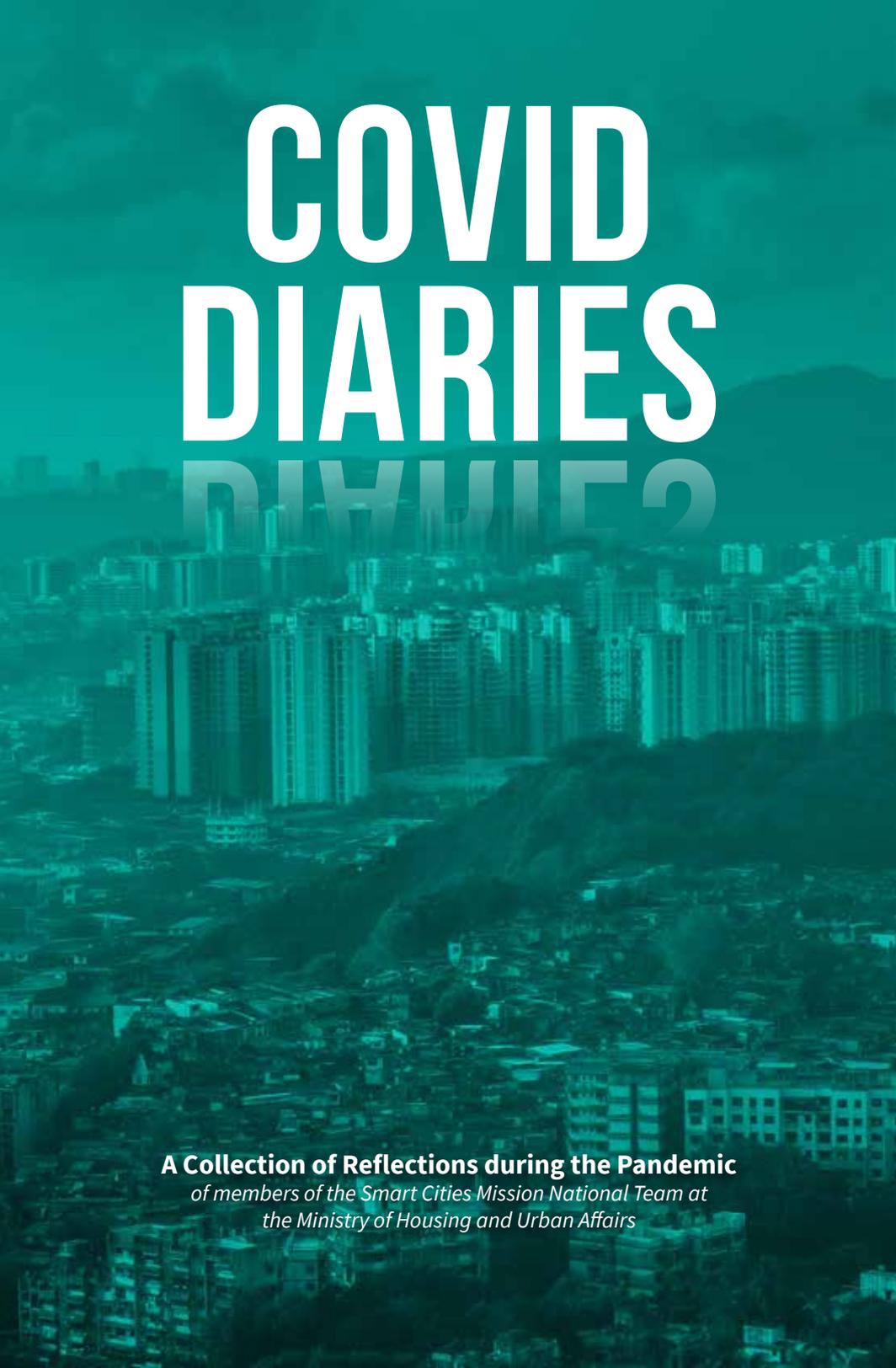


COVID DIARIES



A Collection of Reflections during the Pandemic
*of members of the Smart Cities Mission National Team at
the Ministry of Housing and Urban Affairs*

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Year of Publishing
2020

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Shri Durga Shanker Mishra
Secretary,
Ministry of Housing and Urban Affairs,
Government of India

Prologue

In celebrating the 5th anniversary of India's Smart Cities Mission (SCM), we are celebrating the success of a transformational approach to urban development. 'Building cities for people' is at the core of this approach which was introduced in June 2015 when the Mission was launched by the Hon'ble Prime Minister. Smart Cities Mission has been instrumental in giving Indian cities a global appeal and has endeavoured to equip them with digital technology based management systems and solutions to match the ever accelerating urban demands in governance, efficiency, access and security. For setting and achieving this novel set of world-class standards, I heartily congratulate the entire Smart Cities Mission team.

This Mission has made significant progress over the last five years towards its proposed investment of ₹ 2,05, 018 crore in 5,151 projects. Till date, close to 4,700 projects worth over ₹ 1,66,000 crores have been tendered of which 3,800 projects amounting to around ₹ 1,25,000 crores are under implementation. Projects worth nearly ₹ 27,000 crores have already been completed and are delivering benefits to the citizens. In order to boost walkability, non-motorized transport and public transport, our cities have completed 159 smart road projects worth ₹ 2,400 crores and 290 projects worth ₹13,000 crores are near completion. 91 PPP projects worth ₹ 3,700 crores have been completed and 203 projects worth ₹ 21,400 crores will be completed soon. 51 projects worth ₹ 800 crores related to creative vibrant urban spaces have been completed. 67 projects worth ₹ 2,300 crores related to smart water and 41 projects worth ₹ 200 crores under smart solar have been completed.

Leveraging technology continues to be a big differentiator of Smart Cities Mission. The Mission has stayed in step with the changing urban needs and has created strategies, frameworks and initiatives to enable technology adoption across the board. Data Smart Cities Strategy, Data Management Unit, Open Data Platform, Indian Urban Observatory in the Ministry, National Urban Innovation Stack are just a few such initiatives which will not only serve us in current times but will benefit future generations immensely.

Today, even as the world is facing one of its worst crisis in recent history in the form of the COVID-19 pandemic, our Smart Cities have been at the forefront in leveraging technology to manage the crisis, with 47 of them using their Integrated Command and Control Centres (ICCCs) as crisis management war rooms and 34 cities working to complete them at the earliest. There have been several innovative stories around data and technology, how cities have co-created mobile Apps and solutions to ensure communication, coordination and collaboration with citizens, communities and its field force, how our cities are using emerging technologies like drones, artificial intelligence (AI) , social media, Chatbots and data science to tackle challenges due to COVID-19.

Bruhat Bengaluru Mahanagar Palike's COVID-19 War Room at Bengaluru has come up as a model for other cities. Their dashboard is the single source of all COVID-related data which includes people under quarantine, their contacts, medical personnel on ground, hospitals-ward-wise, area-wise & beyond. The war room has been supported by global companies in a consortium with the prestigious Indian Institute of Science in Bangalore, and a few local start-ups to work on application development, analysing data, monitoring infected areas and suggesting actions. BBMP model has become an epitome of the integration capabilities of ICCCs in the face of an emergency. Many other cities like Agra, Varanasi, Surat, Pune, Pimpri-Chinchwad, Chandigarh, Bhopal, Chennai to name a few have shown similar agility.

ICCCs as war rooms are focussed on four broad areas of work- information processing, communication management, crisis management and predictive analysis. Cities are using them for testing and quarantine measures by mapping of suspected cases to optimal lab locations, sample collection etc. In Bhopal, a total of 19 ground screening teams, 5 centres, 3 labs and 20 contact tracing team run all SOP stages in the city. Decisions are made in ICCC using a dashboard for cases in the city. In Surat, home quarantine cases confirm status on the Surat Municipal Corporation 'COVID-19 Tracker App'. There is a daily video check-in to track temperature, symptoms to gather the patient's status. In Agra, 800+ cameras are being used for surveillance and over 7,250 AI generated alerts have been handled and are active in 17 police stations for crowd management. In Varanasi, medical services delivered by video conferences and public announcement systems instruct health and sanitation workers and spread health advice. Through these efforts, approximately 1,300 health grievances have been resolved and 350+ telemedicine consultations completed. In Pimpri Chinchwad, Sarathi helpline has been launched for citizen assistance and service delivery. Shelters for migrants and homeless, food and ration supply to underprivileged have been provided. There have been over 30,000 downloads of Sarathi App in 2 weeks. With such advances using technology, the Mission has truly shown the world the power of technology in service to an entirely humanitarian cause.

In facilitating and anchoring the work under the Mission, our national team has been a fulcrum for giving the Mission its current shape and form. The members of this team have stayed on guard day and night and brought every effort to bear in bringing the Mission to its current status. Their stories of personal and professional growth through the Mission especially in engagement with Cities and States in these fateful times will inspire posterity to see the world through the eyes of urban professionals in their more contemplative states. The intent of the document has been to capture their impressions on the situation in urban India and the response thereof in the light of the COVID crisis. Reading the document is like having a glimpse of not only the thoughts and reflections of our team members, but also the canvas of urban India in these difficult times.

I congratulate every team member led by Mission Director, Smart Cities Mission, Shri. Kunal Kumar on completing 5 successful years of the Mission, and for having put together this excellent compilation. I hope that the readers enjoy this wonderful symphony of ideas as much as I did!



Shri Kunal Kumar

*Joint Secretary and Mission Director (Smart Cities) ,
Ministry of Housing and Urban Affairs*

Foreword

It was with great pride, gratitude and sense of responsibility that I joined the Smart Cities Mission as the Mission Director (MD) in May, 2018. My instincts told me to stay calm and buckle up for a thrilling roller-coaster ride with its numerous ups and downs. Charting the course of this tall ship would naturally not have been entirely a fair weather and smooth sailing experience, as I often had to steer it through troubled waters. I was not an individual but part of a team of around 30 members, each committed to the success of the Mission, who I had the greatest pleasure of leading as MD. Together, as flag bearers for the prestigious Mission tasked to fulfil Government of India's vision for creation of Smart Cities, we hit the ground running each time we embarked towards accomplishment of newer horizons and objectives. This, I must say the team did with great gusto and grit. In time, we – the motley crew of administrators, consultants and fellows became what I now proudly refer to as the Smart Cities Mission family.

We raced ahead, achieving milestone after milestone, the Mission taking several tides in its stride at a time, until we came upon the iceberg that has the whole world stopped in its tracks. The COVID-19 pandemic is nothing like what the world has ever witnessed. Sure enough, the human race has battled and survived pandemics, but in the absence of globalisation, their spread was locally contained. COVID-19 brought not only our Mission but the entire world to a position frequently referred to as a standstill; however, to be frank, it felt more like a cliff-hanger.

When our country went into a lockdown on March 25, 2020, we shifted gears towards combatting the COVID crisis all hands on deck. All our energies have since been focused on managing the crisis in our cities while simultaneously strategizing for a shaky future. I was given the additional responsibility to lead the Central Government's COVID Team in Maharashtra – a daunting task and all the more exciting. Indeed, roaming the streets of Dharavi as I experienced the fear and anxiety of the contagion first hand is when the realization hit that now I was looking at the crisis from another person's perspective, perhaps in an alternate reality. For the outsider in Nirman Bhawan, I was a commander implementing the plan for a National Mission, but for the slum dweller in Dharavi, I was the missionary of hope on a reconnaissance mission.

"If I speak of myself in different ways, that is because I look at myself in different ways."

— Michel de Montaigne

It was in this sombre state that I started a process of self-reflection through writing and recording my observations as a Mission Director, a COVID response team member, an urban administrator and as a human being. I found it bringing me to an even keel in this time of turmoil.

I became curious to know what the high seas looked like from the eyes of my crew. We are all but extensions of one another! Some of us related to the COVID crisis through personal stories of family or helpers at home. Some viewed it through an opportunistic lens to make amends to existing systemic shortcomings to re-chart their course. Others pondered on the transition from a 'daily commute to work' to a 'daily work from home' situation and the woes of having the lines between office and personal space blurred. Still others thanked our collective stars for technology. Writing unburdens the mind and the soul, and also aids the process of creative recovery by getting thoughts etched on a paper and out of the way for more creative thoughts to follow. I wanted to share with my team, who has now become so dear to me, this gradual process of self-discovery through observation and writing of their hopes, worries, fears, and ideas around the pandemic. This process helped them in understanding their selves better, thus also tightening our bonds further.

I am awed by the beauty of our team's creativity. Their reflections are stories of compassion, journals from a-day-in-the-life of a citizen now (and yes, in the future!), memories of childhood, building blocks of ideas for the economy, mobility, emergency response and governance, and promises of a technology powered future. With such positivity springing from the depths of each team member's soul, I am certain that our journey will continue with full speed ahead towards our vision anchored in smart, sustainable, affordable and healthy cities. Let us cherish these thoughts and memories forever!



Acknowledgement

On behalf of the national team of the Smart Cities Mission, Ministry of Housing and Urban Affairs (MoHUA), we express our heartfelt gratitude to the design and editorial team at the National Institute of Urban Affairs (NIUA) for their support in preparation of the document.

Foremost, we would like to express our gratitude to Mr. Hitesh Vaidya, Director, NIUA for spearheading this task. We would also like to acknowledge Dr Debjani Ghosh for anchoring the project, the editorial team comprising Ms. Ahona Datta Gupta, Ms. Divya Jindal, Ms. Khushboo Gupta, and Ms. Nabamalika Joardar for preparation of this publication. We want to thank the NIUA design team headed by Mr. Deep Pahwa and supported by Mr. Devender Singh Rawat for developing the publication exactly as envisaged, and the Smartnet team comprising Pranay Bharadwaj and Priyank Khare for making the document electronically available within a quick deadline.

Finally, the team expresses its gratitude to the authors of the articles in this publication, for putting their thoughts to words at short notice.

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Timeline of

Antonine Plague

Period: 165 – 180
Death Estimate: 5M to 7M

The Antonine Plague was far deadlier than COVID-19, and the society it hit was far less capable of saving the sick than we are now. But Rome survived. Its communities rebuilt. And the survivors even came to look back on the time of plague with an odd nostalgia for what it showed about the strength of their society and its government.

Japanese Small Pox

Period: 735 to 737
Death Estimate: 1 M

This epidemic led to a major political upheaval and reorganization of the state. Triggering significant shortages in labor. Rice cultivation was affected the most, which forced the government to take unprecedented action to rectify the damage. In the years after the epidemic, attempts were made to stimulate dangerously low agricultural productivity by offering land to commoners on the condition they work on the said land. This offer resulted in the births of many future households that would emerge into prominence centuries later.

Smallpox

Period: 1520 – 1521
Death Estimate: 5M – 8M

Smallpox became the first virus epidemic to be ended by a vaccine. In the late 18th-century, a British doctor named Edward Jenner discovered that milkmaids infected with a milder virus called cowpox seemed immune to smallpox. Almost two centuries after Jenner published his hope that vaccination could annihilate smallpox, on May 8, 1980, the 33rd World Health Assembly officially declared the world free of this disease. Eradication of smallpox is considered the biggest achievement in international public health.

The Third Plague

Period: 1855 -1894
Death Estimate: 12M

The worldwide outbreak would eventually claim some 15 million lives before petering out in the 1950s. Most of the devastation took place in China and India, but there were also scattered cases from South Africa to San Francisco. Despite the heavy casualties, the Third Pandemic led to several breakthroughs in doctors' understanding of the bubonic plague. This has been a large part of why we haven't seen a fourth pandemic. There have been innumerable epidemics of plague throughout history, but it was the pandemics of the 6th, 14th and 20th centuries that have had the most impact on human society, not only in terms of the great mortalities, but also the social, economic and cultural consequences that resulted. The course of development of communities and nations was altered several times.

165 – 180

541 – 549

735 – 737

1346 –
1353

1520 –
1521

1665 –
1666

1855
-1894

Plague of Justinian

Period: 541 – 549
Deaths Estimate: 25M to 50M

The plague episode contributed to a weakening of the Byzantine Empire in political, military and economic ways. The root cause of all the problems stemmed from one major factor, and that is the loss of manpower caused by the disease. The famines and subsequent inflation that followed put the empire in financial stress. In particular, the agricultural sector was devastated. While eventually the empire was able to recover from the plague and claim more land than before, the plague kept it from achieving greater glory.

Black Death (Bubonic Plague)

Period: 1346 – 1353
Death Estimate: 50M - 200M

The Black Death, historically known as the Great Plague, stands among the deadliest instances in recorded human history. It reduced the world's population so much that it took nearly two hundred years to recover. Beyond the catastrophic loss of life, it resulted in irreversible political, economic, and social upheavals in Europe. The Black Death also replenished Mother Nature, with whole forests re-growing in the absence of human industry, even affecting global temperatures and climate. The coronavirus pandemic owes one of its major features to the Black Death outbreak; quarantine.

The Great Plague of London

Period: 1665 – 1666
Death Estimate: 1M

This was the worst outbreak in England since the Black Death. All trades with London and other plague towns was stopped. There were to be no fairs or trade with other countries, which led to loss of jobs. All public entertainment was banned and victims were forcibly shut into their homes to prevent the spread of the disease.

Global Pandemics

Cholera

Period: 1817 – 1923
Estimated Death: 40M

Cholera is the world's longest running pandemic. Fundamentally, cholera is the result of a lack of investment in adequate water and sanitation infrastructure, maintenance and governance – all of which are needed to solve the problem. In India, Cholera killed more than half a million people in both 1918 and 1919.

Spanish Flu

Period: 1918 – 1920
Estimated Death: 50M

Spanish Flu is considered to be one of the deadliest pandemic of the modern era. The flu was severely detrimental to the economy, forcing business to shut down, and affecting basic services. By the summer of 1919, the flu pandemic came to an end, as those that were infected either died or developed immunity. With no vaccine to protect against the influenza infection and no antibiotics to treat secondary infections, just like COVID-19 pandemic; control efforts worldwide were limited to isolation, quarantine, good personal hygiene, use of disinfectants, and limitations of public gatherings.

Hong Kong Flu

Period: 1968 – 1969
Estimated Death: 1M – 4M

The outbreak was the third influenza pandemic to occur in the 20th century; Although a vaccine was developed against the virus, it became available only after the pandemic had peaked in many countries. Compared to other flu pandemics Hong Kong flu carried a low mortality rate. This was chiefly because of a winter outbreak, some natural immunity after the Asian flu outbreak, and vastly improved medical care.

COVID-19

Period: 2019 – Present
Death: 6 L as of July 30

The coronavirus COVID-19 is affecting 213 countries and territories around the world and 2 international conveyances. WHO is bringing the world's scientists and global health professionals together to accelerate the research and development process, and develop new norms and standards to contain the spread of the coronavirus pandemic and help care for those affected.

1817 –
1923

1889 –
1890

1918
-1920

1957 –
1958

1968 –
1969

1981 –
Present

2019 –
Present

Russian Flu

Period: 1889-1890
Estimated Death: 1M

Also known as Asiatic Flu; this pandemic was a worldwide outbreak of influenza. COVID-19 pandemic is like a replay of the Russian Flu as within a few months, the pandemic spread virtually to every part of the globe. This is due to connectivity through roads, rivers and notably, railways, which hadn't existed before. Today, the Russian influenza is often cited as the first modern flu pandemic.

The Asian Flu

Period: 1957 – 1958
Estimated Death: 1M – 2M

The epidemic made history in more than one way. It was the first time the medical world had ever made advance preparations before an epidemic struck. By the time it reached USA, a vaccine was ready. This helped reduce its spread.

HIV- AIDS

Period: 1981 – Present
Estimated Death: 35M

In the 1980s and early 1990s, the outbreak of HIV and AIDS swept across the world. Today, more than 70 million people have been infected with HIV and about 35 million have died from AIDS since the start of the pandemic. Though there is no cure for HIV or AIDS, a person with HIV who receives treatment early can live nearly as long as someone without the virus. The World Health Organization (WHO), in 1988, declared December 1st to be World AIDS Day.

Sources:

who.int; cdc.gov; smithsonianmag.com; armstrong.edu; pnas.org; ancient.eu; historycollection.co; medicinenet.com; dailymail.co.uk; jmvh.org; washingtonpost.com; history.com; britannica.com



Leveraging Lockdowns: A case for promoting healthier, safer and equitable urban mobility in India's Smart Cities

Aakriti Chaudhari

The government is relying on lockdowns and restriction on movement as the main safeguards against COVID-19. A gradual easing of these measures is expected but a return to Indian cities as we know them still may be a long time coming. COVID-19 related woes aside, with cars out of the way, cities look less congested, breathe fresher, move slower and feel better. Should we then strive to preserve this wholesomeness as we adjust to the new normal? While the restriction on movement comes with a plethora of challenges, it also presents an opportunity to reshape and redefine our transport systems and infrastructure for the better. This article presents an opinion on how cities can and why they should leverage the present constraints

to approach the very complex problem of urban mobility in India.

Barely 6 months old and 'COVID-19' needs no introduction. 'Sustainable transport', at least a few decades old, can only dream about such recognition. Thousands of workshops, conferences, panel talks, and even in purported participatory discussions - the concept fails in its struggle to impress upon the memory of the decision makers. Urban professionals up against an unflinching belief system which holds the private automobile (cars and two wheelers) sanctimonious have to constantly remind of the number and extent of negative externalities such vehicles impose on *everyone and everything* they touch, including their owners. Since the threat to human life posed by private automobiles is gradual, though far dire with road fatalities claiming

thousands of lives every year in India, air pollution causing lakhs of premature deaths and climate change just around the corner (transport sector is a major contributor to global GHG emissions), it continues to be ignored.

How in the first place did the private vehicle gain its popularity, and more in some parts of the world than others? The American landscape is shaped the way it is because the country has historically favoured private cars over any other form of transport. Car ownership falls directly in line with cultural values of individualism and personal freedom. More walkable, bike-able, public transport friendly cities such as in Europe are traditional settlements where transport systems evolved such that the need for faster mobility preceded the desire for personal mobility. Europe, from London's extensive tube and bus ridership to Amsterdam's cycling, links cultural experience to not driving.

In India, where urbanization was sudden rather than gradual, walking and cycling seem to have leapfrogged to the private two-wheelers and cars. This is in part due to the absence of reliable, safe and good quality public transport systems, yes, but also, from a complete flip of cultural values from extreme frugality to near manic consumption. While overcrowding, lack of access and lack of reliable, good quality infrastructure pushed the urban consumer away from sustainable transport choices; rising affordability, class association, and last mile connectivity led her towards other available options.

This provided auto manufacturers with an opportunity to meet the demand but more importantly, to create a 'false need fallacy' through targeted advertising. This way irrespective of whether one buys a car or not, there is a general consensus that private cars and supporting infrastructure is the way to go. At the same time, non-



private transport modes that are also more sustainable have come to be associated with a lack of affordability, inefficiency and a lower social status. These beliefs, now deeply ingrained in the minds of stakeholders and decision makers, pose the single biggest challenge to the understanding and uptake of sustainable transport projects.

Complementing this challenge are challenges related to implementation. A series of workshops were undertaken as part of the Smart Cities Mission aimed at helping smart cities and especially their technical staff to solve critical issues related to preparing detailed project reports, tendering snags, awarding work and on-ground implementation. Smart city projects were broadly classified in sector categories with 'Complete Streets and Mobility', being the sector under which sustainable transport and urban street design projects were discussed.

During the discussion, city officials and their teams cited project specific hurdles and received insights on how to tackle them from peers and technical experts. Upon a closer look, we see that most of these hurdles spring from the same underlying causes:

1. Lack of a comprehensive (sustainable transport) vision for the smart city
2. Lack of an integrated and sequential approach to data collection, policy guideline, mobility planning, design and implementation
3. Under leveraging the power of a comprehensive participatory approach and undervaluing the role

of stakeholders, especially those engaged in the informal sector in creating safe and vibrant spaces

4. Lack of clarity on what a complete street means and how it was inclusive of but not limited to landscaping and aesthetic improvement
5. Lack of interagency coordination and stakeholder cooperation
6. Lack of capacity for project planning, design and implementation

The belief that the private automobile (or its single passenger substitutes facilitated by cab aggregators) is the inescapable solution to urban mobility problems is reinforced by the limited success of sustainable transport and mobility projects. However, it can be argued that it is this very mind-set which restrains decision makers from giving sustainable transport its due consideration as the correct option. This weakens the will for a vision in which the city concerns itself with moving people over cars, and the challenges listed ensue resulting in further reinforcement of the private vehicle centric belief system. This has set Indian cities in a vicious cycle they have been unable to break and reset themselves for the better so far.

Leveraging Lockdowns

To encourage sustainable transport choices, we can either change the society's value system through awareness first, or demonstrate success through implementation accompanied by awareness building aimed at inducing behavioural change. As the Smart Cities Mission, we have taken the second approach and faced challenges noted earlier. The lockdown imposed by the

COVID-19 crisis has inadvertently removed some of those challenges at least for some time to come and provided opportunities where none existed.

COVID-19 is unprecedented and the most certain way we have found to deal with it is by not dealing with it at all. The lockdown is now exactly 2 months old and has affected people in varying degrees. Businesses are shut, shops closed, work from home is prescribed and movement is restricted in most areas.

What does this mean in terms of opportunities for better and equitable streets?

1. A recent survey conducted among 37 smart cities showed that 28 cities out of 37 were ready to begin construction on projects including complete street, signage, bus stand improvements, bus shelter improvement projects. The projects amount to approximately INR 1,907 Crore. With video conferencing being part of the new normal, there is an opportunity for capacity building of such cities through online trainings to steer towards incorporating elements of sustainability and methods of repurposing streets. Starting with SCM projects, cities could even extend the effort beyond ABD limits creating networks and promoting usage.
2. One of the biggest challenges to complete street project implementation is the lack of stakeholder cooperation. With most of the country going through a phased lockdown and restricted traffic movement for the foreseeable future, resistance

from shop owners, residents and other stakeholders is likely to be at an all-time low. This could be a once-in-a-lifetime opportunity for carrying out disruptive works like underground ducting and also for incorporating pedestrian, non-motorized transport and bus infrastructure on our smart roads.

3. Repurposing already completed smart road/complete street projects to allocate more space for walking and cycling.
4. While workforce in the service sector can continue to work from home, those engaged in manufacturing and construction activities will need to reach work. Ironically, it is this group that is unlikely to own a personal car or two-wheeler, and more likely to walk or cycle to work. This will have to be complemented by a highly reliable public transport system. Repurposing streets to maximize walking and cycling to suit the need of the hour will reset the bar for the private vehicle owner who will get accustomed to using streets in a different, healthier way or will have to get accustomed once the space has been reclaimed by sustainable transport choices.

A communication strategy to reach out to private vehicle owners while these measures are taken, will ensure public support even after the lockdown is entirely lifted. Cities also have the opportunity to carry out route rationalization exercises for their bus or IPT operations.

Milan, Italy, has implemented a Strade Aperte plan or “Open streets” plan that

prioritises pedestrians and cyclists over cars. This is also being done with a vision to reduce car usage. The Lombardy area plans to repurpose 35 km of roads to make them more people-friendly. The project will include temporary cycle lanes, wider footpaths, 30kph speed limits and pedestrian and bike priority streets. Bogota and Berlin have also employed ‘tactical urbanism’ methods to convert lanes for automobile movement to dedicate bicycle lanes for travel during the lockdown. New Zealand has become the first country to provide funding for such ‘pop-up’ bike lanes and widened footpath within the ambit of a national policy during the pandemic. The idea of bicycling and walking aligns perfectly with maintaining social distancing while on the move.

The concept of repurposing of streets and (complete) street construction activity during lockdowns is resonating widely across the transport community across the world. We know it is a new normal we will be returning to, but how good it would be if the new normal could be turned into something to look forward to. Advocates of sustainable transport everywhere envision car-free cities long after the virus has been contained, pollution-free, energy efficient, safer and more secure, with vibrant yet functional streets promoting happier communities and healthier living.

For our decision makers, to see or not to see is the question!

ARTICLE SUMMARY

The short essay underscores the need for sustainable urban mobility solutions as India moves towards the new normal in the post pandemic world. From highlighting social, institutional and psychological barriers to the uptake of sustainable mobility projects, the author opines on ways to leverage COVID imposed restrictions to re-strategize, re-think and re-purpose in order to encourage.



AAKRITI CHAUDHARI

Aakriti works as an urban transport and planning specialist in the DFID supported Technical Assistance to Smart Cities Mission. Through her academic training and 11 years of work experience in urban transport projects, policies and initiatives with different levels of governments in India and the US, Aakriti has developed a deep conviction for sustainable transport as being the solution to all problems urban. As COVID-19 confines the world indoors, opportunities for bolstering sustainable transport initiatives have opened up out-of-doors. Her reflections in the wake of COVID-19 are therefore focused on taking a crisis and making it better.

Aakriti is a post graduate in Transportation from Iowa State University, and in Business Administration from the Indian School of Business.



Societal Platforms and Design Thinking for Effective Public Service Delivery and Communication during COVID-19

Abhishek Dubey

From early to mid-March, India witnessed a continuous spread of the deadly coronavirus along with an upsurge in the death toll. To curb the community transmission of Covid-19, Hon PM Modi announced a 'Janata Curfew' on Sunday, March 22 from 7 am to 9 pm. The chilling truth dawned on the populace by Sunday evening that the 14 hours voluntary public curfew would be followed by a nationwide lockdown of 21 days, starting from March 25th, limiting movement of the entire 1.3 billion population of India for next three weeks. This article is my reflection during the 57 days of lockdown highlighting the plight of our millions of urban migrant workers and how our cities, delivery and communication systems have failed them.

I have also tried to explore solutions for these problems using Societal Platforms and design thinking approaches.

Collaboration

During the time I was pondering about the impact of lockdown on our near ones and colleagues, my phone started vibrating and the notification light started blinking incessantly. My phone was flooded with messages from colleagues, family members and neighbors. Everyone was clueless and anxious about the developing situation. Our society residents were concerned about various issues ranging from supply of medicines, groceries, essential services, cleanliness and most importantly about availability of masks and sanitizers. Within 24 hours, our RWA published a standard operating guideline for all the residents and visitors including delivery boys, domestic helpers and essential services.

RWA immediately suspended the use of swimming pools, gyms, community-center and other amenities. Our RWA took timely decisions to ensure safety and well-being of the residents.

I was wondering how a simple technology solution like WhatsApp or Zoom has facilitated the virtual collaboration between RWA and its residents in no time. No in-person meetings were conducted instead, RWA collected feedback over WhatsApp, no notices were served as everyone was kept informed regularly and surprisingly, no objections were raised by anyone as the process was truly transparent and objective.

I was thoroughly impressed with the maturity with which residents were able to embrace the technology for their communication and to co-create the guidelines. Such platforms have provided the opportunity to each and every resident irrespective of his/her age, gender and economic status to voice their suggestions, inputs and viewpoint. Empowering people through such platforms leads to more inclusive, targeted and practical policies.

Societal platforms are the missing link between our policy making and its target i.e. we the people of the nation. Societal platforms solve complex problems which impact the population at scale. Unified Payments Interface (UPI) is the best example before all of us today which has simplified the entire banking ecosystem within just 4 years of its roll out. Ubiquity, simplicity, security and low-cost features of UPI makes it more appealing than traditional banking which is process heavy

and involves unnecessary human touch points. UPI has revolutionized the fintech space in India and abroad for millions of consumers. Platforms like UPI cuts information asymmetry and strengthen societal trust by making the process transparent and open for audit. These platforms help society to democratize the process of problem solving and innovation at scale in true sense.

Dilemma

The following morning our distressed domestic help called my wife and told her that the society guards are not allowing her to enter the society premises. Suman (not her real name), 31 years old mother of three, is our domestic help and her native village is in UP. My domestic help bombarded my wife with questions about the lockdown and the outbreak. Suman was panicking for obvious reasons and I am sure millions of informal workers like her would be in the same state of mind after the announcement.

Her 35 years old husband works as a construction labor. She shared with us her concerns and told us that she doesn't want to go back to her village if the lockdown gets over within a month. She told us that the situation in her native village is also not

*“Anyone who has ever
struggled with poverty knows
how extremely expensive
it is to be poor”*

- James Baldwin

that great as her family works as landless laborers and there are fewer non-farming jobs for sustenance. She was in a **dilemma** of whether to stay back or head to her village.

She was concerned about her salary, her job, children's health, monthly rent and the outbreak. She was also not sure about what all services will be allowed by the government during the lockdown and when this restriction will get over. We were caught off guard and totally clueless to her questions as we were equally unaware about the situation in days to come.

On learning about her quandary, we assured her that her remuneration won't be suspended during the lock down. *Finally, she decided to stay back.* But we all knew one thing that the world is not going to be the same again at least for the coming three months.

I realized that the success of any government program largely depends on the outreach and the communication to the most **vulnerable section** in the society. Official letters, circulars, OMs and the government parlance is not for the masses. Majority of the poor migrant labor like Suman don't have access to the Internet or minimum skills to access the information. Newspaper, TV and Radio helps to an extent but may not be the most effective way to communicate with the people at the bottom of the pyramid in our society. They are largely dependent on their limited local social network with limited ability to distinguish between fake news, rumors or any misinformation thereby leading to chaotic situations like migrant exodus.

It's time to relook at our entire approach of effective communication in the current ecosystem.



Lockdown 2.0

Lockdown was extended till May 3, 2020. On 14th April, Suman again turned to my wife for help as her savings was depleting fast. Both Suman and her husband have a JanDhan bank account and received just Rs 1500 in their accounts. Since they reside in an unauthorized slum in Noida and don't have a ration card, she was unable to avail most of the benefits like subsidized ration etc. For her, 'social distancing' is an alien concept as her small house has no ventilation and independent toilets. We realized that her entire family will have to sustain within 3000/- for the next three months. Employers are the only hope for her to make her ends meet in absence of any micro-credit support given her informal nature of work. Her landlord was demanding rent and was not ready to accommodate her for another month. Now we really know why we were witnessing the mass exodus of laborers from Delhi on TV. Sadly, few of her other employers in our society stopped responding to her calls. For the middle class families this lock down will be remembered as **family vacation at home** in our memory lanes; but for the poor class it would be nothing short of nightmares.

I often wonder that these people have literally no savings, no insurance, no access to microcredit and they fight a battle on a day to day basis. Both the state government and central government announced schemes and programs targeting the poor in April; but are they really reaching the needy people? How are we measuring the outcomes of these programs? Where is the supporting data to substantiate these claims? What about the feedback loop?

We need to take these learning's back to the design board and figure out how we can deliver a whole-of-life service delivery approach to the poorest of the poor. You can't afford to give poor services to poor people.

Family Crisis

My in-laws live in a B tier city and they mentioned to me that they are not able to find any medicine since the last two weeks due to the lockdown. I searched the internet and tried a few COVID helpline numbers. Few of these numbers were not working and few were coming constantly busy. I tried couple of times in a day and after many futile attempts I reached out to an acquaintance who helped me locate and deliver the medicine at home. If someone like me who works closely with the government day in and day out couldn't get through official helpline numbers, I don't know how poor migrants must be availing these support services in such crisis. Frustrating indeed.

Scalability is the litmus test of success of any service delivery company like Uber, Ola, Flipkart, Zomato etc. Government needs to study these unicorns to identify newer digital models of service delivery at scale with minimum customization. Why not invite them to co-create and redesign our service ecosystem? Few commendable and successful government initiatives like ArogyaSethu App, Chatbots on myGov, Punjab government COVA app passed the litmus test of scalability. We need more of these solutions with a non-negotiable thumb rule i.e. staying closer to our consumer i.e. our citizen.

But Time is running out

Few days later Suman called up and asked us if we could check from which locations, she could board the train or the bus. She told me that a lot of people are now planning to walk back. I searched the internet and zeroed in on the official website for migrant laborers. For a moment it gave an impression to me that it could also be a fake site as it was not on a secure socket layer.

Secondly the registration form on the website was lengthy and cumbersome. It took me a while to make sense of the entire information requested by the government. Her eldest son Sonu (12) helped us with the Aadhaar number of each family member as he is the only one in the family who could read and write. It would be almost impossible for any migrant labor who has limited access and connectivity to fill the entire form. The government should have provided an additional option to fetch information into the registration form by using the Aadhar eKYC service. *The way Reliance Jio leveraged Aadhaar eKYC to register 10 Mn users in no time.*

To my amusement I observed that the website only allows interstate movement so technically you cannot get registered if you stay in Noida and want to go to another district in Uttar Pradesh. I left it there and called Suman to apologize, "Sorry we can't get you registered."

Poor design and user experience leads to rent seeking and corruption as it provides opening for someone who acts as the middleman between government

services and its target consumer i.e. citizens. Time has come to embrace design thinking approach which involves understanding the end consumer of the said product or services. Design thinking helps us understand the social and psychological needs of the target user, validates our assumptions and questions the entire process and the relevance of core components of service delivery. For a complex ecosystem where multiple stakeholders are involved in delivering services to the masses, the design thinking approach unlocks various facets of stakeholder needs and requirements thereby leading to efficient product and service design.

Why not create and set up a design thinking lab at all levels of government which could help redesign our approach to deliver services and communications through digital or nondigital channels and enhance the user experience? Design Thinking is not a choice but a need of the hour.

Lockdown 3.0

The government announced the lockdown extension till 17th May. Suman called but this time not to ask for any help but to say us goodbye. She didn't need any of our help this time, maybe she doesn't want to embarrass us any further. With her three kids Sonu (12), Monu (10) and Kamlu (8) and whatever they could carry with them they boarded a shared truck along with 11 other families.

We are awaiting her call to know if she has reached safely. We even don't know

whether she will be back one day. I said sorry to her.

Past is prologue

Our cities have failed millions of those who built these mega cities and metropolis with their sweat and blood. Cities will collapse without these migrant workers. Our future will largely depend on how quickly our cities are able to restart its economic

engines into action in this new normal. Without workers it looks impossible.

Time to rethink, redesign and rebuild our cities for the next 100 years which could offer dignity, economic opportunity, livable and sustainable public amenities to all. A societal Platform, citizen collaboration and design thinking approach needs to be internalized for better cities.

ARTICLE SUMMARY

The author provides his personal reflection during the 57 days of lockdown highlighting the plight of millions of urban migrant workers and how the cities, delivery and communication systems have failed them. He further proposes solutions using societal platforms and design thinking approaches in response to these challenges.



ABHISHEK DUBEY

Abhishek Dubey is a Technology and Data Expert in Smart Cities. He has more than 13 years of work experience in the technology sector and has worked with Government of India at all levels, designing and implementing IT Transformation programs as an advisor.

Currently, he is leading the Data Analytics and Management Unit and supporting Smart Cities Mission in shaping up and implementing key data initiatives. He is a strong proponent of Open Government, Open Data, Societal Platforms, and Design Thinking in Smart Cities.

Presently, he is working with PwC as an Associate Director.



Social Distancing in Public Transport during COVID times: A Distant Dream for Indian Cities

Aftab Alam

In the pre-COVID world, I remember all the urban transport think tanks discussing about optimizing public transport usage by increasing ridership while keeping a check on the overall expenditure, thus reducing government subsidies and developing self-sustainable public transit systems to some extent. This has led to the evolution of various 'Transit Demand Management (TDM)' measures such as congestion charging, incremental pricing for parking, and employer's incentives to push people out of their cars and pull them into public transport.

The outbreak of the COVID-19 pandemic has created an unprecedented situation around the world and led to the inevitable

need for social distancing, prevention being the only cure until the development of a vaccine. The need of the hour has shifted the entire focus on how to operationalize public transport systems while maintaining minimum social distancing norms. Especially in a country like ours, where a standard 12 metre city bus accommodates as many as 100 passengers at a time, the metro rail systems at its peak carries 10 to 12 passengers per square metre, and the infamous 'Super Dense Crush Load' term coined by India Railways to describe Mumbai Suburban Railways passenger load of 14 to 16 passengers per square metre during peak hours. It is worth mentioning here that the crush load of 6 passengers per square meter is considered the practical limit of what can be accepted without serious discomfort to passengers.

Social distancing norms require people to maintain a minimum distance of one metre between them to avoid being infected. This, when applied to various public transit vehicles, reduces their allowable occupancies drastically. A standard 12 by 2.6 metre bus will be able to accommodate around 20 passengers, which is just 28 percent of its design capacity of 70 passengers. Similarly, a 21 by 3 metre metro coach will be able to accommodate around 60 passengers, which will be only 17 percent of its design capacity of 350 passengers. The result will be a huge capacity reduction on the supply side of public transport, which was already in short supply. Subsequently, it leads to two daunting tasks, that is, managing transit demand and supply to suit social distancing norms and sustaining operations.

If one has witnessed Delhi's bus stops or metro stations, or for that matter Mumbai's Suburban Railway, during peak hours one can very well understand the herculean task of organizing people to follow social distancing while boarding, alighting and when on-board the public transit vehicles. This, in addition to when permitting systems to only operate at one-fifth of their capacities.

Institute for Transportation and Development Policy (ITDP), in its 'Post-lockdown Guidelines for Bus Operations' has suggested several measures to maintain social distancing. These include:

- Displaying guidelines for safety measures and hygiene at bus stops, terminals and inside the buses;
- Creating a helpline for passengers



for queries and provide bus arrival time updates using mobile-based platforms to avoid longer wait time at bus stops;

- Making announcements about the bus schedule and running status to avoid crowding at bus stops;
- Decentralising ticketing and encouraging use of passes instead of single journey tickets and also encouraging contactless means of ticket purchase such as online ticketing;
- Creating queue-based entry into buses with safe spacing between passengers,
- Limiting bus occupancy to safe levels;
- Prioritizing entry of the vulnerable group such as elderly; and,
- Enforcing entry and exit through separate doors.

Although all the aforementioned guidelines are some of the best possible measures, which must be implemented during these times, but these, may have limited success owing to the difficulties in enforcement. Moreover, these guidelines are limited only to buses and do not cover metro or suburban railway systems.

In this scenario, I would suggest a more holistic approach to tackle this challenge. A demand-side intervention would be much more effective. This implies flattening the peaks of the demand curve by spreading transit demand evenly throughout the day. This can be achieved by staggering working hours of the working population and especially of the captive users of the public transport. Therefore, working hour slots start time may vary from 6 a.m. to 1

p.m., and subsequently, closing time may vary from 2 p.m. to 9 p.m. It should also be ensured that not all establishments at a particular employment zone be allotted the same working-hour slot. This will avoid all incoming/outgoing trips to/from that zone in a short time span, thus minimizing crowding. These measures when clubbed with 'Work from Home' provisions will significantly reduce transit demands at a given point in time, thus easing enforcement of ITDP-prescribed guidelines.

Supply-side interventions may include hiring of buses from private operators to expand operations, as suggested in the ITDP guidelines. I would also suggest that the city transport authorities consider tying-up with bus service aggregators, such as shuttle or Ola, and using their bus services to augment supplies. App-based bus services will ensure contactless ticketing, provide app-based location tracking of buses thus reducing passengers' waiting time and crowding at designated stops, and ensure designated seats inside buses. The Standard Operating Protocol (SOP) must apply to these buses as well, and the government may subsidize losses in fare box revenue incurred due to reduction in occupancy. The city transport authorities may also develop their own app-based bus services over a period.

The fare box revenues of the public transit systems may decline owing to the reduction in system capacity, and the operational expenditure might increase because of deployment of additional work force at the critical points to enforce SOP and because of the expenditure

in sanitization activities. The twin blow may widen the income-expenditure gap substantially and destabilize the financial sustainability of the public transit systems, thus threatening business. To manage such a situation, government will have to subsidize public transit operations either through redirecting funds from proposed car-centric infrastructure as suggested by ITDP, or through establishing a COVID Urban Transport Fund (COVID-UTF). The public transit operators shall also look for new, innovative non-fare box revenue streams to reduce the deficit.

Smart Cities in India are best placed in terms of preparedness for implementation of these interventions. Several Smart Cities have operational Integrated Command & Control Centre (ICCC), and public transport operations are being entirely managed and monitored centrally through ICCC, thus

minimizing physical operations activities and optimizing resource utilization. In response to the COVID situation, the CCTV-based surveillance system at ICCC shall be used to monitor transit stops and enforcement personnel shall be alerted for any violations in the SOP. Variable Messaging Signboards (VMS) and Public Announcement System (PAS) shall be used to disseminate information regarding dos and don'ts while using public transport. Innovative data analytics may be used to predict likely congestion points across public transit systems, and appropriate actions shall be taken to ensure social distancing be followed at all time.

The COVID-19 Pandemic is compelling us to learn the new normal and we shall do this by using this to our advantage. We are in this together and we shall win this together!

ARTICLE SUMMARY

While focusing on the challenges that public transit systems face in implementing COVID-specific precautionary measures, the author juxtaposes established social distancing guidelines for bus operations with his own proposed measures. The author outlines his approach by focusing on staggered working hours of the working population, and suggesting that city transport authorities work with bus service aggregators. He also suggests measures to deal with pandemic-related deficits in public transit revenues, while highlighting how the Smart Cities Mission is equipped to implement the necessary interventions.



AFTAB ALAM

Aftab Alam is an Urban Infrastructure Planner with wide experience in Urban Transportation Planning. He is currently working with the Mission Management Unit of Smart Cities Mission, Ministry of Housing & Urban Affairs, Government of India, New Delhi. His interests include travelling, technology and photography.



Normal is now luxury, and luxury is irrelevant

Arekh Kapoor

It used to be in every summer vacation during my childhood, I would walk alongside the road from Darya Ganj to Raj Ghat holding hands of my grandfather glancing the yellow leaves of Amaltas, excited about playing to the extent I wanted because I was with my grandfather, and no one would ask him if we would get delayed reaching home.

He made me walk a distance which was not much for him but for my small steps then was like an unending road. I always used to tell him can I ask my father to drop both of us in the car, and he would say I prefer bus number 11. I was always astounded by his reply, but what he meant was that he preferred walking.

One day on the same walk, he said Arekh we want things which are not actually required, we can live with minimal things and those which are relevant, I replied him back, *“Dada papa - aap ab buddhe ho gaye ho”* (Grandfather you have grown old now).

After thirty days of lockdown, my mother asked me to go and buy monthly groceries and essentials from ‘Metro Cash and Carry’ and I was excited that finally I will step out of home. While standing at the queue I realized the words of my grandfather that we need minimal things and only those which are relevant.

Since the lockdown has started, I am not going out on weekends with my wife to dine out at restaurants or to watch a movie in the theatre. Looking at the current situation, I can fairly imagine that I will not be going out for holidays for at least the next 6 - 8

months. I am missing all of this as it was part of my life just like other stuff in my daily routine which now has become luxury.

Yes, I am annoyed by the daily routine of not doing things which used to be normal for me, but I am content that I have got substantial time to be with my family. Sometimes I get amused that now 24x7 I am at home and I can feel that my mother has started caring about me more and more with each passing day and she feels empathetic seeing my work routine.

I feel like I am living the same evenings that I used to have during my childhood when my mother used to cook evening snacks, it's just that now I do not go out to play after eating snacks, I sit in front of my laptop and keep working. After a longtime I have had a heart to heart conversation with my mother, which was earlier not possible because of the hectic daily routine of mine. I go for a stroll with my wife on the terrace every day, although it is brief, but it has meaning now.

The lockdown has made us all realise to live a sustainable life, I can say this because I am home with my family, but what about those who are stuck due to the lockdown and are facing challenges to meet their near and dear ones. It is very painful to see people walking bare foot to reach their home.

On the first day of the lockdown I was on the road from Patparganj to Anand Vihar Bus Terminus and I saw laborers walking on the roads to reach the Bus Terminus. It reminded me of the scene from movie '2012'. Due to further extension of the lockdown laborers are stuck in different parts of the country far away from their homes and families. They are on their own and their stories are of pain and anguish. Initially, they could buy food from their savings which lasted a month and after that they started running low on money. They had two options, either to face COVID-19 without food or walk home; and when I see myself, I only have to work from home. For them the luxury is to reach home and for us being home is the new normal.

There is one more facet that I observe about our society and that is the working class which we never focussed on, is standing on the front-line and defending us from this pandemic. It is important that we keep them and their families safe while they are out performing their duties.

We know that this pandemic will pass soon but what will remain is the lesson we learnt to live a sustainable life, the worst that some strata of society have faced, and the way we see the world now. But I am sure that society will see normal as luxury and luxury as irrelevant for a long duration of time.

ARTICLE SUMMARY

The author vividly writes about his childhood memories with his grandfather, of walking along the streets of old Delhi, and making his way to Raj Ghat; reminiscing the value of frugal yet a simple life, value of forming stronger safety nets such as family, friends and community to rely upon in unprecedented times such as these.



AREKH KAPOOR

Arekh Kapoor is an Urban Sustainability and Solar expert on the DFID supported Technical Assistance to Smart Cities Mission, Ministry of Housing & Urban Affairs. He has supported the Mission on the aspects of how Smart Cities are able to power itself with renewable sources of energy. The current change in the daily routine due to COVID-19 pandemic has moved Arekh to write on this topic.



Solid Waste Management & Sanitation and COVID-19 Warriors

Arun Sharma

Another morning with a surety that similar template of activities shall take place in the coming hours of the day till I sleep again at night. Things have taken a routine since March 2020 when the lockdown started. In initial days it was a bit awkward to repeat same things for weeks but now it has been months and still light is not seen at the other end of the tunnel.

If nothing has changed for someone then those people are Covid-19 warriors. Waking up similar to the days when freedom was freely available to everyone. Getting ready and going out of homes to make sure that people like me don't face any problem either in terms of waste management, sanitation, law and order and health

services. No work from home possibilities for these warriors. To name a few, sanitation workers, healthcare staff, police personnel, mandatory services staff including water and electricity departments, banking professionals, government think-tanks and many more unnamed brave hearts.

My behavior is more or less similar to a paranoid personality nowadays. Washing hands even after going to the balcony of my house. Washing all vegetables and packed groceries with soap, putting a lot a sanitizer on newspaper, books or whatever similar item I am buying nowadays. A sense of fear is present all the time. I am very conscious even to go outside on an empty road. On other hand, I see the Covid-19 warriors doing their duty assuming it is just another day. A big salute to their act of kindness towards all of us for continuously serving on the thin edge of risk of falling

victim on any given day. By the mid of May 2020, only Maharashtra recorded more than 1100 infected Police personnel. Across the country, this number may be anywhere around 2000. That means more than 2 percent of total confirmed cases till date, are from Police departments only. Similarly, healthcare staff is also impacted while treating others. By the end of April, more than 250 medical staff was infected with Covid-19. Even in these circumstances people are showing a tremendous courage despite knowing that they are facing a life-threatening virus. Their dedication is tremendous.

What has changed in Waste Management & Sanitation?

Cities which have resources and have a good level of awareness are taking suitable steps in handling waste during this pandemic. They have started to

collect solid waste from containment zones separately and arranging for its direct incineration without any other processing. Door to door collection of waste is still being done and managed efficiently by Covid-19 warriors. Similarly, the sanitation management is also done as a regular routine without any problem. An interesting observation here is that, workers are very careful themselves. They are using protection gear and maintaining a self-hygiene while handling this tough job. The waste collection vehicles are using a new method of public messaging. The messaging by these vehicles is very important for people who are away from electronic or paper media. The loudspeaker mounted on these vehicles provides information on precautions and other measures to the citizens to protect themselves from Covid-19. In future, this method can be used by municipalities to



earn some revenue as these vehicles can be used for advertisements.

Citizens have also started to understand the importance of sanitation workers in this situation. Citizens' engagement has improved across all sanitation activities. Waste management and sanitation are invaluable services which are directly associated with health. By working day and night even during this pandemic, these workers are protecting our communities from other risks. Municipalities are investing more towards providing protection gears to sanitation workers.

One problem observed during the current situation is that segregation of waste is impacted. Other than waste segregated at source, it is seen that less segregation activities are done by workers to reduce contact with waste to prevent infection. Waste from contamination zones is already going directly for incineration without segregation.

A big level of motivation is required in the present situation and in future as well for all these warriors as they are risking themselves daily while serving us.

Future steps needed

Any city can not afford to put a halt on these services even for even a single day. And these services have become more critical at the time of such a pandemic. The workers even in the last row need to be motivated all the time while ensuring their safety under all circumstances. Below points need to be addressed in the coming days by the decision-making authorities:

- **Ensuring business continuity** as usual to be the propriety of cities. Sanitation and solid waste management activities cannot be stopped even for smallest period under any circumstances. The previous level of segregation is also to be achieved in the course of time as unsegregated waste disposal to the sites which were previously managing segregated waste, may cause system failure in long run.
- **Prioritizing the health and safety of sanitation workers** will be the primary task which will make all these activities sustainable. Providing PPE kits to the workers handling these services in the containment zones under all circumstances should be ensured. The hand gloves, masks and sanitizers must be ensured by the city administration. The cabins of vehicles should be sanitized on frequent intervals and at least once every time a new shift starts. The sanitation staff should be trained for maintaining self-hygiene and social distancing at all the times.
- **The role of sanitation workers** has to be recognized so as to motivate them during these tough times. This shall encourage them to stick to their performance. This shall also motivate them to come up with new ideas and innovation which can be helpful in managing some grass root challenges in handling sanitation and solid waste management.
- **Use of technology** which is readily available in the market like, using a jet machine for unblocking any chocked sewer reduces time of

rectification as well as it stops human contact to the sewage which may cause infections, will reduce the risk of exposure for most of the sanitation workers. Similarly substituting open waste dumping yards with the waste transfer stations (wherever possible) controls open waste dumping and hence reduces exposure to sanitation workers as well as citizens.

Overall, these are challenging times and continuity of these services will help us stay safe and keep our surrounding environment livable. The importance of these services can be assessed by imagining a situation where the solid waste of our houses is not collected by sanitation

staff for a day and we start thinking that this may create health hazards. Similarly, one small choked sewer line, even for a few hours, can create all sorts of panic among residents due to foul smell, health hazard and nuisance.

As a resident it is the duty of each one of us to respect the efforts made by these Covid-19 warriors and encourage them for their services and duties towards us, society, city and nation.

Hopefully we will come out of this pandemic in minimum possible time and things will fall back to their old place but with a new sense of our responsibility towards environment and society.

ARTICLE SUMMARY

The author discusses the importance of COVID Warriors during the Pandemic. The role played by Sanitation workers is emphasised during these testing times. Suggestions have also been made for the future of these services; to ensure its continuity, without risking the lives of workers, and without affecting one of the most important services for our daily life.



ARUN SHARMA

Arun Sharma is currently working as a Subject Matter Expert - Water Sector, on the DFID supported Technical Assistance to Smart Cities Mission, Ministry of Housing & Urban Affairs. He has been working across a wide range of Urban Infrastructure including, complete water system ranging from sourcing to treatment and distribution, sewerage system including collection and treatment, sea water desalination, solid waste management etc. The environmental concerns and similar issues are of prime interest. The way municipality staff have shown courage at the time of COVID-19 pandemic, while discharging their routine duties with utmost dedication, has motivated Arun to write on this topic.



COVID-19

Wish We had Known, Wish We Had Time, We Wish!

Ashtik Nayak

It hit us when we had least expected and has left us with scars that will remain etched forever in our memories. 'Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)' or COVID-19, as it is being commonly referred to, was first detected in Wuhan province of China. While the whole world was still introspecting on the severity of COVID-19, Thailand recorded the first case outside of China on 13 January 2020. This was the beginning, the spread of the virus would be so catastrophic that WHO would classify it as a global pandemic. One of the first in recent memories.

When the first case was detected in India on 30 January 2020 in Kerala's Thrissur district, nobody would have expected that four months later the country would

still be struggling to contain the numbers and the fact that we would be miles away from the very first semblance of a cure. The spread of this deadly strain of virus could be owed to the small world we live in. With liberalisation, globalisation and the advent of the 21st century, the boundaries of international borders have long become non-existent. People travel places in search of work, as tourists or on vacations. Unfortunately, this is what has led to the spread of COVID-19, which started all the way from China and has now affected 213 countries, with nearly 4.8 million confirmed cases and resulting in more than 3,00,000 deaths world-wide.

How did it all start in India? It was not sudden, the start was gradual. The early numbers had started creeping in from the states of Kerala and Maharashtra, whereas the rest of the country was yet to show the

signs. The states were confident, they had assured the public that they were in control and would be able to contain the virus. The initial increase in numbers was slow, partly due to the inability to detect the virus, long gestation period of the virus in carriers, people's unwillingness to come forward to identify themselves and at times, lack of awareness. How would people know? Wish they had known the symptoms and the traits.

By the mid of March, the spread of COVID-19 had already started grabbing international headlines. This was no more a joke, it was in all senses a global pandemic. The World Health Organisation on 11th March, 2020, during an official announcement categorized 'COVID-19' to be a global pandemic. However, the world was yet to accept the severity of the virus which was further amplified by the fact that China, the country where it all began, hid the facts and fudged the numbers. The COVID-19 numbers had started escalating worldwide, with European countries like Italy and Spain most severely affected. The numbers were increasing without any control and without any cure in sight, and it was inevitable that the deaths were starting to pile up. By the middle of March, countries world over had realized and started initiating precautionary measures. The Indian government also understood the gravity of the situation and announced 'Janta Curfew' on 22nd March, 2020 and 24th March, 2020, the whole country of more than 1 billion people was put under lockdown.

The lockdown was sudden, everything was shut down, companies/ firms were

closed, markets closed, streets were empty, people were caught unawares and the largest democracy in the world came to a standstill. While the government was bracing itself for the fight against COVID-19, the common man was struggling to gather essentials like food, water and medical supplies. The lockdown was expected to 'break the chain', control the numbers and eradicate the virus. The lockdown remained in full effect and was extended thrice, but to no avail. The numbers kept on rising, from a paltry 300 when the 'Janta Curfew' was declared, to more than 90,000 cases today. We had failed to contain the numbers.

The people that were impacted the most were the daily wage earners, small-time vendors, shopkeepers, traders, students/workers stuck in other cities and migrant workers. With no sources of income and facing difficulty to sustain themselves over the prolonged period of lockdown, they were finding it difficult to make ends meet. Their only wish being, if they had had more time, they could have returned to their homes, they wouldn't have had to brave the roads walking and they could have survived. Their plight, visible from the large exodus of migrant workers queuing up at stations and public places to return homes. In these times, even fake messages were like a ray of hope, and hordes of people would gather at bus stands and railway stations with the hope to return home. This was not due to the fake messages, but due to sheer inconvenience and the difficulty that the migrant workers had been forced to endure.

We are still under lockdown, nobody is

talking about 'breaking the chain' anymore. We are long past that stage. We have started exploring ways to revive the economy post COVID-19. Have we seen the worst yet, when all projections of Niti Aayog, the government and the various experts have gone for a toss? We are looking at ways to revive projects and ways to kick-start the economy when we can't even ensure the lives of our people! Ask any common man, the last thing that they would be concerned about would be the economy rather than survival. Three cheers to our selfless doctors who have been struggling to meet the demands. They have placed the lives of people ahead of their personal life, are risking everything and sadly, few have even fallen for the cause. The biggest asset that a nation can have are its people,

the human capital. Countries can be rebuilt, economies can be revived and things can be normalised, as long as there are people who make the country.

We have started co-existing with the threat to a certain extent and will have to continue doing so. We have to find ways to adapt, we always have and will find a way during this pandemic. We will have to live with it, at least till there is a cure, until there is a vaccine.

The question that still lingers is: could this all have been prevented? Could we have known better, could we have prevented this and could we have been more prepared? Wish someone had taken the initiative and told what it really was, we wish!

ARTICLE SUMMARY

The author focuses on the timeline of the spread of the pandemic in India, and the challenges faced by the state and central governments in its management. He focuses his concerns on the plight of small-scale economic activities, as well as vulnerable and marginalized communities. The author also ponders on measures to revive the economy.



ASHTIK NAYAK

Ashtik is a Sr. Consultant with Deloitte India's consulting practice with more than 7 years of professional experience. His focus areas include Smart Cities strategy development, project management, business strategy formulation and project implementation support to various Federal/ State/ City Government ministries / departments / agencies. Throughout his professional career, he has worked in number of assignments which involved stakeholder engagement, project management, business strategy, driving PMO delivery, project implementation, among others. He has experience of working in Public sector with various Ministries.. His clients include private sector, Federal, State & City Government institutions & donor agencies. Besides India, Ashtik has also worked in Nepal and Mauritius.



Work from Home: The New Normal?

Avni Gupta and Aditya Jain

Background

During the current COVID-19 pandemic, governments across the world have realized that a total lockdown was the only way to avoid, or at least delay, the widespread health crisis and reduce the number of people falling prey to the virus. As the global workforce started to get locked down into their homes, the panic and worry was not limited to the health emergency caused by the virus. It also created a major socio-economic crisis by adversely affecting continuation of business activities and office work, both in the private and public sectors.

An immediate answer to this problem and to continue business-as-usual without



requiring employees to step outside their homes, was the concept of 'Work From Home'. This became the reality overnight, as evident by the use of the new and popular acronym, WFH.

Work from Home is not a new concept to corporate India. Technology has made it possible to conduct most office functions from a computer with internet, or even with a mobile phone. Work from Home in the corporate world can also help in

managing the limited availability of office real estate and infrastructure. With growing businesses, firms can allow people to work from either clients' offices or their homes, and reduce the cost on office infrastructure. This can also help the employees who have to manage responsibilities at home, such as nursing mothers. However, due to concerns related to productivity, discipline of reporting, data security and the soft aspects requiring 'human touch', the phenomenon of Work from Home has been utilized very scarcely. This, however, changed almost overnight due to COVID-19 and the resultant lockdown.

Government Sector

The Government of India, various states, municipal bodies and other public sector enterprises employ crores of people in India. While some departments and agencies, such as health, police, municipalities and those offering essential public services have been on their toes during this crisis, there are various other departments and enterprises under the government where WFH became a necessity and the only way to continue operations during the lockdown. Unlike the corporate sector, government offices have had very limited experience of working from a remote location. However, with the continuing threat of the COVID-19 infection, extension of the lockdown and limited means of local transport, WFH for government offices is something that requires a serious thought.

During the current crisis, the Smart Cities Mission, Ministry of Housing and Urban Affairs has adapted itself to the situation quickly and effectively implemented WFH

for its officers and staff since the beginning of the lockdown without losing a single working day. The Mission leadership rose up to the occasion and activated all the technological and administrative assistance required for making WFH possible overnight.

Ever since the beginning of the first phase of lockdown in March 2020, e-Office—the digital workplace solution provided by National Informatics Centre (NIC) —has been fully functional for operating from remote locations. Officers are able to seamlessly move files within and outside the department, manage e-mails and hold meetings through their video conference facility. The officers are processing all critical communication and financial sanctions using digital signatures.

In the Smart Cities Mission, apart from managing the routine office work efficiently, several other initiatives have been undertaken during the lockdown period to compensate for the absence of physical meetings.

One such simple but effective tool has been the 'daily meeting' with all the team members using e-meeting applications that have become an important part of the functioning of the divisions. This one meeting gives the entire division the chance to connect, plan work and assess progress. Similarly, teleconferencing meetings with smaller teams allows better coordination. Sometimes, these have been more productive than physical meetings which are restricted to few people and are more difficult to organize. These meetings have actually improved the level of engagement



of the team members with the Mission, as everyone is more aware about the work being done by the other team members. There is greater engagement than while working in office during normal times, where everyone was confined to their own chambers and files. Further, the Mission has prescribed all officers and consultants to fill regular time sheets to keep track of responsibilities handled by each of them.

The Mission is also playing a role in creating awareness about the current situation by widely disseminating information about the impact of the COVID-19 situation and various initiatives taken by the Smart Cities. After discussion and inputs from the various Smart Cities, actions taken and experience in dealing with the pandemic is being shared through a series of webinars and is being deliberated upon in various online interactive sessions being organized by the Mission. These have been conducted at regular intervals and have seen extensive

participation. This will surely bring about a paradigm change in the functioning of the government sector, which currently relies heavily on physical meetings.

However, notwithstanding the positive changes highlighted above, a fully functional WFH regime may still be a challenge for the government due to its dependence on availability of computer/laptop with a high-speed internet connection at home for all levels of officers and support staff. Nonetheless, this crisis has introduced us to a new way of working. While this was brought about suddenly as a response to the COVID-19 pandemic, WFH in some form and to some extent may become a new normal for the functioning of the government in the future.

Corporate Sector

The COVID-19 pandemic has made corporates realize that with availability of basic work resources such as a laptop with internet, employees can manage their work even while they are at home. Firms have started engaging people to work on deliverables that could be handled remotely and hence started the new normal, WFH.

Within a few days of the realization that WFH is here to stay, companies started adopting various policy guidelines and protocols for making WFH effective at all levels and functions. Initially, the idea was to limit this to certain critical functions and industries, but firms across different sectors have slowly realized that the more WFH is implemented, the better are their chances to tackle concerns and survive this pandemic.

The corporate sector has also taken up steps to help people set up offices from home and to continue to provide services. WFH could be easy and convenient initially because of the comfort of home and absence of daily conveyance. However, due to increasing work pressure, it can gradually become challenging to manage work and home together in the backdrop of dealing with the general stress and concern about the pandemic, and the future in general. WFH can be a sustained option provided we operate in a 'no crisis' mode and can be more productive.

Most of us have created a small corner in our homes where we sit to do official work, but unfortunately, sometimes we work longer than usual office hours, which can be exhausting. Each person will have to find his own balance; for example, a person can be more productive and creative at sitting stations, instead of bed or couch. It is also important to maintain proper security especially when you are at home around your family, avoid hackers and take cyber security measures, such as avoiding connecting to open Wi-Fi networks. Also, some etiquettes and precautions should be observed by covering your web cameras when not in use and proper dress code while joining video conferences.

One of the important aspects of WFH is developing a culture of communication. By having daily update meetings and more frequent e-meetings, team members get the comfort of being connected with everyone, which also provides more

accountability. It provides a platform to raise any concerns and get quick solutions. Not just official meetings, 'e-coffee', 'e-get-togethers' or even 'e-celebrations' will have to be encouraged to make this experience more social. For example, we conduct a half hour session every week with the work team where we talk about things other than work to rejuvenate and release the stress.

Way Forward

As WFH has become a reality, customized policies are required to mitigate few risks associated with WFH. Another opportunity may lie in the workforce, which had earlier migrated to bigger cities in search of work and may now prefer to return to their hometowns. If they are allowed to work from home while staying in their hometowns, this may have a positive impact on the economy of tier-2 cities and smaller towns, while reducing the pressure on major cities.

On an individual level, WFH may result in the work not remaining confined to regular office hours. Therefore, a line between work and personal/family time is required to be drawn to maintain a healthy work-life balance. Also, steps must be taken to ensure that WFH as a concept should accommodate more sectors of the economy and all levels of employees. Beyond the times of a crisis such as COVID-19, WFH can be workable in situations where it is optional and beneficial for both the management and the employee.

ARTICLE SUMMARY

The authors discuss the shifting in working modalities, from active presence to working remotely; from home. They inform the reader about the swift adaptation that both public and private sectors have made to accommodate the 'New Normal', and discuss both the advantages and the perils of the new set-up. Most importantly, the authors share important tips to remain efficient while working from home.



ADITYA JAIN

Aditya Jain is Senior Consultant at PwC and Expert, Data Analytics and Management Unit, Ministry of Housing and Urban Affairs.

I believe I can relate most with this article and share my true reflection as I am supporting my client while working from home.



AVNI GUPTA

Avni Gupta is Deputy Director, Smart Cities Mission, Ministry of Housing and Urban Affairs.

The pandemic and lockdown brought about a new paradigm of managing official tasks from home and I have shared my insights on this new normal for government work.



This too shall pass!

Jitendar Kumar Mehan

Whether we like it or not, we all need to study the subject of History to a certain extent during our school days. History of our own country and that of foreign lands we never visited in life to brush with certain memorable dates, uncommon names to spell, ancestries difficult to remember and incidents foreign to our imaginary world.

We all want to live in the present and of course, plan for the future. "Sometimes we worry too much but at some point in life, we all do look for a compulsive reason and strong justification to study the past - an exercise of mindless memorization of events as students of life."

Gradually, when we grow up and come out of our schooldays, discarding our uniforms, jumping onto the fast paced life, leaving the protective shield of our parents and

facing the world head-on, do we realize that we all are doing nothing but creating histories? Even in the tiniest of forms, our contributions are a speck or grain or a particle of sand in the gigantic structure being created that will become history.

It is then we realize that we cannot escape it as it is the pastness of the past, living in the present and future of an unknown - it is an unpredictable event.

Now, when someone asks me the importance of being a historian who perceivably just digs in the pasts, I say, "No - all historians are data scientists, scratching past information to get meaningful learnings out of it for future readiness". If we compare them with the present day, data scientists and historians are no different. In a way, all present-day data scientists are future historians.

All along, the history of a nation and that of the world has provided nothing



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but data and information about various institutions, challenges faced by them, values, etc., providing international and comparative perspectives essential for responsible citizenry and how the recent prospective changes, affecting the lives of citizens, are emerging or may emerge and their probable outcomes. They showcase conflicting interpretations, experiences and examples of change. It's a laboratory of human experiences - a warehouse of learnings.

In fact, we all learn in three ways – firstly, through others' experiences, secondly, through our own experiences or mistakes and finally, by not learning anything at all. The best way is to learn from others' experiences or mistakes, so that we save on time, energy and cost. The worst thing to happen is to not learn at all. To that end, we must always keep the doors of learning

from the history ajar so as to gather most of our knowledge from the past.

We have time and again been told that 'history repeats itself'. The other version of the quote is, those who cannot remember the past, are condemned to repeat it. In fact, history repeating itself is a common warning in all walks of life. The human kind is constantly reminding itself to learn from the mistakes of the past.

However, when we look back at the history of the world, time and again it proves that this phrase is easily forgotten and often ignored. In fact, when the great philosopher George Santayana wrote this quote, he made a good point by stating that continuity is necessary to progress. In the common parlance, it translates to doing better in future by learning from the past.

We all know, Titanic sank on 15th April, 1912 after hitting an iceberg where more than 1500 passengers died and even after a century, the incident is still fresh. However, very few of us know that around 90 years before Titanic sank, another ship - Tek Sing sank in South China sea. Heavily loaded, the ship crashed into barrier reef on 6th February, 1822, taking away lot of lives. Both the ships had committed fatal mistakes and ended up sinking.

Decades after the Titanic incident, in December 1987, the ferry Dona Paz sailing from Tachloban to Manila in Philippines with more than 4000 passengers as against its carrying capacity of just 1400 passengers, collided with an oil tanker causing massive explosion resulting in sinking of both the ships and caused death of around 4300 passengers, thus being the world's worst marine disaster and getting tagged as Asia's Titanic. History repeated itself but did we learn anything from the past?

The Great Depression of 1929, which lasted for almost a decade, is a well-known economic disaster, resulting in the unemployment of 1.5 crore Americans and nearly half of America's banks getting collapsed. This too had an elder brother. Nearly 56 years before the Great Depression, between 1873 and 1879, the Long Depression affected the whole world. It was the result of reckless decisions of financial institutions, misuse of credits by banks and people were having trouble withdrawing cash from the banks as those were left bankrupt. Recent economic recessions and slowdowns of our generation, which we ourselves are seeing,

are not to be forgotten. The reasons, more or less, remain similar. Again, the question is, whether we learnt and improved from our forefathers or not?

There are so many similar examples of disasters such as tornadoes, earthquakes, gas leaks, oil spills, meltdowns, global warming, chemical explosions, etc. The Bhopal Gas Tragedy, Jilin Chemical Explosion, Tennessee Coal Ash Spill, Gulf War Spill, Deep Water Horizon Oil Spill, Exxon Valdez Oil Spill, Chernobyl meltdown, the Door to Hell are to name a few of the disasters we all very well acquainted with.

But in reality, when we grow up to face the world, we realize that the problems have not gone away; rather they have taken larger shapes and sizes but our capability to deal with these issues have been augmented and we can handle them with ease. We think that when we grow up, all our problems will be sorted. But in reality, when we grow up to face the world, we realize that the problems have not gone away; rather they have taken larger shapes and sizes but our capability to deal with these issues have been augmented and we can handle them with ease. This is so, because we have acquired experiences and learnings of life during our growing years. We know that all that comes – better or for worse – shall pass.

It is not important, as to what happened. What is more important is, what we learnt from it and how much experience we gained, so that we avoid repetition of history to make matters worse for us. A mistake once committed might be a

mistake but when committed twice is foolishness.

Coming to epidemics and pandemics, the history is full of evidences that a new disease has popped up and has spread worldwide at regular intervals. Its spread has been much faster than the pace with which medical science could come up with a possible cure. Till then, it has taken a heavy toll on human lives all around. It challenges our potential and forces us to sprint against time.

More than 5000 years old pre-historic archaeological site of Hamin Mangha in China is one of the best preserved sites of mass burials in which bodies of the people who died due to epidemic were stuffed inside a house that was later burned down.

Around one lakh people died in Plague of Athens (430 B.C) after the Peloponnesian War. The Plague of Antonine (AD 165-180) which took away over 50 lakh people of Roman empire was a disease brought by soldiers returning home after a war against Parthia. This is considered to be the end of Roman era as it experienced more deaths than civil wars and invasions by barbarian groups.

Similarly, the Plague of Cyprian (AD 250-271) in Tunisia was described to be the epidemic signaling the end of the world. This Plague is estimated to have killed 5000 people in a day in Rome. An archaeologist, in the year 2014, found the mass burial site of these plague victims where the bodies were covered with a thick layer of lime (historically used as disinfectant) and the remains of these plague victims

were burned in a giant bonfire. The Plague of Justinian (AD 541-542) in which the Byzantine Empire was ravaged, spanned from the Middle East to Western Europe. The downfall of all these places happened because of a disease.

Coming to the Black Death (1346-1353), the Plague originated in Asia and reached Europe by the late 1340s killing a large population of humankind with unaccounted estimates of death toll ranging from 2.5 crore to 10 crore population worldwide. Similarly, the Cocoliztli Epidemic (1545-1548) was a form of viral fever that killed around one and half crore inhabitants of Mexico and Central America; amongst the population already weakened by extreme drought, the epidemic proved fatal for them.

Likewise, the American Plague of 16th Century, Great Plague of London (1665-1666), Plague of Marseille (1720-1723), the Russian Plague (1770-1772), Philadelphia Yellow fever epidemic (1793), Flu Pandemic (1889-1890) took lives of scores of people across the globe.

The recent times, the 20th Century has also not been immune to such epidemics and pandemics. For example, the Spanish flu (1918-1920), which interestingly despite the name of the disease likely did not start in Spain, took lives of nearly 100 million people during this pandemic.

The Asian Flu (1957-1958), rooted in China, is estimated to take away 10 lakh lives. HIV virus that causes AIDS, developed from a chimpanzee virus that later transferred to humans in Africa in 1920 and became a

pandemic by the end of the 20th century. It has been estimated to have taken over 3.5 crore lives and the numbers are still growing. The medical world has been grappling to find its cure when the good news just came with two people getting cured of HIV in 2020.

Some of the other familiar epidemics include H1N1 Swine Flu (2009-2010) which originated in Mexico and spread to the rest of the world killing lakhs of people worldwide and the West African Ebola (2014-16) with the virus originating from bats and the first known cases being reported in Sudan and Congo in 1976. Medical researchers are still looking for a cure for this disease. Similarly, the impact of the recent Zika epidemic (2015-present day) due to zika virus, which attacks infants still in the womb causing birth defects, are yet to be fully known to medical science.

You might be thinking why I gave all these details of epidemics, pandemics and disasters. My point is, when you read about them and compare the fatalities with the recent COVID-19 which has affected around 40,13,728 people with 2,78,993 deaths in 215 countries in the world as per the reported figures on the day of writing this reflection on 12th May, 2020, the numbers may not seem to be a staggering figure as compared to the past epidemics and pandemics seen over the centuries.

We may say that the worst is not yet over but that does not mean that we have given up and we shall not. The entire world is looking for a possible cure and will find one soon.

We all distinctly remember the fears caused by the recent epidemics of the last few decades - dengue and chikungunya. These have been the gravest of causes for fatalities and hospitalization of our Armed Forces guarding the borders of the country. Nowadays, these diseases are not life threatening to a major extent. Once researchers are able to make a breakthrough regarding COVID-19, it may no longer pose a threat as well.

Medical science has leaped forward in the last few decades and has developed its capacity extensively in order to handle so many diseases and is still exploring newer remedies. All through these centuries, the spirit of life has been constant - to move forward, keep growing and fight all challenges head on.

However, the main cause of concern now is the use of these viruses as bioweapons in bio-warfares and bio-terrorism. Such cultured and genetically engineered biological organisms may prove to be the most dangerous of all weaponry with the potential to cause mass destruction not only of precious lives but also cause everlasting economic damages.

Some of the organisms cultivated, tested and supposedly used so far include Bacillus anthracis (Anthrax), Yersinia pestis (Plague), Brucella abortus (Brucellosis), Clostridium botulinum, Aphthovirus, Burkholderia mallei, Morbilliviruses (measles, canine distemper, rinderpest), Staphylococcus, Francisella tularensis, Rabies virus, Venezuelan equine encephalomyelitis virus and several hemorrhagic fever viruses like Ebola, Marburg Lassa fever etc.

Plant bioweapons cultured and tested for disrupting agriculture and food production have included fungal diseases, viral diseases, insect pests etc.

Even, COVID-19, which first emerged on 19th December, 2019 in Wuhan city of China, novel to the already existing Corona virus over the last two decades was murmured to be one of a kind. Time will unfold its mystery.

However, COVID-19 is not the last one in the series; there may or may not be thousands of its brother and sisters in the coming decades or the centuries by way of natural epidemics or endemics or bioweapons posing threats to our coming generations. But will that stop us from growing, from moving ahead, from challenging them, and fighting them head-on? I don't think so - not at all, and we all very well know that.

THIS TOO SHALL PASS!

ARTICLE SUMMARY

The article provides a historical frame of reference towards learning and unlearning from previous pandemics and calamities that the world has witnessed previously. The article is a timeline of events, through which, the author has tried to analyze the outcomes of each of the disasters mentioned and compare it with the current unprecedented situation. At the end, he gives an optimistic conclusion, focusing on the fact that the world has still moved on and healed, while embracing the many catastrophes, and this too shall pass.



JITENDAR KUMAR MEHAN

Deputy Secretary to the Government of India in the Ministry of Housing and Urban Affairs

Jitendar Kumar Mehan has more than three decades of experience in different capacities in the Government of India. He has done his Masters in Public Administration and is a certified trainer - specialized in change management, process reengineering and handling reforms in the fiscal and development issues. He has served in different capacities in the Government of India in various organizations such as Prime Minister's Office, Faculty in Institute of Secretariat Training & Management, Directorate General of Foreign Trade, Directorate of Income Tax (O&M), CBDT and Ministries of Statistics & Programme Implementation, Home Affairs, Finance (Department of Financial Services) and Defence. He was also the Director on the Board of National Insurance Company Limited and State Bank of Travancore, both public sector institutions, apart from being Special Invitee on the Board of Satpura Narmada Gramin Bank, Madhya Pradesh. Presently, he is also the Director on the Board of Mangalore Smart City Limited, Karnataka.



Indian Start-ups: Rising to the COVID-19 Challenge and Way Forward

Josh Singh

The recent COVID-19 crisis has exposed the myriad vulnerabilities of Indian supply chains, business models, service delivery processes, governance bottlenecks, demand drivers and social sector ecosystem. These lacunas have led to the widespread loss of lives and livelihood and created inconvenience in the life of common citizens. While pain has been real, such gaps have forced the Indian start-ups to rise to the challenge by providing necessary fillip to the government's response as seen from cab aggregators working with delivery partners to hotel aggregators working with hospitals, bringing together the start-up ecosystem like never before.

Entrepreneurs and innovators from India,

having a wealth of trained engineering talent and fostering jugaad – a frugal innovation mindset to find hacks to problems with limited resources, have highlighted a good example of the triple helix model of innovation: integrating efforts between universities, industries (start-ups) and the government, in response to COVID-19. While some biotech start-ups developed solutions to bolster the healthcare infrastructure, deep tech start-ups are coming up with new-age technology to fight Covid-19. From manufacturing low-cost ventilators to developing augmented reality (AR) based solutions, Indian start-ups have lifted their innovation game in this crucial time.

In the past months, start-ups such as MyLab, Bione, Redcliffe Life Sciences among others developed COVID-19 testing kits, while AgVa and Bidesign met the



technologyforyou.org

demand for ventilators across the country. Hyderabad-based Tericsoft has also launched an AI-based computer vision that when installed on a CCTV camera can detect if people within the frame are showing Covid-19 symptoms or not. For instance, the camera detects if anyone on the frame is coughing. The technology also detects if a person is wearing a mask or not. Moreover, start-ups such as Marut Drone tech have partnered with state governments to test the use of drones to monitor adherence to social distancing rules. Drones are also being used to deliver medical supplies and even check people's temperature using thermal imaging.

In addition to health and tech related initiatives, there has been emergence of other sector focused start-ups helping the lives of millions of Indians. Byjus, an ed-tech start-up, providing quality education

to students missing schools and Zomato, a food delivery start-up, meeting daily groceries need of the citizens are common examples which have become daily parcels of our lives. Lastly, crowdsourced platforms have also proved to be an important channel for bringing together the wisdom as recently witnessed when national government launched the COVID-19 solution challenge that invites innovators to offer ideas and solutions for tackling the pandemic. Industry associations such as the Federation of Indian Chambers of Commerce and Industry collaborated over an online hackathon to develop non-medical solutions for COVID-19. In another effort, volunteers have set up an online crowdsourced portal called Corona Safe-Network, a real-time open-source public platform containing details on COVID-19 precautions, tools and responses which serves as a useful starter-kit for innovators.

These are some of the stories that I could highlight due to paucity of space but it would not be wrong to say that start-ups have not only risen but have also surpassed the expectations attached to them.

Hence, while start-ups are trying their best in aiding us fight the corona pandemic, we need to enhance this entrepreneurial spirit to create the next wave of innovation that will boost socio-economic recovery once lock-down restrictions begin to ease. But doing so is not easy as start-ups are crippled with decreasing cash flows, shrinking workforce, rising costs and difficulty of doing business amidst web of fluidic factors operational on ground. In this background the fiscal package, announced by the Finance Ministry, and self reliance agenda for India are welcome steps and would go a long way in meeting the credit needs, strengthening demographic dividend, bringing in much needed systemic reforms and pushing the local demand to increase competitiveness.

But in addition to above mentioned measures, more measures need to be taken, especially if the vision of \$5 trillion dollar economy and self-reliant India is to be achieved. Next, I would like to take the liberty of introducing some drastic measures that I feel are needed to realise the above mentioned lofty aspirations:

- Fixing the perennial credit needs by exploring the government based strategic equity placement in the start-ups; further, building a case for PPP type of start-ups can also be undertaken wherein the People-Public-Private Partnership is achieved

by amending the relevant legislations and undergoing institutional reforms. Moreover, we need to think of leveraging capital markets by allowing special start-up bonds to account for the inherent volatile operational requirements and making start-up financing permissible under priority sector lending norms.

- Mandating PSU & CPSEs to undertake a certain percentage of their overall orders and providing co-facilitation services to develop prototype and support working capital needs of select start-ups.
- Creating special purpose start-up zones wherein experimentation of cutting edge products and innovation is promoted by removing the fear of failure and developing a virtual tech makerspace environment for promoting connected collaboration.
- Empowering the youth by skilling through MOOC and other mediums for training in upcoming technology such as AI, ML, etc. and non-tech areas such as soft skills, negotiations, etc. to provide overall arsenal to undertake the challenges of entrepreneurship
- Reimagining the social security net by fixing the missing markets of education, health and finance. Start-ups like Byju, Practo and Paytm respectively have already shown that major impact can be unlocked if we empower them. Now, we need to direct their energy to address the bottom of the pyramid population and to provide microservices based channels and products.
- Lastly, providing a start-up kit encompassing free mentorship program,

minimum one-time credit support and free online/offline tools to all new entrepreneurs for breaking their inertia and unleashing the animal spirits in them.

I am optimistic that by embracing such desired changes the start-ups will play not just a supporting but also a pivotal role in ensuring the adaptation to the monumental change brought about by the Covid-19. Going forward, I truly believe that in testing times of COVID-19, India's age old

entrepreneurial experience and mindset will allow us to emerge better, stronger and sharper than ever before.

**அருவினை யென்ப உளவோ கருவியான்
காலம் அறிந்து செயின்.**

Thirukural, Chapter 76, verse 753.
Contextual translation: "The one who utilizes all resources and opportunities at hand is an efficient (entrepreneur) and nothing is impossible for him to achieve."

ARTICLE SUMMARY

In the background of various bottlenecks and vulnerabilities exposed in the Indian supply chain in the COVID-19 crisis, the author presents a fresh perspective on the role of Indian start-ups in filling up the gap and aiding the citizens wherever possible. Further, the author concludes by providing some drastic measures to uplift and strengthen these start-ups in the long run.



JOSH SINGH

Josh is currently working as a Young Professional in the Data Analytics & Management Unit of the Smart Cities Mission, MoHUA. He has a previous experience of working in finance and strategy roles before joining the SCM first as a part of ISCF fellowship and later the Data Analytics and Management Unit. He likes reading about macroeconomics, disruptive technologies, and contemporary philosophy.



Risk, Uncertainty and Boundedness of Institutions under COVID-19

Kuhan Madhan and Sukhbeer Singh

Institutions are the conduits for societies to navigate risk and uncertainty, while engendering order and prosperity. When institutions are designed reactively, “tunnelling” behaviour occurs causing them to focus on immediate significant outcomes, leaving navigation of risk and uncertainty to future generations.

A couple of weeks back, on a not so great day for India’s Covid-19 numbers, one of the author’s father posed a rather peculiar question, ‘Why was the United States not aware of this pandemic earlier, if a South Korean show on Netflix was able to conjure something so accurate?’ Having worked in think tanks on foreign policies and security affairs, he could not surmise anything other than that the US government had rebuked reports from their intelligence agencies - a

response that any news feed can provide. Nevertheless, what scrambled our minds was the expertise that any institution, globally, had to predict or make ready for such black swan events.

COVID: The Crisis and Institutional Awareness

In India, Center for Monitoring Indian Economy (CMIE) estimated that 122 million Indians lost their jobs in the month of April alone. COVID risks increase with high population density, poor access to healthcare and presence of comorbidities. At the current case fatality rate of 3.5%, the prospects for India do not look positive. On the brighter side, India with 50% of its population below 25 has some elbow room to pivot.

As COVID made its dark entry, the globalized world that functioned as a complex interconnected system had its

social, financial and economic systems exposed to unmitigated risk. To give an example, the standard ventilator used to treat COVID patients utilizes 300 components from across countries, causing a shortfall in ventilators globally. Similar upending of global supply chains resulted in institutions seeking supply side interventions, overlooking the most profound effect of COVID in weakened demand caused by furloughs and lockdowns. Thus, taking cue from Nassim Taleb's seminal work, *The Black Swan*, this pandemic can definitively be termed as a black swan event as it satisfies the triplet of rarity, extreme impact and retrospective predictability.

In the relatively longer term, it is predicted by the British Government's Review on Anti-Microbial Resistance, that drug-resistant microbes may take up to 10 million lives a year by 2050, eroding global GDP by \$100 trillion. Therefore, our institutions, in Oxford economist Kate Raworth's words, need to move from a Newtonian sense of linear mechanics to ones that can understand the complex interplay of different systems; it is not just picking the apple to sell in a market, but to move attention to how it grows. Our institutions' fascination for mechanistic models oscillating to a point of equilibrium has provided space for agendas and solutions with a sense of supply engineered urgency and gluttony as opposed to the characteristic delays and acts of balancing that are part of natural systems.

When expanding this dichotomy of institutions, we see on one side extractive institutions that resemble command-

control structures, societies and wealth captured by the elite, poor rule of law and a skewed understanding of development, and on the other side inclusive institutions with characteristic traits opposed to the above.

Acemoglu & Robinson, see such a dichotomy of institutions across and within countries, leading to differentiated approach to problem solving and outcomes, unable to create coordinated efforts to solving wicked problems and leaving them with a poor arsenal to defend against black swan events.

An individual's view of adapting to COVID

It makes sense to understand the micro impact of COVID from a future of work perspective. In terms of management and decision making, the industries which were able to transition to digital work saw movement from outcome orientation than process orientation. On the other hand, from a behavioural perspective it has forced modification of human communication in removing non-verbal cues of communication, which define the subconscious communication between human beings.

The transition unlocked efficiencies and removed some time poverty effects which affected workers of various skill levels. Early evidence by the U.S. Census Bureau shows that remote work tends to marginally raise anxiety and stress levels in workers, on account of reduced workplace relationships, but does improve objective markers such as time saved in travelling and spent exercising.

Amartya Sen defines human agency as “what a person is free to do and achieve in pursuit of whatever goals or values he or she regards as important.” The pandemic has demonstrated the human agency enhancing power of technology, with video-conferencing technologies, online skilling/learning services and marketplaces enabling demand and supply forces to keep the cogs of society running. Economist Sami *Mahroum refers to this as a machine-for-man economic transformation.*

On the other end, the misery is yet to abate the destruction of jobs and breach of fiscal deficits. At a time when automation is historically the cheapest, it is more attractive for firms to exit global supply chains, reshore businesses and adopt automation to insulate themselves from supply-side shocks. While consolidation of supply chains through domestic positioning and automation is expected to have positive spillovers in other industries but does nothing for demand as it fails to raise wages for workers who are important as consumers.

Such radical refashioning of market relationships requires institutions that can anticipate Black Swan events and build adaptive communities. Law professor Xavier Oberson proposes taxation robots to keep the pool of tax income constant as human workers are replaced, a view echoed by Stephen Hawking, Elon Musk and Bill Gates. This is opposed, however, as it erects a barrier to innovation and limit the productive efficiency of systems, apart from practical difficulties in taxing incomes earned by robots as well as an

alternative in the form a Universal Basic Dividend whereby a portion of the profits from radically disruptive innovations, may go towards providing a basic dividend to all members of society.

This highlights the need for anticipatory systems, that can design appropriate legal, regulatory, and institutional support systems to guide the development and implementation of technologies which enhance the agency of humans and make them resilient to risks. Future institutions in order to promote adaptation and innovation should enable policies, processes and regulations that can create the ‘adjacent possible’ for communities and individuals to collaborate on enduring solutions, provide the resources for the uptake of such solutions and the space for behavioural change.



Resilient Societies through Adaptive Systems

COVID-19 has highlighted the need to design institutions that are people centric in their approach, have a democratic outlook and look beyond economic stability towards resilient human prosperity. A key step in this approach is to build anticipatory institutions. The authors propose the following tenets in building institutions that pave the path to resilient and adaptive systems:

- **Digital access and literacy as a fundamental skill and right:** Finland has moved to a paradigm where disciplinary boundaries have been broken to build individual human agency in dealing with complex societal challenges
- **Institutions that differentiate between thick and thin accountability:** The development economist Lantt Pritchett put forward a distinction between thick and thin accountability areas: wicked problems, human development and black swan events requiring more localised support and solutions, where the officer in the field needs competence and authority to decide and act quickly as opposed to thin accountability areas; where work is routine and does not require decision-making with respect to context.
- **Policy Buffer for Behavioural Adjustments:** The ‘utility maximising’ and ‘rational individual’ terms need to be gently removed from the pages of economics textbooks and annals of policymaking (Kaushik Basu, Economic Survey 2013). Humans make irrational decisions, especially during crisis situations and when tunnelling on a problem. Similarly, communities globally have made endearing support to others in need of support, sacrificing personal utility. Future institutions should provide for resources and processes that creates a buffer for individuals and communities to take up more of such behaviour.
- **“Evolutionary Landscape” for Institutions:** Similar to the evolutionary landscape in which the evolutionary fitness of species is analysed to differentiate the rate of change of adaptation and innovation a species adopts to survive and move ahead, so should institutions be evaluated in the landscape to the rate of change of challenges in the ecosystem.

ARTICLE SUMMARY

The authors collectively make a strong point towards a persuasive need for institutional reforms, better understanding towards the future of work, transition into digital networking, and the need for refashioning the market relationships. Cognizant of the fact that all these require institutional re-modeling and re-purposing, the authors propose ways to build institutions that pave the path for more resilient and adaptive systems in the near future.



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Dharavi Musings

Kunal Kumar

This collection of reflections has its genesis in the meanderings of my mind as I roamed the streets of Dharavi on the sultry afternoon of 8th of May, 2020. As COVID infections soared in Maharashtra in general, and Mumbai in particular, a Central Government team of three officers including myself flew in to make an assessment. We landed in

Mumbai at 11 am, the first stop - Seven Hills Hospital, and the second- Dharavi.

It's difficult to find analogies for black swan events like the COVID pandemic. More so, in places like Dharavi which hitherto buzzed with activity, literally 24 hours a day. It's almost as if the earth has stopped to revolve. The feeling of complete disbelief was palpable. *'Chalti ka naam gadi - jo naa chale woh kis kaam ki?'*



Dharavi - Snapshot

→ Area
2.17 sq. km.

→ Population estimate
700,000 to 16,00,000

→ Population density
300,000 to 800,000/ sq. km.

→ Economy
Recycling waste, textiles, jewelry, leather, pottery

→ GDP (informal estimates)
1 Billion USD

→ Toilets
1 for every 500 people

Resilience is an oft-used jargon, but it took one of these days to realize its true meaning. The tenacity against all odds of the people who have seen many a downswing in their lifetimes was visible. There is disbelief in the nature of the calamity; yes, but certainly not in their courage to hold on, much like its name; Dharavi, which in Hindi means '*Holding the Sun*'.



Human evolution is an ode to the meticulous program within the body and mind. This is not the first crisis to have visited humans over the few million years of their existence. *Does increased human intelligence really mean more safety from such dangers?* There is no simple answer to this - the same technology that is used to treat cancer is also embedded into nuclear weapons, which can annihilate in a flash.

John Lennon's words - *Life is what happens to you, when you are busy making other plans*-kept echoing in my subconsciousness. Uncertainty seemed to have fatigued the otherwise tireless inhabitants. We are so adept at planning - *which customer to meet, which new business to pursue, what place to visit and when* that life without plans seems alien, the biggest question in the air was - what next?

Does the virus have capitalist characteristics? It's efficient - spreads fast, expansionist - has reached almost all countries and eloquent - growth rates being an essential feature. However, honestly speaking, the virus has none of that. It's as much a random creation of the program inside it, as are humans. Randomness is something we do not

accept easily. Our minds are trained to look for designs, plans and conspiracies. The virus as destroyer filled minds instead of the acceptance of this as just another face of nature.

"Mumbai's structural issues have come back to haunt us", someone in the crowd said. Density is an oft-cited virtue in city building. Obviously, it cannot be taken on face value without going into other aspects. Yet, here we were, in probably the densest habitation in the country trying to make sense of its unplanned anarchy. I flinched with disgust at the criminal callousness of everyone who had caused Dharavi to happen in the first place. It sits in the heart of Mumbai, or does it- *does the city have a heart?*

I did sense the scare of death. Yes, few eyes that gazed through the wire-meshed windows seemed to be asking- is it me next? There is a time when each cell inside you yearns for something but dreadful fear takes over. In a lockdown, you can't even run away. Even if you could, where would you run to? *Doesn't the whole world feel like a cage?* Humans are said to be social animals. If ever I wished that was the case, it was then, at that moment and beyond.

At the core, we are all selfish. This nature of ours has been instrumental in our survival as a species. Over time, as our brains got rewired- things like kindness, moral values, community have seemingly made us altruistic. *Crises like these bring the ambivalence between what lies at our core and the values we espouse in the open.* While on one side, there were the altruists - caring for people in different ways, on the other were the disrupters - who would indulge in violence and try to grab benefits for oneself over the other.

There was a lot of action all around. Administrators trying to manage, volunteers trying to do all sorts of things – provide food, masks, sanitizers, advice, and politicians trying to find ways to help distraught inhabitants. It was a very heartening sight. Four important learnings in terms of crisis management stood out for me:

- **Fidelity** of action with established Standard Operating Procedure (SOP): It's not worth planning if you can't implement it. Also, the need to stick to the SOP cannot be exaggerated.

- **Clarity** in messaging: *Too many cooks spoil the broth*; in a crisis, the clarity of message to all stakeholders becomes most important.
- **Mission** over missionaries: Time and again, personalities become more important than the task. That's the easiest recipe for failure. The need to hold fort even when faced with someone powerful cannot be overemphasized.
- **Leadership**: Last but not the least! Crisis management is not about technical solutions. It demands your best in connecting with people, in translating SOPs to action, in nurturing alliances and motivating both your team and the larger community to perform even with their backs against the wall. It is not an easy task, but extraordinary times need extraordinary people!

Those two hours made me rethink all the theories, entrapments, ideologies that besiege my mind. For once, the dreams of humanity seemed meaningless in the face of the calamity before us. Mere survival was never such a cherished goal. What got us here may not be in our hands, but what will get us out of here may well be!

ARTICLE SUMMARY

The author rummages through the shelves of his mind to recollect the myriad thoughts that crossed it as he roamed the streets of Dharavi. Part of a three-member Central Government team coordinating the response to the COVID crisis in the first week of May 2020, he was face-to-face with an unprecedented and unimagined crisis. He tries to portray the different shades of circumstances, people, emotions and perspectives by splashing their colors on the canvas of this article...

**KUNAL KUMAR**

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He currently leads the nationwide implementation of arguably the largest and most complex urbanization initiative in the world, India's Smart Cities Mission, focusing on the provision of integrated infrastructure and services through implementation of smart solutions in 100 cities. In this most humbling role, he and his colleagues are trying to create and bring to action the blueprint of India's urban future. Before this role, he has served at the helm of affairs in the cities of Nagpur, Kolhapur and Pune in Maharashtra, besides serving as District Collector in the districts of Bhandara, Jalgaon and Aurangabad.

He has received many accolades from state as well as central governments, including the Prime Minister of India's Award for Excellence in 'Aadhar based Governance' in 2010 and the INDOSAN Award conferred by the Prime Minister of India in 2016, among others.



Technology Played Vital Role in Fighting Battle against COVID-19

Manish Sharma

C OVID-19 has impacted the entire world and India is no different. The country reported its first case on 30th January, 2020 and since then the number of active cases is on the rise. As of mid-May, India has reported more than 53,000 active cases. It is noteworthy that even though India is not the leading country in terms of technology, ranking 44th in terms of digital competitiveness as indicated by IMD World Digital Competitiveness Ranking 2019 (WDCR)¹; India has, so far, fought with COVID-19 better than countries which have better ranking and resources in terms of technology and resources. Moreover, Indian smart cities took the lead to show the path to other cities by using technology and capitalizing the limited resources.

Some of the technology measures adopted by the cities in India are briefly discussed below:

Integrated Command and Control Centre (ICCC)

It has become the backbone for all the technologies being used during this battle. Some cities have used ICCC as a WAR Room, Control Room, State Control Centre, Public Addressal System, etc. So, this multi utility Centre is utilized based on its readiness to carry out the following activities:

- 24*7 helpline for patient counselling & for telemedicine support
- Artificial Intelligence (AI) based alerts for lockdown breach
- Drone surveillance of hotspots & containment zones for monitoring
- Dashboard for cases and patient



forbesimg.com

profiling and presenting data received from the various integrated apps

- City surveillance of existing traffic & CCTV cameras feed
- Integration of Corona tracker, e-pass and social apps with the dashboard

Smart Phone

It has become an integral part of every individual's life and we take the phone literally wherever we go. Moreover, in fighting the COVID battle, several mobile apps have been helpful to monitor or track the individuals. For instance, surveillance apps that have been developed are used for contact tracing, which further helps in keeping tab on the disease spread, for geofencing to enforce quarantine, and for

gathering data for modelling the spread of the contagion. Several apps have been developed and are helping in:

- Warning users if they come in proximity of someone who has tested positive for Covid-19 and providing tips on preventive measures
- Checking for Individuals, whether they have COVID-19 like symptoms and based on that can then find out about the nearest health facility
- Surveying tool, for gathering information from users about any treatment or tests they may have undergone in the recent past
- Helping government officials in identifying the worst-affected areas

and enhancing testing facilities

- Allowing citizens to share their ideas, comments and creative suggestions with the central ministries and associated organizations
- Live location tracking via GPS and generating alerts and information

Drones

Drones play a key role by helping authorities and people in different ways to prevent further spread of the coronavirus outbreak. Let's look at how drones are being used effectively to combat COVID-19.

- Authorities are using drones to monitor people's movement and break up social gatherings that could pose a risk to society
- Authorities are also using drones to broadcast messages and information about lockdown measures. Drones equipped with loudspeakers are used to make public announcements such as to remain indoors, take necessary precautions, maintain social-distancing and wear a mask while stepping outside.
- To disinfect public spaces and prevent the further spread of COVID-19, health authorities are deploying agriculture spray drones to carry out tasks like spraying disinfectant in potentially affected areas. These spraying drones are filled with disinfectants and can cover much more ground in less time and are 50 times faster than traditional methods.

Web Conferencing

The use of web conferencing platforms has grown manifold in the last couple of months than what it used to be in the last few years due to this pandemic situation. Entire government functionary is utilizing these platforms to perform their day to day meetings and discussions. In the month of March, 2020, NIC facilitated over 2,300 video-conferencing sessions of over 60,000 hours across the country.¹² This data is only from NIC, but other ministries are taking benefit of the web conferencing portals as well.

Public Finance Management System (PFMS)

PFMS achieved a major milestone recording the highest number of transactions in a single day on 30 March, 2020. There were 2.19 Crore transactions that day, surpassing the earlier mark of 98.19 Lakh on 28 March, 2018.

e-Office

'e-Office', the digital office solution from NIC has turned out to be the nerve of government functioning. Moreover, secure access to e-Office from home has helped government officers to uninterruptedly work from home during the lockdown period. Consequently, essential files are cleared/verified using e-Office.

Conclusion

So far, we fought better than any other country, yet have a long way ahead. We can do much better in the following areas:

2 <https://theprint.in/india/governance/virus-brings-digital-india-to-govt-as-papers-meetings-make-way-for-e-office-whatsapp/399602/>

1. Implementation of Integrated Command and Control Centre in every city.
2. Use of devices such as smart watch which can alert the concerned authorities, if removed, for better surveillance of COVID-19 patients and suspects.
3. Use of drones for delivery of medicines and groceries and tracking temperature.
4. Use of online tools like google docs for better collaboration.
5. 100% use of e-Office with the assurance of 100% security of data.

ARTICLE SUMMARY

The author summarizes the various technology measures adopted by Indian smart cities from using smart phones to converting Integrated Command and Control Centre into WAR rooms, emphasizing on the role of technology in fighting the COVID-19 battle.



MANISH SHARMA

Manish Sharma, Principal Consultant, DAMU Team – MoHUA. Manish has been implementing various projects since past 12 years and has perceived how technology has progressed rapidly in India, which has been reflected upon in this article.



Impact of COVID-19 on Middle Income Group of India

Mukul Gupta

With numerous news articles mentioning the impact of the recent world pandemic, known as coronavirus (COVID-19), on poor (or) low income groups, most of them inadvertently have failed to reflect upon the enormous impact that this pandemic has imposed on the middle income class.

While the plight of the poorest sections of society, particularly migrants who are trudging miles to be back home, having lost their daily wages and now depending on either the government support or private charity for food and shelter has been highlighted over every other news channel, articles and social media forwards have not much been done to throw light on the adversities faced by the tax-paying, quick-

footed, clever and sometimes crooked middle-class which keeps the giant machine of the economy moving - the class which never identified with the poor because it wore its education on its sleeve and aspired to be identified with the rich but couldn't afford the perfume.

The middle-class is not only expected to accept and survive with the ongoing pay cuts and job losses which is pegged at more than 140 million by CMIE (Centre for Monitoring Indian economy) but is also expected to continue paying monthly wages to their maids, car cleaners and various other non-essential or receded house helps. Among the middle-class, the worst impact has been felt by the small and medium businessmen, who have no choice but to continue paying hefty rents for their rented shops as well as the salaries for their employed salesperson



without realizing any footfalls in their shops and to let their inventory expire due to the status quo.

Even the people who are not self-employed, but dependant on their monthly salary, have to deal with the dark clouds looming over their job security - especially those belonging to aviation, hospitality, tourism, entertainment, automobile and real estate sectors as more and more industries are witnessing a flurry of layoffs and furloughs.

<https://indianexpress.com/article/india/ludhiana-exams-postponed-due-to-lockdown-pharmacy-student-kills-himself-6405088/>

These uncertain times have not only put constraints on their income but have also put their years of hard earned savings in jeopardy as the subsequent market fluctuations seem to make new all-time lows every other day, thus eroding their investments.

The resultant lockdown has left the migrant workers handicapped as they are not even able to attend and care for their distant elderly parents/ family members.

Even people who haven't experienced convocation and are still studying in colleges or schools, have to go through this emotional and psychological experience as the universities and schools had to cancel/postpone the final exams creating a sense of anxiety, fear and confusion. Such have been the impact, that on realizing their dreams of finally being able to earn a livelihood for their family getting shattered, they could not deal with the psychological effects the pandemic brought with itself.

While the above major reasons of concern will affect only a certain population of the class, problems relating to maintaining fitness will slowly emerge as a common concern for all as achieving even a meagre daily 10,000 steps goal will seem to be a far fetched possibility.

They are expected to make generous donations towards various relief initiatives to aid the country in every disasters - be it floods, draught or a virus pandemic

but cannot expect the same from the religious institutions which have amassed donations every year worth billions which is capable of alleviating the burden on the country in such catastrophic times.

While it may seem unfair to draw comparison on the impact of the COVID

crisis amongst the different socio-economic groups, it goes without saying that the impact on middle-income groups needs a different calibration assessment.

That being said, I sincerely hope that this is just a temporary phase and this too shall pass!

ARTICLE SUMMARY

The author discusses the unaccounted plight of the middle income class by various media reports, news and other social platforms and reflect on the enormous impact this pandemic has imposed on them.



MUKUL GUPTA

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As a Decision Scientist he has helped multiple fortune 500 clients from Government, Retail, Manufacturing, Banking & E-commerce sectors in interpreting and analyzing data for driving various business insights & outcomes.



COVID-19: Strengthening Urban Response to Pandemics

Neerad Swaroop

Impact of COVID-19

Today is 15 May, 2020 and India has been in a lockdown since the past 50 days. The country has witnessed close to 90,000 COVID-19 positive cases and 2,800 are deceased. The lockdown (one of the strictest in the world) has been instrumental in curbing the rate of spread of the virus. But now there is a new case to worry - which is economic revival. Only a few months back, when life was normally humming, I was summarizing a document on strategies to make India a 5-trillion economy by 2025. So, while we were busy making lofty economic targets, God was making other plans. The world was brought to its knees by a non-living microscopic object - coronavirus, a highly contagious virus which causes the disease now known as COVID-19. The major world

economies, including USA, UK, Germany, China and France, have been hit hard. Factories, malls, offices, educational institutions and transport services within and outside the country have been closed down to avoid the spread of the infection. The pandemic, which originated in Wuhan province in China as early as December 2019, was officially revealed to the world in late January 2020. Countries across the globe closed their borders and unemployment rates have been surging as economic activity has virtually come to a halt because of lockdowns and social distancing in force. According to reports, the unemployment levels are nearing those of the global financial crisis of 2008 and may have reversed the economic progress made in last ten years. However, India has been fortunate as the Coronavirus reached the country's shores later than many other countries. Proactive steps taken by the Indian government to

screen foreign visitors since early February and implementing a nation-wide strict lockdown from 25 March, 2020 has been beneficial in containing the spread of the coronavirus. Till now, the spread of the virus has been restricted to the larger cities which are industrial hubs, state capitals or tourist cities and has not been transmitted into the smaller cities.

India is on a trajectory of rapid urbanization. Urban India contributes about 50 percent to 60 percent of GDP and almost 90 percent of government revenue gets generated in urban areas. India will also be home to the world's largest working population by 2025, when one-fifth of the world's working age population will be Indian. Majority of our working population works in the small and micro enterprises and the unorganized sector. A significant

population from agrarian states like Uttar Pradesh, Bihar and Rajasthan migrates to industrialized states like Maharashtra, Delhi and Gujarat in search of work. They work on the shop floor, in retail stores, construction sites, logistics, security services, sanitation and for domestic work. This is the floating population which is constantly added to our city population but goes unreported officially. It is estimated that annual earnings of these migrant workers much of which gets repatriated to rural India add up to 2 percent of the GDP. This is a significant number which drives consumption and demand for goods and services in both rural and urban areas. These workers, who are either semi-skilled or unskilled, ensure that the urban economy keeps moving. The lockdown has suddenly ended their contractual jobs and with savings depleting fast, they have



been forced to take up odd jobs like selling vegetables to survive, or to leave the cities. The repatriation of migrants has become a large project for the government and many lakhs of migrants are returning from states like Karnataka, Kerala, Maharashtra, and Gujarat back to Uttar Pradesh, Bihar, Odisha and West Bengal. One of the major worries of state governments is that when the lockdown is relaxed, the primary workers would have left for their native areas and there would be a shortage of manpower as industrial activity and businesses start up again. Special trains are being run by the Indian Railways in a massive operation and special buses are being run by STUs to send back the migrants to their home states. Whether repatriation of migrants is a good move or bad, is debatable. Providing home and shelter to the migrants in this crisis is a big challenge for local governments because reliable information on the number of migrant workers or their physical location is scarce. Taking care of this huge population not officially counted in the city population, is a big constraint on budgets of most local governments. The pandemic has also revealed cracks in our healthcare sector. Private hospitals that boasted of superior medical facilities are now turning down critical patients who had to run from one hospital to the other to get admitted. Hospitals fear that admitting even regular patients will expose them to the infection. The pandemic has exposed chinks in the armour of the so called specialty hospitals that tout world-class healthcare facilities. There is a severe shortage of Personal Protection Equipment (PPE)s. Hospitals are bringing in trainee doctors to treat COVID-19 patients and hiring ward boys

to work as nurses because of the severe shortage of trained manpower.

What are the learnings?

Pandemics are not new to India. India was gripped by the Spanish Flu, which ravaged the world between 1918 and 1920. I was surprised to learn that over 12 million Indians had died when the Spanish Flu arrived in India, carried to our shores by the British soldiers who returned after WWI. This Flu had killed between 50 and 100 million people across the globe and infected 500 million. The father of our Nation, Gandhiji was also afflicted by the flu but fortunately, he survived. The Spanish flu was particularly deadly for the vulnerable and poor population who lived in hutments and unsanitary conditions and it was difficult for the government at that time to isolate and treat the sick. By nature, human memory is short and we easily forget the most gravest of events in due course of time. The COVID-19 is a reminder that events repeat themselves in history and we need to be prepared for them. India is not new to disasters and we have experienced crises before in different forms, such as floods, cyclones and earthquakes. We have a Disaster Management Act which was formulated in 2005 followed by the National Disaster Management Plan in 2019. While the aforementioned disasters strike only one part or state of the country, COVID-19 has forced the entire country to go into lockdown because of the nature of biological disaster which speedily transmits from primary infected to secondary and in no time can lead to community spread. We haven't had much experience in handling biological disasters. So, isn't it time to formulate dedicated Act

and detailed plans to specifically deal with pandemics like COVID-19?

Recently, I attended a webinar hosted by World Economic Forum, co-hosted by India's Smart Cities Mission (SCM), titled 'Governance Agility and Community Action'. It was interesting to hear the varied strategies shared by the panelists in response to COVID-19. The issues that came to the fore were: slums with high density population, lack of enough urban data, lack of personnel trained to analyze data and information, absence of standard protocols, lack of past experience of dealing with pandemic like situations and lack of actual count of beneficiaries that needed support. I was in particular impressed by the measures taken by Kerala. The state has created more than 1,000 community maps, extensively prepared a database of affected persons in the state, prepared inventory of human resources and infrastructure, developed a disaster management plan for the state and invested in building disaster resilience. The city of Surat has invested in a geo-spatial application with separate disaster management layer. Further, the panelist from Surat felt that more information needs to be collected through direct community interaction and robust planning has to be carried out which can be sustained in the long term. The commissioner of Chandigarh stated that the state capital had no prior experience in managing disasters or pandemics and this will be a great learning exercise. So, it is evident that states which have had prior experience in crisis management have been better prepared to deal with the COVID-19 pandemic.

Strengthening urban response

So, how do we prepare ourselves to deal with pandemics like COVID-19 and initiate effective response in crises? Urban missions launched by the Government since 2015 have laid the ground work for urban reforms, for building basic infrastructure and improving service delivery. Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Swachh Bharat Mission (SBM) and Pradhan Mantri Awas Yojana (PMAY) have been instrumental in providing the basic infrastructure in water supply and sewerage, sanitation and solid waste, and affordable housing. The Smart Cities Mission (SCM) has created templates for developing core infrastructure in an integrated manner in multiple sectors like urban mobility, renewable energy, education, health and incubating local startups. We need to build robust urban systems and test them in various scenarios that arise in crises. SCM has encouraged cities to implement smart solutions which would increase the efficacy with which services are delivered and feedback is received by the city governments from the citizens. Smart Cities have, in effect, been better prepared to initiate action in a COVID-19 like situation.

- Smart Cities were already exposed to Information and Communications Technology (ICT) technology and majority had on-boarded technology partners. Integrated Command and Control Centers (ICCC) were already operational in 45 Smart Cities including Bhopal, Indore, Pune, Bangalore, Lucknow and Agra.
- Smart Cities were able to scramble dedicated COVID-19 centres for

monitoring and contact-tracing of infected persons. A culture of collaborative learning and sharing of best practices amongst Smart Cities has been developed which enabled the adoption of innovative solutions of one city by others.

- SCM is taking steps to prepare cities in harnessing data for better decision making. Data when adequately collected, stored and securely transmitted can be used by various platforms / technology players in scrambling apps and solutions for a wide range of urban problems. Many cities have developed their own dashboards and web and mobile applications for monitoring infected people, contact tracing, monitoring the quarantined and generating reports for consumption of various stakeholders like the police department and healthcare professionals.

While these are some positive initiatives taken by cities, what could be the broader preemptive measures to effectively respond to pandemics taking example from COVID-19? There is a need to develop detailed guidelines and Standard Operating Procedures (SOP) for state and city governments and other stakeholders to specifically deal with pandemics like COVID-19. These SOPs should include measures to be taken in a lockdown situation so that the citizens and vulnerable sections of society do not suffer. Essential services need to be defined along with protocols for safe operations of essential services without affecting the supply chain, namely groceries, fresh fruits

and vegetables, medicines and emergency transport services. This area has been a huge gap area which has emerged during COVID-19.

- Guidelines for hospitals to function adequately in a pandemic situation need to be developed. This can include separate buildings or designated COVID zones for treating infectious patients. Hospitals should be capable of dealing with their normal patients even during pandemics. Many lives have been lost because of incapability of hospitals to continue functioning during the COVID-19 crisis. Telemedicine service is an area which needs to be scaled up and implemented across all cities.
- Migrant workers have been the most affected population and there should be policies and procedures in place to deal with food, shelter and health of workers during crisis. For example, data of construction workers should be available with the authorities awarding contracts and this should be then fed into a city database, which would at any time give a fairly accurate estimate of how many migrant workers are working at construction sites across any city. Any relief work can then be properly planned, budgeted for and targeted to reach the needy without delay.
- A migrant worker shells out a significant part of income towards lodging in big cities. The government has mooted the idea of creating rental housing scheme for the migrant workers. Models for rental housing need to be developed with

participation of private players, so that inventory lying vacant can be gainfully utilized and a market can develop where a shelter with basic amenities in place can be provided to workers where social distancing can be effectively practiced.

- There is now even a greater need to invest in urban water, sanitation and WASH practices because of the nature of infectious diseases like COVID-19. Therefore innovative solutions/models in WASH should be developed. Waste segregation and proper treatment of different kinds of wastes should be a top priority for all city governments. Moreover, sanitary workers should be trained to handle waste, specifically medical waste.
- When the crisis started, there was a shortage of PPEs and even spurious material made its way into our markets. India has now started manufacturing PPEs and the unit cost of PPEs should come down to a reasonable level. The cities should create adequate stores of PPEs, including gloves, masks and sanitizers, which can be distributed to the needy and used by staff on duty.
- Cities should invest in ICT technology and data solutions and invest in

setting up cadre of data scientists who are further trained in urban systems.

The past 50 days have been filled with a lot of anxiety regarding our personal safety, of our loved ones, panic buying fearing shortages of essential supplies and praying that we don't suffer even minor healthcare problem. As they say, every cloud has a silver lining and we too have had many things to be grateful for. We experienced good weather with a gradual temperature, as compared to previous summers. The Air Quality Index has been consistently at a good level (below 50) which we never thought could be achieved in Delhi. Flora and fauna have flourished, rivers are flowing with cleaner water and reservoirs are 165 percent fuller than the average water levels of past 10 years. It is as though nature is rejuvenating itself. As though we are experiencing the environmental conditions that prevailed 15 or 20 years ago. Most of us are getting time for ourselves to do yoga or other forms of exercise before starting our work from home (WFH). Given all these positives from the lockdown, we need to accept new ways of working and solving problems that emanate from rapid urbanization.

ARTICLE SUMMARY

In the wake of plummeting earnings during the COVID pandemic, the author focusses on the contributions of migrant workers in the economy. While informing the readers of learnings gleaned from previous pandemics, the author speaks about Smart Cities' preparedness to deal with a lockdown situation, with reference to vulnerable population. He also highlights further measures required to shore up resilience toward such a pandemic.

**NEERAD SWAROOP**

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Rethinking Local Urban Governance

Nidish Nair and Shivanshu Chauhan

The COVID-19 pandemic has brought urban life around the globe to a halt. Crises like this one are often the perfect reflection of the need for reforms in our societies and systems. In cities across the world, the onerous task to 'flatten the curve' is testing the current notions of governance models. It is too soon to evaluate how well cities have done in response, but a few patterns have emerged that make us introspect the importance of local governance in handling such crises. It has become evident in the last few weeks and months that local governance is the interface between policy and people. Crises like these can be, and often have been, the opportunity to move beyond

ad-hoc and reactionary measures and adopt a more proactive approach that brings in effectiveness and efficiency in development and local governance.

In India, the last decade saw incremental changes in local governance, such as the rise of cooperative federalism, integrated urban renewal national missions with cities at the forefront, data-driven monitoring, performance-linked funding, city competitiveness, and incentivized reform adoption. While these changes have made a significant difference to local administration, there still are persisting governance issues (low institutional capacity, sub-optimal resource utilisation, legacy systems, inadequate responsiveness, static planning, to name a few) that have bottlenecked efficient

administration in our cities. COVID-19 is only the latest in a long line of events to make us realise the importance of our local governance; we need a forward-thinking perspective that equally strengthens the three tiers at which local urban governments operate, i.e. Community, City, and City Region.

Firstly, at the Community level, we need stronger hyper-local governance to empower communities. While the 74th Constitutional Amendment rightly infused provisions for ward committees / Area sabhas to be created, this has not happened in spirit. To counter the disenchantment that citizens face with local governments, cities need to

ensure that they are a greater part of the planning process, and are directly responsible for the services they receive. The examples of Kudumbashree in Kerala lend credence to this point. What started as an urban capacity building initiative to alleviate poverty has now turned into a cooperative movement that is an integral part of numerous social and development programmes at local levels, including the state's fight against COVID-19. This is true everywhere; the more we have trusted communities, the more agile and responsive they have become to take on the additional responsibilities. Local communities also have demonstrated entrepreneurial spirit in coming up with context-based solutions to problems.



Cities should foster such innovation as this can lead to efficiencies in operations.

Second, at the City level, the first thought that comes to mind is the importance of leadership and empowering city leaders. While some Indian cities have seen a radical improvement in performance under strong and dedicated Municipal Commissioners and Mayors, progress in other cities has been disrupted due to constant leadership changes. In Odisha for instance, Municipal Commissioners have been given great autonomy to deal with the crisis; they have been authorised to issue any instructions/restrictions that they may deem necessary to effectively implement measures for the containment of COVID-19. This approach should hold for all situations, and not just emergencies – local governments and leaders understand the intricacies of an urban problem better and can react with greater speed. City governments need to focus on building and sustaining strong structures, alongside a culture of connecting with citizens and other local actors of change to build a loop of active and continuous participation.

There is also a need for better integration of urban services through sturdier cross-functional governance in cities. More than 40 urban services are delivered by at least ten different agencies in the geographic entities that we call cities. Local governments need a more coordinated response to ease city functioning – not just in times of crises, but also on long-term, strategic concerns like climate action, pro-poor development, and emergency response that are cross-jurisdictional in nature. To do this, cities will have to build

enabling platforms and policies. We can draw learnings from cities like London which came up with the concept of ‘Duty to Cooperate’ under their Localism Act in 2011 to ensure regional coordination among various institutions, or Singapore which came up with ‘Geo Space’, a co-working cloud-based platform for local authorities to share data and plan for development together. This leads to a larger point to be made about urban planning in India. Master Plans in India are not inclusive. According to most experts, such plans fail to factor in the requirements of low-income households for living and working spaces because of a normative understanding of infrastructure and services planning. It takes crises like COVID-19 for us to revisit this point – that should not be the case. More inclusive and dynamic urban planning is one of the foundational elements we need to remedy the inequality that we see in urban areas today.

Thirdly, at the City Region level, cross-functional governance takes another meaning altogether, i.e. the importance of governing ‘City Regions’ rather than just cities. There needs to be greater legislative and policy support in ‘metropolitan planning’ in the country. This needs to be aided by a balanced approach to urban planning across dimensions such as mobility, economy, inclusion, and resilience, ensuring that no one ULB establishes undue primacy or influence. To effectively do this, the role of metropolitan authorities needs to be realigned so that the growing peri-urban areas are included in the planning process, and there is a strategic distribution of urban functions and resources.

In all this, technology is an effective tool. But, cities must prioritise building intelligence rather than a mere digital footprint. Digital infrastructure must aid in effective decision-making, as demonstrated in the adaptive use of Control and Command Centers—constructed under the Smart Cities Mission—as ‘War Rooms’ in the fight against COVID-19 through the use of real-time surveillance and analytics. Across the country, cities are embracing digital transformation and innovations in local governance. Investing in data has proven to be useful for cities of all stripes across the world. In the current COVID-19 scenario, we see examples of leading cities in South Korea that have successfully used a strategy of open data and public participation to aid in quarantining, testing, and self-diagnosis – this has enabled real-time health surveillance and risk prediction. Some Indian cities have embarked on similar journeys under the Smart Cities Mission, but to sustain this in the long run, there needs to be a concerted push by city governments to mainstream such initiatives, have stronger data governance, allocate appropriate budgets, and provide the right resources. Data-smart policymaking can help develop, iterate, and boost the performance of municipal

functions and build a better understanding of citizen behavior and concerns.

Irrespective of the frameworks and strategies that a city government may adopt, good local governance, ultimately, is being responsive and effective. We go back to the point of local governments being the interface between policy and people – no matter how well-intentioned national or state directives may be, cities need to be able to execute them well for policies to translate into results. Be it through the use of technology or better cross-functional governance, or any other means, cities need to find ways to better assess the information at hand and use that to produce insights and targeted action points. Intuitively, we all understand that better service delivery is linked to better governance, but due to many internal and external constraints, cities sometimes are not able to codify this linkage through appropriate processes and systems. If we are to create stronger cities in the post-COVID world, cities need to get past their institutional and systemic constraints, and build fundamental capabilities based on the needs of their citizens and their ecosystem.

ARTICLE SUMMARY

COVID-19 is only the latest in a long line of events to make us realise the importance of our local governance and the need to strengthen the three tiers at which local urban governments operate, i.e. Community, City and City Region. It is in this context that this article attempted to explore the opportunity to move beyond ad-hoc and reactionary measures, and focus on a more proactive approach that brings in effectiveness and efficiency in development and local governance.



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He holds a post-graduation in urban and regional planning with over 17 years of work experience. He has successfully worked with various levels of government, private sector as well as funding agencies in seeking new markets, developing business plans, and undertaking urban development activities. He has worked in the areas of urban resilience, smart cities, affordable housing, capacity development, urban and regional planning, demand assessment, and urban risk management. He has consulting experience in India, UAE, Saudi Arabia, Sri Lanka, Bangladesh, Nepal, and Maldives.



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COVID-19 A Big Reset

Padam Vijay

Catalyzing behavioral change

The past couple of months, Coronavirus disease (COVID-19) has impacted almost everything—countries, societies, public health systems, etc. creating unprecedented fear, anxiety, and uncertainty among people. Many of them have lost jobs, lakhs and lakhs are on the verge of losing one, a sudden loss of means of living, shattered hopes, trying to unite with loved one without success and stuck in confined zones without knowing “Whats Next”. It has taken a toll on everything.

It appears to be a BIG RESET for the entire humanity.

As I reflect and try to capture my experience while bearing the pandemic, forced to stay inside my house in Gurugram, the

thoughts are emerging with mixed feelings, because of what COVID-19 has adversely done to all of us. It has shown us the way (in the hardest way though) to think about survival, becoming self-reliant, learning to build strength, finding out alternatives, and more.

The atmosphere around has dramatically changed. I wonder if it is the same township I have been living in. Earlier fellow residents used to be mostly confined within themselves whereas now everyone is responding enthusiastically to the needs of each other and managing a WhatsApp group for essentials support within the township which otherwise was mostly used for gossips and un-warranted messages. I recall the day when facility management team decided to depute some of their staff 24x7 to our township, everyone came forward to support them with groceries, medical aid, utensils, fuel and more. A turn-based system was adopted to serve tea/

snacks to them twice a day. The cacophony turning into a symphony, holding hands together. Wow!

Residents greeting the sweepers and security guards with a lot more respect for being on the front line to safeguard us. Honestly, they were surprised initially with our gesture as we suddenly became humble and respectful towards those who missed our attentions otherwise on a normal day. The team maintaining hygiene in the society had become like God, risking their lives for our safety. The sense of (Social) responsibility and care has magnified.

Is it a New-Normal?

Remembering our area getting declared “containment zone”. Everyone panicked as

a COVID-19 positive case was detected in the township. But what a hearty welcome he received on his return from the Hospital, garlanded and appreciated for the courage shown by him and his family during troubled days. What was most heartening was that there was positivity everywhere which significantly motivated the fellow residents. Worthy display of togetherness despite being fearful about virus spreading risks. Affection, positivity, trust, care, sense of belongingness, respect, cooperation, all around, potryed a perfect example of behavioral change in the community.

The essentials getting delivered at the doorstep by the Municipal workers, day after day smiling, ready to support in their small way. My niece moved in with us from her PG after the declaration of



Lockdown-1. She had left behind her books and was very concerned for her exam preparations. As we were not allowed to move outside the containment zone, I approached nearby police chowki for help. The enthusiasm their staff displayed was commendable, exploring aid options by sensing the importance and to my utter surprise/pleasure, they made special arrangements by sending a team to collect her books from her place within 2 hours. Not only that, they also ensured we got the books after proper sanitation. The police which we always wanted to avoid for high handedness became our savior. Are we living in the same civic community as were before COVID-19. Yes, but with different dimensions. Human bonding is strengthening. My joy found no limitations on rediscovering this evolved society.

The support from my family while converting our home environment into a virtual office has been immense. It helped me beat the stress and anxiety, allowing me to concentrate on my work, engaging 10-12 hrs a day, these have been more productive probably. The lockdown period allowed me to realize the sacrifice the families make to keep you active. I normally don't assist in daily chores in the house since maids are there. Not anymore, I have started helping out my family, which is also helping me become more disciplined, more caring, and considerate. Even my children have shouldered additional responsibilities. Our habits at home are changing. Maids are missed though but not at the cost of what we gained. Over the years, due to work schedules, I ceased to recognize importance of having dinner together, but this period provided that opportunity too. I

realised how much more we have bonded as a family, discussing every small thing viz. society, extended families, food, education, career, etc. The famous saying "The Family that eats together lives together" is echoing in my ears. The sense of caring and sharing has magnified. I can count this as a big gain in the most difficult time in our lives. Pandemic has helped in rebuilding the family bonds

On the flip side, many, especially elder ones and those who are facing job loss, are struggling to make peace with hypertension, stress, anxiety and it is taking a huge toll on their approach to tackle the situation.

The culture of better hygiene, sanitation that Swachh Bharat and AMRUT mission has been pursuing to build in the society has started displaying its effects, now in full swing. What we did not see at such a large scale in the last 70+ years, these last 2 months of the fight against this pandemic has taught us. Hopefully we will continue with this behavioral change forever, Cleanliness being the top priority for everyone.

There is a change in the gesture of 'Shaking Hands' to 'Namaste' and "Am I Audible?". People are rediscovering themselves through new learnings, reigniting old hobbies. The quality of environment is also being affected positively. The air is cleaner and the sky is turnin

The basic philosophy of smart cities has been to inculcate behavioral change. As I look around, I can see the glimpse of city administration participating in felicitating

health and sanitation workers for their tremendous contribution to humanity. A Display of importance of collective behavior, helping building city bond and citizen participation more than ever, is observed. In such critical times, we must bow to the healthcare workers, sanitation workers and deliverymen who are putting their lives at risk for us and have proved themselves to be community heroes. There is newfound gratefulness seen for those who were not even in our radar of thought previously. We are transforming into a caring society, wanting to help in the best possible way, through donations, food, medical essentials, motivating videos/songs, etc. in an attempt to unite ourselves.

I cannot conclude the article without mentioning behavioural shift on “Data”. My takeaway of the current crisis is that need and importance of data sharing have been felt across all departments, especially those which were directly engaged in managing the crisis such as health department and municipal corporations. I believe, this tough experience will help build strong data sharing culture and supportive environment for our cities managers to fight situations like this in future, TOGETHER. The culture digital payment is picking up momentum which

is another key behavioral change/boost. Investment towards urban health, hygiene, and sanitation are bound to increase. Skill management clinics and training centers are also likely to gain momentum in future.

While we have collectively failed to support migrant workers, on humanitarian grounds, yet I foresee that this issue will be dealt more strongly, as our attitude towards under-privileged strata is developing fast. Every effort should be made to bring this section of the society into mainstream.

As Mission Director -Smart Cities says “Extra ordinary time needs extraordinary efforts”, therefore it is high time we change our approach towards the society by taking extra mile to build conducive environment and treating everyone with equality and respect, only then we can be called true corona warriors. India should rediscover its lost identity- Vasudhaiva Kutumbakam through behaviour change. That will be called ‘Next Normal’.

Going fast forward. It is Aug/Sept 2020. Things have started settling down, but not the virus. We have started living alongside COVID-19. Continuing with the spirit we displayed during outbreak.

ARTICLE SUMMARY

The author illustrates in detail impact of the lockdown due to COVID-19 on his personal and professional life, while comparing it to the lives of the front-line workers, working tirelessly to ensure safety for everyone. The author tries to translate with great sensitivity the way his personal life and support has come through in these times in the form of family, while highlighting the way the urban missions have been great enablers of positive change in this time.



PADAM VIJAYVERGIYA

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A Case Study: The Smartest Strategy to Stride over SARS-CoV-2.

Parveen Kumari

Smart people learn lessons from others. It's not just for people; applicable for cities as well. The Smart Cities Mission (SCM) is meant to set examples that can be replicated within and outside the Smart City, catalysing the creation of similar Smart Cities in various regions and parts of the country. True Smart Cities learn from others and plan their strategy to solve a crisis.



Tiruchirapalli, the fourth largest city with about 10 Lakh population located in the central part of Tamil Nadu, is



geographically and strategically important. Besides its location and size, it is the hub of state transport, connecting all parts of the state and other cities of India by road and railways, and the world, by air. An estimated 2.5 Lakh people visit and cross over the city every day. Spread of any infection in the city would lead to the spread of the infection in the whole state. Hence, control of any infection in this city is inevitable for managing and containing a pandemic in the State.

The Scenario: The first COVID-19 patient at Tiruchirapalli was reported on 4th April 2020.

As on 14th May 2020; the district has had 27 positive cases, which is about 0.00003% of the city's population. Due to proper medical care, 26 patients recovered and were discharged from the hospital, leaving only one active case. This shows that the city has a very high recover rate of 96%. No death has been reported so far. Airport screening was done for 2472 passengers, who were further advised for home quarantine for 28 days. The total number of tests done till 15th May 2020 was 2,266. The district has been categorized under orange zone as on 14th May 2020. With negligible rate of infection, very high recovery rate and zero death, the City and District Administrations have done a wonderful job in containing the spread of COVID-19 virus and treatment of the affected patients. Let us see in detail how this was made possible:

1. Preparations in Advance:

As there are no vaccine and well-established patient management procedures for COVID-19, prevention is the better strategy to control and manage the disease. The City Administration prepared itself even before there was a positive case in the city at the time of lockdown. (pic) It had established adequate quarantine facilities, testing facilities and identified the frontline personnel, who would be deployed to fight this COVID-19 pandemic. It also identified various means of enforcing lockdown to ensure social distancing in public places. The administration came up with a strong strategy for Information, Communication and Education (IEC) for the city's residents regarding COVID-19 virus, and the various

ways of not getting infected. The City Administration along with the District Administration, Police Department and Health Care experts, formulated a suitable methodology for early identification and monitoring of high-risk areas, functioning of frontline personnel and patient care system. By the end of March 2020; the city administration was ready with a designated hospital (pic), four testing centres, 1507 beds and 89 ventilators for treatment of the patients.



2. Social Distancing:

The vegetable market was shifted to eight spacious locations like Chithiram Bus Stand, School, and College Grounds. Proper barricading was done and people were asked to maintain a social distance of 1 m each while waiting in a queue, which went up to 1 km. People were allowed to enter the market only after washing their hands with soap. Around 30 tri-cycles / mini trucks (pic) were engaged to supply vegetables, fruits and groceries in all the wards so that people need not come to the market. The entry points of departmental stores, banks, ATM centres and Amma Unavagams were marked with white circle for standing. This was done to ensure the strict following of social distancing.



3. Emphasis on Quality of Life:

The city administration focused on Strategies to maintain the same level of quality of life for its residents, as it was before COVID-19 pandemic. Despite the lockdown, availability of all essentials was ensured at the doorsteps of the residents, and people were allowed to visit markets at specific times, following social distancing norms. All meat stalls were instructed to sell meat only in packets to avoid waiting and crowding in the shops (pic).



4. Focus on Inclusiveness:

To ensure the quality of life, the city administration focused on an inclusive approach to deal with the situation, to address the concerns of the most vulnerable segments of the society. Special focus was on the urban poor, slum dwellers, daily wage earners, migrant

labours, homeless and orphans, and the like. Some of the significant activities of the City Administration include:

1. Supply of groceries, water, vegetables, milk packets, medicines to all the households in the containment zones.
2. Providing food to all- In 11 Amma Unavagam, more than 14000 peoples were given food thrice daily (pic).
3. Establishment of the common kitchen for food for the homeless and migrant labours. About 1200 benefited from this service.
4. Establishment of three exclusive shelters for the homeless.



To ensure inclusiveness and citizen participation in the pandemic management process, voluntary organisations were allowed to reach the marginalized, and provide necessary food and monetary support. The city administration emphasised (See photo above) that no contract labour and regular daily wage labours should be sacked from their job during the lockdown and pandemic management period.



5. Uninterrupted Water Supply:

One of the most important preventive measures against the spread of COVID-19 virus is hand washing and the most essential ingredient for that is water. Despite being summers, the uninterrupted water supply was ensured. The City has adequate water resources and distribution networks. A proper system to monitor the availability of adequate water at all places, and special arrangements for Water Supply at public places (pic) and areas not connected through Piped-Water Supply was established and its proper functioning was ensured.

6. Sanitation and Solid Waste Management (SWM):

For efficient prevention and control of pandemic, maintaining hygiene at all the places is very important. Special attention needs to be given towards the sanitation of public places, and appropriate management of solid and medical wastes. The City Administration realised this well in advance and took appropriate actions. It deployed altogether 916 personnel for sanitation of the city, who did a commendable job. Important measures taken by the City are:

1. Extensive sanitization (pic)-5 times a day in the containment zones
2. Support access to Water and

Sanitation for Health (WASH) services in public places and community spaces at high risk.

3. Separate SWM vehicles were used in containment zones for the collection of garbage.
4. Special bags were used to collect used gloves and masks.
5. The collected garbage from the households in containment zones was disposed by deep burial method.



7. Safety of Frontline Workers:

Safety and Security of all the residents of the city are of utmost importance to ensure a good quality of life. In a pandemic situation, the safety and security of frontline workers-doctors, nurses, paramedical staff, sanitary workers and police personnel need to be in focus. The city administration took special note of this and acted upon it. Some of the measures include:

1. Orientation and Training of all Municipal Staff
2. External and Internal Spraying for disinfection.
3. Necessary PPE, Gloves, Masks were

provided to all front-line working personnel

4. Medical camps organised for all front-line workers.
5. T. Zinc, T. Multivitamin and health drink was provided for all front-line workers (pic)



8. Security of the Residents:

This was ensured by the City Police Administration by complete enforcement of lockdown, and by facilitating smooth movement of exempted essential service personnel by deploying about 1750 personnel. The Police personnel went beyond their jurisdiction of law and order, and helped the poor and vulnerable sections with essential supplies.

9. Focus on Health:

The City Administration deployed 19 doctors, 106 nurses and 51 paramedical staff in the COVID-19 patient treatment process. Screening, testing and treatment of confirmed cases are the most important process in the management of any pandemic. The strategy includes the screening of suspected people and quarantining them, testing of people developing symptoms and their direct contacts. Their treatments were carried out by following the appropriate process

using both allopathic and ayurvedic medicines. Some of the specific patient management practices include, symptom-based procedures, good diet and immunity enhancing supplies. Through constant care and support, the number of patients recovering from the disease increased tremendously. Some of the Public Health Management practices include:

1. Contact tracing of High and Low-risk contacts was undertaken.
2. Containment Zones were formed with positive cases within 2 km radius of the epicentre.



3. Active door to door daily surveillance (pic) by the medical team was carried out for 28 days.
4. Disinfection– Both external and internal spraying was done using Sodium Hypochlorite solution, Lysol, Bleaching powder.

10. Focus on Education:

ICE activities were carried out systematically to inform safety issues regarding COVID-19. Necessary arrangements were made by the City Administration to enforce lockdown, delivery of essentials to the households and other support service systems. People

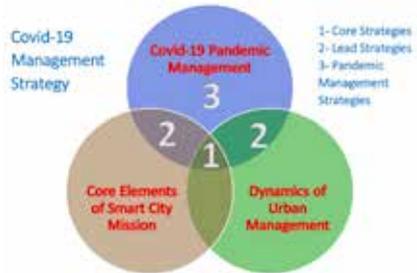
were kept informed through the local and social media messages, and the public address system.

11. Smartest Governance:

The strategies followed by the City Administration can be related to the objectives and core elements of SCM. Core characteristics of a Smart City includes focusing on providing the greatest opportunities to improve lives by placing people first, and on inclusive development. The objectives of the SCM include giving a decent quality of life to its citizens, a clean sustainable environment and application of smart solutions. The core elements of smart city infrastructure include (1) adequate water supply, (2) sanitation including solid waste management, (3) good governance and citizen participation, (4) safety and security of citizens, particularly women, children and elderly and (5) health and education.

The City Administration adopted a blend of strategies from (1) COVID management practices, (2) core elements of SCM and (3) dynamics of urban management

(pic). The core strategies and lead were identified to ensure the quality of life of people by providing essentials to all the residents. As the core and lead strategies helped to ensure social distancing, the city administration focused on other COVID management practices.



The City Administration and the residents of the city exhibited a great zeal in adopting the principles of SCM to cross over the crisis of COVID-19 pandemic. Given that scenario, is it not appropriate to call the Tiruchirapalli, the Smart City as the Smartest City?

Yes. Tiruchirapalli, a city under Smart Cities Mission, is indeed the SMARTEST city.



ARTICLE SUMMARY

The article summarises the various efforts and initiatives undertaken by the administration of Tiruchirapalli in Tamil Nadu to mitigate and contain the COVID-19 Pandemic across the city. The timely response and blend of strategies adopted exemplifies how Tiruchirapalli stands out among many Smart Cities of India.



PARVEEN KUMARI

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Local Self-Governance: Unearthing India's True Potential

Pooja Lahri

Federalism and decentralization, both have been enshrined in our constitution. It establishes a federal system of government providing supremacy of the Constitution, dividing the powers between the Union and the States and existence of an independent judiciary. The same constitution, calls the country a 'union' and not a 'federation' of states, implying that it is an indestructible whole divided into different states only for the convenience of administration. This makes the Indian constitution federal in form but unified in spirit.

The Post-Independent era, with a rise in regional parties coming to power in states, witnessed a variety of Centre-State relationships, covering various forms of

federalism; Centralized, Confrontational, Cooperative and Competitive. Which one of these is the best, can be a separate argument.

Fast-forwarding to today's time, an unintended but necessary consequence of the struggle against COVID-19 is the revival of '*Cooperative Federalism*'. The concept

If we would see our dream of Panchayat Raj, i.e., true democracy realized, we would regard the humblest and lowest Indian as being equally the ruler of India with the tallest in the land.¹

- Mahatma Gandhi

¹ https://www.mkgandhi.org/articles/village_development.html

behind this form of federalism is that states should not just function as implementation arms of the Central Government but as autonomous units within the large federation.

The current COVID-19 emergency has indeed re-underlined the significance of decentralized administration. The health ministry's recent 'Micro Plan for Containing Local Transmission of Corona virus Disease (COVID-19)' has placed local self-governments (LSGs) at the forefront in this crisis. Many states have made LSGs, the nodal agencies for monitoring containment zones and hotspots, tracking down those who have had exposure to the virus and distribution of food supplies to the most vulnerable sections of the society.

The *Kudumbashree Community* structure in Kerala has led by example in this crisis,

making it possible for the state to flatten its curve. Kerala was where the first few cases of COVID-19 were detected in India, because of it having connections with the global economy and high international mobility of its citizens. The Panchayats, District Administrations and Municipalities in the State have made commendable efforts in controlling the virus. Consecutive governments in Kerala have spent several years in trying to empower the Local Governments.

History of local self-government in India

Pre-Independence Era

The concept of local self-government is not new to India. There's a mention of the village panchayat in Kautilya's Arthashastra. The Mauryan, Post-Mauryan period in the ancient era and the Sultanate



of Delhi, in the medieval era also made village governance one of their top-most priorities. The period after that saw a rise in the Feudalistic society and a decline of local government institutions in the country. However, the concept saw the dawn of representative Local Institutions during the British times. Since the British put many organizational and fiscal constraints on them, the institution could not flourish.

Post-Independence Era

The village Panchayat system found a mention for itself in Article 40 of the Indian Constitution under Directive Principles of State Policy. As these principles are not the binding ones, the structure of Panchayati Raj Institutions lacked uniformity throughout the country. Several iterations were made as per recommendations received from various committees between 1957 and 1990. Finally, the 73rd and 74th Constitutional Amendments were passed by the Parliament in 1992.

Roles which local self-government in India can play at the time of COVID-19

Panchayats have immense local-level knowledge and due to their proximities to people often become the first point of contact for them in the villages. They, therefore, can play a very important role in carrying out community-level dissemination and engagement activities. As the COVID crisis will go on for some time at least, it makes the most sense for these bodies to occupy center stage.

The COVID-19 crisis allows India to work

upon an issue plaguing its growth for long. Economic and Industrial growth in India is concentrated in a few patches covering states of Maharashtra, Andhra Pradesh, Karnataka, Kerala, Delhi and Tamil Nadu. The states of Uttar Pradesh, Bihar, Jharkhand, Punjab, Rajasthan and Uttarakhand among others have served the role of labour exporting states, sending lakhs of migrant labour out in search of livelihood opportunities. Stoppage of economic activities due to lockdown has forced the migrant population to brave all odds and return to the villages in their home states, giving rise to a trend of reverse migration, even if short-lived. This reverse migration has allowed the Local Self-Government to again step in the area of economic and social development of their villages and cities.

Especially the Panchayats, now need to unlock the economic potential and make the villages self-reliant. By focusing, strengthening and realigning the village resources, wealth can be generated at the Panchayat level. The villages along with their Gram Panchayats need to focus on being entrepreneurial. Some activities could be, setting up small cottage units, branding and selling what is produced locally, revisiting the handicraft industry among others. States can also look at making investments in rural areas more attractive. This could be the right time to look at the revival of organic farming and the development of dairy in villages for generating local sources of revenue for villagers. Through some assistance, Panchayats can look at setting up market linkage infrastructure at the village level, since now the boom of e-commerce has

helped logistical integration of most parts of the country. Through this inclusive model of growth, states will not just be able to absorb the influx of people returning, they will also generate employment and entrepreneurial opportunities within their geographic boundaries. Now is the time for villages to regenerate rural economic capabilities. As there is the availability of labour in the villages now, the time can also be utilized in imparting skills to them.

The barefoot college run in the village of Tilonia in Rajasthan, by the villagers has helped move over 30 lakh Indians out of poverty. Thousands of rural women who couldn't read or write have trained themselves to become solar engineers. Since the solar course was launched, Barefoot engineers have brought power to more than 13,000 homes across India. A further 6,000 households, in more than 120 villages in 24 countries from Afghanistan to Uganda, have been powered by the same model.

That's the power of thinking local! Local Self-Government need more empowerment While the 73rd and 74th amendments mandated the creation of Local Self-Governing bodies, they left the decision to delegate powers, functions and finances to the state legislatures, which is a very big reason for these bodies not being able to provide better governance. Their roles and responsibilities have also not been defined by states, further causing incoherent functioning. Currently, there is the duplication of roles being played by Panchayats, ULBs and District Administration. The start of this process must be a clear mapping of roles and

responsibilities of each entity. Moreover, there is enormous capacity building that needs to be carried out for the members of local self-governments to empower them to manage their own administration and deliver the essential services as per the mandate.

Despite the constitutional empowerment, the Local Bodies face the problem of inadequate finance to carry out various activities assigned to them. Till the time they are not allowed to raise their funds by levying, collecting and retaining taxes, they will always be starved for funds. The second avenue of revenue generation is the intergovernmental transfer, where state governments devolve a certain percentage of their revenue to PRIs and ULBs. While the constitutional amendment did create provisions for State Finance Commissions to recommend the model for revenue sharing, it didn't bind the states by those recommendations, leaving very little room for the development of LSGs.

Local self-government talks about issues which affect the immediate population they cater to and reflect the true needs of masses. This bottom-up approach of governance is perhaps, one of the most innovative change processes our country has gone through. For this model to succeed in totality, it is needed for LSGs to have fiscal autonomy accompanied by fiscal responsibility. In addition, for unleashing India's true potential, it is extremely crucial to unlock the power of Panchayati Raj Institutions and Urban Local bodies by decentralization of authority in its true spirit.

ARTICLE SUMMARY

The author briefly describes the history of local self-government in India, focusing on their role in responding to emergency situations like COVID-19. The author further highlights the challenges local self-governing bodies are facing and the need to empower them.

**POOJA LAHRI**

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Due to massive reverse migration happening in the country at the moment, it is a ripe time to start the talks on Local Self Governance, again. As lakhs of people continue to head back to their homes, it is imperative for LSGs to up their game and creates self-reliant villages and cities. While a lot has been spoken about them, the issue about the autonomy of LSGs persists. Through the article, I have attempted to bring focus on measures that must be taken for their effective functioning.



Is 'Work from Home' Workable?

Rahul Kapoor and Meghna Mittal

With the outbreak of a major pandemic that has affected over 4 million people globally in just 3 months, people across the world are struggling to tread uncharted territories during these uncertain times. The effects of COVID-19 on the world and its economy are insurmountable and have pushed people at large to embrace newer ways of living. The underlying impact and the emphasis on hygiene and social distancing norms make us question what the post COVID world will hold for us.

In this scenario, to avoid a complete breakdown of the economy, organizations have started to switch gears and encourage their employees to work from home. Considering its advantages, the Indian Government too relaxed norms to facilitate Work from Home (WFH).

So far, work from home has been a somewhat successful experiment in most places and its benefits have been realized. Companies had conducted pilot tests such as the "Project Kennedy" of JP Morgan, which called for 10% of the company's 250,000-plus employees to work from home. The storied investment bank's goal was to disperse employees to alleviate the chance of catching or spreading the virus. Project Kennedy also served as a test run for the efficacy of having a mass work-from-home program and is a success.

The Benefits

As per a survey summarized in the Microsoft Whitepaper, "Work Without Walls", some of the benefits of working from home from an employee's viewpoint are; having a better work-life balance, saving on commute time which increases productivity and reduces pollution levels. Not just the employee, but the employers also benefit in way of reduced expenses on office running costs



or on full-time employees by on boarding gig workers.

This has led the employers to encourage work from home in the Post COVID times as well. About 74 percent of CFOs surveyed by Gartner expect some of their employees who were forced to work from home because of the COVID-19 corona virus pandemic to continue working remotely even after the pandemic ends. This has been corroborated by large companies like TCS announcing that 75% of its workforce will be permanently working from home by 2025.

There are other changes in our behavior that is induced by WFH. For instance, our wardrobe priorities change, with an increased focus on the upper half of your attire! Our food eating habits may also

change. With the COVID effect, many of us have reduced ordering food from outside, and junk food consumption has reduced in many households (there are always exceptions!).

This makes us wonder– *Is Work from Home Workable?*

There is no doubt that working from home has its benefits. However, without checks and balances, it may actually turn counterproductive. So, what is the flip side of working from home?

The Flip-side

The basic requirement of Work from Home is workspace infrastructure vis. working space, stationery, laptop, power supply, high-speed bandwidth, etc. There are costs associated with these type of equipment

and utilities and non-availability or non-reliability of these can lead to a very frustrating and unproductive experience. For instance, in Jammu & Kashmir or Port Blair, where Internet services are available in 2G network, working from home will be difficult. Moreover, employees will have to bear the increased cost of telecommunication and Wi-Fi, to connect remotely with office networks

Connecting with colleagues through the internet also increases the risk of Data security and privacy, as the data is often shared outside the secured office network. Additionally, video conferencing tools are also prone to cyber-attacks and cases of 'Zoom Bombing' can be an embarrassment to the organization.

Human beings are social animals and there is no real substitute for physical meetings. Many forms of non-verbal communication are missing when you try to connect on a computer. When you interact with someone physically, other than speech, you also use your other senses to communicate. Your body movement, posture, gesture, eye contact, touch, etc. to send signals to the recipient, which tend to be crucial for business negotiations. Extensive use of remote working leads to a decrease in the camaraderie between workers as people are not able to engage with the other team members or communicate effectively, thereby reducing the feeling of teamwork or satisfaction.

After the initial few days of elation, many employees feel that they are 24x7 on the job and their work hours have increased.

You never leave work since you are working from home! This leads to frustration, higher stress levels, and other psychological issues. Further, health complications may start creeping in due to lack of movement, exercise, and increased workload which can have long-lasting implications. These situations can also lead to an increase in discord for the family when the person is not able to spend enough time with their near and dear ones. Getting ready for a video conference at night when the child is expecting a bed-time story will not help you win parent of the year award. (Getting employee of the year is out of the question for most!)

In such a scenario, it becomes increasingly important for government and organizations to step in and take interventions to ensure the best possible outcome for employees, employers and the society at large.

Making WFH workable

There is no doubt that Work from Home has become an important part of our lives in the 'New Normal'. Therefore, it must become part of our national policy to ensure economic progress, people's well-being and sustainability. The government should take out guidelines for Work from Home not only for the government employees but also for industry and all other work environments. These may include do's and don'ts, cap on working hours, compensation for WFH infrastructure, and other facilities to be provided by organizations employing a Work from Home model, even in the post COVID world.

Organizations have a crucial role to play in ensuring the well-being of their employees and to make sure that their productivity remains high. They must focus on providing support at home for handling IT related issues, and at the same time reimbursing the employees for expenses on telephone and data related costs. They must keep a check on the workload and adopt a strict switch-off policy after work hours.

Employees must be kept abreast of the organization's strategy, and mechanisms should be in place to redress their

grievances, take feedback and have interactive sessions. A focus on mental and physical wellbeing of employees should be paramount while creating a Business Continuity Plan to ensure efficiency in processes.

There is no one size fits all model, and policies will have to be flexible with changing needs of environment, organizations, and employees. The right balance between work from home and office days should be the 'New Normal' for working.

ARTICLE SUMMARY

With the onset of a lockdown across the globe, 'Work from Home' has become the new normal. Through this article; the authors have discussed and debated their perspective on the concept of 'Work from Home'; its pros and cons and how to make it adaptable and balanced in the long run.



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COVID-19: Reviving Economic Demand and Supply

Rahul Kapoor and Rahul Singh

At the turn of the decade, while the Indian Government was strategizing revival of a slowing economy through its annual budget and subsequent national infrastructure pipeline investment of Rs. 102 lakh crore for the year 2020-2025, an economic shock that was to come in the form of COVID-19 pandemic was something not planned for. This crisis has posed a challenge to an entire generation of public, private functionaries and the society at large that has no prior experience in dealing with a pandemic of this proportion. At the same time, it has opened several fronts for the government, vis. focus on healthcare infrastructure, ensuring food supply, maintaining essential services, ensuring livelihoods, human resources (migrant

labour), social impact, international trade and relations, and reviving the economy. COVID-19 is not simply a health crisis, but a crisis for the economy, the society, and the way we perceive living as 'Normal'.

The crisis is a reality check for healthcare systems not only in India but also the developed nations around the world. Although the current pandemic is not something that one could foresee, however, it is important for the authorities involved, to manage its spread so that the existing healthcare infrastructure and the trained capacity can cope up with the needs of the affected population. The crisis has brought into focus the importance of healthcare for a rising economy. Spending on healthcare is expected to move up in the government's list of priorities, which has been predominated by sectors such as Defense, Petroleum, etc. The Government

has plans to increase its budget allocation on the health sector to 2.5 % of the GDP by 2021 from 1.6% (2017, National Health Policy). Considering that our current spend on healthcare is relatively low compared to other nations, it makes it all the more important for us to follow the old adage of “*prevention is better than cure*”. It is also pertinent to note that the economically weaker section of people, who are the most vulnerable stratum of society, are most likely to be ignored when it comes to saving the visible, and the present crisis is no exception. In the absence of a vaccine or cure against the disease, ‘Social Distancing’ is the only available solution that will protect people.

To ensure social distancing for flattening the curve of the spread of disease, the whole country has been placed under lockdown since 25th March 2020. The government is now taking all measures to contain the spread of the disease and at the same time, ensure supplies of essential items. However, as the lockdown continues, its adverse impact on the economy will get magnified. This will consequently impact the vulnerable and poor population who will be posed with the trade-off of either dying from the disease or hunger. It becomes contingent for the government to think and plan for the worst-case scenarios, and quickly take measures to revive the economy, and at the same time, save lives.

A Shrinking Economy

For economic revival, policy action needs to focus on both the demand side and the supply side of the economy, which has shrunk due to the current situation.

On the demand side, certain sectors have been impacted more adversely than others due to a change in demand. For instance, the demand for air travel, hospitality industry, shopping malls, cinema halls, transportation, etc. have reduced drastically. This has affected the employability of people involved in these sectors as well. On the supply side, demand would have increased for certain products and services, such as PPE, masks, health equipment, etc. However, the supply chain has been disrupted in many cases due to the non-availability of labour, raw materials, restrictions on the movement of people and goods, impact on foreign trade, and scarcity of finances. It is, therefore crucial to understand, which are the industries that have been impacted on the demand and supply side of the equilibrium and accordingly devise strategies to push up the demand and supply.

To illustrate on the demand side, the continuity of lockdown has hit the tourism industry, which will have cascading effects on other sectors as well due to backward and forward linkages. Sectors like agriculture, building and construction, industries (steel, cement etc.), aviation sector, automobiles and associated industries, and retails especially for consumer durables are looking for a stimulus package or revival plan. The crisis may have an effect on international remittance and the payment of import bills as well. Cancellation of orders could force export industries towards domestic supplies, however, that may take time as consumer spending may not be immediate. A stimulus package will help these industries to rise up and be back on

their feet, at the same time it will create more employment.

Looking at the supply side issues, while the country was in lockdown, it was also time for the harvesting season to start. The absence of labour during this time would have had a serious impact on the food security of the country. Dealing with this situation required the state governments to work in close coordination with different Central and City level agencies. The problems of migrant labour had to be addressed differently by including the provision of amenities vis. food and shelter, and ensuring their health and wellbeing. Similarly, with limited road transport, the movement of food grain through rail traffic required close coordination with

the Rail authorities. These measures taken by the government, act as a confidence booster for the industry, and also for a key economic driver i.e. labour force to return to the respective workplace and normalize economic activities.

The Revival Plan

The revival of the economy will require the centre and the state to work in synchronization more than ever. Although the understanding of the ground situation is better known to the state, they face the challenge of lack of capacity, both financial and technical. This is where the Central Government needs to come forward and provide its support. The Central Government has announced an Economic Package for the state government in



crisis based on the estimation of loss, for meeting their requirement. It may be useful if the Economic Package is released based on a robust and inclusive recovery plan with future capacity development. It must come with output, outcome and impact formula and the states must play a greater role in it, suggesting to solve the immediate problems and designing it to benefit future generations.

It is not that all systems were in place and running smoothly concerning our healthcare and other related sectors that are at the forefront of COVID-19 fight today. However, the pandemic has given us an opportunity to set many of these systems in order. People's participation and support, along with actions of the State and Central Governments will be the greatest weapon to win the battle against COVID-19 and bringing back the economies of cities on track at the earliest. Every state in India is different and is required to deal with the crisis differently. Each state should undertake an assessment of the loss arising out of the crisis and prepare its short term, medium-term and long-term plan for both the demand side and supply side factors, as each state has different economic activities, capacities of production, and consumption. Based on the plan and its long-term assessment, the financial package required by each state will be different.

The Reserve Bank of India has attempted to create a positive environment by announcing measures like moratorium on term loans, making debt obligation for next 3 months to zero, and helping in retaining a portion of income. However,

these measures will serve limited households that are in the formal sector. A large number of people are engaged in the informal sector who constitutes nearly 40% of the economy. The relief measures for the informal sector that have been announced till now by the Centre and State Governments have been primarily limited to food and shelter and not livelihood. The revival of the economy would require a deeper emphasis on this group. Moreover, it considers the entire informal sector as one and specific groups within this sector *vis.* domestic workers and waste management workers have been left out of these policy measures. The government may exercise direct benefit transfer in this pandemic crisis wherein loss is in terms of time per man-month input instead of infrastructure. It may consider payment of wages to keep the spread contained till the start of production.

As the pandemic has not caused loss of infrastructure, it is an opportunity to rethink and strategize future infrastructure and capacity building, capable of dealing with such a crisis. Investment in people's capacity to deal with such a scenario shall be one of the key areas to look for, as investment in people, in a country like India which has a very large young population will always bear fruit in the long term. The states must ensure that the stimulus package received is passed on to businesses with a rider that the recipient will have to play a productive and protective role, which shall include investment in people. Another area of attention would be our MSMEs and SHGs that have been our biggest strength, bringing innovation at low cost. Their

needs should be equitably supported by all the State Governments, as ultimately they will be channelizing the government investment to the public. The crisis has also provided an opportunity for the states to attract investors who are contemplating a shift of production from China to India. Conducive policy, coupled with labour availability due to reverse migration has given an opportunity to states like Uttar Pradesh and Bihar to reap the benefits of the situation.

Once the lockdown is lifted, cities with the help from Centre and State must resume ongoing economic activities and inject investment to stimulate the local economy. This would require injecting liquidity on both the demand and supply side. Through direct benefit transfer, assurance of income, etc.; we can increase demand for goods and services. On the supply side, funds can be given to contractors / suppliers as a mobilization advance to restart production. In addition, the release of advances against bank guarantee will ensure capital infusions to speed up the economy.

In the second week of May 2020, the Government announced an Economic Package of Rs. 20 lakh crore to revive the economy. Many of the components of this package are loaded towards addressing the supply side issues of the economy. For instance, the package provides for more funds to be made available to MSMEs and startups through collateral-free loans, where the Government acts as the Guarantor. It is expected that these measures will revive economic activity, thereby generating employment and creating demand. However, another line of thought is to revive demand by putting money directly in the hands of the people, especially the poor, which will spur production and economic activity. This is the age-old debate whether 'demand creates supply' or 'supply creates demand'. Only time will tell the impact of these measures. However, one thing is sure that faster the money changes hands, higher will be the multiplier effect that is needed to kickstart the economy.

ARTICLE SUMMARY

The article is an analysis of the current economic situation in India, and its impact on the population of this nation at large. The authors have attempted to illustrate the dilemma, and the possible outcomes of the pandemic, and its concomitant health and economic jolt. The article concludes with highlighting the possible remediation, strategies and policies the Government of India has undertaken to safeguard and revive the demand and supply side factors of the Economy.



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Digital Education in India: Will it Work?

**Riddhima Dutta Jajodia and
Vishakha Gupta**

The Covid-19 pandemic has disrupted several sectors and industries and has forced most businesses and services to rely on technology for continuity of their operations. At the onset of this pandemic, education was one of the first sectors affected. Schools and colleges took a decision to suspend classes and postpone ongoing higher secondary examinations even before the lockdown decision by the government. All educational institutions have been shut since March. And with this decision, comes an increasing need for ensuring effectiveness and continuity of education at all levels.

Ongoing initiatives

Covid-19 has forced the educational system to move online as far as possible. A high-quality online education has the potential to replace third-rate education in third-rate colleges. Virtual classrooms can be expanded without concerns of physical space and large online classrooms can be broken into smaller groups of students with trained teachers for focused learning.

Several initiatives by the government are already underway such as the Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM) MOOC platform for higher education courses; e-PG Pathshala platform for e-books up to PG level; Digital Infrastructure for Knowledge Sharing (DIKSHA) to help teachers; Shiksha Vani App to broadcast vital information to students and parents; e-classes on



thestatesman.com

Swayam Prabha DTH channels for school students; Unified Mobile Application for New-age Governance (UMANG) App for access to e-Pathshala platform for class 1-12 textbooks; e-Shodh Sindhu platform for access to journals and more; National Digital Library of India platform for schools, colleges, teachers, students, differently-abled pupils; and others.

More recently, PM eVIDYA programme has been announced to provide multi-mode access to online education. There will be one earmarked TV channel per class from 1 to 12, and special content for the visually and hearing impaired. The government is also tying up with private DTH services like

Tata Sky to air educational content on their channels.

Implementation challenges

Although these solutions offer a workaround to ensure continuity of education, there are several issues that need to be addressed to make them fully efficient:

1. **Lack of access to electricity:** While overall 99.9% of Indian households have a power connection, only 47% of these receive electricity more than 12 hours a day in rural India as per a survey by the Ministry of Rural Development in 2017-18.¹

1. The curious case of electrification in India amid discom blackouts, Live Mint, <https://www.live-mint.com/elections/lok-sabha-elections/the-curious-case-of-electrification-in-india-amid-power-discom-blackouts-1552257301715.html>

2. **Insufficient digital infrastructure:**

Merely 10.7% of households have a computer and 23.8% of households have an internet facility (NSS 75th Round, NSO MoSPI).²

3. **Lack of basic digital literacy:**

Barely 16.5% of persons aged 5 & above are able to operate a computer and only 20.1% are able to use the internet (NSS 75th Round, NSO MoSPI).

4. **Lack of skilled teachers:**

India already faces a massive shortage of teachers, now with the added requirement of digitally skilled trainers this is expected to exacerbate. Moreover, many of them have never used an online environment to teach.

5. **Language barriers:**

A large number of students are not comfortable with spoken or written English. This makes online pedagogical material much inaccessible.

6. **Gender gap:**

In 2019, while 67% men had access to the internet, this figure was only at 33% for women (IAMAI report).³

7. **Additional costs:**

With online classes on a regular basis, teachers and students will have to bear the increased cost of internet services.

The current Covid-19 situation has actually revealed the underlying disparities between different sections of the Indian society - rural and urban, male and female, rich and poor. With this existing digital divide, expanding online education may

further increase the inequities and push an entire section of the society out of the education system. Thus, merely moving classrooms online would not mean effective remote learning, governments will have to take additional measures to ensure effectiveness and outreach.

Our Perspective

Covid-19 will surely lead to an increase in the adoption of education technology, although the impact will be hampered owing to the current scenarios of the intermingling of education with technology. Educational institutions as a whole and the frontrunners i.e. students and the teachers, particularly, are facing the maximum burden to ensure continuity of the system. There are three perspectives from which this needs to be tackled:

Policy Perspective

- In light of challenges faced during Covid-19, education policies should include a technological perspective on education. In addition to this, governments should launch policies that enable and focus investments towards digital infrastructure, capacity building initiatives for teachers and students, for public schools and colleges especially.

People Perspective

- While envisioning the move towards online education, governments and industry players need to be

2. NSS 75th Round, MoSPI, http://mospi.nic.in/sites/default/files/publication_reports/KI_Education_75th_Final.pdf

3. India Internet 2019, Internet and Mobile Association of India, <https://cms.iamai.in/Content/ResearchPapers/d3654bcc-002f-4fc7-ab39-e1fbeb00005d.pdf>

empathetic to the technical, monetary and cultural barriers that pose challenges to the perceived faster and easier adoption of online education.

- Another huge oversight of continuing online education remains self-discipline of students and their comprehensive development that a traditional model of education offers. During the pandemic, this was possible as parents were bound at home and were able to support their children's online learning schedules, however, the same would be challenging once this lockdown is lifted.

Technology Perspective

- Robust technology is at the crux of pushing education to an online platform. The major challenge definitely remains the current poor/absent ICT facilities at institutions especially in areas where students are at different levels of economic and social capital.

There has been a huge push to add online education as a part of the school curriculum, but the fact remains that a large number of teachers are digitally inept and have limited experience in teaching using an online environment. Before pursuing this initiative on a larger scale, the government would need to invest in building its resources' (teachers) capacities and provide monetary support to schools

in setting up their digital infrastructure. Also, while designing new initiatives, governments need to include education professionals in their decision making cohort so as to ensure the solution(s) is holistic.

Way Forward for Governments

While technology will play a critical role in redefining teaching and learning, especially in light of virtual learning opportunities, the risks of technology further increasing the social and economic inequities must be addressed. The current situation provides a unique opportunity for governments and industry alike to think of innovative ways to upgrade the education systems to deliver the best learning opportunities for all and survive in the ever-changing and uncertain world.

The focus needs to be brought to educate students with digital skills for their own sake and for improving the quality of education. The emphasis on online education would need to be accompanied by changes in the curriculum, online textbooks, teachers' training, way of conducting examinations, grading systems, interactive content and pedagogy. Lastly, since we cannot currently envision to be moving towards a format of complete online education, the quality of traditional education has to be improved, too. Therefore, it is imperative that governments seek to enter online modes of mainstream education with well-informed caution and sensitivity.

ARTICLE SUMMARY

The authors discuss the increased use of online learning platforms for ensuring effective and continuous education at all levels, highlighting the implementation challenges of such solutions in the Indian context. The authors further provide various measures in terms of policy, people and technology for effective delivery of these digital solutions.



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Me & My Teacher COVID-19

संकट से बड़ा कोई शिक्षक नहीं,
चुनौती से बड़ा कोई शुभचिंतक नहीं ।

(A crisis is the biggest teacher,
a challenge is the biggest well-wisher)

Rupesh Chopra

Chronologically, COVID-19 started in videos and news on social media. The videos displayed how Chinese people had been locked inside houses, animals had been killed, and cities been deserted. Here in India, we kept on living our routine lives and continued the way we used to live. Finally, the coronavirus landed in India and the first case surfaced in India on 20 January 2020 and thereafter, there were sporadic cases.

It became a silent killer and the enemy of mankind. Till the time it was at a distance, it was termed a 'bad thing' but when it landed in our country it became a silent, hidden, catastrophic enemy that became a slayer.

Immediately, thermal screening started in major airports for passengers arriving from China, which later started for passengers from more countries, and thereafter for everyone. But it had landed on Indian soil, kept spreading and attacking silently. We continued our normal lives. Few people started taking precautionary measures by wearing masks and avoiding touch. The media started their reporting campaigns that resulted in mass awareness. Apart from that, user-generated content on social media started showing the impact of the invisible enemy, which gradually became famous with its name COVID-19.

By March 2020, it started becoming fierce and with the first death due to COVID-19, the learning began. Awareness dissemination on personal hygiene like washing hands, covering the nose and

mouth was initiated. We were still unaware the enemy was spreading in every direction. In the second week of March, we started hearing a new term, 'social distancing'. Somehow, people started feeling that it is just a 15-day affair and the disease will die in upcoming summers. We welcomed summers of 2020, but the enemy was much stronger and the sun was not coming out in full force. The winds from the north were blowing with the cool breeze and western disturbances were bringing rain. The Indian government quickly learned about this enemy, announced a new term, 'Lockdown' and imposed one-day 'janta (public) curfew'. The curfew was welcomed and gave a strong hint that something big is going to happen and it might get extended. With the announcement, masks and sanitizers vanished from shops, people started purchasing and stocking up on daily supplies. On the curfew day, we locked ourselves at our home and didn't go out. The decision was a game-changer to stop the hidden/invisible enemy. However, travelers from other countries were still pouring into India. Then we heard a new term 'quarantine, which used to be commonly known as isolation. Travellers entering India were advised for a 14-day quarantine at their homes/hotel/identified locations. Finally, to stop the spread, the government imposed a lockdown from 25 March 2020.

Almost everyone remained parked at their locations and then started implementing innovative ideas. The government, city administration, and people – everyone leveraging resources available and in their control.

The government, with the help of technology, started tracking the COVID-19 impact region wise and prepared SOPs. The immense learnings from this enemy included defining specific standard operating procedures, locking and blocking the areas, exigent medical services, ensuring daily needs of citizens, supporting the Indian travellers outside the country, releasing advisories and ensuring them, being transparent about the actions taken and building a strong system. WHO (World Health Organization) accredited that India's response to be "impressive". The COVID infection rate in India still remains low relative to population size.

City administration picked up with their learnings and actions. Sanitation to kill the invisible enemy was the first pick by the municipal corporations, using a disinfectant chemical called 'sodium hypochlorite' and 'hydroxychloroquine', thereby starting a new chapter of innovation. Municipal Corporation's primitive prevention method was to fight the invisible COVID-19, to kill it by sanitizing the city as much possible, while parallelly exploring technological interventions. They transformed their existing sewage cleaning vehicles to spray the disinfectant, and a few cities used farm equipment for the purpose.

The lockdown erupted with a lot of unforeseen issues, the first being 'food'. Almost every household started purchasing essential food supplies. It looked like some war is going to happen, though not with ammunition. The migrant labourers and daily wage earners were the worst hit. They started their journey for their home towns with limited food & water and without any

vehicles. The journey was tough, long and without any support on the way. COVID-19 taught us to save money, food, water to sustain at least six months.

Working professionals started work from home by utilizing technologies for their meetings, educational institutions explored and started platforms for online education. Professionals took paid/free certifications, techno-geeks developed pandemic-related mobile applications and deployed Geographical Information System (GIS), collaborating it with tools and applications to support the war against COVID-19. The learnings were growing in the kitchen by cooking all sorts of dishes, even those which had not been thought of. Mouth-watering snack specialities were being cooked every day, a treat for the taste buds. With our weight increasing, now the new learnings will have to be on quick weight reduction!

Learning is being spread everywhere. I was curious to know the thoughts of people around, so I surveyed government officials, reporters, freelancers, private sector employees, academia, students, retired officials, school teachers, embassy employees, industry leaders, doctors and a rickshaw puller (my friend). Here are the survey answers.

Question: What is the great learning that you had in the duration of lockdown?

Mr Prasoon Sharma: *“There are decades where nothing happens, and there are weeks where decades happen. — Vladimir Lenin. Next 10 to 20 weeks will define the coming decade for India & its economy.”*

Mr Arun Bhardwaj: *“Money is not everything, so stop chasing money, position, and power. Start investing time in your health, happiness and relationships. People who emerge stronger from such situations are the ones who are positive, happy and determined.”*

Mr Hitesh Vaidya: *“My learning was that technology has provided new options for addressing urban challenges like mobility, congestion, pollution, crowding, and we need to harness it much more to make cities responsive and resilient.”*

Mr. Jitender Mehan: *“COVID taught me family is the most important part of your life. Stay together always, which I always believed in. Health is important as you have to bear the brunt and try to give less pain to others. Don't spend on material things, learn to live a simple life and travel, which will help you to learn. Savings are important. Be humble. Have faith, जो होता है अच्छे के लिए होता है !”*

Mr Raj Cherubal: *“One, that Black Swan events happen and it happened in our lifetime, so we need cities to be planned to be resilient. Two, I started a few good deeds and habits only because of the lockdown and helped turn this unavoidable crisis into improving myself a bit.”*

Mr Sameer Unhale: *“This probably is the last opportunity for us to mend our cities.”*

Mr Rajan Chadha: *“Lead your present life smartly and plan a successful and smart future ahead.”*

Ms Anjali Jain: *“It doesn't take a lot of*

money and efforts to lead a clean, hygienic and healthy life.”

Ms Megha Kaushik: “Grow plants, enjoy the fruits of peace, find yourself, practice compassion, treat others as you would treat yourself.”

Ms Darshna: “Life is very simple and straight, we don’t need much to enjoy it, but our non-ending desires and high aims make it really complicated.”

Mr Anirudha Sharma: “During the lockdown, many things became irrelevant for me, such as going to the office every day, eating snacks outside, drinking tea and coffee several times a day. I mastered working from home. Learned to live in limited resources. I understood the importance of local things. Learned to give time to my favourite activities, like listening to music and writing the things I want. Seeing people in need, I became more sensitive, compassionate, gracious, polite, kind, fair, comfortable, simple, and recluse than I was two months ago. My faith in God has increased.”

Ms Damini: “So far the most important lesson I have got from this crisis is that it’s important to adapt and move fast because no matter how much we try, we can’t control the situation. We have to keep learning new skills because the way we do our jobs today or how we spend our free time may never return to ‘normal’. So, in that sense, remaining realistic and positive is the main learning for me.”

Mr Arun: “Maintain human touch, there is nothing bigger than this skill to tide over all

issues- business or personal.”

Mr Deepak: “I have learnt two lessons during this pandemic. One, that cash is king. This pandemic caught the world by surprise and massive global organizations collapsed like a pack of cards in no time, leaving millions of staff and workers jobless. So, I have learnt that one should build a habit to save money and part of the savings should be in gold or ‘easily convertible to cash form’, which can help families sustain in such difficult times. Two, that we must build upon one or two skills that can be put to use online/remotely to earn our livelihood.”

Ms Namrata Kohli: “The lockdown has been the best illustration of how we can live frugally and cut down to the minimum, the bare essentials. Where is the need to impress anyone with new clothes? Or cook extra. Just cook enough to satiate hunger and stay healthy. What is the minimum that it takes for us to survive? Be it clothes, food, energy, resources, like Gandhi ji said, “the world has enough for every man’s need, but not for every man’s greed”. Minimal is in, maximal is out and we have been taught by lockdown how we can effectively cultivate thrifty habits. With a ‘less is more’ approach, we can focus on the more important things in life rather than wasting away on material things.”

Mr. John Bosco: “Nothing is permanent, a situation can change so-called strong definitions.

In a simple case, until COVID-19, it was said that there is safety in numbers, but today it is said staying alone is safe. A simple

lockdown has healed nature faster than man could imagine. Take, for example, the River Ganga today is potable. We have spent crores and crores of rupees in cleaning it but could not achieve what the lockdown has. It was said it will take at least a century for the ozone to start healing, whereas in less than 60 days there is progress. Humans talked about computer simulations to carry out research in all fields including medicine but the irony is we could not simulate this virus and develop a medicine, leave alone the vaccine.”

Ms Neha Gupta: “The great learning is-work from home is contagious for health, especially when you work in the Information Technology sector.”

Ms Indu Jhokhar: “Having been blessed with a baby in February, I think my greatest learning has been learning to parent. The lockdown actually provided me with an opportunity to rest and give care to my baby, which otherwise may have been spent visiting relatives as is normal. So, I could just enjoy my motherhood and also learn cooking, which I thought of as a skill I’ll never be able to hone.”

Mr Ujjwal Bhargava: “There is a superhero in each one of us. We just need to put on the cape”. We are just reminded again by Mother Nature to take a pause and learn to be humble, respectful and thankful for what we are, what we have, and why are we here! The shield which we all have is very instinctive and that is reminded again to be hygienic. Accept the new normal of what we have been subconsciously demanding - to stay virtual, close to all

relations, remembering the real Gods of our liveable social society and above all, the correct essence of the distinction between essential and nonessential activities/ things.”

Ms Runa Rupali: “The biggest learning from COVID -19 was a feeling of empowering ourselves to care of our own safety and health, and finding a balance between facts and letting go of what we don’t know about. The lockdown has brought me closer to others. It has taught me that it doesn’t matter if you physically meet anyone or not, it is enough that you care about that person, no matter how distant you are. Finally, the greatest learning during this lockdown is the fact that I have learned to take things each day as it comes, and never keep anything for the next because we now are living our lives a day at a time. Every morning is an opportunity to be thankful that we are alive and then spend it as well as we can. After a long break, everyone got the time to spend with their loved ones.”

Ms Darshana: “Life is very simple and straightforward, we don’t need much to enjoy it, but our non-ending desires and high aims make it really complicated.”

Ms Reema: “I have learnt that nothing is impossible, at least when it comes to managing a house along with office work, that too when I am in my final trimester of pregnancy. Having always been a working girl, I did not pursue cooking but lockdown gave me a chance to rediscover this hidden talent in me. It’s been two months now and I have cooked all sorts of dishes ranging from regular dal-rice-roti to baking

varieties of cake. My fear for cooking has finally vanished!”

Mr Bunty: “During the lockdown period, working from home was great learning. I didn’t think that it can be done smoothly with the help of technology. Another important thing is that digitization of payment has also emerged as a strong mechanism for people during this lockdown period. At a time when some ATMs ran out of cash, the digital mode of payment was a better option for people through which they were able to buy daily need items.”

Mr Gagan Dewan: “Respect what nature has given you, time is precious, and you are destined to live one life, live it with a lot of humility and gratitude.”

Mr Rahul Savdekar: “You don’t need a lot to lead a simple life. We are privileged to afford a good lifestyle in the lockdown, and a lot of people are not. So, do as much as possible to support them.”

Mr R. Anand: “In our pursuit of life ambitions, we perhaps had forgotten the importance of simple and healthy living. We can plan our lives better more beautifully, by adhering to the golden rules of pure, pious fresh food and water. Extravagances on unhealthy food have notched much of our pocket and have left us living a diseased life. Our undue dependence on irrelevant means has considerably been exposed during this phase of the lockdown!”

Mr. Harikesh Chaurasia “हमें इसके साथ जीने की आदत डालनी ही पड़ेगी. कोविड 19 ने समाज में जीने की नई संस्कृति विकसत

की है, समाज के काम-काज का तरीका बदल दिया है | (translation: “we have to make a habit of living with it. COVID-19 has developed a new culture of living and has changed the way society functions.”)

Mr Mohit Misra: “Life is wonderful with little resources also, and we can devote time to the family along with work.”

Mr P. Balakumar: “The greatest learning is that community support and fraternity is vital in times of a pandemic. On the personal front, sometimes it’s good to take a break from work with family.”

Mr Mukesh (Rickshaw puller): (I would like to introduce him first. He is a friend, always greets his customer with a smile, and as you sit, he will ask if you are comfortable.)

- मच्छर या वायरस, कुछ भी मौत का कारण बन सकता है। आप जीतते हैं या हारते हैं, यह उससे लड़ने वाले व्यक्ति की परिस्थित पर निर्भर करता है। (mosquito or virus, anything can cause death. you win or lose it depends on the person in the situation.);
- जिसने खाली पेट रहना सीख लिया, उसने धैर्य सीख लिया | (one who learned to live empty stomach, has learnt patience);
- मेरे पास पैसा नहीं है, लेकिन मेरा प्यारा परिवार मेरे साथ है। मुसीबत के समय हम अपने समुदाय में एक दूसरे की मदद करते हैं | (there is no money but my lovely family is with me. In case of problems, we help each other in our community.);

- अगर ईश्वर ने जीवन दिया है तो वह हमें खाना खिलाने का तरीका खोज लेगा | (if God has given us life, he will find a way to feed us.) के साथ करें | (do your work with honesty and passion.)
- आज जीवन जियो, कल किसी ने नहीं देखा | (live life today, no one has seen tomorrow.)
- आप सुरक्षित रहें | (Sir, you stay safe.).

Let us keep fighting to win over the enemy to mankind and keep learning. Jai Hind.

ARTICLE SUMMARY

By including testimonials of people across the spectrum, the author focuses on the positive side of the pandemic. Respondents to his querying inform the reader of how they have fruitfully utilized their time during the lockdown for personal development, and what their personal learnings from the pandemic have been.



RUPESH CHOPRA

Rupesh Chopra has over 20 years of rich experience in public interaction, management and consulting with a demonstrated history of working in the ICT (Information Communication Technology) consulting industry, majorly with Government projects. Skilled in people management, service delivery, customer lifecycle management, governance & Service-Level Agreements (SLA).



Reflections on COVID-19: Lesson learnt and Way forward

Sabaklal Prasad

More than 40 lakh people all over the world are infected with the COVID-19 and more than 2.75 lakh people have lost their life due to this deadly infection.

Though India has done well in containing the spread of the virus, the vulnerability that India faces is still high. As of now, more than 80,000 cases have been reported across the country. However, about 60 per cent of the cases are from metro cities like Delhi and Mumbai. This is the situation of the pandemic in India after imposing a complete lockdown across the country by the government to contain the spread of the infection.

Further, this lockdown has also created

many challenges for various sectors of our country. The main challenges faced are:

- To protect people from getting infected;
- To ensure essential services are provided to each citizen;
- To have a better medical facility;
- To increase the supply of medical equipment/medicine;
- To ensure the safety of our COVID Warriors;
- To revive the economy badly affected due to lockdown;
- To generate more revenue to meet the exigency;
- To disseminate awareness to contain the spread of infection and actual situation to citizen; and,
- To create establishment on very short notice to accommodate/treat infected people.

The main victims of the above challenges are poor people, which includes crores of daily wage earner/migrant labourers, the self-employed and small business owners. These segments of people are facing the immediate problem of income as well as hunger.

In the above situation, the Smart Cities of India across the country showed promptness of action and online presence with Information and Communications Technology (ICT) tools to build patience and confidence among the people. The infrastructure built by Smart Cities (Integrated Command and Control Centres) converted into war-rooms to be used for several purposes including awareness and public announcements, helpline and help desk, tracking the movement of quarantined people and surveillance, door-to-door surveys and monitoring the teams engaged in COVID-19-related measures.

Additionally, a dedicated Food Helpline, medical teleconsultation apps, a food-and-grocery delivering application, and an online travel-pass application were developed to ensure uninterrupted supply of essential services to the citizens during the lockdown. Cities have converted the spaces created for various uses to tackle the menace posed by COVID-19 pandemic. Surat converted its multi-level parking into an isolation centre to quarantine infected people to contain the further spread of infection.

Facing the abovementioned challenge, some lessons have also been learnt during this lockdown period. The first and most

important lesson is that health is wealth. Notably, simplicity is the need of the hour.

To explain this better, consider that each and every person, whether poor or rich, is prone to get infected; health matters for both in a similar way. Hence, health is more precious than wealth. Secondly, during the lockdown period, the lifestyle of each individual is very simple and only essential activities are being carried out, which has had a positive result on the environment across the world. Nature has got enough time during the lockdown to recharge itself. The air pollution in India is so low that mountain ranges are visible from a distance of 200 kilometres due to less number of vehicles on road. The fossil fuel industry has registered the biggest drop in carbon dioxide emissions. The lockdown has also improved the water quality of many rivers. The major cause of water pollution is toxic industrial waste discharged into the rivers. Since industrial establishments are shut down during the lockdown period, Ganga water has become cleaner and even safe to drink. Many schemes have been made for cleaning Ganga and Yamuna rivers but none of them has succeeded like this lockdown has. These findings show that vehicle moving on roads and factories are the main source of pollution and there is no need to research/ study to find the cause of pollution further. Wild animals are claiming back their spaces and roaming freely while humans are sheltering in their homes. Thus, we can say that humanity can survive with fewer resources.

On the other hand, this situation has also provided some opportunities, which are listed below:

- To become self-sufficient;
- Focus has shifted to the development and improvement of health infrastructure;
- Hospital beds have been increased;
- Facilities for isolation of infected people have been established;
- Production of PPE kits and masks have increased;
- Research & development of vaccines, testing kits and medicines have been started;
- Innovation has flourished;
- Digital revolution started by way of development of food apps, essential commodities delivery apps, online education apps and online conferencing platforms;
- To test the Work from Home (WFH) model to ensure social distancing and containing the spread of such infection;
- Development of meeting/conference apps;
- To have clean air, rejuvenated rivers and cleaner water;
- Rest to the citizens to rejuvenate.

Now, considering the challenges posed by this pandemic and opportunities provided vis-à-vis the lesson learnt, a lot is required to be done to tackle the problems in

the future. Since most of the problems are faced by the cities, city planners, the government and the citizen may consider for the following actions:

- City development in a planned manner;
- Development of townships with adequate health infrastructure;
- Health sector should be included in all development work;
- Public transport may be improved to minimise vehicles on road;
- Accommodation and registration/contact information of migrant labours to be ensured;
- Digitalisation of information and knowledge-sharing platforms;
- Robust planning for making available basic facilities to citizen at all times;
- Waste disposal, to maintain a clean environment;
- Development work be considered for creating more public space to maintain social distancing norms;
- Citizen to adapt to demanding behavioural changes and following a simple lifestyle to curtail the burden on environment; and,
- Development of an IT-based system to ensure contactless delivery of services.

ARTICLE SUMMARY

The author discusses the challenges faced by the various sectors of our country in the face of the pandemic, lessons learnt to mitigate the effect of the crisis, opportunities created while dealing with the pandemic, and action plans to recover from the current crisis and tackle similar challenges in future.



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The reflection document is about the challenges faced by the various sectors of our country, lessons learned to mitigate the effect of crisis, opportunities created while dealing with the pandemic, and action plans to mitigate the effect of the crisis in

the future.



Real Warriors of COVID-19

Sampath Kumar Subramaniam

I *magine a post-COVID-19 era where there would be a titanic difference in the way we (the world) think and operate. My reflections are coined as a conversation based in future. I believe that people in general, try to correlate new things based on their past experience or with similar circumstances that they have experienced. But in the case of Covid-19, it is a completely new experience for the world. There is a curiosity in our mind and questions arising within us, and the reality is painting incredible new answers every day. With this background, we enter into our conversation.*

[This reflection is a conversation between a grandfather and his grandson in the future. The grandfather narrates a

pandemic situation which the world faced during 2020. It focusses on the Indian context and how the country managed to cope with the crisis.]

Grandson: Grandpa, today my teacher taught me about pandemics! Have you come across any such pandemic in your lifetime?

Grandpa: Yes, in December 2019, we were watching TV, it showed that there was a virus spreading in China. At that time, it was mere news to the world and every country believed it was a problem belonging to China alone but within the span of 3 months, the whole world became part of that same news! All over the world, the only news coverage was about COVID-19 and its impacts. I still remember, during those days any conversation started with “how many positive cases in your area?” and ended

with “Be safe”. If I am not wrong, it was 31st Dec 2019, Wuhan Municipal Health Commission, China, reported a cluster of cases of pneumonia. A novel coronavirus was eventually identified!! *That Virus was the Corona Virus (COVID-19/C-19)*. Slowly but steadily, the issue in China got aggravated. The intensity of the problem had reached to the next level. The intensity of the problem had reached to the next level. To handle the situation, the World Health Organisation (WHO) had set up the Incident Management Support Team putting the organization on an emergency footing to deal with this outbreak. We came to know that the virus is spreading its roots to other countries as well. Finally, a big shock on 23rd January 2020, as the Central Government of China imposed a lockdown in Wuhan in an effort to quarantine the outbreak. Closing a city due to a virus was

very new to us at the time, it was beyond our imagination. On top of that, on 11th March 2020, WHO made the assessment that COVID-19 can be characterized as a *pandemic* as the organisation was deeply concerned by the alarming levels of spread, severity and inaction.

Grandson: OMG! What is the difference between a pandemic and epidemic?

Grandpa: A simple way to know the difference between an epidemic and a pandemic is to remember the “P” in the pandemic, which means a pandemic has a passport. A pandemic is an epidemic that travels beyond boundaries.

Grandson: Oh, is C-19 the only pandemic you came across?



Grandpa: No, but yes! We had already come across the SARS outbreak in 2002 and 2003 led to more than 8000 infections and it had affected 26 countries. MERS occurred in Jordan in April 2012 in which all cases have been linked through travel, or residence in, countries in and near the Arabian Peninsula. In the case of Yellow fever, 34 countries in Africa and 13 countries in Central and South America got affected. We have also faced some natural calamities like the earthquake, cyclone, tsunami etc., but all these are confined to one particular region. For example, an earthquake in Surat (1998); quite often cyclones in coastal belts of southern India; tsunami in Tamil Nadu (2004) etc. However, these calamities occur all of a sudden and go off immediately. With all helping hands from international bodies, respective government bodies (central & state), NGOs, volunteers etc., the affected area gets recovered and realigns itself to the normal phase in due course of time.

But in the case of COVID-19, it was entirely different. On December 2019, there was only one case in China but within the span of 5 months, it spread from 1 to 42 lakhs, with a mortality rate of 6.8% (2.87 lakhs) across 215 countries, areas or territories (by 13th May 2020). It was like a blow of

fire from the dragon's mouth!! On the other side of the coin, some of the COVID-19 affected people were recovered (16.60 Lakhs patients) simultaneously.

In India, the first C-19 positive was encountered on 30th January 2020 but that figure increased to 74,281 (by 13th May 2020). Here also the good news is the recovery rate (31.7%) is high and the fatality rate is low (3.23%) compare to the global fatality rate (6.8%).

Grandson: What did you learn during that crisis?

Grandpa: C-19 had made Curfew, Lockdown, Quarantine, Containment, Social Distancing, Stay-home Stay-safe as some of the most commonly used words of 2020. It also forced everyone to wear masks and gloves as daily attire as world citizens. In one stroke, it gave a forceful knowledge transfer, from kids to working professionals, towards using digital platforms (Zoom/Hangouts/Blue Jeans/webinars) to perform their regular day-to-day activities.

Grandson: I have not come across these platforms? Oh, they might be outdated now! Okay, what all behavioural changes happened during that period?

Grandpa: Interestingly, the invisible C-19 has made visible changes to the human race. C-19 had done a lot of positive behavioural changes, mainly in areas such as improved personal hygiene (irrespective of the rich or poor), ability to handle future pandemics, improved empathy and enhanced emotional bonding. It taught the

*"Not all the Soldiers carry
Guns to save their Nation,
some carry
Stethoscope, some may
carry Brooms"*

importance of savings to the lower-income groups (daily wages and informal groups), and so on. Irrespective of it all, society started realising the importance of all the categories of workers and began to treat them equally.

Grandson: What was the global takeaway?

Grandpa: C-19 taught different meanings of globalization, oneness and sustainable economy to all the world leaders, politicians and various professionals. Moreover, a big positive change happening during that time was declining pollution levels. At least in our generation, we did not find such a pollution-free environment. In a single sentence, C-19 brought lateral thinking to global citizens.

Grandson: Oh, you mean to say the entire world had taken a clean bath and nature was able to restore itself? Okay, what was the national takeaway?

Grandpa: As Mahatma Gandhi said, "India lives in villages and agriculture is the soul of the Indian economy". Being an agrarian society, India could always be on the top, among agricultural produce exporters. But in a few decades past the pandemic, we de-routed from our core and became global importers of pulses, cereals and so on. India learned a lesson from C-19 that irrespective of the available resources in the country, we are several steps back in sustainable agriculture and food storage. To align India back to its core, C-19 played a major role. During that time, the Finance Minister's speech reflected this by funding more reforms in the agriculture sector.

In India, due to the clear weather, we could see the ranges of the Himalayas from Jalandhar; Ganga was running crystal clear; most of the water bodies were free from pollution; clean air to inhale and what not!!

Moreover, the C-19 forced the government to come out with logical solutions, reforms and policies for migrant workers, homeless people, slum dwellers and so on.

Grandson: Now I understand why world timelines were divided again into pre-C-19 and post-C-19.

Grandpa: Yes, it is a very good question. Although we have a lot of grievances with the government system, this C-19 has broken that thought into pieces because they were the front runners who facilitated the public during the lockdown in all ways and means to run day-to-day life smoothly. The real warriors of C-19 were the health workers, sanitary workers, police, city administration, corporation officials, food chain management teams, disaster management teams, bank employees and so on.

Grandson: You are saying it was a risk to go outside then how these workers managed to do their job?

Grandpa: Yes dear, you are right, they put their lives under risk and saved others, that's why I called them the real warriors of the nation.

Health Sector: From doctor to a ward boy, it was a real tough time for them wearing that medical PPE kit. In spite of the fear of

getting infected themselves, they endured the responsibility of saving COVID-19 patients. After their service to C-19 patients, they had to undergo another 14 days of quarantine before going to their home. Despite all these precautions, several health workers lost their lives in this C-19 battle.

Sanitary Workers: From daily household waste collection to sanitising the containment zone, the efforts of these workers can't be explained in words. C-19 made the global citizens have a much deeper respect for these sanitary workers.

City Administration/ Corporation officials: From a sanitary worker to the city commissioner, everyone was working 24x7. From demarcating the containment zones, tracing C-19 network, supplying essentials to the containments areas, facilitating the food supply chain, monitoring the overall works through Integrated Command and Control Centres (ICCC) and so on, their job was endless!

Police personnel: Police forces were geared for imposing isolation because the nervous citizens were immovable and off guard by a sudden imposition of the lockdown. They risked their lives on the streets to ensure our country's 1.3 billion citizens stayed safe indoors. Even there

were a lot of policemen who got affected by Covid-19 while performing their duties.

Food supply chain management: Agriculturists, lorry drivers, vendors and many others who were part of the food supply chain ensured sufficient supply of essentials even during the lockdown.

Volunteers and NGOs: The volunteers and NGOs are always ready to extend their helping hands whenever society is facing some crisis.

I would say, 'they were the real heroes of our nation who fought for us in the battlefield of COVID -19 and safeguarded us.' I have listed only a few professionals but I am pretty sure there were a lot of invisible warriors too!

With all their helping hands we fought back Corona and gradually the severity of the virus went down. Moreover, we also prepared ourselves to live with Corona by maintaining proper social distancing and personal hygiene.

Grandson: our narration felt as if it had taken me directly to 2020. It was really inspirational and informative. Salute to the Real Warriors of COVID-19!

Salute to the **Real Warriors of COVID-19** !

ARTICLE SUMMARY

The author takes a very interesting take of proposing a future moment. Through a narrative of an interactive conversation between a child and his grandfather, the grandfather recalls the time of COVID-19 pandemic and its impact. The author delves into highlighting the efforts of the pandemic warriors (frontline workers, doctors, nurses and city managers) as the real heroes and the way they took lead and fought tirelessly for a healthier and safer society.

**SAMPATH KUMAR SUBRAMANIAM**

Sampath Kumar Subramaniam has been working as a Consultant for Smart Cities Mission in Ministry of Housing & Urban Affairs for over two years as a team player in Department for International Development (DFID) supported Technical Assistance for Smart Cities (TASC) team. He is a Transport Planner with decade plus of professional experience in Urban Transport.

He articulated his reflection as a conversation between a grandfather and his grandson in the future about the pandemic situation which we are facing now. In this article, he appreciated and salute the dedicated services of Covid-19 frontline workers. The main reason which triggered him to write this article was to acknowledge the great service of frontline workers for being a warriors to safeguard the world in the battlefield of COVID-19.



Modelling the COVID-19 Pandemic: Case Study of a Pre-Preparedness Model for Health-related Shocks such as the COVID-19 Pandemic for Maharashtra

Udit Sarkar and Chiranjay Shah

The current COVID-19 pandemic in India has given a clearer perspective on the shortcomings and strengths of urban systems in the country. These shortcomings indicate that there is a need to develop a dynamic, configurable and predictive set of decision-making processes based on sound urban planning policies to support implementation. This study outlines a concept and a visualisation model to monitor, communicate and manage the impact of such outbreaks as COVID-19 in the future.

Excerpt from the World Economic Forum Article, 'Lessons from COVID-19 modelling: the interplay of data, models and behaviour'

In the history of humanity, perhaps no data models have been more recognizable than COVID-19's infection and death curves. Virtually everyone, from the farmer in India to the director of the Center for Disease Control and Prevention (CDC) in the US, is now familiar with them. These models are based on assumptions about what needs to be included and excluded from reality. They are also based on assumptions about how different components of the model

interact. For example, there is a family of epidemiological models that include some aspects of the disease and ignore others. SIR models look at Susceptibility, Infection and Recovery (SIR) of individuals, while SIS models look at Susceptibility, Infection and Susceptibility (SIS) again, as in recurrence of the common cold. SIRD models add “Deceased” to SIR models, and SEIR models account for “Exposure” when an infectious disease has an incubation period. SEIR and SIRD models are the two types commonly being used for COVID-19.

Data is critical to build models and validate their accuracy – and feeding models inaccurate data will produce inaccurate results. In the case of COVID-19, we need to feed models the number of cases, hospitalizations and deaths due to the coronavirus at a national, state and/or county level. We might have incomplete data (e.g., remote areas may have difficulty collecting and sharing data) or inaccurate data (e.g., in the early stages of a pandemic, the deaths may be associated with other secondary conditions and may have been miscategorized).

Finally, despite our best efforts, there is uncertainty – aspects of the model we don’t know and may never know with certainty. There is still a lot of uncertainty around COVID-19’s infection rate, incubation period and recovery rate – all of which impact the reproduction rate. Furthermore, we still don’t know the impact of the virus on different segments of the population. In addition to disease uncertainty, we also have policy and behaviour uncertainty. We cannot say how different governments and institutions will intervene in this crisis, or how citizens and employees will behave in these stressful circumstances.

CHIME Model

As the pandemic spreads and the virus proliferates, we believe there is a need for a predictive model combined with spatial analysis to help prepare a dynamic medical preparedness plan. The University of Pennsylvania’s Predictive Healthcare Team adapted the susceptible, infected, and recovered (SIR) mathematical model to create a new model called CHIME (COVID-19 Hospital Impact Model for Epidemics). CHIME

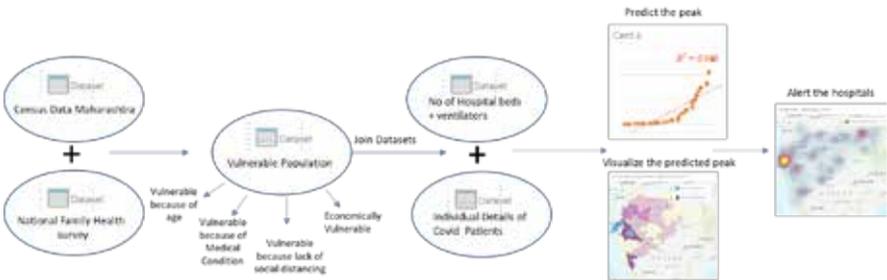


Figure 1: Model Implementation Methodology

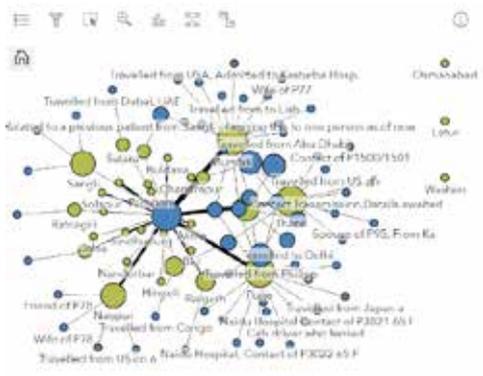
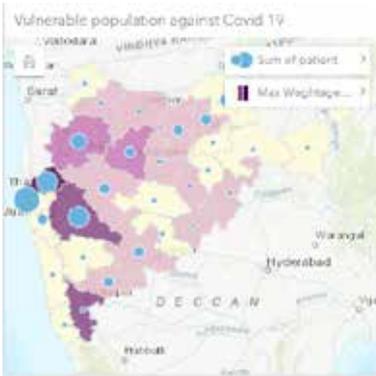


Figure 2: Left image shows vulnerable population under risk in the state of Maharashtra and Right image shows link analysis of viral community spread of individual patients

allows hospitals to enter information about their population and modify assumptions around the spread and behaviour of COVID-19. It then runs a standard SIR model to project the number of new hospital admissions each day, along with the daily hospital census. These projections can then be used to create best- and worst-case scenarios to assist with capacity planning. We believe that though the model is tailored towards the current outbreak, it's learnings can be used for overall epidemic preparedness. The CHIME model provides up-to-date estimates of the number and type of people needed to be hospitalized.

In order to test the tenets of the CHIME Model, we experimented with a preparedness model suited for the vulnerabilities of the Indian population.

To explain the effectiveness of the model, three alternate scenarios from the model can be compared/envisaged using the model's predictive spatial analysis,

showing what necessary interventions are needed to flatten the curve. Administrators might use the model for the following purposes, among others:

- To understand the vulnerable population under risk
- To answer if a severe lockdown order will ease the pressure on hospital capacity
- To understand the immediate need for ventilators or hospital beds in numbers
- To identify the deployment strategy of vaccines to reach the most vulnerable population

The following section outlines the mechanics of implementing this model. It was tested on datasets extracted for the State of Maharashtra but can be scaled to different parts of India. The illustrations in Figure 1 also show patterns emerging in response to the crisis.

- Map the cases and the spread- Across the world, people are mapping confirmed and active cases, deaths, and recoveries to identify where COVID-19 infections exist and how have they occurred.
- Establish link analysis of all COVID patients with respect to the source of infection, where it happened and current treatment scenario- This analyses the connections between community members, to understand how the virus is spreading and who needs to be tested.
- Identify the vulnerable population in the districts/sub-districts/talukas- COVID19 disproportionately affects certain demographics such as the elderly and those with underlying health conditions. Mapping social vulnerability, age and other factors help responders identify, monitor and serve at-risk groups and regions.
- Visualize and predict the districts that have chances of community

transmission using 'link and predictive' analysis

- Identify hospitals that needed to be alerted/augmented
- Possible future application- identifying opportune deployment scenario for maximum effectiveness of a vaccine.

Result

Figure 2 illustrates the different features of the model for the State of Maharashtra. Such interactive visualizations will help the non-technical audiences to take decisions effectively which are likely to help public administration at different tiers to flatten the curve as soon as possible.

Lastly, as India continues to fight the spread of coronavirus, a few 'successful' efforts at containing the infection have been touted as 'models', celebrated and mimicked across the country (BBC). Therefore, it is important that administrators should be careful in using models and should not believe in a one size fits all approach

ARTICLE SUMMARY

The study conducted by the authors outlines a concept and visualization model to monitor, communicate and manage the impact of outbreaks such as COVID-19 for the State of Maharashtra. The authors further highlight the importance of interplay of data, models, and behavior in COVID-19 modelling.



UDIT SARKAR

Young Professional- Data Analytics and Management Unit at Ministry of Housing and Urban Affairs

Udit Sarkar is an Architect and an Urban Planner. His interests are in the field of Spatial data analytics, urban data science and urban transportation, and he has over three years of experience in urban development sector and is currently working as a part of the Data Analytics and Management Unit at the Ministry of Housing and Urban Affairs, Delhi. He was previously associated with India Smart City Fellowship as a fellow and was involved with the project Enable. What made us choose their subject?

As the pandemic spreads and the virus proliferates, as Urban Planners we believe there is a need for a predictive model combined with spatial analysis to help prepare a dynamic medical preparedness plan. Hence, we experimented with a preparedness model suited for the vulnerabilities of the Indian population.



CHIRANJAY SHAH

Young Professional- Data Analytics and Management Unit at Ministry of Housing and Urban Affairs

Chiranjay Shah pursued his undergraduate degree in planning from CEPT University, Ahmedabad. He has worked in UN-Habitat, Nairobi and with the Pune Municipal Corporation on its smart city and resilient city missions. He joined the Smart Cities Mission in January 2019 as an India Smart Cities Fellow and is currently working as a part of the Data Analytics and Management Unit at the Ministry of Housing and Urban Affairs, Delhi.



Amid the 'Chakravyuh' of Fear

Vikash Chandra

“Children, please mute yourselves!”

These repeated words woke me up. Today, 11 May 2020, is the 8th day of the third extension of the lockdown and it is 9:10 a.m. It was my wife taking online classes and she was instructing the enthusiastic children online to mute themselves and focus on the presentation she was making. We are married for about 17 years and she had been teaching economics to students of classes 11 and 12 for about the same time. One thought pierced my mind that the COVID-19 had improved the national digital literacy in one stroke. All of a sudden, teachers and their students are forced to open their laptops to connect in virtual classrooms. They are making PowerPoint presentations, and some good ones, for probably the first time

in their lives. Often shuffling to sending invites and conducting classes on Zoom, Cisco WebEx, Google Meet and so on. Are we into technology days, I wondered?

I decided to finally get in motion and move to the next room. There was a jamboree of activity outside. I could see my daughter in one room and my son in another. Each of them in front of their laptops and attending their online classes. Both would be getting an online class code ten minutes before the scheduled time. With some initial teething trouble, now they were comfortable attending the classes, submitting their exercises and even taking unit tests online. “I want these four children to solve this Chemistry numerical and WhatsApp me in the next three minutes”, I could hear the teacher telling my daughter. Wow, I said to myself. This is a great idea for the teachers to check the attentiveness of online children. With so much classroom-

type atmosphere, I wondered if my flat had turned into a school itself. Only some months back, there was so much peace at home, when the three of them would be on their way to school by 7:30 a.m. Today, so many people had arrived virtually into my home, be it the online school on Google classroom, Chess classes on Skype, Maths tuition on Duo, or meeting school friends on Zoom.

Engrossed in these thoughts, I decided to make the morning tea. Got a signal from my wife, “*make*

one cup for me too!” I had to oblige her with a smile. As I crushed the fresh ginger, I thought that this Coronavirus or the COVID-19, a tiny organism which we can hardly see, had brought the world to its knees. This tiny organism was laughing at all of the human greatness and their ability to

tame nature. Everyone in the state of fear was seeking refuge from this organism.

I settled in the living room with the lovely aroma of tea. In those normal days, I would have picked the newspaper at my entrance door. Today, these newspapers are stacked at the entrance of the apartment complex. The COVID-19 team of my apartment had issued clear instructions that no vendor would be allowed to deliver things at

your doorsteps and pass on the risk to other residents. “*Please walk up to the entrance to collect it, should you want to read the newspaper;*” was the diktat. Several WhatsApp messages had also advised leaving the newspaper in the sun for a few hours before you pick them. No wonder a friend working for a popular newspaper was complaining that people are not reading a newspaper and thus, their company had offered a salary-cut of 30 per cent for all its employees. She was fuming, I can tell you.



My mother joined in for her morning tea. My wide smile and a good morning wish could not enthuse her much. “*What is the score today? Any improvement?*”, was her question. These words would have meant the cricket score in any other time, and any improvement

would mean any building of partnership after losing a prominent batsman. However, I knew what she was asking. Few COVID-19 tracker apps on my mobile would tell the score of Noida, of Uttar Pradesh, of India, or any country in the world. The score was 65,441 confirmed cases in India, with 2,128 people deceased. Across the world, this ‘score’ had reached to 42,21,046 confirmed coronavirus cases and 2,84,822 reported deaths. Were we moving closer

to the total deaths during World War I of 40 million and 85 million during World War II? Can this invisible organism be more devastating than the 'Little Boy' or the 'Fat Boy'? I replied to my Mom that surely, there has been no improvement and the score was rising fast. No one knew where and when this 'score' will eventually stop!

A quick look at the watch indicated it is time to rush and get ready. 10.00 am was the daily meeting time of the Ministry. The Smart Cities Mission programme of the Ministry of Housing and Urban Affairs has been a proactive team, shifting the entire working to e-office and online meeting ever since 20 March 2020. The entire team, from the Joint Secretary, the Directors, Under Secretaries, to the battery of consultants would religiously join for an hour-long video conference sharp on time. There was no traffic jam excuse, a birthright for those living in New Delhi, for any of them. In those normal days, starting at 8:00 a.m. from home would ensure that you reach office in an hour and just in case you were lazy for 15 minutes, the drive to the office could be an hour and a half (or more). No wonder, with everyone home and no time to lose on roads, all are present for the meeting on time.

With 15 minutes remaining, an urge for a breakfast chipped in. Owing to my good cooking skills, today's assignment was to prepare a 'Poha-for-all'. Only a few days back, we had a battery of house-helps to help us. I wondered, how were they were facing this tiny organism and the fear it had generated? I had recently read that the informal sector employed around 50 per cent of the total workforce in India, of

which 70 per cent were females in urban areas. More than 1,000 families living in my apartment had flooded their unanimous support for their house cleaners and paid them their salary (without any cuts) for the month of April. The warm aroma of Kadi leaves could not stop the thoughts of these migrants, who had little money and resources left with them and wanted to return home even if it meant travelling 1,000 km by foot! Why were they leaving? How will they reach home amid this lockdown? Moreover, will they be welcome back home? Only yesterday, someone was telling me that these migrants coming back were bringing infections with them. They were thus quarantined for 15 days in some facility, which was so near and yet so far from their homes. Will they come back post the lockdown? How will they overcome the fear for their lives?

After the official video conference and some regular follow-ups, I decided to go to the balcony. I could see outside an empty basketball court, a deserted swimming pool and a human-less landscape. It has been more than 50 days since the children played in these gardens. Their cycles had been locked in the dust. When will this get rolling again? These gardens without playing children were not a good sight. Normal days in the month of May would have prickly heat.

One good change had been the weather. The sky had turned so blue, begging the question if it is a regular Delhi sky. Even the rain gods contributed to the unprecedented weather changes with frequent heavy rains, dust storms and even hail storms in the month of May. This

change can be attributed to the reduced pollution due to less vehicular movement and closure of most of the factories in our polluted cities. Normal days in the month of May would have witnessed prickly heat. All of a sudden, I could see the stars lighten up in the evening and the moon shining brighter. Were they aware that this tiny organism had forced humanity indoors and had decided to bloom in the sky? The River Ganga has become potable in Haridwar and the Himalayas had become visible from Chandigarh and Himachal Pradesh. Many reports of wild animals had surfaced on the urban roads, where they had come seeking if all was well with humans. *“Where were the humans, who would often keep shrinking our habitat for their greed”*, must have been their thoughts. *“We want growth!”* has been a candid human excuse for every exploitation of nature. Wish someone could reiterate the wise words that *‘growth for the sake of growth is the ideology of a cancer cell’*.

Why did people come to India and spread the virus here? This was surely not our local problem. *“Had they not come back, we would have been safer”*, a part of my mind argued. But India earned USD83.1 billion foreign remittances every year. Should we be so ungrateful to them when they want to return home during this crisis? They were our golden goose and we were

“Children, please mute yourselves!”

only so happy about their golden eggs in our economy. There could be no better example of how global the world was when we see one tiny organism spreading to 191 countries in less than three months. Maybe one has to plan a fire extinguisher, not for local fire, but henceforth for fires of the globe.

An SMS notification alert caught my attention. This was one of the SMS for money deducted from my bank, for the Systematic Investment Plan of a mutual fund. It was disheartening to see my investment portfolio sink to a new low. My total Composite Portfolio return in mutual funds had reduced by 8 per cent. Investments are subject to market risk but of this magnitude, was never the declaration. This made me realize that my entire pattern of monthly spending had changed. In those normal days, the expenditure made on petrol/ diesel of about INR 20,000, shopping about INR 15,000, movies about INR 7,000, restaurants about INR 5,000 had become my saving this month. My spending over the last 50 days has been on essentials only. I was happy to make a fixed deposit of the same for the ‘rainy’ days. But what if, everyone stopped spending? Or reduced their consumption and made a Fixed Deposit like me? Will the economy not collapse?

As I finished my official work, I went into the living room to find the children glued to the television as they finished their lunch. It was a movie playing the virtuous feat of India’s expedition to Mars, Mission Mangal. With all the cinema halls closed, people had resorted to TV, Netflix, Hotstar and so many other options. Will this not affect

our movie stars? Last year, Akshay Kumar emerged as the seventh highest-paid actor in the world earning USD40.5 million. If I remember correctly, Akshay Kumar was one of the highest taxpayers in Bollywood. With the world in lockdown, will these actors earn the same money like normal days and deposit hundreds of crores of income tax to the country? What about the hordes of other artists, support staff in the lower value chain, who earned their daily livelihood from the Indian film industry? Even if the lockdown were to end in the coming days, will people return to the theatres and get the film economy rolling again? This does not look like a possibility, in the days nearby.

Why only films, what about the sports, the fully packed stadiums? Will our sportspersons play in empty stadiums now, with the only audience in the form of digital cameras streaming them live? Moreover, what will happen to the investments made for the mother of all sports event, the Olympics? Will Japan be able to afford this humongous loss? Will people shed their fear and return to the stadiums?

When the phone rang, I knew it would be around 4:30 pm. This was the time when my sister-in-law would leave the hospital for lunch back home. She would religiously give a call after settling in the car. We ought to have great respect for the doctors and healthcare professionals, especially for their efforts amid COVID-19 times. The entire nation had clapped from their balconies in their praise recently. But they have families too who love them. Love can sometimes make you fearful. My sister-in-law would try to enter her flat as

quietly as possible and have a bath before hugging her children. Little do people know that these doctors would be bathing in sweat continuously, beneath their white PPEs. However, her playful younger son, who would be waiting near the door to give her the surprise welcome hug, would often stun her. Should one pass our fears to these young minds? How to convey the little one that this tiny organism was cruel?

Late evening, I realized that I was feeling lighter. This was due to a haircut given by my sister the other day. I was so grateful to her and wished if I could reciprocate by re-shaping her eyebrows. If we all became so sustainable, what would happen to the hair salons and the beauty parlours? In my neighbourhood hair salon, I would often be bewildered by the attrition of its staff. In each of my visit, I would see the new staff there. "*The heavy shop rent gives very little room for profit*", would be a polite answer of the shop owner. Now, how were they dealing these COVID times? Was he giving them salaries, despite the heavy rent? What about others, like the food delivery staff of Zomato, Swiggy, Uber Eats or the Ola/Uber drivers? How are they managing themselves?

Therefore, it was fear, fear everywhere. It seemed like we are amid a chakravayuh of fear. Each of us is in a lockdown, in a standstill wherever we were, engrossed with fear. But for how long? The pessimist in us likes to believe that the world has changed forever, and we will have to learn to live with this fear.

I was beginning to get nostalgic for my normal days. I wanted the days back,

where a weekend movie was the best stressbuster, shopping in a mall for your family and friends was the biggest joy, to drive to India gate for ice-cream or Rajiv Chowk for a paan was a great pleasure, to watch a cricket match live at Ferozshah Kotla was an ultimate outing. Even the smaller pleasures to hug, give a handshake, share a burst of laughter, or an animated discussion were the necessary ingredients of one's life.

My Bose sound system was playing a John Lennon song in the background, "*You may say, I'm a dreamer, but I'm not the only one. I hope someday you join us. And the world will live as one...*" This came as some respite and hope, to rest all the popping questions in the mind. It was time to sleep for yet another day.

I had to say to my thoughts, "*My dear Fear, please mute yourself*".

ARTICLE SUMMARY

The author discusses his personal reflections of the changes in his life during COVID-19. He connects decisions taken by governments and individuals with their implications on the lives of ordinary citizens. He connects the issues of education, medical frontline workers, migrant workers and the challenges of working from home with the occurrences in his own life, providing the reader an intimate peek into the daily struggle of a working family with young children during the lockdown.



VIKASH CHANDRA

Vikash Chandra is an MBA from Indian Institute of Foreign Trade (IIFT, New Delhi) and Masters in Architecture (Urban Design) from CEPT University, Ahmedabad. He obtained his Bachelor of Architecture from Karnataka University with distinction in 1999. He is currently the Finance and PPP expert with the Smart Cities Mission at MoHUA. With about 20 years of professional experience in leading government advisory and transaction projects in Aviation, Urban and Tourism infrastructure across India. The article is his personal observation of the changes in life during COVID-19.





The members of the Smart Cities Mission National Team at the Ministry of Housing and Urban Affairs, Government of India

With this collection, the Smart City Mission team has transmuted the unpleasant, shattering reality of COVID-19 into yarns of fond memories of the past, heartwarming humanity in present times, and dreams of towering visions for the future. Each article is a personal account of its author, no matter the technicality of its contents. Each story is testimony to the notion of seeing a situation not as what it is, but seeing it as one is.

