

**Disaster Management
Assignment 4
COVID - 19**

Current Biological Disaster - The Worst Pandemic in a Century

Understanding the Virus Spread:

Coronavirus disease spreads primarily through contact with an infected person when they cough or sneeze. It also spreads when a person touches a surface or object that has the virus on it, then touches their eyes, nose, or mouth.

Dos :

Wash your hands regularly for 20 seconds, with soap and water or alcohol-based hand rub
Cover your nose and mouth with a disposable tissue or flexed elbow when you cough or sneeze
Avoid close contact (1 meter or 3 feet) with people who are unwell
Stay home and self-isolate from others in the household if you feel unwell

Dont's:

Touch your eyes, nose, or mouth if your hands are not clean

Why could we not stop this Virus in its early stages? How is it different from the previously known coronaviruses? How can we deal with similar disasters in the future?

We don't have a cure, we need a vaccine to fight the virus. This is the main and obvious reason why countries had to take lockdown and such strict measures to control the spread of the virus.

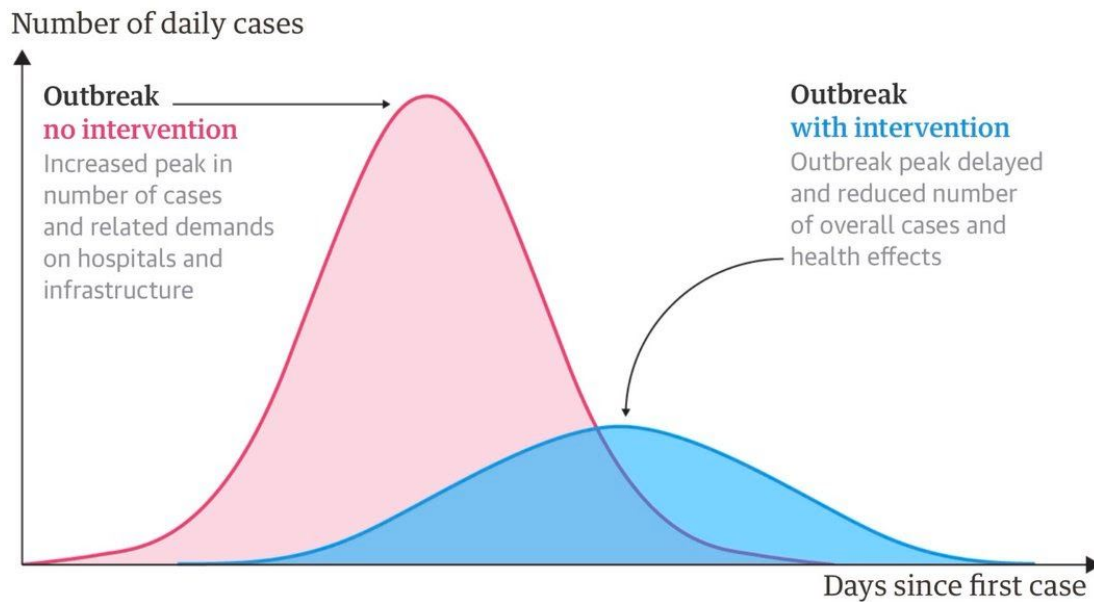
A comparison/study of pandemics and respective measures taken in history:

"Curve flattening is the most important factor against Corona Virus"

Lockdown - The only Hope in India - the world's biggest lockdown - "WHO appreciates"

"From an economic angle, we have paid a big price. "But the lives of the people of India are far more valuable." - Modi

Delaying the development of outbreaks and lowering infection rates ensures healthcare systems do not exceed capacity



Guardian graphic. Source: Centers for Disease Control

Global Situation Analysis and Loss Evaluation:

The countries especially in U.S and in Europe, who didn't prepare (implement lockdown and social distancing) are a huge price. Let us work together and not repeat their mistakes.

Generally, a biological disaster is slow and develops over time, unlike natural disasters. We can observe that all the aspects of the Disaster Management cycle, i.e, Mitigation, Preparedness, Response, and Recovery are happening together (at the same time). It is a lot of work and a tough situation to handle and therefore different kinds of efforts from different frontline workers are needed to control the spread.

No global leadership to guide us. The world lacks global leadership to fight the pandemic. Pandemic is not a national issue. It is a global response. Collective effort is not yet seen.

Current status of COVID-19 and its impacts in India - Telangana:

Stage 1 is when cases are "imported" from those who had traveled to other countries and contracted the infection. Stage 2 refers to the local transmission when people coming in immediate contact with an infected person report infection. Stage 3 is the community transmission phase when a person who has no travel history contracts the infection through domestic sources. Stage 4 is when a disease is declared an epidemic. India is in Stage 2.

<https://webcache.googleusercontent.com/search?q=cache:Q7S18eyhhpgJ:https://www.mohfw.gov.in/>

Above link to track COVID situation.

Fighting COVID-19 Risk in India:

Strong measures to detect disease early, isolate and treat cases, trace contacts, and promote social distancing measures can fight the risk.

Mitigation and Preparedness measures:

Indian Health care budgets are not given enough importance throughout the years, even when a few epidemics broke out. Therefore, The Indian Government has to now put special efforts on getting medical supplies, viz, ventilators, masks, Hydrophynoxy chlorine for frontline workers, Increasing the number of beds in hospitals, etc. Some states also had to adopt importing from other countries. For instance,

Assam importing from China.

The US State Department is providing USD 2.9 million to help the Indian government prepare laboratory systems, activate case finding and event-based surveillance, and support technical experts for response and preparedness, etc.

Lessons:

India relies to a great extent on its private sector and Social Organisations to provide shelter and ration to poor and Migration workers, on local premises.

Effective local administration (Mandal and village level) is necessary in unpredictable times to take care of the local people. A long chain of authorities and dependencies for basic needs can create panic which may lead to situations worse than the disease itself.

Response and Recovery Measures:

Establishing relief camps with paramedics in case the cases grow out of control. Eg. Gachibowli Stadium, Hyderabad, Telangana.

The functioning of Previously established Disaster Mitigation measures (Operations and Initiatives by India) is clearly seen.

Biomedical Equipment Management & Maintenance Program to provide support to state governments to outsource medical equipment and maintenance.

India sends Hydroxychloroquine and paracetamol to neighboring countries. It also sends 5,022 Metric Tones of Wheat to Afganistan to ensure food security in this pandemic.

“Borders are not boundaries”

Nizamuddin Event-Triggered most of the cases across the country. Therefore, whatever may be the circumstances it is essential to maintain social-distancing personally.

Current Situation in Nizamabad:

In my district (Nizamabad, Telangana) which is **Red Zoned**, there have been many changes in day-to-day life.

Lockdown effects in Nizamabad, Telangana :

Tomato farmers in Nizamabad are unable to sell their yield (35,000 acres in just one Mandal, there are many more) due to the unavailability of transport.

All the yield is being left in the fields, whereas families and residences could not get any vegetables.

Increased Power surges.

Some sects have not been co-operating with the personnel who is there to check for symptoms of COVID-19 for those who attended the Nizamuddin Event. The crowd turned against the frontline workers, which is unacceptable. Therefore, stricter measures of lockdown are being implemented.

Police are making people write impositions, etc, for those who broke the rules of lockdown.

People also turned against the doctors who are staying for rent. The owners wanted them moved, which is not reasonable when they are sacrificing their lives in our United fight against the virus.

It is very essential that we as a society, government and individuals take responsibility for the Doctors, paramedics and other front line workers.

W.H.O:

Although the strategies were planned with respect to the needs of their Nation, almost all the nations adapted to the guidelines from the W.H.O, whose Risk Assessment in the initial stages is based on Likelihood of Further Spread, Potential Impact on Human Health, Effectiveness of Current Preparedness and Response Measures.

An important point to dwell on is the time gap between the discovery of the disease and the declaration of a Pandemic. Some News and media widely hold the ineffectiveness of W.H.O in curbing the spread of COVID-19.

Delay in the estimation of R0. The Organisation could not get enough information about the virus in an early stage (Dec 19 -Jan 20). They were not prepared for or expecting the worst.

W.H.O's trust in China. Governments left to design their own strategies. Delayed declaration of Pandemic, 11 March 2020. Neglected Mid December 20 warnings, by considering it is racist.

World's Relation with China - Opinions and Trust:

The whole world holds China responsible to some extent. External relationships within the countries may not be the same anymore. The USA - China Conflicts also caused worries among governments.

The politicians need to remember that it is not the time to place blame but to fight together as one and get out of this situation. They all need to learn to bear with each other.

Socio-Economic and Cultural Impacts:

- Africa is unable to cope up with the food crisis(Stampedes and Riots).Hunger may kill more lives than COVID-19. People of Africa seem to prefer Infection to food insecurity.
- 20 million people across the globe face acute food insecurity.
- Olympics getting postponed affects the sports industry and improves the mental health of sportsmen.
- China and others must consider loan waiver because helping each other is important in these times and they must take responsibility to some extent for the spread of the virus
- Tourism is of great revenue in many countries, which is curbed right now due to the ban on international travel and lockdown.
- Reduced construction works imply a great number of working-class laborers are totally dependent on ration and are facing severe difficulties.
- Major relief airlift will bring vital medical supplies to all African nations
- Impact on Crime - More cybercrimes and illegal activities can be expected.

Impact on World Economy - Impending Recision:

Many countries are in loans. For example, Sri Lanka owes billions of dollars

For policymakers responding to the current crisis, the goal should be to support citizens' livelihoods by investing in renewable energy instead of fossil fuels. Now is the time to start redirecting the \$5.2 trillion spent on fossil-fuel subsidies every year toward green infrastructure, reforestation, and investments in a more circular, shared regenerative, low-carbon economy.

With pandemics/outbreaks increasing across the globe day-by-day spending more on healthcare is essential. Western countries have been cutting the healthcare budget.

“Reviving economy should be in the need of the hour”

Emergency plans are needed to be made with budget backups.

Immunity to COVID-19:

Under WHO's coordination, a group of experts with diverse backgrounds is working towards the development of vaccines against COVID-19.

One of the important researches going on for vaccine studies are “Are some genetic mutations or differences immune to the virus?”

Experimental Vaccination (vaccination to be tested) may be ready for COVID-19 in a month or so but for it reach common people after completing trials would take 12- 18 months
MERS vaccine took 2-5 years and Sars 20 months.

“Each one of us has the power to help prevent the spread of COVID-19 in India”.

Looking at these situations, it is very important to follow the guidelines for keeping each one's immunity up and develop the strength to recover even if one contracts the virus.

Effect on Academics - Online Learnings:

IIIT community:

Reaching Home:

We received an email from P.J.N sir on 14th Mar'20 wherein we were asked to leave campus at most by 18th March. I usually take the bus but I was worried about taking any kind of public transport, as buses and trains are always crowded (especially when the whole country is headed home), have a lot of surfaces for the virus to rest on and are not ventilated enough not to contain the virus.

Also, a positive case was detected in Raheja IT park, we were not sure how to reach the bus station or railway station, without getting in contact with anyone on the way. It is a 4-5 hrs journey home (Nizamabad, Telangana) and I am very grateful for my father, who happened to be in Hyderabad, went to extreme situations to rent/borrow a car, to take me and my brother(studies in Narayanguda, Hyderabad) home.

He, who had major surgery, did not care for his well being or health just to make sure we are safe. We regret the effect the journey took on his health, but grateful to have safely reached home to family. Tough times and tough decisions!

I am also grateful that my home is not so far away, compared to many of my friends on campus, or to those who got stranded for hours at A.P - Telangana Border (One of my friends had to head back to Hyderabad and live with her relatives). Such intense and unnecessary measures for their own people! This is quite an example of how misguided or too careful an administration can become, that it does not see how “some precautions can only lead to another disease” (other problems).

Fortunately, my family has always been extra cautious, so there are no quarantined persons that we know of. Family and friends living in the U.S are safe within the terms of the two Nations.

Role as a Future Technologies:

Long-term Contributions:

- Development of **Mobile apps** to keep people informed and aware of the situation. They can also be implemented to make tracking people and crime easy for the police and Search And Rescue operators.

- Developing **web services** with large databases to track and trace information or any agent that could be viable in a disaster. More accurate, efficient and reliable services that are accessible at least to local governing bodies are mandatory as a part of Disaster Mitigation and Preparedness.
- The **use of drone technology** is very less in India compared to Western Nations. Cheaper, efficient and accurate drones have to be developed in large numbers for an intense survey.
- Development of **Fake Information Detection Systems**.
- Development of (self) **sustainable energy sources and communication systems**, in case of heavy lockdowns and unsafe social situations.

For Instance,

AarogyaSetu is a mobile application developed by the Government of India to connect essential health services with the people of India in our combined fight with COVID-19.

“Aarogya Setu” tracks through a Bluetooth & Location generated social graph, your interaction with someone who could have tested COVID-19 positive.

You will be alerted if someone you have come in close proximity of, even unknowingly, tests COVID-19 positive. The app also has instruction on “How to self isolate” and “What if you develop symptoms”

“India has shown a way forward in this fight with The Arogya Setu app” - World Bank.

Short-Term Contributions:

- Building **Data Visualisation websites**, which maintains the statistics of people getting affected in different parts of the world. It is important for a common man to understand the current situation and the spread of the disease for him to be a responsible citizen.
- Making **advertisements** on TV, radio, Newspapers, Social media, etc with influential representatives (movie stars, celebrities, politicians, etc) to keep people motivated, aware and in a non-panic mode.
- Media, Healthcare and Relief efforts database or a mobile app
- **Writing blogs** and Influential posts to help people with information, keep them motivated and help virus affected people cope.
- Make **DIY sanitizers** and help in the relief measures.
- **Making of “Sanitizing Tanks”** to keep food safe and available to people in need. For instance, IIT Ropar is making sanitizing tanks that kill microbes using UV radiation and they cost only Rs. 500.

Positive Impacts of the Lockdown due to Pandemic - “A few accidental consequences”

- Hospitals are empty with a minimum number of Inpatients, as general checkups are advised to be postponed and also due to the fear of contracting the virus.
- Illegal activities, goods smuggling

- Drastic Reduction in Air pollution:
 - Himalayan peaks are visible to people in Jalandhar, after 20-30 years.
 - London views, almost always covered in smog, are now clearer (lowest since the beginning of recordings in 2000). Even the monitors used to measure toxicity are alerting the data collectors to possible faults with the readings.
 - Nasa and ESA satellite images show a decline as industrial activity slows in an effort to limit coronavirus. This dramatic fall in air pollution is also reported in China (about 30% reduction in NO₂ and PM 2.5 - survey says about 77,000 lives are saved), India (reduced PM 2.5, NO₂), Europe, etc.
 *Note: PM 2.5 or Particulate Matter 2.5 is considered a class 1 carcinogenic agent.
 - Bad Economy - Better Environment (2008 recession also reported less NO₂ levels)
- There is an evident acute reduction in traffic, therefore the number of road accidents is reduced.
- Reduced Water Pollution:
 - “Yamuna looks cleaner” with no or less Industrial Disposal, as per Delhi Jal Board
 - Dr. P.K Mishra, IIT BHU reports that River Ganga flows cleaner in Haridwar and Varanasi as industrial discharge remains low (50% improvement in water quality)
- Climate Change:
 - The release of CO₂ worldwide is reduced, as transportation is reduced. Experts say that it the steepest fall since World War II (about 5% drop)

The following figure depicts the world may not get any greener after COVID-19 crises.

Crash and recovery

Global annual industrial CO₂ emissions, gigatonnes



The Economist

Take away points:

- The current climate status shows the future potential, that if every citizen and the government takes proper measures with strong regulations, we **can** save our planet.
- The government can employ strategies where it can implement lockdown for 1 week every year so people will get an experience of fresh air and be inspired for a greener Earth.
- We as a human race are realizing how much we have, how little we need and how much we value each other.
- The crisis has also demonstrated that human societies are capable of transforming themselves more or less overnight.
- The COVID-19 coronavirus has forced entire countries into lockdown mode, terrified citizens around the world, and triggered a financial-market meltdown. The pandemic demands a forceful, immediate response. But in managing the crisis, governments also must look to the long term.
- Governments are rushing to protect their citizens medically and economically in the short term. But there is also a strong business case for using this crisis to usher in global systemic change.
- Now is the time to usher in systemic economic change.
- On one planet, all species, countries, and geopolitical issues are ultimately interconnected. We are witnessing how the outbreak of a novel coronavirus in China can

wreak havoc on the entire world. Like COVID-19, climate change, biodiversity loss, and financial collapses do not observe national or even physical borders. These problems can be managed only through collective action that starts long before they become full-blown crises.

“Economic Rescue plans must be green”

Responsibilities of every citizen during the Pandemic:

“With any big crisis comes great responsibility”

- Citizens must not hide their travel or contact history as authorities deal with the pandemic.
- It is time to take a step back and look at what is actually important for us.
- Political people shout “accountability” from the rooftops when it comes to the actions of individual citizens, especially those at the lower economic levels. Yet, those same political folk does not want the “accountability” lens focused on them.
- In saying that, our critical eye should not be blindly partisan. It needs to be shaped by values and the common good, by the facts of our situation. It needs to be based on rational thought and analysis, not virulent political rhetoric or tribal thinking.

Fake information:

Many videos on how Wildlife is roaming in cities, may be true but the information attached to those pictures and videos may not be. It can create panic which is to be curbed absolutely if we were to win this fight with the virus.

It is propagated that people of the Islamic religion are spreading the virus willingly, by putting their saliva on fruits, vegetables, etc. which is not true. The videos are true, but the person had no ill intention. The person was mentally ill. Such fake information can cause havoc and religious fights in the country. We can see many people are facing discrimination due to religion because of this.

Fake information is also responsible for Racial Discrimination in China. “MCD in China bans black people from stores” -WION news.

Some people also believe that there is some kind of cure in Ayurveda, which may not be true.

What best can we do?

We have had huge behavioral changes forced upon us in this situation. We're having to adapt and behave slightly differently particularly how we work a lot more remotely.

The coronavirus pandemic is a **wake-up call** to stop exceeding the planet's limits. After all, deforestation, biodiversity loss, and climate change all make pandemics more likely. Deforestation drives wild animals closer to human populations, increasing the likelihood that

zoonotic viruses like SARS-CoV-2 will make the cross-species leap. Likewise, the Intergovernmental Panel on Climate Change warns that global warming will likely accelerate the emergence of new viruses.

We have seen the Swine-flu pandemic in around 2009 which was deadly with a lesser transmission rate, and roughly every decade we may see one. We need to be prepared for upcoming pandemics/epidemics.

Remove Lockdown?

Austria has lifted lockdown (relaxes restrictions) and it happens to be the first in Europe to do so. The country believes the mental health of its people is more important. Similar was the approach of the U.S (also because the disease was not declared as a pandemic then) in the initial stages. The death rates are crossing charts with improper preparation strategies (partly W.H.O can be held accountable, but on the other hand the virus was novel).

India's only chance is Preparedness and no amount of rescue or recovery operations can curb the spread once the country goes into Stage 3 (130 Crores population living at a 464 sq.km population density), which implies an immense amount of life loss.

Social distancing and strict lockdown until the virus is defeated is the most important principle in India in this period.

References:

<https://www.who.int/publications-detail/strategic-preparedness-and-response-plan-for-the-new-coronavirus>

<https://www.who.int/news-room/detail/13-04-2020-public-statement-for-collaboration-on-covid-19-vaccine-development>