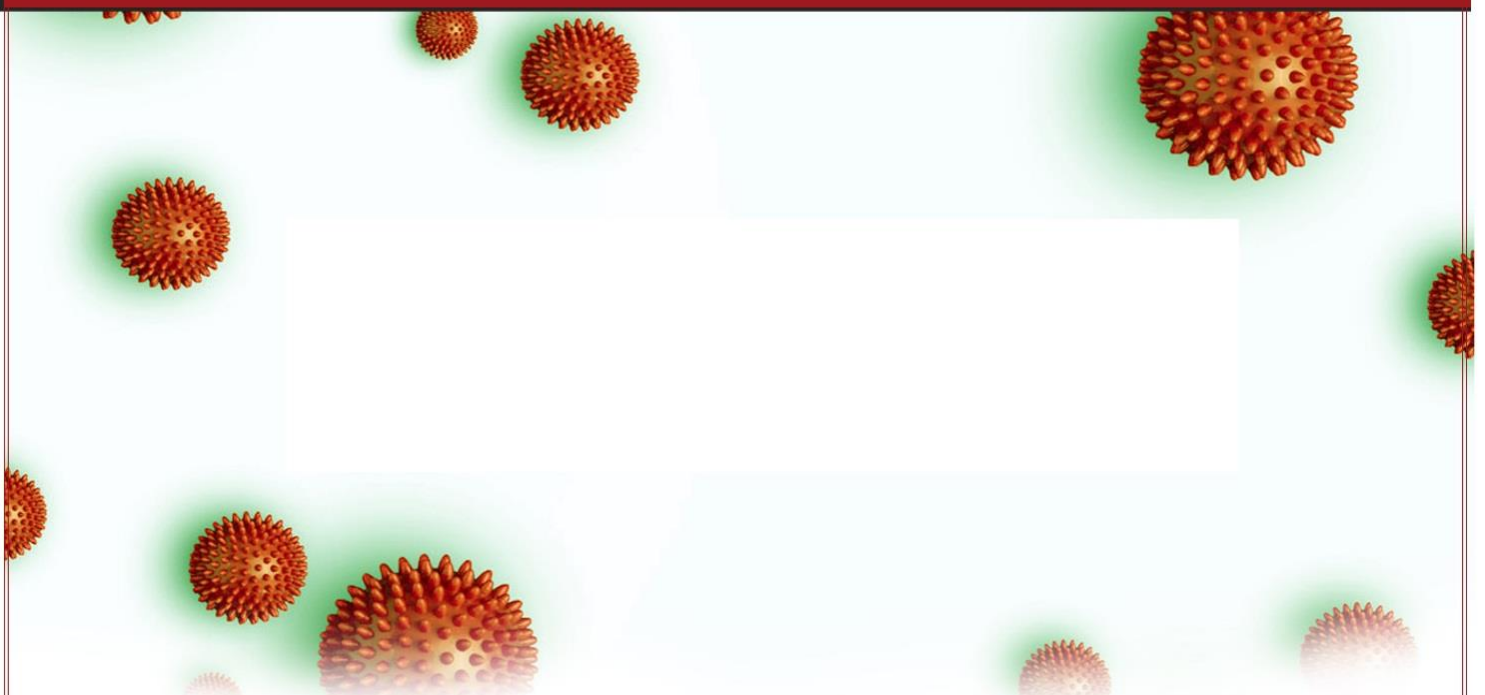


**Edited Book**

# **The COVID Divide-Behavioural, Social & Economic Impacts**

**Editors:**

**Dr. K J James, Mr. K S Praveenkumar**



## PREFACE

Taking the life of 3800000+, Covid-19 pandemic continues its consequences in every walk of life: social, economic, environmental, political and educational of the people of all nations in different ways. A new societal order based on the humans' behavioural, cultural and ethical faculties, is being emerged due to the havoc played within 18 months from the beginning of 2020. As the historians once divided the world events into BC and AD, the modern history 99can also be divided into two: events before Covid (pre-Covid) , and events after Covid (post-Covid).

No doubt this event of 2020 and 2021, has been listed as one among the pandemics happened in the modern age, i.e. plague in 1720, cholera in 1820 and Spanish flu in 1918-1920. On the present Covid pandemic, sometimes it is relevant to frame a biological theory, i.e., any new pandemic may kick away the life of thousands at a stretch and that pandemic would be due to the spread of any microbe, probably an unheard one. This time, it is the novel coronavirus. Many suspect that whether this present event is one among in the arsenal of nature to check the world population as theorized by Thomas Robert Malthus, a macroeconomist in England at the end of the 18<sup>th</sup> century, who corroborated epidemics in the Middle age and Ancient age.

If the current pandemic of Covid is nature's calamity, the havoc played by it has certain immediate and long run impacts on the global community. As the present global community has been turned into a well-knit and compact global village, the lesson that the coronavirus teaches is explicit as a lesson taught by a science teacher to a single class. The calamity of any kind: the flood, earthquake, tsunami, or the war itself, should teach the human community certain 'hot' lessons, negligence of what teaches another conventional lesson, i.e. 'history repeats itself, and human kind never learns lesson'. Here are certain lessons the present havoc of coronavirus teaches the world, they are the real impacts of the Covid:

So far, bio-war, the strategy of using destructive microbes as weapons against the enemy countries was an 'imaginative' or a 'cooked up' story. Though the world community was aware of the concept of the term 'bio-war' there was no clear evidence of any country using this weapon against their enemy countries. Bio-war has been one of the hottest topics with the international politics during the second half of the 20<sup>th</sup> century and onwards. Even then, the world community had not taken any startling thought, except certain writers like Nile Grant (1935, The Last War), who alerted the audience about the consequences through his theatre scripts.

If the novel coronavirus is an unknown ecological off-shoot from any country or a reckless microbe found out its space spontaneously in a town, the world community has a rehearsal about the havoc to be played by a bio-war. No doubt, the attackers and victims would not be free from the aftermath. As Hiroshima and Nagasaki together teach the lesson against N-war, let the novel coronavirus also teach the world community to refrain from all attempts

or preparations for a bio-war. No doubt, the consequences planned for the victim would be bounced faster than to the attackers themselves.

Covid poses certain questions about the culture and cultural tools in the social life. SMS has got an unusual expansion (Soap, Mask and Social distance), the concept has become the only dependable solution. The suggestion to wash the arms with soap or sanitizer, wearing mask to cover mouth and nose and keeping social distance, has become a *mantra* that is going to change cultural and social facets in the global community hereafter. When social distancing and wearing of mask have been accepted as scientific measures, they are going to make unprecedented changes in the individual-individual relationship, way of salutation, see-off and even with the body language during communication and interaction. How can one shake-hand or hug another person to show intimacy or zero-distance, during which one of the two becomes a donor or receiver of coronavirus? Why there is absence of dissatisfaction or provocation from the public and the commuters, when the governments control the number of participants or audience for functions, or even shut down the shows and suspend the assemblies in houses of worship? What all manners and mannerisms may appear in the future days in the social and cultural life with the acronym – SMS (soap, mask and social distancing?), especially when the number of participants for assemblies are curtailed to five, ten or twenty?

There are several questions like these, asked from different corners. It was against this background, the publishers of this book, 'The Covid Divide: Behavioural, Social and Economic Impacts' thought of a quick research into the impacts of the pandemic to survey the influences of which would be visible in the present time and the time yet to come. The call for papers had a prompt response from researchers and writers from the different states of India and different parts of the world, which denotes the enthusiasm of the contributors to show-case their essays in the collection that comes out as an e-book. I take this opportunity to congratulate the writers of the papers, for thinking dynamically and the A2ZEduLearningHub LLP for their timely attempt to publishing the papers, so as to reach them to the un-reached.

Dr. K.J. James,    Mr. K S Praveenkumar

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# CHAPTER 1

## IMPACT OF PANDEMIC COVID-19 ON EDUCATION IN INDIA

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### INTRODUCTION

The petrifying and severe impact of COVID-19 has shaken the world to its core. Further, most of the Governments around the world have temporarily closed educational institutions in an attempt to contain the spread of the COVID-19 pandemic. In India too, the government as a part of the nationwide lockdown has closed all educational institutions, as a consequence of which, learners ranging from school going children to postgraduate students are affected.

Though there were many negative impacts from the COVID-19 outbreak on the field of education, there was also a positive impact which could take the education system and its methods a step higher. The pandemic has opened gates to innovative methods of transmission of knowledge across the globe. It was very challenging to India as many people live in areas without internet, and others attend more poorly equipped government-run schools. Many efforts were made to continue education at all levels with online methods and this article highlights some measures taken by Govt. of India to provide seamless education in the country. . Both the positive and negative impacts of COVID-19 on education are discussed and some suggestions are also pointed to carry out educational activities during the pandemic situation.

### EDUCATIONAL SECTOR CHANGES

Covid-19 has prompted experts to rethink the conventional mode of education. Digital education appears to be a viable solution to fill in the void for classroom education for a period of three to four months while minimizing the chances of any infection to students until classes resume. More importantly, it has also brought the hitherto peripheral issue of digital education in India to the centre stage. Going forward, digital education is likely to be integrated into mainstream education. This will enable inclusive education by facilitating learning across diverse geographies in India. Moreover, it will provide an opportunity for educators to come up with customized learning solutions for every student.

A complete revolution in the way we learn today has been brought about by Technology. Each student gets in contact with a world-class education, which is not easy to impart by the traditional white chalk and blackboard method of teaching. This new learning is more interesting, personalized and enjoyable. A massive open online course (MOOC) is an online course aimed at unlimited participation and open access via the web. India is considered to be the biggest market for MOOCs in the world after the USA. Since the population of India is huge, massive open online course (MOOC) is said to open gateways for a lot of Indians in



terms of bringing an educational revolution. Online distant learning programs give a great opportunity to avail high-quality learning with the help of internet connectivity.

Digital learning has many advantages in itself like digital learning has no physical boundaries, it has more learning engagement experience rather than the traditional learning, it is also cost-effective and students get to learn in the confines of their comfort zone. However, digital learning is not without its limitations and challenges, since face-to-face interaction is usually perceived as the best form of communication as compared to the rather impersonalized nature of remote learning. Globally, online education has met with some success. In the case of India, we still have a long way to go before digital learning is seen as mainstream education, because students living in urban area have the facilities to opt for digital education, however, rural area students do not have the required infrastructure nor are financially strong to avail the resources required for digital education. Building of the digital education infrastructure by the Government of India presently appears to be difficult due to lack of budget. Further, even if the digital infrastructure is built, training has to be given to the teachers to use the digital system to provide authentic and proper, uninterrupted and seamless education to the students. Remote learning increasingly relies on the reliable power supply and ubiquitous Internet connectivity which might be a far-fetched thing in some of the cities in India.

Another challenge is that e-learning comes across as somewhat patchy and impersonal experience. Also, e-learning is likely to witness a high dropout rate due to the lack of atmosphere for studying. Students might tend to get distracted by gaming consoles, social media at home and might not feel a sense of community while taking online classes. Successful delivery of education is also in question because learning at the level of higher education and learning at the kindergarten/school level can be different. Digital education cannot be applied the same at every level of the education.

If we further up the light on the educational material, digital education will have a limited scope as compared with the written and handy material which is provided in an educational institute. Moreover, the authentication of the educational material is at stake. E-learning will always provide the students with different information in different ways. So, the authenticity of the educational material should be tested before these materials are circulated with the students. Creation of content, dissemination of content and evaluation of content should be done. Blended education has to come face to face and distance education should go hand in hand currently. Educational data circulated in online should be properly maintained. Because ultimately these digital educational course classes will also lead to hacking systems and intruders coming in. The digital safety challenge will remain at large while imparting education.

Due to the outbreak of the pandemic, the work from home (WFH) culture is booming in India. As social distancing is prescribed as the best way to curb the spread of COVID 19, companies are faced with an unprecedented challenge of ensuring it is business as usual even if everyone is working remotely. Therefore, not only businessmen or start-ups in India have opted for an online platform like Zoom App to stay connected with their employees who are working from their homes but also the educational institutions have opted for different digital platforms to



facilitate learning for their students. However, only educational institutions in urban areas can provide those facilities. Again the questions are raised for the learners in rural areas, the educational systems in rural areas and their growth.

With so many different ways to define e-learning and the educational approaches that can be taken in these learning environments, many colleges and extra curriculum activity classes have started making use of the technology. Through applications such as Zoom, various colleges especially engineering and designing colleges of Pune have undertaken the task of educating students through video conferencing. Undeterred by the security concerns which such video conferencing applications may pose, these applications are widely used and have proved to be beneficial and with a lot of advantages. There is picture, sound clarity which makes imparting of knowledge and learning effective for both the instructor and the student.

The educational institutions in India, from schools to universities, can use this present adversity as a blessing in disguise and make digital education a major part of the learning process for all learners in the future.

Some of the digital initiatives of MHRD (ICT initiative of MHRD (e- Broucher- <https://mhrd.gov.in/ict-initiatives> ) is a unique platform which combines all digital resources for online education.) for secondary as well as higher education during COVID-19 are listed as below:

#### ***Secondary education***

- **e-Pathshala** is an e-Learning app by NCERT for classes 1 to 12 in multiple languages. The app consists books, videos, audio, etc. aimed at students, educators and parents in multiple languages  
Mobile Apps is available.  
Website: <http://epathshala.nic.in> or <http://epathshala.gov.in>.
- **National Repository of Open Educational Resources (NROER)** portal provides a host of resources for students and teachers in multiple languages including books, interactive modules and videos including a host of STEM-based games. Content is mapped to the curriculum for classes 1-12, including aligned resources for teachers.  
Website: <http://nroer.gov.in/welcome>
- **Diksha** portal contains e-Learning content for students, teachers, and parents aligned to the curriculum, including video lessons, worksheets, textbooks and assessments. Under the guidance of its national boards of education (CBSE) and NCERT. The contents can also be viewed through QR codes on textbooks. The app can be downloaded from IOS and Google Play Store.  
Website: <https://diksha.gov.in> or <https://seshaqun.gov.in/shaqun>

#### ***Higher Education***

- **Swayam** is the national online education platform hosting 1900 courses covering both school (classes 9 to 12) and higher education (under graduate, post graduate programs) in all subjects including engineering, humanities and social sciences, law and management courses. The unique feature is that, it is integrated with the

conventional education.

Website: <https://swayam.gov.in/>

- **e-PG Pathshala** is for postgraduate students. Postgraduate students can access this platform for e- books, online courses and study materials during this lockdown period. The importance of this platform is that students can access these facilities without having internet for the whole day. Website: <https://epgp.inflibnet.ac.in/>

## POSITIVE IMPACT OF COVID-19 ON EDUCATION

The educational institutions of India have accepted the challenges and trying their best to provide seamless support services to the students during the pandemic. Indian education system got the opportunity for transformation from traditional system to a new era. The following points may be considered as the positive impacts.

- **Learning Management Systems:** Use of learning management systems by educational institutions became a great demand. It opened a great opportunity for the companies those have been developing and strengthening learning management systems for use educational institutions (Misra, 2020).
- **Use of soft copy of learning material:** In this situations students were not able to collect the hard copies of study materials and hence most of the students used of soft copies materials for reference.
- **Improvement in collaborative work-** There is a new opportunity where collaborative teaching and learning can take on new forms. Collaborations can also happen among faculty/teachers across the world to benefit from each other (Misra, 2020).
- **Blended Learning:** COVID-19 has accelerated adoption of digital technologies to deliver education. Educational institutions moved towards blended mode of learning. It encouraged all teachers and students to become more technology savvy. New ways of delivery and assessments of learning opened immense opportunities for a major transformation in the area of curriculum development and pedagogy. It also gives access to large pools of learners at a time.
- **Online meetings-** The pandemic has created a massive rise in teleconferencing, virtual meetings, webinars and e-conferencing opportunities
- **Enhanced Digital Literacy:** The pandemic situation induced people to learn and use digital technology and resulted in increasing the digital literacy.
- **Use of electronic media for sharing information:** Learning materials are shared among the students easily and the related queries are resolved through e-mail, SMS, phone calls and using different social Medias like WhatsApp or Facebook.
- **Demand for Open and Distance Learning (ODL):** During the pandemic situation most of the students preferred ODL mode as it encourages self-learning providing opportunities to learn from diverse resources and customized learning as per their needs.
- **World wide exposure:** Educators and learners are getting opportunities to interact with peers from around the world. Learners adapted to an international community.

## NEGATIVE IMPACT OF COVID-19 ON EDUCATION

Education sector has suffered a lot due to the outbreak of COVID-19. It has created many negative impacts on education and some of them are as pointed below:

- **Educational activity hampered:** Classes have been suspended and exams at different levels postponed. Different boards have already postponed the annual examinations and entrance tests. Admission process got delayed. Due to continuity in lockdown, student suffered a loss of nearly 3 months of the full academic year of 2020-21 which is going to further deteriorate the situation of continuity in education and the as students would face much difficulty in resuming schooling again after a huge gap.
- **Impact on employment:** Most of the recruitment got postponed due to COVID-19. Placements for students may also be affected with companies delaying the onboarding of students. Unemployment rate is expected to be increased due to this pandemic. In India, there is no recruitment in Govt. sector and fresh graduates fear withdrawal of their job offers from private sectors because of the current situation. The Centre for Monitoring Indian Economy's estimates on unemployment shot up from 8.4% in mid-March to 23% in early April and the urban unemployment rate to 30.9% (Educationasia.in). When the unemployment increases then the education gradually decreases as people struggle for food rather than education.
- **Reduced global employment opportunity-** Some may lose their jobs from other countries and the pass out students may not get their job outside India due to restrictions caused by COVID-19. Many Indians might have returned home after losing their jobs overseas due to COVID-19. Hence, the fresh students who are likely to enter the job market shortly may face difficulty in getting suitable employment. Many students who have already got jobs through campus interviews may not be able to join their jobs due to lockdown. The Indians who have been doing their jobs abroad may lose their jobs. Recent graduates in India are of also fearing for withdrawal of job offers from corporate sectors because of movement restriction in the current pandemic situation
- **Increased responsibility of parents to educate their wards:** Some educated parents are able to guide but some may not have the adequate level of education needed to teach children in the house.
- **Access to digital world:** As many students have limited or no internet access and many students may not be able to afford computer, laptop or supporting mobile phones in their homes, online teaching-learning may create a digital divide among students. The lockdown has hit the poor students very hard in India as most of them are unable to explore online learning according to various reports. Thus the online teaching-learning method during pandemic COVID-19 may enhance the gap between rich/poor and urban/rural.
- **Access to global education:** The pandemic has significantly disrupted the higher education sector. A large number of Indian students who are enrolled in many Universities abroad, especially in worst affected countries are now leaving those countries and if the situation persists, in the long run, there will be a significant decline in the demand for international higher education.

- **Payment of Schools, Colleges fee got delayed:** During this lockdown most of the parents will be facing the unemployment situation so they may not be able to pay the fee for that particular time periods which may affect the private institutes.

## CONCLUSION

Even if the COVID-19 crisis stretches longer, there is an urgent need to take efforts on maximum utilisation of online platforms so that students not only complete their degree in this academic year but also to get ready for the future digital oriented environment. India should develop creative strategies to ensure that all children must have sustainable access to learning during pandemic COVID-19. The Indian policies must include various individuals from diverse backgrounds including remote regions, marginalised and minority groups for effective delivery of education. As online practice is benefitting the students immensely, it should be continued after the lockdown. Further detailed statistical study may be undertaken to explore the impact of COVID-19 on education system of India.

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## CHAPTER 2

### MAINTAINING BODY-MIND COHERENCE DURING COVID-19 CRISIS

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#### INTRODUCTION:

The outbreak of coronavirus disease provoked fear, anxiety and depression in the public globally, which further affected their mental health. It has been observed during this pandemic that besides providing psychological first aid, psychological debriefing, etc., community resilience was also provided by the government and non-government agencies. But these measures are temporary arrangements for balancing the mental health. For the past few decades different varieties of diseases are affecting all forms of life- humans, animals, plants, etc. Human beings are developed intellect and their mental well being is of utmost importance. Therefore, understanding the self-healing concept of ourselves by maintaining body-mind coherence is the need of the hour.

#### BIOLOGICAL PERSPECTIVE VIS-À-VIS MENTAL WELL BEING:

There are five fundamental elements in the human body (solid, liquid, luminous, areal and etherial) each controlled by energy centres (*cakras* 'चक्र')<sup>[1]</sup>. In human physiology there are countless glands and sub glands. By their many fold interactions and interrelations upon the lymph, they produce variety of hormones. The endocrine glands regulate physical processes occurring in our bodies and may directly influence our minds. The rate of secretions of hormones from these glands is determined by signals coming from the brain via CNS or subtle energy centres (*cakras*). In yoga psychology it is well known that a totally concentrated mind in a meditative state strikes at the penial gland. This gland is known as the "third eye" and is thought to have mystical powers. The interaction between brain and penial gland is mediated mainly through hormones and neuro-transmitters.

The spinal cord seems to be the controlling centre of our body and mind. One central nerve descends from the brain, passing directly through the spinal cord within the backbone to the base of the spine. The second and third nerve starts at the root of the right and left nostrils, respectively and twists and twines around the central nerve, crossing at five points marking the location of five "*cakras*" in the trunk of the body until they reaches the base of the spine. The word "*cakra*" means controlling nucleus. These five *cakras* are formed by clusters of glands which act like small factories. The location of sixth *cakra* is the pituitary gland which controls all the five lower *cakras*. The seventh and highest *cakra* is located at the crown of the skull and it controls all the six lower *cakras*. Each of the glands surrounding the nerves produces a particular hormone or chemical which activates a special emotion, feeling or tendency within the mind. Therefore, the *cakras* are physico-psychic.

This network of cakras, glands, hormones and nerves, acts like a transmitter and receiver. Everything in the universe is sending and receiving peculiar energies in different wave patterns called vibrations. The cakras, as a whole, act as an antenna, receiving and sending these various vibrations. Dr. Hiroshi Motoyama, Director of the Institute for Religious Psychology, Inokashira, Mitaka-shi, Tokyo (Japan) conducted various experiments to ascertain if some form of energy emanates from cakras<sup>[2]</sup>. He designed and built an instrument capable of measuring the electrical potential (voltage) and current at each of the points along the cakras. He inferred from these experiments that the energy or power transmitted from the person's *cakra* can cause change in his/ her bodily functions. Nerves after getting stimulation from these vibrations activate the chemicals of a particular gland, causing the mind to experience a feeling, emotion, or urge as a result.

When a gland is stimulated again and again, it becomes overactive while others remain dormant. For example, in some people the pineal gland has become calcified, hardened, which means it was not active at all. The combinations of these dominant and dormant glands make up our character, our personality. So we can say that our personality or individuality is the expression of the strengths and weaknesses of the various glands located at the various *cakras* of our body. When the negative glands of our body dominate, our behaviour can be categorized as static while the dominance of positive glands make our behaviour sentient and that of neutral glands make it mutative<sup>[3]</sup>.

### **BALANCE BETWEEN SELF-CARE AND CARE FOR OTHERS:**

As the COVID-19 pandemic continues, an invisible fight is going on for many at home or at work place being triggered by the anxiety, joblessness, death, isolation and uncertainty. Everything we hear, read, watch the people we spend time with, all affect the way we think and feel and influence the direction of our lives. According to UNICEF, six strategies have been described for protecting our mental health during COVID-19 pandemic which are<sup>[4]</sup>:

1. Recognize that your anxiety is completely normal
2. Find a distraction
3. Find new ways to connect with friends
4. Focus on yourself
5. Connect with your feelings
6. Be kind to yourself and others

Ironically, caring for one's self invariably means caring for others as well. It is part of our human nature to care for one another. To neglect caring for ourselves is to neglect being able to properly care for others. Our individual mental and emotional wellbeing is inextricably knotted with our collective wellbeing. A sloka of the Rig Veda says “आत्मानो मोक्षार्थम् जगत् हिताय च” means salvation of our individual self and well-being of all on earth. Thus we need a set of guidelines that supports this interconnectedness of balancing care of self and others. In yoga, this set of ethical guidelines is ‘Yama’ which means care of others and ‘Niyama’ which means care of self. The current pandemic brings home the need and opportunity to serve the common welfare. Yama and Niyama give us non-dogmatic guidelines to serving each other,



plants, animals and the environment based on time, place, and the entity to be served. As Bucky Fuller says, “The next step in evolution is learning to live together”<sup>[5]</sup>.

### **ROLE OF YOGA AND MEDITATION:**

Our primary duty is to create a positive global atmosphere through spiritual practices and positive thinking to counteract negative vibes. In this grave situation a very powerful spiritual awakening is required. According to Patanjali, yoga disciplines the “tendencies” of the mind. Today, the “power of positive thinking,” positive affirmations and creative visualizations are being used by many people all over the world to become more successful, more popular, more wealthy. But the goal of yoga is not limited to worldly success or wealth. Its goal is to attain infinity – the infinite expansion of one's mind to merge with the Supreme Consciousness<sup>[2]</sup>.

Yoga postures called asanas and exercise can control the overactive hormones and activate the dormant hormones. Shyness, dogmatic thinking, depressive behaviour, anxiety and worry can be overcome by performing yoga postures prescribed by a qualified trainer. Asanas also stimulate empathy, hope, sense of contentment, concentration, rationality and strong willpower. By stimulating those inactive or underactive glands in the body, the hormones thus released will work to help the individual in moving more efficiently towards the Supreme Goal of life. The relationship between diet, yoga or asanas and meditation should be understood very well.

### **ROLE OF DIET:**

We develop the *cakras* by controlling the food we eat. Foods containing chlorophyll are especially important in the production of lymph, the chemical agent which causes the formation of hormones. The lymph is used by the glands to produce various hormones which activate particular emotions or feelings according to our thoughts. If thoughts are courageous, compassionate and benevolent, then the lymph will be converted into the hormones which control these emotions. On the other hand, if there is fear, hatred, anxiety, stigmatism and distrust, then the glands controlling such emotions will grow stronger. As a result, stress hormones are released leading to lowering down of immune system.

There are three categories of food: sentient (positive), mutative (neutral) and static (negative). Positive food activates sentient glands and hormones, negative food stimulates static behaviour and neutral promotes mutative emotions. Therefore, we should be very careful about the kind of food we eat. Seasonal fruits/ vegetables should be consumed. Foods which should be included in the diet are: honey-lemon water/ coconut water, tomato juice, fresh curd, sweet potato, moringa leaves powder, amla, mango, banana, sprouts- beans or any other, pumpkin- seeds/ vegetable, dried fruits and nuts, water chestnut (singhara), fox nut (makhana), Indian bael fruit, jamun fruit, etc. Foods which have negative effect on our mental health and should be excluded from the diet are: Static foods to be excluded from diet: onion, garlic, meat, mushrooms, eggs, fish, alcoholic beverages, etc. Some of the factors which should be considered before consuming food are: time, climate/ season, quantity, preparation method, exposure to sunlight and air, mental state and thoughts of person while cooking, serving and consuming food. To increase the bioavailability of nutrients, avoid taking more than four types

of foods at a time. Also, every food is not made for everyone- careful watch on one's body's signals for accepting/ rejecting a food is a must.

### CONCLUSION:

Keeping in view the guidelines of UNICEF and age old Yoga Sutras and consuming sentient food one can achieve a necessary balance of physical and mental health, which will help us in improving our productivity and maintaining mental sanity during COVID-19 pandemic. By understanding the scientific nature of our bodies, we can apply the techniques of yoga to progressively strengthen, control and direct the energies of our *cakras* for deeper mental and spiritual achievement for the benefit of all. Thoughts activate glands which produce hormones which in turn control sentient, mutative and static emotions. Unique personality is developed when these psychic urges collectively interact with mental tendencies. So, it is very important to control thoughts. Thousands of years ago yogi's declared, "As you think, so you become". We should choose our food and thoughts very carefully. Hence, it can be said that the body-mind coherence is a self-healing intelligence.

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## CHAPTER 3

### THE PANDEMIC EFFECT ON INDUSTRY –Changes in Employee Welfare Policies

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“ By Henrik Pettersson, Byron Manley and [Sergio Hernandez](#), CNN  
Medical authorities in 219 countries and territories have reported about 161.2 million Covid-19 cases and 3.3 million deaths since China reported its first cases to the World Health Organization (WHO) in December 2019.”

#### INTRODUCTION:

The Corona Virus SARS-CoV-2 was first detected in Wuhan, China in late 2019. The era of globalization supported this virus flow freely through humans across the globe leaving no country untouched. Billions of people on the globe got affected and Millions lost their lives until we write this article in the month of May 2021. A big setback is put on the global economy that has gone behind by many years.

The world today is passing through an unprecedented and unexpected paradigm shift that has made the human race to think of what went wrong. During these difficult times every sector of the economy is thinking and reshaping its architecture not even in terms of Operations, Processes, Technology but also in terms of the human capital that creates value from the unfinished goods. A paradigm shift was witnessed in the field of education wherein a 45-degree downward tilt was witnessed in the line of sight of learner who earlier looked upwards upon the white board and were now looking downwards upon their laptops / mobile gazettes for learning from their school teachers. Countries globally had to impose strict lockdown in their regions to curtail the spread of the deadly virus.

India was hit badly by the virus with large number of fatalities and a big setback to the GDP. India, during the 2020 Covid-19 pandemic, witnessed huge downsizing by certain sectors to maintain their bottom lines. Unemployment rate in the country drastically mounted up to 21.73% in May 2020 as compared to 7.03% for same month during previous year. By the month of June'2020 many organizations had laid off employee anticipating the Covid pandemic not going away in the near future.

The above post pandemic downsizing exercise finally resulted in availability of optimum manpower that is critical to manage each and every function. Prior to the Covid-19 pandemic,

organizations have already been doing an optimization exercise where-in they were already working upon formulas and algorithms to reduce their manpower cost and bring them to an optimum level. Such exercises were conducted by organizations through rigorous internal discussions until mid of 2019.

Running the Organization within optimum capacity with an optimum manpower resulted in having strong HR policies that may induce a sense of ownership and belongingness amongst all the employees since these were the optimum numbers and losing any one of them would be resulting in impact on downtime thus high replacement costs.

Optimum manpower thus induced a need to have robust employee conducive human resource policies that exhibit clear boundaries, prevent misunderstandings in the workplace, ensures smooth functioning of organization and connect the employee as a family member bearing an ownership mindset towards the organization.

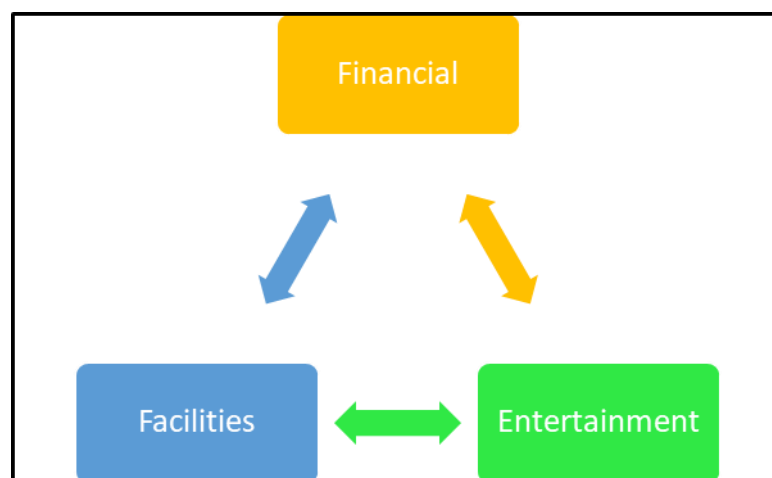
Post Covid-19 pandemic, many organizations have brought their integrity and ethics into the forefront extending support to employees beyond the domain of policies that existed until Pre-Covid Era.

The manpower that was termed as merely **Head Count** was now being called **Human count** with strong policies designed overnight by organizations to support their employees and their families during Covid-19.

## EMPLOYEE WELFARE

According to ILO, “Employee welfare should be understood as such service, facilities and amenities which may be established in or in the vicinity of undertakings to enable the persons employed in them to perform their work in healthy and peaceful surroundings and to avail of facilities which improve their health and bring high morale”.

We classify the welfare activities into three broad headers –



## FINANCIAL WELFARE OFFERINGS

- ❖ Insurance
- ❖ Health / Hospitalization Management services
- ❖ Loans & Similar facilities
- ❖ Profit Sharing
- ❖ Retirement / Pension plans

## ENTERTAINMENT / MORALE BOOSTER

- ❖ Sports
- ❖ Socio Meetings / Events
- ❖ Clubs / Groups of likeminded members

## FACILITIES

- ❖ Housing
- ❖ Transport
- ❖ Educational Facilities and Library services
- ❖ Medical Facilities
- ❖ Canteen
- ❖ Discount Stores
- ❖ Lockers / Washrooms
- ❖ Counselling advisors

The above welfare headers are broadly offered globally by organizations with tweaks and changes depending on the business strategy of the Organization, demography of the country of operations, offerings of competition in the similar industry and local community requirements.

## COVID AND ITS IMPACT

According to Nomura India Business Resumption Index (NIBRI), during lockdown economic activity fell from 82.9 on 22 March 2020 to 44.7 on 26 April 2020. Unemployment rose from 6.7% on 15 March 2020 to 26% on 19 April 2020. [2][3] During the lockdown, an estimated 14 crore (140 million) people lost employment while salaries were cut for many others.[2][4] More than 45% of households across the nation have reported an income drop as compared to the previous year.[5] The Indian economy was expected to lose over ₹32,000 crore (US\$4.5 billion) every day during the first 21-days of complete lockdown, which was declared following the coronavirus outbreak. Those in the informal sectors and daily wage groups have been at the most risk.

The employee working in formal set up were prone to job loss considering the quantum of reduction in demand for products and services across the globe due to Covid-19 lockdown.

## **EMPLOYEE WELFARE PRACTICES DURING COVID-19 LOCKDOWN**

The outbreak of COVID-19 is a global pandemic and on March 14, 2020 the government of India declared COVID-19 as a "notified disaster".

In view of the prevailing lockdown imposed by various states, the Ministry of Labour and Employment issued an advisory on 20th March 2020 appealing to all employer's association not to terminate their employees or cut wages of its workers in view of the lockdown. The advisory also stated that all employers of public/private establishments are advised to extend their cooperation by not terminating their employees, particularly casual or contractual workers or reduce their wages.

Disaster Management Act 2005 has been declared- considering the situation prevailing in the country due to the outbreak of COVID-19, the Central Government through the Ministry of Home Affairs, invoking its power under Section 10 (2) (1) of the Disaster Management Act, 2005 ("DM Act") declared a nationwide lockdown on 24th March, 2020.

The objective of the DM Act is to provide for effective management of disaster, and to this effect, the National Executive Committee (constituted under section 8 of the DM Act) has the power to give directions to any Ministry/Department of the Government of India, State/ Union Territory Government / Authorities regarding measures to be taken by them in response to any disaster.

### **CONCLUSION : EMPLOYEE WELFARE THE NEED OF THE HOUR:**

Overcoming the crises and the adverse effects they have on employees, is an important aspect in which the heads of institutions and Human Resources will have to think of getting the objectives achieved along with the compliance of laws and taking care of the well being of the employees. This certainly creates goodwill for any Organisation if it takes care of its employees .

Following actions need to be taken on part of the employees towards their welfare:

Firstly, the senior executives of the Organization and management must sensitize the employees of the fact that employee's health is the topmost priority.

Communicate and agree with senior executives on the intentionality and prioritization of safety, care and wellbeing of employees. It is important that senior executives not only agree, but also become sponsors of this process, set an example and model the desired change (Brock, 2015). The changes are never easy, so start where you are.

Secondly, the organizations have to develop benefit packages, which are suitable for employees and can contribute to their personal and professional development.

The organizations have agreed to include welfare benefits to give relief to the employees as far as possible, e.g. working from home, increment in annual leaves, providing sick leave with pay , providing personal protection equipment, providing health safety criteria (like health



insurance cover) for pregnant female workers, those with complex health problems, those with young children who want parental care, etc.

Moreover now the employment options for the Trans genders have also been opened and companies are also framing welfare schemes to motivate this section of the society.

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## CHAPTER 4

### IMPACT ON MENTAL HEALTH OF CHILDREN AND ADOLESCENTS DUE TO COVID 19

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#### INTRODUCTION

Covid-19 is an infectious respiratory tract disease that has become a worldwide crisis. It has led to anxiety, decreased resilience, low mental wellbeing. Corona's Pandemic lockdown has brought us all into a crucial time. It is not only affecting adults and older individuals however has additionally left children and adolescents worrisome. It is affecting them physically and mentally that creates them in danger of diverse issues. Devastations in economic, social, and personal life due to the spread of COVID-19. It is very important to maintain fitness, each physically and mentally in these testing conditions and at constant time difficult. In this chapter, we would try to cover a couple of aspects on a way to maintain mental fitness and cope with the mental health issues of children and adolescents.

#### FACTORS: IMPACT OF COVID ON MENTAL HEALTH CHILDREN

Children are most prone to numerous mental health problems. Because of this lockdown, several children are suffering, and then vital changes occurring during a child's routine life and social infrastructure may be seen.

1. Mental health problems will broadly be speaking fear of infection, irritability, boredom, anxiety, stress, depression, unhealthy sleeping and eating habits, problem in attention, and an undue indulgence with social media are additionally being noticed. In keeping the view of Sprang and Silman, —The mean post-traumatic stress scores were four times higher in children who had been quarantined than in those who were not.

2.Children All of us, children included, are trying to create a sense of the overwhelming uncertainty before people because of the worldwide pandemic caused by the Coronavirus (COVID-19). Schools and colleges being shut in India, and Children and adolescents have already been at home. Their regular schedules are discontinuous, with no clear plan after they are remodelled.

3. Children are confined to the house and in some things could also be separated from the parents as a result of they are quarantined, or the parents are quarantined or due to death of any family member especially parents, friends, relatives, etc.

4.Children may experience a variety of psychological problems like anxiety, fear, worry, depression, difficulty sleeping, and loss of appetite. Quarantine and isolation can also cause acute stress disorder, PTSD, and grief in several children. Children with numerous physical

and mental disabilities – and especially mental state disorders – are more vulnerable throughout this attempting time. The type of therapeutic inputs that children with numerous disabilities might be receiving might not be readily available now – various therapies, special schooling, psychotropic medication, etc. Social isolation might worsen the living state of affairs of children in abusive environments also as children with special needs. Economic hardships and also the potential worsening of parental physical or psychological diseases, together with substance use disorders, might take a toll on all children. Children might even undergo loss and grief at now.

### **HOW CAN WE HELP THE CHILDREN?**

Parents play a significant role in serving children and adolescents throughout this difficult time. Be patient, empathic, non-judgmental, supportive and build them cope up with this time with ease. Because of the nationwide lockdown, all the schools and institutions have been closed. There is a sudden change within the surroundings of the children who are staying with their parents or any caregiver as their outdoor activities and social interaction with friends are restricted.

1. Children are perpetually exposed to information associated with the pandemic in newspapers, TV news channels, and social media. They may understandably have realistic and a few exaggerated fears. Provide your child with clear information regarding pandemics to cut back anxiety and fear, however, limit the use of social media and news as well.

2. Be supportive and sympathetic to the child.

3. Engage them in activities like crafts from waste papers, dancing, singing, board games, and others to create calm and mitigated.

4. Build a daily timetable and raise the child to follow it frequently. Schedule the study hours, if desirable, throughout their school timings.

5. Involve your child in some physical activities and exercises with the assistance of some online videos at home to improve sleeping and eating habits.

6. Ensure to give online content of courses however to not overburden your child with the classes.

- 7 parents or caregivers should keep children close to them. If there is a necessity to be separated due to suspected or positive cases, regular communication through phones, video calls or any means that of social media should be maintained.

8. If the child involves to understand any disconcerting news, reassure them and check out to stay them aloof from such things.

9. Encourage your child to find out some new activities daily.

10. If a child already on psychotropic medications then do not abruptly stop the medications, reach out to your doctor through telemedicine Continue the medications.

11. It would be marvellous to even have some indoor exercise as a part of this routine – for example, yoga stretches, skipping, etc. However, this should not be added to their routine. Family time should be given. Manage some family interacting activities like taking part in indoor games and outlay some hours chatting with each other. This can be a recent chance to reconnect with the family taking part in board games, cards, carrom, antakshari, etc.

12. Involve them in home chores like cookery, cleaning, gardening, watering plants, serving food, cleaning utensils, and others.

13. Enable them to be in grips with friends or classmates through phone or online media.

14. Act as a Facilitator to seek out ways to a bright future for them. 15. make them the practice of social distancing, hand hygiene, and maintain self-hygiene.

## **ADOLESCENTS**

### **EFFECTS ON MENTAL HEALTH OF ADOLESCENTS DUE TO COVID 19**

They can also suffer from the above issues in conjunction with involvement in substance use or frustration arising from the dearth of substance convenience for the addict ones.

Adolescents can have a stronger understanding of the COVID-19 related problems compared to youngsters. Parents need to engage in an open, non-judgemental communication with their adolescents instead of having assumptions like “you do not know anything”, “you have to learn everything from parents” etc. coping and Problem-solving skills of adolescents are developed higher as compared to children. Adolescents are probably to possess preoccupation with themselves, a way of insecurity, mostly identify with their peer groups and are usually vulnerable to risk-taking behaviours. Some adolescents might have feelings of being unconquerable and should take risks by not maintaining personal hygiene and social distancing. Others could also be withdrawn, scared of leaving home and distressed regarding their health yet as that of their family members. They also lose regular contact with friends as a result of schools, colleges, and universities are closed. this might result in feelings of dissatisfaction, loneliness, sadness, aggression, and irritability towards siblings and other family members. Few might become victim of Tobacco, Cannabis, Alcohol, etc. to handle their dissatisfaction, loneliness and emotional changes. The uncertainty regarding examinations and its impact on their career selections will exacerbate the stress due to the prevailing COVID-19 Pandemic.

### **How parents help the adolescents?**

Parents or caregivers play a very important role in helping adolescents during these tough times. The above-mentioned measures may also be applied for adolescents in conjunction with the following:

1. Parents need to keenly observe for any emotional or behavioural changes in their adolescent youngsters. generally, these changes will be refined. Be patient, hear them, and perceive their issues associated with studies, friends, loneliness, substance or unwellness, while not judgment them, attempt to offer them a sound answer and reassure them regarding matters.

2. Involve them in non-media activities as this is a time when adolescents run towards social media. Individuals need to discuss with adolescents to make sure the restricted use of gadgets and to discuss the inclusion of healthy non-gadget activities as a part of the daily routine.
3. For adolescents living far from their homes, be connected just about on a daily basis and whenever in want.
4. Workout, taking diet and enough sleep are vital factors for self-care as a result of poor quality of sleep is predictor of emotional distress.

During this significant time, it's necessary for all individuals to be calm and supportive for those suffering during this Lockdown phase. Be it our family or our friends, we should always spread awareness and take a look at to form matters lighter for them, rather than simply stressing them out or exploit them alone.

Regarding care of scholars and their academic performance special attention is required within the style of life skills education, e-learning, families, social supports, strengthen emotional health by (exercise, sleep, relaxation, healthy eating), motivation sharing of feelings, writing, music, teleconsulting by specialist physicians.

Goal Emotional adjustment, counselling, assurance uncertainty ends up in Decomposition of physical and mental health dilemma regarding future in terms of their, up gradation to next class/ courses and academic future Lockdown Resilience, e-learning, family guidance is not enough to beat the issues, to achieve success, we want a joint approach.

## CONCLUSION

The Pandemic has brought all into a very crucial time. it's not only affecting adults and older people however has conjointly left children and adolescents worrisome. It is affecting them physically and mentally that makes them prone to numerous issues. Parents play a significant role in serving to children and adolescents during this crucial time. Be patient, empathic, non-fault finding, supportive, and build them cope up with this time with ease. Due to the nationwide lockdown, all the colleges and schools are closed. children are most at risk of numerous mental health issues. Due to this lockdown several children are suffering, so vital changes occurring in a child 's routine life and social infrastructure will be seen. mental health issues will broadly be speaking be worry of infection, irritability, boredom, anxiety, stress, depression, unhealthy sleeping and eating habits, issue in attention and concentration.

For children and youth (5–17 yrs.), the WHO agency recommends sixty minutes of daily physical activity with moderate to vigorous aerobic intensity, with muscle and bone strengthening thrice weekly and for adults and old (>17 yrs.) physical activity for seventy-five min/wk. with vigorous aerobics intensity or a hundred and fifty min/wk. of moderate aerobic Intensity, with muscle and bone strengthening twice weekly.

A positive mental, balanced diet with motivation can aid in feeling good. Staying at home can result in a great deal of stress, anxiety, and mental distress. Home-based activities like yoga,

indoor walk, exercise, dance etc. give a chance for children and adolescents to remain fit and healthy by practicing simple movements whereas staying at home.

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## CHAPTER 5

# MATHEMATICAL MODEL FOR THE EFFECT OF ANXIETY AND CORTISOL IN OUTCOMES OF PATIENTS WITH COVID-19 AND PATIENTS RECOVERED WITH DEPRESSION

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## INTRODUCTION

Pandemic - Covid-19 has increased panic and anxiety and has influenced all aspects of our lives. Unlike other viral infections, media has projected Covid-19 as a particular hazard that further has increased tension, fear and anxiety. The immune system, endocrine system and central nervous system are closely linked. Conclusion from several studies and from Basic and Clinical Neuro science that severe Covid-19 infection outcomes are more prominent at a higher level of Hospital Anxiety and Depression Scale score - HADS score and serum cortisol. Infected patients may experience anxiety and depression.

Activity of Hypothalamic Pituitary Adrenal - HPA axis is measured by measuring cortisol level for the depressed subjects using degradation hazard function model. Hypothalamic Pituitary Adrenal - HPA axis is a major part of the system that controls reaction to stress and main interest is to observe the response of the system over time by using the above model. The concept of prominent Psychologist Selye's findings and theory about human stress effects are applied and a real application of stress induced cortisol response for the depressed subjects after clinical recovery and withdrawal of medication is given. The concluded results coincide with the medical findings.

Degradation is the reduction in life span of system and reliability. System gets performance degradation as by age or deteriorates due to other factors. It is clear that the degradation measure is a stochastic process.

Degradation measure can be modelled in several approaches. In our model, the assumptions are improved and using the approach of Reliability Estimate using degradation data and special cases are derived for our model.

The degradation hazard function is defined as  $r(x;t) = \frac{f(x;t)}{F(x;t)}$  and it considers both degradation measure level and time.

Also the degradation hazard function denoted by  $d(x, t)$  is expressed as the product of two functions  $d(x, t) = g(x)q(t)$

Where  $q(t)$  and  $g(x)$  are non-negative functions of time and degradation measure. Using properties of cumulative distribution function, rewriting

$$\bar{F}(x; t) = P(X > x; t) = \exp\left(-\int_0^x r(s; t) ds\right)$$

$$\bar{F}(x; t) = \exp\left(-q(t) \int_0^x g(s) ds\right)$$

$$\bar{F}(0; t) = 1 \text{ and } \bar{F}(\infty; t) = 0 \text{ gives the constraint } \int_0^{\infty} g(s) ds = \infty.$$

$$\text{constraints on } q(t): \lim_{t \rightarrow 0} q(t) = 0 \text{ and } \lim_{t \rightarrow \infty} q(t) = \infty$$

$$\text{since } \lim_{t \rightarrow 0} (\bar{F}(x, t)) = 1 \text{ and } \lim_{t \rightarrow \infty} (\bar{F}(x, t)) = 0$$

### Model Formulation

Here we develop degradation hazard function

$$d(x, t) = g(x)q(t) = \frac{\gamma x^{\gamma-1}}{\beta \exp(-\alpha t)} \alpha, \beta > 0; 0 < \gamma < 1.$$

constraints of  $g(x)$  and  $q(t)$  are satisfied.

By using property of Cumulative Distribution Function we obtain the corresponding probability density function as

$$f(x, t) = \frac{\gamma x^{\gamma-1}}{\beta \exp(-\alpha t)} \exp\left\{\frac{-x^\gamma}{\beta \exp(-\alpha t)}\right\}, \quad x > 0, t > 0, 0 < \gamma < 1$$

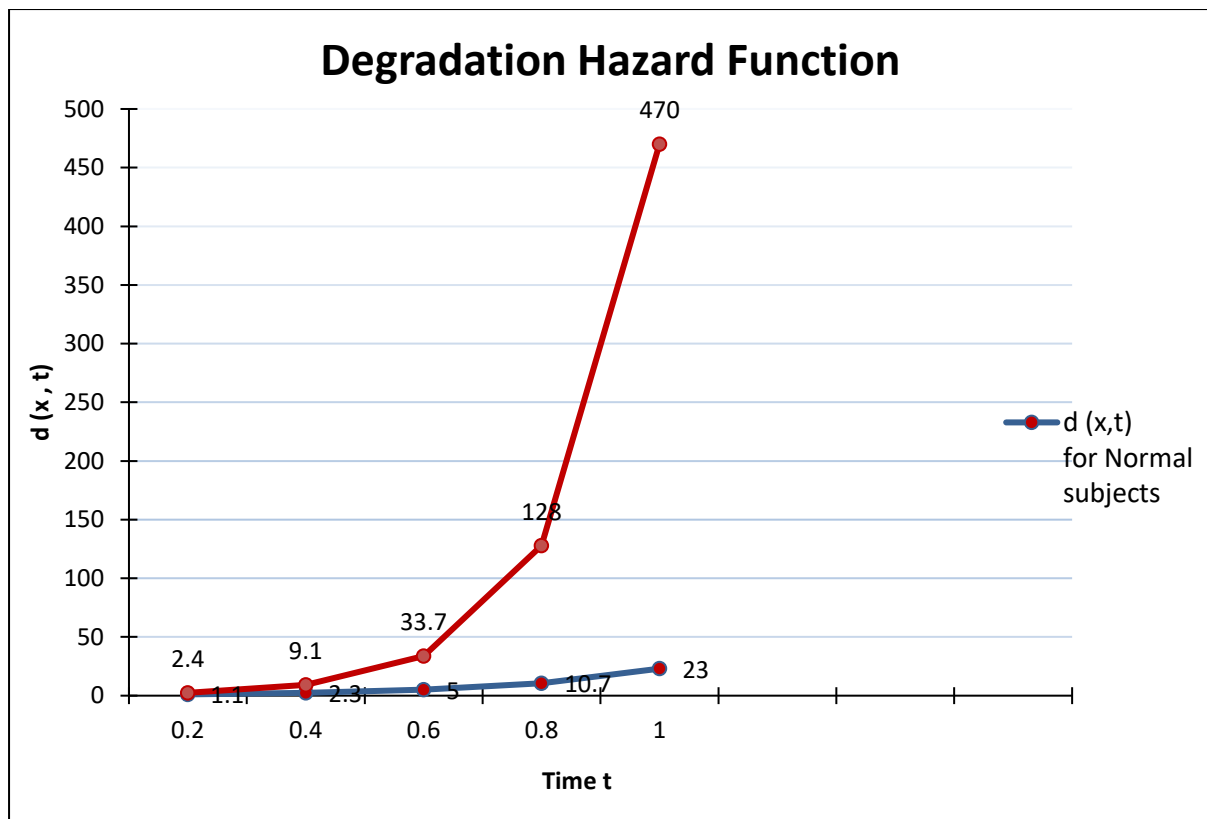
$$\text{If we assume } \gamma = 1 \text{ we obtain } d(x, t) = \frac{1}{\beta \exp(-\alpha t)}$$

Which reduces to traditional failure rate  $\frac{f}{F}$  involving 't' only.

### APPLICATION

We give a beautiful application for Increase in Salivary cortisol levels after waking in recovered patients With Depression and normal subjects matched by Age and Gender.

The following figure gives the degradation hazard values for both cases of our study.



## CONCLUSION

It is clear from the results obtained that Degradation Hazard is more for recovered depressed patients than with comparison matched subjects. It is clear that as time increases degradation hazard also increases. Since the results are consistent it is concluded that the recovered patients had significantly higher levels of cortisol than with comparison matched subjects by age and gender. Related life data fitted with our model and the results coincide with the medical findings.

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## CHAPTER 6

### AMIDST THE GAMUT OF COVID-19 UPSHOT, BALANCE SHEETS ARE SHRINKING & SHREDDING

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#### INTRODUCTION:

The COVID-19 pandemic has led to a significant loss of human life globally. Economic activities were suspended as a result of lockdown to combat the spread of the novel disease. This has led to loss of billions of jobs both in the formal and informal sector. Pressure on weak health-care systems, loss of trade and tourism, diminishing remittances etc., amid growing debt have all weighed heavily on emerging market and developing economies. The global stock market is in a state of turmoil. India being one of the 6<sup>th</sup> largest economy in the world (*as reported in the Economic Times, dated 26<sup>th</sup> December, 2020*) had its own share of distraction. Indian Metro rail services incurred huge revenue loss, disrupted the education sector, livelihood of street vendors reported a drastic decrease in income. The outbreak has affected not just the health of people but also the health of businesses worldwide. The epidemic has wreaked havoc on the world's declining economy, affecting a wide range of industries such as healthcare, banking, real estate, motor cars etc., disrupting global supply lines, and strengthening a rising trend in global insolvencies. Due to increasing market risks, such as a general decrease in demand and production stoppage, the economic uncertainty is having a substantial influence on financial reporting. It is having a far-reaching impact on businesses and markets worldwide. The Profit and Loss Account (now, known as the Income Statement) has reflected a substantial deterioration on the performance of the innumerable sectors, margins and volumes fell, revenues flattened and expenses rose, take home pay tweaked, enhanced variable pay components and the operating EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization) fell. The drop in business activities has not only damaged the performance, but also the financial position (Balance Sheet) of companies. In fact, the Balance Sheets deserve more attention and are an often-overlooked financial statement which is one of the components of financial reporting. The statements of financial position have been shrinking and shredding from the day the Pandemic has hit the business.

A glimpse into key impacts on “fragile, weak, frailties Balance Sheets” during the pandemic is summarized as under with elements of Working Capital Management in focus:

#### 1. CASH FLOW:

“Cash is king” is a slang and an expression to determine the financial health of a business. However, with significant financial and working capital limitations, businesses are experiencing and anticipating possible liquidity issues. During a crisis, managing financial

demands generally falls squarely on financial departments. As the requirement to scale up payables to essential suppliers is growing, many firms notice lesser revenue, resulting in reduced cash flow, as well as delayed receivables collection. It's possible that a company is in a negative cash flow situation when the incoming cash plummets. This indicates more cash outflows than inflows. However, in today's environment, focusing on good cash flow and maintaining Cash Reserves is a “sole bread winner” for a company's future.

## **2. ACCOUNTS RECEIVABLES:**

Customers have experienced cash flow pressures or inadequate liquidity as a result of the effects on any component of their business ecosystems; experienced delays or defaults on payments; firms have gone bust and filed for bankruptcy. The damage has been a decline in customer payment behavior, which has had a severe ripple impact on the business's financial flow. The account receivable function is difficult to run remotely as the employees work from home; billing operations and collections and cash application teams are slower than usual. Performing and managing Accounts Receivables collections during this difficult economic time is vital, however, it's a delicate business. It takes a specific mixture of firmness and sensitivity to approach consumers who may be struggling financially due to aged debt.

## **3. ACCOUNTS PAYABLE:**

The Accounts Payable function has two most critical objectives: to pay vendors and suppliers on time and to pay them accurately. This needs a great deal of accuracy and coordination even on a typical normal day. However, the function has grown considerably more difficult during an unforeseen crisis. It has entailed payment delays, which has affected other parts of the company's finances. It's impossible to keep track of shifting deadlines or reach out to clients and vendors, so employees must finish their tasks outside of the workplace. This is transforming a complicated but doable procedure into a daunting task. Organizations in hard-hit areas have suffered the brunt of the damage. Those working with global suppliers and just-in-time delivery models are unprepared for the kind of supply chain disruption that has occurred. The Accounts payable function has a significant effect on the bottom line, third only to Sales and Receivables. Even as accounting leaders began to comprehend the pandemic's gravity and far-reaching consequences, changes in payables departments were already underway in certain companies. Few have discovered that deferring payments might help them manage their cash flow. And other few are leveraging their bargaining power to get better payment terms or discounts for paying early.

## **4. INVENTORY:**

The Coronavirus epidemic has exposed various flaws in supply networks all across the world. Unpredictable customer behaviour, inconsistent inventory supply, growing logistical expenses, and internal capacity limits are all common concerns. Due to shutdowns, the pandemic resulted in overstocking in several categories, causing rush purchasing and stock outs on numerous sorts of commodities. Supply Chains were afflicted by irregular volatility, which created communication gaps between distributors and retailers, resulting in crucial interruptions and

major financial ramifications. Global supply chains have faced considerable hurdles as a result of the slowdown. It has posed significant challenges as the lockdown has stopped the flow of raw materials and finished goods, disrupting manufacturing as a result. Many organizations have experienced employee shortages and losses as a result of it. Overall, the problems have magnified and accelerated that previously existed in the supply chain.

## **5. BAD DEBT PROVISIONS:**

Due to the economic slump, businesses foresee a significant increase in bad debts. Insolvent customers are now a big threat to a company's survival. The recoverability of receivables and the potential requirement for bad debt arrangements are becoming increasingly important. Mounting huge provisions and possible write offs is “flagged” as a big concern during this survival time.

## **6. INVENTORY PROVISIONS:**

Supply Chain leaders are in a much worry about the impact of rising inventory on hand due to the halt of business activities. A deep dive analysis is much needed to decide depending on the kind of inventory, if a reserve should be set or if the inventory should be written off entirely. It is necessary to judge if there has been a major deviation from usual levels of operations in a given time period; or if there are any vital signs that the inventory on hand is becoming slow moving or obsolete.

## **CONCLUSION:**

Financial “think tank” had their planned budgets and forecasts in hand, which have now gone away. They are currently gauging to determine on a requirement to inject more funds to support the business, map out new strategies to survive in, as the profitability of the company scenario is dwindling, profit margins are dropping, pipeline deals are slipping out, sales forecasts are shrinking and are turning out to be a lot less accurate. Plenty of uncertain factors on plate though, a Rolling Plan and Forecast must be done more critically, yet with greater flexibility. The idea is to generate accurate projections by analyzing the pandemic's effects and how it pertains to a specific business. By their very nature, forecasts are proactive, and assessments must be done in order to be able to see past emerging patterns and a better growth outlook. Whatever is said and done, the Finance and Business leaders must return to their drawing boards as they need to respond, rejuvenate and accelerate their contingency planning, so that they can cope up with the downturn and flourish as the recovery progresses.



## CHAPTER 7

### COVID-19: THE DESTROYER OF THE RURAL EDUCATION SYSTEM

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#### INTRODUCTION:

It is going to be complete one and half of the year for this covid pandemic. The first case of SARS Cov-2 was reported in Wuhan city of China on 14<sup>th</sup> December 2019. It is an infectious viral disease and most dangerous thing is that the spreadability rate is extremely high since this is main cause behind the day-to-day increasing COVID19 cases. The general symptoms include fever, cough, body pain, headache, and simultaneously the loss of smell & taste. The new symptoms also are observed that include fatigue, vomiting, skin rashes, etc. In the young patient, the symptoms are less observed so in the patient even if the oxygen saturation intensity was near about 80% they don't show any symptoms but the patient-facing problem in breathing such condition called as Happy hypoxia.

#### RURAL EDUCATION IN PANDEMIC:

I am belonging to a rural area Nashik district, Maharashtra, So how this COVID-19 crash the rural education system expressed during in this chapter. After the first case observed in Pune, I was remembered very well the family ostracized by the public. At this moment cases are rise day by day in our Nashik also some cases observed in Malegaon 51 cases in an early and single day. When the cases started increasing some Universities in Maharashtra declared the leaves for the students on 15<sup>th</sup> March 2020 till no further official order came by the university get closed. Then the professor decided to take the class via online but for rural students, it's extremely challenging because they are facing uncountable issues like android phone availability, network, electricity, and other family tasks. During the time university exams, we are facing a lot of problems because of poor network connectivity issues. I also asked some of my friends, which are staying with me in government boy's hostel, Kalwan before the pandemic they were said to me, "we couldn't prepared and attempted this exam in an exceedingly good manner just because of we were facing network connectivity issues at our village so that's why it is a very tough challenge for us", since they were failed in university exam in last year. In rural areas, some students don't have an android phone, so that they couldn't attempt any online classes in pandemic the at the time of exams teachers called to students parents and said that We were going to send question paper on WhatsApp asked your child to solved it and then resend that

answer sheet towards us for checking. all rural areas government school exams were conducted and students promoted for consecutive class.

The most important thing is that rural student generally chooses a government school and we all aware about a government schools in India, how they are working. Before lockdown student is doing all homework, assignment in school but now in-home they forget it and show what matters. I also put some cases from my hometown; the student who was taking education from Zilha Parishad primary school she was studying in 5th standard. I simply looked towards her and called her "Hey, come here & I was asked an easy question in English to her, what is your name?" its general question I was asked to her and expected answer from she will be answered on it mine question, but she is simply seeing towards me and laughed. I simply said what happened? I wanted an answer to my question afterward I simply asked her in my local language "did you get my question?" She replied on that, no. She looks at me and said to me in our school teachers never teaching that thing. So after that incident I understand one thing that is, it's not her mistake, school teacher was responsible for lack of knowledge. So then how i was expected from her in that easy introductory question she would be replied to me. I said it's fine no problem then, I was asked that time another easy question that about mathematics that time also sh enabled to answer.

### **IMPACT ON RURAL EDUCATION SYSTEM:**

When all educational institutions across India shifted to online learning modes in March 2020 to suits a nationwide complete lockdown, the already significant disadvantages met by rural Indian school children were exacerbated. Rural school children have historically been disadvantaged in terms of educational quality and opportunities compared to their urban counterparts, as stressed by two recent large-scale surveys reports – the Annual State of Education Report 2020 (ASER) and the Household Social Consumption on Education in India (2017–2018) survey. Against the backdrop of a yawning rural-urban digital divide, state governments employed a mix of methods to start distance learning for rural schoolchildren. The ASER 2020 survey highlights that these efforts have yielded disappointing results.

20 percent of rural children had no textbooks at home.

28 percent of students had received no educational help from family.

29 percent of children had not engaged in any educational activity.

66 percent of children had not received any instruction from their school only 11 percent had attended live online classes.

32 percent of children with smart phone access had not received any materials. In addition, access to devices and the internet doesn't guarantee the ability to use for educational purposes as the key indicators of household social consumption on education in India show; only 20 percent of people within the 5–35 age groups had basic digital literacy, while only 8.5 percent of women knew how to use the internet. This experience offers three broad insights into the nature of Indian rural education where future development efforts can be directed.

**1. Teaching school children is a specialized, professional activity:** Their lofty status in main Indian cultures still, the public perception of especially government and rural teachers is not favorable. School teaching is also perceived as something any educated person can manage. It can be hoped that with a lot of families now tasked with their children's education, there will be a greater appreciation of the work of school teachers, which should after result in more efforts towards enhancing their salaries and professional capacity.

**2. Educated parents and home environment are essential:** School closure suddenly shifted the locus of all educational activities to the child's home and family. While the number of first-generation learners in rural India is steadily decreasing many students still do not receive education at home. Better educated parents are more capable of supporting their children's education through direct help, having higher expectations, and providing more resources. Therefore, adult and lifelong education should be treated as important aspects of improving rural education. With limited physical space and money for educational resources in most rural households, a positive study environment at home can be created through simple acts like not assigning household chores to children, not turning on the television when the children are studying, and by asking them questions about what they did in the school that day.

**3. Limited ways in which technology can support education:** Even if problems with access to proper devices and network connectivity were resolved, technologies cannot meet the pedagogical and social requirements of rural education. Technologies need the support of traditional educational inputs such as dedicated learning environments, hands-on classroom activities, and a supportive family environment. most significantly, they must capable teachers who can use them along with other pedagogical materials to suit the requirements of each student. For rural students, teachers are often the only source of motivation and guidance which are essential in ensuring students continued enrolment. Prompt remedial actions and policy measures must be adopted to confirm these children don't seem to be denied their fundamental right to education.

School closures due to the nationwide lockdown in March 2020 meant that children were disengaged from formal education for a chronic period. The resulting talks around e-education exposed India's digital divide, with only 24 percent of households having access to the internet. Children studying in government schools were hit particularly hard, with a recent study indicating that more than 80 percent of government school students (in Odisha, Bihar, Jharkhand, Chhattisgarh, and Uttar Pradesh) hadn't received any educational materials during the lockdown. With this backdrop, Pratham Education Foundation conducted surveys for its Annual Status of Education Report 2020. The first round of the report has been published, and through it, Pratham attempts to fill the national data gaps on the status of rural education during the lockdown. It explores the provisions of remote-learning, and how accessible these provisions were in rural India, also as how often they were used. To write the report, Pratham surveyed in late

September 2020 based on a random sample of participants drawn from the ASER 2018 database, the survey saw participation from 52,227 households and 8,963 teachers from 16,974 villages in 26 states and 4 union territories. Data was collected for every child between the ages of 5 and 16 in each household, and in schools, it had been collected for the grade that teachers could offer the most information for. Here are some highlights from the report. A family's resources can influence the support they supply towards their children's learning in a very kind of ways. The report attempted to capture these varying support mechanisms:

**Parent education levels:** Only 31.3 percent and 16.6 percent of surveyed mothers and fathers, respectively, had no schooling. In contrast, 53.1 percent of mothers and 70.8 percent of fathers had completed more than five years of school.

**Access to smartphones:** For 22.5 percent of children whose parents had 'low' education levels, there was a 45.1 percent chance of their household having a smart phone, with an 84 percent chance of the child being enrolled in a government school.

**Textbooks:** Having relevant textbooks at home is crucial for a child's learning. The report indicates that schools have fared fairly well in this regard, with 84.1 percent of government school children and 72.2 percent of private school children having relevant textbooks for their grades.

**Learning support:** Taking all children across different grades together, about to three-quarters of all school children received school-related help from their family members.

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## CHAPTER 8

### NEW-MEDIA NEEDS TO BEHAVE MORE ETHICAL., LESSONS FROM COVID19 INFORMATION EXPLOSION

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#### INTRODUCTION

New-Media are maturing, and it is increasingly evident that they apply great influence on traditional journalism as we find it in newspapers, radio and television programmes. Journalism is undergoing its most fundamental transformation, thanks to ubiquitous news, global information access, instantaneous reporting, interactivity, multimedia content, and extreme customization. The dynamic and fluid nature of new media and its many indefinable parts has kept authorities hopping since its inception. There are a range of explanations and hypothesis, but there is a lack of one specific definition. New media can be defined by means of its Technology (interactivity, digitalization, convergence); Services (delivery of information, entertainment, political participation, education, commerce); and Format (hybridity, hypertextuality, multimedia)

#### *Data Delivery made Spontaneous, Straight and Suitable*

Never before in human history has it been possible to communicate so quickly during a pandemic, New-media platforms have been a key piece for the dissemination of information; however, there are multiple advantages and disadvantages that must be considered. Responsible use of these tools can help quickly disseminate important new information, relevant new scientific findings, share diagnostic, and treatment protocols, as well as compare different approaches globally, removing geographic boundaries for the first time in the history.

The ‘democratization’ of media – technology that allows citizens to engage in journalism and publication of many kinds – blurs the identity of journalists and the idea of what constitutes journalism. New media encourages people to express their opinion and share their thoughts candidly. This has given way for novel concept like Citizen Journalism, and witnessing some kind of all-inclusive media metamorphosis like never before. Not only has its digital phase made information dissemination faster and more efficient, New Media has also fundamentally altered the direction of this information flow. In this context, we must ask certain tough questions: Have New Media technologies revitalized the public sphere, or merely made some commercial tools for an increasingly un-public, undemocratic news media? Are these changing journalistic practices damaging the nature of news, or are New Media allowing journalists to do more journalism and to engage the public more effectively?

Today, Social media platforms are amongst the most widely used sources of information in the World, the easy and inexpensive access to the internet and a large number of registered users

in these platforms make them one of the easiest and effective ways to disseminate information. During major events, the overall response is usually a greater search for information be it a sports event, a disease, or a natural disaster. A good example can be seen with the peak of searches for information on the Internet and social media platforms in China preceding the peak of incidence in COVID-19 cases by 10-14 days, with which Internet and social media networks searches have a demonstrated correlation with the incidence of disease.

### ***Facilitating Ubiquitous and Unrestricted modes of Communication***

Social media platforms have also become helpful for the lay public to maintain communication with friends and family to reduce isolation and boredom which have been associated with anxiety and long-term distress, therefore becoming an important recommendation for isolation at home to help to reduce the psychological impact. Sharing protocols about treatment, personal protection equipment, or even proposals for fair allocation in scarce medical resource settings have now become the new normal. This allows centers with less capacity to develop protocols at sufficient speed to be able to implement or adapt other's protocols to their particular situation or resources in minimal time, something unthinkable 20 years ago when new media platforms had not yet been born.

Social media have the great advantage of rapid dissemination of educational content in the COVID-19 era. Recently Chan & Nickson drafted *Social media for rapid knowledge dissemination model*: an infographic about airway management of patients with suspected or confirmed



COVID-19. It was shared through Twitter and WeChat, in a few days requests were received for its translation into more than ten languages, besides the distribution allowed adapting the model to the particularities of each healthcare setting. Another advantage of social media platforms during the COVID-19 pandemic has been the possibility of arranging collaborative research projects, surveys, and multi-focused studies. Moreover new media platforms are supporting continued medical education and awareness through online live and recorded webinars through platforms like YouTube, Skype, or Zoom.

Faster dissemination of information regarding preventive measures has a lot of potentials. A Cross-Sectional Study by Basch Hillyer & Meleo-Erwin evaluated some 100 most viewed YouTube videos on with the word “coronavirus”, these together had more than 165 million views as of March 2020, 87% of them belonging to news channels; It was found that less than one-third of the videos mentioned the recommended prevention measures, less than half mentioned the most frequent symptoms, however, almost 90% commented on deaths, anxiety, and the quarantine status. This study leaves us with an important reflection on the missed opportunities for dissemination of quality information on the prevention of contagion and frequent symptoms of COVID-19 on platforms such as YouTube, which are being increasingly consulted as an efficient information source.



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*Decoding the Darker Shades of New-Media*

Among the drawbacks, we have several misleading possibilities, that information transmitted may not be current, has not been subjected to peer review, is invalid, incorrect, not applicable to our environment or even false & bogus. Another large obstacle for social media and the propagation of information are the *bubble filters*, which tells us about a *personalized ecosystem* towards the user, in which the algorithms through the data collected from the same user, predict their preferences and yield results that are considered similar to the likes of that user. These bubbles produce a loop of similar content that prevents the user from seeing other different sources to contrast information. This concept applies to any scenario or illness that is consulted in internet search engines or on social media platforms such as Facebook and Twitter. Finally, probably the worst face of social media is the potential to disseminate erroneous, alarmist, and exaggerated information that can cause fear, stress, depression, and anxiety in people with or without underlying psychiatric illnesses.

The term '*infodemic*' has been coined to outline these kinds of perils of misinformation phenomena during the management of such disease outbreaks, since it could even speed up the epidemic process by influencing and fragmenting social response. Recently, CNN has anticipated a rumor about the possible lock-down of Lombardy- N.Italy to prevent pandemics, publishing the news hours before the official communication from the Italian Prime Minister. As a result, people overcrowded trains and airports to escape from Lombardy toward the southern regions before the lock-down was put in place, disrupting the government initiative aimed to contain the epidemics and potentially increasing contagion. Thus, an important research challenge is to determine how people seek or avoid information and how those decisions affect their behavior, particularly when the news cycle alters the way information is consumed and reported on.

The case of the COVID-19 epidemic shows the critical impact of this new information environment. The information spreading can strongly influence people's behavior and alter the effectiveness of the countermeasures deployed by governments. To this respect, models to forecast virus spreading are starting to account for the behavioral response of the population with respect to public health interventions and the communication dynamics behind content consumption. Social media platforms such as YouTube and Twitter provide direct access to an unprecedented amount of content and may amplify rumors and questionable information. Taking into account users' preferences and attitudes, algorithms mediate and facilitate content promotion and thus information spreading. This shift from the traditional news paradigm profoundly impacts the construction of social perceptions and the framing of narratives; it influences policy-making, political communication, as well as the evolution of public debate, especially when issues are controversial. Users online tend to acquire information adhering to their worldviews, to ignore dissenting information and to form polarized groups around shared narratives. Furthermore, when polarization is really high, fabrication might easily multiply. It's quite obvious that, at time, fake news and inaccurate information may spread more faster and wider than fact-based news.



To fight this, many initiatives are getting emerged. Recently, A forum of Scientists from South Korea have jointly launched a campaign called *Facts Before Rumors* to fight against misinformation on COVID-19. This initiative led by IBS Korea states that, “This pandemic has affected daily lives massively, and lots of information that’s found online are misleading, sometimes guiding to even detrimental results. People need to know how they can actually protect themselves from this virus..” Their campaign tries to deliver solid scientific facts to all countries where some of the repeatedly cited rumors were starting to emerge.



In last two decades, few e-commerce models tried out some cheap attraction techniques like click-baits, having their tactic-roots to be found far back into 19<sup>th</sup> century. It's said that, during 1920s, Victorian marketers employed similar approaches in their selling methods - even Roman announcers tugged on the heartstrings of customers, to tempt them into the arena stands.. While a clickbait-headline can certainly command a reader's immediate attention, in long run he would usually feel let down by the content provided. Seems like., New Media Journalism is wrongly inspired by these unethical marketing patterns.

In his article on New Media Ethics, George Pitcher- adviser to Dow Jones, blurts out that “*Journalism has never been respectable, but journalists should have self-respect...*” On ethical front, sundry effects of new media for the future of journalism are potentially alarming as the new digital matter has falsely filled the moral vacuum. The public sphere dislikes any vacuum, but so long as we ignore the societal necessities of good journalism, the more the space will be filled with the kind of false idols; like click-bait, fake news and content theft, that we now have been witnessing over the first 20yrs of 21st-century. George Pitcher even argues that good journalistic practice is less about principles than character. Yes.. We need to learn a lot from his comment, and must act more responsible, honest & ethical, in rephrasing ourselves as quality information providers.

Dr. Sudheer Marar

## CHAPTER 9

### IMPACT OF COVID-19 ON THE BEHAVIORAL AND SOCIAL FACETS OF CHILDREN

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#### INTRODUCTION

We all are well aware of the catastrophic effects of COVID-19 and also the impact the pandemic has on different sectors of economy. Well I would like to throw light on the impact it had on the behavioral and social aspects of children. This article also has few supporting evidences .It is observed that schools have resorted to online mode of education and teachers, students and parents are trying their level best to adjust to the new mode of teaching learning technology .It's good that children are not deprived of their education but have you ever thought about the negative consequences of the same?

First and foremost, we need to have an idea about the emotions, socialization and behavior patterns in childhood. .It is an irrefutable fact that emotions tends to be intense during childhood. Common emotional patters observed among them includes anger, fear, jealousy, curiosity, joy etc. Though it is said that parents have the strongest role in child s development the teachers and peer mates too are inevitable .It is very essential for a child to have a school ambience too to balance the myriad emotions. Closure of schools and online education has drastically affected their behavior and socialization process. I am including the result of a small study conducted on this basis.

#### **Socialization in childhood**

Children develop their socialization patters through play mainly .Peer relationship is so vital in this age because friends are not only playmates but also they are someone whom they can depend upon, share ideas and communicate freely. This kind of relationship is important for their emotional and intellectual growth. In this fast paced life parents may find it difficult to hear them all the time. Moreover it is always not possible for an adult to see thigs the way children does. This indeed create a loss of connect. However it is very much true that the primary point of contact of children is their parents itself, through them the child gets to know about the world. But as the child progress with each passing year they need a better companion who has the same ideology as he/she does and would have the ability to communicate freely.

#### **Behavior shaping among children**

Behavior among children is affected by complex interactions of many different factors: parents, peers, and environment. All these are interlinked. Although parents tend to be their primary

educators, the school environment helps the child to enhance the same. It is a undeniable fact that children always spent more of their productive time at school. Reinforcements given by teachers attracts them the most .The feeling of being considered among the classmates boost their self-esteem and confidence and on the other had the punishments can help the child to have a clear picture regarding the Do's and Don'ts.

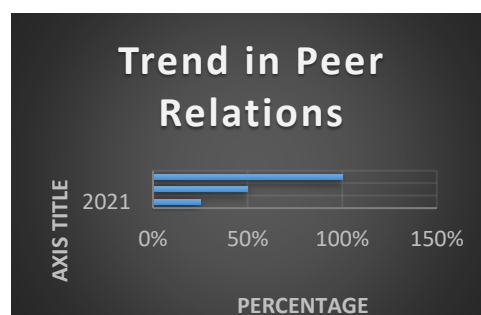
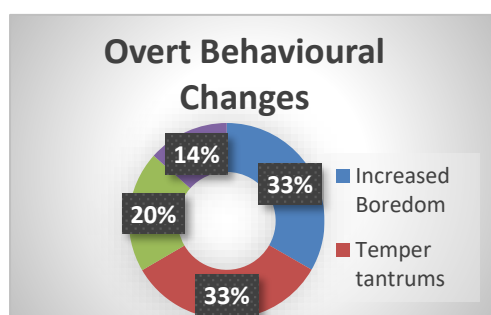
### **COVID-19 Implications on Behavioral and Social Aspects of Children**

A mini research study was carried out among thirty mothers across South India who have got their children enrolled in the classes LKG to &7<sup>th</sup> grade .This particular age group was selected because during this stage a lot of character building and molding can happen .All the respondents opined that drastic changes were visible in their children with the advent of online education amidst COVID-19 pandemic.

Ninety two percent of the respondents were of the opinion that children showed a lack of interest in studies ever since they got introduced to online mode of education. Since there is no direct face to face contact with teachers, the children are showing a declining trend in studies. They also opined that their children seemed to be more disciplined when they attended school regularly. Children these days need to attend to the daily lessons just two hours considering the physical issues that may arise if they are exposed to too much of radiation from the devices and this eventually paved way for them to be lethargic. Around sixty percent of students tend to waste their productive time switching to browsing online platforms too claiming that to be part of their studies.

Moreover children were reported as feeling frustrated and isolated as they are not able to connect with their peers and such showing a downward drift. Ninety percent of the parents threw light on the increased dependency their children have been showing post school closure. All the activities carried on well before now need to be done with the help of parents. Apart from these, high level of irritability, restless and boredom were visible among the children as they find it difficult without the playmates or peer mates. Majority of the respondents opined their child showed increased boredom and temper tantrums.

The figure 1.1 below depicts the overt behavioral changes visible in children post school closure due to lockdown amidst the COVID-19 pandemic and figure 1.2 depicts the downward trend in peer relationships.



To put in a nutshell, the COVID-19 pandemic has created a havoc in our educational system as closure of schools have had a negative impact on our children. Human development is a complex interplay of many factors. The absence of direct face to face interactions is making the behaviour and socialization process of the children all the more worse. Let us unite together and fight against the virus by adhering to the rules and hope for a brighter tomorrow where our kids will resume the offline mode of education.

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## CHAPTER 10

### THE IMPACT OF COVID19 ON THE WAGES AND EMPLOYMENT OF WOMEN WORKFORCE IN KERALA

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#### INTRODUCTION

The stumbling in the wake of covid19 pandemic paralysed the world economy and the consequent disruption on growth process led the world to a period of great recession. The International Monetary Fund and the United Nations Department of Economic and Social Affairs outlined a shrink of 4.4% and 3.2% to the world GDP(Gross Domestic Product) which is able to wipe out the gains in the pre pandemic period. The social and economic impact permeated in many regions ,created a fear among the authorities across the world, which forces to divert the resources to mitigate the crisis. The shock ensued of the pandemic take the shine off economic progress which can be stood out from the national and state income trends. National growth rate plummeted to 4.2 %. The struggle induced of the pandemic coupled with deficiency of aggregate demand add fuel to the problem and pushed down the Gross Value Added (GVA) to 3.9 % in 2019-20 against 6.0% during 2018-19. On the flip side the income of the state is relatively high with annual percapita income of Rs 1,49,563 which enabled the state to stand up with the other high income states like Hariyana , Gujarath ,Karnataka Maharashtra and so on during the period of 2019. Meanwhile a series of shocks in the period 2018 and 2019 along with the outbreak of covid 19 hobbled all the sectors which slowdown the growth rate with 3.45% in the Gross State Domestic Product at constant price. The kinks dwindled GSVA to 2.58% and 5.68% at constant and current price during the period of 2019-20.

The Periodic Labour Survey outlined that a rapid decline in the national investment along with the inability of agriculture to absorb the growing labour force narrowed down the opportunities of women employees in the labour market which eventually led to a great hike in the unemployment rate of 6.1%. Meanwhile the policies lay down by the state government in terms of social security and livelihood opportunities along with economic relief (Rs 20000 crore )was the cornerstones to wipe out the onslaught of ill effects, nevertheless the income loss of vulnerable workforce (Rs 16000 crore) delineated a decline of 1.9% in the annual state income (GSDP).

#### Structure of work force and work participation in India and Kerala

The decline in the fertility rate in Kerala quickened the pace of demographic transition which altered the proportion of working population to 0.5% points against 3.3% points of country as a whole . In Bihar and Utter Pradesh the proportion of working age population is high and Kerala is experiencing a rapid increase in the aging population of 1.1 million. Periodic Labour Force Survey in 2017-18 and Census of India estimated the work force of Kerala comprises

of 93.7 lakh male and 33.4 lakh female made a total contribution of 127 lakh to total workforce. Even though the work performance of women work force (21.3%) is better than the rest of India(17.5%),the difficulty in measuring female work coupled with lack of opportunities constricted female work participation and bumped up the level of unemployment (23.2%) which forced Official Statistical Agencies to raise a concern about the work participation of women in Kerala. A shift to non agricultural jobs is stood out from the decline of total number of work force (16.7%) banking on agricultural sectors, which underscores the whopping absorption of the service sector (65.6 lakh ) along with construction sector (24 lakh) and manufacturing sector (15 lakh) in Kerala. However in India 41.8% of the total workforce still find their livelihood through agriculture .Among the 33.4 lakh women work force in Kerala , 19.7 lakh are engaged in service sector. As the public administration , finance , real estate, information technology, education health and professional services are reserved for people with high education and skills, constitute only 25.9 lakh workers in which 13.3 lakh are women .

The fallout ensued of the disruption related to lockdown exacerbated the work of 36.8% female workers engaged in sectors like construction, manufacturing, trade, transport, hotels and restaurants which are run at a high risk . The organized sector as well as welfare boards are capable of providing some sort of security to the regular women workers rather than un organized sectors. Among the total women workforce in Kerala only 43% are registered in welfare boards and other employee organizations .The lack of awareness among the people and the regulations laid down by the government restricted the unregistered group in availing the benefits of various aids launched by government . A large proportion of women employees are home based temporary or contract workers relating to fish vending ,sales, beauty parlors and so on ,which constitute the lower segment of informal employment. Moreover in many families women are the only bread winner and are working tooth and nail to survive . So authorities are liable to launch inclusive measures to narrow down the hardships and it is imperative to restore the works for a better livelihood.

### **Loss in income of women employees of different sectors at a glance**

**1.Kudumbasree Micro Enterprise(MEs)**-Micro enterprises engaged in tailoring , general store, café, tea shops, bag making, construction and IT units are supporting the life of 15000 workers. In the wake of lockdown a total loss of 50 cr was incurred to 28,083micro enterprises.

**2.Joint Liability Groups(JLGs)**-There are 68,388 JLGs comprising of 3,38,202 women farmers are doing cultivation under Kudumbasree. The un-timing harvest coupled with inability in marketing aggravated the overall loss to 3.5 crores.

**3.Domestic Workers-** Service sector absorbs more than 50% of women workers in which 9% are engaged in domestic work with an wage rate is ranging from 450 to 500 . The assessment revealed a total loss of Rs 12,000 per month to each worker since lockdown.

**4.Fish vendors, Home based workers and Traditional/Reed/ Bamboo/Screw pine/Water Hyacinth and pottery workers** - A chunk of women workforce in Trivandrum and Kollam are fish vendors with a per day earning ranges from Rs 500-1500 . The current pandemic crisis resulted in a total loss amounting Rs 12500/month . A large group of women find the livelihood



through home based works which includes self employed and supply chain piece works for an average earning of Rs-300-400 and Rs 150-200 respectively. The crushing impact of the pandemic reflected in the wage loss which is Rs 9000 in the case of former and Rs 5000 in the case of latter. The women workers engaged in reed ,bamboo,handloom , pottery, screw pine, water hyacinth and so on are self employed in nature and find their livelihood by selling daily produce in the market which enabled the workers to earn Rs 250-300 per month. The surge of lockdown and the resulted stagnation weakened the demand and the workers experience a total loss of Rs 7000 per month.

**5.Un organized Petty Trade / Services (Footwear, optical ,DTP/Photostat, Fancy store , Textiles , Teashops, Cleaning staff , Private Nursery/ Day care )-**More than 18 lacks of women workers are depending on the un organized sectors like shops, commercial establishments and so on .The lack of registration in welfare boards/association along with the ongoing predicaments and the resulted wage loss ( Rs 11,500)pushed into a nasty living conditions.

**6.Beauty Parlors-**Estimates revealed the employment details of more than 1.5 lakh beauty parlors comprising of 4.5 lakh work force with a minimum earning of Rs 400. The compliance of the welfare boards with government restricted 36000 women workers from utilising the aids provided during lockdown and incurred a total loss of Rs 12,500 per month.

**7.Khadi Industry-** Khadi and Village industries absorbs 15000 workers of the state in which 95% are women with an average earning of Rs 350 per day. The assessment outlined the details of a total loss that is Rs 4900 as wages during the period of lockdown.

**8.Coir Yarn Production-** Coir Cooperative Societies and Private units are employing 29,500 employees with an average earning of Rs 350 per day.The incapability of the cooperatives and the other units resulted in unabated wage loss to workers during lockdown.

**9 Cashew-**Cashew industry employed 1,07,000 workers in the state with a per day earning of Rs 350.Financial assessment provides an evidence about wage loss amounting Rs 7350 per month during the period of lockdown.

In order to overcome the crisis, specific employment programmes and spatial planning focused on health and other sectors are to be implemented. Special laws have to be enacted to create reservation for women in all enterprises operating in the state. Also a provision for interest free loans shall be made through Kudumbasree units to improve entrepreneurial skills and small business developments. As the women are the most significant part of informal work force ,special mechanisms capable of bringing women under the purview of welfare boards should be brought up . Efforts are to be taken to pay the wages during lockdown to all women employees who lost their job. A moratorium period has to be provided to those defaulters who lost job during lockdown. In order to content with the insecurity in the period of contingencies and the consequent income gap ,along with income supportive measures , government should focus on special measures to improve resilience and also to facilitate economic recovery.



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## CHAPTER 11

### IMPACT OF COVID 19 ON EDUCATION

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#### INTRODUCTION

The global outbreak of the COVID-19 pandemic has spread worldwide, affecting almost all countries and territories. This has created the largest disruption of education systems in human history. It affected nearly 1.6 billion learners in more than 200 countries. Closures of schools, institutions and other learning spaces have impacted more than 94% of the world's student population. This has brought far-reaching perceptible changes in all aspects of education. Social distancing and restrictive movement policies have significantly disturbed traditional educational practices. Reopening schools after the relaxation of restriction is another challenge.

COVID 19 on education has affected in many ways and I think it will transform our entire notion of what education is. We have now entered an era-which will probably be accelerated by the pandemic– where most of our jobs will become obsolete including education. Education will become more important than ever like an out-of-the-box idea by breaking the closed walls of the classrooms. The impact on education can be categorized into four sections.

- Impact of COVID 19 on Students
- Impact of COVID 19 on Teachers
- Impact of COVID 19 on Parents
- Impact of COVID 19 on Educational Organisations & Agencies.

#### Impact of COVID 19 on Students

The closure of educational institutions across the country would have a significant effect on the education, social life, and mental health of students (Odriozola-gonzalez ´ et al. 2020). This pandemic has caused a serious impact upon the mental health of the students in many ways like – anxiety, stress, fatigue, lack of readiness & interest, disturbed sleeping habits, negativity, poor confidence, depression etc. Lack of outdoor activities makes them vulnerable and restless. The physical classroom has transformed into some gadgets at student's fingertips. It's difficult for them to adjust and adapt to the new learning environment. There are higher chances of getting distracted and result lower concentration in the learning process. The most affected set of students are the ones who are in their final years since they lost the placement chances. The postponement or cancellation of the entire examination/assessment has made them stuck. They are looking at the future with high anxiety due to the changing job nature and the current study will not provide them what is required for the present job market. The competitions are tough and students need to brace themselves up since education has become more self-dependent. Once if we look at the rural lens, the situation is not good. While urban students have access to online learning from school and so many apps to keep them entertained, rural students have no

such devices and facilities. The girl students will be heavily involved in the household chores leaving them no time to study. Many students are afraid that they will never return to school. It also affected the migrant students at the tertiary level. The decline in international student mobility, following travel restrictions is already reducing the funds available in countries. Remote learning is a poor substitute for the experience of studying abroad and student's perception of the value of studying abroad will not be fulfilled. The crisis has affected the continuity of learning, safety and legal status of international students. The students are missing their interaction with the real world and peers, hence the social life too. The student's social, economic, and psychological repercussions of life are affected. The learning loss will lead to skill loss & information gap. It disappoints the students, that the vocational and professional courses cannot fulfil the purpose due to lack of opportunity to practice, experiment, training & internships. Going to school is the best public policy tool available to raise skills. Emerging research has shown that adolescents are at increased risk for various mental and physical health issues. The pandemic has had a big impact on higher education students' practices regarding academic work and life (e.g., the switch to online lectures/tutorials, closed libraries, changed communication channels for teachers and administrative support, new assessment methods, different workloads and performance levels. etc.) and social life (closed dorms & therefore moving back home, no meetings with friends, university colleagues or relatives, no parties, no traveling, remaining trapped abroad, etc.) as well as their financial situation (loss of student job, worries about their financial situation, future education & career) and emotional health (fears, frustrations, anxiety, anger, boredom, etc.).

### **Impact of COVID 19 on Teachers**

As Marvin Minsky quoted, "You don't understand anything until you learn it more than one way". COVID 19 accelerated the adoption of digital technologies to deliver education and teachers started to use diverse methods for teaching. Education institutions moved towards blended learning and encouraged teachers and students to acquire technology savvy. Soft technology, online, Google Hangouts Meet, Zoom, Slack, Cisco, WebEx, webinar, virtual classrooms, teleconferencing, digital exams & assessments became a common phenomenon or they might have come into practical use a decade later or more. Some of the online platforms used so far include unified communication and collaboration platforms such as Microsoft Teams, Google Classroom, Canvas and Blackboard, which allow the teachers to create educational courses, training and skill development programmes (Petrie, 2020). Challenges in Teaching and Learning, with the availability of a sea of platforms and online educational tools, the users— both educators and learners face frequent hiccups while using it or referring to these tools. Educational activities are hampered to a great extent, and we could sense a great amount of confusion. There is not enough space for the co-curriculum. The digital world was a dilemma for the teachers who were experts in book, talk, chalk and classroom methods. They had to be trained to meet the challenges of the present situation and go ahead. Many educators looked for alternative jobs to sustain their families as they lost their teaching jobs or their salaries were withheld and many trying to fit into any job that they can get. Even it has reduced the confidence of teachers due to lack of preparedness and limited exposure to online education. They have to try new pedagogical methods like – flipped classroom, blended learning, open pedagogy, technology-integrated pedagogy, TPACK etc. The workload of teachers has

increased in one way and they are struggling with the reduced instruction time, massive syllabus, student management, lack of eye contact, attachment, suitable tools & techniques etc. Special education teachers find it very difficult to teach and attain the educational goals of students due to the insufficient interactive tools and techniques in the digital platform to compensate for the normal classroom teaching-learning process.

### **Impact of COVID 19 on Parents.**

Reduction in family income, limited access to digital resources, and the high cost of internet connectivity have disrupted the academic life of the students. Many parents fail in providing a conducive learning environment at home like the school. On one hand, many parents lost their jobs due to Covid 19 and on the other hand, there is a wider world of opportunities knocking at the doors in the online platforms. The poor labour market conditions cause the labours to accept lower-paid jobs. Many parents are struggling to find money to provide the gadgets needed for digital learning. It was better for the educated parents as they can help their children by supervising and guiding, but it's also time to understand the helplessness of the parents who could not help their children. The midday meal provision was a great blessing to many poor parents, lack of this has led many children deprived and malnourished. Parents of children with disabilities need to provide additional and special support which they are unable to provide. When the parents can't control their children, increased and unstructured time spending will occur and it can lead to misuse, cyberbullying etc. Additional time on virtual platforms causes a risk of exposure to increased screen time.

### **Impact of COVID 19 on Educational Organisations & Agencies.**

While governments, frontline workers and health officials are doing their best to slow down the outbreak, education systems are trying to continue imparting quality education for all during these difficult times. There is an unimaginable collaboration among all the stakeholders in the field of education – including administration, teachers, students, parents and companies (who make the software for the transfer of knowledge in innovative ways). The organisations which provide online courses are in high demand due to the pandemic. The closing of institutions has pushed the learners to seek other available sources for continuing and enriching their knowledge. The number of enrolments for various courses has increased as people want to utilize their time in upgrading their skills and so that they can become a strong competitor. Research shows that there is a wide gap between the government's policy aspirations and the implementation of these online education policies at the grassroots level (Chaturvedi, K., Kumar, D., Singh. 2021). There is a need for providing new academic disciplines which suit the present world. The curriculum must be renewed by adding the new skills and information about the present world we live in connection with dependence on our environment, governance, personal finance etc. The government & non-governmental agencies must look into the matter of access to resources for the ones at the receptive ends, equip and prepare the educators with the most appropriate training and arrange parental supports. It was a challenge for the institutions as the payment of fees was little and many private low budget schools got shut down. Lack of a backup plan caused chaos in public since most of the institutions couldn't provide digital learning solutions. The public and private financing of education have reduced dramatically. The pandemic has exposed the many inadequacies and inequities in our education

system. There is a misalignment between the resources and needs. The agencies have to find alternative supportive learning environments for the students. They have a challenge in providing equity and excellence in terms of higher education. The agencies must immediately look into the challenges with e-learning (accessibility, affordability, flexibility, learning pedagogy, life-long learning, educational policy, assessment & evaluation, learning gaps and widen equity gaps etc). The educational agencies should prevent functional illiteracy and push up of school dropouts.

This pandemic has opened gates to innovative methods of transmission of knowledge across the globe which could take the education system and its methods a step higher. The government at the central and state level can introduce new policies, missions & schemes (Kerala government has launched ‘Knowledge Economy Mission’) to come up with the people’s alternatives methods with the help of- literacy mission, private tutoring agencies, public learning centres & homeschooling etc. Which can involve the prospective teachers, private tutors, parents & other qualified people to make sure the connectivity and equity in learning. When schools reopen, continue to deliver remote learning and mitigate learning loss as equitably as possible. The agencies can strengthen current support to teachers & parents by-adjusting the national assessment system to ensure a smoother transition between grades & cycles, careful policy considerations and review of experiences of countries that have already reopened, managing continuity and building resilience, providing summer school programs, self-learning programs and other accelerated learning programs to compensate students for learning loss(especially those at risk of falling behind), ensure adequate financing to support new recovery needs(particularly for disadvantaged students), safeguard and enhance education financing to alleviate and prevent further loss in learning and sustain improvements.

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## CHAPTER 12

### IMPACT OF COVID-19 ON RURAL EDUCATION

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#### INTRODUCTION

The COVID-19 pandemic is considered to be the most significant global health disaster of this century and the greatest challenge facing mankind since World War II. It was first discovered in Wuhan, China on December 31, 2019. And India's first COVID-19 case was reported in Kerala on January 27, 2020. The governments of most countries, including India, have taken a number of measures, such as blockades, social distancing, closure of schools, universities, religious gatherings, etc., to reduce its spread.

Schools and higher education institutions in several countries affected by Covid-19 have been closed to curb the spread of infection. According to the UNESCO report, this has affected more than 1.57 billion students in 191 countries. In India, more than 320 million students are affected by various restrictions and national lockdowns.

#### **Ten impacts of COVID-19 on rural education**

##### **1. Obstacle to e-learning**

The world is looking for alternatives to deal with the damage done so far to adapt to the reality of the Covid-19 pandemic. IT companies allow their employees to work from home, while schools and universities are taking classes online. As the country moves towards online education, the current epidemic affects rural students more than urban students. A large number of students in rural area still cannot meet the Internet bandwidth and knowledge required to identify devices and digital terminology. Another major problem involves the lack of supporting infrastructure, such as stable power flow and the unavailability of high-speed Internet.

##### **2. Lack of digital equipment**

When talking about digital learning, it is important to observe whether each student can use accurate equipment to take advantage of digital content. In rural areas, only a few students have the facility to use laptops and computers. Even students who can use desktop and laptop cannot use the Internet and the costs incurred in the process. In addition, their available mobile phone screens are not sufficient for long-term study. Data packages and their prices also often restrict teachers and students from continuing to conduct live lessons.



### **3. Drop out from school due to lock down**

During the blockade, various businesses and daily wage work came to a standstill. But in the post-unlocking phase, children from high schools and high schools and families working in the informal sector are working hard to help their parents earn some extra income. Because they did not receive the Public Distribution System (PDS) quota under the lunch plan, many schoolchildren began to work with their parents, even doing odd jobs to support their families. Due to covid-19, the dropout rate of children in rural areas increases.

### **4. Shortage of teachers**

The shortage of rural teachers or the low Teacher-student ratio poses another challenge to the realization of fully e- learning in these areas. If rural education is to be fully digitalized, this proportion needs to be further increased. A large number of skilled and well-trained teachers are needed so that every student can receive full attention even in online classrooms. Although contemporary online classroom solutions are designed to promote student participation and intuition in learning, teacher guidance and attention are still essential for learners.

### **5. Lack of skills in operating digital equipment**

The lack of operational skills of rural teachers' digital platforms is another key factor affecting the advancement of digital education. Because teachers lack the necessary training to use digital platforms, they are reluctant to adopt these educational methods. It is impossible to switch from traditional teaching methods to digital teaching methods overnight. Both teachers and students need proper training and a more user-friendly platform to familiarize them with digital technologies so that they can easily use them for teaching/learning.

### **6. The financial crisis forced students to work**

After the Covid-19 outbreak, thousands of students from poor families in rural areas were completely disconnected from schools and teachers. Teachers worried that most children might go out to work to support their economically difficult family blockade. During the lockdown, due to school closures, students began to work and do odd jobs on construction sites, shops, and farms. They earn about 500 rupees a day. As attending online courses is not mandatory. This situation is almost the same in all villages.

### **7. Language barrier**

Rural students are satisfied with classroom learning because teachers working in rural schools use the local language that students can easily understand, but in e- learning students must have knowledge of English to operate the digital devices and for attending zoom or Google meet. Another problem for rural students is that the available resources and websites on the Internet are all in English, but it is difficult to collect resources in other languages.



## **8. The role of parents in e-learning**

Soon after the state's lockdown was implemented, schools were closed, there were no lunches, and unemployment. Several parents with weaker economic backgrounds chose to marry their daughters. They forced their boys to do child labour. Due to economic impact, more disadvantaged families faced special difficulties. This will make it particularly difficult for them to send their children to school. During the lockdown, the situation got worse because even parents who enrolled their children in school turned them out because of insufficient income. Due to financial constraints and unable to provide online courses, they forced their children to drop out of school.

## **9. School closures have led to an increase in child marriages**

Due to the pandemic, school closures, financial pressures, service interruptions and parent deaths put the most vulnerable girls at an "increased" risk of child marriage. With so much uncertainty about when school will reopen, girls are most likely unable to return to school, which increases their risk of early marriage. Without school safety nets, girls are forced to marry. Due to the pandemic school closures, girls are forced to marry by their families regardless of their age, especially in rural areas.

## **10. Gender discrimination in e-learning**

The penetration of e-learning among the female population in rural India is even more onerous. Like most domains, Internet and literacy services in rural India are mainly for men. In times of economic difficulties, one of the first reduction measures that many poor families consider is the education of their daughters. During the pandemic, classroom studies were closed, and some girls in rural areas were forced to drop out of school. For girls, one year's learning loss is great, especially for children from disadvantaged and lower-level communities.

## **CONCLUSION**

During the covid-19 lockdown, e-learning is one of the best sources of education to overcome the barriers to online education, and the government must continue to provide support to make major changes to the educational infrastructure and other facilities in rural India to make e-learning affordable and easy to access.

## CHAPTER 13

### GLOBAL IMPACT OF COVID-19 PANDEMIC ON BIODIVERSITY CONSERVATION: IS IT A BLESSING OR CURSE?

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#### INTRODUCTION:

The outbreak of Covid-19 is having a significant impact on both the physical and social environment. Pandemics are a large-scale outbreak of contagious diseases that inflict major economic, social, and damage to the environment while escalating death rates across an enormous geographic area [1]. Over 108.2 million people have died as a result of Covid-19, through over 2.3 million people still unaccounted (World Health Organization, 2021). Several major diseases and pandemics, such as the Spanish flu, SARS, Hong Kong flu, and Ebola, have already caused widespread economic damage and biodiversity conservation around the globe. The COVID-19 outbreak is affecting people from all backgrounds of society.

Environmental scientists, like everyone else, are concerned about how the virus will affect their families, friends, and people all around the world. However, we also have a responsibility to understand how it may affect global biodiversity and our ability to protect it, as well as how it may impact [2]. Transportation and economic integration, industrialization, land-use changes, and enhanced biodiversity exploitation also have contributed to the recent upsurge in pandemics. As the current crisis grows in conjunction with global population expansion, the beneficial and detrimental effects of Covid-19 on biological resources are predictable. As a result, the excessive influence created a challenge to biodiversity and ecosystem conservation and management. On a local, regional, and global basis, the Covid-19 outbreak influenced substantially all disciplines, including protecting the natural environment [1].

Various ecological organizations, both governmental and non-governmental, hire a significant number of skilled workers, such as short-term local contractors, student interns, and volunteers, to help with fieldwork, environmental education, trail maintenance, and other tasks. Personnel employed in conservation biology benefit greatly from these occupations since they provide valuable training, experience, and revenue. Many institutions are currently unable to recruit, hire, train, house, and monitor immigrant workers due to the epidemic [3]. A whole batch of learners may miss out on these possibilities unless lock-down restrictions are considerably eased in the following months.

#### 1. Effect on human activities in wildlife:

Protected areas (PAs) employees are anticipated to remain with anti-poaching operations regularly, critical species are monitored, thus depletion of natural resources may decrease. The no-vehicular movement implemented by Covid-19 shutdown makes it difficult for poachers and loggers to escape protected areas, reducing the amount of disturbance in the PAs. This

increases the possibility of wild animals returning to their natural habitat without being disturbed by human or poaching activities (Fig. 1). Because of the reduced human activities, a new flush of animals and vegetation will emerge, replenishing the natural habitat. Covid-19, for example, enhanced conservation in Nepal's protected regions [4]. Minimal automotive movements and human influences aided to this progress. Because there is insufficient evidence to make a comprehensive findings and conclusion, the consequences of a preliminary and everlasting ban on wildlife trafficking and exploitation are unknown.

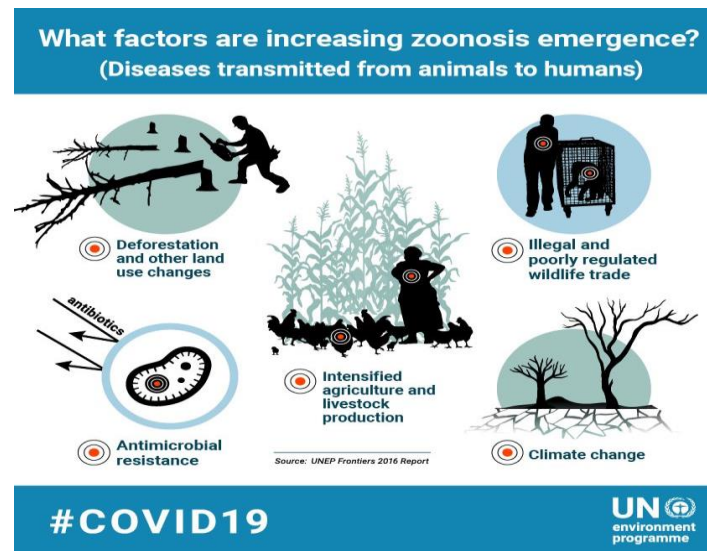


Figure 1: Effect of Covid-19 pandemic in biodiversity conservation in view of positive and negative impact; <https://www.un.org/sustainabledevelopment/biodiversity/>

Mankind have infringed on natural environments as a result of industrialization, urbanization, and commercialization, resulting in increased contact with species that we would not otherwise encounter. Researchers from Stanford University revealed that Ugandans who traveled into forest regions to collect wood and prey had more involvement with primates, as shown in a survey published in April. Diseases can spread from primates to humans (Fig. 1) through such contacts, and they become more frequent as human activities destroy natural habitats and go deeper into forest areas in search of natural resources to fuel expansion and commerce [5]. Individuals are more susceptible to new infections as a result of excessive contact between human populations and wildlife. Pandemics have a significant effect on both the government and conservation organizations. In underdeveloped nations, when conservation capacity is scarce, the loss of highly qualified people is disastrous. In such a straight pattern, it has been confirmed that most countries' protected area employees have lost their jobs and homes due to a 60–100% decline in tourism earnings. As a result, the cost of training for newly recruited workers will be expensive.

## 2. Conservation of biodiversity in the time of pandemic:

So, what's the current iteration of the pandemic's consequences on biodiversity? It's too soon to make any predictions, but discussions with many fellow employees indicate that crucial

conservation work is proceeding. National parks and protected areas are still protected in certain locations, and susceptible wildlife is nevertheless safeguarded. This persistent conservation is a measure of the protected area staff's devotion in the face of overwhelming odds. There may be issues we aren't aware of, but practical conservation appears to be continuing in many locations, based on existing evidence. Empirical evidence suggests that human encroachment on wild species has subsided. Economic sanctions and reservation park shutdown have decreased inbound tourism in protected regions, reducing stress on sensitive animals and trampling load on popular paths. The accessibility of the wild environment in protected places is important for sustainable development, but reducing human influences in the most visited parks will improve vulnerable species. As vehicles and other human activity reduces, we've seen instances of wild species wandering into rural and urban regions, including parks and playgrounds, where they haven't been around for ages [6]. Air and water detrimental pollution, greenhouse gas emissions, along with many other negative environmental effects on biodiversity will revive, but sustainability funding and other resources will have to compete with the many future challenges for economic resources that are anticipated to be lowered in the near term. Environmental protection NGOs may also have difficulty obtaining funds from private sources. Conservation is dependent largely on troops on the ground, and if the budget is limited, these efforts will have to be addressed.

### 3. Environmental changes due to emergence of the pandemic:

As industry and transportation close down, satellite pictures revealed significant improvement in air quality in every continent struck by the disease. Transport has decreased over the world, therefore less influence on coastal systems is probable. This year should most undoubtedly witness a global decrease in greenhouse gas emissions, as well as substantial reductions in other global warming factors like contrail cirrus from high-flying planes. These are just short-term gains, but they demonstrate the global reach and severity of human consequences [7].

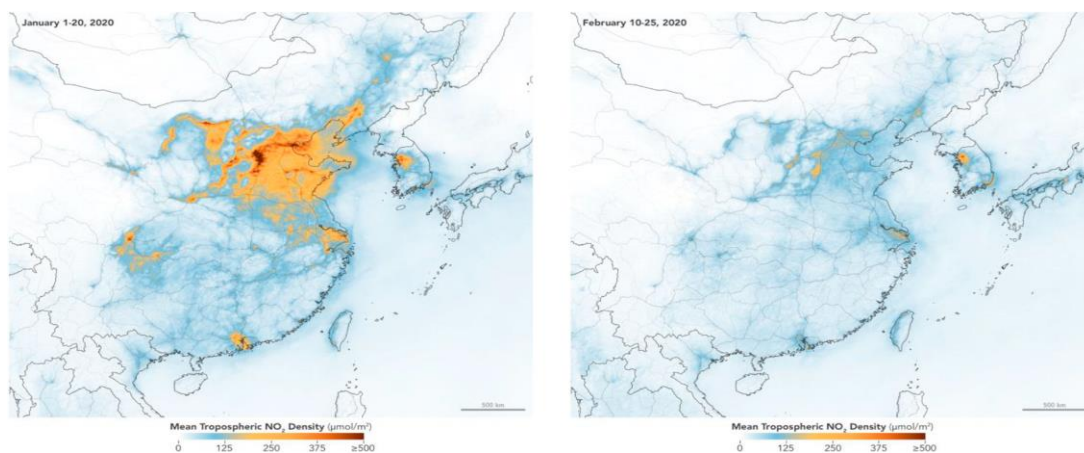


Figure 2: Air pollution control due to quarantine situation; NASA Earth observatory photo

It is observed that nitrogen dioxide concentrations in eastern China (Fig. 2) from January 1 to January 20, 2020 (before the COVID-19 quarantine) and February 10 to February 25, 2020 (during the quarantine) have significant differences which further reveals the positive effect of

quarantine state due to current prevailing pandemic. The Tropospheric Monitoring Instrument (TROPOMI) aboard ESA's Sentinel-5 satellite collected these data.

#### 4. CONCLUSION:

Protected areas look to be stable at this time, and biodiversity is prospering from restricted human activity in many regions. This may not be the case everywhere, particularly in areas where enforcement has deteriorated but threats have not. Research has been delayed, but only time will tell whether this has long-term implications. We are concerned about youthful ecological professionals' training and careers, but the pandemic's long-term impact will be determined in part by how we and our institutions respond to these concerns. The financial loss has an impact on the budget, population monitoring programs, and employment loss leading to inadequate human cognition that leads to human-wildlife conflicts and the degradation of natural resources. Pollution and poaching activities may rise or fall depending on local accessibility and vehicle restrictions for long-distance poachers. Finally, to avoid future pandemics and biodiversity loss, the illicit wildlife trade must be stopped internationally. Finally, while we are emphasizing conservation, this is a disaster that has shattered lives and perished far too many people. Human health and pandemic prevention must remain society's prime concerns, but we must also plan for the return of biodiversity conservation and education.

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## CHAPTER 14

### STATE OF E-COMMERCE AND E-LOGISTICS DURING COVID-19: A HIDDEN TRUTH

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#### INTRODUCTION

E-commerce, often known as electronic commerce or online commerce, refers to the purchasing and selling of goods or services utilizing the internet, including the transmission of money and data to accomplish these transactions. In order to make E-commerce complete, logistics or transportation plays a vital role. Logistics as a science has its roots in the military, where it was used to coordinate the transportation of weapons, food, and soldiers. With the passage of time, the concept began to be applied in the business field, and for a long time, the logistics function was regarded as a persistent, operational, and indispensable activity to transfer goods from seller to buyer. Later during the start of 1950s, the world experienced a cycle of growth and constant increase in demand, causing production and sales capacity to exceed the companies' ability to distribute products. As a result of poor compliance, delivering orders on time became a problem during those years. Then, by 1980, the concept of rejoinder time was developed, which is a combination of physical delivery as well as material management. Studies and experts realized that the swifter the response time to the customer, the better the profitability of the business. As concepts changed, so did methods, and companies sought ways to become more efficient; in this way, they expanded logistics activities and determined that one of the harshest items is the transportation costs, which account for between 10% and 20% of the final cost of the product or service.

The logistics of getting orders to customers have become more complicated as the ecommerce industry has grown, especially with the novel coronavirus affecting entire ecommerce supply chains. One perpetual thing in these uncertain times is that shoppers do not like to wait. During the COVID-19 pandemic, even the world's largest E-commerce companies, such as Amazon, prioritized the delivery of essential-only products, causing delays of up to a month for other products. The communicated speed at which consumers will receive their orders can play a deciding role in whether they choose to buy from your online store or a competitor as people have no patience and wants everything instantly. Managing logistics is the most difficult challenge for any E-commerce company, especially in a large country like India. With the advancements in E-commerce, even the logistics industry is seeing innovation and the implementation of technological support to meet such high demands. Online shoppers can now trace their shipment from the time it leaves the industrial unit or warehouse until it arrives at their doorstep. The delivering of shipments is also a strenuous task if the situations like flood, rain, roadblocks etc. Moreover, during the covid-19 situations, additional impediments are counted over these usual challenges such as containment zones, lockdowns, restricted entries

and so on. In this chapter, we shall discuss on how E-logistics works and how it differs from traditional retail concerns on Indian E-logistics? How is it impacted before and during Covid-19 pandemic state? And on some counteractive options to improve the current crisis faced by E-logistics in India.

### **1. E-commerce in India**

According to the 2<sup>nd</sup> June, 2021 report given by [www.ibef.org](http://www.ibef.org), The Indian E-commerce industry has been on an upward trajectory, and it is expected to surpass the United States to become the world's second largest E-commerce market by 2034. The Indian E-commerce sector will grow at a 27 percent CAGR to US\$99 billion by 2024, up from US\$30 billion in 2019, with grocery and fashion apparel possibly to be the crucial drivers of incremental growth. According to Payoneer report, the Indian E-commerce sector ranks ninth in the world in terms of cross-border growth. As we know from various reports and studies, the E-commerce industry has grown in recent years, and so has the industry's logistical needs. Whenever an E-commerce business plans to enlarge, it must collaborate with an E-logistics providers to ensure an efficient and judicious delivery. Let us now see more about the working of E-logistics and how they are impacted during the Covid-19 pandemic situations in India, in the following sections.

### **2. E-logistics and its Working Methodology**

E-logistics is a mishmash of several processes including - inventory management, warehousing, packaging, labeling, billing, shipping, payment collection, return, and exchange. All of this adds up to a difficult and complicated task that necessitates a foolproof strategy to complete. Aside from these, E-logistics necessitates extensive knowledge of regions, routes and road conditions, by-laws of goods movement, and shipping laws and regulations. The primary goal of establishing an E-logistics component is to deliver parcels perfectly in a much quicker and safer way. E-commerce enterprises mostly strive on two types of E-logistics, namely - Third Party Logistics (3PL) as well as In-house Logistics. Any logistic company whether associated with online or offline businesses, works in two directions: Forward as well as Reverse. Forward logistics is the distribution and delivery of goods to buyers. Reverse logistics is the exchange or replacement of damaged, defective, or incorrect deliveries. Both these practices are simplified when logistics are handled and controlled by an E-commerce company.

### **3. State of E-logistics in Indian E-commerce Industry prior and during Covid-19**

2020 was considered the most challenging year for many due to the Covid-19 pandemic situation in and around the globe. All at the same, studies reveal that the E-commerce industry expanded like never before. The pandemic's increased E-commerce volume has no end in sight, signaling a permanent behavioral shift of undefined enormity. Indeed, it has provided an opening for transporters, automobile manufacturers, and technology companies to explore, experiment, and invest in alternative modes of pickup, shipping and delivery which altogether help every logistic company to optimize their cost without compromising on their quality service. According to the Logistics Management Report of March 2021, "Amazon remains the retail industry's 900-pound goon, and they are expanding their presence in logistics with their



own fleet of planes, trailers, and delivery trucks”. According to Gartner, “Amazon has 3 million sellers worldwide, out of a total of 7.1 million online retailers”. A recent Logistics Management report says 39,000 new employees were hired by UPS in early 2020 and tried to incorporate around 100,000 seasonal laborers by the end of the year. Ken Research April 2021 report says that by 2025, the India E-commerce logistics industry is anticipated to be worth INR 492.4 billion. The report also projects on certain key aspects about E-logistics growth in India. Presently, metro and tier one cities account for most demand. However, this trend is expected to reverse by 2025, as tier two and lower cities emerge as new demand centres as internet infiltration increases. As a result, it is estimated that in the next five years, a high proportion of demand will come from this tier two and below cities, owing to low-cost data plans, increased smartphone usage, rising per capita income, and an increased proclivity to buy online in these areas. In India, the E-commerce logistics sector is in late growth and is sprouting as a coordinated market structure. The industry has thrived as consumer shopping preferences have shifted from physical stores to online marketplaces from the comfort of their own homes. Again, Ken Research reports (*Fig -1*) that over the fiscal years 2015-2020, the E-commerce logistics Industry grew at a CAGR of 24.3 percent in terms of revenue and 27.4 percent in terms of shipments.

| India E-commerce Logistics Market CAGR (Revenue) | India E-commerce Logistics Market CAGR (No. of Shipments) | Market Stage | Competition Structure | Basis of Competition  |
|--|---|--------------|-----------------------|---|
| CAGR (FY'2015-FY'2020) : 24.3%                   | CAGR (FY'2015-FY'2020) : 27.4%                            | Growth Stage | Highly Concentrated   | Delivery Cost, Delivery Time, Network Coverage, Brand Value, Technology Stack, Success Rate |
| CAGR (FY'2020-FY'2025F) : 23.6%                  | CAGR (FY'2020-FY'2025F) : 24.7%                           |              |                       |   |

*Fig 1 – Indian E-commerce Logistics Report 2021*

### 3.1 Concerns with Indian E-logistics – A Hidden Truth

Amid Covid-19, many of the reports project on the drastic growth of E-commerce industry in India as well as globally. But to make every E-commerce succeed in their business, one of the crucial back supporters is none other than the E-logistic companies. But here, the hidden truth is – no one is probing or giving importance to their situations during this pandemic. Nobody fascinated to know how these industries survive during these situations. The question is, Have the E-logistics companies gained or lost during Covid-19 while E-commerce showed a huge hype? How are delivery companies faring in the midst of the Coronavirus lockdown? The supply chain in India has been severely disrupted because of the lockdown, as produce is unable to reach cities. People keep complaining about E-commerce apps and delivery platforms that are not functioning or are lagging on orders. However, many people misjudge the impact of a lockdown on logistics companies, which are the pillars of any delivery system. When the Government declared lockdown, everything was shut down. Logistics companies, like every others, are also forced to work from home. This has rendered task management on the ground more difficult and placed them in unmapped terrain. Taking into consideration the lockdown issued by Government as well as the increasing demand of customers, the E-logistics companies are in total dilemma. The morale of delivery personnel has shrunk and show disinterest and disinclination to hit the road and deliver.

Also, when the logistic companies receive orders, their employees are not readily available in this situation. Furthermore, these businesses are forced to wobble their orders, resulting in longer delivery times which later results in loss for the company. Another important issue faced by these logistic company is to manage their trucks and truck drivers who help them carry their goods to reach customers. Most of the logistic controls and commands are provided to these drivers as well as other associated staffs are performed from their physical office. But due to these lockdown restrictions, employees find difficulty in reaching the office and manage things as before. This state of affairs also leads to a loss in the overall logistic business. As we are aware that these logistic companies largely focus on managing vehicles for transporting goods, a large volume of these kind is required in the country to fix the delivery condition now and forever. To manage these huge volume of vehicles, E-logistics companies are now thriving to achieve complete digitization to meet the need of the hour as extreme competition is prevailing in this sector. But to meet this need, many medium and small-scale E-logistics are getting out of the show while giant logistics companies play to their full. According to Prasad Sreeram, Founder & CEO of a giant logistic company named COGOS, the country's lockdown due to coronavirus has affected 90 percent of businesses, and after initial incredulity, the industry appears even more buoyant to keep deliveries moving. To make up the loss in business, most logistics providers go for some extra charges for their service both levied from E-commerce company as well as from customers. This is done in the name of some transnational express companies enforcing fleeting surcharges on these providers and locking down selected routes entirely. Due to this overcharging stance enforced, customers show a tendency to step back from making online orders which desperately impinge on both the E-commerce and E-logistics companies. As an example, we can see Amazon suspending all most all deliveries from its third-party E-commerce and E-logistics collaborators. All these factors clearly depict the state of E-logistics companies in India during Covid-19 times.

### **3.2 Secret Mantras to surmount Indian E-logistics indigent state of affairs**

To overcome the loss as well as to attract more business, majority of E-logistics companies go for adopting multiple methodologies during this pandemic state. These approaches give confidence to customers to order and receive items online in a much-assured way. This could help boost both E-commerce as well as E-logistics industries in a much better way than before. In hopes of providing, and potentially enlarging, businesses during the existing catastrophe, delivery players plan for boosting their advantage in numerous ways. Some of the secret mantras to go by are given below:

- **Safe and Hygienic Delivery** – E-logistics companies guarantee in offering safe and hygiene in their procedures, such as avoiding humdrum signatures from customers during package delivery, sterilizing conveyance equipment before and after everyday delivery, providing necessary training and guidance to employees and third parties to conform with safety and secured needs and finally by refurbishing the entire delivery procedures from start to end.
- **Innovative Delivery Practices** - Enhance the usage of noncontact distribution procedures like secured storerooms and pickup places. To curtail interruptions, guarantee customers with real-time interaction and tracking facilities.

- **Fast and Reliable Response – Delivery Partners need to** establish a speedy response mechanism which can provide steadfast communication with their customers.
- **Adopting Dynamic Pricing Techniques** – Transportation firms have to practice various dynamic pricing approaches to smoothen distribution hassles during the pandemic restrictions by properly examining their capacity constrictions and the sway on their services.
- **Upholding Healthy Customer Relationship** - Create a healthy relationship with your clients by granting them to freely set predilections and notifying them regarding excellent delivery habits.
- **Update and Upgrade Professional and Technological Facets** – To outrun the competitors and to take benefit of the market recession, try updating your employees by providing state-of-the-art trainings and equipping the company with the latest technologies.

Within this time, one might have realized how Covid-19 pandemic has transmuted our normal life, work and of course our shopping styles. But unquestionably there is no doubt that the impact on E-commerce as well as E-logistics will be sensed for a long time. Online shopping's facilities have proven critical to consumers all over the world, and definitely anticipated to accelerate in the future. The impact on E-logistics companies, on the other hand, has been blended with many above mentioned issues. Thus, we can conclude by saying that these E-commerce and E-logistics firms must stay endeavoring to keep up with the increased and varied demands of customers along with facing major operational disputes. To prepare themselves for this new world, they will need to enlarge their strategies, enhance their logistics expertise, and boost their endeavors to increase competence through newest digitization technologies.

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## CHAPTER 15

### Key challenges of Human Resource Professionals and their Competencies in times of Covid 19 Crisis.

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#### INTRODUCTION

The emergence of new infectious disease covid 19 poses a great danger to human life. The novel strain of coronavirus, covid-19, has created a watershed moment in civic, economic, political terms in organizations. With the spread of the pandemic, almost all regions have implemented lockdowns, shutting down activities that require human gathering and interactions - including colleges, schools, malls, temples, offices, airports, and railway stations. The lockdown has resulted in a greater number of people taking to the internet and internet-based services to communicate, interact, and continue with their job responsibilities from home.

The lockdown across country have entailed a rise in the use of information systems and networks, with massive changes in usage patterns and usage behaviour. As government strive to protect the public and economy, lockdowns are imposed on various sectors. And employees are locked down in their homes trying to juggle between work and domestic commitments.

Employees are adjusting to new "remote working" concept- with meetings going completely online, office work shifting to home, with new emerging patterns of work. Remote working is defined as "a flexible work arrangement whereby workers work in locations, remote from their central offices or production facilities, the worker has no personal contact with co-workers there, but is able to communicate with them using technology" (Di Martino & Wirth, 1990, p. 530). These changes have come across in most organizations. The changes have also come suddenly, with barely any time for organizations and people to plan for, prepare and implement new setups and arrangements; they have had to adjust, try, experiment, and find ways that did not exist before. In many organizations, these new ways of working are raising questions and concerns for human resource professionals.

To prevent the spread of corona virus, organizations have switched to remote work environment. As face-to-face collaboration is replaced with e-mail and video conferencing human resource professionals are trying to adjust to the "new normal" situation. This "new normal" situation has influenced human resource professionals profoundly. HR professionals have to deal with the dismissals and reduction of the staff caused by the pandemic lockdown. Human resource professionals are under pressure to keep their employees productive, motivated, engaged and connective.

While previous tactics and strategies will continue to be a part of HR managers to efficiently manage the employees, there is a big shift taking place in the wake of the coronavirus that will fundamentally change the role of Human resource professionals. Human resource professionals

have to support their employees and prioritize their emotional and mental wellbeing. They need to constantly upgrade and work on capability enhancement to remain competitive in the market. Not only this, they need to deal with working hours, locations, and even with the work arrangements to become more fluid. In this “new normal” work culture human resource professionals are facing new challenges that come along with a distributed virtual environment.

## **Challenges of Human Resource Professionals**

### **1. Employee's health and well being**

As most of the organizations moved to remote working employee's health and wellbeing has taken a front seat. As employees are the productive assets, their health and safety are utmost important to any organization to achieve its goals. While there are many potential upsides from working from home there are downsides also. The disadvantage includes insecurity, isolation and anxiety.

This has led to many undiscovered problems among the employees. Human resource professionals are trying to build seamless routes and strategies to overcome the challenges that it brings, and this is an important component of the grand challenge faced by the organizations in understanding how to deal with the problems of employees in this pandemic. (Buckley et al., 2017)

Human resource professionals should support the employees through their management who are quarantined or self-isolated by expanding paid time off policies or facilitating them in working remotely. “In the wake of a surge in Covid-19 cases in the United States, Apple is reworking its retail operations to let retail employees’ work from home”, this effort will help curb the spread of viruses.

Human resource professionals should convince the top management to ensure the appropriate health policies are operational in the organizations which not only safeguard employees’ health but also assures them job security.

### **2. Communication**

In general, in the “new normal” resulted from the covid-19 pandemic many white-collar and professional employees are working from home. Effective communication is an absolutely essential component of a successful business. Now that we are in the midst of a global pandemic, under lockdown and experiencing such uncertainty, effective communications are paramount. In response, organizations have adopted technology-driven solutions, where managers communicate time-critical information via multiple channels including but not limited to email, intranet, video conferencing, and other tools. But working with these tools has its own challenges. If the employees are not aware of using technology it can create stress among the employees which leads to depression among the employees. Organizations have to respond to the problems of the employees in using the technology. If staff are unaware of their organization's response, "people are spending more time talking about what's happening than doing their jobs," says Jeanne Achille, president and CEO of The Devon Group in Red Bank, N.J.

The senior managers need to convey a huge amount of information to employees and to manage multiple mediums. covid-19 pandemic exposed people to psychological distress, fatigue, occupational burnout, fear, stigma therefore it is of utmost importance the effective communication should be ensured at workplace, families and in communities. While human

resources (HR), communication and organizational change research has developed some knowledge about when communications are successful in “getting the message across” (Hewett et al., 2018; Y. Wang et al., 2020). Therefore, during covid 19 crisis to avoid confusion and to overcome insecurity among the employee’s human resource professionals should remain connected with the employees.

### **3. Motivating the employee’s**

Work motivation is the desire that causes the person to take action (Slamet and Riyadi, 2011). The stressful and uncertain times leads to frustration and low morale among the employees. These situations result in poor productivity of work which will be detrimental to the organizations.

Productivity is important to every business. Productivity can be increased by improving employees wellbeing. (Austin, 2019; Bevan, 2018, The Work Foundation, 2015). Due to covid 19 pandemic government has imposed lock downs asking the employees to work from home. This made the employees to adapt work from home option in spite of its pros and cons. Work from home can decrease the interpersonal contact, increase feelings of isolation, and a chance of misunderstanding, because employees do not meet face to face, do not know directly others emotions which demotivates the employees.

Anxiety about this disease outbreak will negatively affect employee ‘s motivation levels which in turn, affects the level of negative emotions that arise and will be difficult to maintain the performance of the employees (Assor, Kaplan, Kanat-maymon, and Roth, 2005). Therefore, this is the main challenge for the HR professionals to motivate their employees during this situation.

### **4. Employee engagement**

Covid 19 pandemic has made many businesses to shift from traditional work environment to virtual environment. As the need of the hour most of the organizations has initiated work from home regime. But work from home is difficult for employees as they do not feel the organizational climate at home, as lack of concentration due to frequent invasion of family members, lack of community interaction, lack of communication, lack of proper equipment and tools and rising cases of covid-19 in the world makes the employees stressed. They are not sure about their job security and also about their salary. Due to these problems, employees could not concentrate on their work, so there is a need for employee engagement. So, the companies need to engage their employees in refined ways with the help of various employee engagement practices.

Goyal, Trivedi, Nandwani, Changulani, and Lokhandwala (2020) suggested and explained various ways to increase employee engagement during the lockdown. For instance: conduct weekly alignment sessions, team meet-ups, entire team gathers over video conference for lunch, short online game sessions, virtual challenges and competitions, 5 min of informal talk, shared content such as TED Talks, books, online courses, brainstorming games, and appreciation session, communication exercise.

Thus, employee engagement has become one of the utmost prominent challenge for human resource professionals in the organizations. Employee engagement is a workplace attitude that is ensuing all adherents of an organization to give of their excellence every day, committed



toward their organization's goals and values. Engaged employees support the organization to attain its mission, execute its strategy, and generate significant business results.

### **Human Resources competencies during Covid 19 pandemic.**

The COVID- 19 pandemic has brought a new way for workplace management. It has created a particularly challenging environment for human resource management by upgrading employee skills, create organization culture for adaptability to digitalization, and keeping work-life balance to maintain employee health, motivation, and efficiency.

Human resource professionals should adopt creative and innovative methods to make their employees work efficiently in covid 19 crisis. Human resource professionals should regularly examine the health and wellbeing of the employees and offer the solutions to the problems which supports work family life balance. They should try to keep their employees motivated, stimulated, committed, satisfied in these tough times. Human resource professionals should address the emotional needs of the employees. They will have to play a significant role in helping employees to overcome the difficulties brought by the unexpected changes in the workplace as well as in the society (Carnevale & Hatak, 2020).

Human resource professionals should also help their workforce to adopt and cope with radical changes occurring in the work and social environment. Besides, the digital and collaborative skills, the workforce are required to move to the virtual work (Sheppard, 2020,). As remote working from home intensifies, human resource professionals have to cope up with the stress of their employees associated with the boundaries between work and family (Giurge & Bohns, 2020).

Social isolation has a negative impact on employees. Therefore, HR professionals need to maintain social interaction among employees who are working remotely. Small-group meetings, networking, virtual connections should be arranged to conquer isolation as work relationships are source of motivation (Singer-Velush, Sherman, & Anderson, 2020). Human resource professionals need to know to deal with the increasing stress of their workforce caused by remote working. (Giurge & Bohns, 2020). Human resource professionals should be looking to encourage staff interaction, utilising the digital tools available (such as work social networks) and maintaining employee connections.

In this regard, HR professionals should elaborate strategies enabling employees to use advanced technologies as well as update their digital skills. Human resource professionals should play a supporting role in this transformation and also should take the responsibility to retain the employees by upgrading their skills and abilities to perform better in this crisis situation.

On the other hand, Individuals respond to the demands of remote working differently. These aspects made the HR professionals to concentrate on the need for new areas of expertise. And employees may not accept the changes happening in the organization. So, the human resource professionals should get the willingness of employees to collaborate with each other with different departments in making changes, complying with necessary changes to safety measures and a willingness to learn and upskill quickly by employees.

## CONCLUSION

Extraordinary changes caused by the covid 19 pandemic enforced organizations to move on to digital business processes. Human resource professionals are in the heart of these transformations in helping organizations to navigate in the present and future vague scenario. The pandemic crisis has caused changes in the working conditions at all organizations participating. It also accelerated transition to remote working and digitalization. Consequently, organizations had to change the policy in this regard and allow remote working.

Since organizations rely on human resource management to disseminate the information related to organization and employment, the role of human resource professionals becomes even more challenging during the crisis situation. The study discussed the key challenges of Human resource professionals and the competencies require to overcome these challenges.

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## CHAPTER 16

### Knowledge, Attitudes and Practices regarding COVID-19 Pandemic among Tribal Communities of West Bengal

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#### INTRODUCTION:

Every society has its own beliefs, tradition, knowledge and practices related to health and illness. The tribal community have their own belief. They possess a very rich knowledge about the diagnosis and treatment of serious to minor diseases and are generally specialists in the art of traditional folk medicine (Debbarma et al., 2017). They also perform various magical rites and worships for the treatment of diseases. They have a deep belief in their native folklore medicine for remedies and are very reluctant to use modern allopathic treatments (Negi and Singh, 2018). But with the outbreak of COVID-19, caused by a coronavirus (SAR-CoV-2) begun in Wuhan, China, in December 2019, the question on the knowledge, attitude, and practice among tribal communities regarding COVID-19 is a big concern.

The virus spread rapidly from one person to another via respiratory droplets produced during coughing and sneezing. Common symptoms include cough, cold, fever, and shortness of breath (Hafeez et al., 2020). Washing hands with soap, wearing a mask, maintaining social distance, and self isolate for 14 days if infected are the preventive measures recommended by World Health Organisation. Thus, in this context, the current study explores the knowledge, attitudes and practices among tribal people towards the COVID-19.

**Methods:** The study is based on quantitative data. A sample of 52 tribal populations has been selected for the study. A diverse sample was selected based on various socio-economic and demographic indicators. A respondent below the age of 18 was excluded from the study. A questionnaire was designed with a specific section for knowledge, attitude and practices towards COVID-19. Further, descriptive statistical analysis is used to understand the responses of the tribal communities regarding COVID-19.

**Findings:** The study included a total of 52 tribal populations. Out of the total participant majority belonged to 35-45 age groups. Male respondent constituted 72 percent of the sample. More than 60 percent belong to Hindus, and only 6 percent of respondents had attained higher education.

**Knowledge related to COVID-19 among tribal communities:** The analysis indicates that a large percentage of tribal people considered COVID-19 a contagious disease (88.5 percent, n=46) and around 92.3 percent (n=48) believe that those of history of diseases are more likely to develop severe cases of COVID-19. It has also been reported that around 88.5 percent (n=46)

of tribal people believe that taking a herbal supplement will reduce the risk of getting infected with COVID-19. However, one-third of tribal people (36.5 percent, n=19) do not consider COVID-19 virus lives for about an hour on the surface, and around 13.5 percent (n=7) do not consider cough, cold and fever as the main symptoms of COVID-19.

| <b>Table 1. Knowledge about COVID-19 among tribal communities of West Bengal</b>            |              |             |
|---|--------------|-------------|
| Response  | Yes<br>% (n) | No<br>% (n) |
| COVID-19 is a contagious disease  | 88.5 (46)    | 11.5 (6)    |
| Cough, cold and fever is the main symptoms of COVID-19                                      | 86.5 (45)    | 13.5 (7)    |
| Elderly and those of history of disease are more likely to develop severe cases of COVID-19 | 92.3 (48)    | 7.7 (4)     |
| Taking herbal supplement will reduce the risk of getting infected with COVID-19             | 88.5 (46)    | 11.5 (6)    |
| COVID-19 virus lives for about an hour on surface   | 63.5 (33)    | 36.5 (19)   |

**Attitudes towards COVID-19 among tribal communities:** Around three fourth of the respondents (76.9 percent, n=40) think COVID-19 a serious threat to public health whereas 13.5 percent (n=7) do not consider it a threat. Further, it was also observed that 36.5 percent (n=19) of the respondents were very much worried about their health, and when asked about their family and friends, the response increased by 5.8 percent (i.e. 42.3 percent, n=22). Almost half of the respondents (46.2 percent, n=24) strongly think social distancing, a measure to control the spread of COVID-19 virus. However, when asked will you visit a doctor if you have corona symptoms, 57.7 (n=30) percent respondents gave negative responses.

| <b>Table 2. Attitudes towards COVID-19 among tribal communities of West Bengal</b> |                       |                   |                  |                        |                     |
|--|-----------------------|-------------------|------------------|------------------------|---------------------|
| Responses  | Very<br>Much<br>% (n) | Somewhat<br>% (n) | Neutral<br>% (n) | Not<br>really<br>% (n) | not at all<br>% (n) |
| Do you think COVID-19 is a serious threat to the public                            | 65.4 (34)             | 11.5 (6)          | 9.6 (5)          | 7.7 (4)                | 5.8 (3)             |
| Are you worried about your personal health   | 36.5 (19)             | 32.7 (17)         | 17.3 (9)         | 9.6 (5)                | 3.8 (2)             |
| Are you worried about your friends and family members health                       | 42.3 (22)             | 30.8 (16)         | 17.3 (9)         | 7.7 (4)                | 1.9 (1)             |
| Do you think social distancing helps to control virus                              | 46.2 (24)             | 34.6 (18)         | 13.5 (7)         | 3.8 (2)                | 1.9 (1)             |
| If you get corona symptoms will you visit a doctor                                 | 11.5 (6)              | 17.3 (9)          | 13.5 (7)         | 25(13)                 | 32.7(17)            |

**Practices in response to COVID-19 among tribal communities:** The practices that most respondent implemented were avoided close contact with sick individuals (86.5 percent, n=45), wash hand with soap regularly (65.4 percent, n=34), and wear a mask when leaving home (61.5

percent, n=32). In contrast, the least implemented practices were taking a herbal supplement regularly (30.8 percent, n=16) and use of sanitiser (34.7 percent, n=18).

**Table 3. Practices in response to COVID-19 among tribal communities of West Bengal**

| Responses  | Always    | Often     | Sometimes | Rarely    | Never     |
|--|-----------|-----------|-----------|-----------|-----------|
| Do you avoid crowded places                        | 55.8 (29) | 30.8 (16) | 7.7 (4)   | 3.8 (2)   | 1.9 (1)   |
| Do you wear mask when leaving home                 | 61.5 (32) | 19.2 (10) | 9.6 (5)   | 5.8 (3)   | 3.8 (2)   |
| Do you wash hands with soap regularly              | 65.4 (34) | 21.2 (11) | 7.7 (4)   | 3.8 (2)   | 1.9 (1)   |
| Do you use sanitiser                               | 21.2 (11) | 13.5 (7)  | 25 (13)   | 11.5 (6)  | 28.8 (15) |
| Do you avoid close contact with those who are sick | 86.5 (45) | 3.8 (2)   | 3.8 (2)   | 3.8 (2)   | 1.9 (1)   |
| Are you taking a herbal supplement regularly       | 13.5 (7)  | 17.3 (9)  | 17.3 (9)  | 17.3 (10) | (32.7) 17 |

## DISCUSSION AND CONCLUSION:

Tribal people of the study area had reasonably good knowledge of COVID-19. However, there were still a large percentage of tribal people who do not consider cold, cough and fever the main symptoms of COVID-19. The confusion that lies among the respondent was how long the virus stays on the surface, and most of the respondents were not sure about this information as there were disputes related to this information. Further, large percentage of the tribal people also responded that taking herbal supplements would reduce the risk of getting infected with COVID-19, which is quite obvious because tribal people prefer more on traditional and herbal remedies. This may also sometimes take a toll on the health of the tribal community. The pre-COVID studies have mentioned that the tribal's dependency on the herbal treatment is mainly due to their strong belief and conviction in the herbal treatment as well as unavailability of health care services (Negi and Singh, 2018; Uniyal et al., 2016).

The attitude of the tribal people towards COVID-19 is, to some extent, cautious and concerned related to own health and family/friend's health. However, half of the respondent reported not visiting a doctor, and significant proportions of respondents do not believe COVID-19 a serious threat to public health. The practices in response to COVID-19 among tribal people also indicate that they follow most of the practices recommended by health personnel. Social distancing, wearing a mask and washing hand regularly were the most practised behaviour among tribal people. Of course, the practice of use of sanitiser is deficient among tribes which could be due to lack of practices and low economic condition. Many studies have also reported poor living conditions, lack of personal hygiene, absence of safe drinking water, and poverty among tribal communities (Balgir, 2006; Mishra, 2012; Veerma and Shah, 2014; Islary, 2014).

Overall, the tribal people in the study area had fairly good knowledge of COVID-19 but lack practices due to their socio-economic conditions. Their deep beliefs in native folklore medicine

for remedies are very reluctant to use modern allopathic treatments. Further, their low economic condition prevents using sanitiser regularly. Of course, there lies an outlier, but despite having knowledge of COVID-19 the tribal people lacks practices. The paper suggests that to improve the knowledge and practices towards COVID-19 among tribal communities, there is a need for an innovative approach. This will be possible through imparting health education among tribal communities as well as improving their living standard and increasing access to the health care facilities.

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## CHAPTER 17

### A STUDY OF BLENDED TEACHING MODE IN CHINA'S COLLEGE ENGLISH UNDER THE IMPACT OF COVID-19

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#### INTRODUCTION

During Covid-19, online teaching has progressively reached the mainstream in China, and it has emerged as a new force supporting the development of teaching in the face of a pandemic situation. With the control of the pandemic situation in China and the gradual resumption of colleges and universities, the traditional offline teaching mode of College English has quietly changed to a combination of online and offline teaching mode, which poses challenges to the traditional teaching mode of curriculum content, teaching methods, and the teacher-student relationship.

The effects of COVID-19 on the College English teaching method and its positive significance are discussed in this study, which is based on the theme of College English teaching, with the goal of providing resources for improving the effectiveness of College English instruction in the post-pandemic era.

#### 1. The Impact of Covid-19 on China's College English Teaching Mode

While Covid-19 has produced many problems for China's universities, it has also had a significant impact on College English teaching. Great changes have occurred in the College English teaching ecology as a result of the pandemic. Students have developed a habit of learning English online, teachers' traditional teaching perspectives have shifted, and the development of College English information teaching has advanced significantly.

To begin with, students' habits of learning college English have changed dramatically. Students are obliged to leave school and continue their studies at home through an online classroom due to the need for pandemic prevention and control; therefore, practically all students have developed the habit of learning English online. This habit manifests itself in the following ways: not relying on the classroom carrier can achieve the goal of English learning, not depending on traditional learning methods can achieve good learning results, and not relying on teacher supervision can also achieve the purpose of English learning through a degree of autonomy. As a result, the pandemic situation has had a significant impact on College English teaching ecology in terms of student English learning performance (Sun, 2019).

Second, instructors' perspectives on teaching have shifted dramatically. During the pandemic outbreak, all instructional modalities shifted to the Internet, and all educational activities were conducted using modern information technology. As a result, traditional teaching approaches are incredibly different from how teachers think about teaching. The teaching content and materials should fit the characteristics of online teaching techniques. The contact between teachers and students in the process of distance teaching has changed, and the

feedback mode of teaching effect has also changed to reflect this difference. As a result, instructors' teaching thinking has evolved as the teaching ecosystem has evolved, and they have demonstrated the features of the Internet (Chen, 2018).

Finally, it has significantly boosted the level of knowledge in college English classes. The online teaching style of College English has been popular due to the pandemic scenario, and the information quality of English teaching has substantially improved. On the one hand, the advancement of informatization in College English teaching removes the constraints of physical space teaching. It gives a wealth of learning resources and teaching methodologies for English instruction. The informatization of college English instruction, on the other hand, has substantially increased English teachers' information competence and professional quality. As a result of the pandemic influence, the information level of College English teaching has considerably improved, promoting the overall teaching level of College English.

## **2. The Significance of Blended Teaching Mode in China's College English Teaching**

The Blended Teaching mode not only expands the space and time available for English instruction, but it also improves the overall quality of English instruction and encourages innovation and progress in the College English Teaching mode.

College English classes, relying on the network carrier, stretch from traditional physical space to network space, from fixed learning time in an English class to extracurricular time in addition to school time. College English's online and offline blended teaching approach has alleviated students' English learning time and space constraints. Students can learn English outside of the classroom at any time and in any location, maximizing the time and space resources available to them. Consequently, students can plan their English learning time based on their English level and environment and integrate online and offline English learning resources to conduct self-directed and individualized English learning to develop their English ability (Shen, 2017).

The learning content in traditional offline English education is often based on textbooks, and it is pretty stable and single method. The online college English teaching mode increases the English teaching material and the carrier form of teaching content, stimulating students' interest and motivation in studying English (Zhao, 2017). Today's children are essentially growing up in an Internet environment, and they are more likely to obtain information, including educational materials, via the Internet.

As a vital adjunct to offline English teaching, online English teaching can pique students' enthusiasm for learning English and considerably expand College English teaching materials. College English classes cover a wide range of topics, from textbooks to rich network information, from paper to audio, video, and other media. In addition, college English's teaching resources are substantially enhanced by the online and offline mixed teaching mode, which encourages general progress in teaching level and competence.

## **CONCLUSION**

The online and offline blended teaching mode of College English has steadily emerged, and has become a new force in driving the innovative growth of College English teaching, thanks to the advancement of modern information technology and the influence of COVID-19. English teachers should keep up to date with current English teaching concepts, master the

ability to apply modern information technology, rely on the "Online + Offline" teaching platform, carefully design every link between online and offline English teaching, effectively improve the level of College English teaching, and promote innovation and development in English teaching.

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## CHAPTER 18

### IMPACT OF COVID-19 IN DAILY LIFE

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#### INTRODUCTON

COVID-19 has affected day to day life and is slowing down the global economy. This pandemic has affected thou-sands of peoples, who are either sick or are being killed due to the spread of this disease. The most common symptoms of this viral infection are fever, cold, cough, bone pain and breathing problems, and ultimately leading to pneumonia. This, being a new viral disease affecting humans for the first time, vaccines are not yet available. Thus, the emphasis is on taking extensive precautions such as extensive hygiene protocol (e.g., regularly washing of hands, avoidance of face to face interaction etc.), social distancing, and wearing of masks, and so on. This virus is spreading exponentially region wise. Countries are banning gatherings of people to the spread and break the exponential curve.

Many countries are locking their population and enforcing strict quarantine to control the spread of the havoc of this highly communicable disease.COVID-19 has rapidly affected our day to day life, businesses,disrupted the world trade and movements. Identification of the disease at an early stage is vital to control the spread of the virus because it very rapidly spreads from person to person. Most of the countries have slowed down their manufacturing of the products. The various industries and sectors are affected by the cause of this disease; these include the pharmaceuticals industry, solar power sector, tourism,Information and electronics industry. This virus creates significant knock-on effects on the daily life of citizens,as well as about the global economy.

#### OBJECTIVES

- To understand impact of COVID-19
- To know how to organize healthy daily routines

#### METHODOLOGY

The study is based on only secondary sources. I have chosen the reports mostly published in March and April months to understand the impact of COVID-19 on Indian economy and various sectors. Also, I have studied few research papers and News articles which was published during these two months.

#### IMPACT OF COVID-19

##### *Health impact of COVID-19*

As the global burden of novel Corona Virus (COVID-19) continues to increase, particularly in low- and middle- income countries such as India, it imposes huge costs on individuals, communities, health systems, and economies. Although some countries and

regions are seeing improvements in hospitalization and death rates, COVID-19 remains a major concern for vulnerable and underserved populations globally. People with chronic conditions are disproportionately prone to COVID-19–related hospitalizations, intensive care admissions, and mortality, compared to those without chronic conditions. Moreover, they may be particularly susceptible to adverse health impacts from delayed or foregone care during the pandemic. The 2020 World Health Organization (WHO) report on the impact of COVID-19 on noncommunicable diseases (NCDs) in 163 countries highlighted that nearly half of the countries report that patients experienced partial or complete disruption of services for hypertension, diabetes, and related complications during the pandemic. One-third reported disrupted services for cardiovascular emergencies. Further, most countries reassigned the health staff towards COVID-19 support, which affected routine care for NCDs. Several reports indicated change in routine care to virtual consultations and worsened mental health problems during the pandemic. Some health impacts of COVID-19 are highlighted below.

- Challenges in the diagnosis, quarantine and treatment of suspected or confirmed cases
- High burden of the functioning of the existing medical system
- Patients with other disease and health problems are getting neglected
- Overload on doctors and other healthcare professionals, who are at a very high risk
- Overloading of medical shops
- Requirement for high protection
- Disruption of medical supply chain

### ***Economic Impact of COVID-19***

The countrywide lockdown has brought nearly all economic activities to an abrupt halt. Though, the supply of essential commodities including medicine has been ensured uninterrupted by the government. The disruption of demand and supply forces are likely to continue even after the lockdown is lifted. It will take time for the economy to return to a normal state and even then social distancing measures will continue for as long as the health shock plays out. The supply chains are unlikely to normalise for some time to come. The longer the crisis lasts, the more difficult it will be for firms to stay afloat. This will negatively affect production in almost all domestic industries. This may further affect the investment, employment, income and consumption, pulling down the aggregate growth rate of the economy. Some of the highlights of economic impact of COVID-19 are as follows.

- Slowing of the manufacturing of essential goods
- Disrupt the supply chain of products
- Losses in national and international business
- Poor cash flow in the market
- Significant slowing down in the revenue growth

### ***Social impact of COVID-19***

With large scale cancellation of travel plans by both foreign and domestic tourists, there has been a drop in both inbound and outbound tourism of about 67% and 52% respectively since January to February as compared to the same period last year. Of all the segments of the hospitality sector, the Meetings, Incentives, Conferences and Exhibitions has been hit the most. Some of the major international business events have also been cancelled including tech events

such Mobile World Congress (MWC), Google I/O, and Facebook's F8 event, which has led to huge economic losses. The tourism industry expects the situation to further deteriorate in the forthcoming summer season i.e. April-June. Usually, the number of Indian travellers to both domestic and international destinations peak during the months of March and April. However, this time around nearly 90% bookings of hotel and flights for the peak time have been cancelled. According to the Indian Association of Tour Operators (IATO), the hotel, aviation and travel sector together may incur loss of about Rs 8,500 crore due to travel restrictions imposed on foreign tourists by India for a month. This is also expected to have a negative impact on jobs in the industry. Following are the highlights of social impact of COVID-19

- Service sector is not being able to provide their proper service
- Cancellation or postponement of large-scale sports and tournaments
- Avoiding the national and international travelling and cancellation of services
- Disruption of celebration of cultural, religious and festive events
- Undue stress among the population
- Social distancing with our peers and family members
- Closure of the hotels, restaurants and religious places
- Closure of places for entertainment such as movie and play theatres, sports clubs, gymnasiums, swimming pools, and so on.
- Postponement of examinations.

## **ORGANIZE HEALTHY DAILY ROUTINES**

Most working humans are used to their jam-packed schedule in their everyday life. They are required to work overtime to be able to gain promotions or salaries to pay their hefty bills so they do not have to worry if it is associated with their work. Nowadays, citizens are commanded to stay home, isolated from the communities and workplaces; this may lead to the cause of abundant psychological and physical problems in the long term.

Organizing healthy daily routines such as various implementable exercises at home such as walking at home or to supermarkets, alternating leg lunges, or chair squats. Exercise has proved to have clear health benefits for both healthy individuals and patients with various diseases as suggest that the aim should be at least thirty minutes of moderate exercises every day and at least 20 minutes of vigorous exercises every other day. Maintaining regular physical activities and exercises at home is a crucial strategy for maintaining a healthy condition during the COVID-19 pandemic. Turning to consuming healthy foods for beneficial nutrition instead of fast foods is also recommended. Good nutrition is crucial for health especially when the immune system is required to fight against the virus. It is important to both remain physically active and consume healthy foods in order to achieve optimal health.

## **CONCLUSION**

COVID-19 disease started from Wuhan, China, in December 2019 and has become a pandemic according to WHO. Covid-19 has posed an unprecedented challenge for India. The disease has spread across the globe and emerged as a deadly risk to human health. The disease is spreading very quickly, and the number of people locked up is rising day by day. COVID-



19 has badly impacted every aspect of life. This research concludes the economic impact of COVID-19 in India. The most significant point is that we must ensure and make the best of efforts that this black phase of life should never happen with all of us again. Let's hope for the better, healthy, safe, prosperous, and, of course, sustainable future ahead.

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## CHAPTER 19

### COVID-19 IMPLICATIONS AND ROLE OF EDUCATIONAL INSTITUTIONS IN RURAL DEVELOPMENT IN INDIA

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#### 1. India is an Agrarian Society

It has been considered, India is an agrarian economy and said to be the backbone of the India's economy, the agriculture sector contributes around 46 per cent to the national income. Unfortunately, over a period of time agriculture sector contribution to Gross Domestic Product (GDP) has been declined in India's. Its share was 53% in the decade of early 1950s but now it has come to around 15%. But even then, around 67% of India's population depend on the agriculture and allied sectors for their survival. (Ramesh Chand, S. K Srivastava and Jaspal Singh, 2017). It is keen to note the recent events of agriculture role in GDP, it shows in terms of money value, GDP decreased to 5306.26 INR Billion in the first quarter of 2020 from 6098.83 INR Billion in the fourth quarter of 2019 (India GDP 2011-20).

The rapid modernisation, urbanisation and industrialisation bring change in the pattern of rural socio-cultural life and progress in educational sector made transformative changes adopting urban culture in the rural areas. The rural concept of cluster of villages with modern facilities also impacted on change in lifestyle of rural dwellers. (Ramesh Chand, S. K Srivastava and Jaspal Singh, 2017). Thus overall growth of India's economy and sustenance of human lives either in urban area or in rural rely on the development of rural economy. From the era of planned development and even before, majority people were engaged in agricultural and allied sectors, it is the only sector provided employment opportunities to its population. Later, the process of mechanisation, modernisation and urbanisation created ample opportunities for employing in non-farm sector. The green revolution has also effected significantly in improving agricultural production which created agro-based and agri-processing industries. This scenario of high population growth over a period of time has made drastic impact on the use of land and other natural resources for the purpose of producing more and more food products to feed its population. Since Independence, India's food grain production has registered a five-fold increase and in the year 2016-17 production level reached around 273 million tonnes and principally acquired self-sufficiency in food production (Vishwanath Kulkarni 2018). Introduction of Green Revolution package of services in agricultural production during 1960s resulted in massive change in cultivation practices which proved the efficiency of Indian farmers and scientists. Therefore, more pressure on land and high usage of chemical fertilisers and pesticides damaged entire production system and its supporting environment. Indian agriculture is often cited as a classic example for disguised unemployment. Labour abundance, lower level of wages, and need for creation of alternate employment opportunities for a huge section of labour force have always been the central issues of debates throughout the planning period. But today, the farmers are find

difficulties in getting labour even for higher wages. The employment Guarantee Scheme of central government namely MGNREGS played vital role in breaking the stagnant agricultural wage system and availability of labour for farming. (Vishwanath Kulkarni 2018) Increase in wage, non-availability of labour, high input costs coupled with climate change severely affect the agriculture and farmers facing trap of continuous debt. The global issue of Pandemic COVID-19 has further totally disrupted the agriculture sector and farmers life become miserable due to disconnect of farming from the market.

## **2. Low Literacy in Rural India and the fear of Spread of COVID-19**

Literacy and level of education are basic indicators of development attained by a country. Education act as agent of change in the society and impacts on the individual behaviour on various elements viz. population control, better health, hygiene practices, conservation of environment and inclusive development. The Indian literacy rate is 81.3% as per data of 2020 (CSO, GoI 2017). Strong initiatives of central and state governments and bringing legislation like Right To Education (RTE) made progress in achieving literacy at certain level but still long way to go to achieve the level of literacy attained by some of our neighbouring Asian countries namely China, Sri Lanka and Myanmar. The overall literacy rate shows some rosy picture but in rural area, it is only 64.7%, it further worsened for females 56.8% comparing Males 72.3%. As it has been noticed, educational attainment contribute significant in improving health status through hygienic practices (CSO, GoI, 2017). In reality, in rural India has, 43% of illiterate women and 27% of men living in poor conditions may give way for COVID-19 spread fast like forest fire. It is an important aspect of protecting the peasant community in the rural areas from this disease.

## **3. Rise of Rural Poverty in India**

The fact is that, number of people in poverty in India has always been massive. The proportion of the population in poverty increased to 37.2 per cent from 25.7 per cent when the Tendulkar Committee calculated poverty for the year 2011-12 by using the same methodology of commodity prices in the year 2004-05. Even according to the Tendulkar committee methodology, the rate of poverty has been increased from 25% (2011-12) to 29.6% (2017-18) (Govt. of India, NSSO 2013). But after COVID, the Estimated Poverty would be around double the present situation. During COVID-19, economic system become paralysed in majority of the countries even economic giants like USA and many European countries. Whatever achieved in the process of world economic and sustainable development forums motivation, all will reach back to position of origin like a relived spring. The International Labour Organization (ILO) hinted and estimated that about 400 million workers from India's informal sector are likely to become poor due to Covid-19 after the month of April, 2020 (ILO Monitor 2020). It estimates, with the 25% shock to incomes affects rural poor and poverty will rise to 46.3%, i.e., more than twice the 2011-12 levels therefore India will have additional 354 million poor and add to total of about 623 million in the near future (ILO Monitor 2020). Poor farmers in the rural areas already facing stagnant agricultural income, inability to find market for the produces.

#### 4. Implications of COVID on rural labourers and Economic Slowdown

The COVID-19 pandemic spread has crossed 71.75 lakh in India in the Middle of October 2020 (Times of India 2020). The central and state governments have made significant efforts in containing the spread of the virus and also treating the affected people. Even though, rate of COVID patents very low, loss in social and economic development sphere are uncommensurate. In this critical situation revival of rural economy and creation of additional employment to urban migrants in to rural areas will be like war for survival. The migrant labourers are forced to proceed to their native places after involuntary push from the place of employment. The mass exodus of migrants from our cities has raised concerns over an impending economic crisis (Ranjini Basu 2020).

The risk of spread in rural areas will be alarming in the near future due to number of factors like lack of awareness and ignorance, non-availability and scarce supply of portable drinking water, inadequate or ill-equipped health infrastructure and manpower, lack of nutritious foods and less responsive local governing institutions. Economic slowdown due to lockdown measures of government of India effected in great stagnation in rural economy. The situation of crises will be resulted in threat to loss of job to 33 Billion (4 out of 5, 81%) with already 25 Million Jobs loss as reported by International Labour Organisation (ILO). In India 400 million labourers from informal sector will be pushed in to unemployment and poverty. In financial terms, it can be as major economic recession in 2020 with \$ 9 Trillion loss to the world and World GDP will be negative i.e. -3.0% but it was 6.3% Expected Estimation (before COVID 19). The countries have to make double or treble the efforts to boost the economy by various money flow initiatives to normalise the purchasing behaviour of the consumers with the intension of increasing demand for goods and services, and agricultural produces. Already government of India has started a few strategies like LTC/LTA package, i.e. the central government employees can get a lump sum of travel fare and with condition of spending three times of amount entitled and also can avail LTC leave encashment for 10 days. This money has to be spent on goods and services of non-food items having GST of 12% and more. Festival advance also offered to the central government employees with the condition of spending on consumer goods. Such efforts are needed further from different dimension of governance to usher the economic growth.

#### 5. Risk Factors in Agrarian Economy

**5.1. Climate change** – The climate change has been resulted in various factors of influence and at the same time its impact also severely affect various dimension human life and other living beings in the globe. It can be cause and effects of many unusual complications in agricultural production and allied sectors growth. Due to deforestation, soil erosion, carbon emission, depletion of water resources negatively influence and lead to break of natural food chain. It further affect the agricultural operations, use of agri inputs, cropping pattern, green house effect, human and animal health.

#### 5.2. Rising Temperature, carbon emissions and periodical drought

Erratic rain, consistent drought and over flooding are the major consequences of raising temperature or global warming. This condition directly impacts of agricultural production and productivity. Crop growth and yield have considerably declined link with the raising

temperature. Higher temperatures, increased evapo-transpiration and decreased winter precipitation may bring about more droughts. It also leads to Ecological Imbalance - habitat loss, declining biodiversity.

### 5.3. Pressure on Land and Natural Resources

Expansion of area under cultivation, deforestation has made irreversible damages to our earth in terms of land degradation. The production and consumption pressures created by human beings on the natural environment resulted in depletion of many forms of natural resources especially land fertility and surface & sub-surface water sources. Due to reckless use of soil and water in many regions particularly south and north-west India deepened the ground water level below one thousand feet. Further, it resulted in loss of top soil which is most important element of soil fertility and productivity. It was reported in the year 2010 in Rajya Sabha by the Minister of State for Agriculture K. V. Thomas that, about one millimetre of top soil is being lost each year with a total loss of 5,334 million tonnes annually due to soil erosion. Inappropriate *agricultural* practices include excessive tillage and *use* of heavy machinery, excessive and unbalanced *use* of inorganic fertilizers, poor irrigation and *water* management techniques, pesticide overuse, inadequate crop residue and/or organic carbon inputs, and poor crop cycle planning (Govt. of India 2010).

## 6. Factors Affecting Agricultural Income in India

Agriculture is no more preferential occupation for majority of farmers, the younger population from the farmers families are not interested to continue agriculture as a profession. There is a say in rural areas, if a bachelor engaged in agriculture, he will face difficulty finding bride as life partner. Majority of youth after completing education are only looking for white-collar jobs even it is meagre income. Further, farmer parents are also not interested their children involve in agricultural practices. In addition, many more sociological factors hinder younger generation to keep away from the agricultural sector. The natural factors like soil erosion, land degradation, depleting of irrigation sources, drought, unseasonal rain, ecological imbalance, disappearance of bio-diversity affect agricultural production failures frequently. High use of chemicals for increased production and commercialisation of agriculture, the practice of market driven agriculture - instead of subsistence farming, Mono Cropping, Consumption and Expenditure pattern of rural people also negatively influenced the agriculture. The institutional factors like Middle men exploitation, Lack of Marketing support, Lack of Institutional strength are factors of affecting through exploitation of major portion of agricultural income from the farmers which leads the farmers unable to get expenses incurred for cultivation of crops. Non-availability of capital or timely credit for cultivation compel farmers to borrow from moneylenders, commission brokers, middlemen for high rate of interest and often crop failures or lack of reasonable price for their products make farmers be in continuous debt trap or lead farmers suicide. All these factors and consequences from natural resources lead to agriculture no more profitable or highly expensive. Proper planning, use of modern methods of cultivation, availing of government benefits, change of cropping pattern, crop rotation, accessing scientific cultivation practices, undergoing needed training and switching over to food crops production at least for family consumption are important areas for rejuvenation of agricultural sector. The educational institutions are having very important role in equipping knowledge and building capacity of farmers for evolving better farming practices.

## 7. Roles of Educational Institutions in Rural Development

The universities, colleges and other educational and training institutions have to come forward to help the farmers and other local communities in during distress. Because they are our source of food and supply of raw materials for producing other life supporting needs. Making them aware on the provisions, schemes, ways and means of high income generating activities, etc are essential for overall development. Further, the schools and colleges can train people directly on their own or with the support of training institutions or government. The educational institutions can also have schemes like living and sharing with community, Village Adoption and Participatory Research on various topics as part of student's research and learning. The following are the suggestive list of areas and methodology of learning and supporting of local community for the benefits of both partners.

### 7.1 *Creating Responsible Citizens (Direct role for students)*

Building knowledge and Capacity of the general population and farmers in particular. b. Innovative Skills for entrepreneurship, c. Creating Pro-poor Attitude for their students and teachers, d. Behavioural Change for students, e. Respecting Social and cultural Values, f. Imparting life education and g. living and sharing with rural community.

### 7.2 *Social Responsibility*

a. Formation and Coordination of Informal Institutions in surrounding villages, b. Building people institutions and involve them in local development– Youth forum, women groups, children club, readers club, c. integration of services of core development institution

### 7.3 *Training and Capacity Building*

a. Capacity building for farmers on organic farming and nature oriented life, b. Encourage for Integrated farming, c. Facilitation for skill building for additional or alternative source of livelihoods, d. Development of Agro and allied Industries, e. Agri-supporting rural industries, f. Animal Husbandry, g. Value Addition of Farm Products, h. Natural Preservation, i. Soil and Water conservation and j. Watershed methods for recharge of ground water sources

### 7.4 *Skill Development and Facilitation*

Directing Skilling for rural youth – unemployed & Under Employed, b. Conduct of Entrepreneurship Development Programmes, c. Facilitation of Rural youths, women and farmers with skill building institutions, d. Workshop on Innovative ideas in development, e. Exposure visit to farmers and f. Linking of research institutions with the farms.

### 7.5 *Awareness Building and sensitisation*

Awareness on various field namely Leading of Healthy life, Prevention and Protection measures against COVID, Nature Responsive, Women and child care measures, Food and nutrition, Ways and means of Increasing the Immunity power of human body, Harnessing Food ingredients from Kitchen or terrace garden, Wealth from Waste – Solid and Liquid waste management from Home

### 7.6 *Facilitation of RD Schemes to the Needy*

Farmers – NADP, Horticulture Mission, ATHMA, Employment – DDUGKY, MSME, Women Employment – NRLM, Manual Labour – MGNREGS, Skill Development for Self Employment – RSETI, RUDSETI, Health – Ayushman Bharat, use of health infrastructures, House for houseless – PMAY –G, Sanitation – Swachha Bharat Mission, For Village Roads – PMGSY, Bank Linkage – PMJDY, Credit linkage – PMMY – SISHU, Kishore, Tarun, Stand



up India, Insurance – PMJJBY, PMSBY, Aged security – OAP, Widow Pensions, Atal Pension Yojana, PMVVY, Food Security – ICDS, Mid-day Meal, PDS, Law – Free legal services, Basic Services – Village Panchayats.

## 8 Collaboration with (PRIs) Local Gram Panchayat

As per the 73rd Constitutional Amendment Act, 1992, the Gram Panchayat has been given central role of planning, implementation and protection of its citizens. Therefore, development of agriculture, creation and strengthening of agricultural infrastructures are vested with the Panchayat Raj institutions. The XVth Finance Commission earmarked higher than the previous amount aiming to vibrate the rural economy through various measures like provision of employment, creation and deepening of irrigational structures, linking of all villages to main centres of marketing and establishing of Information and Technology. All the 2.5 lakhs Gram Panchayats have to prepare GPDP pertaining to their local problems, conditions and local resources. But unfortunately, the GPs are facing problems like lack of supporting staff, lack of adequate knowledge, skills for planning, etc. In this context, the GPs are encouraged to collaborate with local educational and technical institutions for identifying local problems and needs for planning. Therefore, the universities and colleges can join with the local panchayats and plan for their own regions and guide the panchayats for preparation and implementation of government programmes. These institutions can act as integral part of utilisation of allocated financial resources for the optimum benefits of the local people. The following activities can be undertaken along with the panchayats;

Understanding about functioning of Gram/Village Panchayat, -Understanding the Rural life through Studies/project work of the students, -Participation in Preparation of Village Development Plan – Meeting data gap through students research, -Creation of innovative ideas of development and implementation through panchayats, -Students Participation in Village Assembly/Gram Sabha and contribute in discussion for addressing local issues, -Handholding with SHGs for active involvement in economic activities, -Participation in Social Audit of RD Programmes

## CONCLUSION

In order to materialise the statement or thoughts of the Honourable Prime Minister of India Shri. Modi ji during the COVID-19 situation “There is no doubt that the COVID-19 crisis is an immediate mountain staring at us. But while we continue our hard path upwards, we must not forget that beyond that mountain peak, lies a flowery valley full of opportunities for the national economy”. “We must put everything in the fight against COVID-19 and yet not lose faith in our ability and opportunity to harness the most out of the post COVID world”( Srijan Pal Singh, 2020). It is essential to enable the agricultural sector to flourish as a prospective profession to save our farmers and supply food needs of entire population of India and also to save our planet earth, the educational institutions have to handhold with our rural community with the support of a number of service providing centres.

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## CHAPTER 20

### A STUDY ON ECONOMIC CHALLENGES FACED BY HOUSEWIVES IN THIS PANDEMIC.

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#### INTRODUCTION:

The COVID-19 pandemic has wreaked havoc across the world and brought the world to a standstill with unprecedented changes in our society and economy. As has been the case, the novel coronavirus spread with such a speed and intensity across the world due to the interconnectedness of the globalized world that most countries imposed temporary shutdowns as a strategy to contain its spread.

The impacts of the lockdown have been disruptive and changed the way in which humans perform their daily activities and go about their routine lives. Such impact has however not been the same across all social groups, with the most vulnerable and marginalized groups being affected differently due to the already existing social inequalities. Specifically, the lockdown has widened the existing gender inequalities and limited the opportunities for women.

One of the ways in which the pandemic has affected women differently than men is through increased burden of unpaid work. Owing to the sexual division of labor, and gendered roles and social norms of performing domestic and care work in a household, the burden of unpaid work falls disproportionately on women. Such tasks are time-consuming and physically tiring, and subject women to time poverty, leaving little or no time for them to undertake productive activities like education or employment, or leisure.

The pandemic has worked to exacerbate the already existing gendered nature of unpaid work at home. With the closure of educational institutions, and the simultaneously emerging norm of work from home and online education, along with the lack of services of domestic workers, the need to perform unpaid chores like cooking, cleaning, washing, child care among others by household members has increased.

During the lockdown, we realized that women were much more vulnerable and that it would have been challenging for some of them to reach out for help. This is something that support service providers need to think about and address.

First was through fiscal and monetary measures, but the second was through income support programmed to the most vulnerable and small business. The latter, according to economists and policy experts, is the key to bridging the gap between a devastating economic downturn and hopeful an eventual recovery.

## 1.1 UNPAID WORK ON WOMEN:

The term unpaid work, as given by the International Labor Organization, is the ‘non-remunerated work carried out to sustain the well-being and maintenance of other individuals in a household or the community, and it includes both direct and indirect care. The ILO estimates show that time spent in unpaid work accounted for ‘16.4 billion hours per day, with women contributing more than three-fourths of the total.

The existing literature that explains the gendered nature of unpaid work and its disproportionate burden on women, namely the economic perspective and the gender perspective. The economic perspective emphasizes the principles of rationality and comparative advantage. Accordingly, it states that women’s engagement in unpaid labor depends on the comparative advantage relative to the paid work which can be changed with changes in various factors like educational attainment and wages. Within the economic perspective, there are two models, namely the unitary model and intra-household bargaining model that explain the burden of unpaid work.

As originally given by Becker, the unitary model assumes household as the basic unit of analysis with common preferences and common utility curve of all members. The argument in the unitary model leads to role specialization where one partner invests more time in producing income and the other spends more time in non-market work. The feminist economists however reject the unitary model as it does not consider the role of gender as a factor in different preferences for women.

The basis for this is that gender plays a significant role in determining power relations within a household where men are often more privileged than women, and the allocation of resources is in favor of men leaving women worse-off who could be effectively in poverty, even when the household aggregates indicate otherwise.

In addition to determining the intra-household allocation of resources, gender also affects the decision-making power and responsibilities within a household. As such, households are sites where gender roles are both produced and performed through various means like the sexual division of labor. Going further, the assumption of unitary models that the household is a rational unit is criticized as it not only neglects the gendered nature of household and the consequent inequalities in resource distribution but also justifies them in “favor of economic rationality” thereby seeing intrahousehold power dynamics and inequalities across genders as excusable and even preferable.

According to the intra-household bargaining models, the partner with greater resources, who are generally men owing to power dynamics of gender, will use these resources to avoid unpaid work. The gender perspective derives from the sociological understanding of gender as a power relation. Accordingly, the approach emphasizes reinforcing masculine and feminine behavior through unpaid labor. Specifically, by avoiding unpaid work men tend to display masculinity whereas performing unpaid household chores is considered integral to being an ‘ideal’ wife or mother.

Interestingly, this is evident in situations where both men and women in a household are engaged in full time employment and earn equal incomes, there is a tendency for women to do more household work. This is because, women making more money than the husband is considered as a deviance from the gender norm where a husband is to provide for the household, and therefore to neutralize this deviance women take more responsibility of the unpaid household chores, thereby reinforcing the gender norms.

## **1.2 IMPLICATIONS OF BURDEN OF UNPAID WORK ON WOMEN:**

Since the burden of unpaid work is relatively greater on women as compared to men, it raises various concerns for them. The chores that fall into the category of unpaid labor are physically exerting and time consuming. As such, the unpaid work of women takes away most of their time and subjects women to time poverty, leaving little or no time for them to engage in productive activities like education and paid employment. In India, women's labor force participation is dismal and has been showing a declining trend for more than a decade.

According to the World Bank data, female labor force participation<sup>Footnote3</sup> has decreased from 32% in 2005 to 21% in 2019. Simultaneously, women's time poverty has increased manifold, despite the drop in their labor force participation, clearly suggesting that women experience extreme time poverty due to their responsibilities of unpaid labor. Consequently, lack of personal income affects their economic status, financial independence, bargaining power and decision making within the household, thereby affecting the intra-household distribution of resources in favor of men as guided by the power dynamics of gender relations.

Furthermore, women's lower labor force participation also disincentivizes investment in education and skill development of girls and young women, and they further get pushed into undertaking unpaid labor. Thus, disproportionate burden of unpaid work pushes women out of the labor force which not only affects their financial status but also makes education and skill upgradation less attractive which reduces their opportunities of participating in formal economy, therefore raising equity concerns for women's participation in the process of development. Simultaneously, the designation of household chores as 'women's work' does not include the element of choice and is instead governed by the norms of gender division of labor and norms, and feeds into the existing power relation across genders.

For women in paid employment, the drudgery of unpaid work is so high that they work longer than men owing to the triple burdens of unpaid work, reproductive work and paid employment. Consequently, there are only limited opportunities for social and political participation, which has significant bearing for their empowerment, and for leisure which affects their overall well-being [10]. This also affects their opportunities for career advancement, as women's participation in paid work reduces the time spent on unpaid work but less than proportionally as compared to the increase in time in paid work, thereby effectively increasing the number of hours women spend working which is often compensated from the time spent for leisure, sleep, or personal care activities.

Finally, the unpaid labor performed by women is not accounted for in the national accounting systems, and are therefore excluded from the realm of policy making. Efforts to integrate women in the development process to make it inclusive have not considered the drudgery of unpaid work on women. For instance, the much recognized 'efficiency approach' that calls for integration and increased participation of women in the development process on grounds of costs of excluding women from the formal economy and the resulting inefficiencies in the markets, seeks to bring women into the ambit of development without considering the impact on their overall well-being. The literature highlights that such development, though inclusive, is bound to put stress on women, increase their drudgery and affect their overall well-being.

### **1.3 GOVERNMENT SCHEMES:**

- ❖ India's finance minister, Nirmala Sitharaman, has now announced a range of measures including cash payment of Rs 500 per month for three months to all women members of self-help groups and an increase in wages as part of India's employment guarantee programmed.
- ❖ In Tamil Nadu, factory workers many of them migrants from other states, especially will receive rice, dal, oil and sugar free of charge, along with cash support of Rs 1,000 to meet other urgent expenses for the next two months.

### **1.4 DOMESTIC VIOLENCE IN THE COVID-19**

- ❖ Domestic violence and dowry harassment topped complaints to the State Women's commission during the lockdown months.
- ❖ More than 250 complaints were filed under the two heads followed by complaints of sexual harassment at the workplace and abuse of elderly women.
- ❖ That provide support services indicated that economic stress was one of the main reasons for domestic violence during the COVID-19 lockdown.
- ❖ A majority of the petition were received from Chennai, Kancheepuram and Tiruvallur districts.
- ❖ These responses were a part of a short survey that representatives from 24 NGOs working across 33 districts took up as a part of a consultation on domestic violence.
- ❖ In the report 'Domestic Violence in Tamil Nadu during the COVID-19 lockdown', 31% of the respondents said economic stress was the main reason for domestic violence during the lockdown.

### **1.5 ACKNOWLEDGE INDIVIDUAL STRESS LEVELS:**

- ❖ We have adapted to a new kind of lifestyle altogether and things are likely to get overwhelming while working and managing relationships.
- ❖ Be considerate and acknowledge the sudden upside down in each other's lives. Be mindful of your partner's stress and problems.

### **1.6 HEAL YOUR RELATIONSHIP:**

- ❖ All complaints of less intimate couple time now stand redundant. Use this time to dwell on a new paradigm of our relationship.



- ❖ Communicate on shared interests and reminisce memories to spend quality time with each other.

### **1.7 WORK OUT A DAILY SCHEDULE:**

- ❖ Develop a daily workout regime mutually. Meditate and chant together. Exercise together once a day and have date nights once a week. Spend quality time by watching classic movies and sharing each other's interests.

**Mrs.Helen Sha Diana**

## CHAPTER 21

### STUDY ON THE TOPIC ONLINE EDUCATION: MENTAL HEALTH AND EMOTIONAL BREAKDOWN AMONG COLLEGE STUDENTS

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#### INTRODUCTION

In the month march of 2020, as the covid 19 virus escalated into the global pandemic, educational institutions all over the world took the decision to shut down their doors. Thus there took place a universal shift from traditional classroom learning to distance learning. It was a temporary and emergency precaution from the side of government to stay away from the virus. The online education was first implemented in the 1993 by the University of Illinois. Later the scope of online education began to grow in accordance with the development in technology. Similarly there are various institutions which follow online educational system in Kerala, especially in Ernakulum district. The technology is not much updated in the Ernakulum, even though they started the classes with thee limited resources. At the time of pandemic each and every institution implemented the distance learning technical due to strict government regulation. The lack of updated software's in considered as a major drawback of online education in the Ernakulum district. The whole education system has changed dramatically, with the rise of e learning, whereby the teachers are conducting their classes through online mode. Worldwide there are 1.2 billion students affected by the widespread of the pandemic corona virus. There are around 49 colleges in the Ernakulum district and the study focuses on them. Thee researches suggest that the online education has many advantages like time saving, cost saving etc. But on the other hand it created mental health issues, behavioural changes, anxiety and stress among students. The online education is conducted wi9th the help of various apps like Google meet, duo, zoom etc for the students. The students are teachers are panic about their semester exams and practical's.

#### REVIEW OF LITERATURE

Sumitra pokhrel and roshan conducted the study on the topic impact of covid 19 pandemic on teaching and learning. The study covers all the aspect of online learning and its advantages. The changes in the whole structure of teaching are depicted in the study. It is a critical assessment about the online educational system and their scope in near future. The article 'student perception and preference for online education in India during covid 19 pandemic' is written by muthuprasad and S Aishwarya. This study aims to figure out the perspective of students about online teaching. It also list out the problems faced by the students due to the pandemic and distance learning. This study concluded that the students prefer online learning because of its convenience. 'Covid 19 pandemic and on line learning' is another article written by OB Adedoyin and ESoykan. Under this study the researches try to list out the challenges and opportunities of online learning at the time of pandemic. From this research it is evident

that online teaching is differ from emergency remote teaching, and they highlights that the online teaching is more sustainable. It also covers the instructional activities in the remote teaching and its relevance in the time of pandemic.

## **RESEARCH GAP**

All the above studies investigate the effectiveness of online education at the time of pandemic. All these articles views online teaching from the view point off teachers. They considered the positive aspects of online leaning with regard to the wide spread of covid19 pandemic. Apart from this study tries to investigate the positives and negatives of online leaning from the view point of students. It also considers the metal health of students and physical issues caused due to distant learning.

## **II. METHODS AND MATERIALS**

### **A.STATEMENT OF PROBLEM**

The sudden shift from classroom learning to online learning created confusions among students and parents. The fear about virus, uncovered syllabus and upcoming exams increased the stress level and anxiety among students. The study tries to understand the issue more deeply and suggest different alternatives to solve this issue.

### **B. OBJECTIVES OF THE STUDY**

- ❖ To understand the advantages and disadvantages of online education system.
- ❖ To analyse the perspective of college students about online education.
- ❖ To understand the mental, emotional and behavioural issues faced by students at the time of pandemic.
- ❖ To identify the reasons of depression, anxiety and stress among students.
- ❖ To understand various changes occurred in educational sector due to the widespread of pandemic covid 19.

### **C.RESEARCH METHODOLOGY**

To pursuance the above mentioned objectives both the primary as well as secondary data is used.

#### **1) SAMPLING METHODOLOGY**

- ❖ Sampling size: The sample of 100 college students are selected from the 48 colleges in the Ernakulum district top conduct the study. The sample is limited to 100 due to difficulty in data collection because of government restrictions, and to save cost and time.
- ❖ Sample area: The samples are selected from the colleges of Ernakulum district.

#### **2) DATA COLLECTION**

Convenient sampling techniques are used for collecting the data for the purpose of the study. Personal interview sessions are conducted among the students and questionnaires are distributed to the students. And the secondary data is collected from different articles, journals

and newspapers.

### III. RESULTS AND DISCUSSIONS

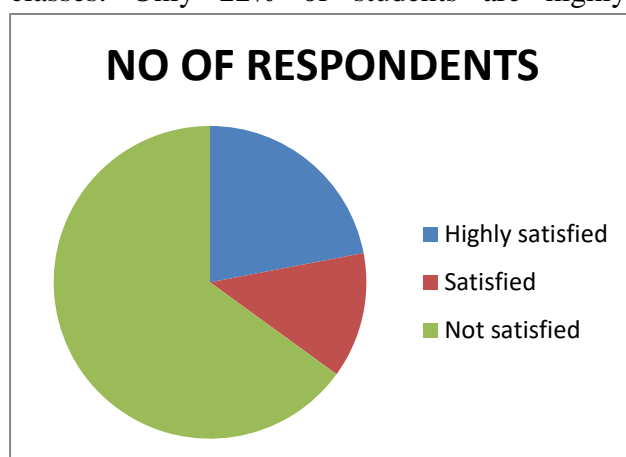
#### A. RESULTS

##### SQTISFACTION LEVEL OF STUDENTS

| CHOICES     | NO OF RESPONDENTS |
|-------------|-------------------|
| Google meet | 72                |
| Duo         | 13                |
| Zoom        | 6                 |
| Others      | 8                 |

##### INTERPRETATION

The classification shows the satisfaction level of students with regard to the online education. It is crystal clear that, majority of the students are not at all satisfied with the online classes. Only 22% of students are highly satisfied with this mode of education.

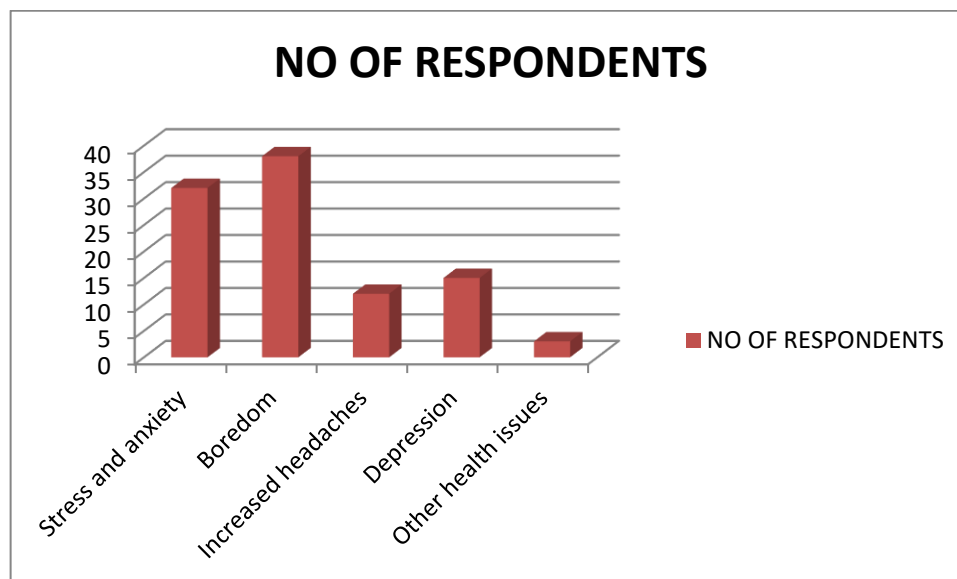


##### REASONS TO PREFER ONLINE CLASSROOM

| CHOICES                    | NO OF RESPONDENTS |
|----------------------------|-------------------|
| Risk of corona virus       | 65                |
| Convenience                | 3                 |
| Time and cost saving       | 8                 |
| High government regulation | 20                |
| others                     | 4                 |

##### INTERPRETATION

The number of cases of corona is increasing in the Ernakulum district day by day. Thus the government implemented strict guidelines to reduce the risk of corona virus. Majority of students prefers online classes only to ensure their safety as well as the safety of others. At the present scenario online classes is the only alternative available to the students.

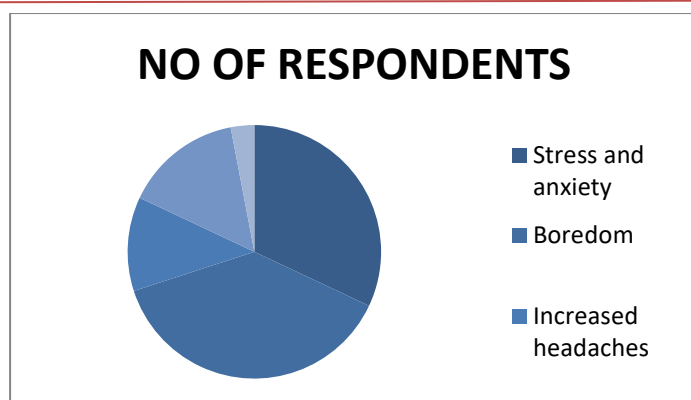


## CHALLENGES OF LEARNING IN AN ONLINE ENVIRONMENT

| PROBLEMS WITH ONLINE CLASSES     | NO: OF RESPONDENTS |
|----------------------------------|--------------------|
| Range issues                     | 38                 |
| Lack of face to face interaction | 25                 |
| Audio- video issues              | 10                 |
| Troubleshoot problems of apps    | 5                  |
| Poor network connectivity        | 19                 |
| Other issues                     | 3                  |

## INTERPRETATION

There are, any problems associated with online classes while compared to traditional classroom classes. 38% of students are facing range issues. In the several areas of Ernakulum district there is the problem of poor network connectivity and range issues. Most of the students are not able to participate in the online classes effectively due to range problems. Lack of face to face interaction between the teachers is students are another issue faced by 25% of students. And the remaining are facing problems like troubleshoot of apps, audio video issues etc.

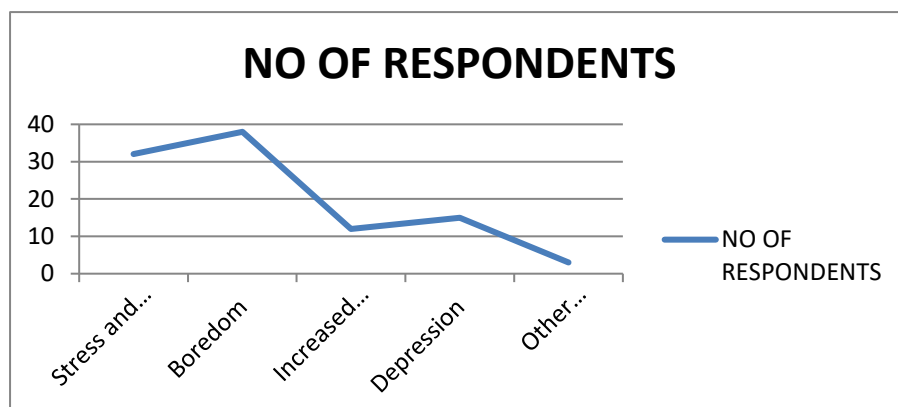


### EMOTIONAL, MENTAL AND BEHAVIOURAL ISSUES CAUSED THROUGH ONLINE CLASSES

| ISSUES FACED BY STUDENTS | NO OF RESPONDENTS |
|--------------------------|-------------------|
| Stress and anxiety       | 32                |
| Boredom                  | 38                |
| Increased headaches      | 12                |
| Depression               | 15                |
| Other health issues      | 3                 |

### INTERPRETATION

The 32% of the students are facing the problem of stress and anxiety at the time of pandemic. Boredom is another issue in relation with online education. Lack of face to face interaction is one of the major reasons for the same. Students are also facing the issue of headaches, depression etc. 15% of students undergo depression out of 100 students.



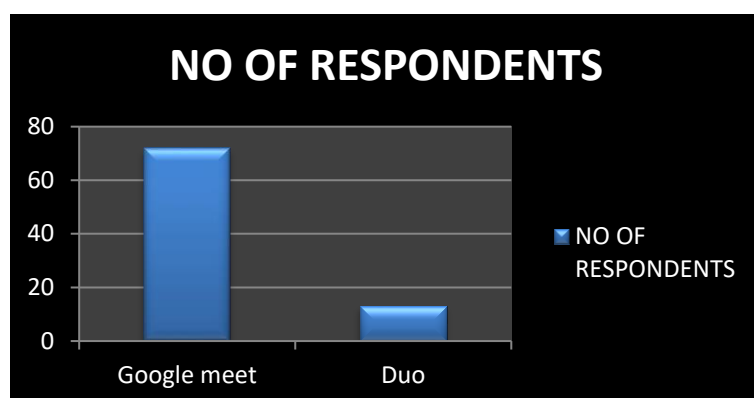
### WHICH MODE OF EDUCATION STUDENTS PREFER THE MOST? ONLINE CLASSES OR OFFLINE CLASSES

| CHOICES         | NO OF RESPONDENTS |
|-----------------|-------------------|
| Online classes  | 22                |
| Offline classes | 78                |

### INTERPRETATION



From the above classification it is clear that 78% of the students prefer offline classes compared to that of the online classes. Only 22% of students prefer online classes. These students prefer online classes only because of the fear of covid 19 virus.

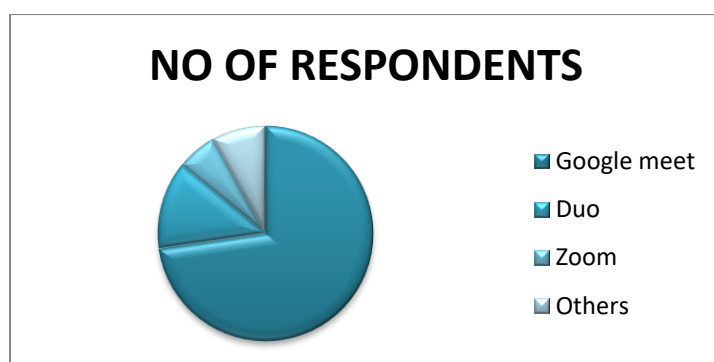


### APPS USED TO CONUDT ONLINE CLASSES

| CHOICES     | NO OF RESPONDENTS |
|-------------|-------------------|
| Google meet | 72                |
| Duo         | 13                |
| Zoom        | 6                 |
| Others      | 8                 |

### INTERPRETATION

Google meet is the widely used app for conducting online class. The teachers have the right to choose any medium to conduct online classes. 72% of the students have their classes through Google meet. Others are taking classes through duo, zoom etc.



### B. FINDINGS

The study is conducted using primary as well as secondary data collection methods. Under primary data collection questionnaire was prepared and given to 100 students from different colleges in Ernakulum district. Personal interview section is also conducted to collect more detailed data. The secondary data was collected from various newspapers, journals, articles etc.

The findings derived from the study are explained below.

Majority of the respondents are between the ages of 18-20. From the study it is found that most of the students prefer offline classes but they are forced to take online classes due to present pandemic situation. Majority of the college's conduct their classes through Google meet. Students faces different issues in relation to the online classes such as range issues, troubleshoot problems, poor network connectivity etc. 38% of the total students are facing the problem of range issues. Lack of face to face interaction between the teachers and students is the major drawback of online classes. The guidance of teachers is very much important for the students at the age of 18-20. Lack of such interaction creates mental pressure to the students. 38% of the total students are facing the issue of boredom and emotional breakdowns. Others are facing various mental, emotional and health issues. The sudden shift from offline classes to online classes is a major reason for such mental breakdowns. Most of the students (65%) are afraid of covid19, upcoming exams, uncertainty about the future etc. 65% of the students are not at all satisfied with the online classes. Only 35% of satisfies with the classes through online platforms. 78% of students want to participate in offline classes.

### C. SUGGESTIONS

- The college authorities can provide counselling sections and seminars for student to help them to come out of the emotional and mental depressions.
- Provide adequate training classes for students to cop up with online classes and current pandemic situation.
- Conduct special sections to strengthen the personal communication with teachers and students through online.

### IV. CONCLUSION

In present scenario it is necessary to undertake classes through online mode even if it is not affective as offline classes. Even though, the sudden shift from offline classes to online classes created confusions, stress anxiety among the students. The students are facing several problems such as technical issues, mental and emotional breakdown at this time. The universities postponed their exams, rescheduled time tables and changes their overall structure

of education. The students have no picture about what is happening and what is going to happen in the near future. Thus it is essential to provide training and counselling classes to the students to support them from the depression and mental stress at this present situation. The student's satisfaction can be increased only through continuous effort from the part of teachers and other college authorities.

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## CHAPTER 22

### THE PANDEMIC AND ITS IMPACTS ON AGRICULTURE SECTOR WITH A SPECIAL FOCUS ON COVID-19 SITUATION IN INDIA

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#### INTRODUCTION:

Pandemics are for the most part disease outbreaks that become widespread as a result of the spread of human-to-human infection (Lau et al., 2007; Saunders-Hastings and Krewski, 2016; Qiu et al., 2017). Throughout the history of mankind, pandemics have consistently produced large-scale demographic, economic, and political disruptions (Almond, 2006; Mordechai et al., 2019). There have been many significant disease outbreaks and pandemics recorded in history of mankind, including Spanish Flu (Trilla et al., 2008; Phillips, 2014), Hong Kong Flu (Joffe, 2004; Fung et al., 2011), SARS (Chen et al., 2005; Peng et al., 2010), H7N9 (Gao et al., 2013; Liu et al., 2013), H1N1 (Lipsitch et al., 2011), Ebola (Baize et al., 2014; Aruna et al., 2019), Zika (Petersen et al., 2016; Musso and Gubler, 2016), Nipah (Chua, 2003; Ang et al., 2018) and Covid-19 (Solomon et al., 2020; Rome and Avorn, 2020).

A novel coronavirus named severe acute respiratory coronavirus 2 (SARS-CoV-2) was first identified in a seafood market in Wuhan City, Hubei Province in China, at the end of 2019 (Zhu et al., 2020). The contagious respiratory illness caused by this novel coronavirus is called coronavirus disease 2019 or, in short, COVID-19. From February 2020, COVID-19 cases soared across most of Europe, the United States, Australasia, Asia and on to Africa Zhu et al., 2020; Solomon et al., 2020; Rome and Avorn, 2020).

This pandemic has reached every corner of the planet, and similar to previous pandemics, it has caused substantial medical, economic, and social disruption leading to almost 96 million cases and more than two million deaths as on January 2021. The Covid-19 impact on the economy is created an unprecedented and uncertain situation. Almost all sectors of the economy were hit due to this pandemic situation and created huge loss to developed, developing and under developed economies. Based on these background, the main objective of our study is to assess the impact of Covid-19 pandemic in India with special emphasis on agricultural sector in India with special emphasis on farmers and agricultural labours.

#### 1.2 Methodology

The study with an extensive literature search using Google Scholar and Google search engine using the search string “Covid-19\* AND pandemic\*”. The World Wide Web search also

included complex search strings “pandemic history” AND “pandemic impact” AND “Indian agriculture”. In addition, contacted various known persons involved in medical, health care and allied sector across different parts of the globe via WhatsApp and social media to assess the impact of Covid-19 in their respective area. Overall, our query via World Wide Web (WWW) and mobile phone gave a general picture and holistic overview of the Covid-19 situation across the globe and its impact on Indian agriculture. We decided to restrain from any further quantitative physical survey due to the lockdown and spread of Covid-19 situation in India.

## **2 Result and Discussion**

### **2.1 Pandemic impact**

Infectious disease outbreaks can easily cross national and international borders due to advances in transportation facilities and globalization. These outbreaks threaten economic and regional stability, as already witnessed by the HIV, H1N1, H5N1, and SARS epidemics and pandemics (Verikios et al., 2015). Beyond the debilitating, sometimes fatal, consequences for those directly affected, pandemics have a range of negative social, economic and political consequences (Davies, 2013). In short, a pandemic event threatens all aspects of the economic and social fabric” (Drake, 2012). The SARS (2003) and the Ebola pandemics (2013 and 2015), totally disrupted the economies and social order in China and West African countries. Ebola and other pandemics have reduced the life quality of families and communities. The Ebola and Covid-19 pandemic has disrupted essential services such as education, transport, and tourism, reduced the West African economies and across the globe (Nabarro and Wannous, 2016; Li et al., 2020). Covid-19 has been declared a pandemic by the World Health Organisation (WHO) as confirmed cases approach 200 000 patients and exceed 8000 deaths across over 160 countries (Poudel and Subedi, 2020; Spinelli and Pellino, 2020).

### **3 Covid-19 pandemic**

As of June 04, 2021, 172,972,100 cases and 3,718, 900 deaths from 2019 novel coronavirus disease (Covid-19 caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) were recorded worldwide (Worldometers, 2021; Figure 2 and 3). The novel coronavirus started in mainland China, with a geographical emphasis at Wuhan and had widely spread over globe (Sardar et al., 2020; Gupta et al., 2020; Table 1).

#### **3.1 Impact of Covid-19 lockdown**

Lockdown is considered to be an effective measure in slowing the spread of coronavirus around the globe (Barkur et al., 2020; Flaxman et al., 2020). To further stop the spread of the virus, many countries are currently in some degree of lockdown. Until then, extreme social distancing is pretty much the only intervention available to keep healthy individuals spaced from each other. Even in the best-case scenario, coronavirus vaccine development is likely to take 12-18 months.

While the preventive vaccine and treatment option are yet to be developed, the worldwide spread of the novel coronavirus has further led to neuropsychiatric issues such as fear, anxiety, depression, panic attacks, psycho-motor excitement, suicidal deaths and a general decrease in overall wellbeing (Brooks et al., 2020; Xiang et al., 2020). Similarly, patients who are infected with Covid-19 are at a greater risk of developing mental health problems, as they are facing stigma and discrimination from their own family members. Similar situations were faced by the general public as well as many medical practitioners during previous outbreaks such as Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS) and



Ebola (Jeong et al., 2016; O'Leary et al., 2018; Rogers et al., 2020; Rubin and Wessely, 2020; Wing and Leung, 2012). Figure 1 shows the working conditions of labours across India during Covid-19 pandemic



Figure 1. Working condition of the farm labourers across India during Covid-19 a) and b) processing of raw coconut from Kerala, c) and f) sorting of egg plants from Indo-German

collaborative research plots in UASB, Karnataka, d) farmer throwing unmarketable farm produce, e) workers sorting chilli and removing leaves. Authors own images.

### 3.2 Background of Covid-19 pandemic in India

The 2019 pandemic novel coronavirus was first confirmed in India on January 30, 2020 in the state of Kerala (Sardar et al., 2020). A total of 10,871,600 confirmed cases and 155,750 deaths in the country have been reported as of February 11, 2021 (Worldometers, 2021; Figure 2 and 3). The Indian government introduced social distancing and safety awareness as a precaution to avoid the spread of the disease. Indian government implemented a 14-hour voluntary public curfew on 22 March 2020 (Sardar et al., 2020; Gupta et al., 2020). On 24 March 2020, Prime Minister Narendra Modi ordered a nationwide lockdown for 21 days (lockdown 1.0) as a preventive measure against Covid-19 pandemic in India (Chaurasiya et al., 2020; Ray et al., 2020; The Hindu Net Desk, 2020). This made the India complete stand still and limit the movement of 1.3 billion population in India. It was ordered after a 14-hour voluntary public curfew, followed by enforcement of a series of regulations in the country's Covid-19 affected regions. The lockdown was implemented when the number of confirmed positive corona cases in India reached around 500 (Chaurasiya et al., 2020; Ray et al., 2020). On 14 April 2020, with the number of coronavirus infected cases crossing 10,000 in India, Prime minister Narendra Modi extended the nationwide lockdown until 3rd May 2020 (lockdown 2.0). Even before Modi's speech, seven states have extended the restrictions till April 30th (The Hindu Net Desk, 2020). On 1st May, the Government of India extended the nationwide lockdown by two weeks until 17th May (lockdown 3.0). On 17th May, the Government of India extended the nationwide lockdown until 31st May (lockdown 4.0) with some relaxations. The Government has divided the entire nation into three zones viz., green, red and orange with relaxations applied accordingly (The Hindu Net Desk, 2020). On 30th May, it was announced that, the ongoing lockdown would be further extended till 30th June in containment zones, with services resuming in a phased manner starting from 8th June and it was termed as "Unlock 1.0". The lockdown was announced in phased manner and the details are given below.

Phase-I: 25th March to 14th April 2020 (21 days)

Phase-II: 15th April to 3rd May 2020 (19 days)

Phase-III: 4th May to 17th May 2020 (14 days)

Phase-IV: 18th May to 31st May 2020 (14 days)

Phase-V: 1st June to 31st June 2020 (Unlock 1.0)

Phase-VI: 1st July to 31st July 2020 (Unlock 2.0)

Phase-VII: 1st August to 31st August 2020 (Unlock 3.0)

Phase-VIII: 1st September to 30th September 2020 (Unlock 4.0)

Phase-IX: 1st October to 31st October 2020 (Unlock 5.0)

Phase-X: 1st November to 30th November 2020 (Unlock 6.0)

Phase-XI: 1st December to 31st December 2020 (Unlock 7.0)

Phase-XII: 1st January to 31st January 2021 (Unlock 8.0)

Phase-XIII: 1st February to 28st February 2021 (Unlock 9.0)

Phase-XIV: 1st March to 31st March 2021 (Unlock 10.0)

In spite of the efforts to slow down the Covid-19 pandemic in India, it is very important in the



case of agricultural labourers, whose livelihood has been devastated over these lockdown restrictions (Larue, 2020; Heuser et al., 2020). Farmers and farm workers across several states who said work has come to a standstill on the fields. While the government had announced an economic package in the month of March, the relief has focused mainly on the landed farmers. For the landless labourers, there has been no income over these lockdown periods, forcing many to adopt drastic measures like reducing their food intake to cope up with the income loss. In the lockdown 3.0, the Government once again announced a huge special economic package of Rs. 20 lakh crores (10% of the country's GDP) to boost up all the activities and focussed mainly the agriculture and allied sectors in the country.

According to the Socio-Economic and Caste Census of 2011, it was estimated that 51% of India's rural population is landless (Biswas, 2019; Alkire and Seth, 2013). The impact of the lockdown on for several weeks create a big financial problem and poses the question of survival among them. India's agricultural sector depends on migrant labourers for several operations. Now, an estimated 50 million migrant labourers (of India's 140 million) are expected to have returned to their native places from cities following the nationwide lockdown from March 24. The present Covid-19 lockdown scenarios have a deep impact on many seasonal crops especially wheat grown as a rabi crop, will affect both supply-side as well as demand-side management.

Due to the complete lockdown and panic situation arise due to the Covid-19 pandemic situation, majority of the migrant labourers returned to the home states. Reverse migration due to Covid-19 provides an opportunity for hinterland administration to engage and accommodate the returned labourers in gainful employment and the sole short-term option is to leverage the potential of agriculture. They could be successfully employed in labour-intensive sectors like livestock, fisheries and food processing which may also create labour surplus and reduced wages. This labour help maintain the production level, resulting in increased factor share of labour in the agricultural sector.

### **3.3 Covid-19 and farming in India**

The impact of the lockdown for several weeks created a big financial problem and poses the question of survival among them. While the government had announced two times economic package during Covid-19 lockdown, the relief has focused agriculture and allied sectors mainly on the landed farmers, labours, market reforms, dairy as well as fishery sectors were also given due importance in the special economic package that will boost up the agricultural and allied sectors activities in the country.

#### **Lockdown and impacts on agriculture production**

In Karnataka, non-availability of labour has hurt operations in many parts. In the case of paddy fields in Raichur, Bellari, Koppal and Gangavathi were ready for harvesting but farmers were facing labour issues. The increasing use of mechanical harvesters has helped in the present circumstances, though their inter-state movement has been severely curtailed. Besides the main crops such as ragi and maize, farmers cultivated green gram, black gram and sesame, especially in Mysuru, Chamaraajanagar, Mandya and Hassan districts, during this season. But there is concern whether farmers will take up cultivation of these crops given the situation. If sowing is delayed, it will hurt the yield and overall productivity of the crops.

Farmers who have grown vegetables like tomatoes in Chitradurga, Tumkur, Kolar and Mandya, cabbage in Belagavi, chillies in Kodagu also not able to market their produce. However,

Plantation crops like Coffee (largest coffee producing state in the country), the lockdown has hit processing, nursery activities, transport and irrigation even though the plucking of beans is over in most places and also pepper estate work has halted. Radically hit as they tend to be more dependent on migrant labour.

Flower growers have destroyed their flowers following lack of demand during lockdown. Brightly coloured roses, chrysanthemums, lilies, marigold and other flowers that might normally have been destined for marriage decoration and temples – are being destroyed by growers in unprecedented manner.

Consequently, the shortage of migrant labour has resulted in a sharp increase in daily wages for harvesting of crops in local fields. In many areas, the rise is as high as 50 per cent, making it un-remunerative for producers. Since, prices have collapsed due to either lack of market access due to no transportation and closure of borders. This is in contrast to areas where migrant labourers have returned home from urban areas and this has led to a sharp decline in agricultural wages. Karnataka activated MGNREGA with revised wage of ₹202 a day (The Hindu Net Desk, 2020), which helped the labours.

In Tamil Nadu, 65-year-old N. Subramaniam (Vattakudi village in Vedaranyam) not had any work for at least a month now. A landless labourer, Subramaniam and his family of seven survive on farm work, supplemented with work under the MGNREGA. The law, passed in 2005, guarantees 100 days of manual labour employment in a year to every rural household that demands it (Chopra, 2014). By looking into these situations in the country, the Government has announced special package to MGNREGA that, Increase (Rs. 20) in wage to Rs. 202 a day from Rs. 182 to benefit 13.62 crore families.

The paddy harvest in most of Tamil Nadu is over and the work primarily depends on harvesting of crops such as a banana and other fruits, vegetables like tomatoes and spinach, and given the summer season, mangoes. But no farmer has called them in for work in the last three weeks (lockdown 1.0) despite the government assuring them that agricultural activities are exempted from the lockdown restrictions.

According to Subramaniam, post-paddy harvest time is actually a good time for labourers. “other crops are labour intensive and usually, we make more money during April-May season,” he said. This is because machines are used to harvest paddy across large swathes, the smaller crops like vegetables and fruits require more labour hands.

The Tamil Nadu government on 24th March announced that, ration card holders would get Rs. 1000 as relief for the Covid-19 situation plus free rice, dal and oil for the month of April. Subramaniam said that money was exhausted in matter of days. “We have nothing now. We have cut down on food, eating half of the rice we used to and that too mainly with thovayal” (paste made with either vegetables or plant stems).

In Andhra Pradesh, especially major chilli cultivation belts, farm labourers harvesting has come to a halt in most parts. Most of the labourers employed in these chilli farms are migrant from neighbouring districts and North Indian states such as Bihar and Uttar Pradesh. When the lockdown was announced suddenly on March 24, many labourers who had camped near the chilli fields were trapped with nowhere to go.

Lockdown to slow the spread of COVID-19 disrupted the supply chain in Kerala and majority of the farmers harvest was left unsold. Although agriculture comes under essential services and markets were excluded from the lockdown, farmers were left high and dry with harvesting,

procurement and transportation coming to a halt. In this situation, the State government stepped in and the vegetables and the fruits were procured, transported and marketed through HortiCorp and VFPC (Vegetable and Fruit Promotion Council Kerala) outlets by The Department of Agriculture Development & Farmers' Welfare.

The contradicting announcements in the first few days of the lockdown led to chaos and panic among migrant labours. Mr. Mathew who employed in contract pineapple business in Vazakulam, Kerala told that, majority of his migrant workers fled to their native places in North Eastern states of India due to some mysterious message and hoax news related to Covid-19 before the official lockdown. This may be due to the fact that; the first Covid-19 confirmed cases were reported in Kerala on 30th January. When the government eventually said agricultural activities were exempted on March 29, farming and other agriculture related activities had already come to a standstill. Most of the farmers and labours did not went to field for any agricultural activities due to the fear that the police might stop them for violating the lockdown restrictions. Most of the pineapple were exported to North Indian states, due to lockdown, the producer cannot find buyers from other states and had to sell locally at lesser price. I also faced problems in harvesting the pineapple due to the labour shortage said Mr. Mathew.

The restrictions on movement apart, the labourer said farmers were worried about selling their crop after harvesting. Small farmers would rather harvest the crop themselves than paying wages, given the situation.

Madhya Pradesh's Tikamgarh district is part of the drought-prone Bundelkhand region. The young members of most rural families will migrate to Delhi and the surrounding urban areas to work in industrial and construction jobs, while the older members stay and work in small farms.

When the lockdown began, most of the urban labours decided to head back home in village thinking that they are safe and will have food. Most of them covered part of the 500-700-km journey on foot, the rest by hitching rides on trucks. Most of them were stopped by the police or met with some accident or health issues without allowing them to reach their destinations. Due to the job losses faced by the village youth, the parent families in their village make cut short of the hiring labours due to the shortage of money and lack of inward remittances. This allows them to saves the cost. "My son had lost his work and income, Money is tight." said one farmer.

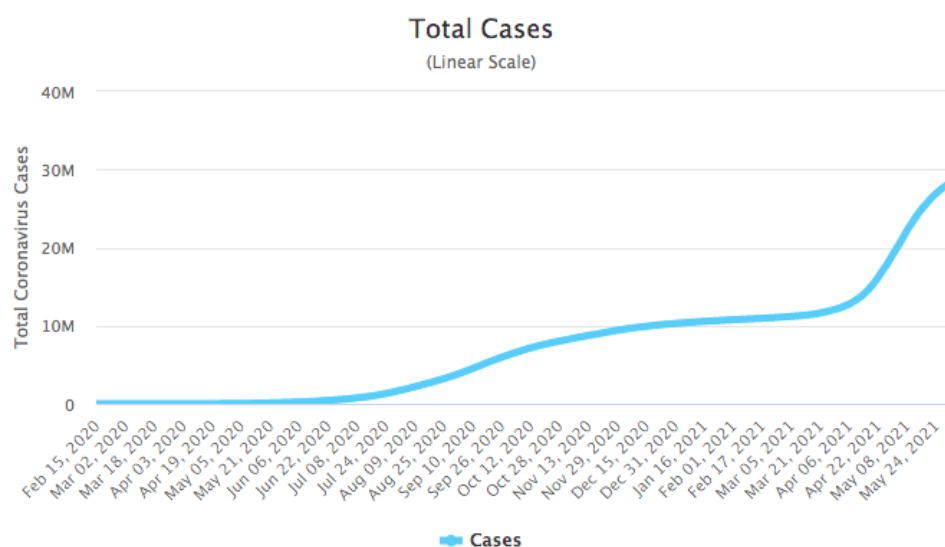
Large farmers were literally not much affected and used harvester machines since hiring labour during the lockdown was impracticable which made the farm workers without any regular income. "There is no work in the fields. There is no work outside," one farm worker said. "Everyone is sitting at home."

The implications of labour and credit shortages are not limited to the crop sector but also on the dairy farming and livestock sector. The limited availability of credit, labour and machinery are hindering the integrated harvest management. The residue of rabi crops, especially from wheat, is widely used for feeding the cattle which serves as an additional source of income for farmers as well as a rich source for cattle feed. The current scenario may lead to a decline in the availability of cattle feed and also in absolute income of the farmers. The price of feed may also increase. The implication of this development may lead to a rise in the price of milk and related products.

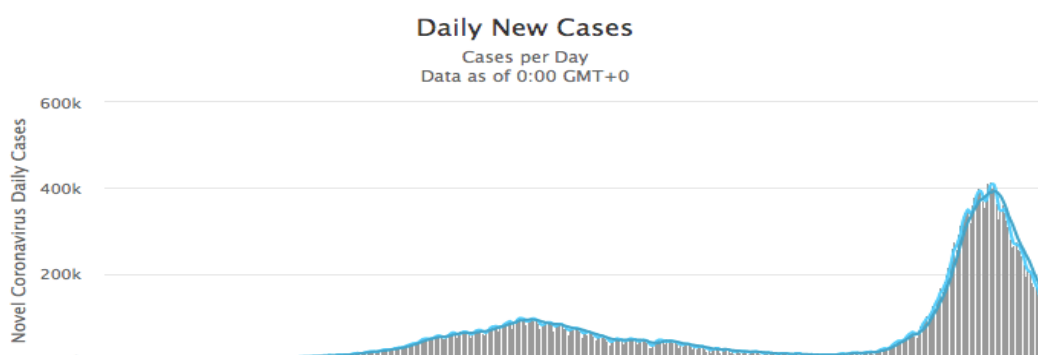
The milk distribution systems were also affected as the farmers were unable to sell their milk due to shut down of the milk collection booth or agencies, which leads to local selling as well as value added products especially ghee, curd, cheese production. The report said that, Demand of Milk reduced by 20-25 %, to combat, 560 Lakh litre per day (LLPD) procured by cooperatives against daily sale of 360 LLPD.

#### 4 CONCLUSION

Pandemics are for the most part disease outbreaks that become widespread as a result of the spread of human-to-human infection. Throughout the history of mankind, pandemics have consistently produced large-scale demographic, economic, and political disruptions. The economic recessions have put significant financial pressure on many families, which might increase unhealthy conflict, family breakdown, abuse, depression and domestic violence. The psychological impacts of the Covid-19 lockdown might be a challenge for an indefinite time, hence it is necessary to emphasize and address coping strategies, mental health interventions and awareness using the available resources. India needs to be prepared for re-emergence or the second wave of Covid-19 pandemic. The long-term battle with corona virus may help people to win against battle by developing high efficient vaccines and medicines as India is the global leader in vaccine production with a capacity of 3.6 billion doses of vaccine per day. In order to strengthen the Indian economy and agriculture sector, the Narendra Modi government announced Aatmanirbhar Bharat Abhiyan, aimed at making India a self-reliant nation and support the farmers in economic crisis situation created by the COVID-19 pandemic.



**Figure 2.** Total Coronavirus cases (linear scale) in India from Feb 15, 2020 to Jun 04, 2021. Adapted from Worldometers, 2021.



**Figure 3.** Daily new Coronavirus cases (cases per day) in India from Feb 15, 2020 to Jun 04, 2021.  
Adapted from Worldometers, 2021.

**Table 1.** Covid-19 pandemic situation across the world on 04 June 2021. Adapted from Worldometers, 2021.

| Countries (Rank) | Total Cases | Total Deaths | Total Recovered | Active cases | Total Cases/1M population | Deaths/1M population | Total Tests | Population    |
|------------------|-------------|--------------|-----------------|--------------|---------------------------|----------------------|-------------|---------------|
| USA (1)          | 34,174,752  | 611,611      | 28,025,575      | 5,537,566    | 102,691                   | 1,838                | 482,399,824 | 332,791,423   |
| India (2)        | 28,574,350  | 340,719      | 26,597,655      | 1,635,976    | 20,520                    | 245                  | 357,433,846 | 1,392,494,128 |
| Brazil (3)       | 16,803,472  | 469,784      | 15,228,983      | 1,104,705    | 78,539                    | 2,196                | 49,612,384  | 213,951,414   |
| France (4)       | 5,694,076   | 109,857      | 5,378,299       | 205,920      | 87,056                    | 1,680                | 85,454,984  | 65,406,747    |
| Turkey (5)       | 5,270,299   | 47,882       | 5,139,993       | 82,424       | 61,877                    | 562                  | 54,809,788  | 85,174,270    |
| Russia (6)       | 5,108,129   | 123,037      | 4,720,512       | 264,580      | 34,989                    | 843                  | 139,500,000 | 145,992,211   |
| UK (7)           | 4,499,878   | 127,812      | 4,296,244       | 75,822       | 65,966                    | 1,878                | 185,735,080 | 68,214,706    |
| Italy (8)        | 4,225,163   | 126,342      | 3,893,259       | 205,562      | 69,977                    | 2,092                | 66,717,978  | 60,379,739    |
| Argentina (9)    | 3,884,447   | 79,873       | 3,438,437       | 366,137      | 85,227                    | 1,752                | 14,294,513  | 45,577,625    |
| Germany (10)     | 3,701,690   | 89,605       | 3,527,000       | 85,085       | 44,051                    | 1.066                | 61,380,686  | 84,031,009    |
| World            | 172,972,100 | 3,718,900    | 155,921,094     | 13,332,530   | 22,190                    | 477.1                | -           | -             |

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## CHAPTER 23

# IMPACT OF COVID-19 ON INTERNATIONAL PEACE AND SECURITY

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## INTRODUCTION

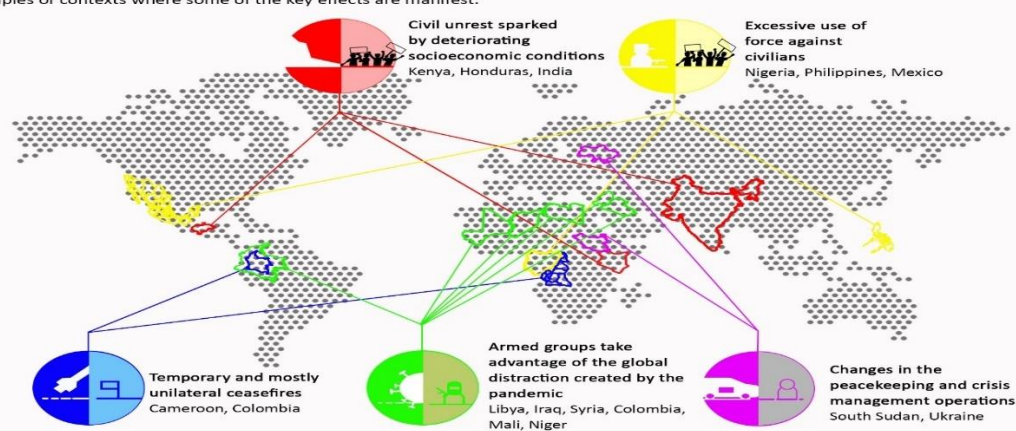
When the novel coronavirus strain first gained notoriety in December 2019, 12 countries around the world were witnessing widespread organized conflict, with more than 100 outbreaks of violence and attacks against civilians reported in that month.<sup>1</sup> The epidemic seemed to be a distant threat to most of these countries at the time. Nonetheless, it has gone from a remote threat to a stark fact in just a few months, with over 7 million registered Covid-19 events.<sup>2</sup> Even the most prosperous economies have been thrown into chaos by the global crisis, which has simultaneously triggered an epidemic in the world's public health, diplomatic, and economic processes. The pandemic has placed another layer of crisis on top of already several current levels of crisis in war-affected countries, i.e. countries with continuing wars or a high risk of regression into conflict, and countries emerging from conflicts.<sup>3</sup>

This Report examines crucial emerging trends and consequences in conflict-affected countries in particular, and in five countries in general: Colombia, Libya, Sudan, Ukraine, and Yemen, against the backdrop of expert alerts about the particular vulnerabilities of conflict-affected countries to Covid-19.

### Covid - 19 and conflict dynamics

Effects of policy responses on peace and conflict dynamics

Policy responses adopted to combat the pandemic have already had various effects on peace and conflict dynamics around the world. The countries portrayed here are examples of contexts where some of the key effects are manifest.



Data: This diagram builds on the analysis contained in this Report. For country analyses, see ACLED “Covid-19 disorder tracker”, 2020; Natural Earth, 2020

The Economic Crisis Affects Conflict-Affected Countries in Three Aspects, according to this Report. To begin with, the pandemic itself has the potential to exacerbate inequality and stress already disadvantaged populations in conflict-affected communities. Second, internal and external conflict groups are quick to seize different resources presented by policy responses to the crisis, complicating stability and crisis management efforts. Third, the economic fallout places undue pressure on state institutions that are still frail, and it threatens governance outcomes (thus increasing the risk of conflict).<sup>4</sup> Of all three aspects, the pandemic's policy reactions and distraction have had the most important impact on conflict relations so far, and sadly, mostly for the worse. The pandemic's global scope and evolving nature hinder attempts to grab support for stability and distinguish it from past catastrophic/disruptive incidents, such as the tsunami of 2004, which in some situations resulted in a positive change in local conflict dynamics.<sup>5</sup> The Report is organized as follows: the main text examines emerging developments in conflict-affected contexts sparked by the pandemic crisis, and the final segment looks at legislative alternatives for avoiding more escalatory consequences.

### **Cumbersome opportunities and Possibilities for Whom?**

UN Secretary-General António Guterres issued an extraordinary ordinance for a global recall on March 23.<sup>6</sup> The call drew widespread political support, raising expectations that the pandemic would act as a trigger for an end to armed conflict. Nonetheless, a pattern of intensifying wars and heightened instability has been noted, as pandemic responses have provided resources for armed forces while also increasing the vulnerability of civilians to abuse.<sup>7</sup> Regrettably, since the largely unilateral ceasefires have not been reciprocated by other military parties in the respective countries, and there has been no follow-up since the initial truce periods, the significant effect on the ground has been minimal at best.<sup>8</sup> Moreover, since the largely unilateral ceasefires have not been reciprocated by other military parties in the respective countries, and there has been no follow-up since the initial truce periods, the significant effect on the ground has been minimal at best.<sup>9</sup> In several conflict-affected nations, fighting has continued or escalated in the weeks after the call. Non-state terrorist groups, in general, seem to have used the opportunity to ramp up their militant activity as a result of the global disturbance.<sup>10</sup>

Armed forces have benefited from pandemic reactions, while people have become more vulnerable to conflict.<sup>11</sup> Non-state militant groups' intensified activity illustrates the greater impact of a power vacuum induced by an external crisis.<sup>12</sup> The pandemic has a major impact on current state governments, which are under political pressure to take aggressive steps to contain the epidemic. If a state can rely on external assistance to prevent losing capabilities, reallocating capital and personnel (often military) can affect counterinsurgency efforts and undermine a state's capacity to respond to armed challengers (e.g. Libya).<sup>13</sup> Armed groups, who are not under the same strain to manage the situation, are quick to grab the momentum and use it to undermine their adversaries. Aside from aggressive strategies, actors seeking to destabilise existing governments may impede or obstruct the state's response to the pandemic, or behave proactively to position themselves as more credible substitutes –a strategy that might succeed in the face of ineffective or unpopular policy initiatives.<sup>14</sup> The degree to which armed

forces are (or are not) limited by the pandemic in internationalised wars (see Libya and Yemen) is dependent on the responses of their external allies.<sup>15</sup>

In the other side, policy reactions tend to favour militarist and autocratic state leaders over civil servants.<sup>16</sup> Militaries around the world, from Iran's Revolutionary Guard to South African forces, are actively fighting the pandemic.<sup>17</sup> As in Sudan, their prominent presence during the crisis will reinforce their influence over civilian leaders. Authorities conducting lockdowns have used brutality against civilians or used the controls to curb political dissent in many countries.<sup>18</sup>

Furthermore, anti-pandemic policies have complicated and, in some situations, disrupted ongoing peace talks (as in Ukraine, Sudan, and Libya), as well as forced structural improvements on multinational peacekeeping and crisis management missions.<sup>19</sup> In places like South Sudan and Mali, the footprint of forces tasked with protecting people has shrunk, leaving locals far more vulnerable to violent state and non-state army.<sup>20</sup> The confinement policies have also made it more difficult for local peacebuilding or defensive activities to proceed, as the case of Colombia shows.<sup>21</sup>

### **From Covid-19 to rising inequalities and dispute**

Regardless of legislative reactions, the pandemic itself has the potential to exacerbate stress and contribute to violence. Many conflict-affected countries face extraordinarily high mortality risks and humanitarian costs, owing to population groups with weakened immune systems as a result of warfare and disease exposure, as well as comparatively poor healthcare, water, and sanitation infrastructures.<sup>22</sup> Within a conflict-affected region, this susceptibility to the pandemic differs significantly, as the multiplicity of military forces and differences in government across regions impact how diverse populations access healthcare and other facilities, including monitoring and handling Covid-19 incidents.<sup>23</sup> As a result, the pandemic could exacerbate political grievances stemming from perceived injustice and marginalisation, potentially leading to a violent retaliation. According to an analysis of the consequences of the Ebola epidemic in Western Africa from 2014 to 2016, outbreaks of violence against authorities increased, particularly in areas where confidence in the state was poor. Regions like Darfur, where there is a lack of confidence in the government and where the pandemic could intensify marginalisation, are especially vulnerable.<sup>24</sup>

The global economic fallout from the pandemic would be particularly harsh on conflict-affected countries. According to the World Bank, 40-60 million people will be forced into severe poverty by 2020, with many of them living in conflict-affected countries due to the connection between poverty and conflict.<sup>25</sup> From Kenya to India and Honduras, policy responses have resulted in income shortages and worsened food poverty, causing violent civil unrest. If the emergency continues, countries like Mozambique, where mistrust of the authorities is growing, can see increased mobilisation against the government, especially if the economic costs escalate inequality. The impending global recession is likely to wreak havoc on countries emerging from war, such as the two Sudans and Colombia, which depend heavily on the global economy to enact much-needed structural reforms. The recession can also

sabotage peacekeeping activities by causing budget cuts: after the 2008 financial crisis, UN peacekeeping budgets were slashed by about 20%.<sup>26</sup>

### **How do we prevent more disasters?**

Covid-19 is unaffected by politics, and its influence on peace and conflict conditions stems from policy responses that produce certain opportunities while stifling others, as well as causing humanitarian and socioeconomic distress.<sup>27</sup> Many of the observed or predicted results, according to the research and case studies, are tension and instability-inducing. This is due to two major factors. First, the crises' structural and inter-systemic dimension – affecting all countries and various industries—makes it extremely difficult to capture the initiative and engage in forging common ground between conflicting actors in a given situation.<sup>28</sup> Peacemaking necessitates both focus and capital, both of which are in short supply right now. Second, unlike a tsunami or other devastating event, Covid-19 is a long, protracted situation that does not strike all conflict actors equally and at the same time.<sup>28</sup> Combating Covid-19 is like a marathon that takes place in conflict-torn countries with strong headwinds and competitors that don't follow the same rules.<sup>29</sup> That isn't to suggest the race is over.

Indeed, we know that we have only just completed the first lap of the race, what political players do now will have an impact on how the next step unfolds. According to the crisis's history and current studies, such interventions will help mitigate escalatory dynamics in the short term whilst still reinforcing long-term conflict mitigation conditions.<sup>30</sup>

**Taking advantage of the impetus for cease-fires.** Despite the ceasefire initiative's meagre impact on the ground so far, objective research shows that ceasefires can be used for humanitarian and peace-building purposes.<sup>31</sup> For ceasefires to last, mechanisms must be well defined (to prevent manipulation) and built in the long run.<sup>32</sup> Developing humanitarian truce processes with clear red lines on the timetable, tracking, and penalties for violations is critical, particularly in the midst of a crisis that obstructs coordination between stakeholders.<sup>33</sup> The support for ceasefires may grow as the conflict progresses and potentially starts to impact armed parties more directly.<sup>34</sup> In terms of wider peacemaking possibilities, research shows that forging peace from catastrophe is challenging, particularly without a pre-existing mechanism. Given the magnitude of the situation and the amount of exposure it receives, pursuing diplomatic options without broad involvement risks resulting in unrealistic agreements.<sup>35</sup>

**Supporting peacebuilders and government servants.** International peacebuilding organizations, as well as peacekeeping and crisis management missions, can still depend on local leadership to establish and sustain peace.<sup>36</sup> This has been increasingly evident as policy policies have hindered international peacebuilding organizations and peacekeeping and crisis management missions.<sup>37</sup> Local officials, including conventional politicians, and civil society actors may help national authorities and foreign relief organizations fight the virus in a variety of ways, including dispelling false rumours.<sup>38</sup>

**Support during tough times as Covid-19.** Economic disruptions raise the risk of armed conflict, but well-managed and tailored financial assistance will reduce this risk.<sup>39</sup> Initiatives like Team Europe are critical for assisting conflict-affected nations in mitigating the

detrimental economic effects of their actions.<sup>40</sup> This assistance must be distributed in war-affected countries focused on a conflict-sensitive risk and threat assessment if it is to deter rather than cause conflict.<sup>41</sup>

**Knowledge is the Power.** Rumors and misconceptions will exacerbate the public health crisis and build social divisions between populations and authorities.<sup>42</sup> This emphasizes the importance of locally trustworthy individuals in communication once more (both externally and online).<sup>43</sup> Knowledge is therefore essential to prevent confrontation from escalating. Evidence-based crisis research on national and subnational-level vulnerabilities is critical for those trying to preserve or create stability to be able to respond quickly.<sup>44</sup>

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## CHAPTER 24

## COVID – AN OFFSPRING OF POLLUTION

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**INTRODUCTION**

Covid-19, a devilish virus now is shaking the world. Nearly five lakh people are gripped by corona. Lakhs of people are lying on hospital beds. There is no ray of hope of recovery. After going through a number of case studies, the researchers and scientists have expressed their views on the ongoing pandemic.

Wuhan city now a day is becoming famous among the world population. It is a city where the biological sciences have developed. Particularly birth and growth of different kinds of viruses have been studied. The great institute was known as “Wuhan Institution of virology” has launched a study on the behavior of viruses. Most of the viruses generally developed in a cool atmosphere. The most dangerous virus called Corona is found in the dirty fish market located in Wuhan city of China. In the winter of 2019 Coronavirus was found by a doctor of Wuhan hospital and cautioned the people against such deadly virus. Generally, the virus takes birth in the areas covered by pollution. Fish markets, meat markets, gutters, drainages and slum areas, and the flowing dirty water are the birthplaces of the deadly virus. Allegations are leveled against China that the Corona virus has been created by the “Wuhan Institute of Virology”. Scientists of China, Canada, and others have played a role in the creation of this virus. But they failed to produce pieces of evidence for the virus created by China. The Noble prize winner of Japan has alleged that the Chinese are responsible for the growth of Corona virus. These allegations are still in the stage of a preliminary inquiry.

Most scientists are believed that a virus-like Corona would be grown in unhygienic conditions. The eating habits of the Chinese have proved this statement. The Chinese eat the living animals, insects, etc without being cooked. The habit of eating raw animals is responsible for the spread of virus-like Corona. The animals live in polluted areas and in dirty places. Eating this kind of animal certainly will affect physiology. The Corona virus enters the throat which creates cough, cold, and sneezing. These symptoms create a thick layer of sputum. Due to the thick layer of sputum breathing would be difficult for an infected man. The level of oxygen would be reduced in the body which damages the functioning of the lungs. The patient may reach the dangerous stage sometimes may lose his/her life.

The spread of the virus shall be detected by observing incidents that occurred in various states. Corona Virus can survive in the cold atmosphere. The Wuhan city is situated nearby Snowy Mountains during winter the Wuhan city experiences cool weather which is conducive to grow Corona virus. From Wuhan city, the virus has traveled to Europe and America. Entire Europe would be under severe cold from December to the month of May. Italy is one of the coldest countries where the Pandemic spread rapidly killing nearly thirty thousand people. Italy is one of the clean counties in the world. Only the problem is not to maintain social distancing. The people gathered heavily and participated in the mass prayers and reached football grounds



to watch football. The huge gathering has polluted the areas which make the virus spread rapidly.

### **COVID – AN OFFSPRING OF POLLUTION**

Italy's atmosphere was totally spoiled due to the falling of dead bodies in huge numbers. The sanitary workers and police personals did not come forward to clear the dead bodies due to the fear of pandemics. France, Spain, England, and other countries in Europe are the worst hit by the Pandemic. The people gathered together and are attacked by the Corona. Sanitizers and masks are only the solutions to escape from the unhygienic conditions and pollution created by the virus. Pandemic mainly attacked the urban areas. Rome, Paris, New York, and other cities have witnessed deaths in large numbers. The cities are thickly populated and the people have close links with each other. The dwelling houses are situated close to one another which makes a virus attack in a speedy manner. Coming to India pollution is a major problem in urban areas. For example in Bombay city, in a single room, six to seven people live together. There is no question of maintaining social distance in a congested room. Dharavi is the largest slum area where fifteen lakh people live together. Corona enters in Dharavi killed ten to fifteen thousand people and two to three lakh people are affected by Corona. The people move closer and dirty water flows in and around the houses. The people fall ill now and then. So it is easy for the people of Dharavi to fall prey to pandemics. A similar situation happens in the capital city Delhi where over one lakh people are affected by Corona and thirty thousand people have lost their lives. The mass congregation at Tabliq-i-Zamath has made the situation worst. The slum areas of Delhi have been shaken due to the outbreak of Corona. The pollution at Delhi and the failure on the part of people to maintain social distancing killed thousands of people at Delhi.

Another worst-hit city in India is Chennai situated in the Southern part. Chennai is the capital of Tamil Nadu. Unhygienic conditions of Koyambedu and the congested areas of Chennai have invited Corona to spread in Chennai. Over a lakh, people have been affected by Corona. The people wandered on the roads in groups. They fail to maintain cleanliness. A sprinkling of bleaching powder and sodium hydroxide has been taken up by the governments in India to maintain cleanliness and to keep the area's pollution-free. Hyderabad city is producing two thousand Corona patients per day.

All the houses in the old city of Hyderabad are situated in a group. Each house is having at least ten to fifteen members. All the rooms are very small. The people cannot maintain six feet distance from each other. If one person is attacked by Corona, the remaining people in the house would be gripped by it. In the old city of Hyderabad, the people are in a habit of attending parties in groups. With this, the Corona attacked rapidly and killed people in large numbers. The most vulnerable issue is to maintain sanitation in the hospitals. For an instance, Gandhi hospital at Hyderabad is receiving a large number of patients every day. There are no sufficient beds for the patients. Most of the patients are lying on the floor. Unhygienic conditions prevail in the hospital. There is no place to keep dead bodies died out of Corona. No sufficient fans, bathrooms, and water facilities are available.

The total environment of the hospital is polluted. Doctors and nurses are also affected by Corona due to the bad environment situated in the hospital. The same situation can be witnessed in the Guntur Dental hospital of Andhra Pradesh. Due to the polluted atmosphere in

the Kurnool general hospital, the medicos are infected by the Corona. In the hospitals of Bombay city, the same situation can be witnessed. The Corona patients lied on the floor side by side. There is no facility for washing clothes. As per the Corona protocol, all the patients and others should wash their hands every two hours. But the Bombay hospitals failed to provide water, sanitizers, clean bedsheets, etc. After the outbreak of Corona problems in urban areas are mounting. The Governments are not in a position to provide quarantine facilities to the suspected people. Road sanitization is worst due to the financial constraints faced by the governments.

All the countries in the world are facing a major problem in the cremation of dead bodies due to the shortage of land. In Brazil and America, the dead bodies are buried placing one on the other. In India, Corona affected dead bodies are not being allowed to cremate in the burial ground. The dead bodies are burnt nearby the hospitals. This situation has happened at Kurnool of Andhra Pradesh. Sometimes the dead bodies are taken away by the proclaimer. During the spread of Corona, all the fish markets and meat markets have been closed in China, India, and other countries. Doctors have advised people not to touch domestic animals like dogs, cats, etc. Even the zoological parks are attacked by Corona. In the zoological part situated in Newyork city, three tigers are attacked by Corona and all the tigers are killed.

The veterinary doctors failed to protect the lives of the tigers. Immediately the zoo authorities have tested the workers working at the Zoo. The Corona affected workers are sent back to the isolation wards. To maintain the ecological balance the Zoo authorities of all over the world have taken precautionary measures to protect the animals taking shelter in the zoo. The authorities have paid much attention to protect the river water from the virus. Mississippi, Amazon, and river Ganga got much attention from the authorities. The governments try to keep the water in the rivers clean. One positive thing is the earth globe is pollution-free for three to four months as lockdown has been imposed by the World countries. In India, the Ganga water is seen as very fresh for the last three months during the period of lockdown. The pollution levels have been come down appreciably. The animals have wandered on the roads freely. Tigers, lions, deers, and other wild animals ran through the roads freely during the nights in the lockdown period. People are blessed with the fresh air to breathe. The forests are safe from the onslaughts of the people.

In India the Neelgiri Hills, Sahyadri Mountains are fresh to watch. This situation is happened due to the reduction in fuel consumption. All the industries have been closed due to the imposition of lockdown. There is no emission of gases in the atmosphere. Hence nature is blessed by the freshness due to the outbreak of the Corona. The people should follow the same protocol even after the end of the pandemic. Living style should be changed and follow the hygienic conditions.

The post-pandemic human behavior definitely is appreciable which would protect nature, water, animals, and forests. The post-pandemic life would be happy as expected by lovers of nature. Thus the environment is definitely changed by the Corona virus. People's behavior and thoughts would be changed appreciably. The post-pandemic climate and environment would be free from pollution this kind of thought has been expressed by optimist nature scientists.

But, this optimism is being shattered as the river Ganges is receiving hundreds of dead bodies killed by Corona as a gift. Ganges water is totally polluted as it is seen in Khumbhamela organized by the Uttarakhand government in the month of March 2021.

Similarly Oxygen concentrators, ventilators are fully polluted as the Corona recovered patients are infected with the Black fungus due to the polluted operators through which the Corona patients receive Oxygen for their survival. At present thousands of people are suffering from Black fungus.

The operators and other equipment in the hospital should be free from pollution and unhygienic conditions, which provide Oxygen to the patients for their survival. Similarly, deaths are occurring more in number for a day.

The funeral activities are very difficult due to the filling up burial grounds with dead bodies. The cremation of dead bodies creates much havoc in India. After the end of the second-wave and presumed third wave, one can expect pollution in India as people are already habituated to hygienic conditions. By which they maintain their body with the activities of cleanliness. The people would habituate to take healthy food to increase their immunity power, thus the post-pandemic world would be free from un-hygienic conditions and pollution. The corona pandemic has taught the people the classical lessons to survive from the high volume of pollution.

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## CHAPTER 25

### THE PANDEMIC THAT IS AND WAS

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Since, time immemorial health remained one of the prime concerns of civilizations across all time-periods. Civilizations developed their own understanding about the problem and tried to find possible solutions. In the realm of infectious diseases, a pandemic is the worst-case scenario. When an epidemic spread beyond a country's borders, that's when the disease officially becomes a pandemic.

#### INTRODUCTION

**Coronavirus disease** (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Most people infected with this virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.

The best way to prevent and slow down transmission is to be well informed about the COVID-19 virus, the disease it causes and how it spreads. Protect yourself and others from infection by washing your hands or using an alcohol-based rub frequently and not touching your face. The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it's important that you also practice respiratory etiquette (for example, by coughing into a flexed elbow). At this time, there are no specific vaccines or treatments for COVID-19. However, there are many ongoing clinical trials evaluating potential treatments.

The Coronavirus crisis inevitably prompts comparisons with the last epidemic that shook the world: **the Spanish flu**. The Spanish flu, also known as the 1918 flu pandemic, was an unusually deadly influenza pandemic caused by the H1N1 influenza A virus. Lasting about 15 months from spring 1918 to early summer 1919, it infected 500 million people – about a third of the world's population at the time. On the other hand, Covid-19 is an entirely new respiratory disease, which disproportionately affects older people whereas the deadly strain of influenza that swept the globe in 1918 tended to strike those aged between 20 and 30, with strong immune systems.

The experience of the 'Spanish' Flu in British India does not, however, offer lessons that are radically different from some of the genuine demands that have emerged over recent days in the wake of the lockdown necessitated by the COVID-19 outbreak in India and other parts of the world. These involve curbing hunger and malnutrition among the poor and vulnerable, providing adequate personal protective equipment (PPEs) to health workers and adopting a broad-based and inclusive approach in organizing relief efforts. If anything, the evidence from the 1918 pandemic confirms what most of us already know; that a hungry, famine-stricken

population with serious deficiencies and shortcomings in its medical infrastructure provides a fertile ground for a debilitating attack by a highly contagious and lethal virus.

### **IMPACT ON WOMEN**

COVID-19 is not only a challenge for global health systems, but also a test of our human spirit. Across every sphere, from health to the economy, security to social protection, the impacts of COVID-19 are exacerbated for women and girls. Compounded economic impacts are felt especially by women and girls who are generally earning less, saving less, and holding insecure jobs or living close to poverty. While early reports reveal more men are dying as a result of COVID-19, the health of women generally is adversely impacted through the reallocation of resources and priorities, including sexual and reproductive health services. Unpaid care work has increased, with children out-of-school, heightened care needs of older persons and overwhelmed health services.

As the COVID-19 pandemic deepens economic and social stress coupled with restricted movement and social isolation measures, gender-based violence is increasing exponentially. Many women are being forced to ‘lockdown’ at home with their abusers at the same time that services to support survivors are being disrupted or made inaccessible. All of these impacts are further amplified in contexts of fragility, conflict, and emergencies where social cohesion is already undermined and institutional capacity and services are limited.

The male worker shortage caused by the Spanish flu and World War I opened access to the labor market for women, and in unprecedented numbers they took jobs outside the home. Women began to move into employment roles that were previously held exclusively by men, many of which were in manufacturing. They were even able to enter fields from which they had been banned, such as the textile industry. As women filled what had been typically male workplace roles, they also began to demand equal pay for their work. Gaining greater economic power, women began more actively advocating for various women’s rights issues – including the right to vote. Increased participation in the workforce allowed many women to obtain social and financial independence. Leadership positions within the workforce could now be occupied by women, especially in the garment industry, but also in the military and police forces.

### **IMPACT ON ECONOMY**

Our post-COVID-19 estimate is that extreme poverty in the world will rise this year by about 50 million people compared to the original 2020 forecast, and by 40 million people compared to our 2019 estimate. This is right in the middle of the range estimated by a team of World Bank economists—40 million to 60 million more poor people. This is not surprising as we are using very similar methodologies and data. The number is, however, far smaller than the estimates put forward in one scenario by Sumner and co-authors, who suggested that poverty could rise by 420 million to 580 million people, a figure that has been picked up by the media and advocacy organizations as “half a billion.”

All these estimates have a high degree of uncertainty and yet COVID-19 has attacked relatively advanced economies where the absolute numbers of extreme poor are small. If we were looking at the impact of COVID-19 on poverty as defined by national poverty lines, the number would be far higher. We also have little real-time information on how lockdowns will affect income distribution, or about how effective government efforts to strengthen safety net programs are

likely to be. COVID-19 may be less disruptive to subsistence farmers, who are heavily represented among the extreme poor than to urban workers who may be vulnerable to income losses but whose initial living conditions were better.

Bearing this in mind, if we accept the IMF scenario for 2020, it suggests that all the progress in reducing poverty since the launch of the Sustainable Development Goals (SDGs) in September 2015 has been lost. We will enter the U.N. Decade of Action with the same distance to travel on poverty reduction, but only ten years in which to do it.

To put this into context, 2020 will be the first time this century that the number of poor people will rise, a fact which can be seen in real time as the World Poverty Clock ticks “backward.” This comes after a spell of poverty reduction averaging almost 100 million people per year between 2008 and 2013. And even though the escape rate out of poverty had fallen recently, with poverty becoming more concentrated in fragile states where progress has been harder to achieve, there was still movement in the right direction.

The 1918 influenza pandemic affected the poorer countries and regions more severely than the richer ones. Even within countries, it was the poor and the deprived that bore the brunt of the disease, as examples from British India will amply indicate. In 1918, vast parts of India faced famine-like conditions following the failure of the south-west monsoon. Famine was officially declared in two Indian provinces- Central Provinces (includes parts of today’s Maharashtra, Chhattisgarh and Madhya Pradesh) and the United Provinces (today’s Uttar Pradesh)- while the lack of rains also seriously affected areas in Bombay presidency.

These famine-stricken regions were also the most severely affected by the disease. In Bombay presidency, the aforementioned monsoon failure and the reduction in workforce that this illness lead to meant a 19% reduction in the area under food crop cultivation, thus contributing further to food shortage in the country. The pandemic left deep scars on an already battered war-time Indian economy.

## LESSONS & WAY FORWARD

It has been more than 100 years since the devastating Spanish influenza outbreak happened in India. While there are important differences between it and the pandemic we face now, some of its lessons certainly continue to ring true for contemporary India, as well as for other developing countries, that in the short term, the virus cannot be effectively fought without fighting hunger and deprivation, if large scale human suffering and devastation is to be avoided. While at the same time, this examination of the past also emphasizes the importance of providing adequate protection to health workers.

The above examination also shows that a broad- based and inclusive co-operation of the state with non-governmental outfits such as civil society groups, trade unions, peasant organizations and the like can certainly be used as important vehicles to direct and deliver short term relief. In the long term however, prioritizing liberal expenditure on the country’s public health infrastructure to vastly increase its capacity to effectively respond to epidemics, would be a useful starting point. In this regard, it seems that even supposedly richer countries seem to have forgotten this very important but basic lesson from the ‘Spanish’ flu.

Suppression of civil liberties, unfair treatment of migrants, loss of jobs, insecurity and uncertainty: The aftermath of COVID-19 will not just impact people’s lives and livelihoods but also widen already prevailing socio-cultural distress and resentment leading to a spur in



untoward instances nationwide. The fallout of the 1918-19 pandemic pushed people to demand India's independence from British rule and created new leaders. The heavy toll of the current pandemic on the lower socio-economic groups will, in all likelihood, perpetuate existing inequities.

If early data is anything to go by, the uprooting of migrants, widening incomes and failing small and medium businesses will compound the employment crisis. The outcome of COVID-19 will be beyond the impact of the pandemic itself and may weaken economic and social structures. A clear lesson from the 1918-19 pandemic is resuscitating public health services, bringing comprehensive public health legislation, changing existing public health leadership, reigning in the private health sector, strengthening basic research and making health governance accountable.

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## CHAPTER 26

### THE IMPACT OF COVID-19 PANDEMIC ON THE AMBIENT AIR QUALITY AT URBAN MEGACITIES IN INDIA

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#### INTRODUCTION

The novel corona virus disease (COVID -19), which was caused by the severe acute respiratory syndrome coronavirus 2 (SARSCoV-2) is an ongoing worldwide outbreak which smashed India during the early month of January 2020. The first national lockdown in India was announced by 24<sup>th</sup> March 2020 and extended in four different phases up to the end of May 2020. With the exception of critical services, all modes of transportation, including rail, road, and air, were suspended and practically all manufacturing and industrial operations were halted. Covid-19 pandemic has impacted every segment of life like economy, environment, education, religion, transport, tourism, employment, entertainment, etc. However this lockdown has led to unusually good influence on the environmental conditions, especially a significant improvement in the air quality and river water quality in various parts of the world (Xu et al. 2020; Tobías et al. 2020; Dantas et al. 2020). Several studies have looked at the influence of air pollution on the Indian population and their health in the past (Beig et al. 2010; Garaga et al. 2018). With a large population, heavy traffic, and polluting industry, India has been a pollution hotspot, with high air quality index (AQI) values in all major cities.

For the last several years, Indian cities have consistently been among the world's top 20 most polluted cities, exceeding the World Health Organization's and Central Pollution Control Board's recommended ambient air quality limits (CPCB)( Garaga et al. 2018). The AQI is divided into five categories: good, satisfactory, moderate, poor, very poor and severe depending on whether the AQI falls between 0–50, 51–100, 101–200, 201–300, 301–400 and 401–500, respectively. This index is calculated using the concentration of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub>, NH<sub>3</sub>, and CO (up to 24-hourly averaging period), of which a minimum of three pollutants must be considered with at least one of being PM<sub>2.5</sub> or PM<sub>10</sub> (CPCB 2014). Figure 1 shows the health statements for every AQI category. Air pollution is a severe health issue that causes a variety of illnesses such as cardiovascular and respiratory disease, lung and heart stress, and a shorter life span (Gorai et al. 2016; Mukherjee and Agrawal, 2018). India is the world's third-most polluted country, with 1.24 million fatalities attributed to AP in 2017, accounting for 12.5 percent of all fatalities that year (<https://ourworldindata.org/country/india>) .

| AQI                              | Associated Health Impacts   |
|----------------------------------|---|
| <b>Good<br/>(0–50)</b>           | Minimal Impact  |
| <b>Satisfactory<br/>(51–100)</b> | May cause minor breathing discomfort to sensitive people  |
| <b>Moderate<br/>(101–200)</b>    | May cause breathing discomfort to the people with lung disease such as asthma and discomfort to people with heart disease, children and older adults  |
| <b>Poor<br/>(201–300)</b>        | May cause breathing discomfort to people on prolonged exposure and discomfort to people with heart disease with short exposure  |
| <b>Very Poor<br/>(301–400)</b>   | May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases   |
| <b>Severe<br/>(401–500)</b>      | May cause respiratory effects even on healthy people and serious health impacts on people with lung/heart diseases. The health impacts may be experienced even during light physical activity |

**Figure 1.** Health Statements for AQI Categories.*Source: AQI Report (CPCB 2014)*

### Impact of COVID-19 on the air quality at urban megacities in India

A significant reduction in air pollutants and a drastic improvement in AQI was witnessed during and after lockdown from major cities in India. A study from twenty two cities covering Bhopal and Dewas in centre, Jorapokhar, Patna, Gaya, Brajrajnagar and Kolkata in the east, Faridabad, Amritsar, Jodhpur, Delhi, Agra, Kanpur and Varanasi in the north, Amravati, Bengaluru, Thiruvananthapuram and Chennai in the south, as well as Ahmedabad, Mumbai, Nagpur and Pune in the west indicated a substantial reduction in concentrations of pollutants (Sharma et al. 2020). Concentrations of the different pollutants PM<sub>10</sub>, PM<sub>2.5</sub>, CO, NO<sub>2</sub>, Ozone and SO<sub>2</sub> for the time period of March 16<sup>th</sup> to April 14<sup>th</sup> from 2017 to 2020 were analysed. It is observed that PM<sub>2.5</sub>, PM<sub>10</sub>, CO, and NO<sub>2</sub> levels decreased by 43, 31, 10, and 18 percent respectively, during the lockdown period compared to prior years. The AQI has substantially improved in all regions during lockdown (Sharma et al. 2020). Air quality is significantly improved in megacity Delhi during lockdown period. PM<sub>10</sub> and PM<sub>2.5</sub> concentrations have shown the greatest reduction (50%) in comparison to the pre-lockdown phase. NO<sub>2</sub> and CO have also shown considerable decline during same period. NAQI has decreased by 54, 49, 43, 37, and 31 percent respectively in the Central, Eastern, Southern, Western, and Northern sectors of the megacity (Mahato et al. 2020). Similarly, atmospheric pollutants such as PM<sub>2.5</sub>, PM<sub>10</sub>, NO<sub>x</sub> and CO were significantly decreased, with the highest reduction in places with higher traffic levels in Maharashtra state during the lockdown and post- lockdown periods (Sahoo et al. 2021). Decrease in trend in the concentration of all major air pollutants (except O<sub>3</sub>) was observed in the megacity of Mumbai during lockdown period. The concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>2</sub> and SO<sub>2</sub> decreased by 44 %, 37 %, 78 %, and 39 % during the same time period (Kumari and Toshniwal 2020).

Considerable improvement in air quality levels were also seen in four major coastal cities in Kerala (Thiruvananthapuram, Ernakulum, Kozhikode and Kannur) during lockdown period (Thomas et al. 2020; Resmi et al. 2020). The significant reductions in pollutant concentrations, such as NO<sub>2</sub> (-48 %), NO<sub>x</sub> (-53 % to -90 %), CO (-24 % to -67 %), and particulate matter (-24 % to -47 % for PM<sub>2.5</sub>, -17 % to -20 % for PM<sub>10</sub>), are linked to lower emissions from transportation and industrial sources during the lockdown period (Thomas et

al. 2020). It is reported that a remarkable reduction of 85.1% in PM<sub>2.5</sub> concentration in Ghaziabad, one of the India's most polluted city during the lockdown period as compared to the concentration just three months back. Consequently carbon emissions have dropped, and air quality has improved to never-before-seen levels (Lokhandwala and Gautam 2020). Significant reduction in air pollution and a dramatic improvement in AQI were also witnessed from major cities like Kolkata, Bengaluru, Chennai, Indore, Patna, Noida, Faridabad (CPCB 2020). All of these findings show that particulate matter levels have decreased dramatically as a result of the restrictions imposed during the lockdown, and that overall air quality has improved across the country.

## CONCLUSIONS

Air pollution has been a rising problem across the world, particularly in emerging countries such as India. India has seen significant economic growth, city expansion, industrialisation, and infrastructural development for the last few decades. Owing to this, air pollution in India has risen to the point that it is a serious health hazard and a leading cause of early death. The COVID-19 shutdown was extremely effective in decreasing Air Pollution in India in a short period of time. In the lockdown phase, about 78 percent of cities in the AQI bulletin fall into the Good and Satisfactory categories, up from an average of 44 percent in the pre-lockdown period. If we can transform our behaviour during a pandemic, and that change has such a great outcome, why can't we develop policies to ensure long-term survival for a better place to live?

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## CHAPTER 27

### IMPACT OF COVID ON AGRICULTURE SECTOR

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#### INTRODUCTION

Agriculture is the foundation of any economy. It is a key essential area which holds the entire financial stability in all countries. We have seen that there are so many challenges which the farmers are facing a lot in the form of Government policies, Natural Disasters, Poverty, Climatic Changes and Covid is one among them. But the impact of Covid 19 resulted in agriculture sector has differed in different regions of the country depending on climate, cropping pattern, labour pattern and market access of the region. With this progressing pandemic situation, occupations of the individuals and ranchers are at high danger. In some countries the COVID-19 has vanished but in some it is returning. Quarantine measures affects the labour availability especially in some key-time critical farming from sowing vegetables crops to picking fruit. If this situation continues, the effect changes even among the various areas, makers and horticultural compensation workers. In this chapter we are discussing about the impacts of covid on agriculture sector and how this sector reacts to this pandemic situation.

Agriculture stays a focal mainstay in economy and provide most of the world's food and fabrics. This sector has been confronting a lot of difficulties however, few have been as an extreme level around the worldwide. The strict lock down and quarantine measures has severely impacted in rural areas of agriculture. The massive decreased demand for restaurant and commercial services with restrictions in labour, processing capacity or storage has led to farmers discarding their output *en-masse*. Both National and International efforts to control the the virus by limiting human movement causes economic shocks and social costs affects the functioning of agricultural and food systems worldwide. As the pandemic situation develops, these impacts are likely to become more widely and deeply felt in agriculture sectors and national economies.

When the first wave of covid hits, a mass departure of workers to their homes as laborers moved to stand by out the lockdown while at home. Again, the pandemic situation has been hit in the mid-March – April 2021 was startled totally, bringing about liquidity issues and the June crop have been especially hard hit especially in north India. Farmer suicides have been reported from some villages for being unable to sell his harvest due to lockdown and non-availability of labourers for harvesting their crops. The significance and severity of the pandemic and the impact on the agriculture worldwide seen a reflection in both short and long term. Similarly in rural districts of agricultural states deteriorates more substantially, the



farmers especially in north India who have not sold their crop are forced to sell it to the village level traders who will offer them prices lower than Minimum Support price. For example, the farmers may have to sell the wheat for Rs 400 to Rs 500 less than the MSP of 1975, per quintal.

The supply chain movement are not badly impacted and the movement of agricultural products from producing regions to consuming regions is continuing. But there would be a disruption of demand as the second wave has severely impacted in urban areas worldwide. Adding to this, the short coming of machine fixes mechanics and other care staff and one gets the image of an area in a tough situation. We need to understand the impacts for the global network of agricultural on which we rely so heavily and should track the unexpected risks, weaknesses and systematic shifts to understand short term effects as well as those that may be long lasting.

**Key Note:** *Impact, Indian Agriculture, Covid-19, Global Agriculture*

### **Immediate impacts after Covid -19 pandemic.**

There are several dimensions identified as the impact of covid on agriculture sectors. The immediate impacts in agriculture right now are basically divided under two heads.

#### **Effect on Global Agriculture sector**

##### **1. Food security:**

- Stay at home and restricted physical access to food markets or food gathering activities affected globally.
- Loss of income for workers affected their ability to purchase the food
- Due to decrease in global exchange, food creation and food weakness may emerge.

##### **2. Labour Availability:**

- Due to quarantine measures and loss of workforce from Covid 19 the labour has been suddenly restricted in many regions.
- International labour movements and worker programs that are critical to agricultural production has been restricted.

##### **3. Yield creation and seed accessibility**

- The cultivating cycle for crop creation will be practically unaffected among now and the mid-year so there would be no effect on seed accessibility.
- If the pandemic situation continues, the issues on seed accessibility will arise.

##### **4. Impact on animal husbandry**

- The covid 19 has caused a severe impact on domesticated animals due to the restriction in admittance to creature feed and a deficiency of work.
- This pandemic situation hits badly on domesticated animals and fishery.

##### **5. Agricultural system connectivity**

- This pandemic situation affected on international relationships far beyond the Agri – food sector includes export restrictions across several countries.
- Due to the restriction in ports in this pandemic period, the freight capacity on commercial flights for agricultural goods and other supply chain disruptions has been reduced drastically. This may impact on agricultural productivity for current and future seasons.

- More food sovereignty is also exploring by some countries in order to address domestic food security due to Covid-19. These actions will lead to several implications for our current globalized agri-food trading system.



Fig: 1

Fig 1: A farmer throws away tomatoes due to crash in its prices in Maharashtra. *Source : The telegraph Online – E – paper 2020 Oct edition.*

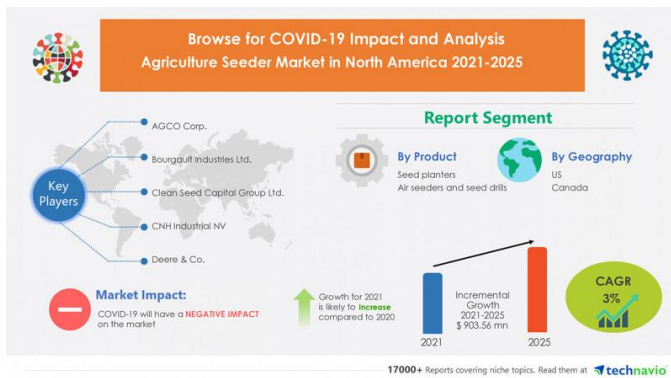


Fig:2

Fig 2: *Source: Agriculture seeded market in North America – Forecast Analysis 2021-2025*

### Effect on Indian Agriculture

#### 1. Reforms in agricultural finance

- When the first wave hits in India, the agricultural loans and repayment schedules have been relaxed by the government in the form of moratorium.
- Restructuring the loans, repayments and withholding the declaration of long-term loans as non-performing asset during moratorium period should be implemented to safeguard the livelihoods and welfare of poor.

#### 2. Impact on short duration crops

- During this lockdown, the perishable crops like fruits and vegetables cannot be stored for a long duration and farmers growing them and dumping were worst hit. Farmers who grow Onions were several affected that they incurred huge losses as they were unable transport their products to the markets.
- As the interstate transport was completely halted during lockdown, the farmers were hard to sell their products on a larger scale. They had to produce locally at an extreme low price or were not able to sell at all and incurred huge loss.

#### 3. Fall in costs

- Rural Costs have crumpled due to the absence of market access including the stoppage of transportation and conclusion of fringes.

#### 4. Impact on agricultural commodity traders

- The crop traders were facing transportation restrictions as one of their largest challenge from COVID-19 crisis. These restrictions decreased exports from land border closures, reduced market access and put downward pressure on crop prices.

### 5. Impact on food retailers and food prices

- During this pandemic period the food vendors supply the products to homes and customers more frequently to use phones to arrange their purchases. Simultaneously consumers reduced the frequency of shopping.
- According to the economic survey, the significant disruptions to food trade can quickly have a harmful consequence for consumers and farmers alike if they are not quickly resolved.

### CONCLUSION

Agriculture is one of the most unpredictable sectors around worldwide. In this pandemic situation, the farmers, food producers, retailers and all the stakeholders are thinking about the future on agriculture. How much should they meet to produce the customer demand? What should they do with the stocks and losses? How will family farmers survive? How much should they sell and to whom? The Lockdown issues are still going on and they are probably going to be exacerbate at the beginning of the new horticultural planting season. Everything depends upon the duration of this pandemic situation. Most of the government have now launched some ad-hoc measures to overcome this situation. But these efforts will surely not be enough if this crisis lasts for many more months. The Covid-19 pandemic turned the world upside down, including agriculture. There is a more prominent requirement for government uphold as help for other farming sources. Medium and long term “economy survival” programmes are to be implemented to manage the long-term effects including those impacting agriculture.

In this new normal time, we have to think more innovative and ensure that our efforts to rebuild are sensitive to the needs and circumstances of farmers so that we can protect and support the resilience of the local food supply while also taking steps to ensure future systematic shocks can be handled quickly and effectively.

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## CHAPTER 28

### IMPACTS AND POSSIBLE IDEAS TO OVERCOME THE PROBLEMS OF COVID19 IN INDIAN AGRICULTURAL ECONOMY

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#### INTRODUCTION

The economy of any country is highly depends on the agriculture, industry and service sectors. What will happen, if all the three sectors didn't work? The CoViD2019 stopped mostly all the functions in Indian economy except some of the occupation. The virus spread over the entire world and made many big economies in trouble. The virus may affect all the people working in agriculture, industry and service sectors. Also, Food supply chain is very important in supplying food materials to the public during the COVID19 pandemic lock down. Food is the basic item for living, whereas during lock down the supply of food materials was in problem. The agriculture sector is not exceptional from the virus and this article assesses / reviews the measures to strengthen the supply chain if the pandemic rise again and the possible impacts and policy suggestions are discussed below.

#### POSSIBLE IMPACTS AT MICRO LEVEL

##### a) The Farmers

Agriculture is the key sector of any economy and it is providing food and employment for most of the country people. Farmers are the drivers of agricultural sector whereas the corona virus problem affects them. In India, most of the farmers are living in very poor economic condition. Less savings, high expenditure on food and medicines and other expenditure during the lockdown period make the farmer poorer.

##### (b) Landless Agricultural Labourers

The effect of lockdown may highly affect negatively the livelihood of the landless agricultural labourers. The landless agricultural labourers are depends only the land owned farmers because they don't know other occupations. If the there is no agricultural operation during the lockdown, the landless agricultural labourers may not get jobs. Those peoples are earning daily and the same used for the daily expenditure. The landless agricultural labourers are basically very poor and don't have big savings in banks and all. Even though the government relaxing the lockdown for agricultural operation, they will not get travel assistance and all. They cannot follow the SOPs in eradicating the CoViD2019. Thus the corona virus problem affects the landless agricultural labourers more.

##### c) Farmers Producing Perishable Commodities

A highly miserable thing is the fall down of flower producing industry during the lockdown period due to CoViD2019. The flower producing farmers invested huge amount in the production of various flowers before the lockdown period. In continuation of the lockdown the marketing operation, export and sales of flowers are totally stopped. Since, the flowers are

highly perishable in nature, the farmers can't able to store. They ploughed the flower fields with the high value bloomed flowers. Not only flowers, the farmers cultivated perishable agricultural commodities without proper storage facilities were highly affected.

## **POSSIBLE IMPACTS AT MACRO LEVEL**

### **a) Poverty**

There was no or only minimum economic activity during the lockdown period, so the economic condition of the landless agricultural labourers and other labourers related to agriculture are turn into more deprived.

### **b) Less production**

The labours are one among the main factors of production in agriculture economy. During the lockdown period the production of various agricultural commodities might be less due to slow down of agricultural operations. The farmers may struggle in getting the various inputs for agricultural production. But, this less production will not affect the people now because of already stored surplus food grains in godowns by government.

### **c) Agricultural Industries and Unemployment**

The agro based industries mainly depends on agriculture products. Due to the non-supply of agricultural goods the agro based industries may shut down their operation for short time. For farming operations and agro based industries the labours are very important. Due to non-functioning of agro based industries and the loss during the lock down period, the industries can't able to pay for their labours after the lockdown. This may lead to unemployment also.

### **d) Agricultural GDP**

Not only agriculture, all the industries are nearly stopped their production activities so that the GDP of the country may decrease during the year. The agricultural gross domestic product of the country also tends to decrease but not like the decrease in the secondary and tertiary sector, because some of the agricultural activities are occurred.

## **CONCLUSION**

Unlike other economic crisis the impact of CoViD2019 is comparably high in India, because the country's all the three sectors viz, agriculture, industry and service sectors are highly affected. Majority of the Indian population, were working in those three sectors only. Thus in no doubt, the economic condition of the Indian people is affected. The slowdown of the economy due to the corona virus will take time to recover. The farmers during the lockdown period spend more and immediately after the lockdown the farmers start their farm operations and tend to save the money. The landless agricultural labourers may find their employment. The wage rate may decrease compare to the wage rate provided before the lockdown period. The farmers producing perishable commodities especially flowers, may reduce their sowing area, because of the loss faced during the lockdown period. The agricultural GDP will decrease for some period and it may increase in future.

## **POLICY RECOMMENDATIONS**

The bank / crop loans may given to the farmers with additional re-payment period with less interest rate. The agricultural input industry may function efficiently with subsidized prices for the benefit of the farmers. The transportation sector should be strengthened. The government may provide subsidies to attract the farmers to do farming activities and to improve



the agricultural production. The government should provide financial assistance to the landless agricultural labourers through various schemes. The marketing committees should allow the farmers to sell beyond some restrictions and the price may be fixed by the government. State governments must gear up their machineries for smooth procurement operations of farmers' marketable surpluses at MSP (minimum support price) or through other price support schemes. The loss during the lockdown period in flower and other perishable industries may supported by the insurance companies. The government also help in the development of agro based industries and post harvest activities of all commodities.

Food supply chain is very important in supplying food materials to the public during the COVID19 pandemic lock down. Food is the basic item for living, whereas during lock down the supply of food materials was in problem. This article assesses / reviews the measures to strengthen the supply chain if the pandemic rise again. The following are some specific recommendations .i) Transportation logistics are more important. ii) There is a need to notify a large number of warehouses as deemed markets to increase the coverage and reach among the farmers. iii) The Government, under e-NAM, has initiated new provision to provide the database of logistic providers to traders. iv) Farmers storing their produce in these accredited warehouses would also be able to get finance through electronic Negotiable Warehouse Receipts (e-NWRs). v) For perishables like fruits and vegetables, a compact marketing channel can be evolved and products can be delivered directly in the terminal markets or to the bulk buyers. vi) Creation of temperature-controlled parcel vans.vii) In case there are enough buyers in the market, direct selling of fruits to consumers and processing for juice should be encouraged. viii) Commodity based cluster formation or co-operative farming. ix) The fuel prices and the toll gate charges may reduce, so that the logistics or the transport used for supply chain may increase. x) The market yards and transport vehicles may properly sanitized and the drivers may protect themselves for avoiding problems. xi) Also, it is necessary to protect the farmers / producers those who provide resources. The supply chain plays a major role in boosting up the consumers' consumption during the lock down period. If the corona pandemic still increases may be as the III phase, the impact would be higher in economy. The above points may strengthen the supply chain, if the corona pandemic increases as III phase and the economy and the country people will be in a better position even the lock down.

Finally, the CoViD2019 impacts are a lesson for us, so that in future the food grains may procure by the government and store properly for future use. Apart from production, it is necessary that the farmers and agricultural labourers should maintain the safety measures to avoid the spread of the virus again.

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## CHAPTER 29

### THE LIVING DEAD: REFLECTION OF THE CREMATORIUM

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#### INTRODUCTION:

An individual's caste in a traditional Indian society determines his/her occupation. It is this ascribed status that differentiates one and another on the basis of purity and pollution. Cremating the dead is considered to be one of the lowliest occupations where individuals have to dispose of the dead in a manner prescribed by the religious order. In India, it is assumed that individuals from the untouchable community have to undertake this profession as it is a taboo for those who belong to the higher caste. Crematorium workers or cemetery workers usually constitute individuals from the marginalized and vulnerable community who undertake this job to support their family. The status of the crematorium workers continues to linger in the marginalized section with no source of support from the religious orders or communities. The crematorium workers are reprimanded for the work they do which includes no source of grief or remorse while burying the dead while struggling to be accepted in the mainstream society.

The course of pandemic has highlighted the real plight of the crematorium workers. With the advent of Covid-19 which has altered life and death, the crematorium workers are on their watch as the numbers of bodies of patients who have been tested positive have increased. Although the bodies of the patients are wrapped and the officials carrying the bodies to the grave use the necessary health measures, the crematorium workers are at a higher risk of contracting the virus by coming in close contact with the body while burying it. Even with the surge in death cases, the crematorium workers are not provided with protective gears nor have they been paid adequately for their service (Ravichandran, 2020).

The sense of satisfaction is an important factor that people hold with their occupation. It gives them acceptance and also monetary support for the amount of work that they do. In the context of the crematorium workers also known as cemetery workers, not much has been researched on the way they survive by burying the dead. People tend to shy away from the topic of death as it is an end of the living. The same attitude is associated with the final rites except that there is an understanding of moral obligation. Providing a decent funeral to the deceased may lead the dead to attain salvation. The funeral rites that different religious communities follow are at the behest of the religious dogmas. In the context of religion, Christianity and Islam follow burial in the ground while Hinduism follows cremating the dead on a traditional wood pyre or electrical cremation. In the different customs that follow, the role of the crematorium worker is hidden by the religious patrons who initiate the funeral rites before cremating or burying the body. Once the rites are completed, the role of the crematorium workers begins which goes

unnoticed in the social realm. As their work requires them to dispose the dead, the livings have no remorse towards them and consider them as outcasts in the society.

The pandemic has brought to light the most vulnerable phase of humanity. At one side it has proved there is no surety of life which is associated with pain and bereavement and on the other side it has highlighted the most inhumane side of the vulnerable communities. The marginalized groups who are often silenced because of their social ranking have been victims of the social, economic and political segregation in the society from the start and with the pandemic; their situation has worsened further. The cultural dogmas of the society have institutionalized the submissiveness of the marginalized which has further constricted their roles and opinions. The crematorium workers are one of the silenced individuals who have undertaken the task of cremating the dead at the fate of their own and their family's acceptance. There is an identity crisis among the crematorium workers as they are fighting the battle of social recognition not only from the hegemonic mainstream society, but also from their own members who feel that their employment is a disgrace to the whole family. The hands that bury the dead, in reality are dead within, courtesy of the social stigma labelled on their identity.

### **Their silence, echoed:**

Our emotions are based on the interactions we have with others. What we think of a person influences how we identify that person, and our identification influences our behaviour towards that person (Kearl, 1989). The concept of grief is associated with the interaction and the relation the individuals have with the deceased. It is therefore understood, that the pain of losing a person can be understood only by the person who has lost the person in their life. The symbolic potency of reviving or least restoring the memories of the deceased is through the cemeteries or burial grounds that account as a place designed to preserve the memories of the individuals. In a contemporary world, the ethos of death and bereavement have been reaffirmed and reconceptualised through the rites of passage and the cultural conception of time (Faunce, 1958). The exploration of feelings and emotions are restricted to the individuals who mourn the loss and not with the crematorium workers as it is assumed of their noble duty of burying the dead. This has in fact led to a transformation in the fear of death to the acceptance of mortalistic hopes of people while altering their own existence among the living.

The rise in the number of death cases in the society is indeed a discomfiting notion. In the context of life and death, we prefer life as a gift in abundance. On the contrary, the crematorium workers find their source of livelihood through the death of a person. The number of burials provides them with the financial support on which they sustain. However the pandemic has further neglected the crematorium workers and their service to the society. Lack of medical kits and health measures have forced the crematorium workers to comply with the traditional way of digging the graves risking their life further. Moreover as per the regulations prescribed by health authorities, bodies of positive patients are not given to the family members but are wrapped and taken to the cemetery or the crematorium ground for the final rites. In the light of pandemic where social distancing is the norm, the crematorium workers have taken the initiative on the grounds of humanity and have continued to provide a dignified burial to the deceased while their family members are allowed to mourn from a distance (Reuters, 2020).

The plight of the crematorium workers continues to question the empathetic approach we hold towards the front line workers who are fighting to keep the city and its people safe. The difference remains that the officials are provided with the health kits and places to rest, while the crematorium workers have to resort to burial ground to sleep among the dead (Dhwani, 2021). Some of the crematorium workers in the city have lost the count of the bodies they had to cremate since the onset of the pandemic and the only thing that sustains them from the sympathy of the public and the stench of the bodies is alcohol (Shoshana, 2006). The number of deaths has affected the psychological wellbeing of the crematorium workers who are struggling for space at the cemetery to cremate the dead with the necessary precautions. The fear of coming in contact with the dead body will infect them and their family members entail them to work cautiously without any protective gear or tools. Most of the crematorium workers in the city remain unpaid from the initial stages of the pandemic outbreak. Not much support has been provided by the government towards the crematorium workers as they continue to survive in the dark.

The lack of support and empathy has not affected crematorium workers from doing their duty. Like other front line workers, the crematorium workers have been constantly helping the health authorities in disposing the dead bodies. Irrespective of their social standing in the society, the crematorium workers continue to provide their service to the community at the expense of being shunned and segregated. With the pandemic wiping out the source of income in most of the households, family members of the deceased have found it difficult to pay the crematorium workers and for the funeral rites. This however should not stop the government from reaching out to the individuals who are putting their lives at risk every day and are recognized only when a deceased needs burial or has to be cremated. A joint initiative with the government and health authorities to provide medical kits to the crematorium workers will help them to carry on their duty without any fear of getting infected. Providing them with basic housing with safe drinking water and sanitation will help them to lead a dignified life which they have been lacking for a considerable period of time.

## CONCLUSION

Limited research is done on the crematorium workers. The need to comprehend the situation of the crematorium workers for their inclusion in the mainstream society is of urgent. The empathetic approach towards them can only sustain when the society will treat them and their employment with dignity and respect. The humanitarian lens that belittles and segregates them needs to change and has to be open and accepted towards these individuals as it will help in uplifting not only the crematorium workers but also their family members and community who continue to be ostracized for the task of disposing the dead. Until the situations of the crematorium workers improve, the struggle for their representation will continue to remain echoes of silence.

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## CHAPTER 30

### SILENCED: LIFE OF THE SILVER GREY DURING PANDEMIC

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#### INTRODUCTION

Elderly population faces abuse at different levels. Society marginalizes them and some face problems with family members or caregivers in an institution. They face physical, psychological, sexual assault, exploited and deprived. They are often neglected of a designated caregiver to meet the needs of a dependent older person. The unprecedented crisis of the COVID-19 pandemic has spread throughout the world affecting almost all countries, with rising levels of anxiety among all people. Most nations have resorted to quarantine, lockdown and curfew to contain the community transmission of infection. All these techniques warrant people in the community to stay at home and maintain social distancing.

Older adults are the most vulnerable group when it comes to infectious diseases. In this scenario, they are expected to adhere to these restrictions for extended periods so that one can lower the risk of contracting the infection. However, these safety measures pose a risk of social isolation. Visiting community meetings, parks, neighborhood, places of worship and day centers are possibly the only socialization channels for most of the elderly. With lockdown or quarantine these are now not possible. Elderly who live with their families are better placed in this respect; but some of them may still expected to maintain social distancing within their house considering their own existing ailments or COVID symptoms of family members. As younger generation may be busy with various chores, it is quite possible that the elderly may get neglected even when they are with their families. This leads to social and psychological isolation, which may be a contributing factor for poor mental health.

#### Bitter truth

The elderly are at highest risk of complications from the pandemic. They also face loads of negative consequences which are mostly lockdown, shutdown, social distancing. Due to the anxiety and concerns to avoid infection, home- confined elderly people have extremely limited or no physical communication with their friends, family, neighbors in their life. The situation is grim when many elderly don't know how to use a smart phone and the facilities attached to it. Higher levels of social support and greater dependency on social network lower the risk of elder abuse but this feasible with a few.

Communication and socialization leads to positive mental health. It helps in improving quality of life as one can share their feelings and emotions. Because of restriction in mobility, inadequate communication facility, elderly are forced to struggle with loneliness and social

isolation. These circumstances when the protective factors are diminished, it makes the elderly more vulnerable, and the risk of abuse increases much more. Most preventive measures during infectious disease epidemics focus on prevention of the spread of infection and looking after the physical health of infected person. In this state of crisis, a wide range of psychological problems often accompany the outbreak. Social isolation and loneliness are particularly problematic in old age due to various reasons such as: decreasing functional limitations, economic and social resources, the death of spouse and relatives, changes in family structures and mobility.

Lockdown adds to many reasons to this list that include inactivity, repeated exposure to disturbing news related to the pandemic, reminiscences of previous traumatic events, the interactional problem within family members, lack of physical movement, dependency on others, lack of medical facilities, lack of recreational facilities and the lack of opportunities to share their worries. Confinement, loss of usual routine and reduced social and physical contact with others is frequently shown to cause boredom, frustration, and a sense of isolation from the rest of the world, leading to distress and anxiety of the unknown. Social isolation among older adults is a 'serious public health concern' because of their heightened risk of cardiovascular, autoimmune, and neurocognitive imbalance. Social disconnection puts older adults at a greater risk of depression and anxiety. All this leads to mental health disorders.

Unavailability of medications as this time has led to negative impact on physical and mental health of the persons. Poor compliance to the psychotropic medications is known to be associated with symptoms of irritability, anger, aggression and violence. Poor mental health either in the family member or in the older persons enhances the risk of abuse. There is surge of substance abuse and addictive behaviors in this period; which may lead to negative interaction amongst the family members. In addition, loss of job, stress and resultant frustration in the part of adult children and erosion of generational bond, truly eviscerates safety of older people at home. Lack of communication, sharing on the part of adult children breaks the bond among the elders and the younger generation. It leads to a growth of a new epidemic of abuse in recent times of the pandemic.

Grief is not simply a random, private or spontaneous emotion, but includes a physical, cognitive, social, cultural, philosophical, religious and spiritual dimensions, symptoms and patterns. Its expressions vary according to personality and one's belief systems. Such multifariousness that is beyond and within the individual also reflects constants of coping with loss and the changes therein. Freud relates life instinct to *thanatos* or the death instinct. Social isolation is often resembles grief or *thanatology*. The pandemic brings other psychological issues such as: fear of contracting the infection for self and family members, fear of quarantine or hospitalization, death, fear of being abandoned, anxiety related to day to day provisions, regular health checkup visits and worries about family members living far away. Sleep and appetite problems may become more pronounced in the absence of physical inactivity during the lockdown. Quarantine can further amplify these problems. Separation from loved ones, the loss of freedom, uncertainty over disease status, depression, sleep disorders, anger, mood swings generated are triggered at this time.



Due to prolonged lockdown and social distancing, loneliness has become a core factor of a variety of psychiatric disorders through a subtly or grossly declared clinical picture. It may lead to hopelessness and discouragement, which can progress to depressive disorders and potentially self-destructive acts. It may aggravate fears and precipitate one or several types of anxiety disorders, including a variety of phobic syndromes. It may generate painful memories and posttraumatic stress disorder. It may lead to behavioral styles and symptoms of obsessive compulsive disorder that is washing hands repeatedly, sanitizing the household articles, excessive steaming and drinking herbal tea etc.

### **Surviving the reality**

Studies have revealed loneliness is associated with depressive symptoms in older age groups if elderly are required to remain homebound, it is important to ensure that daily needs such as groceries and medications are delivered regularly, and urgent action is needed to mitigate the mental and physical health consequences of social isolation. One needs to look after social interventions such as psychological therapies, health and social care provision, befriending interventions, laughter therapy, pet therapy, and leisure/skill development that can help the elderly.

One needs to focus on different intervention techniques to help the elderly manage their time. Use of smart phone facilities helps to facilitate contact between older persons and their families. It resulted in lower levels of loneliness among those using video conferencing. Constant communication helps in a sense of assuring companionship and a sense of belongingness. Besides this, keeping them occupied helped to be effective in dealing with loneliness in older people.

One needs to focus on leisure activities such as gardening, computer use, and sports or some sort of exercise. Higher use of the internet was also found to be a predictor of higher levels of social support and decreased loneliness. These activities showed a positive effect on reducing loneliness and help to improve mental wellbeing.

A sense of physical and psychological safety, one needs to reduce the amplified unpleasant emotions of ongoing fear and anxiety; different therapeutic elements which are used like curative medicine, Meditation and yoga, relaxation and mindfulness to calm down the heightened state of emotional responsiveness. If this is left unattended it may lead to various psychological disorders. Positive attitude in one's ways, controlling one's emotions and wellbeing, faith in Almighty, developing a feeling of connectedness to one's family, to accrue security, support and love with the members of the family helps in dealing with the calmer and positive future. These interventions as well as prevention efforts help to combat global health crisis. All these principles which are interring related help to promote a sense of control, efficacy and positivity can help all individuals. This could be even used for elderly who stay alone without their children. Different interventions could be developed and validated in areas depending upon the need.

Individuals at different places may experience varied emotions. They may experience distress and need support or at times clinical intervention for their mental health concerns. They need support and provisions to ease their feelings, rather than traditional diagnosis and clinical treatment. Proper communication and feeling of belongingness helps them at this time. It is of paramount importance to raise awareness amongst both health-care professionals and the public about these issues and about timely intervention. All health care providers involved must have knowledge of their background and sensitivity on the needs of elderly. Being sensitive and observant is the need of the hour for all caregivers and the volunteers working for the elderly.

## CONCLUSION

Research has linked social isolation and loneliness to higher risks for a variety of physical and mental conditions: high blood pressure, heart disease, obesity or loss of weight, a weakened immune system, anxiety, depression, cognitive decline, Alzheimer's disease, and even death. Loneliness acts as a fertilizer for other diseases. It is believed that loneliness can accelerate the buildup of plaque in arteries, help cancer cells grow and spread, and promote inflammation in the brain leading to Alzheimer's disease. Loneliness promotes several different types of wear and tear on the body. People who find themselves unexpectedly alone due to the death of a spouse or partner, separation from friends or family, retirement, loss of mobility, and lack of transportation are at particular risk.

Isolating the elderly during COVID-19 pandemic might reduce transmission which is important and minimize the spread of infection to high-risk groups. However, adherence to isolation strategies is likely to decrease over time. Conversely, people who engage in meaningful, productive activities with others tend to live longer, boost their mood, and have a sense of purpose. These activities seem to help maintain their well-being and may improve their cognitive function. Different measures must be effectively timed and continued for required duration to prevent excessive transmission and risk of morbidity and death due to COVID-19. The effects of isolation will be felt greatest in the elderly, specifically in the more disadvantaged and marginalized populations. The implementation of preventive strategies for the negative mental health impact of social isolation should be urgently prioritized for this population.

Late-life depression is an unrecognized and undertreated condition, which results in a poor quality of life. General practitioners and non-specialists have a major role to play in identifying those with depression who present to them for physical problems and may often be reluctant to acknowledge mental health problems and seek help. Interventions could simply involve interaction and providing practical support for essential items, more frequent telephone contact with significant others, close family and friends. Online technologies can be used to build and maintain social support networks and a sense of belonging. Health care workers, community outreach projects and voluntary organizations have an important role providing support for elderly throughout the social isolation period.

This is a time of challenge and uncertainty in the shadow of COVID-19 which has profoundly impacted almost all the people; and for older people the trials are even greater. In addition to

various socioeconomic, physical and mental health related issues, greater number of older adults are experiencing abuse and the risk may further increase. It requires greater awareness; efforts from everybody to prevent this from happening in the first place, curb its occurrence with effective measures, with appropriate, adequate and timely support to families and the elderly. Brushing under the carpet may worsen it and lead to a pandemic. Multidisciplinary and multilevel proactive actions regarding elder abuse are urgently required. Human beings are social creatures. Our connection to others enables us to survive and thrive. Yet, as we age, many of us are alone more often than when we were younger, leaving us vulnerable to social isolation and loneliness—and related health problems such as cognitive decline, depression, and heart disease. With a reason of acceptance there are chances which may not only change the attitude towards the elders, but also give them a reason to be valued, but more importantly a reason to live at the age of this pandemic situation.

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## CHAPTER 31

**COVID 19 AND ITS IMPACT ON HIGHER EDUCATION SYSTEM****Dr.Veto Dey**Assistant Professor Department of Management studies,  
T.John College, Bangalore,**INTRODUCTION**

The covid'19 epidemic was a medical calamity that affected nearly every aspect of life. The higher education system was one of the most hit sectors. College and university campuses are places where students study and learn in close proximity to one another. Because of the coronavirus outbreak, the ecosystem's base has been drastically shattered. Universities are being compelled to cancel classes.

From a face-to-face learning environment, the entire ecosystem was forced to a remote learning system. It was a very testing time for Faculty members as they had to change their course of action in a hurry to match the needs of the situation with very little formal training.

The lives of the students had significantly suffered and resulted in loss of internships, dislocation from their homes and campuses plus the need to learn new digital technologies in addition to their content area (Kulkarni et al., 2021). The Higher education system also faced immensely the wrath of the pandemic. For the first time in the history, the entire education medium shifted from face to face learning to remote learning enabled by digital technology (Zimmerman., 2020)

The shift from face-to-face to virtual communication has had an impact on the entire educational process, favouring one of the fundamental open innovation aspects in higher education institutions: the ability to regulate knowledge flow. Open innovation in this crisis situation will encourage universities to deal with difficulties and embrace opportunities to enhance knowledge production.

Covid'19 will have a massively negative impact on the educational system. According to UNESCO figures, 1.21 billion students, or 69.3 percent of total students in 188 nations around the world, have to stayed at home in May 2020 and will be unable to return to schools and colleges (Grosseck., 2020). This is an excellent indicator of the degree to which the higher education system has been disturbed. This resulted in tectonic overhaul of the education initiatives.

**Financial and Short-term Challenges during Pandemic**

College and university operations have been severely interrupted as a result of the pandemic. Colleges were compelled to close due to the coronavirus and look for other teaching learning methods, such as using an internet gateway to offer lectures. Concerns regarding the quality of schooling were raised as a result of this unexpected shift.

Because both the college and the students have difficulty accessing good technology, the college had to invest much in acquiring resources in order to run the classes smoothly. The epidemic had a substantial impact on enrolment, and universities were unable to produce revenue due to a decrease in parking fees, sales at dining establishments, and other revenue-generating ancillary services.

Short-term unanticipated expenditure and longer-term enrolment declines undoubtedly endanger the stability of institutions that were not financially sound or operating in a deficit prior to the epidemic, potentially forcing multiple closures and mergers Sahu, P. (2020). The financial crisis that higher education institutions are facing has an impact on the overall performance of colleges (Crapo., 2021), (Friga., 2020).

## **Learning Environment during Pandemic**

As soon as the Covid-19 issue hit India, most universities converted to an online format, colleges holding online classes and sharing study materials and audio recordings with students via the internet. Faculty members began interactive meetings with students to address their concerns.

The coronavirus pandemic had hit hard, disrupting many aspects of life, especially education. Due to the coronavirus pandemic in India, the Indian government decided to prohibit any sort of face-to-face teaching, causing classes to be cancelled and students to stay at home. As a result, the Ministry of Education (MoE) started an endeavour to revamp the entire educational system by offering online programmes.

In India, there are numerous platforms that provide online education. The Ministry of Human Resource Development (MHRD), the National Council of Educational Research and Training (NCERT), and the Department of Technical Education are all supporting these initiatives. There are also projects such as e-PG Pathshala (e-content), SWAYAM (online teacher courses), and NEAT (online teacher training) (enhancing employability). Other online platforms aim to improve institutional connectedness and content accessibility. These are used for the delivery of course materials and classes, as well as the operation of online modules. Among them are NPTEL (National Project on Technology Enhanced Learning), NKN (National Knowledge Network), and NAD (National Academic Depository). Online education is delivered in a variety of methods.

Using recorded classes, which are referred to as Massive Open Online Courses (MOOCs) were made public, and online classes were conducted as webinars or zoom sessions. In addition to stable IT infrastructure and faculty members who are comfortable teaching online, universities require high-speed internet and education delivery platforms or learning management systems. To attend these sessions or watch pre-recorded lessons, students will require high-speed internet and computers/mobile devices.

In 2003, the National Programme on Technology Enhanced Learning (NPTEL), a project of the Ministry of Human Resource Development (MHRD) initiated by seven Indian Institutes of

Technology (IITs) and the Indian Institute of Science Bangalore, was established to provide online education. The goal was to create web and video courses in engineering, science, and management to meet the requirements of students across the country who are unable to attend premier universities. Such measures were already well-established in the fields of science and technology.

However, until NLU took it on, there was no similar movement for legal education. "Covid-19 has compelled institutions, professors, and students to embrace online learning in ways that have never been seen before. There was no choice but to adapt and use online schooling under lockdown. " Technology can offer a variety of teaching approaches, as well as the ability to teach a huge number of individuals across the country."

### **Technical and resources challenge during Pandemic**

Increased usage of online learning became the new standard for higher education institutions during the epidemic. As a new venue for conducting online lessons, the internet and new digital technology have evolved. Every new phase has its own set of problems and struggles, and online learning is no exception. In the midst of this unexpectedly urgent scenario of widespread COVID-19 cases, other obstacles arose, including a lack of devices, teacher/student isolation, and awareness of how to use the digital platform (Tejedor, et al., 2021).

Some other challenges were, mentoring, interpersonal ties, and brainstorming were felt absent from online education. Many research has brought attention to the problems with online education. One of the most difficult aspects of online classes is obtaining internet connections; though internet penetration has increased, maintaining continuous speed and access is tough. Students complained about being unable to focus on a screen for lengthy periods of time. Students can be easily distracted by social media at times. Students learned a lot from their peers, but owing to the lack of physical classes, they are missing out on that interaction and practical information. Transitioning contents to an online learning environment is not enough (Bhagat, S., & Kim, D. J. 2020).

Students from low-income families do not have access to the internet or the tools necessary to learn online. It's difficult to measure students' understanding because there's no eye contact, which takes away the core of teaching. It wasn't simply students who experienced difficulties; faculty members also had difficulties at times since they lacked the essential tools and resources to conduct online classes (Mukherjee., 2020).

### **Future Planning**

While the pandemic has put many schools and universities in a dilemma, it has also taught them some vital lessons that they may employ to improve their positions. The first is that schools and universities should prioritise data-driven decision-making. With so many activities taking place online these days, capturing data for analysis becomes easier. Second, higher education institutions should concentrate on improving their digital operations. The current situation should serve as a wake-up call for institutions to improve their digital relationships



with students and other stakeholders. Colleges and universities should invest in Internet bandwidth, expand data centre capacity, purchase licenced e-learning technologies, and provide students and teachers with opportunities to gain IT skills.

A new hybrid model of education is expected to emerge (Ghada Refaa., 2021). From totally traditional instruction to this hybrid model will help to cater large number of audiences. A hybrid model, which combines face-to-face and online learning, will be the future of higher education, helping to minimise costs and lower student density.

Students, parents, teachers, and faculty may confront numerous challenges in addressing and accepting the e-Learning Model due to the unexpected nature of e-Learning in crisis situations. Although every student has an equal right to education and the ability to assess it, this is not the case in practise. It need reform, Education reform is required, with a greater emphasis on teaching practical skills and the necessary infrastructure should be available to facilitate this instruction. (Padro., 2021). The pandemic has taught us how quickly things can change. Policy makers, leaders in higher education need to learn new lessons about education in crisis to develop their e-Learning systems. Security professionals in higher education should also contribute strategies to ensure safety and security without hindering the learning environment.

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## CHAPTER 32

### CHALLENGES FACED BY HEALTHCARE WORKERS IN THE BATTLE AGAINST COVID -19 PANDEMIC

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#### INTRODUCTION

The Covid -19 outbreak hit the world with unprecedented consequences on economy, health, education and lives' of people. Working in health care sector during the covid-19 pandemic will be associated with both short and long lasting social, economical and psychological effects and our female health care workers will be more severely hit. Approximately 70% of the global health care workforce is made up of women (World Health organisation)

Healthcare workers are struggling to provide the right treatment and assistance to all the patients. They are facing the shortage of protective gear and supplies. Health workers are the beating heart of every health system and the majority of them are women. Global demand for health workers is rising in this situation. Changing demographics and expanding health system are driving for the creation of 40 million new healthy and social sector jobs by 2030. The health workers may help communities to achieve the targets of national health programme. Globally, frontline health workers have been at the forefront of the battle against an unparalleled threat and are displaying tremendous strength, commitment, and compassion in this uncertain time.

Frontline health care workers are dealing with patients affected by corona virus. As a result of the pandemic, female health workers are facing a double burden, longer shift at work and additional care work at the home. In India, ASHA workers screened more than ten million people by home visits. The major impact occurred on health care workers are:

#### Psychological Challenge

Health care professionals dealing with covid-19 are under increased psychological pressure, high rate of psychiatric morbidity. Due to the increased risk of exposure to the virus, doctors, nurses and health care workers fear that they may contract covid-19 themselves. Increasing work demands on health care professionals conflict with their duties to family, which causes psychological stress. They are worried whether the virus affected or not in homes and pursuing it on to loved ones and family members-elderly parents, new born and immune compromised relatives. So government should introduce stress management workshops and counselling on health care workers to reduce the stress during this period and it should be conducted at regular intervals. The Use of effective stress relief techniques such as mindfulness, yoga, deep breathing exercises and meditation can be helpful in getting deep mental and physical relaxations.

### **Social and Economical Challenge**

Health care workers are facing difficult times in their fight against the Covid pandemic. Currently this industry is facing 90% losses due to decrease in out-patient attendance. People are postponing non -emergency medical services like imaging procedures, surgeries, physiotherapy, visits to fill prescriptions etc. The economic downturn has greatly affected people from the lower socio economic stratum. It has created adverse impact on the health workers including a reduction in their salary.

### **Misbehaviour with frontline health workers**

Now a days most of the healthcare workers are getting very bad treatments from others. Ill treating doctors and nurses will create a huge barrier for the Covid patients in getting their proper treatment. According to the reports, doctors have been spat at and chased away from homes. Some physicians and their families have also been ostracised by their neighbours and sometimes even attacked by the patients. To overcome these difficulties the GOVT OF INDIA passed an amendment bill for the protection of health care workers in COVID pandemic. Health care workers are not just treating patients, but they are serving humanity and trying to build up a healthy world.

### **Greater Risk of Infection**

According to the report from W H O, in many countries at least 1 out of 10 health workers are infected with corona virus. Most of them are unable to protect themselves. New prevention and control measures will be important to guide improvements in approach to protect the health of healthcare workers. Lack of personal protective equipment, lack of measures to prevent the spread in hospital, work intensity and lack of rest etc, increases the probability of infection among the healthcare workers. To tackle these issues, WHO officials have suggested the training on healthcare workers to control the respiratory diseases and increase the access to personal protective equipment's.

### **Challenges with Personal Protective Equipments (PPE)**

The world is experiencing lack of quality PPE. Health workers are engaging at high risk because they are going under stressful conditions without proper protective equipment. Health care workers rely on personal protective equipments to protect themselves. Due to limited access to supplies such as gloves, N-95 medical masks, respirators, goggles, face shields, gowns, etc, has been gone into infection. The wrong usage of PPE kit causes difficulties in breathing and limited access to toilet and water and resulting physical and mental problems. So adequate staff training, adequate supply of PPE kit and proper guidance are required to control infections and limit deaths in health care workers. Most PPE is not designed for women's body. Female health workers have difficulties in accessing basic sanitary products.

### **Challenges from the Authority**

Healthcare workers have to face difficult decisions every day. It starts from initial assessments in OPD to serious ill patient requiring ICU care. The Government and Hospital authority is frequently issuing multitude guidelines for managing patients. Healthcare workers are in a state of incertitude to follow or ignore the guidelines offered by the IMA or Government authorities.

**CONCLUSION**

Covid- 19 comes up with various life threatening issues. Health care workers are facing meagreness of protective gears and even assault. Despite of all the complications, still they are managing to put forth their best efforts in service. However, they need to be reimbursed and should provide training and conferences to work effectively.

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## CHAPTER 33

### IMPACT OF COVID-19 ON INDIAN SECTORS

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#### INTRODUCTION

The Indian economy has been experiencing significant slowdown over the past few quarters. In the third quarter of the current fiscal, the economy grew at a six-year low rate of 4.7%. There was a strong hope of recovery in the last quarter of the current fiscal. However, the new corona virus epidemic has made the recovery extremely difficult in the near to medium term. The outbreak has presented fresh challenges for the Indian economy now, causing severe disruptive impact on both demand and supply side elements which has the potential to derail India's growth story. India reported its first confirmed case on January 30. However, there are only some signs of community transmission – the percentage of affected people is still low, with most cases related to travel. That said, the domestic situation remains fluid and warrants constant monitoring. The impact on the Indian economy could be significant if the virus continues to penetrate the country which will have a longer lasting effect. While the impact on economic prospects due to activity being affecting in countries like China, S Korea, Japan, Italy, etc. would be through trade, investment and services routes, it could be more damaging if there is any shutdown in India. The objective of the Survey is to understand the opinion from the business fraternity regarding the downside risks to the Indian economy on the backdrop of outbreak and spreading of this virus.

#### OBJECTIVES

- To understand Effects on the health of the industry and economy
- To understand impact of Covid-19 on different sectors

#### METHODOLOGY

The study is based on only secondary sources. I have chosen the reports mostly published in March and April months to understand the impact of COVID-19 on Indian economy and various sectors. Also, I have studied few research papers and News articles which publish in these two months.

#### EFFECTS ON THE HEALTH OF THE INDUSTRY AND ECONOMY.

1. Enhance Validity of licenses / approvals / NoCs
2. Easy & quick disbursal of pending dues
3. Provide speedy clearances
4. Relaxation / dispensation of labour law compliances
5. Contribution to PF & ESI funds
6. Facilitate ease of doing business for MSMEs
7. Facilitate trading across borders
8. Ease licensing requirement for production of Sanitizer

## IMPACT OF COVID-19 ON DIFFERENT SECTORS

### MANUFACTURING

Major companies in India such as Larsen and Toubro, Bharat Forge, UltraTech Cement, Grasim Industries, the fashion and retail wing of Aditya Birla Group, Tata Motors and Thermax have temporarily suspended or significantly reduced operations in a number of manufacturing facilities and factories across the country. iPhone producing companies in India have also suspended a majority of operations. Nearly all two-wheeler and four-wheeler companies have put a stop to production till further notice. Many companies have decided to remain closed till at least 31 March such as Cummins which has temporarily shut its offices across Maharashtra. Hindustan Unilever, ITC and Dabur India have shut manufacturing facilities except for factories producing essentials. Foxconn and Wistron Corp, iPhone producers, have suspended production following the 21 days lockdown orders.

### AGRICULTURE

A study during the first two weeks of May by the Public Health Foundation of India, Harvard T H Chan School of Public Health and the Centre for Sustainable Agriculture found that "10% of farmers could not harvest their crop in the past month and 60% of those who did harvest reported a yield loss" and that a majority of farmers are facing difficulty for the next season. Due to logistical problems following the lockdown tea estates were unable to harvest the first flush. The impact of this on the second flush is not known. The entire Darjeeling tea based tea industry will see significant fall in revenue. Tea exports could drop up to 8% as a result. During the lockdown, food wastage increased due to affected supply chains, affecting small farmers.

From 20 April, under new lockdown guidelines to reopen the economy and relax the lockdown , agricultural businesses such as dairy, tea, coffee, and rubber plantations , as well as associated shops and industries, will reopen. By the end of April , 17,986 crore (US\$.5 billion) had been transferred to farmers under the PM-KISAN scheme . Odisha passed new laws promoting contract farming.

### ENERGY

Night lights and economic activity are connected. In Delhi, night light radiance fell 37.2% compared to 1–31 March 2019. This was the biggest fall for any metro in India. Bangalore fell 32% while Mumbai dropped by 29% India's fuel demand in April 2020 as compared to the previous year fell nearly 46%. Consumption of fuel was the lowest since 2007. Cooking gas sales rose ~12% An International Energy Agency report in April estimated India's annual fuel consumption will decline 5.6% in 2020. Diesel demand will drop ~6%.

Oil prices dropped sharply in 2020 following the COVID-19 pandemic. Demand also fell sharply. By mid-May India had already filled its strategic storage including storing oil on ships across the world. India is now looking at storing oil in other nations including America. India also plans to increase its local strategic storage capacity for oil.



## TOURISM

India is big on cultural and historical tourism, attracting domestic and foreign nationals throughout the year. It does not come as a surprise that a large number of confirmed COVID-19 cases in India include foreign tourists. But with visas being suspended and tourist attractions being shut indefinitely, the whole tourism value chain, which includes hotels, restaurants, attractions, agents, and operators is expected to face losses worth thousands of crores. Experts believe the tourism industry is likely to take a massive hit, and it could end up crippling the industry for the foreseeable future.

## SUGGESTIONS

- It is suggested to remove the fees for any upcoming licenses and permit renewal for the hospitality and travel industry across states.
- Transportation is a major issue as the Transporters are refusing to go to the various States Districts & demanding unrealistic Fares.
- Compensation should be given to all Construction companies towards reimbursement of wages paid to labour/ workers, salaries paid to employees.
- To buy the farm produce for upcoming Kharif and then Rabi seasons. Liquidity to these companies will ensure that they are able to support the farmers in this time of need and avoiding rural distress.

## CONCLUSION

The impact of COVID-19 on customers is profound and the full impact on the economy is still unknown. While B2C and B2B organizations scramble to meet immediate and emergency needs, the pandemic has activated a new wave of commerce innovation. Above all, except for essential services like electricity, gas, water supply and part of 3B, C and D relating to broadcasting, financial services (banking) and, public administration, defence, etc, all other sectors have been completely shut. The impact on agriculture, which is seasonal in nature, cannot be ascertained exactly.

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## CHAPTER 34

### IMPACTS OF COVID 19 IN EDUCATION SOCIETY USING FUZZY LOGIC

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#### INTRODUCTION

The pandemic Covid-19 has spread over entire world and constrained the human culture to keep up friendly removing. It has essentially disturbed the instruction area which is a basic determinant of a country's monetary future. February 11, 2020, the World Health Organization (proposed an authority name of the infection as COVID abbreviation for Coronavirus illness 2019. It was first distinguished in Wuhan, China on December 31, 2019. First demise by COVID 19 was the 61-year elderly person in Wuhan, China 2020. WHO proclaimed COVID-19 as a pandemic on 2020. The principal instance of the COVID-19 pandemic provided details regarding 30 January 2020 in the province of Kerala and the influenced had a movement history from Wuhan, China (Wikipedia). The principal passing because of COVID-19 was accounted for in India on March 12, 2020. It has influenced more than 4.5 million people groups around the world (WHO). As indicated by the UNESCO report, it had influenced over 90% of all out world's understudy populace during mid April 2020 which is presently diminished to almost 67% during June 2020. Flare-up of COVI-19 has affected in excess of 120 crores of understudies and young people across the planet. In India, in excess of 32 crores of understudies have been influenced by the different limitations and the cross country lockdown for COVI-19.

#### WHO INSTRUCTIONS FOR ACADEMICS

In the wake of noticing the Covid pandemic circumstance the WHO encouraged to keep up friendly separating as the main counteraction step. Along these lines, each nation began the activity of lockdown to isolate the polluted individuals. The instruction faction including schools, universities and colleges got shut. Classes suspended and all assessments of schools, schools and colleges including passage tests were delayed inconclusively. Consequently, the lockdown obliterated the timetables of each understudy. Despite the fact that it is an uncommon circumstance throughout the entire existence of schooling, COVID freedoms to emerge from the thorough study hall instructing model to another period of advanced model. The lockdown has constrained numerous instructive foundations to drop their classes, assessments, temporary jobs and so forth and to pick the online modes. At first, the teachers and the understudies were very confounded and didn't see how to adapt up to the circumstance of this unexpected emergency that constrained conclusion of the instructive exercises. In any case, last on completely understood that the lockdown has instructed such countless exercises to make do with the rise of such pandemics. Along these lines, COVID set out numerous difficulties and open doors for the instructive organizations to reinforce their t foundation (Pravat, 2020a). The lockdown has given them a beam of expectation for educators and understudies to proceed with

their instructive exercises through on the web. The instructors allocated work to understudies through web, conveyed addresses video conferencing utilizing distinctive Apps like Zoom, Google meet, Facebook, Youtube, and Skype and so on. The instruction areas of India just as world are severely influenced by this. It has authorized the overall lock down imprints' life. Around 32 crore students halted to move schools/universities and all instructive exercises stopped in India. The flare-up of COVID-19 has instructed us that change is unavoidable. It has filled in as an impetus for the instructive establishments to develop and decide on stages with advancements, which have not been utilized previously. The schooling area has been battling to endure the emergencies with an alternate methodology and digitizing the difficulties to wash away the actions taken by Govt. of India to give consistent instruction in the country. Both the positive and adverse consequences of COVID-19 on instruction are talked about and some productive ideas are likewise highlighted do instructive exercises during License, which grants unlimited use, After noticing the Covid pandemic circumstance the WHO encouraged to keep up friendly separating as the main counteraction step. Along these lines, each nation began the activity of lockdown to isolate the defiled individuals. The training areas including schools, universities and colleges got shut. all assessments of schools, schools and colleges including passage tests were deferred he lockdown annihilated the timetables of Though it is a remarkable circumstance throughout the entire existence of training, COVID-19 has set out many open doors to emerge.

### **GUIDELINES BY WHO FOR EDUCATIONAL INSTITUTION**

The WHO standard proposals to the overall population for decreasing openness to, and transmission of, a scope of sicknesses are the accompanying and incorporate hand cleanliness, respiratory cleanliness, and great sanitation rehearses

- :(i)Wash your hands as often as possible with a hydroalcoholic arrangement or with cleanser and water
- (ii)Cover your mouth and nose with the wrinkle of your elbow or with a cloth in the event that you hack or sniffle; toss the tissue following and wash your hands
- (iii)Avoid close contact with individuals who have a fever and cough
- (iv)In instance of fever, hack, and trouble in breathing, counsel a specialist immediately and reveal to him the excursions made
- (v)In markets situated in regions where there are at present instances of the new Covid, stay away from unprotected direct contact with live creatures and with surfaces in touch with animals
- (vi)Consumption of crude or half-cooked creature items ought to be kept away from. As per great food handling practice, crude meat, milk, or organ meats ought to be manoeuvred carefully to stay away from cross-defilement with crude food

### **INTERPRETATION OF FUZZY LOGIC IN ACADEMICS**

Fuzzy logic is part of logic uncommonly intended for addressing information and human thinking so that it is agreeable to handling by a PC. Along these lines, it is appropriate to man-made brainpower, control designing, and master frameworks. The more conventional

propositional and predicate rationale don't take into account levels of imprecision, shown by expressions of expressions like poor, normal and great. Rather than truth esteems like valid or bogus, it is feasible to present a multi esteemed rationale comprising of Unsatisfactory, Satisfactory, Average, Good, and Excellent. Fuzzy frameworks carry out fuzzy logic, which uses sets and predicates of this sort. As the exemplary rationale is the essential of customary master rationale, fuzzy logic is additionally the fundamental of fuzzy master framework. Fuzzy master frameworks, as well as managing vulnerability, can display sound judgment thinking which is hard for general frameworks. One of the essential limits of exemplary rationale is that it is confined to two qualities, valid or bogus and its benefit is that it is not difficult to demonstrate the two-esteem rationale frameworks and furthermore we can have an exact allowance. The significant inadequacy of this rationale is that, the quantity of the two-esteem subjects in reality is not many. This present reality is an analogical world not a mathematical one. We can consider fuzzy logic as an augmentation of a multi-esteem rationale, however the objectives and utilization of fuzzy logic is not the same as multi-esteem rationale since fluffy rationale is a relative thinking rationale not an exact multi-esteem rationale.

### **A Study of Academic Performance Evaluation Using Fuzzy Logic Techniques**

| <b>S. No</b> | <b>Name</b>                   | <b>Function</b>  |
|--------------|-------------------------------|--|
| <b>1</b>     | Crisp Value                   | Crisp value is student mark obtained in examinations semester's examination.   |
| <b>2</b>     | Fuzzification:                | Fuzzification means crisp value (student mark) is converted into Fuzzy input value with help of suitable membership function   |
| <b>3</b>     | Inference Mechanism           | Define different type fuzzy rule ("If then rule" for student academic performance evaluation. If Then" Rule) for student academic performance evaluation.  |
| <b>4</b>     | Fuzzy Output                  | Determines an output membership function for each rule. value for each active rule ("If Then" rule).   |
| <b>5</b>     | Defuzzification (Performances | Defuzzification means calculate the final output (Performance Value) with the help of suitable defuzzification method. In this proposed research work, we have used Centre of Area (COA) for Defuzzification (performance evaluation |

### **Fuzzification of Examination Results and Performance Value**

Fuzzification of examination results was carried out using input variables and their membership functions of fuzzy sets. Each student has five examination results each of which from input variables of the fuzzy logic based expert system. Each input variable has marks obtained by the individual student linguistic variables such as "FAIL, SECOND CLASS, FIRST CLASS, DISTINCTION"

If the marks is zero and less than 0.35

Then the academic performance is “FAIL”

If the marks is greater than 0.35 and less than 0.6

Then the academic performance is “SECOND CLASS”

If the marks is greater than 0.6 and less than 0.8

Then the academic performance is “FIRST CLASS”

If the marks is greater than 0.8 and less than 1.0

Then the academic performance is “DISTINCTION”

## CONCLUSION

In this chapter, we have designed a New methodology for students’ academic performance evaluation based on fuzzy logic techniques. When the results are evaluated from fuzzy expert system, a difference in outcomes is seen between the classical and proposed fuzzy logic based expert systems methods. While the classical method adheres to a constant mathematical rule, evaluation with fuzzy logic has great flexibility and reliability.. We have seen that the proposed method (Fuzzy Expert System) converting crisp number to fuzzy number and using Linguistic variables results has been published. In this pandemic situation conducting offline exams asking students to come to institution is very nightmare. So only Online method of conducting examination is safe and wise decision in this situation that to converting marks to fuzzy value by suitable method and publish results in Linguistic variables gives satisfaction for the students community and their parents.

**Dr. V. Vijayalakshmi**

## CHAPTER 35

### DIET ESSENTIALS DURING COVID-19

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#### INTRODUCTION

At the end of 2019 a novel virus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), causing severe acute respiratory syndrome expanded globally from Wuhan, China. COVID-19 is an illness caused by a strain of coronavirus. ‘CO’ represents corona, ‘VI’ stands for virus and ‘D’ stands for sickness. This illness observed as ‘2019 novel coronavirus’ or ‘2019-nCoV’. The COVID-19 virus may be a virus coupled to an equivalent family of viruses as Severe Acute metastasis Syndrome [SARS] and a few forms of cold. In March 2020 the World Health Organization declared the SARS-Cov-2 virus a global pandemic. A number of researches and narrative reviews have brought into limelight the Corona Virus Disease 2019 (COVID-19) epidemiology, pathophysiology, diagnosis and its management both with respective to medication and dietary interventions. A lot of attention has also been diverted on public health impact, pathophysiology and clinical manifestations, diagnosis, case management, emergency response and preparedness.

The nutritional status of individuals has for long been considered as an indicator of resilience against destabilization. The ecology of adversity and resilience demonstrates that substantial stressors, such as inadequate nutrition can lead to long lasting effects that are linked to health (both physical and mental health). Optimum nutrition and dietary intake are resource that transcends the individual and community to reach the global influence. Individuals with weakened systems have the additional risk of developing COVID-19. Dr Kate Allen (2020) reported that there are several nutrients that are involved to build immune system that's why maintaining a healthy diet is the best way to support immune function.

#### General Nutritional Advice for adults during the COVID-19 outbreak

Proper nutrition and hydration are vital. People who eat a well-balanced diet tend to be healthier with stronger immune systems and lower risk of chronic illnesses and infectious diseases. So you should eat a variety of fresh and unprocessed foods every day to get the vitamins, minerals, dietary fibre, protein and antioxidants your body needs. Drink enough water. Avoid sugar, fat and salt to significantly lower your risk of overweight, obesity, heart disease, stroke, diabetes and certain types of cancer.

#### ✓ **Drink enough water everyday**

- Water is essential for life. It transports nutrients and compounds in blood, regulates your body temperature, gets rid of waste, and lubricates and cushions joints.



- Drink 8–10 cups of water every day.
- Water is the best choice, but you can also consume other drinks, fruits and vegetables that contain water, for example lemon juice (diluted in water and unsweetened), tea and coffee. But be careful not to consume too much caffeine, and avoid sweetened fruit juices, syrups, fruit juice concentrates, fizzy and still drinks as they all contain sugar.
- ✓ **Eat fresh and unprocessed food everyday**
  - Eat fruits, vegetables, legumes (e.g. lentils, beans), nuts and whole grains (e.g. unprocessed maize, millet, oats, wheat, brown rice or starchy tubers or roots such as potato, yam, taro or cassava), and foods from animal sources (e.g. meat, fish, eggs and milk).
  - Daily, eat: 2 cups of fruit (4 servings), 2.5 cups of vegetables (5 servings), 180 g of grains, and 160 g of meat and beans (red meat can be eaten 1–2 times per week, and poultry 2–3 times per week).
  - For snacks, choose raw vegetables and fresh fruit rather than foods that are high in sugar, fat or salt.
  - Do not overcook vegetables and fruit as this can lead to the loss of important vitamins.
  - When using canned or dried vegetables and fruit, choose varieties without added salt or sugar.
- ✓ **Moderation in intake of fats and oils**
  - Consume unsaturated fats (e.g. found in fish, avocado, nuts, olive oil, soy, canola, sunflower and corn oils) rather than saturated fats (e.g. found in fatty meat, butter, coconut oil, cream, cheese, ghee and lard).
  - Choose white meat (e.g. poultry) and fish, which are generally low in fat, rather than red meat.
  - Avoid processed meats because they are high in fat and salt.
  - Where possible, opt for low-fat or reduced-fat versions of milk and dairy products.
  - Avoid industrially produced trans fats. These are often found in processed food, fast food, snack food, fried food, frozen pizza, pies, cookies, margarines and spreads.
- ✓ **Eat limited amounts of salt and sugar**
  - When cooking and preparing food, limit the amount of salt and high-sodium condiments (e.g. soy sauce and fish sauce).
  - Limit your daily salt intake to less than 5 g (approximately 1 teaspoon), and use iodized salt.
  - Avoid foods (e.g. snacks) that are high in salt and sugar.
  - Limit your intake of soft drinks or sodas and other drinks that are high in sugar (e.g. fruit juices, fruit juice concentrates and syrups, flavoured milks and yogurt drinks).
  - Choose fresh fruits instead of sweet snacks such as cookies, cakes and chocolate.
- ✓ **Avoid eating out**

Eat at home to reduce your rate of contact with other people and lower your chance of being exposed to COVID-19. It is recommended to maintain a distance of at least 1 metre between

yourself and anyone who is coughing or sneezing. That is not always possible in crowded social settings like restaurants and cafes. Droplets from infected people may land on surfaces and people's hands (e.g. customers and staff), and with lots of people coming and going, you cannot tell if hands are being washed regularly enough, and surfaces are being cleaned and disinfected fast enough.

### **Role of Nutrients to Boost Immune System**

Optimal nutrition helps to strengthen the system (both innate and adaptive immunity) and promote early recovery. No single food/supplement, spice or herb will forestall or treat sickness. However, it's prudent to incorporate some specific nutrients on a daily basis. The immune system is a complex system, not one entity. It needs balance and harmony so that immune system works well. The Best nutrition helps to strengthen the system (both innate and adaptive immunity) and promote early recovery. No single food/supplement, spice, or herb will forestall or treat sickness. However, it's prudent to incorporate some specific nutrients on a daily basis.

### **Immunity Building Foods- Herbs, Spices**

Some ancient spices and condiments possess antiviral/antimicrobial activity that helps to fight infections. Spices are a necessary part of the human diet, not just for flavour and taste however additionally for the healthful properties that they contain. They're powerful antioxidants having an awfully high ORAC (oxygen radical absorbance capacity) price. In spite of many health edges, they must not be consumed in more than an acceptable daily intake. Herbs and spices that may facilitate improve immunity are:

- Holy Basil
- Garlic
- Ginger
- Fenugreek
- Turmeric
- Mint Leaves

### **CONCLUSION:**

Thus, it is essential to understand the importance of healthy, well balanced diet for prevention, management and overcoming the problems of COVID. Moreover, inclusion of immunity boosting foods in the regular diet will go a long way in improving the immunity status of individual. Following the COVID norms of washing hands, masking , social distancing and vaccination along with healthy ,well balanced immunity boosting diet will be helpful in reducing Corona infections and ultimately associated mortality.

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# ***“The Covid Divide:” Behavioural, Social and Economic Impacts***

## **About the book**

The novel Corona virus has been playing its havoc in the life of the humans all over the world in the form of massacre or the total deterioration of the health condition of the individuals. Millions of people once affected with the fatal disease and those who survived, and the remaining population un-affected so far in all nations are even now vulnerable to the virus. So that, fighting the virus through vaccination has become the policy and actions of all the governments and societies for some more years. There are controls in the behavioural, social, economic, technological and educational walks of life of the people, which has resulted in adaptation to the situation.

Against this background an enquiry has been made by certain number of writers to trace out the impact of Covid for the last 18 months in 2020 - 2021, during which the world was squeezed into a rut. The writers are researchers, research scholars, educators and post-graduate students from different universities/institutes in India and abroad, who look into the issues critically. This collection of articles would be inquisitive and interesting to policy makers, government officials, teachers, students and the general public, in their search for the impact of Covid over the world population.

Mode of publication: Non-print, On-line

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Year: 29 July, 2021

Organisation: Publication Wing, A2ZLearningHub LLP

Website: [www.edulearninghub.com](http://www.edulearninghub.com)

Email: [info@edulearninghub.com](mailto:info@edulearninghub.com)

Ph: +91 9074403089, +91 9961685028

Total pages:160

Price: Free (open access)

ISBN: 978-81-951230-3-2

