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## Covid Pandemic Situation Analysis

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### Abstract

WHO (2019) says MERS is a lung infection caused by a new coronavirus first found in Saudi Arabia in 2012. MERS can cause no symptoms, mild respiratory problems, severe illness or death. MERS-CoV causes fever, cough, and shortness of breath. Sometimes people get pneumonia. A critically ill person may need a critical care unit and mechanical ventilation to breathe. People with a weak immune system, kidney disease, cancer, chronic lung disease or diabetes get sicker faster when they get the virus. The MERS patients have died, but this may be higher than the true death rate because surveillance systems may miss mild cases and case fatality rates are only calculated for lab-confirmed cases until more is known about the disease. Dromedary camels are the main reservoir hosts for MERS-CoV and a source of human infection. The virus is hard to spread without close contact, such as when an infected person is cared for without a mask. Genetically, the virus is linked to the coronavirus that caused SARS in China in 2003. It is said that SARS began in small mammals and spread to humans. Southern China had the first SARS case in 2002. Since then, the disease has spread across North America, South America, Europe, and Asia.

### Introduction

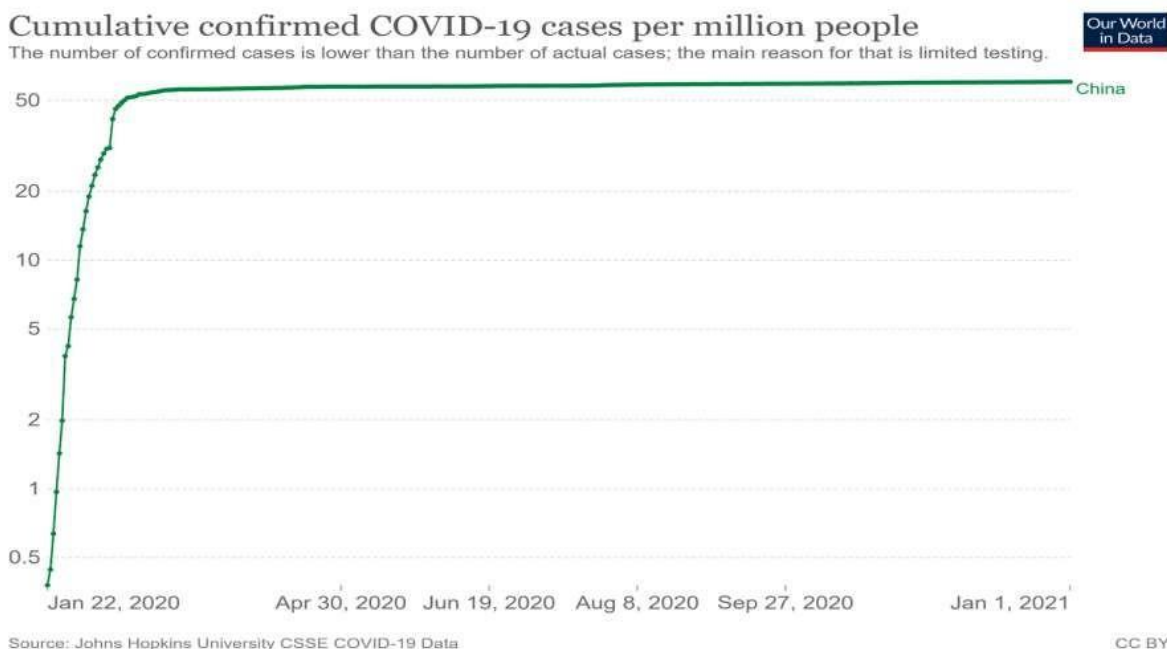
Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). Virus is genetically related to the coronavirus responsible for the SARS outbreak of 2003 in china but its two different viruse. A novel coronavirus (nCoV) is a new strain that identified in humans

and it is zoonotic (meaning they are transmitted between animals and people) and the Epidemiological Determinant is viruses.

## Situational Analysis-

### 1<sup>st</sup> wave of covid

1. CHINA-In early December 2019 and the early cases were reported to have a link to the Huanan market, a place where animals and animal products were sold to the public. From mid-January to March 2020, the extracted publicly available data regarding the spread and control of COVID-19 from 31 provincial health authorities and major media outlets in mainland China. From March 2020, as the local transmission of COVID-19 declined, switching the focus of measures to the testing and quarantine of inbound travellers may have helped to sustain the control of the epidemic.



2. Italy- The virus was first confirmed to have spread to Italy on 31 January 2020, when two Chinese tourists in Rome tested positive for the virus. Clusters of cases were later detected on 21 February with the first deaths on 22 February and by the beginning of March, the virus had spread to all regions of Italy.

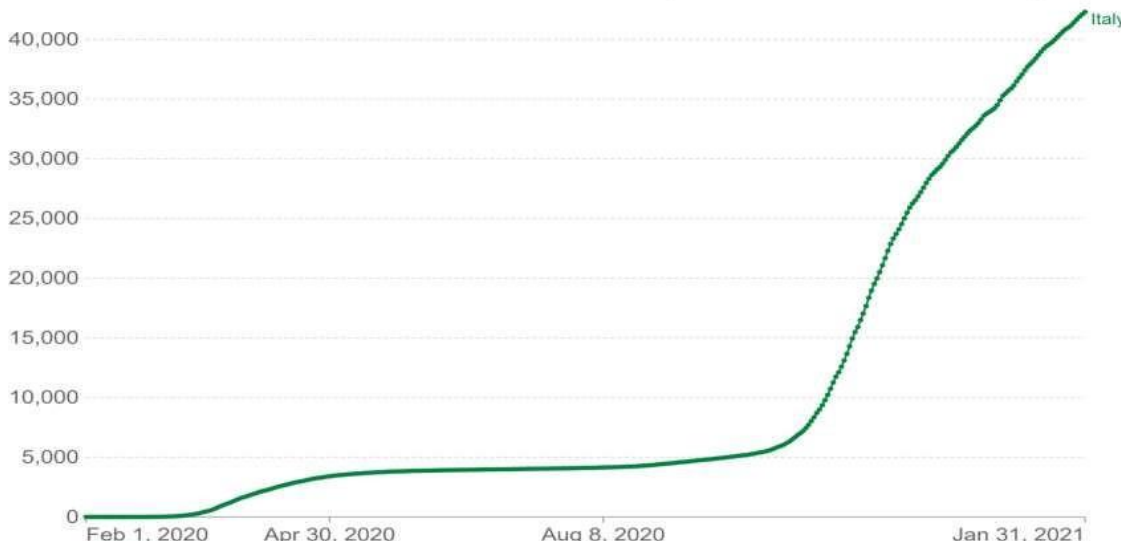
-On 31 January, the Italian government suspended all flights to and from China and declared a state of emergency.

-On 21 March, the Italian government closed all non-essential businesses and industries, and restricted movement of people

-In May 2020, the Italian National Institute of Statistics (Istat) estimated 11,000 more deaths for COVID-19 in Italy than the confirmed ones.

### Cumulative confirmed COVID-19 cases per million people

The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.



Source: Johns Hopkins University CSSE COVID-19 Data

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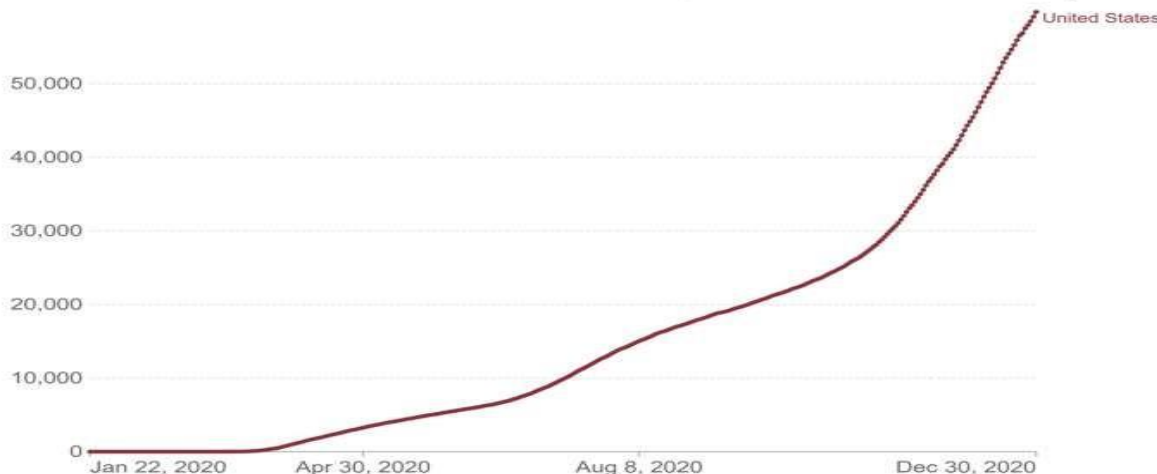
3. UNITED STATE(U.S)- The state of New York (with NYC as the epicentre) led the ‘first-wave states’ that also included New Jersey and Pennsylvania when the coronavirus first swept through the country in March.

Daily COVID-19 cases and deaths were obtained US counties from January through June 2020.

The first known American deaths occurred in February. On March 6, 2020, Trump allocated \$8.3 billion to fight the outbreak and declared a national emergency on March

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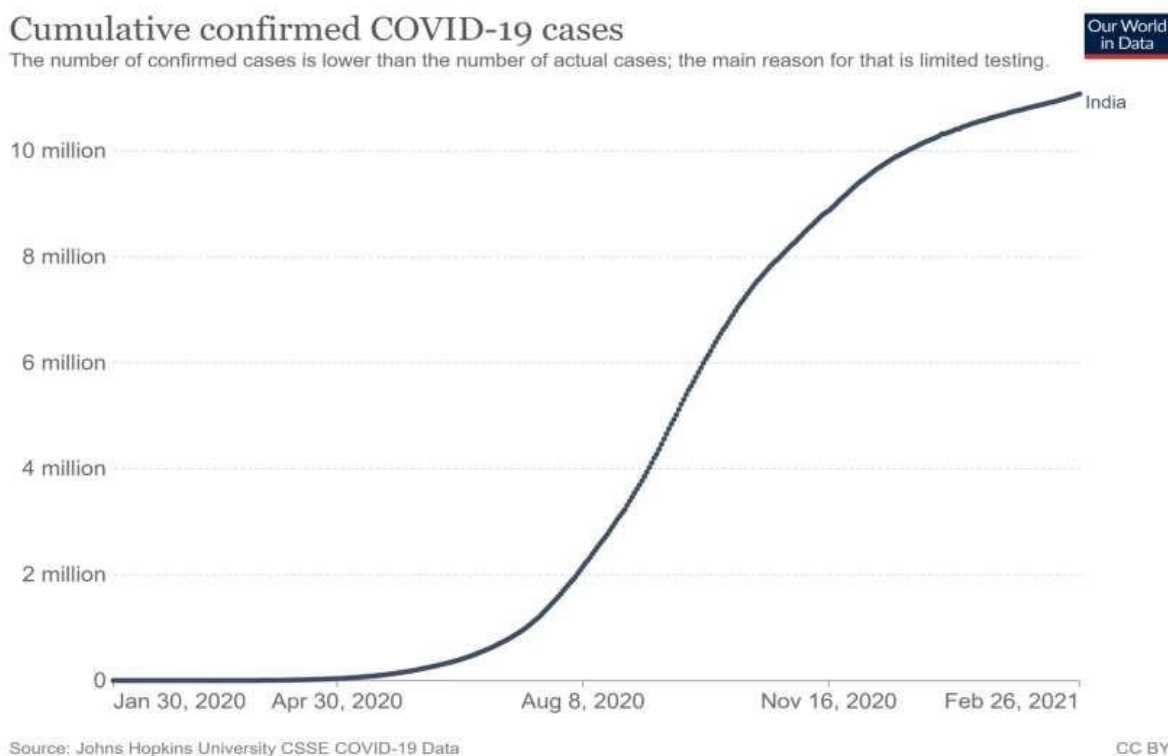
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13.

The government also purchased large quantities of medical equipment, invoking the Defence Production Act of 1950 to assist.

4.India- The first cases of COVID-19 in India were reported on 30 January 2020 in three towns of Kerala, among three Indian medical students who had returned from Wuhan, the epicenter of the pandemic. Lockdowns were announced in Kerala on 23 March, and in the rest of the country on 25 March. On 10 June, India's recoveries exceeded active cases for the first time.

Daily cases peaked mid-September with over 90,000 cases reported per-day, dropping to below 15,000 in January 2021.



### Situation Analysis:2nd Wave

A second wave beginning in March 2021 was much more devastating than the first one with shortages of vaccines, hospital beds, oxygen cylinders and other medical supplies in parts of the country.

By late April, India led the world in new and active cases which is known as Delta Variant . On 30 April 2021, it became the first country to report over 400,000 new cases in a 24-hour period on 9 April, India surpassed 1 million active cases and by 12 April, India overtook Brazil as having the second-most COVID-19 cases worldwide.

By late April, India passed 2.5 million active cases and was reporting an average of 300,000 new cases and 2,000 deaths per-day.

India reported over 400,000 new cases and over 3,500 deaths in one day. on 9 April, India surpassed 1 million active cases and by 12 April,

India overtook Brazil as having the second-most COVID-19 cases worldwide.

-The second wave placed a major strain on the healthcare system, including a shortage of liquid medical oxygen due to ignored warnings which began in the first wave itself.

State and local elections in which politicians and activists have held in several states and in public places.

-Lack of hospital beds for Covid patients in various parts of India

-By bed availability, India's rank is 155 among 167 countries.

-Exporting over 5.84 crore Covid-19 vaccines to 70 countries against 3.48 crore it administered and it's due to no "public health" approach of projecting future needs and planning for the most likely needs. Vaccines were neglected.

-Underreporting-India is not spending much on research and development. Less than one percent of GDP is spent on R&D. We have less than 400 researchers.

-Incompatible between Science and indian culture.

-Man made myths regarding vaccination drive like questioning the credibility of vaccines, Vaccines can cause severe side-effects like autism in children and even death, Vaccines are not required, maintaining proper hygiene is enough to protect from viruses etc

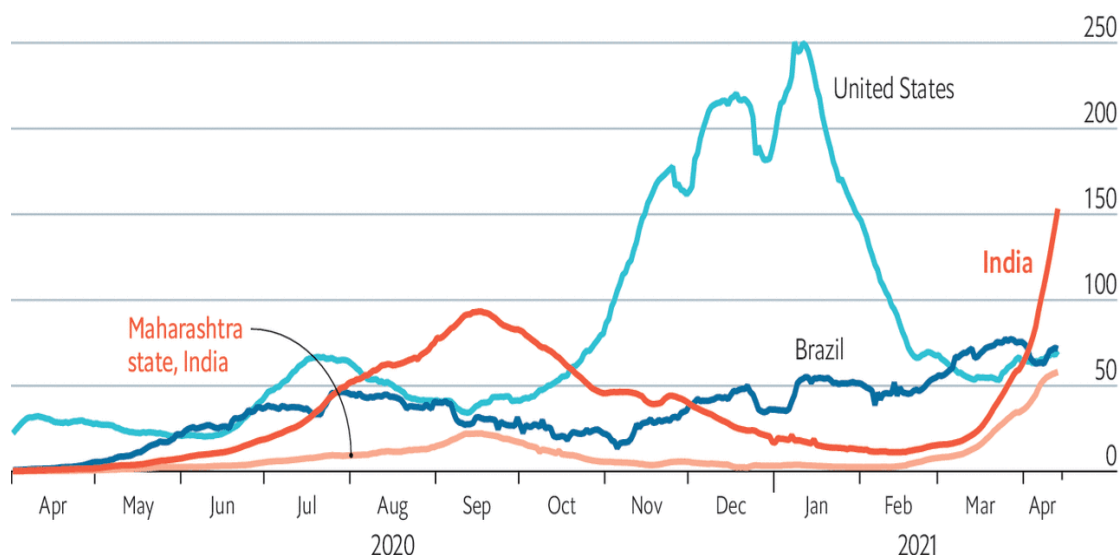
-Overpopulation in india with under 1.4 billion which also lead to pandemic illiteracy.

-Government of india also played a major in ignoring the coronavirus and not taking the situation very seriously

## Subcontinental shift

Covid-19, daily new confirmed cases, '000

Seven-day moving average

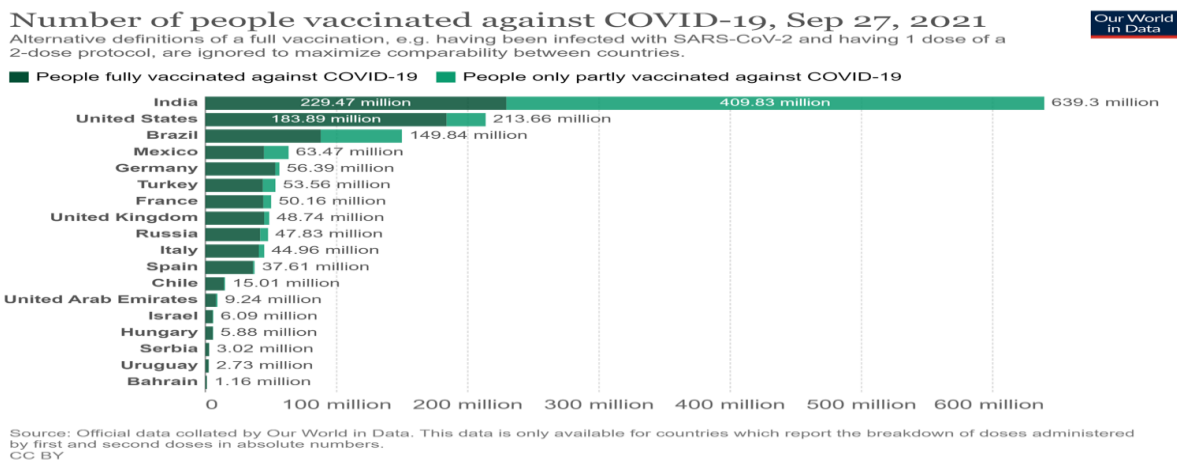


Source: Johns Hopkins University CSSE

The Economist

## Situation Analysis-Vaccination

COVID-19 vaccine accelerated development As of 2nd March 2021, there are 76 COVID-19 candidate vaccines in clinical development of which 12 are in Phase III and 4 in Phase IV trials There are another 182 candidate vaccines in preclinical development. More than 90% of all top candidate vaccines will be delivered through intra-muscular injection Most are designed for a two-dose schedule.



## Situation Analysis- 3<sup>rd</sup> Wave(Delta variant)

China-China locked down a city of 4.5 million people in the south eastern province of Fujian after detecting a dozen coronavirus cases, an attempt to once again halt a delta outbreak and maintain its strict zero-tolerance approach to Covid-19. The first cases were detected in two students from local schools through routine testing. Their father, who returned from overseas in early August, was also infected and is considered as the likely origin. All residential compounds and villages were closed off, while leisure venues in the tourist city - including cinemas, bars, gym, and libraries - halted operations, city officials said at a press conference. It includes 103 cases in three cities.

New Zealand-On Sept 4 New Zealand reported on Saturday the first death from the Delta variant of the new coronavirus and 20 further daily infections, all in Auckland, the epicentre of the outbreak. About 1.7 million people in Auckland, the nation's largest city, have been in strict level 4 lockdown since mid-August. Curbs have been eased in the rest of the countries but schools and offices as well as cafe, restaurants and all public venues remain shut. Most New Zealanders have been asked to stay indoors.

Active cases of the current outbreak stand at 782, with 765 in Auckland and 17 in Wellington, the capital. Earlier this month Prime Minister Ardern announced that national borders would remain closed until the end of this year. The aim was to vaccinate the population.

United State-The United States has reported more than 43.3 million confirmed cases and more than 694,000 associated deaths. Currently, more than 213.7 million people in the United States have received their first COVID-19 vaccine dose, according to the Centers for Disease Control and Prevention (CDC), with more than 185.2 million people fully vaccinated. NY Governor endorses CDC recommendations regarding booster shots-a “robust” implementation of booster doses in New York’s COVID-19 vaccination program, to ensure efficient, equitable, and effective distribution of doses to eligible New Yorkers.

### **Global Challenges During Covid-**

The COVID-19 pandemic has unexpectedly transformed access to and organisation of health services for an indefinite period of time, undermining recent efforts to improve women, children, and the elderly. In most countries, the segmentation of health services, the concentration of human resources and medical technology in some urban hospitals, the underfunding of primary health care and epidemiological surveillance, and the lack of coordination between different levels of care impede national response action coordination. COVID-19 is also creating an education crisis. Most governments around the world have temporarily shut schools in an effort to enforce social distancing and slow viral transmission. The UN Educational, Scientific and Cultural Organisation (UNESCO) estimates that 60% of the world's student population has been affected, with 1.19 billion learners out of school across 150 countries. Governments should consider scaling them up and extending them to other global challenges where R&D readiness is critical, building on the momentum generated by the COVID-19 response. Technology platforms, infrastructures, and collaborative networks are examples of R&D preparedness measures that will improve countries' ability to respond effectively to a wide range of risks. Governments must also collaborate on new financing and governance mechanisms in which business and private-finance. The rapid and unprecedented mobilisation of public and private R&D funding for COVID-19 vaccines, as well as their global distribution, demonstrates that new innovative funding models can be used to address global challenges through international STI collaboration.

### **Reference-**

- WHO(WORLD HEALTH ORGANISATION) website
- Our World Data websites
- Wikipedia