 percent value of their GDP during 2020 and annual global economic growth will reduce from 3 percent to 2.4 percent. The loss of 0.6 percent from global GDP of 86.6 Trillion US\$ (2019 estimate) means wiping off of 5.2 Trillion US\$ from world overall GDP<sup>26</sup>.

**Figure 2:** Source; Abdul Latif Jameel Institute for Disease and Emergency Analytics, and Department of Infectious Disease Epidemiology, Imperial College London. <https://www.imperial.ac.uk/jameel-institute/> accessed on 19 April 2020

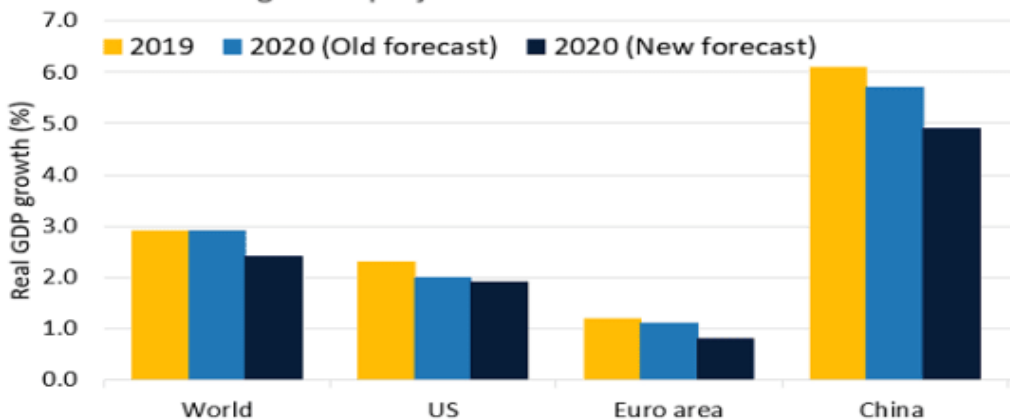
### The impact of coronavirus on stock markets since the start of the outbreak



**Figure 3:** Source; Retrieved from [www.bloomberg.com](http://www.bloomberg.com) accessed on 19 April 2020

### Global economic growth slowdown

The Organisation for Economic Co-operation and Development (OECD) its 2020 real GDP growth projections for almost all economies



SOURCE: OECD Economic Outlook Report (March 2020)



International Monetary Fund (IMF) recently forecast that global growth will fall below 2019's level of 2.9 percent<sup>27</sup> because of the covid-19 pandemic. Since its outbreak, world stock markets around the world have tumbled and businesses have suffered colossal losses. Stock markets may further nosedive if the pandemic remains out of control for a long time.

OECD's economic outlook shows serious economic growth slowdown in all major world economies especially China. The same is shown in the opposite chart.








International Labour Organization (ILO) estimated that COVID-19 has threatened 25 million jobs and lockdowns will be affecting 2.7 billion (4 out of 5 world's workforce) workers worldwide<sup>28</sup>. Global unemployment which was about 190 million before the pandemic will double depending on how quickly the pandemic is controlled.

COVID-19 has stressed Pakistan economy like all other international economies. According to Pakistan Institute of Development Economics (PIDE), there will be 15.4-18.6 million job losses particularly for semi-skilled and daily wage earners. Poverty is feared to rise to 125 million people (58.6 percent). Around 2.4% of the Annual GDP will be lost due to COVID-19, which is enough to send the country into a spiralling recession<sup>29</sup>. Another renowned economic analyst predicts that Pakistan's economy will face loss of up to 4.64 percent in the gross domestic product (GDP) because of disruptions in trade, both in imports and exports after the outbreak of COVID-19<sup>30</sup>.

**Figure 4:** Source; COVID-19: Scenarios & Implications for Pakistan (8 April 2020). Retrieved from [www.engro.com](http://www.engro.com) on 19 April 2020

The economic impact of the pandemic as put forth by another Pakistani think tank is shown in the diagram.

## Measures taken to control virus spread are likely range of ways

		Impact
	GDP	GDP Contraction of <b>10 - 15 p.p.</b> relative to 2020 forecast
	Fiscal Deficit	Negative impact of <b>~Rs 1.9 - 2.2 Tn</b> ; deficit increases from <b>8%</b> to <b>14%</b> of GDP
	Balance of Payments	Ranges from <b>\$1bn</b> in outflow to <b>\$3 bn</b> in inflows
	Unemployment	Unemployment for <b>15-20mn</b> during suppress phase (i.e.lockdown) and <b>10-12mn</b> during sustain phase
	Food Security	Food security threatened for <b>~45-50m</b> during suppress and <b>~15-20m</b> during sustain
	Health Crisis	Economic shock will lead to health impact on low income groups
	Social Unrest & Crime	Economic shock will lead to crime and social unrest

At a global level, the pandemic has challenged the concept of globalization which is an interdependence of nations around the globe through free trade. Interruptions in global

supply chains emanating from China has affected almost all countries. Overdependence on any one country threatens the economic activities in another country without any warning as being experienced. China-centric globalization has invited a lot of criticism since outbreak of the pandemic. Affected countries will certainly reconsider their options in the future. However, the viability of globalization challenges may not affect Pakistan as our industry is mostly local and does not depend on foreign manufacturing partnerships.

### **COVID-19 & Fresh Worldly Outlook - Impacts**

COVID-19 is being characterised as most destructive in nature driving humanity to an uncharted arena. A virus (having a diameter of approximately 60–140 Nano meter<sup>31</sup>), visible through a powerful microscope, has turned the world upside down. It has been concluded by the scientist community that a higher infectious rate of the disease will affect almost every human being present on the face of the globe. For controlling morbidity, countries have sealed their borders and ceased all outdoor activities of their population. Places which used to be teeming with hustle and bustle have become ghost towns facing unprecedented restrictions like lockdowns, cessation of all economic activities; closing of factories, malls, banks, on-campus educational activities, terminating intercity and international rail, road, air & sea travel and imposition of ban on mass social gatherings including religious congregations. All these preventive measures resulted in few global social changes in societies at large which will be discussed in ensuing paragraphs.

Before the outbreak of COVID-19, the concept of '*Working from Home*' was in a state of infancy even in the advanced countries despite having advanced computer technologies. The driving force behind this concept was cost-cutting by not maintaining large office buildings by the companies. This was beneficial for employees as it affords flexibility and saves commuting cost and time without compromising on the efficiency of the system. The most effective countermeasure against the pandemic as proposed by medical professionals was to avoid interaction with others thus working from home became a compulsive option. Therefore, COVID-19 transformed our office working system and we may see wider implementation of the 'work from home' concept in the near future as it is a win-win situation for both employers and employees. It is believed that the concept has already saved the unlimited number of jobs which otherwise would

have been lost due to lockdowns and other movement restrictions imposed on the population.

One of the major impacts of COVID-19 has been on the **Education System** in the world. Pandemic being extremely infectious forced closing of schools and universities. To save the academic year of students, countries started using computer technology for conducting online classes. This experience proved very useful for students and teachers alike. Online teaching and learning will have a long-term impact on the world education system. Additionally, renowned professors and teachers will become globally accessible. The cost of education which has been skyrocketing in recent years will go down because the physical need of campuses will abate. The existing infrastructure of schools and universities can be converted into hospitals or for any other good use as deemed appropriate by the governments.

In the same vein, **'telehealth & telemedicine'** will become a universal future norm facilitated by advanced technology. Renowned doctors will become available for consultations and advice to ailing patients. Even very complicated surgeries will become remotely possible breaking all geographic barriers forever.

**Online shopping** will become more common in less advanced countries as well. The lockdowns forced everyone to stay at home but goods deliveries through couriers purchased online remained available. This has given confidence to consumers therefore, we may see increased online shopping activities worldwide and at the same time prices may also fall as the cost of doing business especially overheads will tremendously reduce. Another impact will be that all big stores physically exhibiting finished goods will close however, they will maintain small display centres for a few years before completely switching to online business.

**The air traveling industry** may witness another paradigm change. It encountered many changes after the 9/11 event but those were mainly security-related however COVID-19 may bring more stringent health-related checks for the travellers. We will see enhanced measures to prove oneself healthy before boarding flights. Frequent requirements of health certificates and stringent screening on the airports may become a norm in days to come.

**Tourism** is a huge global industry. It had 8.9 Trillion US\$ (10.3%) contribution to world GDP in 2019. It employs 330 million (one in ten) people in the world. Tourism has 5.9% share in the overall Pakistan economy<sup>32</sup>. The massive interruption caused by the pandemic will take a long time to recover. The local economy of tourist attraction areas will be severely affected rendering thousands jobless and poor.

**Quarantining** is a strict isolation measure imposed by the governments to prevent the spread of disease. It is an age-old proven method which was even exercised during the Bubonic plague and Spanish influenza pandemics of the past. Since the beginning of Pandemic on 11 March 2020<sup>33</sup> quarantining or isolation is considered a very effective measure against COVID-19 as well. Adoption of this very measure brought the wheel of life to a grinding halt. People have been asked to stay at home for weeks to avert infection. As human is a social animal therefore confinement or freedom curtailment has inimical psychological effects. Noticeable a few are anxiety, depression, cognitive decline, obesity and weakened immune system. Depression and despondency top the list of suffering by people living in forced quarantine (lockdowns) or isolation. The after-effects of prolonged quarantine will be visible in many societies especially in women in times to come. Therefore, mental health specialists (Psychiatrists) will become in hot demand in the future. Physical activity (exercise) for maintaining good health is another aspect which will become more visible in non-sporting societies like ours. Therefore, sports industry will flourish in the future.

**Social distancing** has become a global lexicon during the pandemic which means that everybody has to maintain one-meter distance from each other to avoid exchanging infection. It is believed that the term 'social distancing' should be modified to physical distancing to convey its literal meanings and social interconnection with the help of modern technology be increased. This practice will change the future social outlook of societies making hugging and cuddling as thing of the past. Additionally, personal hygiene standards of the societies will also improve and people will show concern about the cleanliness of the surroundings.

Knowledge of one's movement before and during the pandemic is very important information *vis-a-vis* spread of the disease. Modern technology can help in **tracking one's earlier movements** and interaction with other people through data mining. This electronic tool was very effectively used by Chinese in locating many infected people.

Tracking capability through mobile phone technology has adversely affected public privacy. So it is expected that people will not be able to hide their movements in the future. The tracking capability can be effectively used to monitor the social activities of the people. This may help in tracking offenders and reduce crimes in societies.

The pandemic has exposed the *fragility of human life* by suffocating thousands to death. Humanity despite all medical advancements is a constraint to do anything before the divine decision about life and death. That's why during the pandemic, augmented religious proclivity was witnessed amongst Christians, Muslims, Jews and others. There is a unity of belief amongst all religions that the COVID-19 pandemic is a God's fury for not abiding by his guidelines. Special religious services were held for seeking God's mercy, benevolence and kindness against his wrath. There is a possibility that societies will now have stronger religious orientations however, friction between religious and a-religious groups may become more conspicuous in the future.

The global pandemic response has always been dependent on the availability of correct and timely information. It has become increasingly clear that a fast, effective way to fight pandemic is by sharing correct data for generating integrated response. COVID-19 has compelled the whole world to establish *National Disaster Management Centres* for centralized feedback to the world disaster managing organizations. The improved flow of information has helped in taking timely action for fighting the disease and initiating medical research against the virus. Sharing of information on pandemic through international electronic media was a great bliss. World Health Organization (WHO) started a pandemic devoted TV channel which created awareness and cognizance amongst the masses. National print and electronic media played their role for running campaigns and highlighting precautions against the disease. It is expected that the convergence of media and disaster managing organizations will help societies to beat future disaster more efficiently than ever before. However, people have to act in a responsible manner to avoid 'information overload' on social media. The credibility of shared material on social media raised many questions. Stereotyping of people associated with pandemics is one such example.

All perceived social changes as described above are global in nature and will impact Pakistani society as well sooner or later. Early adoption and adjustment with new realities of life will keep us abreast with the rest of the world. COVID-19 has already

reshaped our world and now it depends on us as what choices we make today and to make it a better place we must change ourselves. Therefore, the ultimate solution lies in strategizing combating the coronavirus and effective management of the economic crisis specially to save the jobs and lives of the marginalised segment of our society.

## Conclusion

COVID-19 pandemic will haunt humanity forever. The losses inflicted by the outbreak will surpass all previous records proving the fragility of the social and economic systems of the world. Economic losses will still be recovered with the passage of time but avoiding loss of life in any such event in the future needs pragmatic planning today. Expected social changes as discussed in preceding paragraphs will change the worldly outlook in the future. It may take some time as there is always inertia to adopt new ways of life however rehearsal for change has already taken place and the new generation will prove quick adopters than the elderlies. Death and destruction are moments of sorrow and grief for the people. When rich and poor see the grim reality of pain together, there's less polarisation therefore societies are expected to see peace and tranquillity with lesser inter and intrastate armed conflicts and strife. This will be the greatest positive outcome of the pandemic.

## REFERENCES

1. Borrell J. E U Minister for Foreign Affairs Addressing to European Parliament on 23 Mar 2020. *European Union External Action*. 2020.  
[https://eeas.europa.eu/headquarters/headquarters-homepage/76341/coronavirus-news-eu-action-team-europe-support-disinformation-repatriation-and-solidarity\\_en](https://eeas.europa.eu/headquarters/headquarters-homepage/76341/coronavirus-news-eu-action-team-europe-support-disinformation-repatriation-and-solidarity_en) Accessed on 2 April 2020.
2. Billings M. The Influenza Pandemic of 1918: 2005.  
<https://virus.stanford.edu/uda/>. Accessed on 2 April 2020.
3. Smith KF, Goldberg M, Rosenthal S, et al. Global rise in human infectious disease outbreaks. *Journal of the Royal Society Interface*. 2014;11(101).  
<https://royalsocietypublishing.org/doi/full/10.1098/rsif.2014.0950>. Accessed on 2 April 2020.

4. Ursano RJ, Fullerton CS, Weisaeth L, Raphael B. *Text Book of Disaster Psychiatry*. 2nd ed. Cambridge University Press; 2017.
5. Morse SS. Factors in the emergence of infectious diseases. *Emerging Infectious Diseases*. Jan – March 1995;1(1):7-15.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2626828/pdf/8903148.pdf>.  
Accessed on 2 April 2020.
6. Ahmed QA, Arabie YM, Mernish ZA. Health Risks at the Hajj. *The Lancet*. 2006;367(9515):1008-1115.  
[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(06\)68429-8/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(06)68429-8/fulltext). Accessed on 2 April 2020.
7. Herlihy D. *Black Death and Transformation of West*. Massachusetts: Harvard University Press; 1997.
8. WHO. Plague Key Facts. WHO. <https://www.who.int/news-room/fact-sheets/detail/plague>. Accessed on 5 April 2020.
9. Ruffer MA. *Studies in the Paleopathology of Egypt*. In: Moodie RL. Chicago: University of Chicago Press; 1921.
10. Jenifer LC. *The Speckled Monster: A Historical Tale of Battling the Smallpox Epidemic*. New York: Plume Penguin Group; 2004.
11. WHO. Declares Eradication of Smallpox. WHO.  
<https://www.who.int/csr/disease/smallpox/en/>. Accessed on 5 April 2020.
12. Steve J. *The Ghost Map: The Story of London's Most Terrifying Epidemic and How It Changed Science, Cities, and the Modern World*. New York: Penguin Group Pub; 2006.
13. WHO. Cholera Fact Sheet. WHO. [https://www.who.int/health-topics/cholera#tab=tab\\_1](https://www.who.int/health-topics/cholera#tab=tab_1). Accessed on 5 April 2020.
14. Centre for Disease Control & Prevention. 1918 Pandemic (H1N1 Virus). CDC.  
<https://www.cdc.gov/flu/pandemic-resources/1918-pandemic-h1n1.html>.  
Accessed on 18 April 2020.



15. Barry JM. *The Great Influenza: The epic story of the deadliest plague in history*. New York: Penguin Books; 2004.
16. Centre for Disease Control and Prevention. 2009 H1N1 Pandemic (H1N1pdm09 Virus). CDC. <https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html>. Accessed on 18 April 2020.
17. Howard P. *Epidemics*. Ohio: Ohio University Press; 2012.
18. WHO. Global Health Observatory Data. WHO. <https://www.who.int/gho/hiv/en/>. Accessed on 6 April 2020.
19. WHO. International Travel and SARS. WHO. <https://www.who.int/ith/diseases/sars/en/>. Accessed on 7 April 2020.
20. Al Hosani, Farida Ismail. Response to emergence of Middle East Respiratory Syndrome Coronavirus, Abu Dhabi, United Arab Emirates. *Emerging Infectious Diseases*. 2016;22(7):1162-1168. doi: 10.3201/eid2207.160040
21. Richard, M, P. *The Terrifying True Story of the Origin of the Ebola Virus: The Hot Zone*. New York: Anchor Books; 1995.
22. Platt C. *King Death: The Black Death and Its Aftermath in Late-Medieval England*. Oxon U.K: Routledge; 2014.
23. Diamond J. *Guns, Germs, and Steel: The Fates of Human Societies*. New York: Norton; 2009.
24. WHO. Guideline Document on Pandemic Preparedness and Response. <https://www.ncbi.nlm.nih.gov/books/NBK143067/>. Accessed on 10 April 2020.
25. Drake TL, Chalabi Z, Coker R. Cost-effectiveness analysis of pandemic influenza preparedness: what's missing. *Bull World Health Organ*. 2012;90(12):940-941. doi: 10.2471/BLT.12.109025
26. Duffin E. Impacts of Coronavirus Pandemic on the Global Economy – Statistics and Facts. Statista. <https://www.statista.com/topics/6139/covid-19-impact-on-the-global-economy/>. Accessed on 18 April 2020.

27. Holly E. Europe Should See a ‘Tick Mark’ Recovery After Coronavirus. CNBC. <https://www.cNBC.com/2020/04/01/coronavirus-europe-expect-a-tick-mark-recovery-economists-say.html>.
28. UN News. COVID-19 Could Cause Equivalent of 195 Million Job Losses. UN News. <https://news.un.org/en/story/2020/04/1061322>. Accessed on 17 April 2020.
29. PIDE. Covid-19 E-Book. PIDE. <https://www.pide.org.pk/pdf/PIDE-COVID19-EBook.pdf>. Accessed on 18 April 2020.
30. Mehtab H. Covid-19: Economy may face GDP loss of up to 4.64 percent. The News. <https://www.thenews.com.pk/print/637732-covid-19-economy-may-face-gdp-loss-of-up-to-4-64-percent>. Accessed on 18 April 2020.
31. Cascella M, Rajnik M, Cuomo A, Dulebohn SC, Di Napoli R. Features, Evaluation and Treatment Coronavirus (COVID-19) [Updated 2020 Apr 6]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020.
32. World Travel & Tourism Data. <https://wtTC.org/Research/Economic-Impact>. Accessed on 21 April 2020.
33. WHO Press Briefing by Director General on 11 March 2020. <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>. Accessed on 12 April 2020.