SARS-CoV-2, PANDEMIC - AN EPITOME

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ABSTRACT

With the growing modernity, advancement of science and technology, the world is changing at a fast pace. With changes come advantages and disadvantages on anything. In current circumstances the world is facing one of the major catastrophic in the form of pandemic. It has engulfed entire world, with none spared. The crisis has been designated as Corona or COVID - 19 or SARS CoV-2. This pandemic originated through a virus in food market of Wuhan in China. It is being said that the virus has been transmitted through bats via pangolins or civets and then to humans. But all this is still a hypothesis, yet to be finalized. This virus is quite deadly with no treatment found.

This pandemic has changed the whole scenario and the intensity is more or less same as Spanish flu of 1918. The factors and causes responsible are still under scrutiny, and as a result whole world has come to stand still. The role of China in this context is doubtful, as it concealed the information of this epidemic in its country from the whole world and World Health Organisation as well. The disease is contagious and can only be stopped from social distancing and lockdowns. But social distancing and lockdowns have taken a big troll on society, economy and development of any country.

When we talk of corona in Indian perspective the worst hit are daily wages, labourers etc., increasing the burden of unemployment, recession, decrease in GDP and per capita income, resulting in inflations of prices of commodities. The economy has suffered to a great extent that it has receded 25 years back. In Indian context, it is elite oriented, sparing to an extent the rural areas. Once situations are under control, some actions should be taken on China, so that its original face comes to forefront on international platform.

Key Words: Corona, Pandemic, World, Economy, Development.

BRIEF OUTLINE

It all started with sudden headlines somewhere in December 2019, that a virus is infecting the Wuhan province people of China and people are experiencing fever, sore throat, headache etc. The Chinese government did not disclose the causes, behind the disease, but propagated that it is non-infectious and non -communicable. But in the coming months it proved to be an epidemic, rather a pandemic, quickly spreading and gripping whole of the world, devastating lives, economy and development, not only of the developing, under developing but the developed nations as well. It

means that this disaster is irrespective of caste, creed and geographical zones.

Viruses evolved on earth much before humans did in modern forms today. Many viruses have vaccines for their treatment, but in newer forms of pathogens, the vaccines are yet to be developed, which pose a serious threat for public health globally. Viruses as such are microscopic parasitic organisms much smaller in size than bacteria, which need a medium to multiply (host cells). They are made up of DNA, RNA and proteins. These organisms are deadly and can create havoc, as in current scenario (COVID-19 VIRUS). Apart from the above there are other deadly viruses which have taken toll on human lives earlier too. These include

Table No. 1 – Deadly Viruses of 20th & 21st Century.

Name of	Year of	Place of origin	Mode of	Symptoms	Percentage	Vaccine
virus	outbreak		spread		of mortality	Developed
Marburg	1967 (1 st)	Germany &	Monkeys	Fever, haemorrhage,	25% in 1 st &	Not yet
	& 1998-	Congo		shock, organ failures &	80% in 2 nd	
	2000(2 nd)			death.	outbreak.	
Ebola	1976	Sudan & Congo	Blood &	Fever, fatigue,	50-70 %	
			other body	headache, sore throat,		Not yet
			fluids of	muscle pain, impaired		
			infected	kidney & liver function		
			organism.	etc.		
Ebola ¹	2014- 16	West Africa	Fruit Bats	Fever, fatigue,	90% of the	
				headache, sore throat,	infected	Not yet
				muscle pain, impaired	people.	
				kidney & liver function		
				etc.		
Rabies	1920	Africa & Asia	Infected	Fever with pain and	100%, if	
			animals	tingling, prickling, or	untreated	
			(Generally,	paraesthesia at the		Yes
			Dogs & Bats)	wound site. Fatal		
				inflammation of the		
				brain and spinal cord		
				usually develops as the		
				virus progresses to the		
				central nervous		
				system.		

HIV	1980s	Western Africa	Different primates and unprotected sex, mother to child etc, in humans.	Prolonged symptoms include interference with immune system, tuberculosis, tumors, unintended weight loss etc.	Millions of people till date.	Yes
Smallpox	Date not specified	Africa	Terrestrial Rodents	Fever, vomiting, sore throat and mouth, rashes.	Millions and millions.	Eradicated from world.
Hantavirus	1993	New Mexico & Arizona	Infected Deer Mice	Fatigue, fever, muscle aches, shortness of breath, cough.	36% of infected people	Not yet
Influenza (Spanish Flu)	1918	Unknown, but it is either China, France, Britain or USA.	Avian origin	Lungs filled with fluids, fever, fatigue, skin turning blue, chills, suffocations.	50M died. Nearly 1/3 population of world was infected.	Yes
Dengue	1950s	Philippines & Thailand	Arboviruses (Arthropods) , mosquitos and ticks.	Bleeding, Organ impairment, flu like symptoms.	2.5% & 20% if untreated.	Yes
Rotavirus	1970s	Melbourne	Bovine (Cow) or Rhesus (Monkey), through Faecal - oral routes.	Nausea, Vomiting, Low grade fever, watery diarrhoea.	20 – 60% of deaths every year even today.	Yes
SARS- CoV	2002	Southern China	Bats and Civets.	Chills, fever, body aches & pneumonia.	9.6% of the infected people	Not yet
SARS- CoV -2	2019	Wuhan, China	Bats and Civets.	Chills, fever, body and muscle aches, loss of taste and smell & pneumonia.	2.3% of the infected people	Not yet
MERS - CoV	2012(1 st) 2015(2 nd)	Saudi Arabia(1 st) & South Korea(2 nd)	Bats	Pneumonia	30 – 40% of infected people	Not yet

Ebola¹ - is the most lethal of the Ebola family.

CORONAVIRUS/ COVID-19

The designation Corona has been derived from the word 'crown' in Latin. This idiom is being used for SARS-CoV-2 or Severe acute respiratory syndrome coronavirus 2, a virus which is currently responsible for 2019-20 global pandemic outbreak. It has devastated the lives and minds of each and every person worldwide.

The virus that causes COVID-19 and the one that caused the outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003 are related to each other genetically, but the diseases they cause are quite different.

As in accordance to the reports COVID-19, first emerged in market selling wild animals in Huanan Hubei, Wuhan province of China, from bats via intermediate civets or may be pangolins and then to humans, (till date it is uncertain). It is also being advocated that pangolins were transit point for the virus, before it mushroomed to humans. People of Wuhan first got infected, which further propagated from humans to humans and escalated the spread amongst them. Further aggravating the conditions, it also holds true that it has not spared animals whether pets or wild, as are the cases of pet dogs and tiger getting infected with it too. Thus, we can assume that whole of the animal kingdom can fall prey as a puppet in the hands of this virus.

The characteristic features of coronavirus delineate that once it come into play, it will transform itself into pandemic and produce enormous cluster of cases, thus proving as if it has well adapted itself in humans. Although many hypotheses have been lined up, yet these are mere speculations, waiting to be proved.

The covid-19 virus, reported few months back in 2019, has now transformed itself into 10 new mutant forms like, O, A2, A2a, A3, B, B1 of which the most active mutant in the present times is 'A2a' and it has replaced all its other variants. This A2a variant is dominant globally, as reported by Indian Institute (). This mutant virus can very easily enter human lungs, making it expressive globally. The 10 variants have stemmed up from the 'O' type (most primitive type) found in Wuhan, in less than four months. The A2a virus has the capability bind itself to the proteins cell from lungs surface. It is this ability of A2a which has resulted in pandemic.

A2a ENTERS LUNGS EFFICIENTLY

- 10 mutations from 'ancestral' O type that originated in Wuhan, China, identified
- Of them, type A2a dominates geographical regions, find researchers from the National Institute of **Biomedical Genomics**

GLOBAL SPREAD 3,636 coronavirus RNA sequences studied from 55 countries: **A2a:** 1,848 (50.8%), **0:** 582, **B1:** 505

INDIAN SCENE 35 Indian RNA sequences checked: **A2a:** 16 (47.5%), **A3:** 13, **O:** 5, **B:** 1

NEW SYMPTOMS: Centers for Disease Control and Prevention cites new Covid-19 symptoms: Chills, repeated shaking with chills, muscle pain, headache, sore throat and loss of taste or smell. Earlier, it had listed just 3 symptoms: fever, cough & shortness of breath

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Figure - 1. Source:- http://timesofindia.indiatimes.com/articleshow/75417399.

The novel coronavirus that has now spread to more than 150 countries, infecting more than 184,000 and killing over 7,500 people, is of natural origin in evolution, due to its unique molecular composition and genomic sequencing analysis not found in earlier varieties. So, it is not man made, as claimed in recent past. The current pathogenic nature of this virus can give way to future epidemics as it may show up in humans time and again, due to their close association with varied animals.

PANDEMIC

The term pandemic has been derived from Greek concept 'Pandemos'. Demos means population or people whereas Pan relates to everyone. Thus, this word pandemos highlights and credence that the entire population of the world would be affected. So, the SARS CoV-2 can definitely be termed as a disaster, a pandemic and not merely an epidemic because

- The outbreak is small, but unconventional and strange.
- It has crossed its boundary of origin and attacked internationally, affecting the entire world.

- Also affects socially, economically and politically world-wide.
- More deadly than epidemic.
- Mobilization of funds and political support globally by W.H.O., and between the countries.
- Authorities are unable to control the wide spread of disease, and therefore move forward toward disaster management mitigation strategies, appropriate for coping up with such type of disaster. For instances, closing of schools and colleges, banning mass gathering at places like multiplexes, restaurants, religious places etc. and political rallies.
- Applying measures like social distancing, use of masks, regular washing of hands with soap, covering nose while sneezing, stop regular touching of eyes, nose and mouth.
- Self-quarantine and forbidding travels domestically and internationally.



Figure: - 2. Safety measures during COVID -19.

POSITION OF CHINA AND THE WORLD HEALTH ORGANIZATION (WHO)

As the Sars-CoV-2 virus still being a mystery, the role of China in these crucial times is debatable and ambiguous. It always misled the world regarding the virus's origination and spread. It is so because the **cradle of pandemic**- Wuhan, holds one of the largest and biggest banks of viruses- Wuhan Institute of Virology (WIV) in Asia, is a place where it started all of a sudden in a market selling wild animals. The WIV has about 1500 strains of viruses in its laboratory.

Many hypothetical views are surfacing upon the origination of corona virus- like it is man-made or that China was making a bioweapon, was intentionally leaked, genetically modified etc. Even though the virus is said to have originated in natural reservoirs, yet the question is still open about its origin. At one point of time even if, we consider that China is not at fault yet, its role in sharing the information with WHO was quite delayed. This lazy attitude of China is not tolerable and would further intensify in across countries tensions or maybe even a beginning of cold war between them. Its role is arguable because China's economy is rapidly moving forward, while the rest of the world is standstill in dilemma as to how to deal with the pandemic, and looking towards China. Apart from this, the economies throughout the world have completely shattered and devastated, resulting in periods of recession. On the other hand, China's view is that the virus has been planted by USA, as a war tactics to led down China. China in today's time is emerging as a superpower of health, where the cases have drastically shrunken, with only few new reported cases in recent days. People within China are also

raising eyebrows on the Chinese government, for mishandling of coronavirus.

Born during the 2nd world war, WHO since then has played potential roles during various health crisis situations, especially eradication of smallpox from world. But in present scenario the countries who are members of WHO are also raising eyebrows and upset upon its ways for dealing with pandemic and for being China centric. When referring to international laws regarding disease spread globally, the reluctant role of WHO, should have been more legitimate and transparent, in handling of the epidemics and pandemics like, Ebola unmanageable and obdurate countries like Pakistan for poliomyelitis in 2014 and COVID-19 in recent times. As such certain transformations are a need of hour in the IHR 2005 and PHEIC, which must be revaluated and reconsidered as in the light of legality, as its credibility is questionable. So that the fundamentals of WHO- economic and human hardships, could be minimized globally during these struggling times. Issues of public health and awareness should be dealt with transparency. They should bring in a shift in approaches from binary and passive to a more active, dynamic and open ended one, based on team work, cooperation and good faith.

STORYLINE OF CORONAVIRUS, ABOARD AND INDIA

All the above said had laid drastic effects on humans socially and economically worldwide. A wide gap can be felt in between pre corona and post corona times. The worst hit countries are USA and Italy, with number of cases rising to thousands on daily basis. The number of cases throughout the world has crossed 3,349,786, as on 3rd May 2020. It is an issue, no one knows how to address.

Table No.-2: - Worldwide scenario of Coronavirus cases as on 3rd May 2020.

Total number of cases	Total number of		Total number of cases	Total number of active	
	deaths		recovered till date	cases	
3,349,786	2,38,628		9,83,991	2,127,167	

(Source: Google Worldometer)

There are almost 212 countries and territories in the grip of COVID-19 today. The magnitude and collapse are dramatically immense. All the countries are struggling with multiple crisis issues pertaining to

health, finance and commodity pricing of goods. Such that the whole economic landscapes have changed worldwide.

Global crisis

Both advanced economies and emerging market and developing economies are in recession. Major economies have also been significantly downgraded.

(real GDP growth, year-on-year percent change)

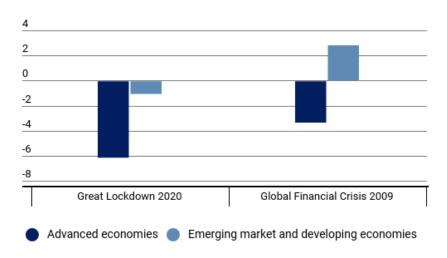


Figure: - 3 Showing comparison between 2020 and 2009 crisis. (Source IMF Blog)

The pandemic is here, as expected to last till the second half of this year, when vaccines and other measures come in to foreplay in on large scale. According to IMF there is already a slowdown in global growth by 3 percent, which is further

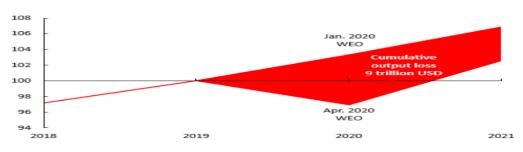
expected to decline, and will rise to 5.8 percent only in 2021. The loss in global growth is huge, about 9 trillion dollars, which is more than the combined economic growth of countries like Japan and Germany. The global GDP has drifted to .9% from

2.5%, in 2020, within a time span of two and a half

months.

Output losses The cumulative output loss over 2020 and 2021 from the pandemic crisis could be around 9 trillion dollars.

(global real GDP level, index)



Sources: IMF, World Economic Outlook; and IMF staff calculations.

Figure: - 4 Showing output losses in year 2020 & 2021. (Source: IMF Blog)

When we talk of India, the first thing that comes in our mind, is a country of diverse diaspora, having agriculture-based economy and a population of about 100 crore individuals to support, where even today 70 percent of its population still resides in rural India. In 21st century, when India was pacing fast in becoming globally recognized nation, having immense potential of becoming a developed one.

It was then, a disaster in the form of pandemic (SARS-CoV-2) comes to surface on 30

January 2020 for the first time in Kerala. Since then there is no looking back and people suffering from this are on rise. From the past two and a half months, the situation is bad to worse. Three consecutive lockdowns have brought everything to a standstill, be it economy, developments, businesses, social life etc. and the worst hit are poor or lower middle— and middle-class people.

Table No.-3: - India's Coronavirus cases as on 3rd May 2020.

Total number of cases	Total number of deaths	Total number of cases recovered till date	Total number of active cases
39,980	1301	10,632	28,046

(Source: Reports from Health Ministry.)

With every passing day, things are shackling all the more. According to assessments done, of the ongoing scenario, COVID-19 is estimated to cross a mark of 50000, by the mid of May 2020. Closing up nearly all of the manufacturing units of industries during lockdowns, has resulted India in witnessing

18

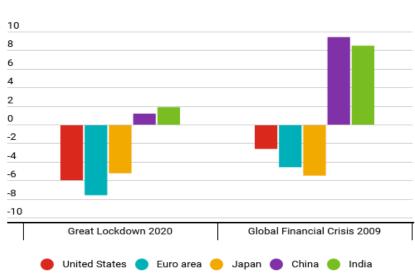
lesser GDPs with negative growth. Almost 70% of business activities are hampered, be it construction sector, service sector, banks, travel and tourism etc., and there is a **loss of about 190 million dollars**, in a period of 47 days lockdown. Supply chain of commodities is either slow or stopped due to halt in

production. This corona pandemic is being compared to **crisis of 1918, 1930 and 2008.**

Coronavirus has created ripples within India, and in order to overcome we will have to strengthen our economy. As India is mainly agriculture-based economy, therefore our focus should be towards increasing the agricultural produce, utilising the limited internal resources with sustainability, raising the infrastructures for horticulture, providing subsidies to agricultural sector, encouragements should be given to Indian production in order to accommodate migrant labourers at their very own place. Emphasis should be laid regarding public health and hygiene.

If we carefully look at the graph of COVID-19 in India, it is evident that **COVID-19 is Elite oriented**, that is it has affected more of the urban population than the rural one. This makes India on

upper edge than the rest of the world, to recover from pandemic, by relying more on our Rural India. Our rural areas are less affected and acting as buffers, and at this very place, we need to revise our strategies of development throughout the nation. We should not betray globalization, but our main focus should be towards finding more and more ways for uprising from this pandemic. The government at this point of time should think of mobilising more and more of the MSMEs, in way to lessen the burden of unemployment, thus minimizing the income gap between agriculture and non-agriculture modes of economies. At present MSMEs provide for about 12 – 14 percent of the total employment of the country. It is for this reason that MSMEs should be strengthen via modes of providing better facilities via irrigation, harvesting, subsidies, price support etc.



(real GDP growth, year-on-year percent change)

Source: IMF, World Economic Outlook.

Note: For India, data and forecasts are presented on a fiscal year basis, with FY2020/2021 starting in April 2020. India's growth is 0.5 percent in 2020 based on the calendar year.

Figure: - 5. Real GDPs of various countries. (Source IMF Blog)

In present situations all the affected countries of the world are looking at China as a traitor, for not being transparent in SARS-CoV-2 pandemic. The magnet of China as an all rounder in world development has

shattered. Now the world will definitely look beyond the polarization of China. Therefore, it is a golden opportunity for India, so as to make reforms in its industrial policies and allure more and more foreign

investments in India, which will be beneficial for India in long run.

CONCLUSION

In present times the world is experiencing the most difficult crisis situations after World War II. The world is definitely going to see the worst hit recession, after great depression. It is so because the human cost of suffering is immense and unaccountable. With every passing day the corona virus is gaining momentum and is unstoppable. It is a mere estimation that recovery from coronavirus is possible only around 2021. This SARS- CoV-2 virus has taken a heavy toll on humans, and has become a reason for the closure of many businesses affecting all segments of population. Special measures must be taken for children, elderly people, tribal, indigenous people, people with disabilities, homeless, as these are more prone and vulnerable to communicable and non-communicable diseases. Apart from serious health implication, it is also

affecting the development and economic adversities. If appropriate measures and policy are not made, it will lead to inequality, discrimination, global unemployment, exclusion on large scale in long run. There is a need of cooperation and coordination from all walks of life.

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