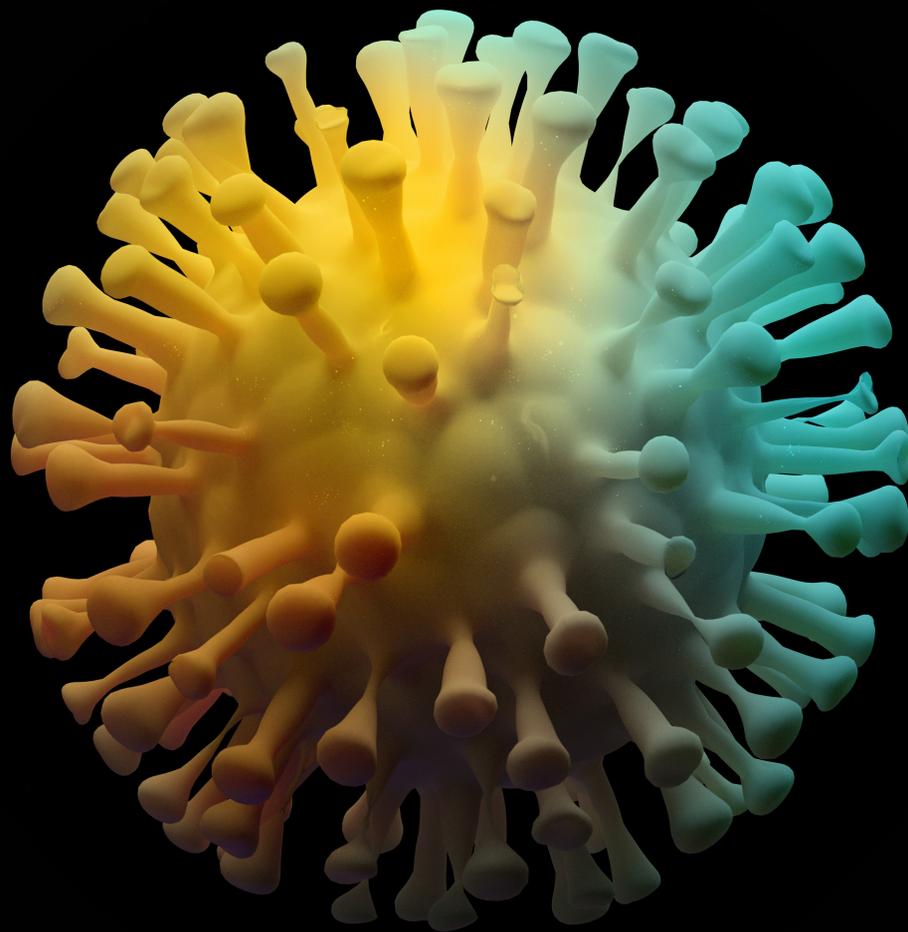


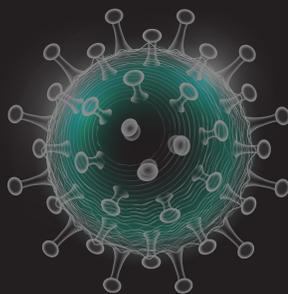
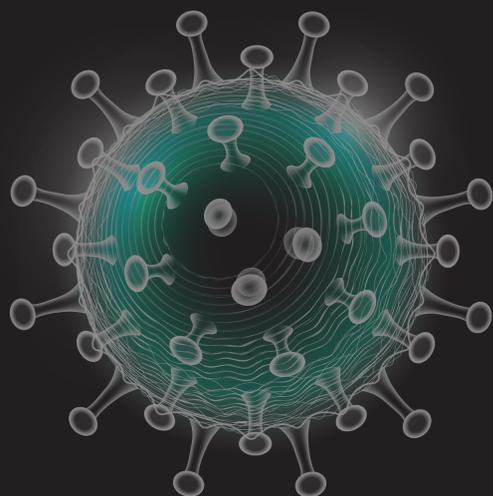
Deloitte.



India Smart Cities COVID 19 Response

Case Studies

June 2020



CONTENTS

04 *Introduction*

09 *Theme 1: ICCC as War Room*

- Pimpri-Chinchwad Smart City Control Centre developed as COVID 19 War Room
- Varanasi ICCC as COVID-19 War Room

17 *Theme2: Managing the lockdown - Social Inclusion*

- Responding to Covid19: Bhubaneswar Feeds its Urban Poor
- Ensuring no one sleeps on an empty stomach in Raipur

25 *Theme 3: Managing the lockdown - Delivery of essentials at doorstep*

- Effective delivery of essentials: Chandigarh's response to COVID-19
- "City of the Taj"'s fight against COVID-19



Introduction



Government Response to COVID 19

COVID-19 has engulfed almost the entire world, challenging governments to act in ways normally reserved for war, depressions, and natural disasters. Governments at different levels across the world are taking extreme measures to limit loss of human lives and minimize economic disruption. In the rapidly developing crisis, faced with a plethora of information from multiple sources including social media, citizens look to their

governments for credible information, guidance, and leadership to keep them safe and healthy and avoid economic hardship.

The figure¹ below models the COVID-19 crisis over time across the three overlapping phases governments are expected to encounter: Respond, Recover, and Thrive.



RESPOND

Current phase (March –May 2020) which is focused on dealing with the immediate crisis, with most governments being in the respond phase. Governments are moving fast and have been seen bypassing conventional procedures: ordering lockdowns to close down economic and social activities, curtailing travel, reallocating industrial capacity to meet urgent medical needs, and providing immediate medical and economic assistance.



RECOVER

As the immediate danger eases, governments will have to enter the Recovery phase, shifting their focus to accelerate the curve of the economic recovery and to mitigate the broader impacts of the crisis. Public institutions will begin to return to normal. Government will still have to move swiftly, possibly shortcutting some traditional controls, but with fewer unilateral executive actions.



THRIVE

Having survived the crisis, governments will need to consider long-term improvements to public operations – so that they can respond effectively to future risks by becoming more digital, revisiting procurement processes and supply chains, monitoring for future pandemics. Old rules and regulations may need to be reevaluated, allowing technologies that have shown their effectiveness during the crisis—such as telehealth and remote work – to become permanent options in government.

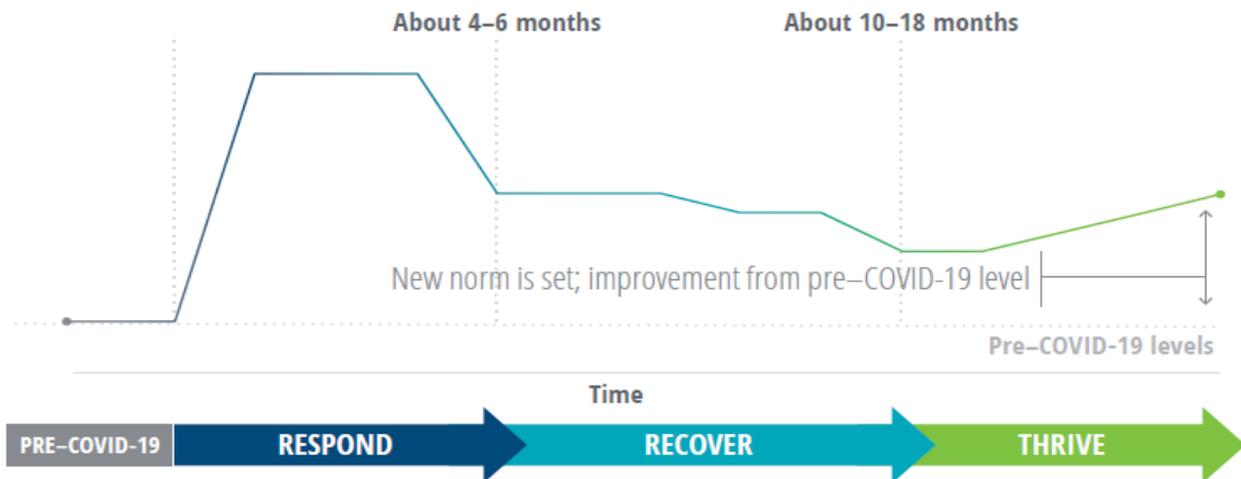
At each phase, government's guiding metric should be its impact on people. In the short term, this means a focus on containment, treatment, and economic survival. In the medium term, the goal will need to shift towards economic recovery and

return to the new normal. In the long term, it should hope to emerge better prepared to adapt to this –or any –type of crisis, better positioned to promote the well-being of the citizens.



A timeline for COVID-19 government responses

— Level of flexibility and speed in government



Act to promote safety and continuity

- Focus on essentials
- Offer maximum flexibility
- Use maximum speed

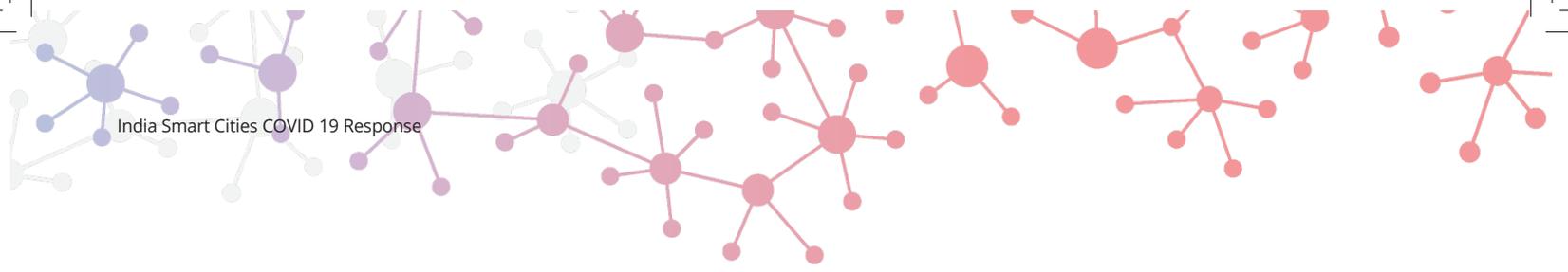
Restore and emerge stronger

- Move toward normalcy
- Offer high flexibility
- Use high speed

Prepare for the next normal

- Build long-term enhancements to public sector
- Establish a better foundation for the future
- Create a new level of flexibility

Source: Deloitte Publication on Government's response to COVID-19



India's Response to COVID-19

During the unprecedented crisis, governments across the world are taking time to respond to COVID-19 by organizing themselves and starting emergency response measures. In India, the Government has taken several early measures to contain the spread of the virus in the country, key among them being

- **Contain spread of COVID-19 at the community level:** imposed countrywide lockdown in 4 phases from March 25, 2020, till May 31, 2020, to restrict public gatherings, stopping all inter-state and intra state transportation other than essential goods & services, and ensuring social distancing.
- **Implementing 100% screening of foreign travelers:** Around 1.5 million Passengers² have been screened at the airports, 44 thousand at seaports, and more than 2 million at land borders during the period preceding the lockdown.
- **Tracking of COVID-19 patients:** Community surveillance of suspected COVID positive patients through the Integrated Disease Surveillance Program (IDSP) Network.
- **Testing Methodology³:** Ministry of Health and Family Welfare (MoHFW) has prescribed different types of testing based on individual conditions. For example, Real-Time PCR (RT-PCR) test and Point-of-Care molecular diagnostic assays are recommended for diagnosis of COVID-19 among individuals belonging to the following categories:
 - All symptomatic individuals who have undertaken International travel in the last 14 days;
 - All symptomatic contacts of laboratory-confirmed cases;
 - All symptomatic health care workers;
 - All patients with Severe Acute Respiratory illness (fever AND cough and/or shortness of breath);
 - Asymptomatic direct and high-risk contacts of a confirmed case should be tested once between day 5 and day 14 of coming in his/her contact

While to track spread at the community level, it is recommended to use rapid antibody-based blood test for COVID-19, in clusters (with containment zones), and in large migration gatherings/evacuees centres, if an individual has tested positive the person will have to go for RT_PCR test.

- **Management of the healthcare system.** Empaneling laboratories across the country to facilitate early and timely sample testing. Procuring required numbers of testing, personal protective equipment (PPE), N 95 masks and other items as required, while creating an indigenous eco-system for local manufacturing of indigenous testing kits and personal protective equipment to meet the surge in demand. For example, Now over 50⁴ Indian companies are producing about 200,000 PPE kits per day.
- **Financial Support:** announced a fiscal stimulus package worth Rs. 20 lakh crore to help the economically vulnerable sections of the population, businesses with specific focus on micro, small and medium enterprises (MSMEs), employees and entrepreneurs to revive the economy.

The Government of India, through its concerned Ministries and agencies like the Indian Council for Medical Research, has been continuously working with the state governments and city administrations on taking steps to curb the spread of COVID-19. It provides regular advisory for surveillance and contact tracing, laboratory sample collection, packaging, and transport, setting up clinical management protocols, prevention, and control in healthcare facilities and discharge guidelines for passengers under quarantine.

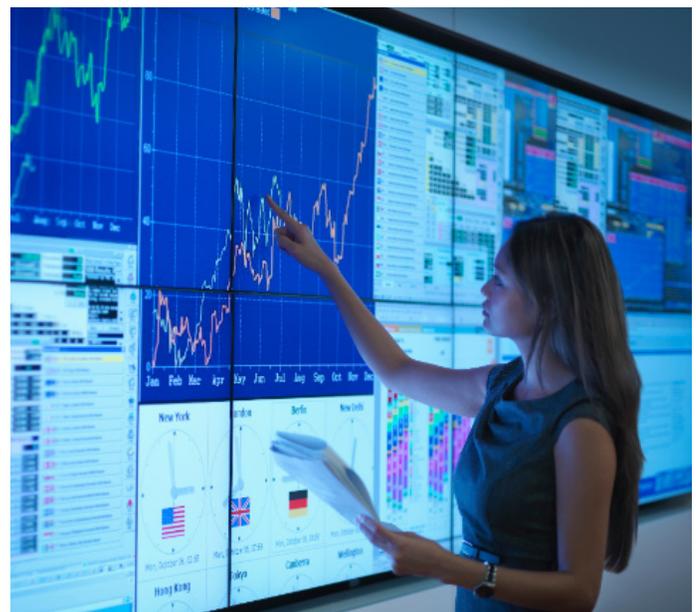
Cities response to COVID-19

In immediate response to COVID-19, many smart cities are leveraging the smart solutions and facilities that have been implemented as part of the 100 smart cities programme to try combating the pandemic. The smart cities across the country are seen to have taken the pandemic as an opportunity to innovate, learn, collaborate, and find ways to respond to the crisis.

About 45 cities⁵ across the country have converted their Integrated Control and Command Centres (ICCC), created under Smart City Mission, as a COVID-19 WAR room to monitor the city level emergency response including effective implementation of lockdown. This has helped in setting up databased monitoring platforms to manage and contain the spread of the virus. At the same time, across all the cities, civil society and corporates have come forward to collaborate with the government in rendering public services and assistance in managing the lockdown.

Key initiatives undertaken by cities in responding to the pandemic are highlighted below:

1. Integrated Control and Command Centre (ICCC) as a WAR room



- a. Monitoring activities across the city to manage lockdown, identifying incidence of violation and taking responsive actions for enforcement
- b. Tracing and tracking of suspected and positive cases and enforcing quarantine protocols and enabling treatment of those affected
- c. Information dissemination and awareness generation on pandemic, measures taken by city administration for taking care of citizen health, safety and access to essential goods & services
- d. Operating 24x7 city helpline number(s) and/ or citizen grievance redress system
- e. Developing GIS-based COVID-Tracker dashboard showing various key parameters; coronavirus hotspots, disease heat map, and providing information on the number of positive, negative cases, patients recovered, daily case count, trends, age groups affected, etc. to help in data-driven decision making; Predictive analysis of likely hotspots based on data analytics

2. Managing Lockdown – Ensuring Food and Shelter for economically weaker sections

- a. Developing mechanisms for identifying those who are in need of food and shelter along with their locations within the city
- b. Setting up food banks/ canteens with support from civil societies/ NGOs to cook food for destitute, slum dwellers and other needy people;
- c. Creation of Food Control room with provisions (Cooked and Un-cooked food prepared for distribution);
- d. Ensuring migrant labor/ homeless are accommodated in separate community halls and arrange food facilities;
- e. Registration of daily wage workers for government support through Direct Benefit Transfer;
- f. Distribution of two or three months of rice, sugar, and salt to each ration cardholder in advance.

3. Managing Lockdown – Delivery of Essentials

- a. Facilitating uninterrupted availability of essential items, its transportation, storage and delivery across the state by creating a strong food supply chain;
- b. Setting-up of food supply control rooms to track and manage the delivery of essentials at the doorstep;
- c. Web-portals to provide information on the list of ward-wise vendors for doorstep delivery of essentials (including groceries, vegetables, fruits, and medicine). Few cities have facilitated providing online delivery to citizen doorstep;
- d. Issuance of Essential Service Passes and separate ID cards for COVID-19 volunteers using mobile apps;
- e. ATM Vans for doorstep delivery of banking services.



4. Sanitization of streets and public spaces

- a. Sanitization of cities through the spraying of disinfectants including use of fire tenders for comprehensive surface disinfection;
- b. Drones used for city surveillance and dis-infection;
- c. Installation of sanitization tunnels at the entrance of hospitals, markets and critical public places;
- d. Providing Public taps with washbasins in slum areas for hand wash in key locations.

5. Setting up Health Facilities

- a. Setting up quarantine facilities in the city by converting hotels, hostels, and schools as temporary quarantine centres;
- b. Deployment of dedicated Rapid Response Team (RRT)/ and Mobile Action Unit (MAU) in specific wards to redress the grievances of people;
- c. Thermal sensors to check the body temperature of public and officials at Government office and hospitals etc.;
- d. Deploying women SHGs to prepare masks to support their livelihood under the National Urban Livelihood Mission (NULM) and to solve mask availability issues in the city;
- e. Facilitating remote digital medical consultation (Tele-medicine) service to citizens and virtual training centre for doctors & health care professionals..



The above initiatives demonstrate how cities have developed their capabilities to monitor and control people at scale. Many of these initiatives have the potential for replication in other cities.

2 <https://www.thejakartapost.com/academia/2020/04/19/indias-response-to-the-covid-19-pandemic.html>
 3 <https://www.mohfw.gov.in/pdf/ProtocolRapidAntibodytest.pdf>; and <https://www.mohfw.gov.in/pdf/Advisory&StrategyforUseofRapidAntibodyBasedBloodTest.pdf>
 4 http://timesofindia.indiatimes.com/articleshow/75556879.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst
 5 <https://economictimes.indiatimes.com/news/politics-and-nation/45-smart-city-command-and-control-centres-turn-into-covid-19-war-rooms/articleshow/74904329.cms>



Focus of this case study compendium

This publication documents, through case studies, key initiatives undertaken by select cities across the following three thematic areas.

1. ICCC as COVID-19 War Room

- a. Pimpri-Chinchwad Smart City Control Centre developed as COVID 19 War Room
- b. Varanasi ICCC as COVID-19 War Room

2. Managing the Lockdown - Social Inclusion

- a. Responding to Covid19: Bhubaneswar Feeds its Urban Poor
- b. Ensuring no one sleeps on an empty stomach in Raipur

3. Managing the Lockdown - Essential Citizen Services

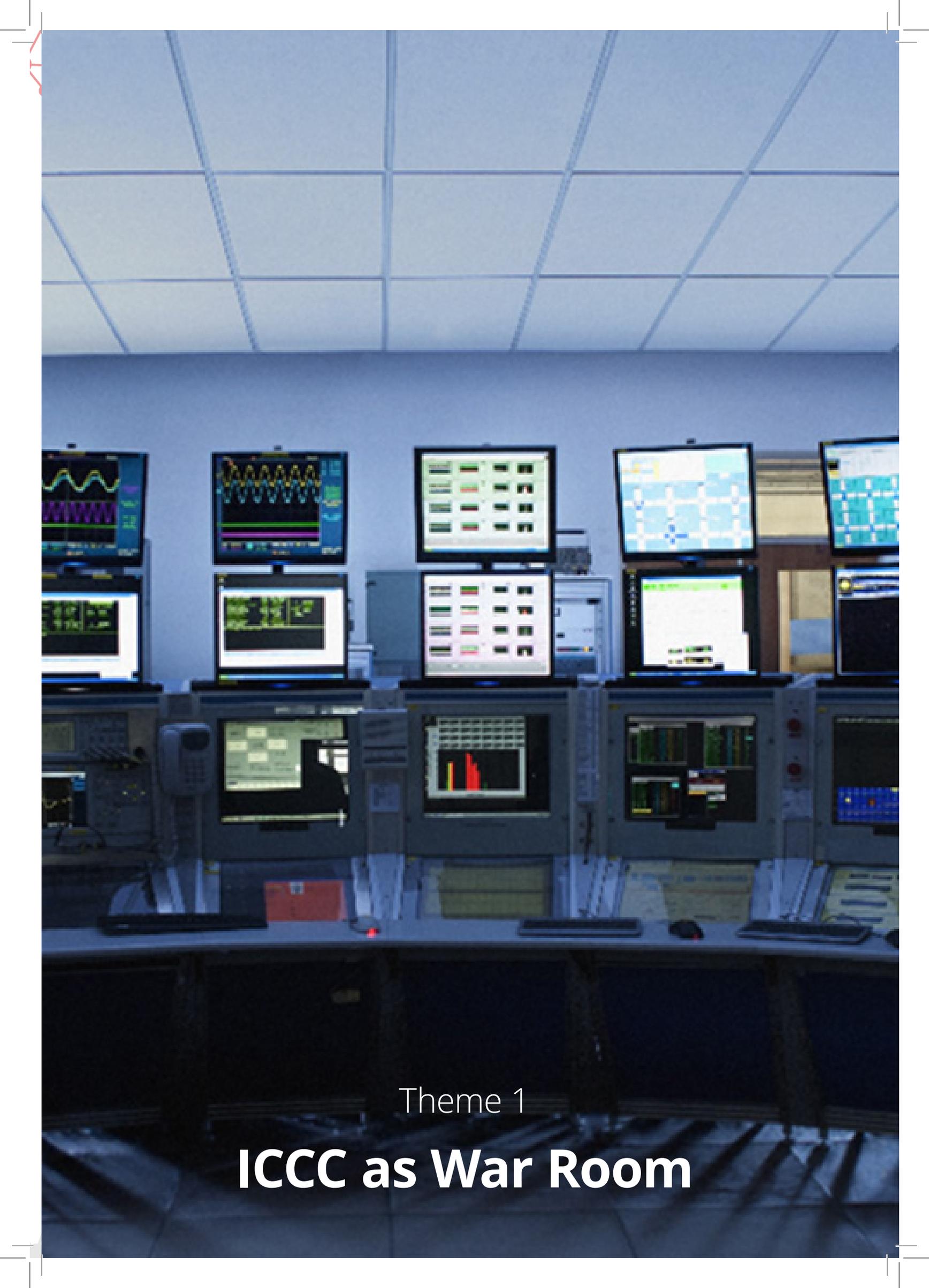
- a. An effective service delivery of essentials: Chandigarh's response to COVID-19
- b. "City of the Taj"'s fight against COVID-19

The data and content presented under each of the abovementioned case studies is based on the information provided by respective city officials and other secondary sources in the public domain. The views provided as a part of case studies are not Deloitte views.

We would like to thank concerned officials of the Ministry of Housing and Urban Affairs (MoHUA) and city officials for their support in developing these case studies. Further, a detailed list of city officials who provided their supported are covered in respective case studies and identification of a contact person to whom other cities may get in touch for more information.

The objective of this document is to share the knowledge with other cities and make them aware of some of the measures adopted by these cities to contain the spread of COVID -19 or to prepare themselves to face future crisis.

It is to be noted that the above cities are selected based on the alignment of their initiatives with the chosen themes. Hence, the above list of the city should not be considered a comprehensive list of cities taking such measures to fight with COVID-19; there may be several other cities with similar or better measures.



Theme 1

ICCC as War Room



Pimpri-Chinchwad Smart City COVID War Room

Pimpri-Chinchwad Smart City Control Centre developed as COVID 19 War Room

Context

Pimpri-Chinchwad is a key industrial hub in the state of Maharashtra and is considered to be the extended city limit of Pune. The city has a residential population of 1.72 million and a large floating population of daily workers and migrants. The city was one of the first declared COVID 19 hotspots in Maharashtra having registered its first confirmed COVID 19 patient on 3 March 2020. With the World Health Organization (WHO) declaring the outbreak as a pandemic on 11th March, 2020, Pimpri-Chinchwad Municipal Corporation (PCMC) had to gear up for the challenge in order to contain the spread of COVID 19 across the city.

The Initiative

PCMC officials were quick to respond and identify measures for its containment. When the first cases were registered, PCMC team led by the Municipal Commissioner explored the possibility of leveraging the existing Smart City infrastructure and facilities to manage response to the pandemic. A key measure implemented was to convert the Integrated Command and Control Centre (ICCC) into a war room. The city administration on-boarded the Smart City technology consultants to support their efforts to build and develop solutions for COVID tracking and integrate it with the war room. Various technology solutions were designed and installed at the war room to facilitate better monitoring and management of the COVID 19 pandemic.

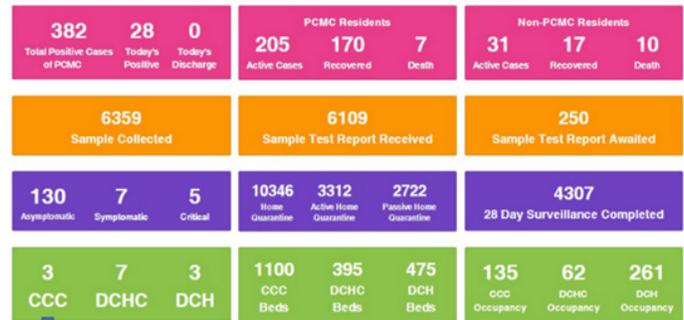
The highest priority was given to tracing and tracking the infected patients and their contacts to prevent the spread of the disease. Healthcare and Patient Tracking Dashboard was developed by PCMC to provide real-time information on COVID related cases, testing and healthcare arrangements. All hospitals were linked to the war room dashboard, where hospitals update information in an online form on a daily basis. The dashboard has now been made public and is available on the PCMC website.

PCMC is able to keep track of containment areas with the help of a GIS based information system. The location-based information system is used to geotag people who have been home quarantined (purple color dots on map), identify last location of COVID-19 positive persons (red drop marks on map), cordoning-off of area (black lines on map), lane closures, etc. as illustrated in the COVID 19 GIS Dashboard. Patient activity level is also monitored through the system, health officials are using this data to identify locations for immediate spraying of disinfectants and deployment of special task force for door-to-door campaigns. The war room gets real-time updates on COVID positive cases including active (14 days) and passive (28 days) home quarantine cases.

A dashboard for city surveillance has also been setup at the war room and is being jointly monitored by a dedicated team of PCMC and Pimpri-Chinchwad city police. A total of 298 'point-tilt-zoom' surveillance cameras, installed at 85 locations across PCMC jurisdiction, monitor the activities from the ICCC. The feed from the CCTVs is being used for video analytics, based on which the team is able to provide alerts in case of crowd gathering of more than 3 people. PCMC has put stringent systems and checks in place that generate alerts and notification when lockdown protocols are violated. The PCMC special task force constituting of city police, local health workers and city municipal authorities are alerted from the war room to take appropriate steps.

PCMC has setup a dedicated helpline platform called SARATHI (System of Assisting Residents and Tourist through Helpline Information) wherein citizens can request assistance for any of the essential goods and services. All calls received through the helpline are saved as an audio file and tagged with respect to date and nature of request, responsible department and zone, status of closure of request, etc. The war room is being used to ensure that all questions and queries received through the helpline are responded by trained professionals. A dashboard of SARATHI has been set up at ICCC, which provides analytics on: Major request/ complaints from citizens, Request/ Complaint redress status, Zone-wise request/ complaints, etc.

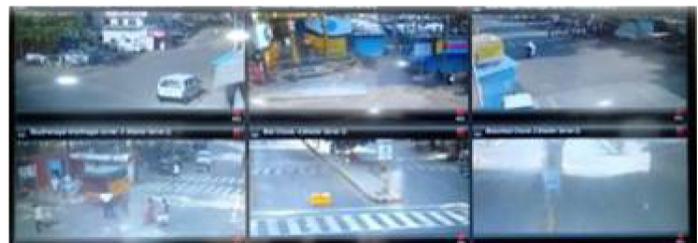
PCMC Smart Sarathi mobile application has an online self-assessment test for the citizens living in the PCMC area. The data from these tests are used by the city administration for analysis, developing action plans, monitoring of patients, quarantine movement check, identifying the location of suspected patients and mobilizing the concerned health workers of that area. Citizens can also use this application to register for volunteering their services towards relief measures. The data from the application is monitored from the ICCC. The app has been enhanced with a "Near Me" feature that lists down the details of free food distribution centres, Home Shelters, emergency dispensaries and Grocery stores in a particular neighborhood.



COVID19 Monitoring Dashboard



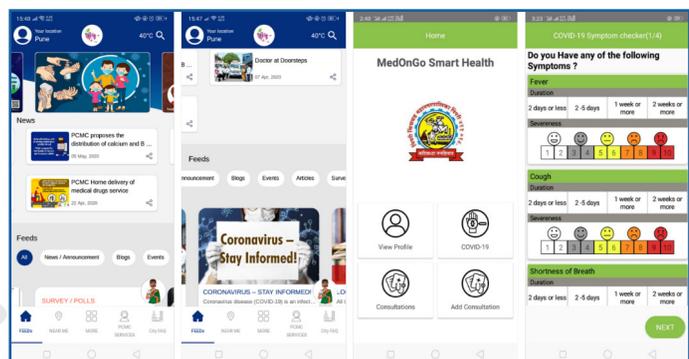
COVID 19 GIS Dashboard



City Surveillance Dashboard



SARATHI Helpline Dashboard



City Surveillance Dashboard

Benefits

PCMC was among the first cities in the country to set up a COVID war room. The integration of various technologies like CCTV monitoring, GIS mapping, real-time dashboard and analytics has helped in tracking, testing, monitoring, isolating, quarantining and treating the patients at the earliest, thereby helping minimise the spread of the virus. PCMC has used technology as an effective tool to combat the pandemic situation. PCMC has been able to utilize digital technology for monitoring and tracking of the COVID situation in the city.

From developing a GIS based mobile application to the installation of monitoring dashboards at COVID war room, PCMC has been able to effectively monitor, track and manage its response to the COVID situation in the city. The data received from the hospitals and PCMC Smart Sarathi mobile application has been linked to the war room to draw out useful analytics. The data has helped in effectively identifying the COVID 19 patients, treatment of patients, supply of essentials, identification of containment zones, for overall COVID 19 management and for informed decision-making.

The GIS Dashboard and City Surveillance Dashboard were developed to cover the entire city area. Within 2 weeks of its launch, the PCMC SMART SARATHI app received more than 30,000 downloads. The Twitter followers have tripled and Facebook followers have almost doubled indicating the spread of its awareness generation and information dissemination initiatives. As on date, more than 3,000 citizens have completed their self-assessment survey and the administration has received more than 1,000 volunteer registrations for COVID 19 prevention. All identified COVID 19 positive patients as well as those quarantined are being monitored from the COVID war room.

Lessons Learned

PCMC initiated these activities with the sole purpose of working towards COVID 19 prevention and containment. There were no set procedures, rules and guidelines in place as nations around the world at that point in time were struggling to manage and contain the COVID 19 pandemic. Through discussion with experts, civic bodies, Government bodies, NGOs and industry partners, PCMC was able to learn and grow along the way.



PCMC COVID 19 War Room

Way Forward

One thing that has certainly helped is that the city is better prepared to address similar scenarios and emergencies in near future. The use of Integrated Command and Control Centre has been a game changer. Not only Pimpri-Chinchwad, but the 45 ICCCs developed across the country can play a major role in city governance and for disaster recovery. The use of data analysis can help cities move from the approach of responsive governance to more of data based urban governance.

The PCMS has plans to improve the 'PCMC Smart Sarathi' mobile application to include information on contacts details of people providing essential services. The ICCC war room will function as the hub for making data driven decision making and coordinated response.

Acknowledgments: We would like to thank Mr. Shравan Hardikar, IAS, Municipal Commissioner, PCMC | CEO, Pimpri-Chinchwad Smart City Limited (PCSCL) and other officials of the Pimpri-Chinchwad Municipal Corporation and Pimpri-Chinchwad Smart City Limited (PCSCL) for providing information and photographs related to COVID 19 prevention initiatives undertaken by the city.

Contact Person for more information:

Name: Mr. Nilkanth Poman (HOD - Department of IT, PCMC)
Phone: +91 9922501908; Email: n.poman@pcmcindia.gov.in

References: PCMC website and secondary research



Integrated Command & Control Centre (ICCC) in Varanasi being used as COVID-19 War Room

Varanasi ICCC as COVID-19 War Room

Context

Uttar Pradesh, one of India's northern states, is the most populous state in the country and, currently, is one of the worst COVID-19 affected states. As of May 22, 2020, Uttar Pradesh has reported around 5735 confirmed COVID-19 cases and 152 related deaths. These cases are spread across all the 75 districts in the state. Varanasi district is one among these, which lies in the southeastern region of Uttar Pradesh and is home to around 3.7 million people.

As of May 22, 2020, Varanasi District Administration has reported 126 confirmed COVID-19 cases and four related deaths.

As highlighted in the earlier part of the document, many cities have successfully transformed the Integrated Command and Control Centres (ICCCs) into COVID-19 War Rooms, and Varanasi is one among them.

The Initiative

Understanding the potential threat from this pandemic, Varanasi Smart City Limited (VSCL) quickly converted its Kashi Integrated Command and Control Centre (KICCC) to a COVID-19 War Room, thus bringing all emergency services and their pandemic response activities under one roof and enabling the District Administration to effectively coordinate and monitor the situation.

In the COVID-19 War Room, multiple government departments directly related to COVID-19 control measures were brought under one roof. Currently, the War Room houses District Administrative Officials, officials related to food and civil supplies, Varanasi Development Authority officials for handling distribution of cooked food, Varanasi Nagar Nigam officials for regular civic services, police officials for monitoring lockdown violations, health officials for telemedicine and other COVID-19 related issues, and general complaints/grievances redress staff. Bringing all the stakeholders under one roof has facilitated better coordination, efficiency, and effective resolution of public grievances.

The War Room offers an Interactive Voice Response System (IVRS) based on Toll-Free Helpdesk. A toll-free helpline number has been allocated specifically to COVID-19 related calls. Calls on this number get routed to the concerned department based on the option selected by the caller. IVRS provides five alternatives to the callers viz. health-related issues, food and civil supplies, police assistance, municipal services, and miscellaneous services (for farmers, agricultural labourers, issue of e-passes). Additionally, three direct lines with five terminals are also available for municipal services/ district administration grievance related calls.

Tele-Medicine consultations are offered to the citizens through WhatsApp calls and phone calls by two regular duty doctors stationed at the War Room on a shift basis. Citizens may either consult the doctors if they are experiencing COVID-19 like symptoms or may call for general queries regarding the disease. A team from UNICEF is also stationed in the War room to provide psychological counselling to those staying in quarantine centres.

On 25 March 2020, 'Safe Kashi' android based app was launched by VSCL to arm its citizens for fighting the pandemic. The app provides citizens with an up to date COVID-19 Case Tracker, dos and don'ts, incident reporting. The Case Tracker provides daily updates regarding total number of people quarantined, isolated, recovered and succumbed in Varanasi District. The app also provides link for Tele-Medicine facility to consult doctors stationed at KICCC, links to groceries, vegetable and fruit vendors information, e-pass sites, government orders, voluntary contribution facility, etc. As on May 22, 2020, the app has been downloaded more than 250,000 times.

During the lockdown period, the grocery needs of the general public are fulfilled by an online platform linking local grocery stores and delivered at the customer's doorstep by a logistics company. The War Room closely monitors this delivery system. A fleet of dedicated vehicles monitored directly from War Room is facilitating the availability of fruits and vegetables in the entire city.



COVID-19 Safe Kashi App



Tele-Medicine Facility at War Room

The War Room uses a dedicated dashboard to monitor the following:

- Centre-wise capacity and occupancy of all 21 Quarantine Centres, 7 Medical Quarantine Centres, and 4 Isolation Centres to enable authorities to have real-time information about the facilities;
- Confirmed COVID-19 cases in the city and their current status;
- All home quarantined cases, who are either overseas returnees or those who came in contact with the confirmed cases; and
- Information about all the home delivery services for fruit, vegetable, medicine, and other essentials.

All the data thus collected is used for need-based analysis, to help authorities in better decision making.

The War Room is playing an instrumental role in implementing social distancing measures throughout the city as part of

Innovation

GIS-based smart monitoring of delivery of medicines, grocery, and vegetable vendors, enables mapping of covered and uncovered areas of the city. Then, the list of uncovered areas is sent to the respective zonal officers to address the gap, thus ensuring citywide coverage of essentials during the lockdown situation.

Deploying drones for sanitization is another innovative initiative implemented by the Varanasi District Administration. Drone sanitization activities are remotely controlled and monitored by the War Room to ensure the safety of health workers and also maximum coverage.

Video Analytics based smart policing, identifies incidences of crowding or lockdown violations anywhere in the city. Subsequently, police personnel on the ground are alerted for such occurrences through messages and calls from the War Room and plan their response accordingly.



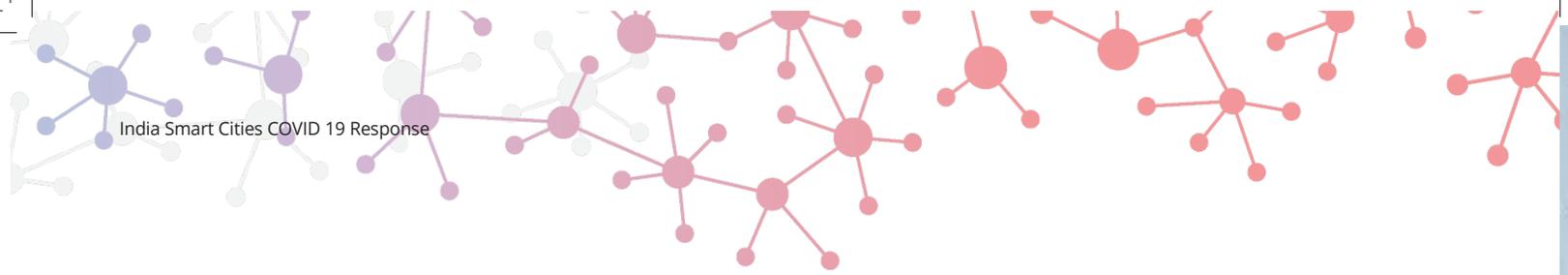
Varanasi COVID -19 War Room Smart Monitoring Dashboard Screenshots



Drone Based Sanitization and Smart Monitoring through COVID-19 War Room at ICC

managing the lockdown. The city-wide surveillance system, with a network of 404 CCTV cameras, using video analytics, provides alerts whenever gathering of more than five people in one place is observed. Further, 49 Public Address Systems and 19 Variable Messaging Systems controlled from the War Room are disseminating COVID-19 related information to the public.

The War Room is also effectively used for monitoring of sanitization activities across the city. GPS tracking of 14 dedicated Quick Response Teams (QRTs) and scheduling of sanitization activities are all done at the War Room. Additionally, drones are deployed to sanitize areas identified as highly contamination zones and areas with limited access for manual spraying which are tracked from the War Room.



Benefits

Early action by Varanasi District Administration in setting up KICCC as COVID-19 War Room and launching 'COVID-19 Safe Kashi' Mobile App have yielded results in containing the spread of the disease, and also, helped in early tracking, testing, monitoring, isolation, quarantine, and treatment of COVID-19 patients.

Out of a total 16192 grievance calls received at the helpdesk in War Room, 16189 were resolved, with feedback being received from 6735 callers⁶. Sanitizing using War Room controlled and monitored drones has resulted in increasing sanitizing over an additional 20 km stretch per 12 hours shift, which was only 8 km when done manually. Moreover, infection risk to health care workers is comparatively low when drones are used.

More than 14,31,000 Food Packets and 60,000 Ration Kits were distributed based on requests received at the War Room helpdesk. Also, more than 30,000 beneficiaries, mainly comprising labourers, daily wagers, and other economically weaker sections, have been disbursed Rs 1,000 each through direct transfer based on data collated at the War Room⁷.

The War Room Dashboard has helped direct monitoring of around 800 isolation and quarantine beds and more than 400 COVID-19 suspected cases.

Way Forward

In future, the experience of handling of a crisis of this magnitude is likely to better equip the city in continuing to deliver services to citizens leveraging the right mix of technology and institutional coordination. Handling of the COVID-19 pandemic will help cities in assessing their health and municipal infrastructure and optimizing usage with the help of technology during an emergency of this scale.

Lessons Learned

The key takeaway from this case study is the importance of technology in fighting a global crisis such as this pandemic. The integration of COVID-19 related services and other essential municipal services through a single tech platform has led to efficient and effective inter-departmental coordination and data-driven decision making by city administrators.

Acknowledgments: We would like to thank the support provided by Mr. Gaurang Rathi, IAS, CEO, and Dr. Vasudevan Deivasigamani, Head, Information Systems of Varanasi Smart City Limited by way of information and photographs related to COVID 19 prevention initiatives undertaken by the city.

Contact Person for more information:

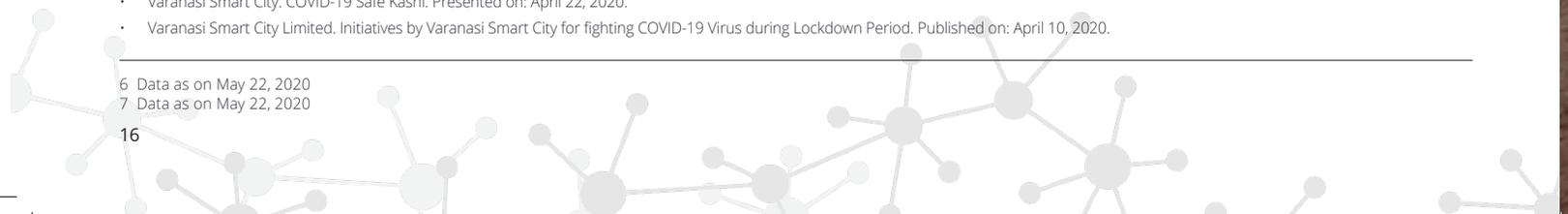
Name: Dr. Vasudevan Deivasigamani, Head, Information Systems of Varanasi Smart City Limited
Mobile No: +91-9810184295; Email: dvasudevan@varanasismartcity.gov.in

References:

- Ministry of Health & Family Welfare (MoHFW), Government of India. COVID-19 INDIA Dashboard [Online]. Available from: <https://www.mohfw.gov.in/index.php>.
- Chief Medical Officer, Varanasi. Status Report of COVID-19 Infection Prevention, Containment and Testing and Treatment in Varanasi District. Issued on: May 21, 2020.
- Varanasi Smart City. COVID-19 Safe Kashi. Presented on: April 22, 2020.
- Varanasi Smart City Limited. Initiatives by Varanasi Smart City for fighting COVID-19 Virus during Lockdown Period. Published on: April 10, 2020.

⁶ Data as on May 22, 2020

⁷ Data as on May 22, 2020





BMC giving Rs 1,000 each as distress assistance to ration card holders

Distribution of dry ration continues by BMC
Photo Credits: Bhubaneswar Municipal Corporation



Theme 2

Managing the lockdown - Social Inclusion

Above Photo Credits: Bhubaneswar Municipal Corporation



Photo Credits: Bhubaneswar Municipal Corporation

Responding to Covid19: Bhubaneswar Feeds its Urban Poor

Context

Bhubaneswar, the capital city of Odisha, comes under Khordha District of Odisha, which has reported 74 positive cases of COVID-19 as on 22 May 2020, of which 48 have recovered and 3 persons have died. Odisha was one of the first States in the country to proactively impose full lockdown starting on 23 March 2020, two days prior to the country level lockdown. As a result, the total number of positive cases in Odisha state was limited to 1189 as on 22 May 2020.

Odisha is prone to natural disasters like cyclones and has set-up more than 800 cyclone shelters along its coastlines to safeguard from frequent occurrence of cyclones. This preparedness to natural disasters has given an advantage to Odisha in the fight against coronavirus as the cyclone shelters

have been converted into temporary shelters for migrant workers and homeless. Further, the State has established 415 dedicated Quarantine Centres of which 22 have been set-up in Bhubaneswar Municipal Corporation (BMC) area.

During the ongoing nationwide lockdown, BMC has taken several steps to contain the spread of COVID-19, through measures like improving sanitation (disinfectant spraying, fogging, cleaning), ensuring social distancing through technology enabled home delivery of essential items, and rapid action (sealing containment zone, setting-up quarantine facilities). Most importantly, BMC has been at the forefront of providing relief measures to the poor and needy by supporting them with food and livelihood opportunities.

Initiatives

The urban poor of Bhubaneswar earn their livelihood by working as daily wage earners in sectors such as construction, street vending, domestic help, etc. They were hit the hardest by the lockdown as their ability to go for work was suddenly restricted. BMC initiated following interventions to assist the urban poor overcome the crisis:

Interventions	Target Beneficiaries	Collaboration/ Partnerships	Date Initiated
Provisioning of food (dry ration and cooked meals)	Migrant workers, daily wage labourers, destitute & homeless people	NGOs, donor organisations, individuals	26 March 2020
Financial assistance	Construction workers (INR 1,500)	Labour & ESI Department	22 April 2020
Urban Wage Employment Initiative	Urban Poor	Community based organisations such as SHGs, ALFs & SDAs	30 April 2020

The primary initiative of distributing cooked meals to migrant workers, daily wage labourers, destitute & homeless people was started by BMC in the first week of the lockdown itself. A Standard Operating Procedure (SOP) was notified by Commissioner of BMC on 26th March 2020 that encouraged voluntary organisations and individuals to donate grocery items to the needy and distressed people. The SOP mandated the Zonal Deputy Commissioners as responsible authorities for distribution of food with active participation of Block Level Officers, Anganwadi and ASHA workers in distribution. The dry ration/ grocery items are being provided by local non-government organisations and several city based philanthropists.

The people seeking ration and food items call the helpline number provided by BMC and the State Government. Based on the requests received, the BMC officials plan the logistics. Six small goods carrier vehicles have been hired by BMC for distribution in the 3 zones in Bhubaneswar.

In the first week of operation, donors contributed grocery that was cooked in Aahaar Centres⁸ and distributed in identified locations. More than 7,000 meals were distributed during this time. Subsequently, it was realised that the distribution of cooked meals was leading to overcrowding with social distancing norms not being met. BMC then decided to provide dry ration and grocery items at localities where the urban poor reside to encourage them to stay indoors. Consequently, food packets are being distributed on a daily basis to more than 600 beneficiaries, which last for at least 10 days.

In addition to the food distribution, the BMC is also providing financial assistance of INR 1,500 per head to construction workers who have been deprived of their daily wages. To ensure social distancing, money is being transferred to the worker's bank account.

Further BMC is identifying urban infrastructure works that support monsoon preparedness as part of the Urban Wage Employment Initiative of Housing & Urban Development Department. The initiative aims to provide temporary employment to informal sector workers by executing labour-intensive urban development work for six months from May to September 2020.



Food distribution following social distancing measures.



Distribution of cooked meals in March



Vehicle used for distribution of food



Grocery item distributed at locality

8 Aahaar is an Government of Odisha's initiative to provide subsidized meal to the needy in urban areas



Meeting with RWAs, SHGs, ALFs, NGOs, etc.

Strengthening Community Participation

BMC has already started the Community Participation Programme across all the wards of the city involving Senior Citizens, Resident Welfare Association (RWA), Area Level Federations (ALFs), Self Help Groups (SHG). BMC Commissioner, along with Commissioner of Police, DCP, Zonal Deputy Commissioners -BMC, has reached out to the citizens in building confidence among them. The programme aims to build trust among the citizens and involve them in the fight against COVID for a longer time and to make them understand that the fight against COVID is the responsibility of each & every individual. The programme will motivate individuals to make changes in their daily habits, including maintaining social distancing, practicing hand hygiene techniques, wearing masks whenever going out, and not spitting out in the open to win this fight.

BMC has also laid down a standard operating procedure to involve the community in the fight against COVID19 which will continue for a more extended period. The Zonal Deputy Commissioners have to ensure the formation of a Ward Level Committee. The Committee comprises 25 members of which, five members will be mentors who should be older adults and the rest will form the Executive Committee and should be within the age of 25-40 years. All members will be designated as COVID-Sachetak. A COVID Sachetak will work as the eye and ear of BMC in monitoring whether people are adhering to Government guidelines like staying in quarantine, wearing masks, social distancing, and hand hygiene .

Acknowledgments: We acknowledge the support provided by Mr. Prem Chandra Chaudhary, IAS, Vice Chairman BDA & CEO Bhubaneswar Smart City Ltd., Mr. Suratha Chandra Mallick, Additional Commissioner, BMC, Mr. Lilan Prasad Sahu, Assistant Commissioner, BMC, and other officials of BMC for providing requisite information and photographs towards preparation of this Case Study.

Contact Person for more information:

Name: Mr. Lilan Prasad Sahu, Assistant Commissioner, BMC
 Mobile: +91 9938257027; Email: bbsr.bscl@gmail.com

References:

- [https://odishabytes.com/covid-19-lockdown-bhubaneswar-civic-body-to-distribute-donated-food-grocery-items-among-the-needy/](https://odishabytes.com/covid-19-lockdown-bhubaneswar-civic-body-to-distribute-donated-food-grocery-items-among-the-need/)
- <https://www.facebook.com/bmcbbsr/posts/2914548128606875>

Innovation

BMC has been successfully leveraging IT tools to capture details of the needy and the urban poor who are calling the helpline number. A zone-wise list has been prepared detailing the household members, address and phone number. Such listing has benefitted BMC in scheduling the logistics with vehicles plying to a particular locality once every 10 days with fresh provisions.

Another good practice has been involvement of community-based organisations and on-ground workers such as ASHA and Anganwadi workers for the distribution of food and essential items. Partnership with such organisations already established for community connect has resulted in community-led distribution process and reaffirmed the trust of the public in the programme.

Benefits

The food distribution has benefitted more than 6,000 urban poor households living in slums of Bhubaneswar. A total of 61,470 food packets were distributed within first five days of lockdown. The provisioning of dry ration/ grocery items to the needy and destitute, many of them being migrant workers from states of Bihar and Andhra Pradesh, has made home quarantine possible and discouraged them to venture outside their homes to search for food. This has significantly reduced their risk of being infected with or spreading the virus.

Key Challenges

The planning of logistics for food distribution in localities is constrained by the lack of an automated system for scheduling of vehicles. Since food packets distributed to the needy can last for at least 10 days, the BMC officials have to manually record and update the delivery schedule.

Way Forward

The current pandemic has reinforced the need for digital platforms for effective and efficient public service delivery. Bhubaneswar is known for social welfare projects, envisaged under its Smart City Plan, which won national and international recognition. The Covid 19 pandemic has presented a key opportunity to the smart city to create a real-time data bank of informal sector workers. This database can help the city authorities in effectively designing future welfare and livelihood related interventions focused around a particular occupational group or geographic area.

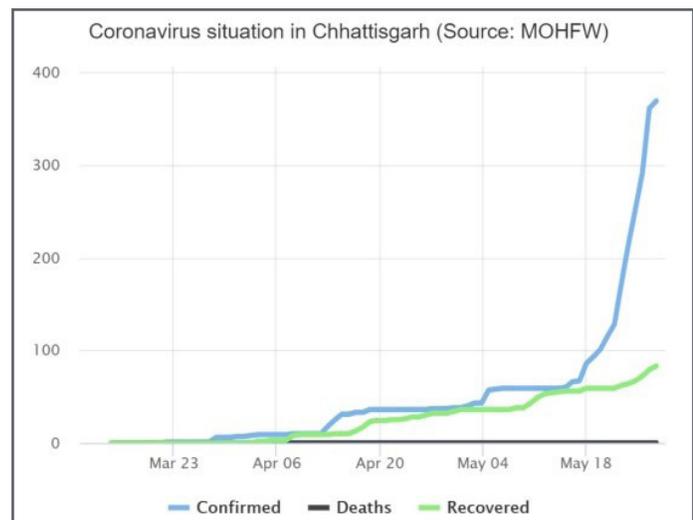


Raipur city administration ensuring food delivery to every person of the city, and participation of community groups and CRPF

Ensuring no one sleeps on an empty stomach in Raipur

Context

Chhattisgarh is the 17th-most populous state in the country with a population of 25.5 million⁹ and currently among one of the less impacted States of India in respect of COVID-19. Raipur reported its first COVID-19 case on March 18, 2020 and since then has largely managed to contain the spread of virus relatively well. As of May 27, 2020, the total number of cases in Raipur was nine, with no casualty reported and seven recovery, while there were 369¹⁰ cases at the state level, with 83 patients being discharged and no casualty reported. The graph¹¹ alongside, shows the trend of COVID-19 cases in the State over a period of time.



COVID-19 Cases situation in Chhattisgarh

9 As per Census 2011, Government of India

10 As on per state wise status, Ministry of Health and Family Welfare (MoHFW), dated 27 May, 2020. <https://www.mohfw.gov.in/>

11 <https://www.livemint.com/news/india/8-new-coronavirus-cases-reported-in-chhattisgarh-as-of-8-00-am-may-20-11589945583020.html>

To effectively implement the lockdown, the city authorities of Raipur have taken several initiatives. A list of key initiatives includes the following:

- Use of the Integrated traffic management system command and control centre (ITMSCCC) as a WAR room to track enforcement of lockdown protocols. A team of more than 100 officials from the Police department and Raipur Municipal Corporation (RMC) are regularly tracking vehicular movement using more than 200 cameras installed across 55 locations to maintain law and order in the city. Raipur Smart City Limited (RSCL) is also utilizing this war room to track the position and movement of COVID-19 patients as well;
- Use of locally fabricated sanitization sprayer machine (3 wheeler with a capacity of 240 liters) and drones to sanitize the city streets;
- Installation of sanitization tunnels at hospitals and critical public places;
- Launch of a Mobile app to facilitate application for E-Pass to enable movement of essential items ; and
- Deploying women SHGs to make 10,000 masks per day to facilitate their livelihood under the National Urban Livelihood Mission (NULM) and to address mask availability issues in the city.

In addition to the above, the other important initiative taken by Raipur authorities is to set-up a Food Supply Control Room (FSCR).

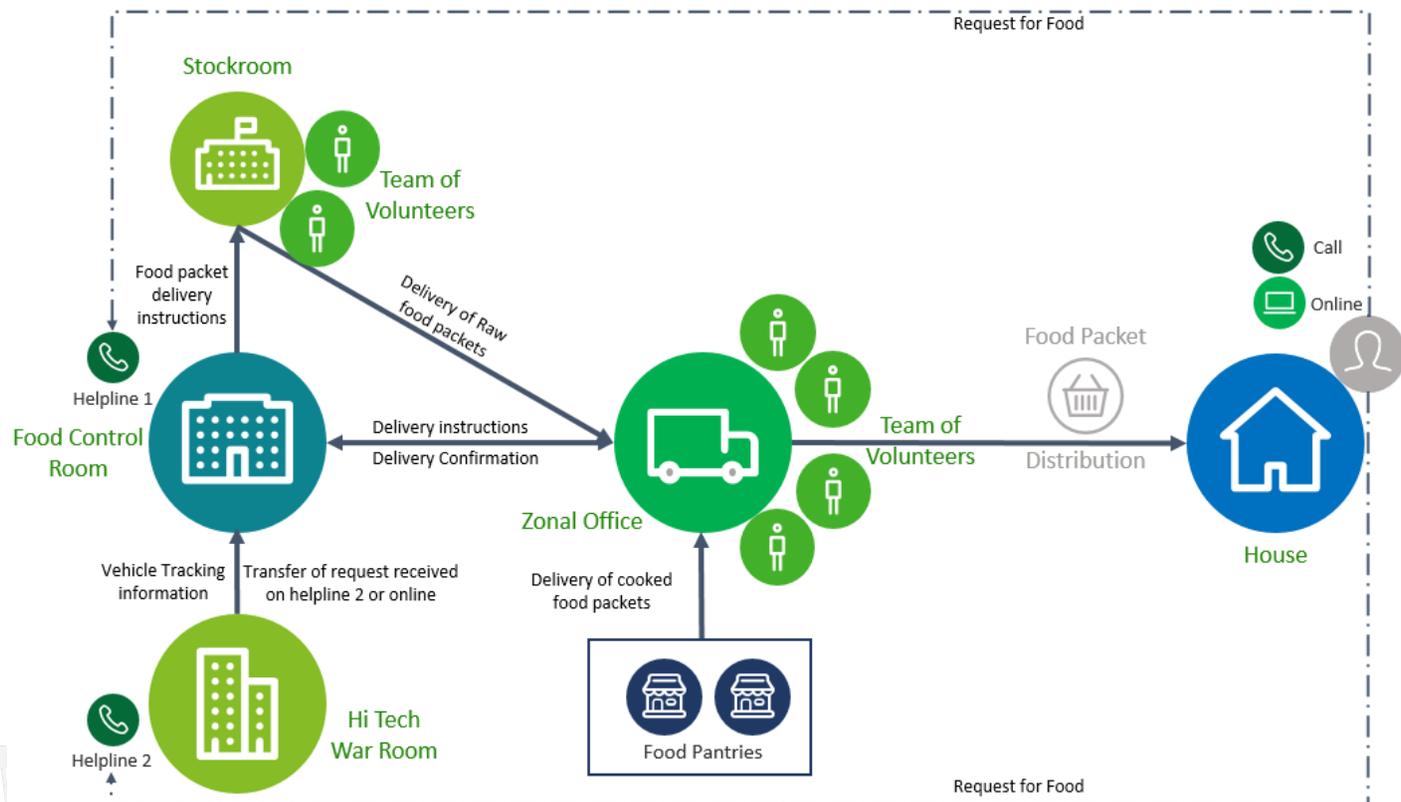
The Initiative

On 25th March 2020, within 24 hours of the announcement of countrywide lockdown, the Raipur district administration along with RMC, and Raipur Smart City Limited (RSCL) launched a Food Supply Control Room with an objective of ensuring delivery of cooked food and other food supplies to needy citizens.

To set-up this control room, RSCL provided the required office space. The team leader appointed is from District Administration, with a staff of more than 24 members being deputed to this office from several departments, including Panchayati Raj, RSCL, RMC, Mahila Bal Vikas, Fisheries, Education, and Employment. NGOs and Civil Societies are helping with the supply of cooked food and over 2000 volunteers are helping to cater to a demand of home delivery to about 8000-10,000 households every day. Several public sector organizations, NGOs and private organizations are voluntarily donating food materials to support this initiative. The chart below shows the mechanism adopted by the Raipur administration to enable doorstep food delivery.

As observed from the chart below, the Food Supply Control Room (FSCR) receives the request for either cooked food or other food supplies (food packet comprising rice, wheat flour, pulses, salt, turmeric, and soap) through 24x7 helpline numbers. Based on the type of request, FSCR decides to forward the request either directly to the zonal delivery team (for cooked food) or the stockroom (for raw food packets), for further action.

Zonal team (Raipur has eight distribution zones) has a dedicated team of officials from city authorities and more than 100 volunteers to help complete the timely delivery of food at the doorstep of the requesting citizen.





Food Supply Control room in Raipur

In case the request is for cooked food, it is forwarded directly to the concerned zonal team based on location. On receipt of request, a volunteer immediately goes to the nearest food pantry (NGO/ SHGs kitchen) to collect the cooked food for distribution at the doorstep of a needy person. Post completion of the delivery, the zonal team confirms back to FSCR about the delivery completion. If the request is related to the raw food package, then the request is forwarded to the stockroom and a volunteer delivers the food packet to the concerned zonal office, thereafter the entire delivery system to the doorstep remains the same as cooked food delivery. Additionally, a rapid response team carrying some food packets also keeps moving around the city during nighttime so that there is no unmet request for food in the city.

There are more than 100 NGOs/ SHGs who are facilitating the provision of the cooked food to the city authorities. As part of the insitutional arrangements, the Chhattisgarh Civil Supply Corporation has been declared as the state-level joint control room¹² for food and transport to ensure single point responsibility and coordination for uninterrupted availability of essential items, transportation, storage and delivery across the state. For this purpose, the city is empowered to use its budget¹³ allocated towards the provision of basic services or from the 14th Finance Commission corpus to provide food (Rice, Pulses, and Vegetables) free of cost to families of daily labourers/ economically weaker section.

In order to ensure that all citizens have adequate supply of food during the lockdown period, the government has also decided to distribute two months of rice, sugar, and salt to each ration¹⁴ cardholder in advance. Further, district collectors are empowered to issue additional stipulated quantity of grains in their respective districts in case of any unforeseen emergency. Additionally, there are donations being made by organizations and individuals to city authorities to support raw food packet delivery as well. The city has also introduced an initiative called donation on wheels, to facilitate

the collection of contributions in the form of food items from people of the city. A total of 8 trucks are in use to collect donations from the doorstep of people, from where it goes to FSCR office for inventory recording and then to the stockroom for packaging and further distribution. The stockroom is manned by a team of about 50 women from the Mahila Bal Vikas department, along with RMC and RSCL officials. This team of women, who are referred to as the “Mahila Brigade”, is not only helping in packaging but also motivating people to come forward and support with a donation using social media platforms.

RMC has also collated and made available a ward wise list of 280 shops providing home delivery of Fruit/ Vegetables/Groceries/ Medicines and other essential items to be used by residents. Additionally, people can also order online home delivery of fruits and vegetable using the web-portal launched by the city.



Food distribution at night on streets



Mahila Brigade at Stockroom



Donation on Wheels

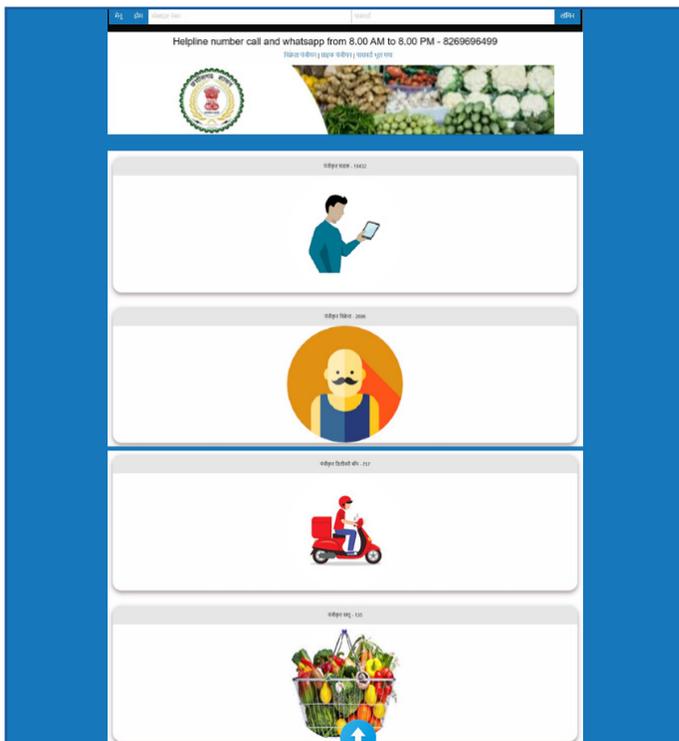
12 <http://gad.cg.gov.in/cgcorona/Circulars/2000096.pdf>

13 <http://gad.cg.gov.in/cgcorona/Circulars/2000355.pdf>

14 <http://gad.cg.gov.in/cgcorona/Circulars/2000088.pdf>

Measures adopted

Raipur administration has adopted several innovative strategies to execute this initiative. The first key measure for launching this initiative was to bring together a strong team involving participation from several government departments along with the collaboration with city NGOs/ SHGs, private sector, and individuals to selflessly work day and night (24x7) to support the city in fighting COVID-19 pandemic. Second, the launching of web-portal www.cgfaat.in to enable online delivery of fruit and vegetables at the doorstep. This website also provides SMS notification and order tracking facilities. Third, the introduction "donation on wheels" to provide a platform to the citizens at their doorstep to donate food materials or monetary contributions to support poor people of the city. And lastly, leveraging the ITSMCCC to track the route, location of the food delivery/ donation collection vehicles, and to assign them the nearest delivery or collection point. RSCL is also utilizing this platform to disseminate messages across all major locations/ junctions of the city.



Web portal launched to register request for food delivery

Benefits

This initiative has helped in the attempt to ensure uninterrupted food supply to more than 300,000 people of the city during the lockdown period. The list of beneficiaries includes poor/ destitute/ daily labourers/ rickshaw pullers and other informal workers in the city. It also ensured delivery of cooked food to people in hospitals, railway stations, bus stations, relief camps, and others who were away from their homes and needed food. Additionally, it also identified and delivered raw food packets to more than 15,000 low-income families who were facing difficulty in procuring food material either due to not having public distribution cards (Ration Cards) or for other reasons.

Lessons Learned

The most important learning from this initiative was enabling seamless coordination between each of the partners involved across government, civil societies, private companies, and individuals. The availability of more than 2000 volunteers from civil societies has helped in timely delivery of food to the needy. Also, leveraging the support from ITSMCCC has made this implementation even smoother by providing timely tracking of delivery vehicles. This solution can be easily replicable in any other city in the country.

Way Forward

While this may be a one-time initiative carried out by the city for the duration of the pandemic, it is a great learning experience for the city to be able to set up to such a mechanism quickly whenever future crisis demands. With the city having a permanent ITSMCCC, necessary data analytics can be carried out which can be leveraged on a regular basis while formulating similar initiatives. Also, it will be good for the city to build a city-level database to capture required socio-economic and demographic information of its entire population including the informal sector workforce, which would be useful in the future to make informed decisions while planning for any development related initiatives.

Acknowledgments: We acknowledge the support from Mr. Saurabh Kumar, IAS, Commissioner of RMC and CEO, RSCL and other officials of RSCL for providing requisite information and photographs towards preparation of this Case Study.

Contact Person for more information:

Name: Arjita Diwan, Raipur Smart City Limited
Email: arjita2107@gmail.com; ceo.rscl@gmail.com

References:

- Website of CG government - <http://gad.cg.gov.in/cgcorona/>
- Website of RMC and other available secondary research



Theme 3

Managing the lockdown - Delivery of essentials at doorstep

Distribution of vegetables and fruits through CTU buses in Chandigarh
Photo Credits: Tribune photo (<https://www.tribuneindia.com/>)



Distribution of essentials foods and vegetables using Buses from Chandigarh Transport, and milk delivery service in city

Effective delivery of essentials: Chandigarh's response to COVID-19

Context

Chandigarh, a Union Territory and capital of two states of India, Haryana, and Punjab, has reported a total of 279 cases as on 27 May 2020, of which 187 have already recovered with four casualty¹⁵. The COVID-19 tracker¹⁶ shows that the City has witnessed a sudden increase in cases post April 26, 2020.

The city has taken several measures to effectively enforce the lockdown. Its success until now can be attributed to initiatives leveraging adoption of technology (such as Chandigarh's Covid-19 mobile app, Vehicle tracking system, ATM route mapping, E-Pass facility, etc.), active collaborations and innovative ways of engaging citizens and sharing information, and provision of essential items through a secured supplies management protocol/system.

Among the initiatives taken by the city authorities, the provision of essential supplies to citizens through an effective delivery system is one of the critical initiatives. This case study highlights enablers such as technology, people and process adopted for effective delivery of essential items (vegetables/ fruits/ grocery/ medicines) to public. It briefly touches upon areas of possible strengthening,

streamlining and institutionalizing for better preparedness in future crisis /emergencies.



COVID-19 Cases in Chandigarh.

Above Photo Credits: <http://chdcovid19.in/>

¹⁵ As on May 27, 2020, <http://chdcovid19.in>

¹⁶ As per Corona Stats For Chandigarh given on <http://chdcovid19.in> based on Statistics sourced from Department of Health, Chandigarh, dated: May 27, 2020

The Initiative: Supply of essentials at door step

A collaborative approach has been adopted to deliver essentials at the citizens' doorstep. Separate systems are in place for providing cooked food to the needy/ destitute/ urban poor and essential food items and medical supplies to all sections of society.

Food Delivery to the economically weaker sections

The Deputy Commissioner's office in Chandigarh is responsible for ensuring delivery of cooked food to the needy and destitute across the city. The slum areas and construction sites are focus areas for distribution of food. Over 80 NGOs/ Civil Societies have already joined hands with the administration in delivering approximately 150,000 cooked food packets every day.

Further, Secretary, Food & Supplies is distributing wheat flour and pulses to the registered beneficiaries under Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) using a coupon system (having distribution time slots) to ensure social distancing.

The Department is also utilizing its records of beneficiaries identified under the National Urban Livelihood Mission (NULM) and Vendor cell network to ensure the maximum coverage. The procurement of wheat is being done daily from the wholesale market (Mandi) in Sector 26 and 39 to ensure uninterrupted supply.

Additionally, the city authorities have tied up with several civil society organizations, NGOs, private companies, restaurants, and various donors for distribution of food, soap, sanitary napkins, and ration.

Delivery of essentials to general public

Municipal Corporation of Chandigarh (MCC) is ensuring door to door sale of fruits and vegetables at administered prices through 70 buses deployed by Chandigarh Transport Undertaking (CTU) across all the sectors of the city. To implement this, MCC has collaborated with CTU, Chandigarh Police, general supply stores, fruits & vegetable vendors from the city. In each bus, two to three vendors, along with a policeman, have been deployed. Option for online and on-call delivery at home through a 24/7 call centre is also available. A sector-wise list of registered vendors and their mobile numbers across various categories (milk, groceries, fruit & vegetable, medicine) has been shared through online and offline channels to inform citizens of facilities for home delivery. MCC is using online tools to identify the requirements of shopkeepers and making it available to the distributors.

Additionally, MCC has also provided movement passes to 181 registered street and mobile vegetable vendors to sell vegetables. Further, the distribution needs of baby food, the needs of senior citizens, and jail inmates has been taken as a priority in planning the initiatives. MCC has also tied up with various home delivery app-based vendors and large stores who deliver at home and circulated their phone numbers in wider public interest.



Social distancing while distribution of cooked food



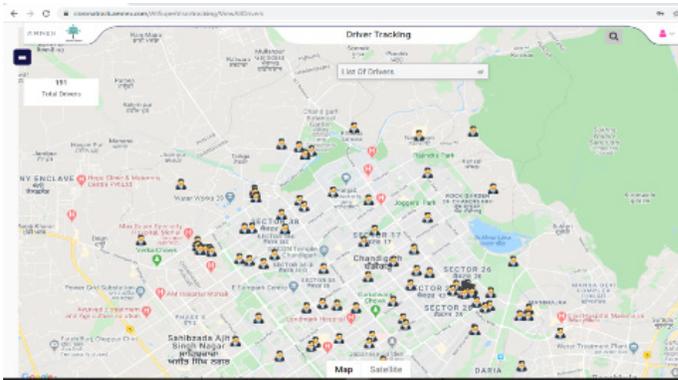
Procurement Process being undertaken in Mandi, Sector 39



Procurement Process being undertaken in Mandi, Sector 39

Above Photo Credits: <http://chdcovid19.in/>

Innovation



Smart app to monitor movement of vendors and buses
Photo Credits: Chandigarh Smart City Limited

People enablers for smooth delivery of services:

To maintain the regular supplies of essential services and address the grievances of people in each sector/ villages of Chandigarh, 83 Sector Response Teams are deployed on the ground to redress the grievances of people. People will be able to consult the team members in connection with any issue in their area.

Technology enablers for strategy formulation and service delivery:

Application for vendor tracking: Smart App (GPS based application) with web link has been used to track the movement of delivery vehicles deployed for the distribution of essential items across the city. Daily trips are getting assigned through this app for better routing and optimal utilization of vehicles. Real-time information to drivers is available in case of requests from local citizens received online or through call, or any other emergency

Integrated Command Control Centre:

MCC has recently set up a command center for improved coordination among all the stakeholders, supervising implementation, and monitoring of delivery of essentials. The center is analyzing the information generated through different applications downloaded by people during quarantine, feeds from CCTV cameras, and information on vendor movement collected through GPS devices. All calls made to helpline numbers are being processed and mapped by area and problems, for improving citizen service delivery and subsequent strategizing.

Benefits

The city has been able to reach a majority of the population by leveraging the strength of the institutional system supported by technology. The following chart summarizes the key benefits and outcomes for various sections of society.

Key benefits achieved through various initiatives at city level



Ration delivery through CTU buses

While the door step delivery through CTU buses is available for all the citizens, more than 1.5 lakh households have already been benefitted



Wheat and Pulses delivery through PMGKAY

34,500 families have been served under PMGKAY through a coupon system to avoid crowding and streamlining the process.



Special focus on senior citizens

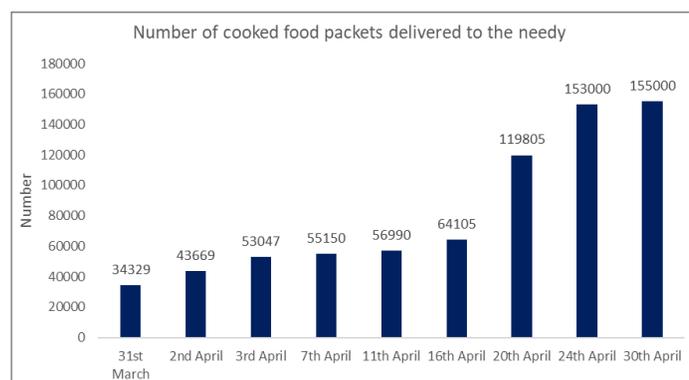
More than 6,000 senior citizens have been personally contacted and their grievances settled by Chandigarh Police through a special drive



Support to Anganwadi centres

Nutritious food has been delivered to approximately 21000 beneficiaries of 450 Anganwadi Centres.

Number of cooked packets distributed



(Source: Chandigarh Administration website)

17 <http://chandigarh.gov.in/pdf/dpr20-press-fund.pdf>

18 <https://www.hindustantimes.com/chandigarh/chandigarh-mc-sets-up-new-centre-for-covid-19-management/story-EfL2z31FANt21WmAR5dLTN.html>

Lessons Learned

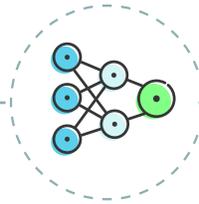
The city's initiatives to supply essential items during the lockdown displays a proactive sense of resilience and commitment to safeguarding the citizen's wellbeing. Following learnings can be leveraged by other cities to replicate and contextualize similar measures:

Key lessons learned from city's efforts to deliver essential services



Effective resource utilization through technology

Chandigarh's efforts are calculated and calibrated as per the situation and need. Real time monitoring of delivery vehicles has resulted in effective utilization of resources.



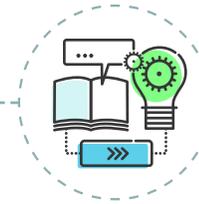
Collaboration

Increment in everyday delivery of cooked food packets displays the importance of collaborative effort between Administration and other stakeholders including NGOs, private sector, academia, charitable institutions, restaurants etc.



Supply chain management

Supply of essential commodities has been kept under check through a simple yet effective mechanism of online data collection tools. Coordination with market committee, provision stores and vendors has so far maintained a continuous supply



Inclusion

Administration has tried to address challenges of various sections of society, from delivery of baby food to welfare of senior citizens, from construction laborers and urban poor to jail inmates, from safety of vendors/drivers to doorstep delivery of ration and utility services for general public etc.

Way Forward

While the measures already undertaken for ensuring delivery of essential services are providing useful results at present, it is recommended to formalize and augment some of these innovations to scale-up for addressing future crisis. Defining and undertaking specific data analytics based on the transaction level data captured through existing initiatives may be used to increase the effective and efficient decision-making capacity.

As the informal sector is among the most vulnerable sections of society, the city can start formally tracking and creating a database of construction workers, domestic helps, and street vendors, etc. and leverage it for effective delivery of services.

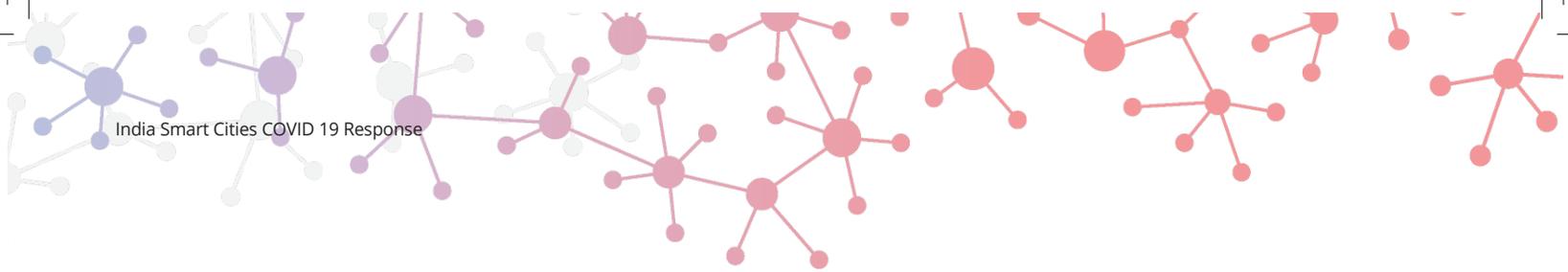
Acknowledgments: We acknowledge the support of Mr. Kamal Yadav, IAS, Municipal Commissioner City of Chandigarh, Mr. Arun Kumar Singh, Team Leader and Mr. Sahil Kumar, Deputy Manager (Engg.), Chandigarh Smart City Limited for providing requisite information and Photographs towards preparation of this Case Study.

Contact Person for more information:

Name: Mr. Arun Kumar Singh, Chandigarh Smart City Limited
Mobile: +918468836500; Email: arunkumarsin@gmail.com;

References:

- All the figures used in the case study have been taken from the daily press releases published by the Chandigarh Administration on their website: http://chandigarh.gov.in/2health_covid19.htm
- <https://pib.gov.in/PressReleasePage.aspx?PRID=1616393>
- <http://chdcovid19.in/>
- Photos are taken from Chandigarh Smart City Limited and CHDCOVID app developed by Chandigarh



“City of the Taj”'s fight against COVID-19¹⁹

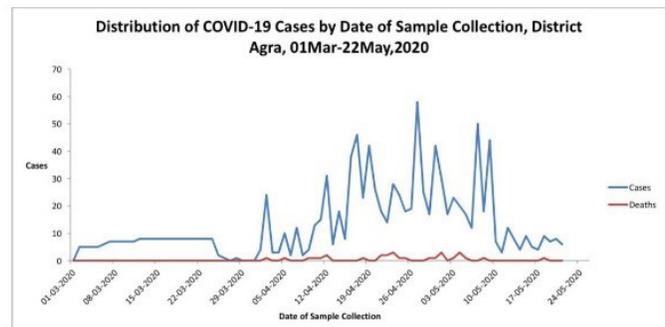
“City of the Taj”'s fight against COVID-19

Context

Agra, more commonly referred to as the “City of the Taj,” among one of the most common international tourism destinations of India, had registered its first case of COVID-19 on March 02, 2020. Since then till May 22, 2020, a total of 840 cases were reported in the city, with 28 deaths and 707 recoveries. It is one of the worst affected cities in the State of Uttar Pradesh accounting for about 20% of total cases reported in the State.

Despite the high number of COVID-19 cases, Agra’s initiatives to fight and contain the pandemic spread are well appreciated at the state as well as national level and has been termed as the ‘Agra Model’ to tackle COVID-19. The key highlights of Agra’s containment plan include:

- Converting **Integrated Control and Command Centre (ICCC) into WAR room**, with more than 25 people working 24x7 helping city authorities and operating the helpdesk to respond to citizen grievances
- Launch of **Lockdown monitoring app** to track crowd gathering and social distancing violations using real-time alerts and messaging systems across all city police stations
- Active contact tracing & isolation of COVID-19 affected people by clearly delineating epicenter, containment, and buffer zones to track spread. A total of 1,248 teams of two healthcare workers each are deployed leveraging the Urban Primary Health Centres for household screening. Further, to increase the testing rate in Agra, the local administration

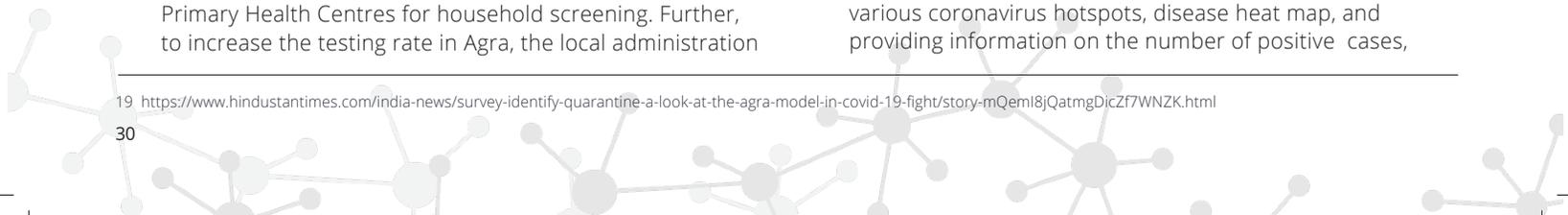


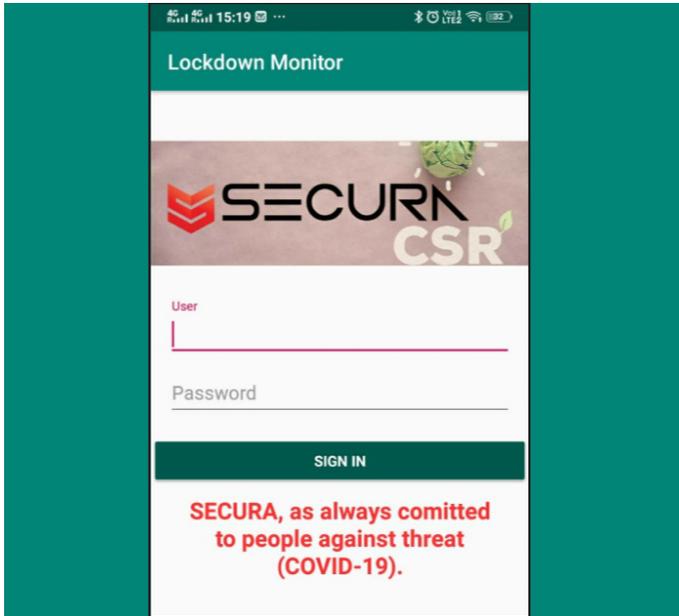
Growth trend of COVID-19 Cases.

Courtesy: Agra Smart City Limited (ASCL)

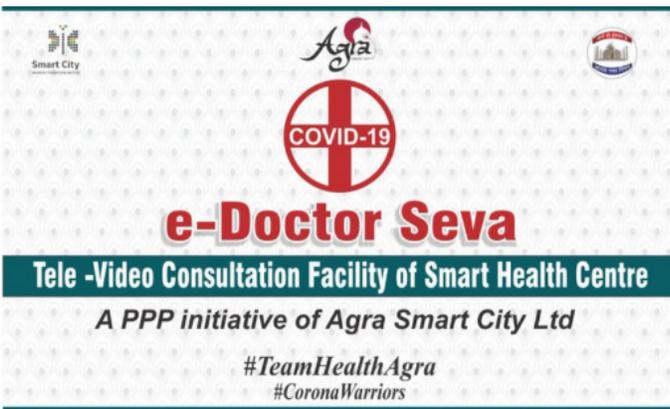
- has initiated pool testing procedures in addition to RT-PCR tests on an individual basis
- Web-Portal for online **Door to door delivery of essentials** (including groceries, vegetables, fruits, and medicines)
- Launch of a **GIS-based COVID-Tracker dashboard** showing various coronavirus hotspots, disease heat map, and providing information on the number of positive cases,

¹⁹ <https://www.hindustantimes.com/india-news/survey-identify-quarantine-a-look-at-the-agra-model-in-covid-19-fight/story-mQeml8jQatmgDicZf7WNZK.html>





SECURA: Lock down monitoring app launched by Agra



e-Doctor Seva - Tele Medicine facility provided to citizen

patients recovered, daily case count, trends, age groups affected, etc. to help in data-driven decision making

- **e-Doctor Seva**, a PPP initiative to provide tele-video consultation
- Launched the **Citizen Covid-19 Self Registry Platform** for citizens to assess their health risk, and create PIN code based early risk assessment matrix for city authorities
- **A mobile app- Sarvam Setu Application**, has been developed with a SOS button for emergency services to citizens in any distress, with backend support from over 600 civil defense volunteers

Additionally, Agra city authorities are also focusing on creating citizen awareness on Dos and Don'ts related to COVID- 19 through the Public Address (PA) system installed at 27 major junctions where advisories are announced on 24/7 basis and compliance monitored through the ICCC.

Among all the initiatives as mentioned above, this case study focuses on one of the key initiatives taken by Agra City Authorities related to the provision of essential supplies to citizens through an effective delivery system.

The Initiative

Agra city authorities realized that to minimize exposure to COVID-19 and enforce lockdown, creating an effective delivery mechanism across the city to provide all the essential commodities at citizens' doorsteps along with operationalizing helpline facilities was critical

Delivery of Cooked Food to Slums: With help of the COVID-19 war room and the police department, Agra has developed a network of centers, which work seamlessly for providing cooked food to citizens belonging to economically weaker sections. About 40 Cooked Food Bank/ Community Kitchens comprising NGO premises, industries, and religious places have been identified and registered with the ICCC/ Police department.

Police collect food packets from these registered food banks & community kitchens and distribute them to the needy/ destitute/ laborers. Ward wise slums and other poor community/ societies are identified to deliver food packets daily. Further, a helpline (COVID-19 war room) has been set-up, where any needy individual can ask for food-related help. About 50,000 food packets are distributed daily by the Agra Police personnel.



Distribution of food among street dwellers and poor families

Online Delivery of Essential Food/Vegetables/Medicines : Agra District Administration and Agra Smart City Limited have collaborated in ensuring doorstep delivery of daily need items

Based on a survey done for the entire 100 wards of Agra city, specific kirana shops and fruit/vegetable vendors were identified in each ward for participating in the initiative. About 6-10 vendors per ward were identified to distribute fruits, vegetables, and essentials at the citizens' doorstep in that ward.

A Web-portal (<http://agrasmartcity.in/EssentialItemSupplier.aspx>) was launched, which can be accessed by mobile (app) and computer (web portal) to allow the general public to select the nearest available vendors of groceries, fruits, and vegetables. The web link also provides the contact details (mobile number and address) of the registered vendor (which were collected during the GIS property survey and SWM RFID tag installation), where the public can directly call and place their order. The E-Pass facility is

Survey of Food & Atta Supplies



Above Photo Credits: ASCL

provided to the registered vendors to facilitate the movement of essential service goods.

To curb price distortion in the market, the City administration had fixed rates for 23 essential commodities and also signed a controlled rate agreement with wholesale suppliers to ensure uninterrupted food supplies to the vendors/ retailers.

A helpdesk was set up at the COVID war room to answer calls and guide citizens for doorstep delivery and to provide information and assurance on availability of essential goods and avoid possible panic situations among citizens. About 10,000 people have taken advantage of the service.



Online Information Portal for Grocery Delivery



Ward-wise list of vendors with their contact details

Above Photo Credits: <http://agrasmartcity.in/EssentialItemSupplier.aspx>

General Awareness: Awareness messages through the PA system and about 100,000 brochures were used to communicate about the doorstep delivery of groceries, essential items and associated rates.

Innovation

A suite of technology enabled interventions like ICC, grocery helpline, E-Passes to facilitate the movement of essential goods, live telecasts of advisories through Variable Messaging Services systems, and PA systems have played a key role in the success of the Agra's strategy for COVID 19 cluster containment.

Apart from creating a database of vendors for doorstep delivery, the city authorities also tied-up with E-Commerce delivery vendors and large retail chains to deliver grocery at the doorstep.

Acknowledgments: We acknowledge the support provided by Mr. Arun Prakash, Commissioner, Agra Municipal Corporation & CEO, ASCL and Mr. Anand Menon, PMC for Agra Smart City Limited for providing requisite information and Photographs towards preparation of this Case Study.

Contact Person for more information:

Name: Mr. Anand Menon, Agra Smart City Limited
Mobile: +919860382302; Email: anandmenon92@gmail.com;

References:

- Agra Smart City Ltd. website and secondary research.
- <http://covid.sgligis.com:8081/agra/>
- <http://agrasmartcity.in/EssentialItemSupplier.aspx>

Benefits

The launch of web-portal and mobile app for doorstep delivery of essentials has helped in reducing the stress on the helpline number. The number of calls per day related to doorstep delivery reduced to 40-50 calls per day from 1000-1200 calls per day within 4-5 days of launching of web-portal and mobile app.

From early detection to curbing COVID-19 from spreading further, the Agra Model has received a wide appreciation from other cities in the country for successfully tackling cluster containment.

Lessons Learned

Through continuous discussion with experts, civic bodies, NGOs, and private partners, Agra is working towards containing the spread of COVID 19 along with the national goal of fighting the pandemic. The success of the initiatives indicates that even after the pandemic, cities are in a position to look at ways to utilize and build upon the investments already made in ICC for city governance, connecting with citizens and encourage more innovative ideas from the citizens and city authorities to manage the city effectively.

Way Forward

After the lockdown is over, the focus will likely be to continue to monitor the quarantine and positive cases; using analytics for identifying trends, wherever necessary. A major focus area will be to develop an integrated platform to create dashboards for the users of various Government departments, which can be made available on mobile devices to enable speedy decision-making. The plan is to bring all the major departments – medical, sanitization and fogging, civil defense, district magistrate, police, security surveillance, solid waste management, drain cleaning, online grocery, etc. onto a single platform.

Agra administration is planning to come up with citizen registration platform version 2.0, where the citizens can alert the nearby police station about any violation of cluster containment like mass gathering, thus helping the city authorities monitor the city. Further, Agra Smart City Ltd. has plans to continue with the e-Doctor Seva application even after the lockdown. This application has helped the citizens get hassle-free medical help from the doctors and medicines delivered at their doorstep.



NOTES



CONTACTS

Arindam Guha

Government & Public Services Leader, Deloitte India
Email: aguha@deloitte.com

Anindya Mallick

Partner – Strategy & Business Design, Deloitte India
Email: anmallick@deloitte.com

Debashish Biswas

Partner – Strategy & Business Design, Deloitte India
Email: debiswas@deloitte.com



Deloitte.

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms. This material and the information contained herein prepared by Deloitte Touche Tohmatsu India LLP (DTTILLP) and is intended to provide general information on a particular subject or subjects and is not an exhaustive treatment of such subject(s). None of DTTIPL, Deloitte Touche Tohmatsu Limited, its member firms, or their related entities (collectively, the "Deloitte Network") is by means of this material, rendering professional advice or services. The information is not intended to be relied upon as the sole basis for any decision which may affect you or your business. Before making any decision or taking any action that might affect your personal finances or business, you should consult a qualified professional adviser.

No entity in the Deloitte Network shall be responsible for any loss whatsoever sustained by any person who relies on this material.