



Bruhat Bengaluru Mahanagara Palike
Covid-19 War Room

Empowering better decision making around COVID-19

COVID-19 has thrust city and district administrations into uncharted territories. With the novel coronavirus disease 2019 (COVID-19) attacking societies at their core, 'war-rooms' are now mushrooming across the country, using heat-mapping and predictive analytics to detect the disease's movement in real-time.

On 11th March 2020, the UN officially declared COVID-19 as a pandemic. As the UN bugled

the call of Shared Responsibility and Global Solidarity, the role of data-sharing and data-integration becomes a prerequisite for coordinated and inclusive solutions to tackling COVID-19. Communities around the world are taking strides in mitigating the threat that COVID-19 (coronavirus) poses. Geography and location analysis have a crucial role in better understanding this evolving pandemic.

Mapping and containing COVID-19

By defying early detection or easy treatment, COVID-2019 has thrust cities into unfamiliar territory. India is working hard to avoid community transmission, but as long as the virus mimics surreptitious symptoms of the common cold, and lacks a viral vaccine, prevention seems to be the only real cure. This prevention is dependent on proper hygienic

practices, updated information, and minimized social contact.

As a result, measures like quarantining foreign arrivals, contact-tracing, and strengthening state- and district- surveillance teams have been adopted to break the chain of transmission. Door-to-door surveys and cluster-containment are other strategies that have been recommended. Obviously, between floating populations, the homeless, misinformation spread through social media with patient privacy concerns, governments across the country have had their hands full.

Delhi has been inundated by state-specific requests on how to implement lockdowns, and manage healthcare systems. Even for cities that have dealt with past epidemics, there is no one road-map for this one. So, the need of the hour becomes a system that can:

1. Manage constantly-updated

data points

2. Support 24-hour silent surveillance, that aids prevention but avoids panic

3. Provide credible conclusions

4. Enable government departments to prioritize the first four or five hot buttons that they have to be involved in.

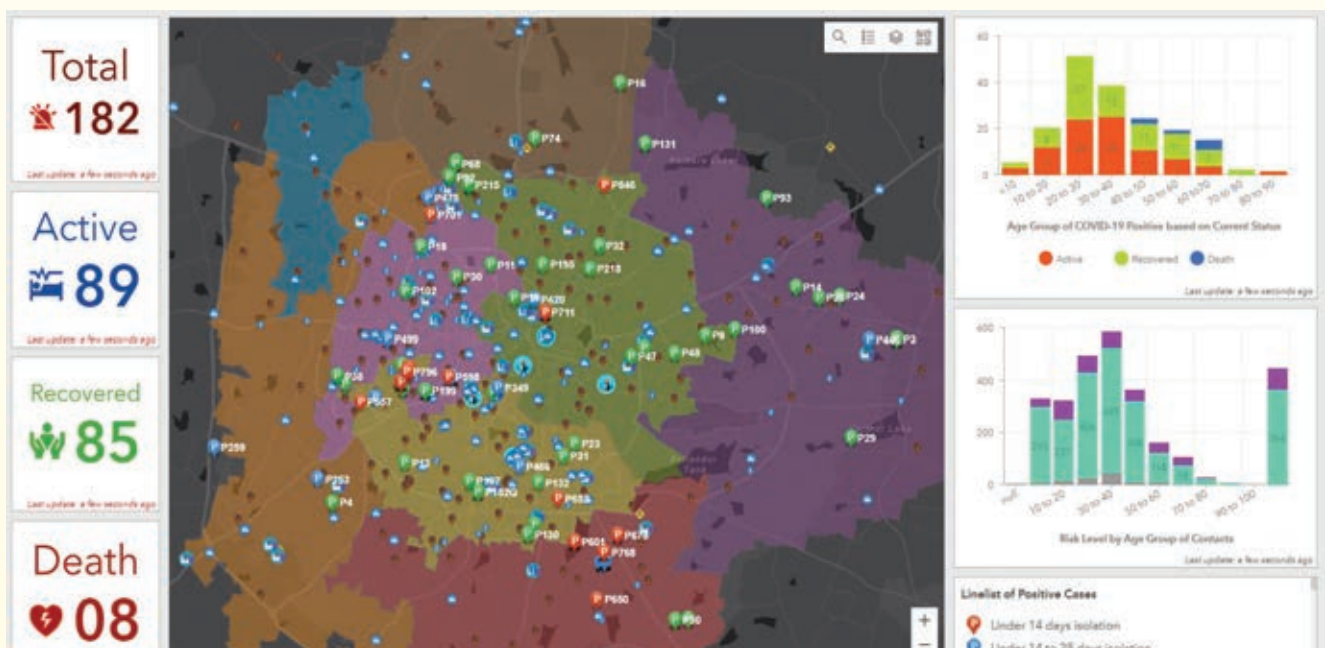
The use of various technologies has been successful in enabling the governments to manage the COVID-19 pandemic. Even the Indian health ministry emphasised the use of technology to combat the COVID-19 epidemic; it has underlined how infrastructure from smart cities is being used to fight the outbreak at the local level. The facilities at these cities are mapping each COVID-19 positive case using GIS, tracking health care workers using GPS and drawing up a containment plan using heat mapping technologies.

The need of the hour

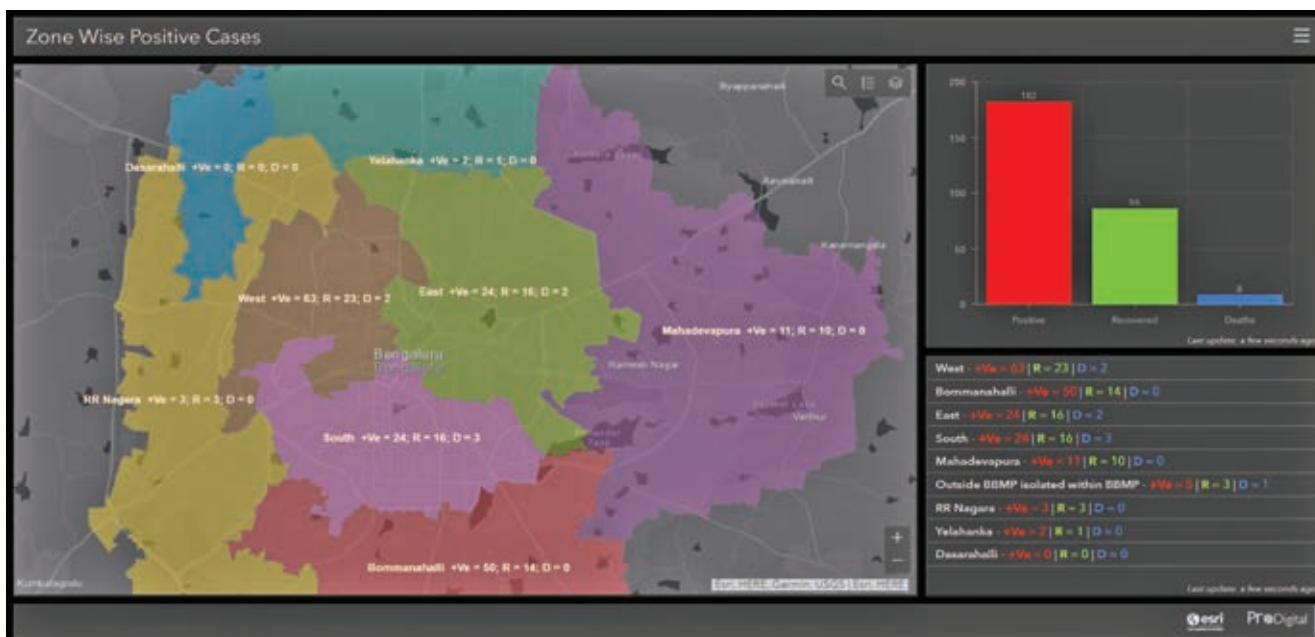
As learning on the fly becomes the new normal in fighting the COVID-19, three main goals must underlie any system put in place to manage the epidemic proactively:

1. Fast Adaptation: A system that can identify existing health facilities, and rationalise their use to avoid healthcare fatigue, became a need of the hour. Being able to commandeer and monitor infrastructure (like hotels) as quarantine facilities, and migrant shelters is another requirement.

2. Fast Recovery: A system that can support proactive actions to monitor suspected COVID-19 cases; also needed, was a method to tie data from multiple apps (Sahyog and Aarogya Setu being the most common) into one visual flow for hot-seat response-and-action.



The ArcGIS COVID-19 templates and dashboards are being used for date-wise, zone-wise, hospital-wise, age-wise and gender-wise details updated in real-time.



The war room monitors quarantine facilities, tracks health of suspected patients, monitors roads through drones, and pushes awareness through helplines.

3. Fast-forward Looking: A system that can use temporal data to predict the most accurate trendlines is urgent. Predictions such as these allow administrations to phase their response levels, lower red and orange alerts, and get their cities and districts back to normal.

BBMP War Room

A team of officials from the Karnataka government have been using technological interventions at the war room in Bengaluru to monitor quarantine facilities, track health of suspected patients and their contacts under home quarantine, monitor roads through drones, and push awareness through helplines.

Bruhat Bengaluru Mahanagara Palike (BBMP) launched a war room to address the coronavirus pandemic on Mar 23, 2020. Set up at the BBMP head office, it operates 24x7 with 11 collaborating agencies, 5 solution providers & overall 40+resources and a team of 10 people working in shifts to monitor cases and address the epidemic now. Key activities include real-time information gathering for situational analysis and actionable insights and also for sharing information to citizens. The officials directly get access to real-time data from health and police departments. The war room also keeps track of sanitation work in the city, including cleaning of roads and disposal of waste.

“With the use of GIS technology, we are mapping the critical and less critical zones in the city for effective quarantine measures. The ArcGIS COVID-19 templates and dashboards are being used for date-wise, zone-wise, hospital-wise, age-wise and gender-wise details on a daily basis. This multi-layer comprehensive data visualisation and spatiotemporal analysis at BBMP COVID-19 War Room has been very helpful in reducing the spread of coronavirus disease and saving citizens from the pandemic.”

Hepsiba Rani Korlapati

IAS, Special Officer, BBMP COVID-19 War Room & Managing Director, Bengaluru Smart City Corporation Limited, Karnataka

The core objectives of the facility include:

- Real-time information gathering for actionable insights
- Coordinating and collecting information from other state government departments
- Sharing information to its citizens.

Making the difference

With the Esri disaster response program, ArcGIS COVID-19 templates, and dashboards, the war room of BBMP publishes advisories in various languages, daily bulletins on trends in the spread of coronavirus disease. The date-wise, zone-wise, hospital-wise, age-wise and gender-wise details are maintained at the war room and are published daily. The BBMP war room has been successful in implementing the following:

- **Test-and-Trace methods** Bengaluru’s war-room efforts support the vigorous Trace-Test-Treat (3T) method that Karnataka employs; it has been responsible for the state’s low positivity rates.
- **Proactivity availed:** CCTV surveillance, and surveillance of suspected patients in an 8-km

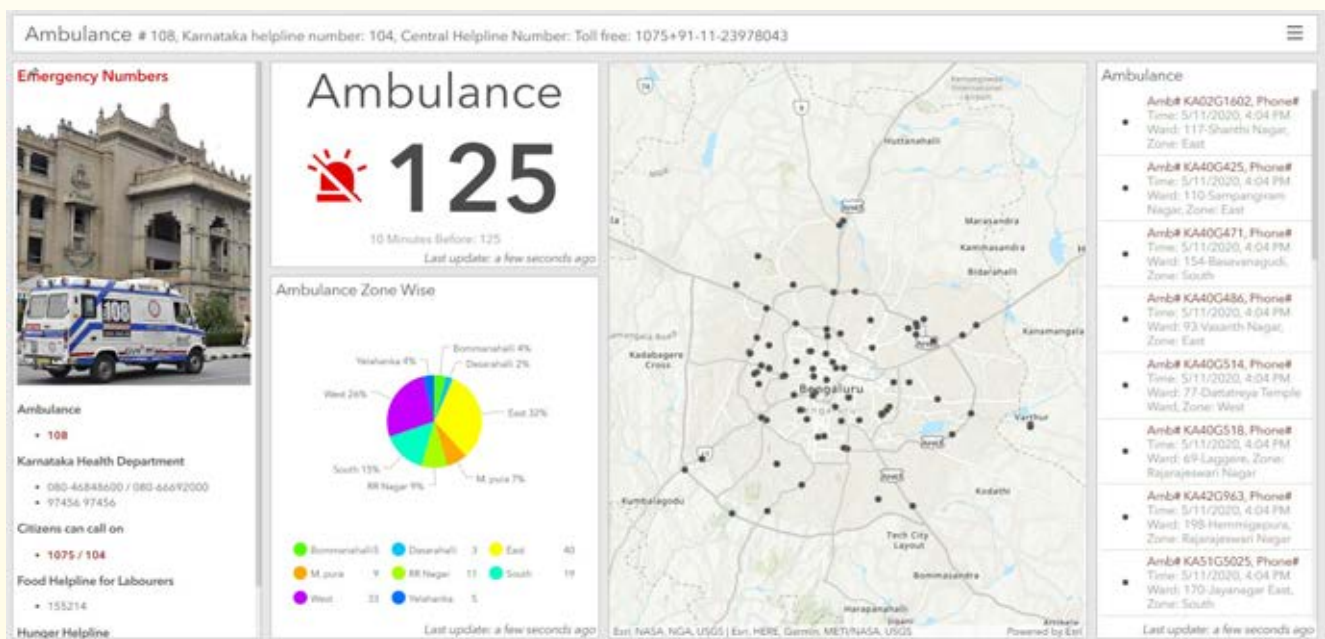
radius keeps officials prepared for a ready-response.

• **Digital governance**

- o Multi-language advisories and daily bulletins aid transparency by displaying complaint information gathered through 2.0 application forms.
- o Strict vigil on solid waste management ensures that public sanitation does not languish during the quarantine period. Heat maps created for virus containment keep people calm, and aware of the situation in their vicinity, avoiding misinformation.

- **Healthcare systems managed:** Tracking healthcare workers and ambulances, tele-counseling, and virtually training healthcare professionals all ensure that those at the forefront of this fight are fully equipped for any eventuality.

The war room has shown that with technology, cases can be handled better. Without IT and GIS technology, fighting COVID-19 would be difficult. The war room aims to build IT system to handle all parts of the issue and contain the spread of COVID-19.



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