

Data Analysis REPORT for COVID19

Introduction:

As of May 22, 2020, the total number of confirmed cases of coronavirus in the world had reached 5.1 Million and 336432 people had died due to it. Currently, the Worldwide Mortality Rate is: 6.49 % and the Recovery Rate is: 38.46 %. In this report, the past trends were analyzed, and future predictions were made.

From where did the virus originate?

The epidemic began in China, with a geographical focus in the city of Wuhan. Till Feb 27, 2020, the number of cases in China were more than 2700 while in countries like Italy, Spain, USA the cases were less than 20, yet due to lack of preparedness, these countries became the center of the pandemic. Substantial outbreaks occurred in the USA (1,589,223 cases), Italy (228,658), Spain (282,370), etc.

Future Trends:

Forecasting done in Tableau provides an optimistic view, although it does show some warning signs. As of 19 May, the number of deaths each day in the world were little less than 10,000 but if countries continue imposing stay at home orders, it could go down to 4300 by 1st June. But the forecast also showed signs of a second wave of the virus if countries start opening prematurely because by 3 June, the number of deaths could go up to 9300 again. A similar trend has been observed for the number of confirmed cases.

The course of action?

The economy of almost all countries has been affected. If this lockdown continues, then a huge economic crisis and recession will follow particularly in the USA as it is the center of this pandemic. But the opening of all businesses will again result in the second wave of the virus, the cure cannot be worse than the problem. So, it is necessary to find a middle ground and selectively start opening businesses. Analysis was done to calculate the mortality and recovery rate for various countries to group them in a zone.

- **Orange Zone:** *This includes countries that have a relatively low Mortality Rate but extremely poor Recovery Rate.* These countries need to pace up their Recovery Rate to eradicate the virus They include the USA, South Africa, UAE, etc. These countries can start opening on a slow and selective basis.
- **Green Zone:** *It is a set of countries that have a High Mortality Rate and a very Good Recovery Rate.* Few countries among these clusters have seen already the worst of this pandemic but are now recovering with a healthy Recovery Rate. They include China, Australia, etc. These countries should immediately start opening essential services and businesses like, restaurants, etc. to boost the economy.
- **Red Zone:** *It is a set of countries that have a very high Mortality Rate and moderate Recovery Rate.* They need to reduce the mortality rate otherwise they will become the next center of the pandemic. This includes the United Kingdom, etc. they should continue to remain in extended periods of lockdowns.

Similar Analysis was done for the states in the USA, to cluster them into zones. **Orange Zone:** Includes New York, California, etc. **Green Zone:** This includes Hawaii, New Mexico etc., **Red Zone:** This includes New Jersey etc.

Conclusion:

On March 15, the Mortality rate was just 3.7% but it increased and reached its peak on 29 April when it was 7.08%. At this point most of the countries realized the seriousness of the situation and implemented a lockdown. This helped in reducing the mortality rate, and it was 6.7% on 15 May. Similar trend was observed with recovery rate. It can be concluded that the worst is behind us and the mortality rate is decreasing while the recovery rate is improving. After 1st June, countries in the Green Zone can be opened for business, countries in the orange zone should selectively open essential services while those in the red zone must remain on critical alert