

Status Paper

COVID-19 Management in Karnataka: Leadership Policy & Strategy



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Foreword

We are living in difficult times of COVID-19 pandemic that has swept the whole world. It has caused unprecedented disruption to economic activity the world over, propelling slowing down into a recessionary shock. Indian economy is no exception to the global trend of economic down turn. In fact, India is one of the countries that has moved quickly by implementing a proactive lockdown, with an objective of taking early containment measures to flatten the Covid-19 curve as well as for using the time lag to plan responses adequately.

It must be remembered that tough times do not last ever and COVID-19 will be a memory after sometime, although with a significant amount of tragedy attached to it. Leadership and the strategies leaders deploy, can help common people, industry and businesses to steady their ships and emerge stronger and more resilient. In fact, the pandemic has provided an opportunity to reimagine the future and revise thought, strategy and action to build a path to safer, healthier and secure tomorrow for the people of the State. Such disruptive events not only test resilience and adoptive capacity of people, but can also unleash forces of innovation and creativity to shape a more sustainable and inclusive future.

Karnataka also saw the pandemic during early 2020 and has been endeavouring to address the impacts. Innovative approaches combining technology with social interventions, multi-pronged strategies with inputs from Health Experts, Medical Institutions, Municipal and Police Agencies, as also public have enabled an insight into the pandemic as also effective management measures. I am thankful to have got an opportunity to be at the centre of these efforts and contribute to the cause of prevention and management of COVID-19, under the guidance of the Hon'ble Chief Minister of Karnataka, Shri B. S. Yediyurappa, who is untiringly working at fighting the pandemic in the State. I would like to thank him for the guidance and support.

I share the experiences of working on this front with several Agencies and people from different walks of life, at the State, District, City and Ward levels,

for further planning and management. I thank the Karnataka Science & Technology Academy, a Unit of the Department of Science and Technology, Government of Karnataka, for bringing out this Status Paper, as a reference document for Leadership Policy & Strategy, for Karnataka as well as other States.


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COVID-19 MANAGEMENT IN KARNATAKA: LEADERSHIP POLICY & STRATEGY

1. Introduction

The entire world is grappling with novel coronavirus pandemic, which is wreaking havoc on lives and livelihoods. The pandemic is the defining global health crisis of the twenty first century and the greatest universal humanitarian challenge that the world has faced after the World War II. The virus has spread extensively and the number of cases is growing every day. as the Governments have been working to slow down its spread. In this context, assessing and containing the impacts of the pandemic on societies, economies and vulnerable groups are of paramount importance to come up with suitable plans by the Governments to recover from the crisis as well as to ensure that no one is left behind.

Apart from an unprecedented human toll, COVID-19 has triggered an unfathomable economic crisis. It is estimated that the economic impact of the pandemic could be more than the Great Depression. According to the estimation of the Asian Development Bank, the global economy could suffer between \$5.8 trillion and \$8.8 trillion in losses, which is equivalent to 6.4 per cent to 9.7 per cent of the global GDP as a result of the COVID-19 pandemic.

Indian economy is no exception to the global trend of economic down turn. Karnataka is one of the States, affected significantly by the pandemic with 4,67,689 COVID-19 cases recorded, while 3,61,823 persons have been discharged, with 98,463 active cases and 7,384 people losing their lives till date as per Karnataka COVID-19 Dashboard.

Extraordinary situations like the pandemic call for an effective leadership in order to ensure effective coordination among various sections of the health care and public services in particular and society at large. These involve multiple stakeholders with Medical personnel of Doctors and Nurses, Health care companies, Municipalities, Police & Law Agencies, Hospitals, Schools & Colleges, Commercial & Industrial units and so on.

2. Leadership for Crisis Management of the Pandemic

The current situation caused by COVID-19 has posed enormous challenges to Leaders across the world. Hence, leadership demands are of an unprecedented nature, as the pandemic is impacting all sectors of the economy on a massive scale. The present crisis is different from anything that we have faced in over a century, also prolonged and extensive. An important characteristic of decisive leadership in these trying times is rapid response, in terms of policy, strategy and action, based on clear understanding of the threat posed by the pandemic. Effective leadership in a prolonged crisis is necessary to ensure good coordination, given the socio-economic and health dimensions of the pandemic.

A Leader should have the ability to rally his team, project calm and empathy, take decisive actions, communicate effectively and ensure implementation in a systematic manner. Leaders have navigated such a crisis through effective management and dynamic adjustments to fluid circumstances in an environment that changes day by day and hour by hour. As we begin a prolonged adjustment to the 'new normal', thoughtful leaders prepare and adapt to this extraordinary and unprecedented crisis. The leadership in crisis required tireless engagement and ceaseless energy to directly contribute to assessing the risks and gains associated with different courses of action.

3. Leadership Response to the Pandemic in Karnataka

The Government of Karnataka has been endeavouring to address the COVID-19 pandemic with a multi-pronged approach incorporating science, technology, infrastructure, public services and the whole of society, with detection, treatment, rehabilitation and communication. Dr Ashwath Narayan, C.N.Hon'ble Deputy Chief Minister of Karnataka and the Minister of Higher Education, Information Technology and Biotechnology, Science and Technology and Skill development, Entrepreneurship & Livelihood Departments was the first to take up the matter with Shri B. S. Yediyurappa, Hon'ble Chief Minister of Karnataka, with regard to the incidence and transmission of COVID -19 pandemic and the need for complete lockdown across the State, in order contain its spread, as early as the Assembly

session in March, 2020. With this advanced precautionary measure, Karnataka became the second State in the Country after Kerala, to initiate complete lockdown and take effective preventive measures. He also initiated several long term measures at the Policy level in terms of formation of Task Forces and Rapid Response Teams; brought technology to the centre stage for COVID-19 management with active participation of corporate sector including Biocon, FKCCI, etc.; along with innovative measures of Working from Home, to prevent the spread of the disease in the State, along with the Hon'ble Chief Minister and Cabinet Colleagues.

Karnataka has mirrored the national trend with the pandemic, severely impacting livelihoods across many sectors. As the pandemic unfolded across the State, the Government responded with agility, resilience and compassion. In fact, Karnataka was one of the first states in the country to take proactive steps to curtail the spread of COVID-19. The Government took decision with swiftness and laudable resolve to provide extensive support to the people during this distress situation. A micro-level approach to detect COVID-19 cases was taken by setting up district-level rapid response teams, as the disease was no longer limited to travel-related cases. In addition, quarantine centres and isolation wards were set up and initiated Doctors' training and medical logistics.

The Government ordered the closure of malls, theatres and pubs throughout the State, in the wake of coronavirus outbreak. After multiple and elaborate discussions with Health experts from different fields, both government and corporate, Officials and various stakeholders, weddings, conferences, birthday & engagement parties, nightclubs, swimming pools, play areas, music festivals, summer camps and sporting events state-wide were regulated from March 14, 2020 onwards. The schools and colleges were also closed, while IT professionals and other professionals were facilitated to work from home. The State Government set up a multi-Ministry Task Force to coordinate the efforts and feedbacks for containment of the pandemic. The Leadership role of the Hon'ble Chief Minister and the Hon'ble Deputy Chief Minister was visible throughout, with the national media interviewing Dr Ashwath Narayan, C.N., on several occasions, with regard to the management strategy in the State. The crucial factor was the communication and coordination with a host of stakeholders, starting from patients on one

hand, hospitals, medical practitioners, medical industries & suppliers, Municipalities, Data managers & Researchers, Law & Police Agencies, etc, on the other hand.



Meeting of Shri B S Yediyurappa, Hon'ble Chief Minister and Dr Ashwath Narayan, Hon'ble DCM with Heads of Private Hospitals



Meetings related to COVID Containment

3.1 Constitution of Taskforce and Epidemiology Team

The State government constituted a Task Force headed by noted cardiologist, Dr C. N. Manjunath and eminent cardiac surgeon, Dr N. Devi Shetty for suggesting containment measures to be undertaken to prevent the spread of the pandemic. In addition, a six-member committee under the Chairmanship of Dr M. K. Sudarshan, Former Head, Department of Community Medicine, KIMS Hospital, Bengaluru, was constituted to analyse and study the epidemiology of

COVID-19 cases reported in the State. The Committee was tasked to study the clinical manifestation of every case and predict future trends using data. As per this analysis, further interventions on treatment and management strategies were planned and administrative measures were undertaken to break the chain of the pandemic.

3.2 Formation of Taskforce at Booth-level

Karnataka Government formed the booth-level task force committees throughout the State, as the basic structural and functional units for COVID-19 management. In Bengaluru, 8,800 booth level committees were formed, with a Nodal officer, along with training to the members of the taskforce. These task force committees acted at the ultra-local level for monitoring, surveillance, checking of all the ILI (Influenza Like Illness) cases, ambulances and availability of beds in the hospitals.

With the challenge of preventing the rapid spread of the virus in the State, the Government formed a state Nodal team and a Rapid response team, after a person working in an IT company in Bengaluru was tested positive for the virus. That apart, preventive measures were taken and the health authorities screened every passenger arriving at the two international airports in Karnataka, viz., Bengaluru and Mangaluru as well as other points of entry, including ports. Micro-containment, micro-survey and targeted testing using RT-PCR or rapid antigen test were done to prevent the spread of the pandemic.

3.3 Regulations to Prevent the Outbreak

Karnataka was the first State in the country to notify regulations to prevent the outbreak and spread of the COVID-19. The 'Karnataka Epidemic Diseases, COVID-19 Regulations, 2020' was notified in the gazette under the Epidemic Diseases Act, 1897, Karnataka, which has been effective from March 11, 2020 for one year. These regulations stipulated that all Government and Private hospitals to have flu corners for screening suspected cases of COVID-19. Further, specifications for quarantine periods for asymptomatic and symptomatic persons and spreading misinformation punishable etc. were incorporated in the ACT.

3.4 Technology to Tackle COVID-19

Karnataka Government evolved a multi-pronged strategy, with technological tools, humanitarian assistance and healthcare support. Being the IT Capital of the Country, digital tools were deployed for effective communication and monitoring of the crisis. Some of the key measures initiated by the Government were introduction of 24/7 War-rooms, Special Control rooms and Hi-Tech Command and Control Centres (CCC). In addition, COVID-19 Dashboards were launched as part of the existing departmental websites for updating the prevailing situation and corona positive cases in real time. Video conferencing was extensively used for real-time monitoring of emergency situations arising out of the pandemic as well as to review and guide the officials, along with follow-up regular instructions to the concerned officials via social media like WhatsApp, Twitter and emails.

First-of-its-kind High-Tech War rooms to monitor, exchange information and to keep a tab on the spread of the coronavirus were set up in the State. The surveillance data of people in an eight-kilometre radius around a confirmed patient, where he was first found to reside was available in the BBMP War Room, as the mobile phones of quarantined people were tracked through their GPS location. This system enabled to call and ask the infected person to return back home, if he strayed beyond the containment zone. That apart, 'Corona Watch App' mobile applications for monitoring people under quarantine and informing the same to contacts to check the spread of the coronavirus were also developed.

The State Government has also been successful in using technology to provide education and other essential services. More than 500 professionals have been working at the APTHAMITRA helpline, that receives at least 50,000 calls on an average every day. As an alternative to e-commerce, this Helpline has been providing all essentials, including groceries and medicines to peoples' doorsteps in red zones.

3.5 Work from Home Initiative

The Hon'ble Deputy Chief Minister had video conferences as early as in March, 2020, with Heads of IT-BT and Start-Up Companies, wherein he explained regarding steps taken by the Government to control the outbreak of the

coronavirus and also sought suggestions from the captains of the industry for the same. In the meeting, he also had discussions regarding the problems faced by those sectors due to lockdown, the possible solutions to overcome and steps planned to be taken by the Government. Further, he asked all the companies to allow all employees of IT and BT companies, except for those discharging essential services, to work from home. The personnel of the essential services were instructed to follow personal hygiene, social distancing, wearing mask as per the advisory by the state government. Tech leaders including Infosys Founder and Chairman of Karnataka's IT Vision Group Shri Kris Gopalakrishna; CMD of BIOCON and Chairperson of Karnataka's BT Vision Group Dr Kiran Mazumdar Shaw; NASSCOM Chairperson Ms. Debajani Ghosh and captains of some of the IT and BT participated in the meeting. As a result of this meeting, nearly 80% of professionals of IT & IT enabled services started working from home.

Sanitising workplace at regular and frequent intervals, staggered work shifts, ensuring physical distances between workstations, innovative health apps and thermal screening as well as health check-ups and regular monitoring of employees were initiated by industries. In this regard, Government issued an advisory to IT, IT enabled and Bt companies(Annexure-1).

3.6 Initiatives by *Bruhath Bengaluru Mahanagara Palike* (BBMP)

The first COVID-19 case in Bengaluru was reported on March 9, 2020. Subsequently, BBMP ordered the closure of educational institutions, malls, sports facilities, etc., and imposed a complete ban on mass gatherings on March 13, 2020. BBMP issued guidelines to apartment Residential Welfare Associations on containing the virus spread and advised those living in hostels and PG accommodations to return to their hometowns as well as mandated shops to enforce social distancing.

Bengaluru city rose up to the cause of serving free food to the needy hit by the COVID-19 lockdown. The Hon'ble Deputy Chief Minister took the initiative to supply medical requirements, hygienic materials and drinking water as well as food to the needy people in the city through BBMP and NGOs. The ration kits and cooked meals were also served to the people to ensure that nobody went hungry and migration of workers was avoided. In addition, BBMP also arranged

for handwashing with soap and sanitizers and ensured social distancing while queuing up at the counters.



Meeting with Officers of BBMP

3.7 Awareness Creation & Survey

In response to a huge number of queries that began pouring in from the public on the disease to the *Janasnehi* Centers of the Department of Information and Public Relations (DIPR), a full-fledged Social Media Centre and Control Room was established to enable the general public to avail satisfactory responses to their COVID-19 related queries. This also enabled to spread awareness to debunk fake news as well as to prevent rumours and fake news across the City.

In order to identify susceptible people, about 2,150 health survey teams including teachers, ASHA workers and booth-level BBMP officials were deployed across the city to conduct survey of 36 lakh households in Bengaluru

to identify high risk individual especially, elderly people with comorbidities and those who had undergone surgeries in the recent past. The teams visited every household in a locality with a mandate to find out travel history, persons above the age of 55 years, children aged less than 1 year, pregnant/lactating women, persons with diabetes, blood pressure, heart ailment, respiratory issues like ILLI, SARI and Covid-19 symptoms like fever. Sensitizing people on COVID-19 and its spread through awareness campaigns as well as encouraging hygienic practices such as frequent handwashing, use of sanitizers and wearing of face masks were carried out.

3.8 Bengaluru COVID Care Centres

Being In-charge for Covid Care Centres (CCCs) in Bengaluru, the Hon'ble Deputy Chief Minister conducted series of meetings with elected Representatives of Bengaluru and officials of BBMP and Health Department to contain the spread of COVID-19 in the city. Under his guidance 12 CCCs, with a capacity of 20,000 each, were established across the Bengaluru city. Action was taken to establish Intensive Care Units (ICUs) and emergency facilities at CCCs to ensure immediate treatment for critical patients. After a meeting with private hospitals, 3,500 beds were set aside for COVID-19 treatment under the centralised bed allocation system. In Bengaluru, 284 beds with ventilator support in government and private hospitals and medical colleges have been reserved to treat COVID-19 patients.

Apart from this, private hospitals also ran CCCs in collaboration with hotels to treat asymptomatic and people with mild symptoms, as guided by the Hon'ble DCM. The yoga sessions are being arranged in the mornings for COVID patients for their psycho-social care and rehabilitation during quarantine and isolation. In addition, it is useful in allaying fears and anxiety among inpatients. The CCCs provided 24X7 supervised medical care in an institutional set-up. The asymptotic positive patients were evaluated at the Dedicated COVID Health Centre (DCHC) by a Physician before admission to CCC.



Meeting related to COVID Care Centres (CCCs)

3.9 Critical Care Support System and ICU

Karnataka is the first State in the country to establish a dedicated critical care support system, by linking ICUs of COVID-19 hospitals onto a single platform. The objective of this system is to monitor COVID-19 patients in ICUs across Karnataka, so that the hospitals are prepared for the potential attack of the virus and thereby to achieve zero COVID-19 mortality. A dedicated team has been working round the clock in three shifts to monitor patients admitted to ICUs. At the end of each day, the unit was reviewing the progress and implementation of the action plan and share the same with higher authorities for further action. This system has also served as a handholding facility for Doctors in interior parts of the state who would not have access to new technologies. This was also of immense value in saving lives at critical moments.

In efforts at private partnership for COVID-19 management, the Hon'ble DCM brought in the MS Ramaiah Medical College & Hospital, with 500 beds reserved for COVID treatment. The number of ventilators were increased from five to 25, and added 50 more ICU beds to increase to 100. He mobilised 10 dialysis machines, 20 high flow oxygen therapy and 30 ventilators through CSR funds of Action COVID-19 Team (ACT).

The ICU bed capacity in KC General Hospital was expanded from six to 100, wherein 50 ICU beds were put up in the IPP Building on the campus and 50 more ICU beds in the mobile ICU containers. This facility was established with equal cost sharing from the Government funds and CSR support.



Discussions with Chairman and Officials of MS Ramaiah Medical College

In addition, other private hospitals in Bengaluru were convinced to provide 50% of the beds in their hospitals for COVID treatment. The live online Dashboard showing availability of beds and ventilators in different hospitals across Bengaluru was launched by BBMP and six Apps for different functions ranging from contact tracing, quarantine watch, tracking international, domestic arrivals and critical patients were developed to help general public. He paid visits to various COVID Care Centres across the Bengaluru City to get the first-hand information on the facility being provided as well as the problems faced by inpatients.

3.10 COVID-19 care in International Exhibition Centre

The Bengaluru International Exhibition Centre has been re-purposed and is now the city's biggest COVID-19 care facility with a capacity of 10,000 beds. The Centre will mainly have asymptomatic patients who do not need special attention to ease the burden of the Bengaluru's care facilities. There are recreation rooms with carrom boards and televisions to help patients pass the time. CCTVs and a public announcement system have also been provided. In all

the CCCs, proper hygiene, set-up help desk, supply of nutritious food along with providing quality health care have been ensured.

3.11 Initiatives in BBMP West Zone

Hon'ble Deputy Chief Minister has been leading the fight against COVID in BBMP west Zone, which comprises of Chamarajapete, Malleshwaram, Gandhinagar, Mahalakshmi Layout, Rajajinagar and Govindarajanagar constituencies. This zone is a busy commercial area and people move about in droves in the area causing spurt in COVID cases. In order to contain the spread of the disease, awareness campaigns encouraging people to wear masks and maintain social distance was carried out throughout this zone and state-of-the-art central helpline was setup. BBMP carried out door-to-door check-ups in three kilometres radius, where patients were found. Elaborate arrangements were made to supply essential commodities at the door steps of affected people residing in the area through CSR initiatives.



Meetings with Officers in BBMP West Zone



Meetings with Elected Representatives in BBMP West Zone

4. Corona Warriors Program

The Government of Karnataka launched a unique programme called 'Corona Warriors' during March, 2020, to enlist volunteers across the State to join efforts to fight COVID-19 pandemic, with twin objectives of 'none goes hungry' and 'every one stays safe'. These volunteers have lent support in developing technological and medical infrastructure, especially telemedicine from specialist doctors, supply of cooked food to migrant workers and also worked as traffic wardens to assist the Police.

In addition, volunteers took care of social media handle (WhatsApp, Facebook, Instagram, Telegram) and Helplines. While providing help to Police personnel, healthcare and ambulance subsystems, they answered around 80% of the queries received and provided support for non-COVID issues like delivering medicines to the elderly, securing curfew passes from the police for emergencies, bringing food and essentials to individuals under quarantine as well as ensuring supply of food and groceries to migrant labourers and informal workers when they did not have job. This initiative boosted confidence among citizens.

5. Modular Intensive Care Unit (ICU) Containers.

India's first modular Intensive Care Unit (ICU) containers have been deployed in the fight against the ongoing COVID-19 pandemic in Karnataka under the

guidance of Dr Ashwath Narayan, C. N., Hon'ble DCM. These state-of-the art units have been designed by RINAC India Limited, known for setting up of sanitised operation theatres and clean rooms in Hospitals.

On a pilot basis, 10 modular container ICUs have been deployed at the KC General Hospital in Malleshwaram. The modular ICUs built into a shipping container can be on transit to reach out to the Corona patients and have an attached toilet inside. These containers have unique design, fitted with five beds having oxygen supply, air conditioner, camera, tele-consultation and other essential facility to check a patient's vitals online from a centralized monitoring station and thereby limiting the exposure of the medical professionals and healthcare personnel. The entry of doctors and paramedical staff will be through an airlock, while entry of patients will be through a different door. The main advantage of these units is that the prefabricated modules could be shifted to any location by trailers and easy to deploy multiple containers to create a common facility. In addition, they are easy to clean and the airtight functionality ensures that no moisture or heat ingress happens. These mobile ICUs were donated by M/s. RINAC under CSR initiatives at the behest of Hon'ble DCM, which will be useful, particularly in times of crisis like Covid-19 or any natural calamities.





Modular ICU at KC General Hospital Premises

6. Support Extended to Kannadigas Stranded Abroad and within India

Hon'ble Deputy Chief Minister played an admirable role by preparing a plan of action to bring back tourists, visitors, students, migrants and shipping crew from the State, who were stranded abroad with the help of the Central Government. About 10,823 Kannadigas were stranded abroad including 4,408 tourists/visitors, 3,074 students, 2,784 migrants & working professionals and 557 shipping crew. The State made elaborate arrangements for home travel, with medical tests and required quarantine on arrivals.

He also worked out plans to bring migrant Kannadiga workers from Gujarat by buses to Bengaluru and arranged safe passage to their respective districts/villages from the City. Similar action was taken to bring back workers from other States like West Bengal, Orissa, Bihar, with medical tests on arrival in different Districts.

7. Help to Migrant Workers from different Districts & States

Karnataka Government launched a Food Helpline to cater to the most vulnerable sections of the Society like homeless, daily wagers and migrant workers. It was started to reach out to the needy to provide them food from the nearest Indira Canteens or with the assistance of NGOs in the respective localities. The Government also identified community halls, wedding halls and

boarding schools to accommodate the homeless and the migrant workers. In addition, the State Government also arranged KSRTC buses from Bengaluru to transport stranded migrants to their respective districts without any fares. KSRTC also provided free food, drinking water and masks to the migrant workers during their journey, that ferried about 30,000 migrants in about 950 buses to their respective native places from Bengaluru and other cities across the state. Further, special trains were arranged to send migrant workers from other States and provided food, water and other essentials during their journey.

8. App-based Taxi Services

The App-based taxi services like Ola offered mobility help to all the frontline warriors engaged in the battle against COVID 19 at the behest of the Hon'ble DCM, recognised as a novel intervention. As per the agreement between Government and these services, the transportation of healthcare professionals, senior citizens, government officials and quick response teams were undertaken. They rendered mobility services in Karnataka with a fleet of around 1,000 cars in Bengaluru, Mysore, Hubli, Mangalore and Belgaum. In addition, the Government had entered into an agreement with Uber and Ola Cabs to help transport people to the nearest pre-approved hospitals in case of medical emergencies other than those relating to COVID-19 infection, as people who are not infected were inconvenienced by the lack of public vehicles, if they needed to go to a hospital for treatment. With this facility, needy people could easily access a safe, reliable convenient ride straight from their Ola app in Bengaluru, especially for dialysis, chemotherapy or other emergencies. These cars were equipped with face masks and hand sanitisers and were operated by specially trained drivers.

9. Corporate Social Responsibility (CSR) Funds

- Hon'ble Deputy Chief Minister had meetings with industries and business enterprises to provide CSR funds to contain the spread of COVID across the State. As a result, several Corporate houses provided funds from CSR initiatives, a few examples as follows:

- The Action COVID-19 Team (ACT) grant formed by leading venture capitalists and start-up founders to fight and survive the pandemic. ACT supported setting-up of a district war room for front-line workers and ambulance management, home quarantine solutions, distribution of oxygen cylinders and concentrators for low-flow oxygen support, distribution of HFNC (High-Flow Nasal Cannula) devices for high-flow oxygen to moderately severe patients and distribution of ventilators for use in hospitals and Covid Care Centres in Bengaluru, at a cost of over Rs 2 crores
- Azim Premji Foundation announced a Rs 1,125 crore fund dedicated towards fighting the COVID-19 with special support to frontline healthcare workers as well as underprivileged sections of the society. A 600-member team of the Foundation has been working with the government departments and other stakeholders to treat those affected as well as help contain the spread of the disease
- Infosys Foundation support for construction of an exclusive COVID-19 hospital in Bengaluru and supply Personal Protection Equipment (PPE), ventilators and masks for healthcare workers throughout the country
- The Embassy Group provided aid to 3,800 Traffic Police personnel deployed in Bengaluru amidst the lockdown by setting up hydration stations across the city, which supplied them with healthcare and food supplies as well as distributed masks/sanitizers to the residents in North Bengaluru outskirts, also a contribution of Rs 72 lakhs by the company's employees
- HungerBox, Big Basket and Fresh Menu partnered with Prestige Group, and JLL India to provide 10,000-15,000 meals every day to daily wage workers/ homeless across the city
- The Business conglomerate, Atria served over 1.5 lakh meals across 100 locations in Bengaluru through 'Serve Bengaluru' initiative to feed the people who were worst hit, while over 300 employees of the company also participated voluntarily in this effort

10. Initiatives in Malleshwaram, Bengaluru

Dr Ashwath Narayan, C.N., Hon'ble DCM, is a four-time MLA from Malleshwaram Constituency of Bengaluru, that he has served with dedication, focus, determination, farsightedness and fairness over the years. His many pro-people initiatives have earned him a respectable position in the lives of people, cutting across age, class and religious barriers in the constituency. During COVID 19 pandemic, he initiated many preventive measures in all the seven wards of the Malleshwaram Constituency.



Distribution of Food Items in Malleshwaram

Social awareness with regard to prevention and management of COVID-19 was carried out through pamphlets containing key messages and action, among the general public. Social media platforms like WhatsApp, Instagram & Facebook and emails were effectively used in disseminating news about the spread of COVID-19 as well as to support relief efforts, supply of essentials, medical help, preventing fake news and offering advice to people of the constituency. Over 60,000 ration kits for households and cooked food for 15,000 people were distributed regularly, along with dialysis facility for people with kidney problems during lockdown. Regular sanitisation of public places, roads etc. was carried out and the Deputy Chief Minister himself monitored these activities on a regular basis.

10.1 Drones for Spraying Disinfectant

During the time of crisis, inspired talent and technological advances play critical role in effectively fighting the spread of the pandemic. As a testimony to this, the Hon'ble Deputy Chief Minister launched a drone bound anti-microbial organic disinfectant solution spraying activity by Daksha, a team of researchers from the Indian Institute of Technology, Madras, mentored by South Indian film actor, Shri Ajit Kumar. Two drones embedded with a tank on top were used to sanitise large areas near the 18th Cross at Malleshwaram, demonstrating the efficacy of new technologies.

11. Initiatives in Ramanagara District

As District-In-Charge Minister of Ramanagara district, Hon'ble Deputy Chief Minister initiated several measures to contain the spread of COVID-19 in the District.

11.1 Establishment of District Hospital & ICUs

Ramanagara, being one of the young Districts of the State, did not have necessary medical facilities to handle the outbreak of pandemic like COVID-19 and hence, the Hon'ble Deputy Chief Minister took initiative to establish an extensive health care system in the District. The 50-bedded Taluka Hospital was converted as the District hospital for the purpose and the *Kandaya Bhavana* was converted into a 100 bed COVID-19 hospital.



Visit to District Hospital & Inauguration of COVID-19 Testing Lab at Ramanagara

In addition, an MoU with the Rajarajeshwari Medical College and Hospital was enabled and designated as Hospital to treat the COVID-19 infected patients from Ramanagara and surrounding areas on the initiative of the Hon'ble Deputy Chief Minister. The Hospital provides 600 beds and 150 medical doctors to treat COVID-19 patients.



Meetings at Rajarajeshwari Medical College and Hospital

As there was no ICU facility in the Ramanagara hospital, a 16 bed ICU was set up on an emergency basis. A three-year-old Bengaluru based Remote Medical Support Start-up, Cloudphysician, started providing expertise to Ramanagara coronavirus hospital. The company's platform called Radar, which is loaded in a computer in the ICU, has been capturing the images of monitors like measuring the heartbeat, blood pressure and other parameters. The platform converts the images into data and uploads it to the cloud in real-time. The data is relayed to specialists in the command centre, in turn they diagnose and give advice to the Doctors in the District Hospital.



Visit to Government Hospitals in Channapattana & Magadi

11.2 Setting-up of War Room and Control Room

Hon'ble Deputy Chief Minister established a war room and a control room for monitoring real-time health facilities, ambulance services and deployed ASHA workers to carry out survey of all 14 lakh households across the District. About 3 lakh vulnerable persons having diabetes, blood pressure, heart ailment, asthma, etc. were identified. These vulnerable groups were targeted and monitored regularly to prevent the outbreak of the epidemic in the district. He also launched a mass awareness campaign on COVID-19 across the District for people to take safety measures and how to approach for diagnostic tests and to call the Helpline to clarify any doubts. He regularly reviewed the situation and gave instructions to district authorities on preventive measures to be taken.

As a basic requirement, staff recruitment for District hospital and PHC in the District were initiated. He also mobilised Interns from Medical and Nursing Colleges to work in fever clinics, quarantine facilities, COVID-19 wards, ICUs, Operation theatres and General wards to overcome the shortage of Medical Professionals. In addition, student volunteers from degree colleges were enlisted for COVID-19 survey in the District. His, Dr Chandramma Dayananda Sagar Institute of Medical Education & Research (CDSIMER), Harohalli, Kanakapura Taluk, Ramanagar District, provided 100 ICU beds and 300 beds in different wards for COVID-19 patients.

12. Epilogue

The Karnataka Science and Technology Academy, is publishing this Status Paper on 'Leadership Policy & Strategy', bringing out the perceptions and responses to the COVID-19 pandemic, at the highest level in the Government. As can be seen from the narrative, the political will is of paramount importance dealing with such an unprecedented pandemic and the Government of Karnataka has demonstrated an unparalleled vision, coordination and action with regard to the COVID-19 management, that can set an example for the country.

Under the guidance of the Hon'ble Chief Minister of Karnataka, the Hon'ble Deputy Chief Minister, Dr Ashwath Narayan, C.N., himself a Medical

Professional, took several initiatives at the policy level, strategized them, established partnerships and linkages within and outside the Government, involved multiple Agencies and the public, coordinated among Health, Municipal and Corporate institutions, to achieve synergy in efforts at addressing an unknown pandemic. The innovative approach at combining technology with social relevance, be at the State level, District level, City or the Ward levels is outstanding, with players from different backgrounds and affiliations rising to the occasion.

This Status Paper is being presented as a knowledge base with practical approaches, for managing critical situations in the Society, where leadership has played a pivotal role, with regard to both policy and strategy. Karnataka, with an edge with regard to Science & Technology in the whole country, has been able to project the immense potentials, when combined with an Innovative Leadership, and this publication is expected to be a reference document for all States.

Advisory to IT, IT Enabled and BT Companies

1. Employees who are working on Mission Critical and Essential services only to operate from office. All others employees to Work from Home
2. The Management of IT and Biotech should put in place a self-regulatory mechanism for the same keeping mind employee safety is of paramount importance
3. To facilitate work from home, the Government has written to BESCO and internet service providers to provide uninterrupted power supply and connectivity
4. Minimize contact among employees by replacing face to face meetings with tele conversation or video conference
5. Business and personal travels may be put on hold unless it is unavoidable and critical
6. Social distancing is a public health measure that's implemented during highly contagious outbreaks and hence social distancing has to be followed
7. Maintain proper hygiene of premises/workplace by following regular housekeeping practices, including routine cleaning and disinfecting of surfaces, equipment and other elements of work environment
8. Promote frequent and thorough hand washing by providing employees/visitors/ customers with soap / sanitizers and running water in the washrooms
9. Encourage employees to follow respiratory etiquette including coughs and sneezes
10. Employers should develop the policies and procedures for employees to report when they are sick or experiencing symptoms of COVID-19
11. Encourage employees to call helpline no.104. Never travel directly or avail public transport facility to reach the hospital if suspected of possible exposure of COVID-19
12. Identification and isolation of potential infectious individuals which is a critical step in protecting employee at workplace

13. Maintain flexible leave policies that permit employees to self-quarantine as a precautionary measure
14. Advise all employees who are yet higher risk i.e older employees, pregnant employees and employees who have underlying medical conditions, to take extra precautions