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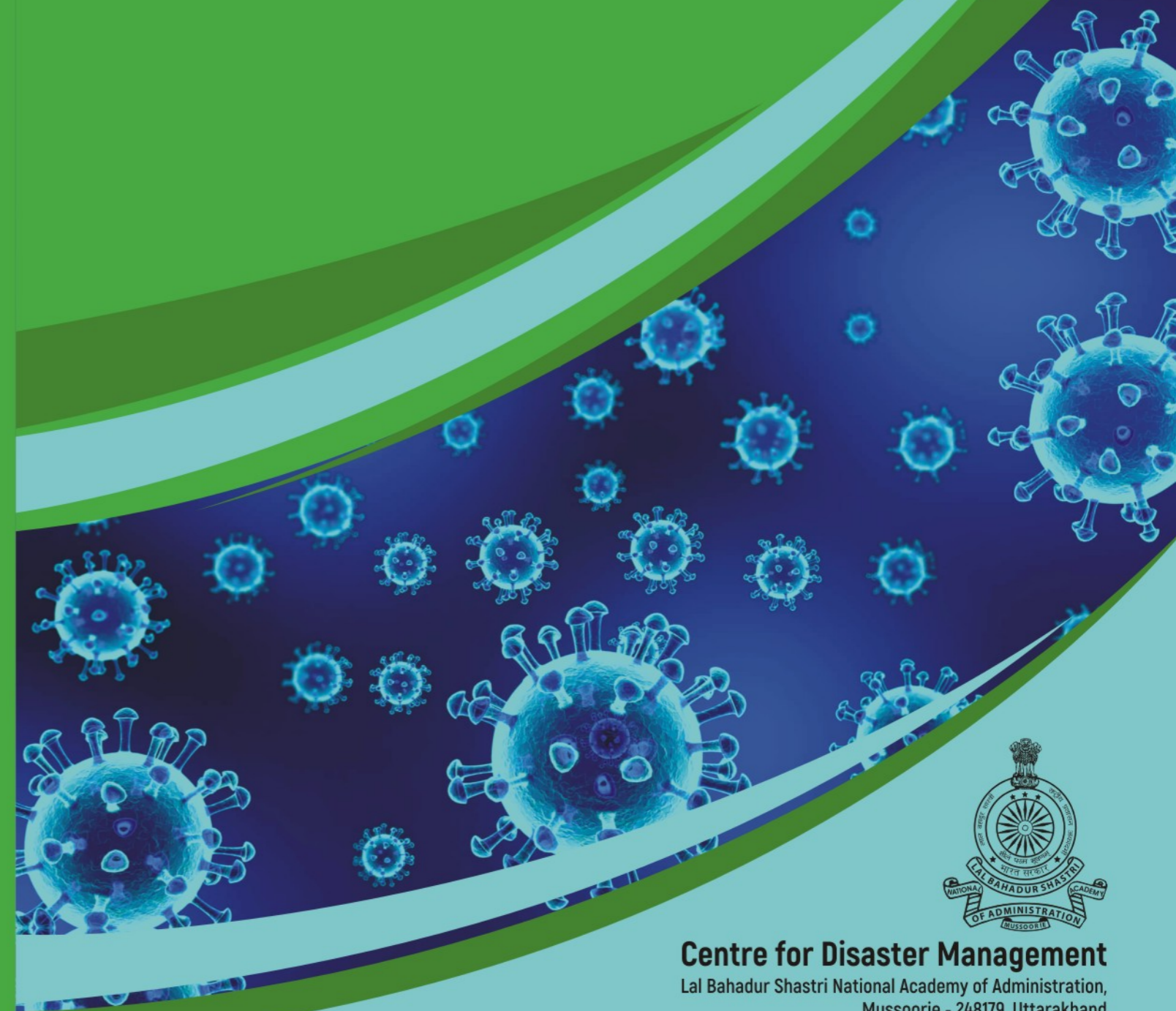
Centre for Disaster Management (CDM)
Lal Bahadur Shastri National Academy of Administration (LBSNAA),
Mussoorie - 248179, Uttarakhand
EPABX: 0135-2222000 (Extn-2385)
Telephone: 0135-2632655; Fax: 0135-2632350, 2632720
Email: cdm.lbsnaa@nic.in

COVID-19
GOVERNANCE IN INDIA

SERIES - 4
(A Special Issue under Disaster Governance in India Book Series)

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COVID-19
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DIRECTOR'S MESSAGE

Sriram Taranikanti, IAS
Director,
Lal Bahadur Shastri National Academy of Administration, Mussoorie

The unprecedented COVID-2019 crisis has underlined the criticality of effective response as never before. Responsiveness has emerged as a yardstick for measuring the success of Governments across the world in tackling this calamity. Adopting a multi-pronged cross-departmental approach, supported by the collective expertise and experience of specialists and frontline workers has become the need of the hour.

Needless to say, the crisis is far from over, and the road ahead is long and challenging. Although the strategic initiatives systematically taken in the past few years have placed us in an enviable position of being in significant control of the situation, massive challenges still remain and there is no room for complacency. Hence, to define the way forward more comprehensively, the importance of period feedback, analysis and interpretation of programmes, plans and policies to reassess their status from time to time, cannot be overstated.

As the world bravely battled against COVID-19, the gravest health crisis of times, we have seen a total paradigm shift in the way we live and work. The pandemic has led to the emergence of a new and radical construct of societal norms and governance. The country has adopted a cross-departmental approach in the formulation and implementation of the COVID-19 protocol geared towards engineering a sustainable ecosystem for co-existing alongside COVID-19. The country has set forth novel strategies curated to sensitize, motivate and inspire citizens to collaboratively combat the deadly virus, through virtual awareness platforms, digital campaigns and institutionalisation of health, educational, agriculture, industrial and employment operations both in the rural and urban areas.

The lockdown provided an opportunity to not only upgrade our level I, II and III COVID care facilities in the states and to stock up our supplies but also to forge new partnerships with the best health professionals from India and abroad to train our doctors on the latest protocols for COVID patient management. There have been a number of success stories, which all have contributed to our overall understanding of such kind of management, thus adding significantly to the learning process.

I would like to thank the Centre for Disaster Management, Lal Bahadur Shastri National Academy of Administration who have worked on those success stories and have been able to compile a special issue titled: COVID-19 Governance of India, Series-4. Hopefully, the document will be equally useful for both the trainees and the administrators in the field. I want to congratulate the CDM Team for this publication and also place on record my appreciation for the contribution made by the faculty & staff of CDM who contributed in various capacities for bringing out this book.

I would also urge all to go through this compilation carefully and add to the knowledge base.

(Sriram Taranikanti)

PREFACE

Abhiram G. Sankar, IAS
Director,
Centre for Disaster Management

The COVID Pandemic that gripped the entire world has underlined the criticality of effective response as never before and once again highlighted need of health facility preparedness. Responsiveness has emerged as a yardstick for measuring the success of Government across the world in tackling this calamity. Government of India's integrated, multi-pronged action plan of containment and development involving cross Departmental approach, supported by the collective expertise and experience of specialists as well as frontline workers, paid rich dividends.

As the world bravely battles against COVID, the gravest health crisis of times, we have seen a total paradigm shift in the way we live and work. This issue highlights emergence of a new and radial construct of societal norms and governance. The novel initiatives undertaken by various district administrations adopting a cross departmental approach in formulation and implementation of COVID-19 protocol geared towards engineering a sustainable ecosystem for co-existing with COVID. The articles also highlight, all-inclusive approach adopted by administration involving community has set forth novel strategies curated to sensitize, motivate and inspire citizens to collaboratively combat the deadly virus, through virtual awareness platforms, digital campaigns and institutionalisation of heath, educational, agriculture, industrial and employment operations both in the rural and urban area.

The COVID Pandemic provided an opportunity to not only upgrade our health care facilities in the states but also to forge new partnerships with the best health professionals from India and abroad, and to upgrade and modify our protocols for COVID like patient management.

Needless to say, similar crisis may recur in future also new variants have emerged challenging the medical and scientific fraternity, in more ways than one. The strategic initiatives we have systematically under taken in these past few years placed us in significant control of the situation.

I would like to thank the Centre for Disaster Management, Lal Bahadur Shastri National Academy of Administration who have been able to compile the best practices adopted by District Administrations, PSUs and Institutions in the form of a Special issue of COVID-19 Governance of in India, Series-4.

I would urge all of you to go through this compilation carefully and add to the knowledge base for disaster management in the country, and will be useful for both the trainees and the administrators in the field. I would like to congratulate CDM Team for publication at the opportunity time.

(Abhiram G. Sankar)

CONTENTS

The Implementation of Public Policies during COVID-19: An overview of Charkhi Dadri

Rajesh Jogpal, IAS

1.0 Introduction

The year 2020 ushered in a situation that has completely changed and challenged our way of working, the way the administrative decisions have been and will be taken and more importantly, the way the State is going to administer public health and safety. We have been hit by a pandemic that could not be defined by any paradigm. It cannot be denied that the COVID pandemic hit the whole world ruthlessly and it caught everyone unexpectedly. The governments all over the world went into a frenzy to control, eradicate and stop every possible spread and to curtail the expansion of this disease. No one actually has a formula to handle it and every possible technique of it in trial was used to handle it. The first wave that was witnessed by the world by our country also pushed us into a corner where we were forced to think about different solutions to one single problem called COVID-19.

The pandemic did not follow a pattern except that it transmitted within hours. The international boundaries closed in early 2020 and are still being curtailed. We have witnessed two waves so far and no scientific reasoning has been released which gives us a time frame of the existential timeline of COVID 19. So strategies have to be anticipated, articulated and executed on a daily basis and that too without any feedback on the success rate. This point pushed the policy makers into a constant dilemma because for the majority of them, the result of a policy's impact would vary. The Central Government through its different Ministries released comprehensive strategies for both the transitive circles that we faced; 2020 and 2021. Few strategies could be implemented statewide but majority of them required alterations as per the demographic conditions of the District.

Charkhi Dadri is a city and headquarters of Charkhi Dadri district in the state of Haryana, India, about 90 km from Delhi. The town was made by joining the villages of Charkhi and Dadri after urban development. Charkhi Dadri, located in southern Haryana 110 kilometres (68 mi) from the national capital of New Delhi, is on NH 148B between Narnaul to Bathinda and NH 348B between Meerut to Pilani segment passing through the city. As of the 2001 India census, Charkhi Dadri had a population of 44,892. Males constitute 54% of the population and females 46%. Charkhi Dadri has an average literacy rate of 70%, higher than the national average of 59.5%, with male literacy of 76% and female literacy of 62%. 13% of the population is under 6 years of age.

2.0 The challenges posed could majorly be divided into

    a) Availability of Healthcare Facilities

b) Medical and Para Medical Staff restraints
c) Social Distancing and COVID Specific behaviour being followed
d) Comprehensive testing
e) Vaccination drives
f) Restricted availability of Medicine
g) Inter State dependence for resources

3.0 The total number of cases and related figures for the District of Charkhi Dadri is as under

3.1 Total no. of COVID cases in 2020 -   1498

No of beds-388

Oxygen cylinders:-453

Patients in home isolation: 1133

Outbreak of cases was urban centered or Rural area centered: Both

From the month of October, the post COVID analysis was initiated and the District Administration carried out a number of assessment based programs to shortlist the vulnerable groups of population in terms of impact of COVID. This was done to draft the focused policies to help these groups and to draft a rehabilitative program on one hand and to be prepared for any further outbreak of transmutative cycles of the pandemic. The most vulnerable population being that of the children, special emphasis was given on finding the children with low immunity as:

a) The vaccination drive was not covering the children
b) The vulnerable group is voiceless about their health majority of the times
c) The lockdown took away the feasibility of a healthy diet for many families
d) The first wave of COVID highlighted the need to address mental health of children as well
e) There was an immediate need to see what impact was there on the health of the children after the first wave.

3.2 Targeted drive against Malnutrition in Children

Many unique and constructive programs were conducted to eradicate malnutrition among the children of the district. In the drive, over 1000 of underweight children were identified and a targeted mission mode drive was initiated in November 2020 to make the district malnutrition free. Departments like WCD, Health, District Child Protection Unit, District Red Cross etc. were brought together as per the requirements through monthly reviews to discharge their respective duties in convergence. Within this program the real time data sharing mechanism was established. Supplements (Muskmelon Seeds, Hemp Seeds) on the advice of a professional dietician have been provided to at-risk underweight children. Health check-ups of over 300 children were carried out by Mobile Health Teams. 28 children identified with medical complications are being provided the required treatment

under RBSK (Rashtriya Bal Swasthya Karyakram) and through District Red Cross. Initially 35 severely underweight children were identified to be requiring only nutritional intervention. 20 of these children have moved out of the severe underweight category. Capacity building of Supervisors and Rashtriya Bal Swasthya Karyakram doctors in early identification of disability by experts Dr. Chhaya Prasad and Dr. Arun Prasad, MD (Paed) was organized. 700 children were distributed specially prepared protein biscuits to boost immunity and to counter malnutrition.

Sadly, the second wave of this viral infection had been more devastating than the previous one and it has been a challenge for the administrations all over the country to counter it effectively. The District Administration, Charkhi Dadri too undertook significant measures to provide the best possible solutions to its residents in terms of safety, protection, and affordable health care facilities. Along with the decisions of the State Government being fully complied with and implemented in totality, many innovative steps were adopted and incorporated by the District Administration with the zeal to provide a safety bubble to its residents. In line with the protocols, lockdowns were incorporated, micro-containment zones were created, night curfew was implemented and social/religious gatherings were curtailed. But all these steps were implemented with the view point of giving utmost comfort and safety to the people. All the officers were instructed to follow the rule of compassion with everyone during these exceptional times. The administration was dedicated towards maintaining the highest standards of quality for every policy implemented. The positivity rate of the cases being the lowest in the state for the district of Charkhi Dadri speaks for itself about the standards established by the district administration. Maximum number of challans and FIRs were registered for violation of COVID appropriate behaviour and lockdown which outlines the discipline propagated within the District.

3.3 Total number of COVID cases in 2021 - 3567
No of patients in hospitals-701
No of patients in critical care-142
No of children infected-NIL
No of deaths-85
No of deaths out of people under home isolation -07
No of oxygen dependent patients -414
No of PPE kits ordered and used-746
Availability of life saving drugs- date of availability

4.0 Administrative policies
Many steps were taken up as COVID response by the District Administration beyond the call of duty, which were not outlined by any governmental action or protocol. The main motivation behind these actions being the triumph of humanity. Some of the actions taken are as below:-
- The Administration made sure that it is easily accessible at all times for people of the District and for this all arenas were thrown open like social media, Twitter,

WhatsApp, online mechanism etc. and all the complaints were attended to in real time. The stress was upon the fact that the times which were already difficult for everyone should not be made more difficult for them.

- A 24-hour accessible helpline was initiated connecting all the persons with the DC office directly so that no grievance would go unnoticed or unanswered.
- The bed facilities at the Dadri hospital were increased from 100 to 200 and in the hospital of Badhra, the facility was also doubled from 50 to 100 beds.
- A constant supply of oxygen was ensured overnight from Gurugram when the hospitals of Dadri were running out of oxygen support and were only having a few hours of oxygen support left for the patients.
- Along with this, the supply of oxygen flow meters, masks, oximeters and the oxygen cylinder valves was also procured when the region ran out of the stock of the above said with the CSR funds.
- A unique initiative of using the office of DPRO and the cavalcade of 30 vehicles of the District Administration, all the necessary information was issued through public systems of loudspeakers at every point of the District.
- Through an open initiative, all the residents of Dadri were helped for the SOS calls made even if they were residing outside Dadri. The administration readily helped four residents of Dadri staying in other parts of the state to get Remdesivir medicine when it was not available anywhere else.
- The help calls for beds or oxygen support made through Twitter or Facebook were also adhered to and answered immediately by the District Magistrate.
- During the times when oxygen availability became a challenge and a very difficult task, the District Administration initiated the process of providing Pro-active Oxygen delivery for home for chronic patients from May 4 itself, a model which was later adopted by the state government from May 12th.
- To be prepared for the adversities, infrastructure for a 500 bed Hospital was established at the Radha Swami Satsang Bhawan, situated at Loharu Road.
- Empanelled around 200 volunteers with Red Cross Society, who did a magnificent work just like any other state employee to carry out various roles and duties very diligently like - enforcement of COVID appropriate behaviour, medicine kit preparation and distribution among the patients, tele -calling to communicate the result of the RTPCR tests and the follow ups, distribution of masks all over the district, supporting the medical staff during vaccination drives, distribution of sanitizers to the residents, managing crowds to enforce social distancing in the mandi, bus stands, hospitals and banks etc.
- Another step adopted to facilitate the patients is the process of tele-consultation being made available for them for COVID or post COVID consultations in case a specialist consultation is required by them.
- The administration also undertook the 'Post COVID survey for Black fungus' among the recovered patients for early detection of the disease and timely completed it

and more importantly, 2 cases were found and referred to PGI Rohtak'. This step was pursued by the government much later.

- As another exceptional exercise, the administration started special vaccination camps for persons with disability within the conformity of their residences. This exercise has not been initiated anywhere else in the state and was later adopted all over the state.

- Along with the undisputed supply of oxygen to the patients, delivery of cooked food to around 200-250 daily wagers, which could not work by the administration, was ensured solely with CSR.

- Regular visits by the officials including Deputy Commissioner were made to the COVID care facilities and hospitals to interact with the patients and to address the issues faced by them. Deputy Commissioner himself visited COVID positive patients in the rural areas to instil in them the confidence and to boost their morale to fight the disease.

- The administration made sure 100 % delivery of medical kits to COVID positive home isolated patients through Patwari, Gram sachiv in rural areas and through M C in urban areas.

- During the shortage faced by the state for Oximeters and thermal thermometers, which were out of stock, were urgently procured within 2 hours from Delhi so that no one faces any complications because of their unavailability.

- To enhance the health infrastructure and diagnostic facilities of the district, – 3 Mobile X Ray machines and CBC blood testing machines were bought and made available.

- Along with this, the prices of all the necessary tests were regulated and the extra amount charged by the labs was refunded to the patients within 24 hours.

- All the travellers coming to Dadri were tested for COVID symptoms and also regular tests of all the employees who travel to other districts for their employment and jobs were done.

- Isolation centres were created to facilitate travelers and those patients who could not follow home isolation. These facilities are fully equipped with the necessary infrastructure for the comfort of the patients.

- Mass sanitation drive was initiated for the whole district and every nook and corner of the District was thoroughly sanitized.

- Establishment of Oxygen Plant set up at the Civil Hospital, Dadri was done. The plant is able to produce 500 litres of Oxygen every minute.

- Provisions for regular and uninterrupted Power supply for all the PHC's and CHC's is underway.

- To assist the medical and the administrative staff in reaching out to every household within the villages, the ASHA workers and the Anganwadi workers would be given basic medical treatment education from the experts. This initiative

is again going to be unique to the state where the District Administration is preparing itself to counter the third wave of the coronavirus.

- To assist the children with better care, an order for procuring Nebulizers and Ventilators has already been made.

5.0 Vaccination Drive

Fully dedicated thrust was given to the vaccination programme and around 1200 camps were organized for the public of the district to be catered. A special provision for pick up and drop facility was extended to the Senior Citizens and the Specially Abled people who were dependent on secondary support to come to the camps. Official staff vehicles were converted into ambulances for when the need arose but the vaccination was undertaken as a priority.

Vaccination Report	
No of vaccination camps organized	1200
Total number of patients vaccinated	154365
Total number of camps organised for specially abled	70
Total number of senior citizens vaccinated	65973
Number of patients vaccinated with first dose	131120
Number of patients vaccinated with both doses	23245

Project MILI JULI

A Community Management Model of COVID-19 in Bongaigaon District, Assam

Dr. M.S. Lakshmi Priya, IAS

1.0 Introduction

The COVID-19 pandemic led to the large-scale return of migrants from various cities to their respective home states. Assam was no exception, but the scale of return migration there was not as unprecedented as that in other states. Nonetheless, it required good planning on part of the state and district administration to ensure that the basic services are being provided to the return migrants and their families and the COVID-19-related prevention measures are in place so that the spread of the pandemic can be contained to the extent possible. Various implementation strategies were devised at the district level. For instance, during the initial phase of the pandemic, when very little was known about COVID-19, the district administration of Bongaigaon implemented Project Mili Juli as an initiative that focusses on generating community awareness and delivering benefits to families of return migrant labourers. In addition, the administration also implemented the different schemes that the central and the state governments announced as a part of COVID-19 response.

The district administration in collaboration with UNICEF Assam and Tezpur University undertook a qualitative documentation of case studies of pregnant women and lactating mothers of migrant labourer families that have returned home with respect to emergency response and access to benefits of different schemes and services.

2.0 Objectives

- To understand access to services and schemes related to health, nutrition, cash transfer benefits, etc. by pregnant women, lactating mothers, and children of migrant labourer who have returned during the COVID-19 pandemic
- To document good practices of community participatory models, Project Mili Juli, in the delivery of benefits during times of crises

3.0 Participatory Model of Project Mili Juli

In these times of pandemic, when the governments and health systems across the world are facing unprecedented challenges, it is the need of the hour to take innovative approaches to tackle the situation. One such holistic initiative is Project Mili Juli, launched by the District Administration of Bongaigaon. The district has devised a decentralized model of COVID-19 management with community participation at grassroots level and created a four-tier structure of Corona Pratirodhi Dals (CPD) in every village, gaon

panchayat, block, and district for implementation of COVID-19 related guidelines. Further, 700 decentralized quarantine centres were setup in local schools across the district. Around 643 twin leach pit toilets were constructed under the leadership of village Level Corona Pratirodhi Dal (CPD) using GP funds by PHE Department in these schools to reduce risk of cross-infection. The program also focuses on providing social protection schemes and other support services. Behavioural change communication (BCC) is a key aspect of the program that ensures using innovative ways to raise awareness on COVID-19 prevention.

Comprehensive COVID-19 Community Management along with Social Protection Services
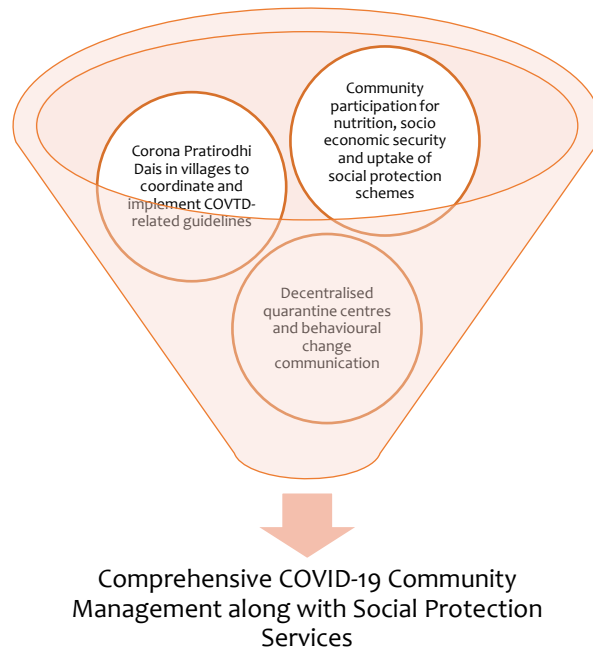
4.0 Approach of Project MILI JULI
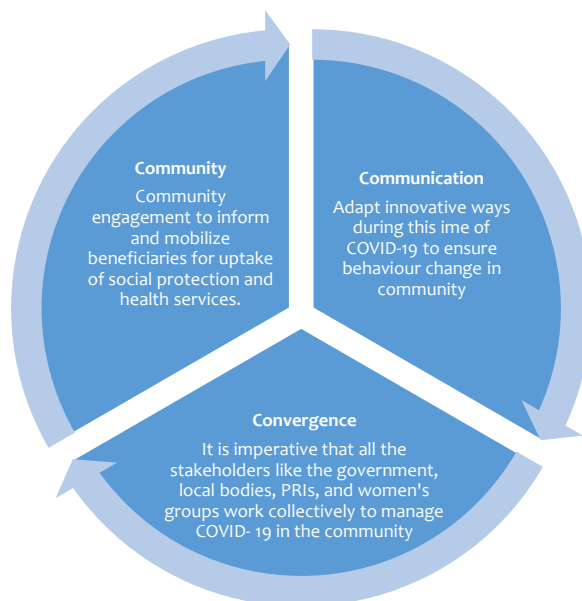
Project Mili Juli, launched by District Administration of Bongaigaon, took a decentralized, comprehensive community mobilization approach to community management of COVID-19 in the district. They adopted the idea of community, communication, and convergence at a field level so that COVID-19 community management is a collective responsibility of the society as a whole rather than a government top-down approach. It is designed for inclusivity of stakeholders like district and block administration, PRI, front line workers, schools and communities, which effectively helped in targeted service delivery to the people returning from other states.

5.0 Methodology

The documentation of case studies aimed at collecting qualitative data from two focus groups (i) returned migrant families, and (ii) stakeholders of project Mili Juli and PRIs. Fourteen returned migrant households could be reached for interviews, with a focus on women and children who had returned to Bongaigaon district from various regions of India. Twenty key stakeholders; 10 representatives of Mili Juli, and 10 PRI members were interviewed.

Due to the ongoing public health crisis, the telephonic method of data collection was determined to be most appropriate in accordance with the preventive measures of COVID-19. The method was used after adequate training of field enumerators in standard protocols and guidelines. A semi- structured tool was used for household-level interviews and key informant interviews of members of Project Mili Juli and PRIs. Due ethical consideration was given during data collection to ensure confidentiality of data and transparency of the interview process.

5.1 Area of study: The area of study was determined based on the data shared by the district administration of Bongaigaon. Five ICDS project blocks, namely Boitamari, Dangtol, Manikpur, Srijangram, and Tapattary were covered.

5.2 Data collection: The entire exercise of collecting data took two weeks. The first phase included creating a list with contact details of the target respondents. The respondents were contacted to verify the list. A subsequent list was created with the help of the district administration, comprising of those respondents who could not be reached after three attempts. Based on this list, another round of calls was attempted. The data collected was recorded and transcribed. The transcribed data was compiled for further analysis and report writing.

5.3 Further scope of the study: The study was done on request of District Administration in view of possible course correction that would be needed for the innovative approach with no past precedence. Therefore the study had been done in a limited time frame and amidst targeted population only. Therefore there is a scope to take up a larger study as well which will invariably add more information.

6.0 Findings from Returned Migrant Workers with Focus on Access to Social Protection Schemes and Services

Key Findings from Interviews of Return Migrants

6.1 Awareness on COVID-19, its symptoms and preventive measures: All the fourteen respondents in the survey reported being aware of the ongoing pandemic crisis. Three of families reported being aware of key symptoms of COVID-19 such as dry cough and fever; eight of them reported that they are aware of wearing masks as a preventive measure; four reported that they are aware of the need of social distancing; and eight reported that they are aware of washing and sanitizing hands.

6.2 Access to benefits of social protection schemes and other government services: Fourteen households provided information on the schemes that they have been able to avail under different government schemes aimed at managing the adverse socio-economic effects of the COVID-19 pandemic, primarily PDS, THR, Jan Dhan Yojana, Ujjwala, PMMVY and MGNREGA.

   a) **Assistance in returning to home state:** All of the respondents received coordination support and information from the administration. Five of the fourteen respondents reported having received assistance in the form of travel fare and food rations from the government in returning to their homes.

b) **Take Home Ration:** All the four respondents with children in the age group of six months to three years and all the five respondents with children in the age group of three to six years reported having received food rations under the THR scheme.

c) **Public Distribution System:** Nine of the fourteen respondents reported possessing a ration card, with all of them reporting that they have received food rations during the lockdown. Three of these nine respondents reported that the ration was not adequate for their household. Out of the five respondents without a ration card, four reported that they have not received Rs. 1000 in lieu of food rations.

d) **Jan Dhan Yojana:** All the respondents reported owning a JDY account, and all of them received Rs. 500 per month for a period of three months during the lockdown period.

e) **Pradhan Mantri Matru Vandana Yojana:** Given that the respondents were migrant labourer families, they were new to the location and therefore the possibility of having been enrolled in the PMMVY Scheme was remote. The respondents were seeking help from Mili Juli volunteers and community support system with regard to lack of necessary documents and a bank account. As only one of the respondents was pregnant this needs further research, but there remains scope for raising awareness and creating support for the uptake of PMMVY.

f) **MGNREGA:** Five respondents reported that they possess a job card, and one of them reported having worked in an MGNREGA project. Two respondents expressed their concerns with the wage rate, but that may need further understanding as their responses were inconclusive.

g) **Increased household responsibilities:** Four of the fourteen respondents reported that their domestic responsibilities have increased during the lockdown, and ten of them reported having received help with domestic chores from their husbands and mothers-in-law. Given that there may be an increased risk of domestic violence, the information on women and child protection helpline seemed inadequate among respondents. The community representatives may educate women in this regard.

> *Anganwadi Centre Services: "The delivery of THR has been ensured during the pandemic situation. I have given adequate amount of ration for the children in the age group of 0- 6 months. As far as service delivery is concerned, I have even delivered ration in makeshift boats wherever necessary. Respondent Anganwadi Worker"*
>
> **"All interviewed returned migrant families in Bongaigaon reported that they had been able to access the schemes aimed at managing the adverse socio-economic effects of the COVID-19"**
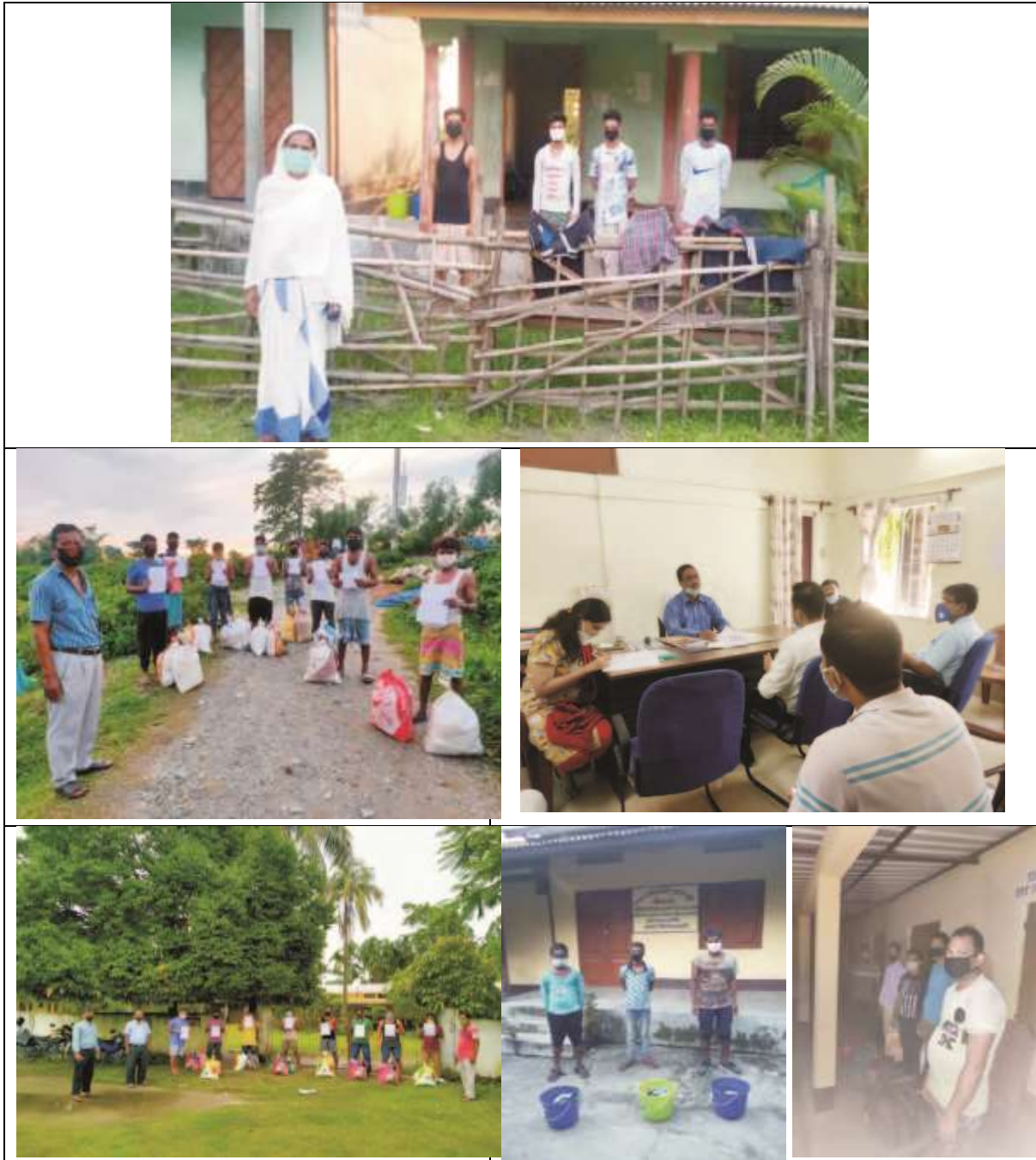
Figure 1: Glimpses of Project Mili Juli

7.0 Good Practices of Project MILI JULI

This part aims to document the good practices and discusses the role of community participatory models like project Mili Juli in response to the COVID-19 pandemic. Project Mili Juli is a decentralized community participatory model at the grassroots level to effectively manage the influx of returned migrants in the district. Under the project, groups led by the head teacher of the nodal school and comprising of other members including Pratirodhi Bandhu, ASHA, Gram Sevak, and VDP were formed in each village to locally contain the transmission of COVID-19 through means such as managing local quarantine centres and provide support in terms of 'physical, nutritional, mental, social,

and economic security' to families of returned migrants and suitable employment opportunities to the returned workers.

Figure 2: Glimpses of Project Mili Juli

Besides the members of Project Mili Juli, members of PRIs have also played a very crucial role in the government's response against the COVID-19 pandemic. The findings are based on a limited sample of twenty key informant interviews; 10 members each of Project Mili Juli and PRIs.

a) **Community Ownership-Perception of Mili Juli Members:** All the members who were interviewed responded positively when inquired about their experience as member of Project Mili Juli. They expressed their pride and happiness in having been able to play a role in curbing the pandemic and helping members of their

community. The members shared that the initiative helped in controlling the spread of disease during the lockdown, spreading awareness, and increased participation of communities. According to the members, Project Mili Juli has been helping returned migrants in resettling with social security by providing them with necessary support in the form of welfare benefits.

b) **Finding out about Project Mili Juli:** All the ten respondents reported that they found out about Mili Juli initiative through the district administration, local school authority, or social media. It was reported that the Department of Education, which, according to one member, held a meeting to inform about Project Mili Juli and its objectives.

c) **Defined Roles and Responsibilities:** All the members of Project Mili Juli who were interviewed stated some clear-cut roles and responsibilities. Five of the respondents identified 'creating awareness' as their role. While three respondents identified 'management of quarantine centres' as their role, two others identified 'helping returned migrants and their families' as theirs. The role and responsibility distribution ensured that there was less confusion and greater coordination between the volunteers for better functioning of the Mili Juli groups.

d) **Awareness Generation by Project Mili Juli in Convergence with PRIs:** The members of project Mili Juli reported the use of various methods for providing information and education to people such as announcements, awareness camps and home visits to check on the families of returned migrants and spread awareness on COVID-19 in their respective communities. The awareness generation activity also brought out that there was good convergence between PRIs and Mili Juli volunteers and they worked in tandem to attain a common goal of curbing the pandemic and raising the knowledge and uptake of healthy practices among people. Pratirodhi Dal, which includes PRI members, played an important role in organizing the awareness generation camps. The key message delivered was on preventive measures such as social distancing and wearing of masks. Other messages include strong advice for children below 10 years and seniors above 60 years to stay at home. Project Mili Juli as reported by six PRI members, has played an important role with regard to awareness generation on COVID-19. This finding is corroborated by the household-level data above which shows a high level of awareness among the returned migrant households with all 14 respondents being aware of the ongoing COVID-19 pandemic, its symptoms and preventive measures.

> *"Mic announcements acted as one of the most significant ways of spreading information regarding coronavirus in general. This helped in providing information at the village level and it was time efficient."*

> *"While creating awareness we maintained physical distance and wore masks for our safety. Only when we set examples ourselves can we request others to follow these protocols."~ PRI member*
>
> ***Mili Juli Members Raised Awareness Through:***
> - *Microphone announcements around the village communities, ensuring outreach and information*
> - *Door-to-door visits, with proper social distancing measures to clarify if there are any issues with the implementation of COVID-19 guidelines*
> - *Organizing awareness camps for returned migrant workers and other people, on requirement basis*
>
> ***Case Study: PRI member, Malegarh Gaon Panchayat***
>
> *The ward member reported organising door-to-door visits to spread awareness on COVID-19. The local Mili Juli group worked proactively in his ward. He shared about maintaining constant coordination with ASHA and AWW in reaching out to returned migrant labourers and their families. Most notably, the ward member emphasised the importance of following protocols themselves before spreading awareness in the community. He shared that the entire team of Mili Juli, including the teachers, followed all preventive measures from wearing mask to physical distancing. The ward member mentioned using the Assam Care database and conducting assessments to arrive at the number of the returned migrants.*
>
> *The key messages spread include using of sanitizer and advice to elderly people and children below ten years to stay at home. Provisioning of food at quarantine centres was monitored along with Pratirodhi Dal. The ASHA and Anganwadi workers shared daily update with them and maintained a diary for updating information. They followed the migrant workers very closely, specifically for distribution of ration as well.*

e) **Support in Management of Quarantine Centres by Mili Juli members:** All the ten respondents shared that educating communities on Mili Juli was crucial, specifically on protocols to be followed in the quarantine centre. Six of the respondents also shared maintaining quarantine centre as one of the main tasks. The respondents also reported that they assisted in coordination of migrant labourers who returned to their villages with administration and policy authorization. One of the volunteers shared, *"We have dedicated 8 hours a day to maintain safety and security at the quarantine centres, specifically when it came to ensuring that no one leaves the centres."* The school head teachers were also required to manage quarantine centres at the nodal school in the village and ensure that every returned migrant undergo mandatory quarantine upon arrival to check the transmission of COVID-19.

Two of the members of Project Mili Juli emphasised that since the quarantine centres were located in their own schools, they felt it was their duty to maintain safety and security at the school.

f) **Training of Project Mili Juli Members:** The members of the project Mili Juli reported that they had received orientation on their roles and responsibilities and being part of meetings to discuss on COVID-19, where a basic understanding on the disease was provided. The members agreed that there was scope for more formal trainings, but as in the current situation of the pandemic emergency, community engaged themselves immediately to support their village and administration. One of them also informed that having worked in the social sector the respondent was aware of the kind of work that may need to be done. He took the responsibility of gathering necessary information to perform my duties, which included managing the returned migrants and ensuring they take the COVID-19 test, discussing the need for home or institutional quarantine, and managing a quarantine centre.

> *"We organised awareness activities through which information on prevention was provided. All the villages under the gaon panchayat were covered. In this the ASHA, Anganwadi workers, and the teachers in the village stood together with us. A ward-level committee was created in every ward. The committees were headed by the head teachers of schools. Women and children were specially reached out to through this ward by the ASHA workers."*
> *~PRI member, Atugaon Gaon Panchayat*

g) **Community Services and Management Related to COVID-19 by PRI Representatives and Mili Juli members:** The PRI members assessed the number of migrants returning to their respective gaon panchayats. All ten PRI members interviewed shared that they used Assam care database to assess the number of migrants returning to the district. The PRI members reported that along with the Pratirodhi Dal they also played an important role in managing quarantine centres, monitoring arrangement of food, and sanitization of facilities. Notably, the PRI members worked very closely with front line health workers through Project Mili Juli. They shared that there has been constant coordination between ASHA, Anganwadi workers, and community resource persons. These groups played a major role in the distribution of masks. Weekly meetings were held to create awareness. Award-level committee for generating awareness, which include ASHA and Supervisors, was also developed. The PRI members reported that they held meetings with various stakeholders including ASHA, Anganwadi workers, supervisors, and doctors. They reported working with Pratirodhi Dal, primarily focusing on the migrant labourers, and with ASHA and Anganwadi workers for taking daily updates. The actions undertaken at the ground level was based on the data in Assam care data base on labourers. A daily report was prepared on the updates of COVID-19 and shared. Although all the PRI members reported reaching

out to migrant workers, one of them pointed out certain areas for improvement with respect to coordination. Notably, two of the PRI members who were interviewed reported that although Mili Juli groups were formed, they could be trained for better functionality.

> *"Project Mili Juli, as a community participatory model, has helped a lot because it is difficult for the district administration to conduct such large- scale operations. The onus also lies on the people to cater to their own safety and the community. The members of Project Mili Juli mobilized their own resources, along with the district administration to arrange for accommodation and food for the returned migrants. Thus, under Project Mili Juli, the community has taken the responsibility of ensuring smooth functioning."*
> **~Mili Juli member**
>
> *"I have mobilized my own resources for the construction of bath rooms at the local quarantine centre out of my own pocket."*
> **~Mili Juli member**
>
> *"I have helped pregnant women in accessing healthcare at the hospital."*
> **~Mili Juli member**
>
> *"We have been instructed to follow up with each and every household identified as having people with the risk of COVID-19 or with COVID-19. Initially, protocols of home quarantine were followed. At that time, we monitored and spread information in the community to support ASHA and AWW to maintain physical distance and not visit those households. Later, we also monitored provisioning of quarantine centres. Instructions from district authorities related to COVID 19 as well reached us from time to time.*
> **~PRI member, Poprgaon Gaon Panchayat**

8.0 Few Mili Juli Member Case Studies

a) **Case Study I: Mili Juli Member:** I found out about Project Mili Juli from advertisements by the district administration and received further information from the block office. I believe that as an educated youth, I should do something good for society during a crisis. A lot of people who are under quarantine, even educated ones, do not understand the protocols of quarantining. The role of Project Mili Juli members' is to make them understand the protocols and alleviate their family members' fears about quarantining. I did not receive any formal training, but as an individual who is involved in social work, I received the necessary information from various sources. As a member of Project Mili Juli, I have assisted in managing returned migrants by ensuring that they undergo COVID-19 testing,

institutional and home quarantine. I have also assisted in managing the quarantine centre. My experience as a member of Project Mili Juli has been very good. I am happy that I could help the public. Project Mili Juli has been effective in addressing the influx of returned migrants at the local level. Further, as the district administration is not always available to provide immediate support to returned migrants, the members of Project Mili Juli mobilized local resources, including money, ration, mosquito nets, and beds, for providing various services, such as quarantine facility, for these people upon their arrival.

b) **Case Study II: Mili Juli Member:** Initially, I was unaware of the Project Mili Juli, eventually I was informed by gaon panchayat members that such a group would be formed at the local quarantine centre and I would be a part of it along with the other teachers. I was oriented towards the role and responsibility as a member, but have not received any formal training related to my role as a member. I assisted in managing the local quarantine centre and looking after the needs of those who were quarantined. I mobilized resources for the construction of toilets. I also have the collective responsibility of arranging for meals of quarantined people.

c) **Case Study III: Mili Juli Member:** I learnt about such an initiative on social media. After the closure of schools and colleges, I received information about the return of migrants. My school was converted into a quarantine centre and I was tasked to manage it by order of the Department. It was mandatory for head teachers to be a part of this programme. My role included attending to the needs of returned migrants such as making provisions for food, water, and electricity. I have also spent some money out of my own pocket to meet the necessary expenses. This has been a once-in-a-lifetime experience for me. I believe that we were successful in our endeavour as the returned migrants expressed their satisfaction and gratitude.

9.0 Conclusion

Community participation is the key to public health and is central to defeating this pandemic. Project Mili Juli project fosters community involvement that plays a key role in planning local- level actions in collaboration with local bodies to identify vulnerable households, provide support to the vulnerable individuals in quarantine, develop better communication strategies, and help in contact tracing.

> *It is not a long time back in March, 2020 when lockdown was announced and the district administration was facing the prospect of return of thousands of people back to district. We had the task of not only making their return as comfortable and smooth as possible, but also to manage their institutional quarantine. The challenge was enhanced by the sudden nature with which the pandemic struck and limited resources with district administration, in terms of both, infrastructure and human resource. During such times, we decided to take a decentralized participatory community approach to COVID*

management and Project Mili Juli was initiated. The vision was to create a 4 tiered institutional structure at village, Gram Panchayat, Block and District Level involving all the key stakeholders with well-defined roles for COVID Management. It was decided to turn local schools in villages into institutional quarantine centres to be managed by Village Level Corona Pratirodhi Dals. 700 IQ centres were setup across district with 643 new twin pit toilets constructed by the PHE. This would reduce the risk of cross infection which is there in mass quarantine centres and also give the sense of physical and emotional security of being quarantined near homes. This was a game changer, as it reduced the Ro when we started getting positive cases from IQ centres. In the month of June among the 4747 inter-state returnees, 82 positives were identified and isolated without cross-infecting others in IQ centres. Starting from July, when more cases started coming within district then from inter-state passengers, our test positivity rates remained below 5%. The table below summarizes the test positivity rate for all RAT conducted till November with test positivity rates in Bongaigaon district at almost half that of state. This was achieved with extensive contact tracing, activating Corona Pratirodhi Dals to identify any high risk contacts, testing and quarantine.

Rapid Antigen Tests				
State/District	Total Test	Antigen positive	Antigen negative	Positivity rate
Assam	32,40,194	1,43,418	30,96,776	4.43%
Bongaigaon	1,14,355	2584	1,11,771	2.25%

The institutional setup created during Project Mili Juli was utilized further for service delivery to the returnees. Under Mission Morom, Special packages called "Morom Kits" were distributed to pregnant women, lactating mothers and children for their special nutritional needs. Thus, Project Mili Juli has highlighted how bringing community to forefront can have cascading benefits in both administration and public service delivery. Our efforts could not have obtained the desired outcomes without active support and involvement of the community and thus I would like to express my heartfelt gratitude to the people of Bongaigaon district for their unwavering support at all stages.

Dr. M.S. Lakshmi Priya, IAS, Deputy Commissioner, Bongaigaon, Assam

- The interviews and feedback from the return migrant workers suggest that the district administration and Project Mili Juli provided considerable support to access social protection services specifically towards COVID response.
- Renewed focus could be placed to raise awareness through IEC among women and children with regard to access to women centric social schemes and safety helpline.
- The Mili Juli model can be adapted and replicated for enhanced community participation to increase the coverage of central, state, and district specific

schemes with focus on specific issues related to children and women particularly community participation in planning process of GPs that has already started in districts in the state.

- As has been employed in Project Mili Juli, district administration may employ similar simple yet effective monitoring mechanism at district level in case of other schemes, particularly related to children and women and facilitate their maximum effect.
- Youth volunteers may be trained to support the district administration for a specified period of time in community-level engagement. They may be given a certificate of appreciation for their work, which possibly will add value to their career.

COVID 19 Governance in Bengaluru

Bengaluru Smart City Limited* and Bruhat Bengaluru Mahanagara Palike (BBMP)

Abstract

The COVID pandemic has exposed several fault lines of urbanism. This paper is a narrative of the remarkable continuities between the past legacies of governance of formal settlements, pandemic response and emerging ideas of alternate urbanisms and ability to address issues of inequity, exclusion and vulnerability. The pandemic and the resultant situation exposed the use of the current policies, programming linked to formal settlements, their imagination and outlines the urgent need to escape the trap of bracketing of formal settlements. In the presence of effective state response, formal settlements authored their own script of coping with the challenges thrown by the pandemic; their presence, participation and centrality in scripting future policies is a much-needed transformation of the narrative.

1.0 Introduction

1.1 About COVID-19: COVID-19 has affected almost the entire world, more than 40 million people diagnosed with the virus as of mid-October 2020. India reported about 7.4 million cases in the same period. As in other countries, the Government of India has been at the forefront of the COVID-19 response to minimize loss of lives and counter the adverse economic impact.

Challenges in India, especially in its cities, were somewhat greater than many other countries due to a large population, high population density, healthcare capacity-related constraints and higher vulnerability of a section of the population to the economic shock.

1.2 COVID-19 War Room at Bengaluru: COVID-19 has pushed the entire globe into a state of emergency including Bengaluru with a population of over 20.1 million people in urban area and 12.6 million people in the rural area. To mitigate the uncertainty and to effectively manage the spread of the disease.

BBMP with support from Bengaluru Smart City Limited (BSCL) has undertaken an innovative initiative by setting up a COVID-19 War Room. The War Room began with the objective to develop a clear plan and process to chalk out containment plans and implementation strategies to avoid community transmission and to make daily contingency plan to compensate and augment facilities. Bengaluru city has adopted 'The Leaving No Case Untraced Approach' for COVID-19 Crisis Management. The Fig.1 shows the BBMP War Room Process Cycle. The process cycle has 6 major steps. They are:

i. Planning and Coordination
ii. Analysing Situations
iii. Visualizing Scenarios
iv. Developing Strategies
v. Making Decisions
vi. Implementing on Field
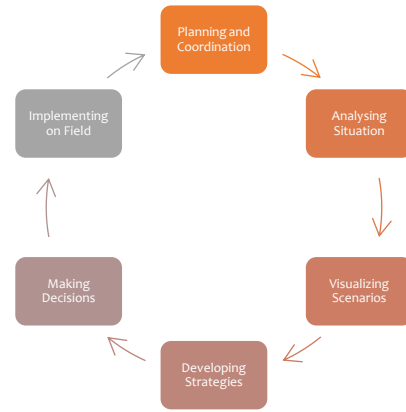
Fig.1 the BBMP War Room Process Cycle

In line with the Strategy and Approach identified, the Decision Support System structure was evolved.

The Fig. 2 shows the team of Decision Support System and the major outcomes

1.3 Technological Solutions Used in Response to COVID-19: Bengaluru Smart city and BBMP assembled a task force to introduce/implement technological interventions with support from diverse industry organizations and technology partners, by leveraging several

technology solutions, mobile applications, effective operational practices and Standard Operating Procedures to manage the on-ground situation effectively.

Bengaluru Smart City has developed an innovative application called INDEX Application, which directly consumes information on COVID-19 Positive Cases from the ICMR portal on a real time through system integration. The application provides an interface to the Zonal Command Centers and all field level teams for action and implementation of tasks. The application has significantly reduced the time taken from 24 hours to near real-time for monitoring at the City COVID-19 management.

ICMR portal provides COVID-19 positive testing results. This information of the positive patient records is the source information and is consumed as line list at the district and state levels to take up necessary actions concerning the identification of the COVID-19 Positive Persons and monitoring of the cases till conclusion including the first activity of triaging and shifting of the COVID-19 Positive persons to DCC / DCHC / CCC, tracing the contacts, sealing of the location by creating a containment zone, ensuring adherence of the home quarantine, etc. The Fig.3 shows the brief roadmap of Bengaluru's Technological Preparedness and response to COVID – 19.
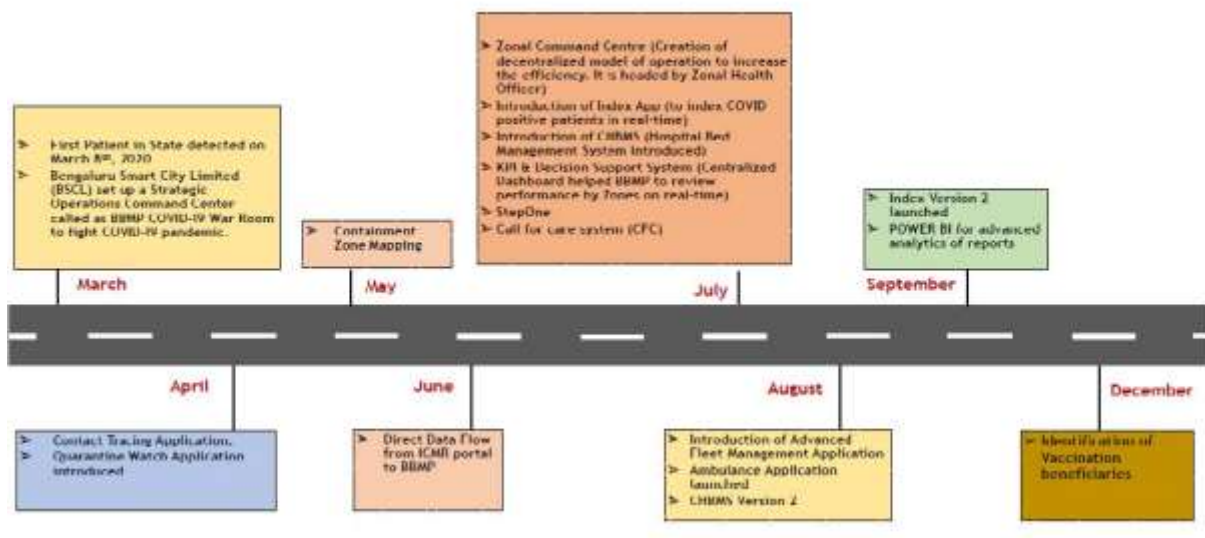
Fig.3: Brief roadmap of Bengaluru's Technological Preparedness and response to COVID

1.3.1 About INDEX Application

- This application is a local solution conceptualized, custom-made, developed, and implemented at Bengaluru since July 1st, 2020.
- A platform for processing of COVID Positive Patient Data records from the ICMR portal.
- Make them compatible for use by BBMP Zonal teams for conducting subsequent workflows seamlessly.

- The BBMP COVID-19 War Room has, therefore, reduced the time taken from 24 hours to near real-time for accessing the information on COVID-19 Positive Cases for action by the zones, including shifting of the patient to either hospital or CCC based on symptoms, arranging ambulances, tracking patient lifecycle, etc.

a. **Urgency!**

Establishment of Zonal Command Centers and Implementation of Index App

In connection with the spike in cases in June 2020, BBMP has come up with decentralized zonal-level monitoring as a strategy to tackle the spike and attend to the cases in a quick time. BBMP COVID-19 War Room has identified the need to establish the Zonal Command Centers to ensure a seamless flow of information and immediately by the Order of Commissioner, BBMP ZCCs were established at the Zonal Offices of BBMP and made fully functional on war-footing basis.

The INDEX Application has allowed a smooth transition of information to the zones for action. Zonal Command Centers also had a dashboard with localized information on the respective zones. With plans to expand field operations in light of the spike in the number of Positive Cases, Assembly Constituency level monitoring is being worked out (28 field units are being created) by the development team at the BBMP War Room.

The main objectives and outcomes of the Index application are:
- To improve efficiency in terms of cutting time delays and processes to cut down the number of case fatalities in the city of Bengaluru. The immediate target was to reduce the time in the stage after upload of Positive Cases on ICMR portal from the average existing 24 hours period to less than 1 hour or near real-time for downloading and automatically affecting 3 major activities:
    a. De-duplication of the Cases;
    b. Assign the Unique Code or BU (Bengaluru Urban) number as popularly known;
    c. Identify the Wards and Zones and real-time updation on the Zonal Interface for immediate action or next processes.
- Integration with all other Applications used in COVID - 19 monitoring.
- Provides Dashboard to view the Analysis / insights on a real-time basis.
- Preparation of Contingency Plans – Actionable and Comprehensive Strategies.
- Generate reports daily / in real-time for monitoring of situation and management.

b. Development:

- The INDEX tool was designed on the directions and guidelines issued by Commissioner, BBMP, and conceptualized by the Special Officer, BBMP COVID-19 War Room in the third week of June. The app is custom-made for BBMP with inputs from the Actual Users monitoring various tasks related to the COVID-19 crisis management.

- The implementation and roll out happened in real-time immediately and the application were developed in-house by the PwC India team who collaborated at the BBMP War Room since the initial days. The dashboard is developed by the Quantela team and the app is built on Microsoft Power Apps by PwC India.

- The web-based solution can be accessed through https://powerapps.microsoft.com/en-us/. The App is downloadable in IoS and Android as "Power Apps". The overall effectiveness of the application has increased manifold with the integration of INDEX Application with Google API. This was helped in identifying zones and wards as per the ICMR address on a real-time basis, thereby saving time, reducing manual intervention and process in a big way.

- The INDEX Application draws references from the SOPs outlined by the State Government of Karnataka to handle patients based on different symptoms and age criteria.

c. Application Flow:

- The process has 4 major tasks in the flow, as shown below.
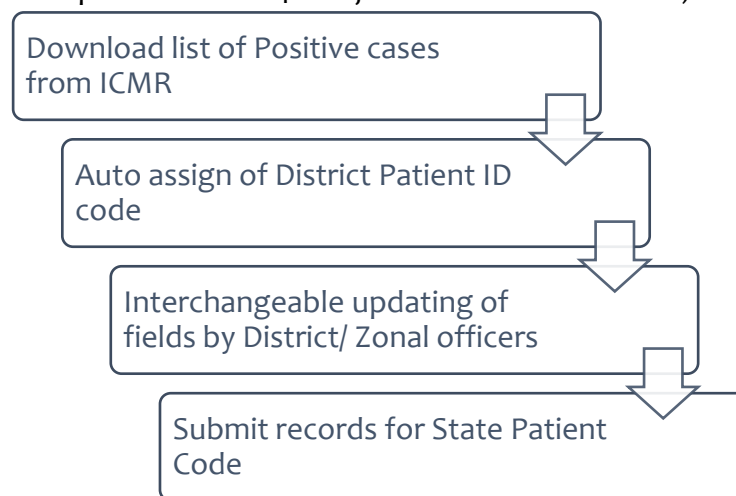
Fig.4: Major tasks in the application flow

- The important steps involved in the flow are as follows.

```
┌─────────────────────┐   ┌─────────────────────┐   ┌─────────────────────┐
│  User Login (by Zone/│   │ Patient status      │   │ Daily status summary│
│  Division-simultanious│──│ updated (Workflow   │───│ (by Zone, gender,   │
│  login by 50 users)  │   │ automation)         │   │ status)             │
└──────────┬──────────┘   └──────────┬──────────┘   └──────────┬──────────┘
           │                         │                         │
┌──────────┴──────────┐   ┌──────────┴──────────┐   ┌──────────┴──────────┐
│                     │   │                     │   │ Integration with all│
│  Upload ICMR Data   │   │  Patient details    │   │ applications (Hospital│
│  Dump (De-duplication)│ │  updated (Geo-tagging│  │ bed management/     │
│                     │   │  enebled)           │   │ contact tracing/    │
│                     │   │                     │   │ ambulance/ Cantainment│
│                     │   │                     │   │ zone/ ICMS)         │
└──────────┬──────────┘   └──────────┬──────────┘   └──────────┬──────────┘
           │                         │                         │
┌──────────┴──────────┐   ┌──────────┴──────────┐   ┌──────────┴──────────┐
│  Auto assign BU Code,│  │ Patient records auto │  │                     │
│  Zone/ Ward (API    │───│ assigned to Zone    │  │  Information         │
│  Integration)       │   │ (Patient lifecycle  │  │  Dashboards          │
│                     │   │ starts)             │  │                     │
└─────────────────────┘   └─────────────────────┘   └─────────────────────┘
```

Fig.5: Key steps involved in the application flow

d. INDEX App Detailed Workflow:

1) **Source Data and Landing page**

There are two reports generated by ICMR on daily basis:

- All district cases report (this report has 59 fields with both Positive and Negative test details)
- All positive cases report (this report has 13 fields)

2) **ICMR Positive Cases report pulled into the Application**

Checks in place for de-duplication:

- Records with the same ICMR ID will not be considered by the Application – message pops up in case of duplicate entry!
- Only after Validation by the Admin, the process flows to the next step in this case.
- Every Record will be checked for any previous record with 2 fields identified as filters: Same "Gender" and "Contact number" to identify the duplicate entry with different ICMR ID. Also, a message pops up for duplicate entry. Only after Validation by the Admin, the process flows to the next step in this case.

3) District submits the records in INDEX App to the State
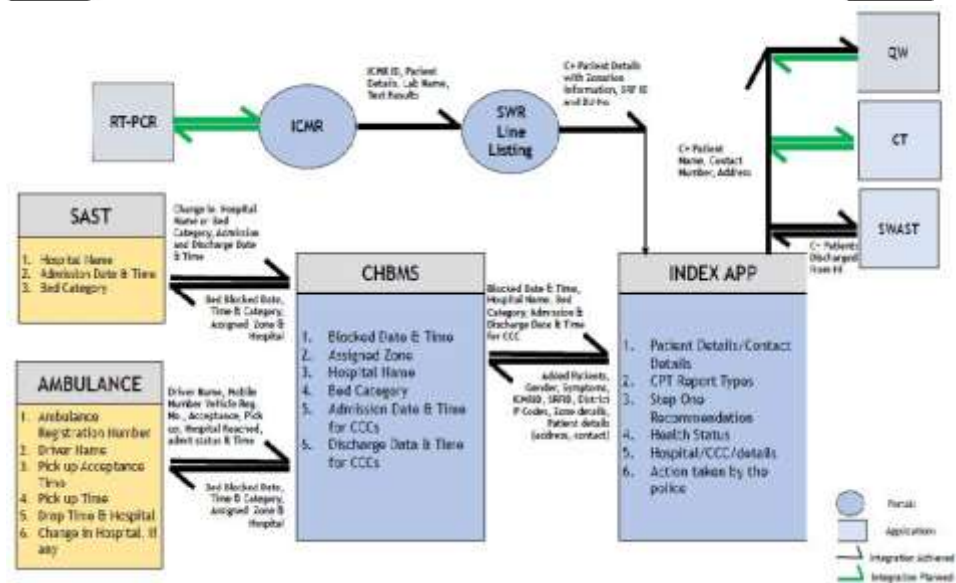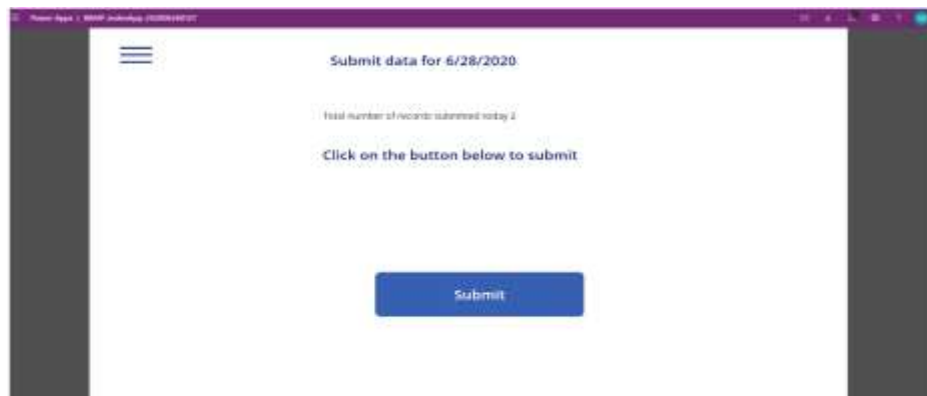
Fig.6: Integration of other applications with the INDEX App

Table 1. The key Technological challenges and Bengaluru's Resolution

Sl No.	Key Challenge	Resolution
1	Keeping track of home quarantine travellers	Quarantine Watch App was introduced. All travellers- primary and secondary contacts were tracked using GPS based application.
2	Contact Tracing & Testing of contacts	Centralized application to track the contacts and trace the tested one's
3	Multiple applications and data discrepancy	Integrated reporting platform, automated with real time data
4	Communication to address the information Asymmetry	24x7 COVID Care Helpline launched

5) Impact of this Technological Response
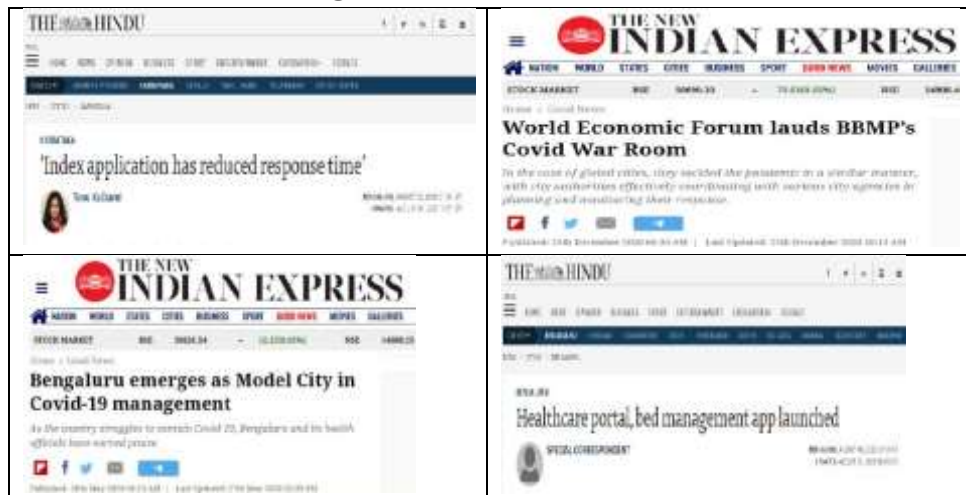
e. User Interface and Dashboards:

The entire goal of the INDEX Application was the quick and effective response mechanism in connection with the identification and shifting of the COVID-19 patients in the jurisdiction of BBMP. It has been facilitated by providing a user interface that is easy, efficient, and user-friendly to operate the workflow in the way which produces the desired result (i.e. maximum usability).

It was spelled at the outset during conceptualization that filed level teams, the operators at the Zonal Command Centers and the Officers / Zonal Heads shall provide only minimal input to achieve the desired output, and also that the application minimizes undesired outputs to the user. De-duplication and no manual data entry of this data have been one of the desired outputs achieved in real-time concerning data management which directly affected the effectiveness of the implementation of tasks on the field.

Fig. 7: The view of the Landing Page

Dashboards:

ABSTRACT OF COVID-19 CASES IN BENGALURU URBAN

	Male		Female		Transgender		Total	
	Last 24 Hours	Cumulative	Last 24 Hours	Cumulative	Last 24 Hours	Cumulative	Last 24 Hours	Cumulative
Positive Cases	132	2,49,567	99	1,49,885	0	65	231	3,99,517
Active Cases	132	2,314	99	1,541	0	1	231	3,856
Recovered Cases	110	2,44,264	49	1,46,938	0	61	159	3,91,263
Death Cases	1	2,989	0	1,406	0	3	1	4,398
Contact Traced	Primary Contacts - 12,69,938				Secondary Contacts – 14,77,687			
Total Tests Done	In Last 24 Hrs : 32,937				Cumulative : 69,72,524			

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SNAPSHOT OF BENGALURU URBAN COVID-19 CASES

	Status as on June 2020 (114 days)	Scenario July 2020	Scenario August 2020	Scenario September 2020	Scenario October 2020	Scenario November 2020	Scenario December 2020	Scenario January 2021	Scenario February 2021	Cumulative
Total Positive Cases	5,390	52,406	74,896	1,02,758	1,01,520	31,956	17,870	10,701	430	3,99,517
Total Recovered Cases	543	18,036	72,599	96,239	1,19,108	44,316	25,136	14,079	350	3,91,263
Total Death Cases	95	962	950	971	897	271	184	76	04	4,398
Case Fatality Rate	1.80%	1.85%	1.27%	0.97%	0.37%	0.85%	1.03%	0.71%	0.93%	1.10%
Total Tests Conducted	1,16,901	2,15,765	5,55,400	8,01,288	12,68,943	14,64,614	12,52,452	11,29,909	63,712	69,72,524
Positivity Rate	4.50%	24.15%	13.45%	12.78%	7.97%	2.18%	1.42%	0.95%	0.67%	5.73%

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SNAPSHOT OF BENGALURU URBAN COVID-19 MONTH WISE

Total Positive Cases	Total Recovered Cases	Total Death cases	Total Active Cases
3,99,517	3,91,263	4,398	3,856
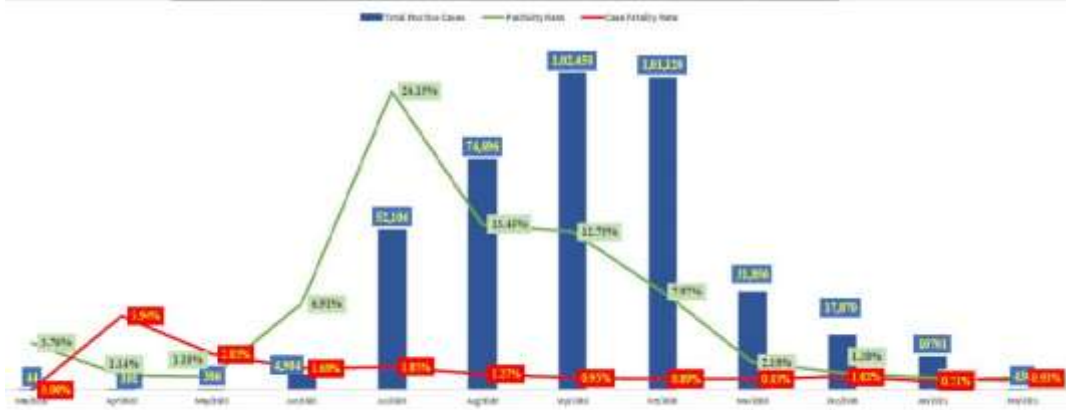
BBMP / COVID-19 WAR ROOM / BULLETIN - 317/ 03.02.2021 / #BBMPfightsCOVID19

The Fig. 8: COVID – 19 detailed dashboards.

f.   Current: Functions and Integrations:

State War Room	• Real-time Updation • Generation of State Patient Id
Contact Tracing App	• Identification of Contacts without time delay • No duplication of data entry
Hospital Bed Management App	• Real-time updation of Patient Numbers • Allocate beds
Online Triaging Team	• No duplication of data entry • Preliminary triaging with fields already available
Police Department	• No duplication of data entry • Update missing/untraced cases related information directly
Quarantine Watch App	• Monitor persons under Home Quarantine

Dashboards	• Monitoring and review • Follow-up on real-time basis
Containment Zones	• Identification of Geo-location • Issue of CZ orders and monitor the date of return to normal
ICMS –COVID Care Centers	• Monitor Admission and Discharge Information of Patients
Aarogya Setu App	• Identification of Actionable Hotspots
Testing Teams	• Ward-wise and Zone-wise information from Dashboards enables Zonal Heads to identify targets

g. **Features in Phase II:**

- Geotag location of the patient address. The option shall be given to upload photos of the building / place.
- Issue Order on Containment Zone creation from the application.
- Providing login access to all the facilities (Dedicated COVID Hospitals / COVID Care Centers, DCHCs, etc.) to update real-time on the Current status of COVID-19 Positive Patients – discharged / transfer / Death.
- The Centers shall have all data auto-populated in the facility application as data from **INDEX Application** shall flow seamlessly to all applications.

- Integration with the Contact Tracing Application.
- Addition of SRF ID.
- Addition of Swab Collection Date.
- Allowing login at constituency level – 28 divisions / 4 taluks.
- SMS generation after BU Code generation to inform the patients. This shall facilitate the patients to walk-in to any COVID hospital in case of an emergency.
- Reduction of time lags to make the entire process more real-time.
- Simplify processes as suggestions come from Field teams

The BBMP War Room has enhanced the effectiveness of the city administration in managing the COVID-19 situation. With constant improvement and efforts in the direction to provide situational awareness in near-to real-time, it facilitates as a decision support system for operations management and timely dissemination of information to the city stakeholders.

The INDEX Application is under constant improvement with effective coordination during implementation and understanding of field-level scenarios as they emerge in this dynamic management exercise being attempted by the cities.

The Application is very critical as the reduction in the response time from 24 hours to less than 1 hour at the critical stage after the updation of the data about the results of testing on the ICMR portal has a direct implication on the identification and shifting of the patients to respective health facilities. This application, goes as an innovation of the BBMP COVID-19 War Room, as it has significantly reduced the time taken from 24 hours to near real-time for accessing the information on COVID-19 Positive Cases for action by the zones, including shifting of the patient to either hospital or CCC based on symptoms, arranging ambulances, tracking patient lifecycle, etc.

In a way, an understanding of the COVID-19 pandemic management at the field level will substantiate that an intervention like this at the critical juncture helps in reducing fatalities and resolves distress situations and thus, is very relevant for the cities and states to replicate or adopt in the fight against COVID-19 pandemic.

h. **Collaborations:**
The stakeholders include start-ups to many MNCs and firms (Prodigital, Pricewaterhouse Coopers - PwC India, Infosys, Quantela, NASSCOM, ESRI India, Microsoft, AWS, Chipsy Solutions, Mediahanger, Sprinkler, et al)

organizations, many teams who have collaborated seamlessly and rendered the required Technical Support.

2.0 State Level Governance Mechanism, Bengaluru

2.1 Public Health Emergency Preparedness and Response Capabilities

Due to the outbreak of COVID19 pandemic, there has been a sudden surge and inefficiency in the utilization of the hospital resources. The patients suffering from COVID19 must be admitted to the facilities with the adequate resources in minimal time which otherwise could have proved to be fatal for the patient. Effective management of the resources and directing the patients to appropriate health care facilities were required real time monitoring of the resources.

The major challenges faced by the various stakeholders/ BBMP/ Authorities, Healthcare facilities and Patients were:

1. Lack of information about the capacity of the hospitals in city limits
2. Manual identification of the hospital facility for the patients based on the location proximity of the patients.
3. Confirmation of the utilization of the resources by the allocated patient.
4. Delayed decision making for the authorities on scaling of the capacity requirements due to insufficient occupancy information, capacity information and comprehensive view of the situation.

Observing many patients/families were not able to secure hospital beds in time and a hassle-free manner BBMP in coordination with Bengaluru Smart City developed the **CHBMS** (COVID19 Hospital Bed Management System) application. The application has a list of all empaneled hospitals where hospital beds can be booked by the authorities. The application has integrated with other existing application to create a transparent hassle-free ecosystem for hospital bed management.

The COVID19 Hospital Bed Management System (CHBMS) was a one stop solution for all the challenges faced by the authorities. The CHBMS is integrated with the INDEX Application and the SAST (ICCC) Application (The Application is deployed in all the empaneled hospitals in the Bengaluru city, both public and private, to record the admission and discharge of patients in the respective hospitals).

The CHBMS allocates hospital bed to the patients based on the location proximity and the bed priority requirement of the patients based on the residence location and health status of the patient respectively. The application displays real time resource availability and the zonal authorities have the visibility on the category of beds (ICU bed/Ventilator bed/Normal bed). Once the bed is allocated and the patient occupancy acknowledgement is received from the respective hospital within the permissible time limit, the data on the hospital bed capacity is modified accordingly.

- The portal is for management of all the beds allotted by the hospitals into the government quota towards the COVID positive patients for 3 functions i.e.; Block, Admit and Discharge.
- The beds are allocated in categories like General, ICU, HDU and ICU-Ventilator.
- The hospital bed management system is a fusion and integration of various systems, which perform and fulfill distinct operations at the basic level of hospital management.

| Patient Test Positive |
| Patient's data has been uploaded to ICMR Portal |
| Patient Data is Fetched to War Room line list (District Code is Allotted) |
| Patients Data is being fetched to INDEX Application |
| BED is blocked through CHBMS portal |
| Patient's blocking data is sent to both Hospital and Ambulance |
| Patient id transferred to Hospital/ CCC |
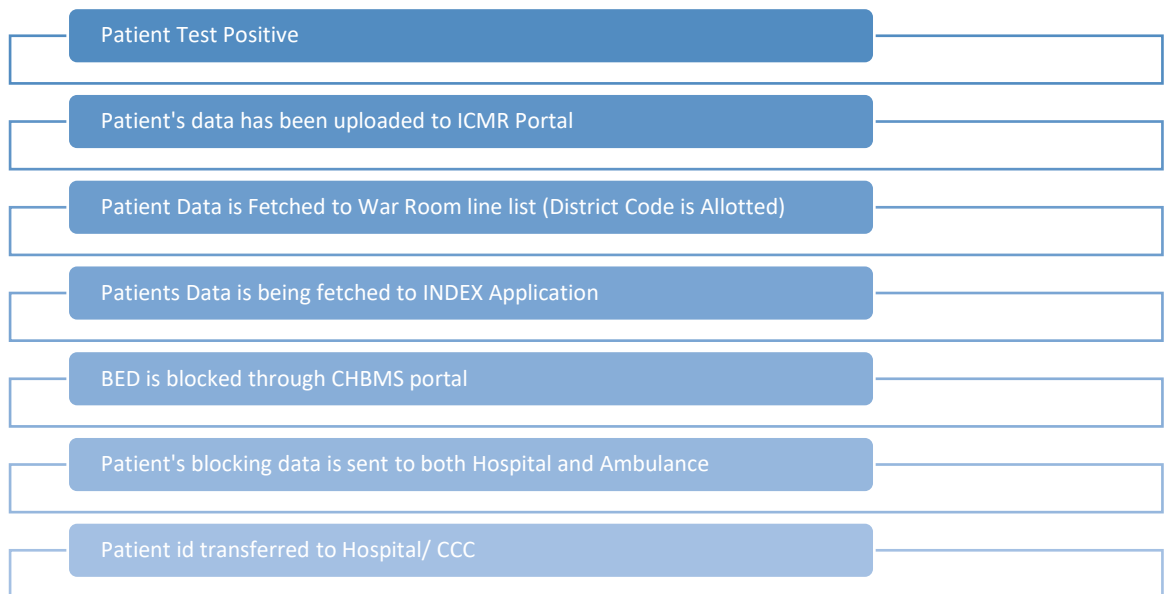
The Fig. 9: the process of bed blocking through CHBMS portal.

Impact (Measurable Impact on Effort, Time and Cost Incurred)

- CHBMS application has led to 50-70% reduction in the time taken to allocate appropriate hospitals for COVID19 patients
- The application provides real time information of available and allocated beds to the stakeholders.
- The application is integrated with State War Room and INDEX Application ensuring effective data integration for data analysis and reporting.

Implementation Plan

- The system has been initially implemented in Bengaluru Urban and has been scaled up to 4 other districts in Karnataka namely Dakshina Kannada, Hassan, Mysuru and Tumakuru.

Innovation

- On implementation of CBHMS, the 0.25 million cases till October 4, 2020 has been fully streamlined. The automation of hospital bed allocation for pandemic is first of its kind in the country.

CHBMS–Integrated Report List

The list of the CHBMS reports are:

(1). DASHBOARD (2). HOSPITALS (3). ACTION ON PATIENT

(4). EXCEPTION REPORTS (5). PATIENT LIST (6). REPORTS

(7). COVID CARE CENTERS (8). USER PREVILAGES (9). ZONES
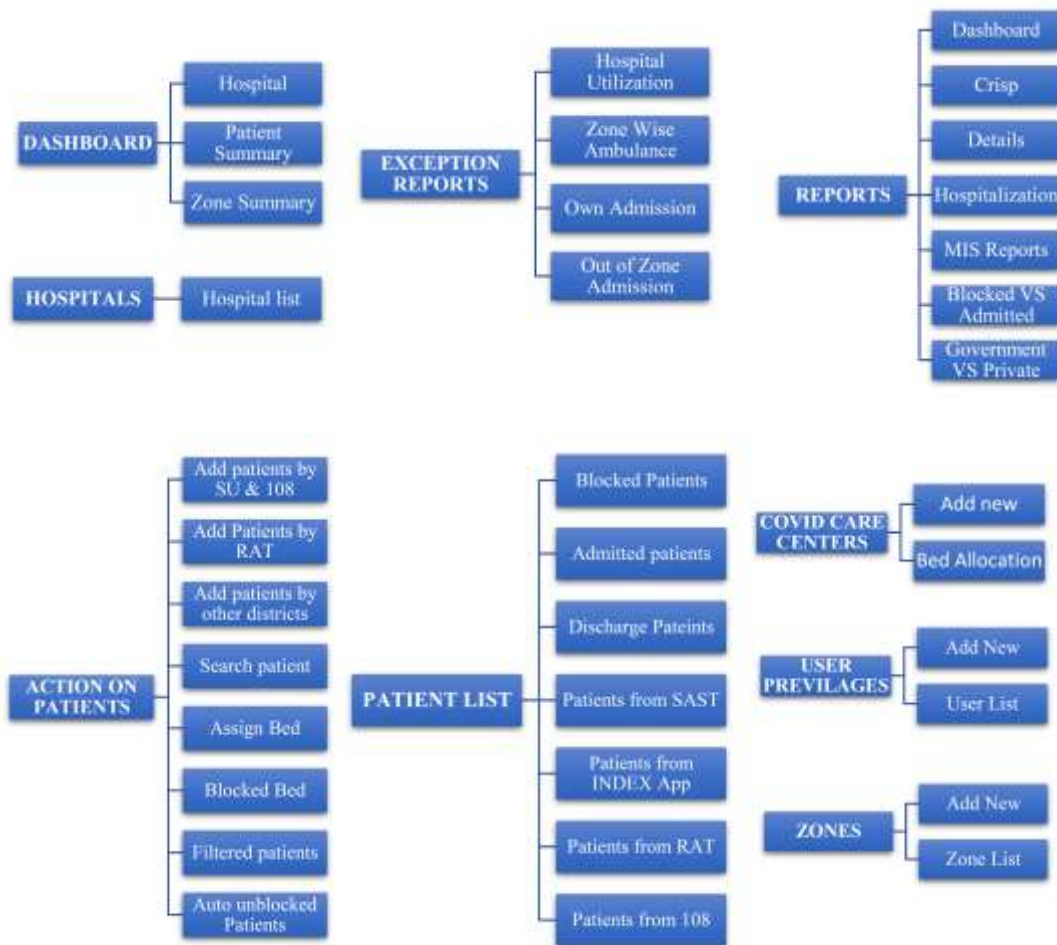
The CHBMS implementation led to 50-75% reduction in time for transferring the patients to appropriate facilities. Time saved is life saved in the pandemic situation.

2.1.1 Community Resilience

The Smart Cities Mission, launched by the Government of India in 2015, played a major role in shaping the government's response in COVID-19 pandemic. As part of their pandemic response strategy, Bengaluru Smart City effectively used the Integrated Command and Control Center (ICCC), which forms the "brain and nerve center" for smart solutions.

Bengaluru is using its ICCC as "COVID-19 War Rooms" to effectively coordinate and monitor activities of various state and city agencies. Using the COVID-19 War Rooms, cities of Karnataka has brought together civil society, local businesses and others on a single platform through the websites and mobile applications to collaborate with the city administration.

Key activities included the following:

- Tracking and monitoring infected citizens and organizing their healthcare.
- Managing the lockdown through ensuring supply of essential goods and services at citizens' doorstep.
- Providing food to economically weaker sections of society and vulnerable citizens – Setting up health and quarantine facilities – Disseminating information on the pandemic to citizens – Maintaining connection with citizens.

Based on data collected manually and through various sensors, cities carried out data modelling and predictive analytics at the COVID-19 War Room using dashboards, scenario visualization and simulation models to identify the virus spread and plan their response.

2.1.2 Incident Management

The entire COVID-19 exercise was one of Public Health and has a wide panorama of issues to deal with owing to a limited understanding of the nature of the spread of the pandemic and the lack of medicine/vaccination to cure the affected cases. It was a very typical administrative and governance exercise, and, therefore, has been aligned to achieve the outcomes from the beginning itself. In line with the Strategy and Approach identified above, the Decision Support System structure was evolved. It is given in the Table 2.

Table 2: Decision Support System for Incident Management

Sl no	Challenge	Strategy	Tool	Outcome
1	Identifying Quarantined People Phase -I	Stamping	Training for field teams to do stamping Training for RWAs to monitor	No team member had to be quarantined on suspicion of being COVID positive. RWAs were co-operative and ensured strict compliance of home-quarantine.
2	Containment Zone Monitoring	Seal down of CZs, Quick Declaration of Containment Zones, Daily monitoring	BBMP Contain App, Heatmaps, Google Forms, Drones, CCTVs, Simulation	Strict enforcement and close monitoring to reduce overall spread. 34 % of Containment zones have returned to normal as on 10.06.2020.
3	Crisis Numbers at 65% of the State in mid-March	To Monitor case by case at the micro-level and granular analysis by age, gender, source of transmission and location	Google Forms GIS mapping IVRS Statistical Tools Simulation models	Percentage of cases reduced to 9.6% of State cases as on 10.06.2020 from over 90 % in Mid-March 2020. Monitored 22,000 quarantined people for 14 days
4	Migrant labour stranded without adequate food	Reach out to CREDAI, local organizations, every construction site	Hunger Helpline Application for updating on food Distribution Sahaaya Sethuve app for NGOs to donate goods online	The public can inform or call directly Distribution of food to over 1,60,000 persons approximately on daily basis up to Mid-May 2020 and monitoring mechanism for the same.
5	Facilities and resource availability	Spatial mapping of all resources and availability	ARC GIS Platform	Quick Response TJ-Haj Bhavan help for emergent situations Preparation for the worst-case scenario

6	Public Grievances	Reach out to citizens in multiple languages – to the last citizen – leaving no one behind	Sahaaya Sethuve App BBMP Contains App Call Center Control Room TeleHealth Helpline	Percentage of cases reduced to 22% of State cases as on date Reached out to all citizens through all forms of media
7	Information Dissemination	Real-time Information Dissemination through all forms of media	Dashboard, Situation Reports with Analysis, Daily Bulletins, Weekly Bulletins, Updation on Apps and all platforms, Social Media Sentiment Analysis	Twitter Handle of Commissioner BBMP has 40000 new followers in the last 1 month and over 6 million impressions. BBMP War Room Bulletins being published by the State Government of Karnataka
8	Internal Communication	To keep all field staff informed and trained	Virtual Learning, Issue Advisories, Training Modules, Wireless Radio	Safety of healthcare workers Preparedness of all field staff
9	BBMP IQMS	Quarantine Center Management	BBMP IQMS App developed and deployed at Quarantine Centers	Data updated on Health of Quarantine Persons, Facility Management Inter-departmental coordination
10	Panic/ Stress Management	Communicate effectively	Sentiment Analysis through Social Media	Reached out to maximum citizens, prevent panic and give correct information
11	Identifying Quarantined People Phase -II (May 2020)	Stamping	Training for field teams to do stamping Training for RWAs to monitor	No team member had to be quarantined on suspicion of being COVID positive. RWAs were co-operative and ensured strict compliance of home-quarantine

12	Monitoring Home Quarantined People – Unlock 1.0 (June 2020)	Stamping	Training for field teams to do stamping Training for RWAs to monitor	No team member had to be quarantined on suspicion of being COVID positive. RWAs were co-operative and ensured strict compliance of home-quarantine
13	Sanitation / Solid Waste Management	Seal down of CZs, Daily monitoring, Spraying, Fogging, Disinfecting Public Places, Markets	Google Forms, Drones, CCTVs, Attendance monitoring, GPS tracking, Power Sprayers, Jetting machines	Mass Sanitization Daily monitoring to reduce overall spread
14	Essential Goods and Supplies	To map demand, stalls and shops, Ration Card Holders, to improve the overall health	Sahaaya Sethuve App, Hunger Helpline, Home delivery of groceries, Distribution through Fair Price Shops	Delivery at doorstep Essential needs are met during complete seal down Nutrition and Immunity for major population / vulnerable groups

| 15 | Local Health Facilities | Identify Ward-wise Health Volunteers, Online Registration, Virtual Training | Fever Clinic Monitoring Telemedicine / Teleconsultation at ward level, Chatbots Mobile Medical Units | Gives actual situation report from wards at micro-level |

2.1.3 Information and Media Management

The major deliverables of Information Management – Dashboards, Situation Reports with Analysis, Virtual Learning and Training Modules, Access for self-reporting by the public on grievances, development of an application for registration of NGOs / Volunteers, Predictive Modelling, issuing Advisories, Chatbot / Telemedicine, et al.

BBMP in collaboration with Bengaluru Smart City has built a Realtime website for Information Management of COVID-19 cases in the state. The Fig. 10 shows the COVID case management website of Karnataka.

The Fig. 10: COVID case management website of Karnataka

Dedicated social media team (working remotely) has publicized efforts through Facebook, WhatsApp, Instagram and Twitter. The team has pre-recorded various messages by prominent doctors and community members to gain credibility and has posted these audio clips on loop in several key areas and slums. In addition, these tapes have been added to volunteers' vehicles to further drive home the messages. Volunteers have been instructed to ensure individuals are made aware of the virus and its basic features.

2.1.4 Surge Management

The COVID19 Hospital Bed Management System (CHBMS) was a one stop solution for all the challenges mentioned above faced by the authorities. The application has a list of all empaneled hospitals where hospital beds can be booked by the authorities. Once deployed the application was integrated with other existing application to create a transparent hassle-free ecosystem for hospital bed management.

The system has been initially implemented in Bengaluru Urban and has been scaled up to 4 other districts in Karnataka namely Dakshina Kannada, Hassan, Mysuru and Tumakuru.

On implementation of CBHMS, the 0.25+ million cases till October 4, 2020 has been fully streamlined.

"The automation of hospital bed allocation for pandemic is first of its kind in the country".

2.1.5 Bio Surveillance

The coronavirus epidemic (COVID-19) was characterised by a high index of infection and rapid spreading. To ensure that those who are infected by the virus can be isolated, automatic and real-time monitoring was vital. The solution to this challenge is the bio surveillance system based on Digital Enabler i.e. INDEX Application, it combines heterogeneous data sources to create databases on which to perform advanced data analytics. Bio-surveillance includes:

- **Wide-ranged Doctors** with a real-time overview of their patients, detailing who have undergone COVID-19 tests, complete with the results and rapid geolocation of all cases in the state.
- **Members of the Task Force / Regional Crisis Unit** with a view to monitor real time the epidemic and carry out epidemiological simulations, identify clusters that require high attention (nursing homes, positivized families), a geological view of the tests carried out in the state.
- **Operators of healthcare organizations** with indicators on the evolution of the epidemic, a georeferenced view of the tests carried out (their outcome and the analysis of the family, residence and work context of the examined subject), a view to evaluate, real time, the available workforce within organizations, and to monitor clusters at risk (nursing homes, housing contexts with many positive cases)
- **Occupational doctors** with real-time indicators of positive COVID-19 cases within the businesses they assist, a view on workers who carried out the tests, the possibility of recording the results of tests carried by following the precise protocols and safely approach work activities.

This way, public administrations and health institutions has defined and applied epidemiological models, real-time geolocation of some clinical-health phenomena and predictive maps of contamination.

3.0 Management/ Governance Strategies

In the times of COVID-19 crisis and its economic and social repercussions, *"Good public governance was more important than ever!"*. Governance arrangements have played a major role in the state. Immediate responses will continue to be crucial both to the recovery and to building a "new normal" once the crisis has passes.

The resulting evidence-based policy responses are designed to help governments to tackle the crisis and plan for a sustainable recovery.

3.1 Pre-Lockdown

The first positive case, on March 8, was that of an IT employee who returned home after an assignment in the United States. Soon after, Karnataka became the first state to invoke the provisions of the Epidemic Diseases Act, 1897 on March 11, the same day that it was declared a pandemic by the World Health Organization (WHO). By March 13, a few days following the first COVID related death of a 76-year-old man from Kalaburagi, the Karnataka government had announced the closing of schools, malls, marriage halls, cinema halls and public events for a week and by March 23, even before the nationwide lockdown was announced, the Karnataka state government had already imposed a lockdown; state-borders were sealed and curfew-like restrictions were already in place. To enforce these restrictions, Section 144 was imposed in Bengaluru and Mangaluru.

3.2 Lockdown

Karnataka government set up 31 fever clinics across Bengaluru as the first point of contact for suspected cases. Most of the clinics complained of being understaffed, overworked and not having systems and technology in place to operate efficiently. The initial guidelines for testing were rather stringent, restricting COVID testing only for individuals with recent international travel history. Between each announcement of lockdown, testing measures have eased and by the second week of June, new guidelines for testing were issued including random testing citing that community transmission had begun. If in lockdown 1.0 the number of containment zones in Bangalore was 24, by June this has risen to 338 of which, 298 were active.

Mobile applications were developed for tracking people in quarantine (Quarantine Watch & Containment Watch), for contact tracing, geo-fencing places with a large number of infections and so on. These helped the State to contain the spread of the virus more efficiently than most other states. People returning to the State from domestic and international travel were also required to register on the Seva Sindhu portal.

\Measures were also put in place to increase the number of hospital beds. Apart from these measures, the Karnataka government had promised free ration for two months on March 22 and by early April, had extended this promise to even those who did not have a ration-card, through a token-system that was developed. In addition, a 1700-bed facility at the Victoria Hospital was converted into a special COVID-19 hospital in Bengaluru; measures to increase the number of 'testing labs' were taken; and, a 24/7 War-Room was set up in Bangalore. A team of 25 works from this war-room in shifts, while another 40, who make up the IT team, provide technological support remotely

a. On Ground Reality

However, despite these pre-emptive and technological measures, the number of cases only continued to rise and by Lockdown 2.0, there were 606 cases in Karnataka which rose

to 1146 by Lockdown 3.0 and 3221 by Lockdown 4.0 and the ground situation speaks of a grim reality.

The state has added about 2,500 new cases and now has over 44,000 COVID-positive infections. The BBMP, ASHA workers and citizen volunteers were enlisted to conduct the surveys and it was hard to believe that with an active culture of fear and possible isolation, people would volunteer information about their health.

Despite the 'warnings' and advisories about spreading rumors, reports about blacklist, racial and communal prejudice has resulted in tense situations across the State. Many on-ground activists during Lockdown 1.0 involved in distributing food supplies and documenting conditions in vulnerable neighborhoods. In response, the government passed some orders to prevent landlords from evicting migrants.

b. Infrastructural Shifts

The State has launched a job portal to tackle the increasing unemployment rates even as people are encouraged to work from home. The increase in hospital beds has also come with some negotiation with private hospitals agreeing to extend the insurance of health workers in exchange for reserving 50 percent beds for COVID treatment.

Schools and colleges remain shut in Karnataka, based on the recommendation of academic and health experts. However, days after the ban, the order has been reversed and a new order stating that educational institutions can conduct online classes has been brought out, with a set of temporary guidelines on the duration and mode of conducting these classes.

The state has been witnessing a seesaw of events with lockdown restrictions being lifted and then re-imposed. The initial lifting of restrictions, especially for most commercial enterprises, had meant that the city saw traffic snarls again, even with most IT companies shut.

c. Short Term Strategies

After a fresh COVID-19 case in Karnataka, The State Government has given the charge to Bengaluru city police commissioner for imposing section 144 in the city from midnight of 23 March to 31 March, restricting people movement and get better compliance of social distancing measures.

The below mentioned were major short-term strategies applied in Karnataka state by the Government.

- Physical distancing of at least 6 feet to be followed as far as feasible.
- Persons above 65 years of age, persons with comorbidities, pregnant women and children below the age of 10 years should be encouraged to stay at home, unless they are patients themselves.

- Place the ill person in a room or area where they are isolated from others and Provide a mask/face cover till such time he/she is examined by a doctor.
- Immediately inform on premise nodal officer and the state or district helpline.
- Use of face covers/masks made mandatory.
- Placing the ill person in a room or area where they are isolated from others.
- A risk assessment will be undertaken by the designated public health authority (district RRT/treating physician) and accordingly further action be initiated regarding management of case, his/her contacts and need for disinfection.
- Disinfection of the premises taken up if the person is found positive. • Carried out droned based disinfection in the cities.
- Practicing frequent hand washing with soap even when hands are not visibly dirty. Use of alcohol-based hand sanitizers can be made wherever feasible.
- Respiratory etiquettes to be strictly followed. This involves strict practice of covering one's mouth and nose while coughing/sneezing with a tissue/handkerchief/flexed elbow and disposing off used tissues properly.
- Self-monitoring of health by all and reporting any illness at the earliest to state and district helpline.
- Specific markings have been made with enough distance to manage the queue and ensure social distancing in the premises.
- Entrance to hospital/clinic to have mandatory hand hygiene and thermal screening provisions.
- The staff manning these entry points should ensure appropriate personal protection.
- The patients should be queried about COVID-19 like symptoms and contact history.
- A daily list of all HCW, patients and their attendants & any hospital visitors with their mobile numbers and IDs should be maintained (for contact tracing if needed in future)
- Proper disposal of face covers / masks / gloves left over by visitors and/or employees should be ensured in the premises, in accordance with the Bio-Medical Waste Management Rules.
- The duty roster of all HCWs including doctors, nurses and paramedical workers should ensure effective social distancing.
- Provide a mask/face cover till such time he/she is examined by a doctor.
- Only industries and factories dealing with essential goods and services, food, medical equipment, drugs, fuel, agricultural inputs etc, shall remain open.
- All types of shops except essential stores selling food, ration shops, milk, vegetables, groceries, meat, fish, fruit, wholesale and retail markets will remain closed.

- A risk assessment will be undertaken by the designated public health authority (district RRT/treating physician) and accordingly further action be initiated regarding management of case, his/her contacts and need for disinfection.
- Disinfection of the premises to be taken up if the person is found positive.
- All flyovers in the state will be shut and there will be restrictions on entry and exit out of the state.
- Built Hunger Helpline application for providing essential daily groceries to needy/ below poverty people.
- Petrol Bunks, gas, LPG. oil shops and related godowns will also remain open.
- Transportation of all goods is permitted.
- Hospitals, clinics, pharmacies, optical stores, diagnostic centers and other health and medical related shops will be open.
- Police and fire services, post offices, urban local bodies and panchayat offices, will remain open.
- Electricity, Water & Municipal services as well as bank teller services. ATMs, Telecom, internet, cable services will remain open.
- Karnataka chief minister has said that Indira Canteens will serve free food for the poor.
- Drinking water production, supply and distribution has been allowed.
- All inter-state, intra-state, domestic and international transportation has suspended.
- The government has directed all inter-state, intra-state and foreign returnees upon the government permission to remain under quarantine at isolated places (Educational institutions, Function halls, Hotels, Isolated buildings, COVID Care Centers etc.) and threatened penalties to those who violate them.
- All International passengers will be screened for COVID symptoms. Thermal and oximeter screening shall be done for all International passengers.
- The order also bans all gatherings of more than five people and all prayer gatherings, festivals of all religions shall be stopped.
- Government and private inter-city and inter-state bus services will be suspended, and restrictions have been placed on plying of private vehicles, as Karnataka has already sealed its borders.
- All cab aggregators like Ola, Uber, auto rickshaws and other hired services shall be permitted for passenger transport only for procuring essential commodities and medical emergencies.
- Public offices dealing with non-essential services as notified by the government shall remain closed.
- All types of sports activities were suspended.

d. Medium Term Strategies

With the increase in positive COVID cases across the state, The Karnataka government has invited experts to offer suggestions, new ideas, suggest projects, strategies and work plans to help it formulate an integrated strategy to mitigate the social and economic impact of COVID-19 after March 2020 and promote a healthy and safe revival of the State. According to a concept note put out for discussion, a uniform revival policy for the whole state was not possible as the impact on the economy varies across the regions and Sectors. Chief Minister of Karnataka indicated the decision on relaxation would be taken on 20th April 2020 after evaluating the extent of public conformity to the lockdown and made some medium- term strategies and are:

- For asymptotic patients, home quarantine facility was made.
- COVID warrior volunteers' groups formed for continuous monitoring of home quarantine patients.
- Tele-counselling and teleconsultation have been encouraged to lessen patient visits and/or appointment system can be followed to call patients needing examination/eye investigations/procedures.
- Educational institutions were remained closed for the next announcement regarding its opening.
- Any shops, stalls, cafeteria etc., outside and within the premises shall always follow social distancing norms.
- Number of people in the elevators should be restricted, duly maintaining social distancing norms.
- Building suitable quarantine centers for those coming from abroad.
- Effective and frequent sanitation within the premises shall be maintained with focus on lavatories, drinking and hand washing stations/areas.
- Encourage app-based mobile phone check in & payment along with digital prescription of glasses and medicines to prevent long queues.
- Seating arrangement to be made in such a way that social distancing is maintained in bus, train and domestic/international flights.
- Every Passenger arriving in India from COVID-19 affected countries to be followed up for 28 days irrespective of symptoms. Follow up by concerned PHC Staff and reporting to Taluka. Taluka to compile, follow-up every day and share with District Surveillance unit.
- District to prepare line-list and update every day to State Surveillance Unit
- Daily personal visit follow-up / telephonic. Always keep personal details of persons confidential- Both symptomatic and asymptomatic
- Quarantine not required for asymptomatic passengers. Symptomatic passengers are required to self-isolate immediately and seek medical consultation or call Apthamitra helpline 14410 for Domestic passengers.
- Symptomatic passengers will be sent to testing centers. 14 days home quarantine for asymptomatic passengers. Business trip and return within 48 hours are

exempted from quarantine. If duration of stay is more than 48 hrs. but less than 7 days, COVID test will be done and after receiving negative report they can complete their engagements and go back. Business/short term visitors who come with negative RT-PCR test results are exempted from quarantine. The test should have been conducted within 96 hrs. prior to boarding for International passengers.

- Thermal and oximeter screening shall be done for all International passengers.
- Inter-state and intra-state buses and passenger vehicles allowed. Buses to be run with a maximum of 30 passengers.
- Rickshaws and taxis including those run by cab aggregator companies to run. Maximum of 2 passengers to be allowed in a vehicle.
- All places of social gatherings including religious conventions shall be barred.
- Most of the Agricultural activities shall be exempted and will be allowed to be operated as and when required.
- All Public work programs linked with employment of daily-wage-labors with social-distancing measures in place.
- Sports complexes and stadiums to be reopened but spectators not allowed.
- The Karnataka Government has permitted e-commerce and home delivery of goods and services, only take- away and home delivery from restaurants will be permitted.
- The government reiterated that technology companies will extend work from home to all those who do not have to be in their respective offices.
- Maximize use of local influencers (including religious leaders) for countering misinformation.
- Festivity events such as religious worship, fairs, rallies, exhibitions, cultural functions, processions, etc. not be allowed in notified containment zones.
- Sanctioning of Rs. 5000 as relief fund for people belonging to labor class, laundry and Savita Communities in the wake of COVID-19.
- Cancelling License for Violation of rules under Karnataka Drugs Act -1940(selling of toxic medicine).

e. Long Term Strategies

The Karnataka government has decided to constitute a special technical committee to study the long-term effects of COVID-19 by monitoring the health of those who have recovered from the infection after contracting the virus. The move comes in the backdrop of an increasing number of reports of people, who were discharged after successfully battling COVID-19, returning to hospitals with various health conditions and complications.

BBMP devises six-point strategy to fight COVID-19 to contain the rapidly deteriorating situation of COVID-19 in the state and its growth capital. The strategy proposes measures to help iron out chinks in its COVID-19 response system. This includes awareness and empowering the citizens, surveillance and coordination of contact tracing, isolation and

clinical care, treatment and care cum death audit, contact tracing and community partnership and media engagement and advocacy.

The Bengaluru civic administration has outlined some of its objectives that include evolving a containment strategy for the outbreak to flatten the curve, regular review meetings and monitoring of field implementation to intervene appropriately and ensure corrective action among others.

The Bengaluru district administration, as part of its hyperlocal strategy, will carry out door-to-door surveys to identify persons with ILI (influenza like illnesses) and SARI (severe acute respiratory infection) and get them tested.

- Use of Aarogya Setu Mobile application to connect essential health services with the people of India in combined fight against COVID-19 and to know COVID patient near the proximity.
- Physical distancing of at least 2 feet to be followed as far as feasible.
- Use of face covers/masks made compulsory.
- Posters/standees/AV media on preventive measures about COVID-19 to be displayed prominently.
- Monitor progress on key activities such as microplanning, communication planning, cold chain and vaccine logistics planning. Accountability to be fixed for each activity.
- Mapping human resources across departments that could be deployed for vaccination sessions for verification of beneficiaries, crowd management and overall coordination at session site.
- Any shops, stalls, cafeteria etc., outside and within the premises should always follow social distancing norms.
- Effective and frequent sanitation within the premises made to maintain with focus on lavatories, drinking and hand washing stations/areas.
- In case of rallies and immersions processions, the number of people should not exceed the prescribed limit and proper physical distancing and wearing of facemasks should be ensured. In any case, the number of such rallies and the distance covered by such group of people should be kept within manageable limits. In case of events that runs for days or weeks, the crowd density doesn't remain the same thought and usually peaks around certain hours of the day and some previously known auspicious days.
- Cab aggregators like Ola and Uber are set to resume services and cashless payments are recommended.
- Spitting, littering and urinating in public spaces are banned and considered an offence. Violation Fine: First offence: INR 200/- & Second and subsequent offence: INR 500.

4.0 Learnings, Initiatives, Best Practices in Response to COVID- 19 in the areas of:

4.1 Public Health and Clinical Response

The coronavirus disease 2019 (COVID-19) pandemic has changed the lives of individuals, communities and societies across the world. To date, the most important insight from the global response has been that to successfully slow transmission, it was essential to diagnose, isolate and care for all cases of COVID-19, including those with mild disease. In order to stop cases from becoming clusters and clusters to progress into vast and rapid transmission, speed, scale and equity were the guiding principles. In these settings, critical measures for COVID-19 prevention and control that have been a feature of the response in higher resource settings, such as physical distancing, movement restrictions and home quarantine, hand washing with water and soap and closure of schools. In addition, capacities for testing, isolating and treating those who develop the disease, tracing and quarantining contacts were severely lacking locally owing to weaker health systems. For the purpose of this guidance, the low capacity and humanitarian settings refer to settings characterized by some or all the following, regardless of the social, humanitarian, citizenship, migration and asylum status of its residents and where these settings are located:

1. Overcrowding and inadequate dwellings or shelter/ insufficient settlement infrastructure.
2. Poor access to health care and basic services.
3. Lack of availability of clean water and sanitation.
4. Disrupted health system.
5. Prevalent food insecurity and malnutrition.
6. Weak institutions/ challenged governance and lack of emergency response capacities.
7. Prevalence of highly marginalized and underserved communities.

Notwithstanding, strong community ties, structures and systems present in most of these settings as well as the individual and collective resilience of the community were the strengths that determined the effective adaptation and implementation of important public health and clinical responses aimed at preventing and controlling the COVID-19 outbreak.

Public health and clinical responses in these settings needed to be balanced against other risks affecting their communities, such as lack of income, access to basic services and social nets, and food insecurity. Whilst poorly implemented measures may increase the risks of COVID-19 transmission, inadequately adapted interventions can have adverse impacts on overall public health as well as a range of far-reaching economic, social and political consequences (e.g. people dying of other diseases, , increased infraction, clinical unrest, etc.). They also needed to be pragmatic and leverage the strengths of the local structures and systems, notably through social mobilization and strong community engagement. To

mitigate the challenge, Public Health and Clinical Measures for COVID-19 Preparedness and Response in Low Capacity and Humanitarian Settings plan has brought up.

This Interim Guidance outlines how key public health and clinical measures reduced the risk of COVID-19 spread and the impact of the disease can be adapted for use in low capacity and humanitarian settings. The recommendations outlined here were adjusted to the scale of transmission, context and resources, in order to achieve the objective of managing COVID-19, namely, to reduce transmission and facilitate the detection and management of infected and exposed individuals within the population.
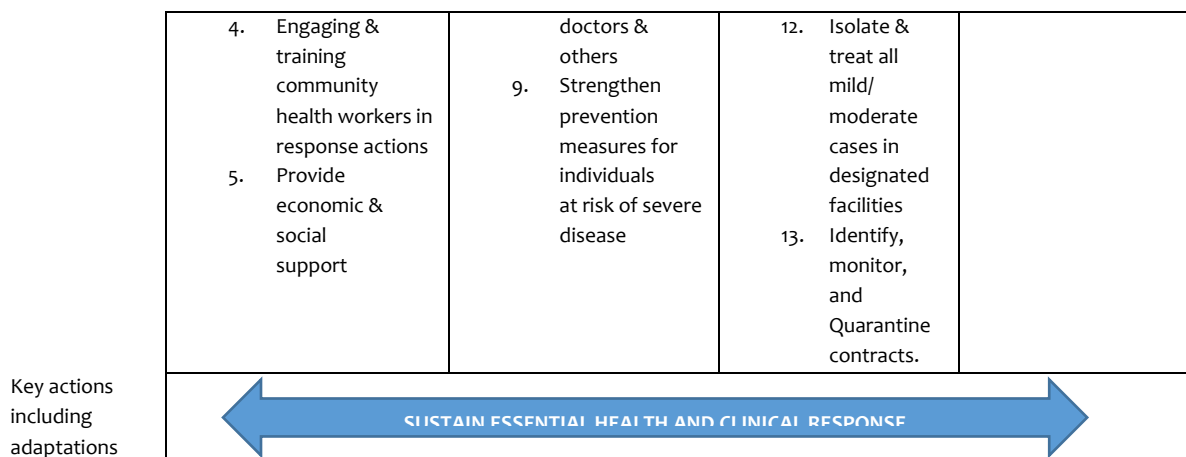
The Guidance was intended for humanitarian and development actors of all operational levels working with communities, as well as local authorities involved in COVID-19 preparedness and response operations in these settings, in support of national and local governments and plans. The trajectory of the COVID-19 outbreak was also depended on the complex interplay of demographics, socio-cultural strengths and disparities, the prevalence of other diseases, the density of the living conditions, environmental and potentially other different factors associated with poor COVID-19 outcomes.

The recommendations for COVID-19 public health measures delineated in the sections shown in Table III, are those recommended for all settings. For low capacity and humanitarian settings, practical adaptations needed to be made considering the context of each setting, but they also needed to remain anchored to the public health principles underlying each measure and commensurate to the risks identified.

These principles along with approaches to adaptations and enablers for implementation as well as key actions for these settings are laid out for each recommendation.

Although clinical management of severe and critical cases has required resources and capacities exceeding those available, similar efforts has made, increasing clinical management capacities for COVID-19 contributed a longer-term improvement of health service delivery.

	Mobilize all sectors and communities	Prevent, suppress & slow transmission	Find, test, isolate & treat cases, quarantine contact	Provide appropriate clinical care
Who?	Community leaders and members, health care workers, volunteers, local authorities, NGOs			
Where?	Camps, educational institutes, quarantine centers, hospitals, health care facilities			
Recommended Measures	1. Organizing health initiatives 2. Creating social awareness of COVID-19 pandemic for public emotions 3. Brought CHBMS, SAST & AMBULANCE APPs	6. Physical distancing, limit movement & minimize gathering 7. Hand hygiene & respiratory etiquette 8. Medical masks for sick people, volunteers,	10. Screening and referral for suspect cases 11. Testing all suspect cases according to local strategy	14. Treating severe and critical cases and those at risk of developing severe disease in equipped health facilities

4. Engaging & training community health workers in response actions 5. Provide economic & social support	doctors & others 9. Strengthen prevention measures for individuals at risk of severe disease	12. Isolate & treat all mild/ moderate cases in designated facilities 13. Identify, monitor, and Quarantine contracts.	
Key actions including adaptations	← SUSTAIN ESSENTIAL HEALTH AND CLINICAL RESPONSE →		

4.2 Governance Mechanisms

After Central government announcement a 21-day country-wide lockdown starting March 25. To contain the spread of COVID-19 in the state, the Government of Karnataka took the following measures to restrict the movement of people in the state:

- Closure of various establishments such as theatres, pubs, gyms, malls, swimming pools, and educational institutions.
- On March 13, the order also directed all international passenger arrivals to be mandatorily home quarantined for 14 days.
- On March 20, the order also banned all religious gatherings.
- On March 23, all bus services to and from the districts that had reported COVID-19 positive cases were completely stopped.
- The central government later announced a 21-day country-wide lockdown starting March 25. This was followed by the announcement of a pass system by the Bengaluru Commissioner of Police on March 25 to regulate the movement of people in Bengaluru City. In the mid of complete lockdown, District Collectors were empowered to issue inter-district transport passes.
- On April 6, District Collectors were empowered to issue inter-district transport passes.
- April 15, the Ministry of Home Affairs issued guidelines on the measures to be taken by governments until May 3. As per these guidelines, to mitigate hardship to the public, select activities will be permitted from April 20 onwards. These include health services, agriculture and related activities, financial sector, MNREGA works, cargo movement etc. In addition, subject to conditions, commercial and private establishments, industrial establishments, government offices, construction activities etc. will also be permitted.

a. **Essential Goods and Services**
- The pass system in Bengaluru City facilitated the movement of personnel involved in manufacturing and providing essential goods and services.

- On April 2, the government announced that it will distribute the excess stock of milk to poor people for free.
- On April 6, Karnataka Government declared that rations for the month of April will be supplied to people without the usual OTP authentication process.

b. Health Measures

Karnataka Epidemic Disease COVID-19 Regulations 2020

- On March 11, 2020, the government released the Karnataka Epidemic Disease COVID-19 Regulations 2020 to prevent the spread of COVID19 in the state. These regulations specify the protocol for hospitals to follow for screening and treating COVID-19 patients. These regulations are valid for one year.

c. Preventive Measures

- On February 5, 2020, the Department of Health & Family Welfare and AYUSH services issued the Terms of Reference for district-level teams to take preventive measures against the spread of COVID-19. The terms relate to various administrative and complementary aspects related to COVID19 management. These include activities of various teams, human resource management, training and awareness generation etc.
- Following this, on April 6, 2020, the Department also issued instructions to all districts to prepare a District Level Crisis Management Plan to prevent large outbreaks of COVID-19.

d. Setting Up of Fever Clinics, Isolation Centers

- On March 4, the Karnataka state government issued guidelines to the district administration to ensure hospitals maintain a 10-bed isolation ward for COVID-19 patients.
- On March 31, the government issued orders to establish fever clinics as the first points of contact for COVID-19 suspect patients. These fever clinics would have COVID-19 Rapid Response team of one doctor, two nurses and a health care worker.

e. Personnel Measures

- On March 30, the Department of Health & Family Welfare invited applications from doctors for immediate appointment (on contract basis) in Urban Primary Health Centers in Bengaluru City. Subsequently, on April 2, the state government issued orders to extend the tenure of retiring medical professionals from March 31, 2020 to June 30, 2020.
- On March 26, all Registered Medical Practitioners were permitted to provide telemedicine services during the lockdown period. Telemedicine services will be available for minor, non-COVID-19 ailments, and existing patients only.

4.3 Punitive Action for Disruption of Services

After assessing the situation of COVID-19, Karnataka government has decided to lockdown the whole state as per the guidelines. Meanwhile, the State government has stepped up measures to further contain the spread of coronavirus. The government has also warned of penal action against those violating mandatory quarantine. The state has issued fresh regulations under lockdown.

- General public and resident welfare associations are advised to report any violation of the quarantine in their neighborhood to the police at telephone number 100.
- Any person violating mandatory quarantine will be booked and faces jail time from 6 months up to one year.
- All foreign-returned persons must practice self-quarantine, failing which they will be liable to be booked under IPC Sec 188 and sent to a government quarantine facility.
- While compelling IT & BT companies to encourage work from home.
- Private Vehicles Warned: Stringent action against private vehicle operators, including buses, if government directions imposed to prevent the spread of coronavirus are violated.
- Certain authorities shall act as 'authorized persons' responsible for enforcing the regulations, including Director – Health Services, Director – Medical Education and Research (state level), and Deputy Commissioner (district level). authorized persons shall have the power to isolate a person if he / she has had a history of travel to a COVID-19 affected area or has come into contact with a person from such area who is symptomatic. Non-compliance with the provisions would entail a penalty under Section 188 of the Indian Penal Code, 1860.

4.4 Logistics, Procurement and Supply Chain Management

There was a strict instruction to seal district borders and stop inter-district movement in the state. Restrictions on movement of goods vehicles have severely disrupted supply chains of farmers-wholesalers and wholesale-retail creating an artificial scarcity in the state leading to panic buying. As the coronavirus pandemic continues to wreak havoc on the state economy, businesses were ramping up their efforts to maintain continuity. Multiple states have been placed under lockdown, barring operations for businesses apart from those delivering essential services. "So, the problem was not of shortage of produce, but disruption of supply chains,"

Businesses across numerous verticals were bearing the brunt of the situation. Amid the unprecedented pandemic, multiple services such as travel, transport, retail, etc., have been halted temporarily as per the guidelines. In the meantime, government was trying to find ways to deal with the current scenario that will be beneficial in the longer run.

To mitigate the fallout in the industry, businesses in the supply chain and logistics industries were stepped up their efforts to respond to the coronavirus pandemic efficiently.

a. **Demand and Supply**

   While there was a demand for goods, especially essential items, several manufacturing plants have been closed temporarily, because of which the supply chain has come to a halt. On the State front, a majority of flights have been suspended, disrupting the global shipping of goods. Further, the forced closure of factories has pushed brands that are still operating to procure materials using alternative ways to meet the demand from the people.

   While a sustainable supply chain was majorly driven by state's demand, the lack of resources such as transport and manufacturing, made it challenging for the seamless functioning of supply chains around the state. This proved a challenge once the pandemic has passed and the state returns to normalcy, with demand increasing. Clearance of leftover stock was one of the major aspects that businesses dealing with non-essential items should focus on is stocking up of materials or products. At a time when only essential items and services are being permitted, the stock of all non-essential items would be piled up in warehouses.

   Technology has led to a paradigm shift in the operating methods of urban logistics and supply chain management sectors. During such challenging times when there were limited resources available, technological advancements have become handy in more ways than one. The crisis has left almost all employees across verticals to work remotely. The absence of manpower increases the strain on the supply chain, which is where technology comes into the picture.

   E-commerce logistics companies were on-boarding new partners onto their platforms for seamless intra-city delivery of goods, particularly essential items. These brands were also expected to resume inter-city shipment of goods once the lockdown regulations are relaxed across the state.

   Governments and private organisation's were worked together towards containment and eradication. In the initial period, the state government considered allowing certain industries and manufacturing plants to be reopened and resume operations with about 20-25 percent employee capacity. After applying proper social distancing, sanitation, and hygiene norms followed by the masses, the supply chain and logistics industry has become able to avoid further downfall and move towards normalcy.

After the Unlock phases in the state, the Karnataka government has assured that there will be no restrictions on the movement of heavy vehicles both inter- and intra-State especially logistics and essential goods. Subject to removal of all bottlenecks as promised and decided to re-open. This was expected to ease the situation for retailers to a large extent with safety measures.

4.5 Law Based and Science Driven Strategies

The Karnataka Government has reported to have notified the Karnataka Epidemic Diseases, COVID-19 Regulations, 2020 ("COVID Regulations"), on March 11, 2020, as an attempt to contain the outbreak and spread of coronavirus, COVID-19, which was incidentally declared as a 'pandemic' by the World Health Organisation the same day. Issued with immediate effect and for a period of 1 (one) year from its notification, the COVID Regulations empower the district administration to put in place containment measures and also ensure the public takes special measures to prevent the outbreak and spread of the potentially fatal disease, as fears around its ramifications have reached a feverish high worldwide.

What do the COVID Regulations provide for?

The COVID Regulations define an **'Epidemic Disease'** to include COVID-19, confer the status of **'authorised persons'** on named officers (such as officers of the Department of Health and Family Welfare), and go on to set out detailed guidelines to be followed by hospitals and testing laboratories. The regulations also prohibit any person, institution or Organisation from using any print or electronic media for misinformation about COVID-19 and treat the violation of this stipulation as a punishable offence thereunder. A rather significant provision of the COVID Regulations is the conferment of enabling power on local authorities, namely the relevant district administration, to implement containment measures in the event a case of COVID-19 is reported from a defined geographic area. The district administration of such district is empowered to, *inter alia*:

- bar entry and exit of the population from a containment area;
- require closure of schools, offices and ban public gatherings;

- ban vehicular movement in the area;
- isolate all suspected cases in hospitals.

This enabling provision of the COVID Regulations have far-reaching consequences, given that the local authorities are granted the power to extend measures *including but not limited* to those set out in the COVID Regulations, and issue such directives to entities without making a distinction between those in the public and in the private sector.

Additionally, the COVID Regulations set out requirements for reporting of visits to states or areas where COVID-19 has been reported, and for isolation of individuals with such travel history (for individuals who are symptomatic and asymptomatic).

- Persons who have visited a COVID-19 affected country or area but are asymptomatic were required to isolate themselves at home and avoid contact with persons from the date of arrival/exposure, although the period of quarantine is unclear as it is prescribed as 14 days in one regulation and 28 days in another. Moreover, the COVID Regulations also impose an obligation on *any person with a travel history in the last 14 days to a country or area from where COVID-19 has been reported*, to report to the nearest Government hospital or call a toll-free helpline number so that necessary action may be taken. Therefore, there is some ambiguity around the quarantine period and the reporting requirements.
- Another noteworthy aspect of the COVID Regulations is the penalty that imposed on a person or organisation found to have violated any provisions thereof. Such person will be deemed to have committed an offence under Section 188 of the Indian Penal Code, 1860 (similar to the penalty provision under the ED Act itself). Section 188 penalises disobedience of an order duly promulgated by a public servant with imprisonment up to a term of 6 (six) months if the disobedience causes danger to human life, health or safety, and/or fine, which may extend up to INR 1,000.
- The COVID Regulations further empower to penalise any person or organisation violating the regulations or any further orders issued by the Government thereunder, after giving such person reasonable opportunity to be heard.

Impact of COVID Regulations

While several States were continuously reporting cases of COVID-19 detected within their jurisdictions and were attempting various containment measures for example, cancelled all public functions scheduled in March, urged people to cancel weddings and other events that could invite mass gatherings, shut schools, colleges and movie theatres.

Interestingly, the Karnataka Government is the first to invoke the ED Act (Enforcement Directorate) to empower government authorities, through legislation, to implement any containment measures. No other State Government has gone so far as to

legislatively empower local bodies to issue orders and directions to both public and private bodies to implement such containment measures.

4.6 App-Based Essential Health Services Reporting and Social Vulnerability Mapping

The INDEX Application aimed to create a database of COVID-19 Positive Cases and provide this information to the multiple use cases in real-time for action and facilitation of field level implementation and monitoring of the situation.

ICMR portal provides COVID-19 positive testing results. This information of the positive patient records is the source information and is consumed as line list at the district and state levels to take up necessary actions concerning the identification of the COVID-19 Positive Persons and monitoring of the cases till conclusion including the first activity of triaging and shifting of the COVID-19 Positive persons to DCC / DCHC / CCC, tracing the contacts, sealing of the location by creating a containment zone, ensuring adherence of the Home quarantine, etc.

The following shall be noted regarding the INDEX Application:

- This application is a local solution conceptualized, custom-made, developed, and implemented at Bengaluru since July 1st, 2020.
- A platform for processing of COVID Positive Patient Data records from the ICMR portal.
- Make them compatible for use by BBMP Zonal teams for conducting subsequent workflows seamlessly.
- The BBMP COVID-19 War Room has, therefore, reduced the time taken from 24 hours to near real-time for accessing the information on COVID-19 Positive Cases for action by the zones, including shifting of the patient to either hospital or CCC based on symptoms, arranging ambulances, tracking patient lifecycle, etc.
- Integration with all other Applications.
- Provides Dashboard to view the Analysis / insights on a real-time basis.
- Preparation of Contingency Plans – Actionable and Comprehensive Strategies.
- Generate reports daily / in real-time for monitoring of situation and management.
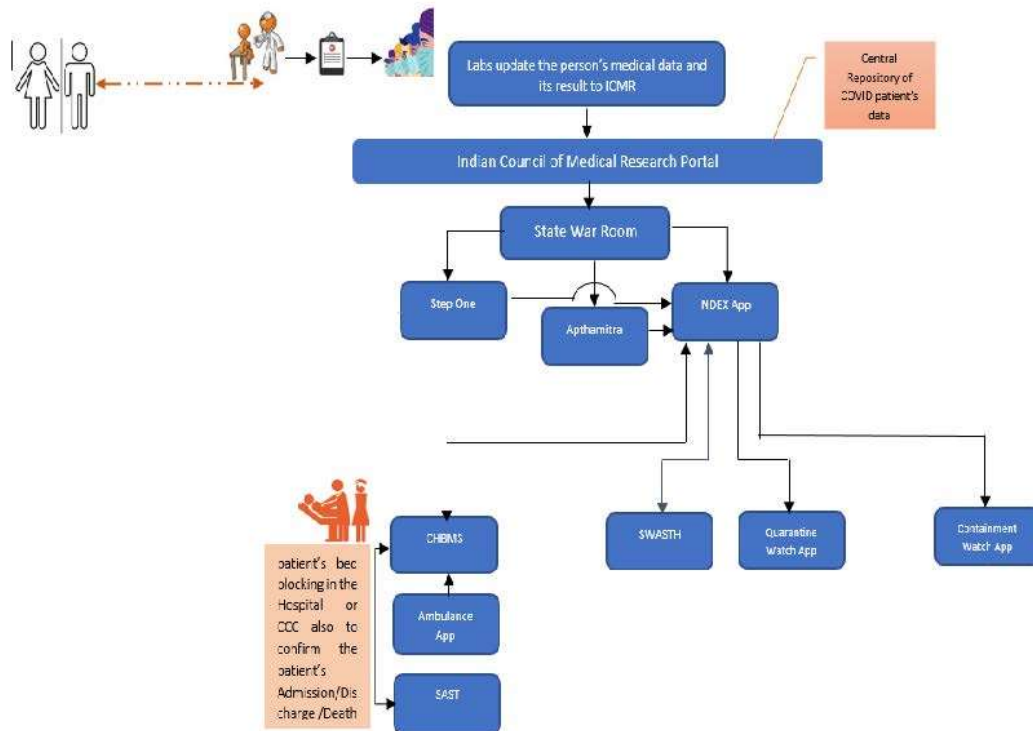
The Fig. 11: BBMP COVID – 19 Software application integration.

Workflow

- Labs update the person's medical date and its result to **ICMR** portal who ever undergone the test. ICMR is a central repository of COVID patient's data.
- **State WAR Room** directly collect the data from ICMR portal.
- So obtained data from State War Room then get dispersed to Step One (Set of Doctors/Nurses to conduct online clinical triage and recommend the type of treatment to the patients), **Apthamitra** (it is a call center set up aimed to provide first level triage and suggest treatment type required to the patients.) and **INDEX** app.
- **Ambulance** and **SAST** apps are integrated with **CHBMS** to provide the information of vacant bed, acquired beds and total number of beds in the hospitals.
- **SWASTH** (Application to monitor the health condition of the Home Isolation positive Patients), Quarantine Watch and Containment Watch are integrated with INDEX Application to gather the data.

4.7 Challenges Faced by Informal Workers and The Government's Response

"The very unfortunate things were that the crisis caused by the coronavirus pandemic has revealed the social reality of the migrant workers," COVID – 19 made "The situation is dreadful among the working class," including garment workers, domestic workers, street vendors, construction workers, gig-economy workers and migrant workers. It warned the government about the plight of the state informal and migrant workers and the need for immediate state intervention. The trade unions and rights organisations pointed out that social-security measures announced by the government has to be reach to the most vulnerable sections of the society. These measures included:

- Rs. 2000 million rupees package intended to contain the pandemic, provide a social-security pension, set up fever clinics for potential COVID-19 cases and serve meals to the poor in the state.
- Indira canteens as part of its subsidised-food programme implemented without leaving those worst affected by the lockdown—predominantly the city's massive informal-sector workers—in dire straits.
- A sum of Rs 1,000 would be given for 21 lac construction workers who have been finding difficult to get labor and wages owing to total lockdown in the entire State.
- Karnataka government announced waiver of loans amounting 142.6 million rupees benefiting 21,700 street vendors and small traders in urban areas, particularly in Bengaluru, who have been facing a severe hardship in the wake of state-wide lockdown following the spread of corona virus.
- For the benefit of rural poor, the government has decided to daily wages in advance for beneficiaries of the MGNREGA.

- Cut in central grants under the GST and other schemes to mitigate the revenue issues.
- One-time compensation of Rs 5000 has given to unorganised sector workers like barbers, washer men, cab drivers and auto drivers who have lost their livelihoods due to lockdown.
- State government has announced additional relief of Rs. 3000 per person to registered construction workers.
- Karnataka government has built Hunger Helpline and Sahaya Sethuve apps, a one-stop platform that will allow citizens to register as volunteers in the fight against COVID-19 and also connect with NGOs. NGOs can register through the web-based portal and add their respective inventory donation form including items, number of units, and area. Those organisations willing to donate goods to the BBMP will be given delivery route passes and the items can be deposited at a designated collection Centre. Volunteers also can register for various activities that will be employed by the BBMP based on demand and need. Even doctors can register for consultations.
- All the data will be fed into a portal which also provides a dashboard view to the War Room officials. The app can be accessed on
    https://play.google.com/store/apps/details?id=in.bbmpgov.COVID.er
    https://bengalurucares.bbmpgov.in/#/landing

4.8 Mobilizing Scientific and Technological Capacities across Disciplines

The Karnataka government revived its growth engine, Bengaluru, to help open some avenues of resource mobilization. The government arranged for passes and public transportation and asked companies to put in place measures like screening. The Karnataka government allowed technology companies to operate with 50% staff in their premises after 20 April 2020, indicating that the state would partially lift the lockdown despite the growing number of COVID-19 cases. Information technology, biotechnology and other companies in the state were forced to ask their staff to work from home after a nationwide lockdown was announced by Prime Minister Narendra Modi beginning 25 March with the guidelines as the first COVID-19 patient in Karnataka was an IT executive in Bengaluru.

- Executives of large corporations, including software firms, can have minimal staff present in their offices to support those working from home.
- Companies to put in place measures like screening as part of precautionary steps to keep the virus from spreading.
- Avoid non-essential travel to COVID-19 affected countries and refrain from travel to China, Iran, Republic of Korea, Italy, Japan and Iran.
- Employees other than those restricted Countries arriving directly or indirectly from China, South Korea, Japan, Iran, Italy, Hong Kong, Macau, Vietnam, Malaysia,

Indonesia, Nepal, Thailand, Singapore, Taiwan, UAE & Qatar must undergo medical screening at airport entry.

- Employees arriving through all international flights entering India from any port are required to furnish duly filled self-declaration form (including personal particulars - phone numbers and address in India) and travel history to health officials and immigration officials.

- Those employees having flu like symptoms were allowed to work from home with advice of standard hand hygiene and cough etiquette.

- Promote regular and thorough hand washing at workplace.

- Put sanitizing hand rub dispensers (alcohol based) in prominent places and provide access to places where staff can wash their hands with soap and water.

- Surfaces (Example: Desks & Tables) and objects (eg: Telephone, Keyboards) should be wiped with disinfectants regularly.

- Promote good respiratory hygiene. Ensure that surgical mask and /or paper tissues are available at your workplaces only for those who develop a runny nose or cough at work along with closed bins for hygienic disposable of them.

- Any passengers who has visited affected Countries and come to Karnataka, he/she has to be self-intimated to the Health Department. If he/she has to travel again from the state to other places, he/she has to take permission from the Health Department, or he/she has to intimate the concerned officials of the Health Department.

- Regarding any symptoms or travel history to COVID-19 affected countries kindly report to Apthamitra free Help Line Number 14410.

4.9 Inter-Sectorial Collaboration

State government provided the relaxation of lockdown norms for 17 core services/sectors in the ensuring safety measures such as social distancing on these authorities while operating activities such as:

- Construction activities related to road, irrigation projects, buildings and all kinds of industrial projects, including MSMEs, in rural areas and semi-rural areas outside municipal corporations and municipalities. Similarly, construction activities have been allowed in industrial areas where workers are available on-site and there is no need to bring them from outside.

- It has allowed movement of all goods transport, including cement, steel, bricks, gravels, tiles, and paints. While the truck movement is allowed for delivery of goods, shops repairing trucks and highway dhabas are allowed to remain open.

- It has allowed works under MNREGA with conditions like workers should practice social distancing and wear masks.

- It has also allowed plantation works in coffee and tea estates with a workforce of 50%. Activities related to ports and air cargo are also allowed, while private security personnel are exempted from the lockdown norms.

- With respect to anganwadis, it has allowed distribution of food items to the beneficiaries such as children, women, and lactating mothers once in 15 days. With focus on social sector, it has allowed the authorities to carry on with disbursal of social security schemes such as old-age, widow, physically challenged and freedom fighters pensions and provident fund services.
- Hotels, guesthouses and homestays, which are housing tourists stranded due to COVID-19, have been allowed to carry on their operations.
- The operation of power and water utilities would continue without any hindrance, coal, oil and gas sector too has been allowed to continue with its work.
- Metro Work: The revised notification has allowed construction activities of Bengaluru metro by BMRCL. But it makes it clear that workers should be available on-site instead of bringing them from outside.
- Online teaching: Though the revised order makes it clear that all educational/coaching and training institutions should continue to remain closed, it has asked them to maintain academic schedule through online teaching. It has also asked the educational establishments to make the maximum use of Doordarshan and other educational channels for teaching purposes.

4.10 Science and Technology-Based Decision Making

The synergy between the Department of Health and Family Welfare, responsible for primary health care and the Department of Medical Education, looking after the curative aspects of health through tertiary health care centers, education, and training of health workforce of doctors, nurses, and paramedical workers helped in streamlining a quick response to the pandemic. The response strategy to manage COVID-19 outbreak was an all-encompassing integrated approach. The state and district leadership at the helm led from the front with evidence-based guidance from sector-specific experts. "The expert groups were constituted, including the best of minds from public and private sectors and NGOs to render technically sound advice on public health, clinical management, and testing etc."

The response strategy of the Karnataka state, including contact tracing, isolation, and treatment was primarily guided by use of technology and innovative approaches once after the fresh COVID-19 positive case.

- Data collection and dissemination of information has done through web-applications and telecommunications.
- Effective partnerships between the public and private sector, community engagement, and the vibrant IT sector in the state has contributed in strengthening the state's response to COVID-19.
- Built State Task Force Team, to coordinate and guide actions in the field.
- A technical expert committee comprising of public health experts, virology experts, and clinical experts was constituted to guide the state response based on evolving knowledge and evidence.
- Three other committees for **clinical care and management, death audit committee**, and **telemedicine** led by expert intensivists, pulmonologists, and clinicians were formed at the state level to guide the response.

Tracing not just high-risk contact but also low-risk contacts: The state included both high-risk and low-risk contacts in its tracing strategy. This proved effective as it enabled the authorities to identify, trace, and isolate individuals who could spread the infection. Screening of international and domestic travelers at all the airports in Karnataka and mandatory institutional quarantine helped in curbing the spread. House-to-house visits by health team for screening for ILI and SARI cases, sampling of vulnerable groups (age <60, co-morbidities, pregnant women, etc.) in containment zones for early case detection and to reduce mortality rate was the key strategy.

Learning along the way: Capacity building initiative of the workforce was implemented through a multi-pronged approach. Integrated Disease Surveillance Programme (IDSP) with technical support from WHO India conducted workshops at the state and district level on the basic epidemiology, public health response, clinical management, and infection control practices. This was followed by a detailed training programme focused on clinical aspects of COVID management for secondary and tertiary institutions including teaching hospitals led by Rajiv Gandhi University of Health sciences. More than 0.2 million frontline workers have been trained so far using this platform. The state was quick to launch a YouTube Channel, Jagruti Karnataka, that has been in use to disseminate training to the field-level health workers, including departments like education, revenue, Panchayati Raj Institutions (PRIs) on risk communications, contact tracing, conducting monitoring surveys, etc.

Fully equipped control room for crisis management: The state-of-art control room was set up in record time of 24 hours in Bruhat Bangalore Mahanagara Palike (BBMP) corporation body in early March, with facilities like 24/7 control and command centre; virtual training and video conferencing facilities; GIS mapping of cases and contacts; heat mapping technology for containment zone and cluster; immersive technology for large data management of contact tracing and quarantine; real-time tracking of ambulance services and disinfection procedures; production and dissemination of IEC; and daily media

bulletins. While the BBMP war room focused on the response in Bangalore, similar control rooms were established for crisis management throughout the state.

Public-private partnerships to strengthen the health infrastructure: Work on health infrastructure in government hospitals at district and taluka levels has started in early stages, focusing on increasing beds with high flow oxygen, and ICU capacity.

Partnering with the private sector helped in streamlining COVID-19 and non-COVID patient care. The state identified rural and urban primary health centers, government and private hospitals including medical colleges that could be repurposed as fever clinics. These clinics were equipped to screen patients for fever, oxygen saturation, and transfer patients to COVID hospitals if required. Later, the state government also made provision for testing for COVID-19 through swab collection at these centers. The state was the first to cap the prices for COVID-19 testing and treatment in these centers that led to the screening of more than 2.5 million people in the fever clinics. The CHBMS application has been implemented in these processes.

Scaling the lab capacity: National institute of mental health and neurosciences (NIMHANS) virology department trained and ensured quality assurance of the testing in both government and private labs. With just two labs in March to 104 labs now conducting RT-PCR test, the state has made steady progress to reach the unreached and underserved communities by setting up mobile swab collections units. SAST and Ambulance apps played a very important role for the whole process.

Integrating psychosocial support in response strategies: Karnataka has a vibrant mental health programme both at the state and district level which is supported by specialists from the National Institute of Mental Health and Neurosciences (NIMHANS). Intending to provide mental health and psychosocial support during the pandemic, the state government strengthened the collaboration with NIMHANS with the launch of the e-Mind technology programme. Under the initiative, more than 640 000 counselling sessions have been conducted so far to provide counseling on mental health and psychosocial issues to COVID-19 patients in hospital isolation wards, people in quarantine, contacts and migrants.

Technology for data collection, analysis and response

- **Application for contact tracing (Step One, Apthamitra, INDEX App);** These applications enabled the sharing of contacts across the state and building a database of primary and secondary contacts – the most critical step to contain the pandemic.
- **Corona Watch;** through this application, the location of corona affected patients can be tracked and their movement history of last 14 days can be recorded.
- **Containment Watch app;** has also been developed to undertake survey in containment zones and ensure the provision of essential services.

- **Seva Sindhu Portal;** of Government of Karnataka was used extensively to issue e-Pass for movement of persons into the state during different phases of lockdown and unlock period.
- **Karnataka health watch;** the state-wide household survey was conducted to map high-risk households and vulnerable populations through Karnataka Health Watch, a mobile application to capture real-time data. The survey of older adults with comorbidities and pregnant women was done through teleconsultation from a state-of-the-art tele-ICU facility in Bengaluru, led by the state's best doctors.
- **Apthamitra Helpline;** the state government also activated Apthamitra Helpline, a free tele consultation to assess those having medium to high-risk infection and ensuring timely screening, testing, and treatment.
- **Tele ICU programme;** A Tele ICU programme has been launched in Karnataka with support from intensivists working in private hospitals to train and guide the ICU staff working in different medical college and district hospitals. This has been of immense help in providing quality care at the district level and saving lives. This model is getting replicated in other states now.
- **Karnataka Private Medical Establishments (KPME) portal;** ILI and SARI surveillance strengthening was done with reporting of all hospitals made mandatory through the KPME portal made by State. Along with this, districts have used various forms of technology like Google forms and EpiCollect to make tracking of cases and ensuring swab collection possible.
- **Participatory approach;** the resident welfare associations (RWAs) were involved through regular video conferencing with the Commissioner, BBMP in the day-to-day monitoring. The Pranavayu initiative was introduced on self-monitoring for oxygen saturation levels by people in the case of ILI symptoms. 1912 call center was set-up to address grievances related to denial of hospital admission of patients requiring emergency services.
- The state's strategy focused on immigrants and ensuring supplies of essential food items; health check-ups of all pregnant women and children. This was spearheaded with the involvement of self-help groups, NGOs, and donors. Awareness campaign regarding wearing masks, maintaining physical distancing, and washing hands regularly were conducted involving celebrities from different walks of life to reinforce the safety messages.

The technological innovations not only tracked vulnerable population but also guided the state to make decisions on graded relaxation of lockdown norms in safer areas and earmarking high-risk containment zones.

4.11 Community-Based Approach to Flatten the curve

Karnataka government has put community participation at the center of its COVID-19 control strategy **"Community kitchen"** in Karnataka is an example of this approach. Ease

in restrictions and surge in cases call for a rethink of the pandemic and control strategies, suggesting that the focus must turn to community participation.

Community participation was the key to public health and has been central in fights against the pandemic. In the context, the importance of active engagement with the community has been highlighted. Community involvement has played a key role in planning local-level actions in collaboration with local bodies to identify vulnerable households, provide support to the elderly and those in quarantine, develop better communication strategies and help in contact tracing. Apart from imparting a sense of urgency, these exercises also helped highlight other competing issues like hunger or loss of work that influenced the adoption of preventive behaviors.

Amid the massive disruption caused by the pandemic, local non-government organizations (NGOs) have sprung into action to fill in the gaps of communication and delivery of essential items to underserved communities.

NGOs and Underserved Communities: Urban slums dwellers typically have little or no leverage in the corridors of households. They tend to lack access to adequate food, clean drinking water, sanitation, healthcare and education facilities. Against this backdrop,

NGOs serve an important role, working to help these underserved populations. They created local networks and resources, often drawing from the very same pool of people they help, foster upward mobility for slum dwellers by generating jobs, they create credibility banks that are often used during emergency situations, those that are well-staffed and organized maintain records of the work they do, thereby providing a repository of valuable data that can later be accessed. These organizations' services came into special use during the lockdown.

Operation Mercy Mission, Bangalore: A Glance from the Battlefield: Civil society actors have stepped in to help fill gaps in underserved communities in Bangalore during the unprecedented public health emergency. About 20 such organizations — including The United Foundation, Our Nation, and Heera Foundation- formed an Emergency Response Team and began aid works under the campaign name called Mercy Mission. All the members of this ad hoc coalition have deep roots in and have built strong networks throughout the city of Bangalore and the state. For ten years or more, they have been actively working on the ground, conducting annual surveys and food distribution drives. This experience has enabled them to easily identify those most at risk and in need- widows, orphans, physically challenged, orphans, the ill or infirm, the elderly, single parents, wage workers, and so on.

NGO staff have procured raw materials from local vendors, with whom they have had long-standing relationship. Based on the trust and transparency established with the NGOs, the vendors have been ready to offer goods on credit and even to forgo payment in order to show their support for the initiative. The NGOs have been about not opting for cheaply priced goods, if that meant compromising on quality. Many vendors directly transported the goods to the slums, cutting out retailers, in order to prevent hoarding and profiteering.

Precautions taken:

- To carry out relief work safely without being penalized for breaking the lockdown rules, the NGOs have needed to integrate the local police officers and municipal officials into their work. Politicians are involved with the NGOs in these areas, financially better-off individuals living in/near these slum areas, end up becoming caretakers of their immediate neighborhoods.
- Police authorities had put a system in place, whereby they provide NGOs with passes for every individual involved in on-ground relief work. To do so, the local members formed a team and submitted specific names to the police authorities to gain permission. Considering the infectious nature of the virus, no mass distribution has been done. Instead, NGOs have relied upon door-to-door distribution, arranging for two wheelers and auto rickshaws to deliver kits to households in various by-lanes.
- Volunteers have been educated on the risk factors, and on the precautions to be taken during the distribution (e.g., the wearing of protective masks and gloves, the use of hand sanitizers, etc.). To avoid any chaos and crowding of people, the distribution has been carried out in the early morning hours.
- Finally, hosts of additional volunteer doctors and health workers have been recruited to ensure that timely advice and help is provided. These volunteers also advise communities regarding funeral services and final rites for individual that have succumbed to the virus.

In fact, most of the volunteers work offline and, in their homes, with a very small number tasked with distributing food, thereby minimizing the risk of spreading the virus. According to organizers of the initiative, more than 20,000 families were provided for within the first week of the shutdown, with daily increments of families helped by the organizations.

Similarly, many other organizations and actors across state and national have sprung up, taking charge and helping make sense of the chaos. National organizations such as Feeding India, Give India, Goonj, and many others have teamed up with local actors as well as crowd-funding websites to help bridge the gap, feed the hungry and organize funding for these operations. **"Community engagement is the one factor that underlies the success of all other control measures."**

4.12 Unified and Effective Commanding System

Bengaluru, The Centre's Smart Cities Mission has proposed to upscale its projects to handle the COVID-19 situation and helped Karnataka government to contain its spread, by focusing on strengthening Health Infrastructure.

The Smart Cities Mission, which was set up to improve the quality of life of state citizens through local development and technology innovations, has worked closely with the Department of Health and Family Welfare of the state to enhance its efforts to control the

spread of COVID-19. The focus on strengthening health infrastructure, providing medical equipment and developing information technology solutions.

Under the Smart Cities Mission, a detailed plan of action has worked out in consultation with BBMP (Bruhat Bengaluru Mahanagara Palike) Special Commissioner, Health and other senior officials from the Health Department. "The Mission has proposed to upscale its current projects to handle the COVID-19 situation, to upgrade infrastructure and equipment at district hospitals, and to procure ambulances and equipment. The Mission also planned to use an Integrated Command and Control Centre model along with other IT interventions to upgrade the existing e-health system and has involved in the hardware procurement for an e-Hospital Management System".

COVID WAR Room has been built in-collaboration with BBMP and Bengaluru Smart City. The BBMP COVID-19 War Room started on the 22.03.2020 – as the first War Room in the country to fight against COVID-19. The War Room began with the objective to develop a clear plan and process to chalk out containment plans and implementation strategies to avoid community transmission and also to make a daily contingency plan to compensate and augment facilities that may be exhausted in a very short time. The link to access the BBMP COVID War Room is https://www.COVIDwar.karnataka.gov.in/
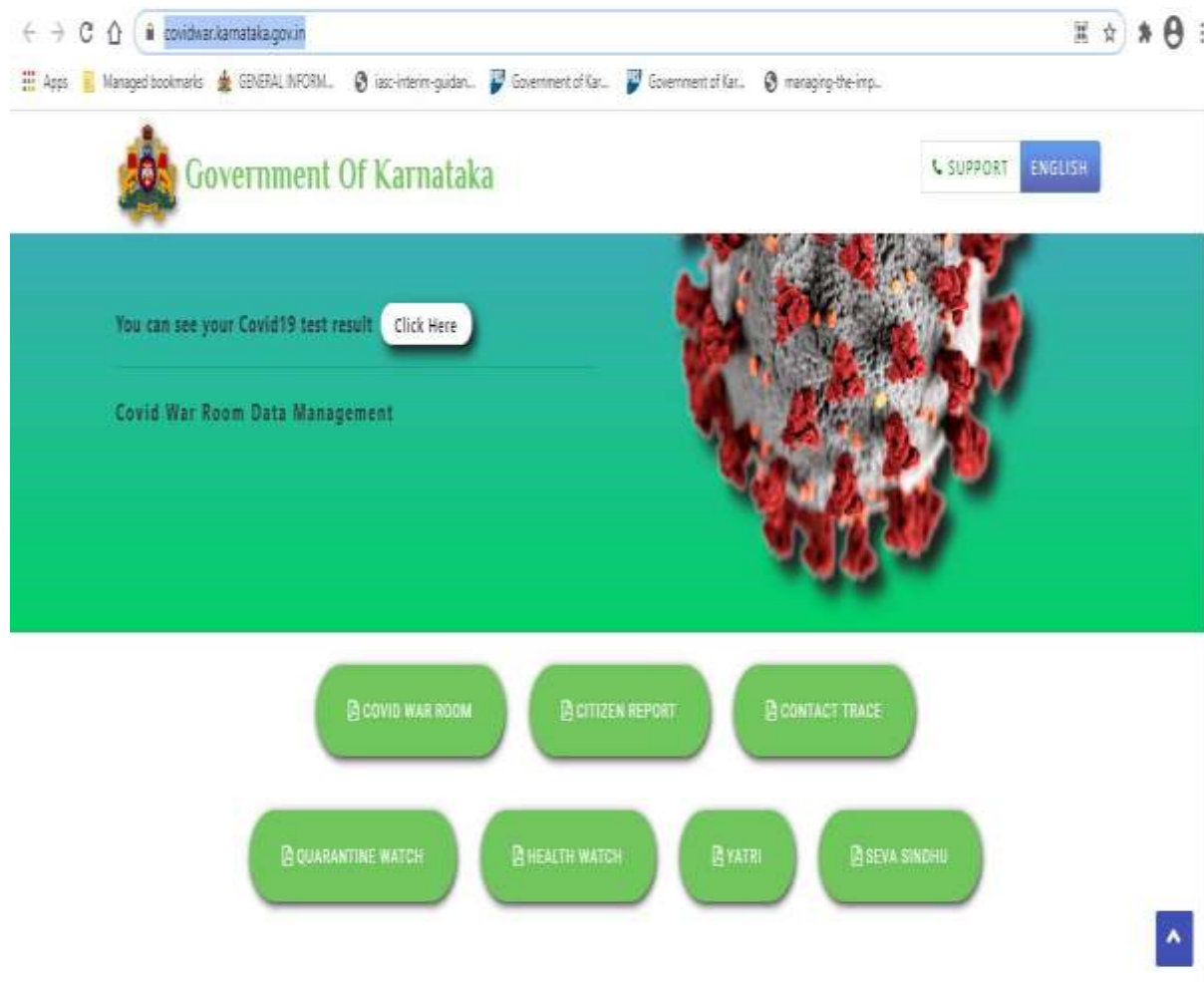
The BBMP COVID War Room has the modules such as COVID War Room, Citizen Report, Contact Trace, Quarantine Watch, Health Watch, Yatri and Seva Sindhu.

4.12.1 COVID War Room: In the beginning, a strategy was put in place at the Bengaluru COVID-19 War Room. The Four Quadrants of War Room were identified as the essential elements and guiding blocks for the War Room2. The Four Quadrants are – Information, Communication, Management, and Predictive Modelling. Identification of these Four Quadrants was critical to entire Crisis Management as this defined the way ahead for the entire exercise that is being carried out at Bengaluru. COVID War Room also has the modules such as:

COVID WAR ROOM DATA MANAGEMENT

WAR ROOM - UPLOADING REPORTS

a. COVID War Room:

- Which gathers all the data related to patient details, bed blocking, health care facilities, containment zones etc.
- Login credentials are given to only authorised persons to access the details by the concerned authorities

b. War Room – Uploading Reports: It allows to upload the below reports

   i. Citizen Report: It Provides:

   a) COVID Test Results

   b) Health Survey Data Entry Progress Reports

   c) District wise Visit & Selfie Report

   d) Home Quarantine Person Reports

   e) Inter State Returnee Report

   f) COVID – 19 Analytics - Daily report

   g) Yatri Passenger Report - Yatri Airlines

   ii. Contact Trace: It has the below components

   a) Data Entry and Verification Reports

   b) Patient ID Wise & District Wise PC & SC

c) District Wise Number of Contacts

d) Patient ID who have Nil Contacts

e) Jurisdiction Wise Patient & Contact Report

iii. Quarantine Watch: It has the below components

a) Quarantine Watch & Data Entry & Correction

b) District Wise Visit & Selfie Report

c) Home Quarantine Person Wise Reports

iv. Health Watch: It has the below components

a) Data Entry Application for Health Survey Data

b) Health Survey Data Entry Progress Reports

v. Yatri: It comprises of

a). Yatri (International Airline Passenger – Declaration)

b). Yatri Passanger Report – Yatri Airlines

c). Yatri Data Entry and Verification – Yatri Railways

vi. Seva Sindhu: This application has

a). Seva Sindhu (International Airline Passanger - Self Declartions)

b). Inter State Returnee – Seva Sindhu

4.13 Implementation of Lockdown & Unlock Guidelines

The first case of the COVID-19 pandemic in the Indian state of Karnataka was confirmed on 8 March 2020. Two days later, the state became the first in India to invoke the provisions of the Epidemic Diseases Act, 1897, which are set to last for a year, to curb the spread of the disease. Further, to contain community transmission of the virus, the central government decided to lock down the entire country for a period of 21 days beginning 25 March which all state must be followed and Karnataka has done whimsical approaches to mitigate the virus spread.

4.13.1 Initial Lockdown: To address the plight of migrant workers and the poor, the Government of Karnataka established a toll-free helpline number – 155214 – for providing food to migrant laborers in the state. On April 11, the government issued a circular advising all citizens and health care officials to download, promote and use Aarogya Setu application on their mobile phones to enhance contact tracing of infected persons. The mobile application is designed to give alerts if an infected person comes within the

proximity of the person who has installed the application on their phones using Bluetooth and GPS technology.

In line with Governments of India's order, Minority Welfare, Waqf and Hajj Department under Government of Karnataka issued an order on 15 April for suspending all the congressional prayers (Salat) during the month of Ramadan in mosques/Dargahs until 3 May 2020, due to current COVID-19 pandemic in the state. The order also banned all the eateries near mosques.

4.13.2 Lockdown 2.0: Further, with states in favor of continuing the term of lockdown for another two weeks. During the fourth address to the nation concerning Coronavirus, Prime Minister Narendra Modi extended the lockdown till 3 May starting 14 April. However, based on the Centers' guidelines issued, the Chief Minister of Karnataka indicated the decision on relaxation would be taken on 20 April after evaluating the extent of public conformity to the lockdown. Initial precautions taken in Karnataka were:

- All places of social gatherings including religious conventions shall be barred.
- Most of the Agricultural activities shall be exempted and will be allowed to be operated.
- All Public work programs linked with employment of daily -wage-labors with social-distancing measures in place.

4.13.3 Lockdown 3.0: In line with guidelines issued by the Government of India, the Chief Minister of Karnataka, further extended the lockdown in the state up to 17 May. This time, the Government classified the areas in four main categories: Containment, Red, Orange, and Green zones, based on conducting risk profiling of various districts.

4.13.4 Lockdown 4.0: On 18 May 2020, the Chief Minister of Karnataka announced the continuation of the lockdown in the state up to 31 May 2020. Alongside this, gave many relaxations after receiving the guidelines from the central Ministry of Home Affairs. During this phase of the lockdown, most of the activities excluding Shopping Malls, Cinema halls, Hotels, Restaurants were permitted to operate between 7 Am to 7 PM, except on Sundays, as the government has decided to enforce a strict lockdown on every Sundays up to 31 May 2020. After a closure of almost two months, all modes of public transport services, including buses, cabs, auto-rickshaws, and intrastate train services were permitted to operate from 19 May 2020. Putting an end to the speculation on raising the fares in state-run buses, caused because of limited seats allowed to travel in a bu. In the wake of spike in the COVID-19 cases reported, the government has decided to allow people from neighboring states of Gujarat, Maharashtra, Tamil Nadu, and Kerala in a restricted manner.

4.13.5 Local Lockdowns: Due to the increasing number of cases in several parts of the state, many districts reintroduced lockdown measures. Chief Minister announced that the Bengaluru will be under lockdown from the July 14 for a period of 7 days to control the spread of the disease. Following Bengaluru, a total lockdown was re imposed in three

more Karnataka districts– Dakshina Kannada, Dharwad and Kalaburagi– for a period of 7–10 days.

4.13.6 Unlock Guidelines (Lockdown Exit Strategy):

The Government of Karnataka, facing severe financial crunch, in an attempt to kick-start the economy, on 23 April announced a conditional relaxing of restrictions in lockdown by exempting some economic activity in the state. However, the relaxations would not apply in the designated containment zones. Most of the Manufacturing, Construction and Food processing units outside municipal limits were exempted. Hotels, Home stays where people were stranded because of lockdown were allowed to open including various services linked with supply chain at Railway stations, sea and airports could function. Most of the services provided by self-employed persons like plumbers, technicians and carpenters were also allowed. However, the officials stressed that, various District Administrations shall clear all the exemptions after examining the compliance by the people of the lockdown guidelines in respective regions and relaxations will be subject to strict adherence of the Social distancing norms and sanitization of the workplaces.

a. **Unlock 1.0 (1–30 June):** The Ministry of Home Affairs issued fresh guidelines for the month of June, stating that the phases of reopening would "have an economic focus". Lockdown restrictions were only to be imposed in containment zones, while activities were permitted in other zones in a phased manner. This first phase of reopening was termed as "Unlock 1.0" and permitted shopping malls, religious places, hotels and restaurants to reopen from 8 June. Large gatherings were still banned, but there were no restrictions on inter-state travel. Night curfews were in effect from 9 p.m. to 5 a.m. in all areas and state governments were allowed to impose suitable restrictions on all activities.
In future phases of reopening, further activities are to be permitted. In Phase II, all educational institutions are scheduled to reopen in July, pending consultations with state governments. In Phase III, easing of restrictions on international air travel, operation of metros and recreational activities (swimming pools, gymnasiums, theatres, entertainment parks, bars, auditoriums and assembly halls).

b. **Unlock 2.0 (1–31 July):** Phase II of Unlock began on 1 July under the guidelines and instructions of the MoHA and the National Disaster Management Authority. Lockdown measures were only imposed in containment zones. In all other areas, most activities were permitted. Night curfews were in effect from 10 p.m. to 5 a.m. in all areas. State governments were allowed to put suitable restrictions on all activities, but state borders remained open to all. Inter- and intrastate travel was permitted. Shops were permitted to allow more than five persons at a time. Educational institutions, metros, recreational activities remained closed till 31 July.

Only essential activities were permitted in containment zones, while maintaining strict parameter control and "intensive contact tracing, house-to-house surveillance, and other clinical interventions". Further guidelines regarding usage of Aarogya Setu and masks were reiterated.

c. **Unlock 3.0 (1–31 August):** Unlock 3.0 for August 2020 removed night curfews and permitted gymnasiums and yoga centers to reopen from 5 August. Educational institutions will remain closed till 31 August. All inter-and intrastate travel and transportation is permitted. Independence Day celebrations are permitted with social distancing.

d. **Unlock 4.0 (1–30 September):** On 29 August 2020, upon the Ministry of Home Affairs issued guidelines for activities permitted in Unlock 4.0. It said that "Lockdown shall remain in force in the Containment Zones till 30ᵗʰ September 2020", outside the containment zone, however, some activities were given permission. Metro Rail was allowed to be reopened in graded manner from 7 September. Marriage functions with gatherings of up to 50 people and funereal/last rites ceremonies with of up to 20 people were permitted. Religious, entertainment, political, sports, academic functions and gatherings of up to 100 people were allowed. Face coverings/masks were made compulsory in public places, workplaces and during transport.

e. **Unlock 5.0 (1–31 October):** On 30 September 2020, the MoHA guidelines Karnataka state permitted activities in Unlock 5.0. For schools it has a preference for online learning if possible, Lockdown shall remain in force strictly in the Containment Zones till 30 November 2020. Also, swimming pools being used for training of sportsperson would be allowed to open. Cinema halls, that had remained close all this while, could finally be opened from 15 October 2020, with a 50% of their seating capacity.

f. **Unlock 6.0 (1–30 November):** On 27 October 2020, Karnataka state followed the guidelines received from MoHA issued for activities permitted in Unlock 6.0 allowed opening up of more activities outside containment zones and announced partial reopening of schools. Lockdown has been enforced time and again in spite of attempts to permanently move towards an unlock phase.

g. **Initial Success & 5T Policy:** The policy of trace, track, test, treat and technology (5T) was pioneered by Karnataka to fight the pandemic. During an interaction through the video conferencing, the Prime Minister of India, appreciated the state's efforts in combating the COVID-19 spread and steps taken to unlock the economy with the gradual relaxation of the extended lockdown norms. The center has asked the

other states to adopt these best practices to their local context and replicate them for better management of the COVID-19 pandemic.

4.14 Cluster Containment Strategies & Plans

The Karnataka state government named a total of eleven officials to combat the spread of coronavirus by making them in charge of disease surveillance. The team includes IAS officers, IFS officers, Close Contacts Nodal Officers, in charge of Domestic Flights, , in charge of Contact Tracing, Containment Zones and Quarantine Coordination, in charge of Close contact tracing of international passengers, in charge of rail passengers, in charge of High risk households and public spaces.

The Karnataka government has changed the definition of a containment zone in a bid to further ease the lockdown. Earlier, a containment zone was the area around 100 m radius of the home of a person with COVID-19. This is being changed to mean only the specific building where the person was working and/or residing, when the infection was detected in case it is an individual house.

If a person has COVID-19 and lives in an apartment building, only that particular floor where the patient resides, and the floor immediately above and immediately below would be declared as a containment zone, according to the guidelines released by the Health Department. This means that the entire apartment block will not be declared as a containment zone if one of the resident's tests positive for COVID-19. A cluster has been defined as any location with less than 15 localised cases.

The State government has made various approaches to contain the virus within the geographical locations:

- Defining area of operation and applying perimeter control.
- Applying perimeter control.
- Active search of cases, early isolation, contact listing and tracking, quarantine and follow up of contacts.
- Testing all suspect cases, symptomatic contacts, asymptomatic direct and high-risk contacts of a confirmed case and SARI cases.
- Clinical management based on risk profile.
- Social distancing.
- Administer HCQ in healthcare workers and contacts.
- Create awareness on hand hygiene, respiratory etiquettes and sanitation.
- Enhanced active surveillance.
- Testing all suspected cases.
- Isolation of cases.
- Home quarantine of contacts.

- Preparation for dedicated COVID Care Centers, COVID Health Centre and COVID hospitals.
- Health professionals training.
- Effective community engagement for awareness creation.
- Contact tracing and surveillance.
- Laboratory testing as per protocols.
- Clinical management of positive cases.
- Effective community engagement.
- Disinfecting the areas and social mobilization to follow preventive public health measures.

The Karnataka government has instructed all Deputy Commissioners (DCs) and district officials to set up isolation wards in all hospitals and monitor places of mass gatherings like airports, bus stations, ports, railway stations, malls and multiplexes in the state.

Meanwhile, the Karnataka government has also set up a team of government officials who will be a part of the Disease Surveillance Team and built Quarantine Watch and Containment Watch app to lessen the public movement in the situation. This work will constitute contact tracing efforts and coordination with various government bodies, being undertaken seriously by the government, in order to keep the number of infections in the state low.

4.15 Contact Tracing and Management

Bengaluru, highlighting the need to priorities and use available resources optimally in the backdrop of an increasingly overwhelming number of COVID-19 positive cases. With the help of dedicated Doctors, Nurses, Asha workers, COVID Warriors test of all primary contacts, secondary contacts, high-risk contacts and symptomatic persons has been done.

Meanwhile, a task force has been formed by the State Government, headed by BBMP, Administrative Training Institute Director-General and Director of Urban Land Transport (DULT) for effective contact tracing. The team will trace contacts of high-risk patients within 24 hours and send them to the designated hospitals. Then all the patient reports managed in COVID War Room application in its Contact Trace section. Contact Trace section has the following components:

a. **Data Entry and Verification Reports:** This report is for Data entry and Verification.

b. **Patient ID Wise & District Wise PC & SC:** This report shows the list of Primary / secondary contacts entered in Contact tracing App.

c. **District Wise Number of Contacts:** This report shows the number of patients, number of contacts traced & number of contacts verified

d. **Patient ID who have Nil Contacts:** This report shows the district wise & patient wise number of primary and secondary contacts traced between any two dates.

e. **Jurisdiction Wise Patient & Contact Report:** This report shows the list of contacts entered in Contact tracing App.

f. **Export to Excel of Primary Contacts & Secondary Contacts:** It provides the link to download the list of primary and secondary

4.16 Trained Health Workforce for Disease Surveillance in Containment Zones

Rapidly growing rate of infection was posed a challenge to a State's health system. Comprehensive and repeated trainings with sharply focused content including usage of PPE (Personal Protective Equipment) it's as well as active surveillance of adherence has brought health workforce to a continuous fight against the deadly disease especially in containment zones.

Healthcare workers also served as patient advocates and patient navigators. Health Workforce consists of:

a) Health Service Providers: Designated Hospitals, General Heath Facilities.
b) Frontline Workers: ASHAs/ANMs

The role of Frontline Workers was:

- To spread key messages in the community about measures people can take to prevent the infection.
- Create awareness of Practicing Social Distancing and its benefits.
- Practicing good hygiene by frequently wash hands using soap and water.
- Gathering the public records by visiting door-to-door and sharing it to respective Medical Officers

ASHA workers in Karnataka spend hours together tracing COVID-19 contacts daily.

4.17 Medical Interventions/ Innovation Practices Focused on Contact Tracing and Wide-Spread Sample Collection

Upon the medical experts' suggestions, below were the medications used for Asymptomatic and Mild-Symptomatic Patients.

Table 3: List of medications used for Asymptomatic and Mild-Symptomatic Patients

Medicine	Dosage for Adults	Comments
Paracetamol 500 mg	SOS (As and when required)	If the patient has a fever
Pantoprazole 40 mg	SOS	To be taken before food/empty stomach
Cough Syrup (Antitussive)	SOS	If the patient has a cough
Cetrizine 10 mg	SOS	For runny nose
Doxycycline Capsule 100 mg	1-0-1 (5 days)	Not recommended for pregnant and lactating women and children under 8 years of age
Ivermectin 12 mg	1-0-0 (3 days)	Should take it before food. Not suitable for children under two years
Vitamin C 500 mg	1-1-1 (7 days)	To boost immunity
Zinc 50 mg	0-1-0 (7 days)	To boost immunity

BBMP COVID-19 Treatment Guidelines – Additional Instructions

Given below are certain additional instructions to be followed by the COVID positive asymptomatic and mild-symptomatic patients.

- The prescription of the treating Medical officer or physician must be followed strictly
- You must not take the above medications without their prescription
- Your physician could prescribe Aspirin 75 mg tablets (1-0-0)
- As per the guidelines Hydroxychloroquine tablets can be prescribed
- However, the patient must take an ECG
- Contraindications must be considered as well
- Flavipiravir tablets may also be prescribed as an alternative option
- Vitamin D 1000 mg IU capsules may also be prescribed
- The adult dosage is 1-0-0 for 7 days
- Pediatric dosages could vary depending on the child's body weight

Additional medications could be prescribed by the physician depending on the symptoms. The medications prescribed could vary depending on the particular case. Certain patients could also have existing co-morbid diseases. The conditions could include Diabetes,

Hypertension, Hyperthyroidism/Hypothyroidism, Blood pressure, etc. Patients who already have comorbid conditions should not stop the medicines taken regularly.

Karnataka state is having comprehensive contact tracing of COVID-19 cases and physical or phone-based household survey, for better management of the coronavirus pandemic. Karnataka has widened the definition of 'contact' to include both the high-risk as well as low-risk contacts as defined by the central government. The number of primary and secondary contacts in Karnataka were meticulously traced and put under strict quarantine. Contact tracing mobile app and web applications are used to overcome the huge quantum of work, genuine forgetfulness of the positive persons and attempts to hide facts due to various reasons. The State has been able to curtail the spread of infection in slums of big corporation areas through compulsory institutional quarantine of the contacts residing in slums or similar areas. It has also been made mandatory for all returnees and travelers coming to Karnataka to register on **"Seva Sindhu"** portal, which enables the state to follow them for the next few days when they are in home or institutional quarantine.

The **'Quarantine Watch App'** is used to assist the field workers in enforcing the quarantine. The state has also formed mobile squads for enforcement of the home quarantine through community participation. In case information is received from the neighbor or public about violation of quarantine by any person, that person is moved to institutional quarantine.

With a view to identifying, protecting and treating high risk population like the elderly, persons with co-morbidities, pregnant women and those with Influenza like Illness (ILI)/ Severe Acute Respiratory Illness (SARI) on priority, Karnataka has conducted a physical/phone based household survey, The survey was carried out during May and covered 15.3 million households out of total 16.8 million total households.

With a view to identifying, protecting and treating high risk population like the elderly, persons with co-morbidities, pregnant women and those with Influenza like Illness (ILI)/ Severe Acute Respiratory Illness (SARI) on priority, Karnataka has conducted a physical/phone based household survey, The survey was carried out during May and covered 15.3 million households out of total 16.8 million total households.

Field level health worker (ASHAs) also visit these households to ensure that the required healthcare service is provided. Karnataka State also done its incredible job for collecting Widespread Data of COVID patients, below are the name of the Private sample pickup center. "

Table 3: List of Private sample pickup centers

Sl. No.	Name of the Laboratory	Address
1	Lalpath Lab	Dr Lalpathlabs Ltd Bengaluru Reference Laboratory #17/1, "The address", opp Cessna business park, Outer ring road, Kadubeesanahalli, Varthur Hobli, Bengaluru – 560103
2	Metropolis Lab	R V Metropolis Diagnostics & Healthcare Centre Pvt. Ltd. #76/10, 15th Cross, 4th Main, Malleshwaram, Bengaluru 560 003
3	Medall Labs	Medall Healthcare Pvt Ltd, Laxmi Towers, 68/150/3, 9th main Rd, Jayanagara East, Bengaluru-560 011
4	ONCQUEST	Oncquest Labs Ltd. Bengaluru - 560 041
5	Apollo Diagnostics	Apollo Diagnostics 35/1, Old No. 472/5A, AVS Compound Near Sony center, 80Feet Rd, Near Sony world signal, Kormangala, Bengaluru - 560 047
6	Med Genome Labs Ltd.	Med Genome Labs Ltd. 3rd Floor, Narayana Nethralaya, Building, Narayana Health City,# 258/A, Bommasandra, Hosur Road Bengaluru - 560 099
7	Core Diagnostics Pvt Ltd.	Apoorva Diagnostics & Health Care (A Unit of Vittals Medicare Pvt Ltd), 325/2 CMI Road, Indira Nagar, Near Metro Station Bengaluru (Associated)

The Centre has asked the other states to adapt these best practices implemented by Karnataka to their local context and replicate them for better management of the COVID-19 pandemic,"

4.18 Management Food Supply, Water & Sanitation Services in High Risk Areas

COVID-19 disaster and the nationwide lockdown has made many in the world to be left hungry, both the government institutions and social organizations are contributing together in the fight against coronavirus during the lockdown. The state government provided free food to the poor through the 174 Indira canteens. This is one of the measures undertaken by the state government to improve the situation of urban poor who have been hit hard following the lockdown of all commercial establishments. State also

furnished the notice that, in the first lockdown, Food supply and grocery shops will be open for scheduled time i.e. 6am to 10am and 8am to 6pm and so on to get the groceries/households. Many NGOs, Communities were also helped by paying the money, groceries and cooked food of their interest to the urban poor/needy people directly or indirectly and also the state government built the government applications such as Aapthamitra, Seva Sindu and Karnataka One where anyone came a contribution of their interest.

The outbreak highlights shortcomings in addressing inadequate drinking water and sanitation practices. Apart from as usual supply of water, **Shuddh Ganga scheme** quenched thirst of Karnataka residents during coronavirus lockdown. As many as 71,000 families in Karnataka are able to drink water due to the Shuddh Ganga drinking water scheme.

The provision of sanitation management and hygienic conditions were taken for preventing and protecting human health during the COVID outbreak. Evidenced-based and consistently applied waste management practices in homes, and healthcare facilities helped to prevent human-to-human transmission of the virus.

Wastage treatment reduced the spread of virus as well in the means of:

Toilets and the handling of faeces: If the patient were unable to use a toilet, excreta has collected in either a diaper or a clean bedpan and immediately disposed of carefully into a separate toilet or pit latrine used only by suspected or confirmed COVID-19 cases. In all health-care settings, including those with suspected or confirmed COVID-19 cases, faeces were treated as a biohazard. The majority of waste generated in health care facilities was packings, food wastes, and disposable hand drying towels. General waste has been segregated from infectious in clearly marked bins, bagged and tied, and disposed as general municipal waste. Infectious waste produced during patient care, including those with confirmed COVID-19 infection (e.g. sharps, bandages, pathological waste) and has been collected safely in clearly marked lined containers and sharp boxes. This waste was treated, preferably on-site, and then safely disposed. Waste generated in waiting areas of health-care facilities has been classified as non-hazardous and disposed in strong black bags and closed completely before collection and disposal by municipal waste services. As interim measure, safely burying or controlled burning has done until more sustainable and environmentally friendly measures put in place. All those who handle healthcare waste should wear appropriate PPE (long-sleeved gown, heavy-duty gloves, boots, mask, and goggles or a face shield) and perform hand hygiene after removing it as per the strict guidelines.

Safe disposal of greywater or water from washing PPE, surfaces and floors: Utility gloves and heavy-duty, reusable plastic aprons were cleaned with soap and water, and then decontaminated with 0.5% sodium hypochlorite solution each time they are used. Single-use gloves and gowns should be discarded as infectious waste after each use and not

reused; hand hygiene should be performed after PPE is removed. If greywater includes disinfectant used in prior cleaning, it does not need to be chlorinated or treated again. Likewise, used bathing water from COVID-19 patients does not need to disinfect. However, it is important that such water is disposed of in drains connected to a septic system, a sewer or in a soak-away pit. If greywater is disposed of in a soak-away pit, the pit should be fenced off within the health facility grounds to prevent tampering and to avoid possible exposure in the case of overflow.

Waste generated at home during quarantine: while caring for a sick family member or during the recovery period should be packed in strong bags and closed completely before disposal and eventual collection by municipal waste services. If such services were not available, as interim measure, safely burying or controlled burning may be done until more sustainable and environmentally friendly measures can be put in place. Tissues or other materials used when sneezing or coughing should immediately be thrown in a waste bin. After such disposal, correct hand hygiene should be performed. In places where there is limited supply and a high demand for masks, there is a likelihood of people collecting used face masks and re-selling them. Therefore, efforts are done to ensure and improve safe waste disposal and fenced, regulated waste areas.

Investments in waste management, including sourcing environmentally friendly products along with regulation on improper disposal helped to reduce such issues. Finally, those tasked with collecting waste should wear PPE (heavy duty gloves, boots, coveralls, and masks when working in confined spaces) and have facilities for regularly conducting hand hygiene as per the state's regulations.

4.19 Grievance Management

The Karnataka government provides **'Integrated Public Grievance Redressal System',** bringing an end to the system of multiple portals. It will pool grievances across all government departments, keep track of complaint status and ensure officials resolve the issue.

4.20 Digital Health

Karnataka launched digital helpline and mobile app 'Apthamitra' to take on COVID-19, the mobile app will provide online medical consultation to people seeking assistance from coronavirus. An expert team of doctors will also tell about the medication to be picked. 'Apthamitra' helpline will be operational between 8 AM to 8 PM. The app has helpline centers at six different locations including Bengaluru (four centers), Mysore and Mangalore (Bantwal) with a total of 300 seat capacity.

The system is a two-tier system with first tier managed by AYUSH. The second tier is manned by MBBS or Integrated Medicine or AYUSH volunteer doctors connecting from their respective locations for risk assessment, counselling, telemedicine and referral for testing and treatment. The helpline number 14410 will cover residents from all parts of the

state. The 'Apthamitra' App will help people with smartphones in seeking advice for telemedicine from doctors directly. The move is to help people living near several hotspots in the state.

The new online system will further help to identify people with low risk but having some symptoms similar to those of coronavirus and provide them telemedicine support with OTC medicines, and counsel them for self-quarantine. It also aims to follow-up all low risk cases till they get fully cured, along with assessing those having medium to high risk of coronavirus and get them to fever clinics or COVID-19 screening centers for testing and treatment.

4.21 Dead Body Management

Amid the rising number of COVID-19 cases in Karnataka, the state's health department has issued fresh guidelines for the disposal of bodies of COVID patients.

a. **Standard Precautions to be followed by health care workers while handling dead bodies of COVID**
   Standard infection prevention control practices should be followed at all times. These include:
   - Hand hygiene.
   - Use of personal protective equipment (e.g., water resistant apron, gloves, masks, eyewear).
   - Safe handling of sharps
   - Disinfect bag housing dead body; instruments and devices used on the patient.
   - Disinfect line. Clean and disinfect environmental surfaces.

b. **Training in infection and prevention control practices**

   All staff identified to handle dead bodies in the isolation area, mortuary, ambulance and those workers in the crematorium / burial ground have been trained in the infection prevention control practices.

c. **Removal of the body from the isolation room or area**
   The health worker attending to the dead body should perform hand hygiene, ensure proper use of PPE (water resistant apron, goggles, N95 mask, gloves).
   - All tubes drain and catheters on the dead body should be removed.
   - Any puncture holes or wounds (resulting from removal of catheter, drains, tubes, or otherwise) should be disinfected with 1% hypochlorite and dressed in impermeable material.
   - Apply caution while handling sharps such as intravenous catheters and other sharp devices. They should be disposed into a sharp container.

- Plug Oral, nasal orifices of the dead body to prevent leakage of body fluids.
- If the family of the patient wishes to view the body at the time of removal from the isolation room or area, they may be allowed to do so with the application of Standard Precautions.
- Place the dead body in leak-proof plastic body bag. The exterior of the body bag can be decontaminated with 1% hypochlorite. The body bag can be wrapped with a mortuary sheet or sheet provided by the family members.
- The body will be either handed over to the relatives or taken to mortuary.
- All used/ soiled linen should be handled with standard precautions, put in biohazard bag and the outer surface of the bag disinfected with hypochlorite solution.
- Used equipment should be autoclaved or decontaminated with disinfectant solutions in accordance with established infection prevention control practices.
- All medical waste must be handled and disposed of in accordance with Biomedical waste management rules.
- The health staff who handled the body will remove personal protective equipment and will perform hand hygiene.
- Provide counseling to the family members and respect their sentiments.

d. **Environmental cleaning and disinfection**

All surfaces of the isolation area (floors, bed, railings, side tables, IV stand, etc.) should be wiped with 1% Sodium Hypochlorite solution; allow a contact time of 30 minutes, and then allowed to air dry.

e. **Handling of dead body in Mortuary**
- Mortuary staff handling COVID dead body should observe standard precautions.
- Dead bodies should be stored in cold chambers maintained at approximately 4℃.
- The mortuary must be kept clean. Environmental surfaces, instruments and transport trolleys should be properly disinfected with 1% Hypochlorite solution.
- After removing the body, the chamber door, handles and floor should be cleaned with sodium hypochlorite 1% solution.

f. **Handling of dead body in Mortuary**
- Embalming of dead body should not be allowed

g. **Autopsies on COVID-19 dead bodies**

- Autopsies should be avoided. If autopsy is to be performed for special reasons, the following infection prevention control practices should be adopted.
- The Team should be well trained in infection prevention control practices.
- The number of forensic experts and support staff in the autopsy room should be limited.
- The Team should use full complement of PPE (coveralls, head cover, shoe cover, N 95 mask, goggles / face shield).
- Round ended scissors should be used.
- PM40 or any other heavy-duty blades with blunted points to be used to reduce prick injuries.
- Only one body cavity at a time should be dissected.
- Unfixed organs must be held firm on the table and sliced with a sponge – care should be taken to protect the hand.
- Negative pressure to be maintained in mortuary. An oscillator saw with suction extraction of the bone aerosol into a removable chamber should be used for sawing skull, otherwise a hand saw with a chain-mail glove may be used.
- Needles should not be re-sheathed after fluid sampling – needles and syringes should be placed in a sharps bucket.
- Reduce aerosol generation during autopsy using appropriate techniques especially while handling lung tissue. After the procedure, body should be disinfected with 1% Sodium Hypochlorite and placed in a body bag, the exterior of which will again be decontaminated with 1% Sodium Hypochlorite solution.
- The body thereafter can be handed over to the relatives.
- Autopsy table to be disinfected as per standard protocol.

h. **Autopsies on COVID-19 dead bodies**

- The body, secured in a body bag, exterior of which is decontaminated poses no additional risk to the staff transporting the dead body.
- The personnel handling the body may follow standard precautions (surgical mask, gloves).
- The vehicle, after the transfer of the body to cremation/ burial staff, will be decontaminated with 1% Sodium Hypochlorite.

i. **At the crematorium/ Burial Ground**

- The Crematorium/ burial Ground staff should be sensitized that COVID 19 does not pose additional risk.
- The staff will practice standard precautions of hand hygiene, use of masks and gloves.
- Viewing of the dead body by unzipping the face end of the body bag (by the staff using standard precautions) may be allowed, for the relatives to see the body for one last time.
- Religious rituals such as reading from religious scripts, sprinkling holy water and any other last rites that does not require touching of the body can be allowed.
- Bathing, kissing, hugging, etc. of the dead body should not be allowed.
- The funeral/ burial staff and family members should perform hand hygiene after cremation/ burial.
- The ash does not pose any risk and can be collected to perform the last rites.
- Large gathering at the crematorium/ burial ground should be avoided as a social distancing measure as it is possible that close family contacts may be symptomatic and/ or shedding the virus.

4.22 Mental Health Care or Psycho Counselling/ Psycho-Social Support

Building Positive Mental Health in Nine Simple Steps:

1. Get Good Sleep Practice sleep hygiene to rest the mind and body every day. Insufficient sleep creates a cycle of stress. Begins worrying /stressing → Sleep deprived → Exhausted → Unable to manage daily activities → Feels inadequate → How Sleep Deprivation Cycle Affects Individuals **Sleep Duration Recommendations** (hours of sleep every night) — **ADULTS** at least **7-8 hrs** — **CHILDREN** at least **10 hrs**	• Sleep in a quiet, dark and well-ventilated environment. • Keep a regular sleep schedule and try to sleep and wake up at the same time every day. • Avoid alcohol and caffeine or other stimulants before going to sleep. • Exercise regularly, as physical activity promotes deep and restful sleep • Avoid watching TV, or using the phone immediately before going to sleep
2. Get Regular Exercise Lower mental health burden — Higher mental health burden People who exercise regularly, experience fewer mental health issues than those who do not. Exercise — No exercise ADULTS — CHILDREN — OLDER ADULTS	• 150 mins of moderate-intensity or 75 mins of vigorous intensity aerobic physical activity throughout the week. • 60 mins of moderate-to vigorous-intensity physical activity daily. • 3 days of physical activity a week to enhance balance and prevent falls for older adults, with poor mobility.

3. Avoid Alcohol and Drugs

Alcohol and drug abuse exacerbate mental health issues, creating a negative cycle of dependence.

Experiences Mental Health issues

Increases Alcohol/Drug Use

Turns to Alcohol/Drug Use

Briefly Escapes Mental Health Issues

How Alcohol/Drug Abuse Cycle Affects Individuals

- Avoid situations and people associated with cravings.
- Learn to say no! Don't give in to peer pressure.
- Engage in social and creative activities.

4. Practice Meditation

Yoga techniques—*asanas* (postures), *pranayama* (deep breathing) and *dhyaan* (meditation)—improve mental health.

Meditate for at least 15 minutes every day, and combine it with some asanas. *And remember, it takes two months of daily practice to make a behaviour into a habit!*

- Begin by sitting or lying down in a comfortable position, close your eyes, breathe gently and focus on your breath.

- https://nimhansyoga.in/

5. Keep Socially Connected Spend time with family and friends and volunteer for causes you genuinely care about. Meaningful social connections significantly improve mental health. *Positive Cycle of Social Connectedness*	• Be open to sharing and listening • Be kind and empathetic to those around you • Keep regular connection with close friends/family • Connect on calls/video chat if you're unable to go outside • Listen to music you enjoy
6. Learn new skills Learning new skills boosts self-confidence and self-esteem. It provides a sense of purpose which triggers positive emotions in the brain.	• Engage in fun and play based activities. Even small Experiences that trigger pleasant emotions promote overall well-being. • Pick up new skills craft making, drawing, singing, dancing, cooking, coding etc.

7. Reduce Screen Time/ Exposure to Media

Excessive use of social media leads to stress, anxiety and depression. Adolescents who spend more time on social media platforms and smartphones, are more likely to report mental health issues.

How Overexposure to Media Affects Individuals

- Limit social media consumption
- Limit exposure to TV/Online News etc.
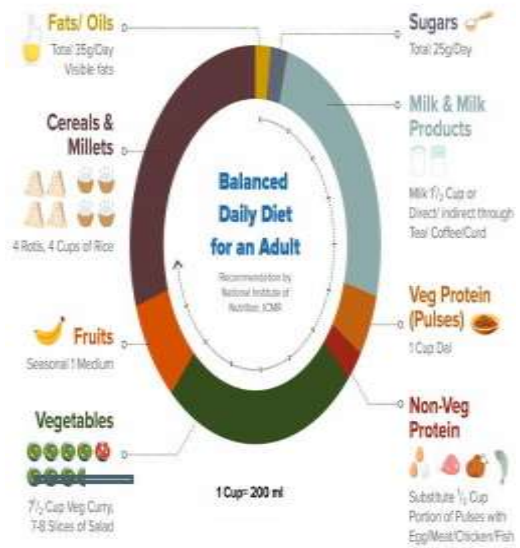- Replace media consumption with social interactions

8. Eat Healthy

Eat a balanced diet— combination of vegetables, whole grains, protein and fruit—to maintain brain health.

Balanced Daily Diet for an Adult

Nutritional deficiencies have shown to cause symptoms of depression, fatigue, cognitive decline, and other mental health issues.

9. Connect with Nature

Spending time in natural environment reduces depression and anxiety. Interaction with indoor plants also has a positive impact on mental health.

Caring and Nurturing

Sense of Motivation and Purpose

Sense of Achievement

Sense of Connectedness and Self-confidence

Reduction in Stress/Negative feelings

How Growing Plants Creates A Positive Emotional Cycle

Try to spend at least two hours a week in outdoor green spaces. Create a small green area at home with potted plants.

Do not neglect your mental health

Everyone experiences mental health issues in life. Taking individual steps to build mental health resilience, and seeking external support when necessary, makes it easier to cope with such issues.

Mental health affects
COGNITIVE
EMOTIONAL
SOCIAL
PHYSICAL
well-being
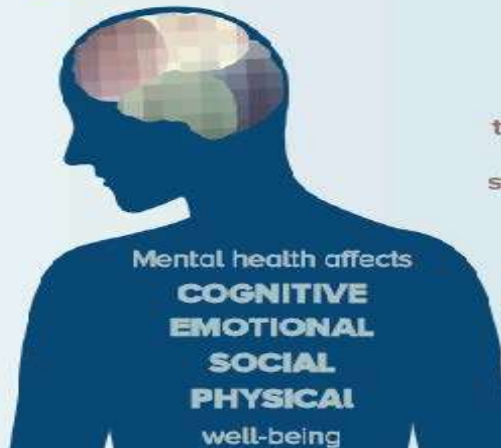
Positive mental health enables people to realize their potential, cope with the normal stresses of life, work productively, and contribute to their communities.

4.23 Information, Communication & Public Awareness

BBMP has its own COVID -19 Information web page where it has **Karnataka COVID-19 Portal, COVID control room** and **Karnataka COVID-19 Dashboard** which provides the regular updates on COVID – 19 status in the status.

a. **Karnataka COVID-19 Portal:** Karnataka COVID-19 Portal provides the total active cases, cured/discharged cases, total deaths, migrated, confirmed, recovered and deceased cases across the state and nation.

b. **Karnataka COVID-19 Dashboard:** Karnataka COVID-19 Dashboard consists of District Wise COVID cases in Karnataka State viz. total cases, total active cases, total discharged cases, and total deaths and in accordance gender and senior citizens. BBMP also launched awareness campaign on COVID-19.

The number of COVID-19 positive cases may be on the decline, but the Bruhat Bengaluru Mahanagara Palike (BBMP) is taking no chances. BBMP launched the '**3Ws Campaign**' to create awareness among citizens. The campaign stressed on the 3**Ws – Wear your mask, wash your hands** and **watch your distance**.

The civic body has committed to combat the pandemic with the Partnership for Healthy Cities, a global network of cities supported by Bloomberg Philanthropies with the World Health Organisation and Vital Strategies, a global health organisation with the regulation "We must strictly follow all protocols and guidelines prescribed by WHO to check the spread of the pandemic,".

The BBMP has arranged for 150 ice-lined refrigerators and asked the State government to provide 35 more to increase storage facilities.

4.24 Public Private Partnerships

Karnataka triple COVID-19 testing; labs set up in PPP model. Bengaluru, Keen to scale up testing infrastructure for COVID-19, the Karnataka government has decided to establish

RT-PCR labs in **Public-Private Partnership (PPP)** model and the tender process for it would be take up soon. Following the directions of Prime Minister, measures were being taken to increase the testing by three times.

To support this further, tender will be floated soon by the Health and Medical Education departments to set up labs for carrying out RT-PCR tests. The state has achieved a new milestone by conducting 5 million COVID-19 tests so far and the government was aiming to increase the number of daily tests from the present around 0.1 million to 0.15 million.

The Medical Education Minister inaugurated the new COVID testing lab by **Eurofins Clinical Genetics India (ECGI)** in Whitefield, and it was expected to conduct up to 5,000 tests per day. The Minister said 144 labs have been inaugurated in the state in the last six months.

4.25 Health Infrastructure

The Centre's Smart Cities Mission has proposed to upscale its current projects to handle the COVID-19 situation to help Karnataka government to contain the virus spread, by focusing on strengthening health infrastructure. The Smart Cities Mission, which was set up to improve the quality of life of Indian citizens through local development and technology innovations, has worked closely with the Department of Health and Family Welfare of the state to enhance its efforts to control the spread of COVID-19. The focus was on strengthening health infrastructure, providing medical equipment and developing information technology solutions.

The Mission has proposed to upscale its current projects to handle the COVID-19 situation, to upgrade infrastructure and equipment at district hospitals, and to procure ambulances and equipment. The Mission also plans to use an **Integrated Command and Control Centre** model along with other IT interventions to upgrade the existing e-health system and involved in the hardware procurement for an e-Hospital Management System. A detailed plan of action is has been worked out in consultation with BBMP (**Bruhat Bengaluru**

Mahanagara Palike) Special Commissioner, Health and other senior officials from the Health Department.

Under the Smart Cities Mission, health projects completed including a 30-bed hospital in Vantamuri, Belagavi. Two parts of a trauma center have also been constructed in Belagavi, while a 37-bedded ICU has been installed at Wenlock Hospital, Mangaluru.

IT innovations include a Digital Nerve Centre in Tumakuru and a Smart Healthcare center in Hubballi Dharwad. Two upgradation projects at Wenlock Hospital in Mangaluru, and the construction of an additional floor at Lady Goschen Hospital in Mangaluru, have also been tendered.

The construction of a Trauma Centre in Tumakuru, and a 10-bed hospital in Vadagaon, Belagavi, is ongoing, the release added.

4.26 Strengthening Grassroot Administration and Partnerships

The State has witnessing a revival of Panchayati raj in practice, triggered by the State response to the COVID-19 crisis. First, it was dreadful to impose the lockdown in the State effectively without the cooperation and support of the panchayats. Second, the lockdown has also tied the hands of the government; only essential services of the government, such as the police and the health departments, were functioning without physical restrictions. All other departmental staff have stopped travelling to villages, giving instructions and monitoring their programs and plans.

Governance abhors vacuums, and that is what is prompting the revival of democratic decentralisation. As locked-in senior officials cannot oversee their frontline workers, panchayats have stepped in and were taken charge. Nearly all panchayats in Karnataka passed a formal resolution that no one in their respective areas will go hungry.

Government created gram panchayat and village-level COVID-19 task forces, and the way these have begun to easily and readily function to handle the crisis. The panchayat-level task force meets were twice a week. Village level taskforces appoint officials their chosen political representatives to take charge, commitment to democratic decentralisation.

The primary health center doctor, auxiliary nurse midwives and accredited social health activists were part of the task force in which all elected representatives and panchayat-level staff participate. Decisions taken on COVID-19 related management such as implementing the lockdown, disinfection, providing food to those who need it and ensuring the supply of other essential services were successfully achieved by the village-level task forces with following COVID-19 safety measures.

Empowered Groups have joined hands with government against COVID:

- Civil society, and voluntary and non-government organisations constitute the backbone of the collective articulation of citizen interest in a democracy. As

- facilitators, mediators, and advocators of this interest, they have put people before everything else during this crisis.

- The situation at hand calls for stakeholders to come together, work side by side and support each other. This is precisely what one of the Empowered Groups created by the government for comprehensive action and integrated response to contain the pandemic has been doing since it was formed.

- The mandate of the group has to coordinate with three key stakeholders — NGOs, the private sector, and international development organisations — and help them in charting the best course of action. The fight against COVID-19 needed as many hands as were available.

- The strategy was to leverage vertical and horizontal partnerships: Vertical partnerships, which the stakeholders have built within their organisations and horizontal partnerships, which the government has institutionalised with stakeholders. The group itself is a partnership as its members are from eight different government ministries/organisations.

- The NGOs, given their deep connect with spatial and sectoral issues, were a natural partner in this endeavor. Around 92,000 organisations were urged to partner with district administrations and contribute to the response efforts. Chief Secretaries of all states were requested to engage NGOs in relief and response efforts and designate state and district nodal officers to coordinate with them. The approach was to leverage the strength and reach of the local NGOs in identifying priority areas for action and avoid duplicity of efforts.

- The response from NGOs was heart-warming. They have been actively setting up community kitchens, creating awareness about prevention, and physical distancing, providing shelter to the homeless, the daily wage workers, supporting government efforts in setting up health camps and in deputing volunteers to deliver services to the elderly, persons with disabilities, children, and others. An outstanding contribution of NGOs was in developing communication strategies in different vernaculars which went a long way in taking awareness measures to the community level. Akshaya Patra, Rama Krishna Mission, Tata Trusts, Piramal Foundation, Bill and Melinda Gates Foundation, Action Aid, International Red Cross Society, Prayas, Help-age India, SEWA, Sulabh International, Charities Aid Foundation of India, Gaudia Math, Bachpan Bachao Andolan, the Salvation Army, and Catholic Bishops' Conference of India are some partners who have embodied the whole-of-society approach in COVID-19 response management.

The crisis has brought out the best in the start-up space. Many of them have risen to the occasion and accelerated the development of low cost, scalable, and quick solutions. The results have been promising

- AgVa healthcare accelerated the development of ventilators which are low-cost, mobile, low on power consumption and require minimal training for operators.
- Biodesign has developed a robotic product called ResperAid, which enables mechanised use of manual ventilators.
- Kaaenaat has developed highly portable ventilators which can be used to serve two patients simultaneously and has a built-in battery, oxygen concentrator, and steriliser cabinet.
- The products of a few non-ventilator start-ups too came to the aid of the COVID-19 fighting machinery. The AI-enabled analysis of chest X-Rays developed by Qure.ai enables large-scale screening to identify potential cases.
- GIS and geo-fencing technologies by Dronamaps enabled information cluster strategies for hotspots.
- AI-powered online doctor consultation and telemedicine platform by Mfine connects diagnostics labs and pharmacies with doctors and patients.
- The AI-enabled thermal imaging camera developed by Staqu facilitated large-scale screening at low cost. These developments strengthen the argument that low-cost and scalable solutions designed and developed domestically must drive our country's transformation.

The manner in which stakeholders have responded to the pandemic reinforces the power of partnerships. The NGO leaderships created momentum throughout their networks and delivered the much-needed response. They also brought to the attention of the group the problems from the grassroots. Multiple agencies of international development organisations designed and executed joint response initiatives, leveraging their presence across the country. The coalitions which industry organisations such as CII, FICCI, and NASSCOM have built over the years brought people and resources together, identified problems at multiple levels, channelised ideas and solutions and facilitated innovations. The role played by the government has been facilitative in nature, which was based on the institutional and informal partnerships built with the three groups of stakeholders.

Domestic manufacturing of ventilators has strengthened manifold — orders for more than 59,000 units have been placed with nine manufacturers.

Civil society, and voluntary and non-government organisations constitute the backbone of the collective articulation of citizen interest in a democracy. As facilitators, mediators, and advocators of this interest, they have put people before everything else during this crisis. The support provided by NGOs to government initiatives has been timely and invaluable, and their commitment unshaken. They also have worked hand-in-hand with the private sector. Expertise of over 50 NGOs to help Bengaluru manage rising coronavirus cases.

BENGALURU: The city administration has engaged with over 50 civil society organisations and is tapping into their expertise in COVID-19 management amid spiraling coronavirus cases in the tech capital. Involving non-government organisations, is a part of the Bruhat

Bengaluru Mahanagara Palike's (BBMP's) hyperlocal strategy to respond to the situation at the level of electoral booths which are 8,000 in number.

"Government working with civil society organisations. They have come forward to help in mobilising volunteers, training and enabling volunteers to carry out house-to-house survey, identifying comorbid patients, arranging ambulances, etc. Some of these organisations were also providing technology support". BBMP officials streamed them will to ensure the work does not overlap, and there should be a clear and concerted effort to address COVID-related issues at micro-level. BBMP tried to activate booth-level committees consisting of booth-level officers and volunteers as first responders to COVID-related issues at the local level.

Some of the organisations that have associated with BBMP in COVID work include Action Aid, Citizen for Bengaluru, Janaagraha, Azim Premji Foundation, Centre for Internet and Society, Reap Benefit, Sensing Local Foundation, Hasiru Dala, Whitefield Rising and Slum Mahila Sanghatane.

Azim Premji Foundation is extending support to the government at various levels. It has provided front-line effort to reach an integrated COVID response to at most 1million vulnerable population living in dense informal settlements in Bengaluru, and also intermediate- and tertiary-level support to hospitals and COVID care centers.

4.27 Community Awareness and Sensitization

The state government and the BBMP has put hoardings/banners at prominent places within BBMP limits and other locations to create awareness on safety measures to be adopted/followed to prevent spread of COVID-19 virus. No plastic/flex or objectionable material should be used, and no product or item should be endorsed in those advertisements.

Both the state government and the BBMP have abided that the hoardings will be put up at several important/key traffic junctions; 35 government properties such as offices, stadium and bus stops and 37 BBMP properties such as parks, playgrounds and hospitals, among others. In addition, such hoardings are to be displayed at 500 bus shelters, public toilets, tollways and skywalks which come under PPP project sites.

BBMP launched BLCARES (Bengaluru Local COVID Awareness) on August 14, 2020, to decentralise Bengaluru's COVID management process. BLCARES or 'Bengaluru Local – COVID-19 Awareness Response and Emergency Sahaya' attempts to emulate the booth-level management technique during elections. The programme includes BLCARES.in, a tech platform developed by the joint effort of civil society organisations including Janaagraha, Sensing Local and Reap Benefit. These groups along with Citizens for Bengaluru, CIVIC, Hasiru Dala, Naavu Bharateeyaru, Slum Mahila Sanghatane, Azim Premji Foundation, etc., also helped in citizen volunteer mobilisation and training. The BLCARES platform also contains resources and IEC training material for volunteers.

Booth-level system: Each of BBMP's 198 wards is has around 40 booth-level volunteer groups. **Each booth volunteer group, in turn, will monitor an average of 500 families.** They will have four major tasks:

- Understanding the profile of their community and monitoring the health of the residents Conducting surveys, maintaining a registry of people with co-morbidities
- Contact tracing
- Quarantine management and containment-zone monitoring

The volunteers are being recruited from local citizen groups, RWAs and NGOs. Ward committees headed by the local corporator will oversee the working of these booth-level groups. The interesting thing about the BLCARES programme is the way it has brought together the government and civil society organically.

Reverse quarantine: Reverse quarantine was the practice of segregating healthy but vulnerable sections of the community, mainly the elderly (those aged above 65 years) and persons with co-morbid conditions like diabetes, heart disease, cancer, TB, HIV, those who've had organ transplant, etc. However, finding space for a reverse quarantine facility was easy through below mentioned measures:

- Use a visible signal for segregation like a chalk line, rope, etc.
- Don't cross the line
- Don't touch people across the line
- Talk from a distance of over 3 feet

4.28 Policy Response for Managing the Effects of Lockdown

i. Preparedness and response to COVID-19 in Urban Settlements

Informal settlements within cities have mushroomed due to migration have inadequate housing and poor living conditions. These settlements are affordable and accessible to the poor in the cities. The main reason for these settlements' proliferation was rapid and non-inclusive patterns of urbanization catalyzed by increasing rural migration to urban areas. According to 2011 Census there are 2613 towns/cities such settlements with 65.4 million population residing in 13.9 million households, representing 17.4 of all urban population. This would have increased in number further since last few years.

a. Preparing these urban settlements for prevention and control of COVID-19.

1. **Institutional mechanism:** As these settlements are governed under the jurisdiction of Urban Local Bodies (Municipal Corporations or Municipalities). Planning on preparedness and response to COVID-19 by such local bodies should cover the management of COVID-19 as well as focusing on challenges unique to such populations.

2. **Incident Response System:** An Incident Commander of appropriate seniority identified depending upon the geographic extent of the settlements and its population size. The Incident Commander will identify its planning, operation,

logistics and finance teams to implement the preparedness measures to respond to a COVID outbreak.

3. **Coordination Mechanism:** A coordination mechanism shall be evolved under the leadership of Incident Commander and would comprise of representatives from Health, W&CD, ICDS, Housing & Urban Affairs, Public Health Engineering Wing, Swachh Bharat Mission, elected representatives, prominent NGOs already serving the area, community leaders, etc.

b. COVID-19 containment plan

The COVID containment plan for these urban settlements will address the key challenges specific to these areas. Implementation of this plan will ensure that the core capacities are available to respond to COVID-19. The core components of this plan shall be as detailed in the following sections.

1. **Surveillance:** In most of the cities/towns the disease surveillance system is not as well organized as in the rural areas. This is more so pronounced in these urban settlements. Hence the surveillance system strengthened for surveillance and contact tracing mechanism. This include identification of the health workers in the health posts/dispensaries, ANMs, ASHAs, Anganwadi Workers, municipal health staff, sanitation staff, community health volunteers and other volunteers (NSS/NYK/IRCS/NCC and NGOs) etc.

   An orientation training will be organized by the Chief Medical Officer/Executive Health Officer to train the identified surveillance workers. The training would emphasize on the following:

   - Basic information on COVID-19.
   - Orientation on basic Dos and Don'ts with focus on hand hygiene, respiratory hygiene, environmental sanitation and use of face covers/masks.
   - Active case search through questionnaire during field visit.
   - Listing and tracking of contacts.
   - Recording temperature with handheld thermometer, recording oxygen saturation with pulse oximeter.
   - Identification of high-risk individuals based on contact history, age, and comorbidities.
   - Inter-personal communication with households for creating awareness on COVID-19 and other essential health services (immunization, RCH, nutrition, NCDs etc.)
   - Addressing stigma, health seeking behavior and other issues
   - Establishing rapport with the community

The plan will clearly delineate the allocation of households for the surveillance staff for house to house survey for case detection & contact tracing, coordinating sample collection, case management, data collection and reporting. The existing routine surveillance would be strengthened through dispensaries/health posts/urban health center and private health facilities for ILI/SARI surveillance.

2. **Hospital preparedness and clinical management:** There may not be community level structures in these areas that can be transformed into designated health facilities (COVID Care Centers); hence the existing facilities identified by the urban local body near to these settlements shall be earmarked as **COVID Care Centers, Dedicated COVID Health Center and Dedicated COVID Hospital**. The civil dispensaries, health posts, health & family welfare centers and private health facilities within these settlements will act as nodal points for the wards/sub-wards/zones for detecting and reporting ILI/SARI cases through their OPDs. Such facilities will also be used as depot holder for Hydroxychloroquine, masks, household disinfectants etc. Non COVID services especially immunization, management of communicable and non-communicable diseases, and maternal and child health services should continue to be provided in these areas. The earmarked COVID health facilities will identify teams for sample collection of suspect cases. Ambulances for referral to be stationed within or at the perimeter of these localities, will be identified. The toll-free number shall be widely disseminated in the community.

3. **Pharmaceutical intervention:** Enough quantity of Hydroxychloroquine will be stocked in civil dispensaries, health posts, health & family welfare centers for chemoprophylaxis of healthcare workers and high-risk contacts of confirmed cases of COVID-19.

c. **Logistics:** Adequate arrangement for soaps (in public toilets), disinfectants (bleaching powder, 1% sodium hypochlorite) will be ensured at the civil dispensaries, health posts, health & family welfare centers catering to the area. Similarly, availability of triple layer medical masks and gloves for healthcare workers will be ensured. The civil dispensaries, health posts, health & family welfare centers will also be used as depot holder for Hydroxychloroquine, masks household disinfectants etc.

d. **Community Volunteers:** Community groups were the keys to creating awareness on COVID among the populations. Use of local (political, religious

and opinion) leaders for communicating all aspects of the COVID prevention and control was vital as dwellers were more inclined to trust them.

e. **Risk communication:** All risk communication interventions must address psycho-social issues and stigma removal messages particularly in local languages. Posters should be put up outside in the community area, toilets, water points. Local cable TV channels may be utilized to create community awareness. The population uses mobile and social media applications for communication. Hence social media should be used with appropriate messages to target these population and for refuting fake news. Community groups should also popularize adoption of Aarogya Setu application. The risk communication will be designed to create awareness on:

- Common signs and symptoms of COVID-19
- High risk population particularly elderlies with co-morbidities like hypertension, cardiovascular diseases, diabetes, renal disease etc.
- Helpline number should be widely publicized for reporting cases.

f. **Capacity building:** The District Surveillance Officer will undertake orientation trainings of different cadres of healthcare workers working in health facilities catering to these areas, designated COVID health facilities. Such trainings will cover case management, IPC practices and data management. The District IDSP unit will also map field workers that can be used for surveillance and contact tracing. This includes ANMs, ASHAs, AWWs, corporation health staff, and community level volunteers (NSS, NCC, IRCS, NYK). Their trainings would focus on surveillance, contact tracing, home quarantine, IPC, managing quarantine and isolation centers, supply of ration to homes etc.

ii. Response to COVID-19 outbreak in urban settlements
a. **Trigger for Action:** The trigger for action would be reporting of a suspect/confirmed case from routine ILI/SARI surveillance or cluster of cases of similar ILI/SARI observed by the health post/practitioners etc. It could also be a contact of a known confirmed case.
b. **Implementation of Cluster Containment plan**
1. **Incident Command System and Control room** will be activated for planning, operations and logistic support. Pre-implementation coordination meetings will be held at the incident command level and at sub-ward/ward/zone level with ward officer/assistant commissioner/local CBOs/NGOs. Inter-departmental meetings will be held with health department, District Surveillance Officer, National Urban Health Mission, Sanitation Officials, Education, WCD/ICDS/ AWW, MAHILA AROGYA SAMITIS, AYUSH, NYK, NSS etc.]

2. **Implementation of COVID Cluster Containment Plan:** The following activities will be ensured:

- **Defining area of operation:** Upon reporting of a suspect/confirmed case of COVID-19, the District Surveillance Unit will undertake rapid identification of other cases and contacts to define containment and buffer zones. If data for mapping is not readily available, for small clusters the containment zone can be mapped as the administrative boundaries of residential colony/mohalla, surrounded by a buffer zone. In case of a large oubreak, the entire population of municipal ward, municipal zone, police station area, towns etc. from where cases and contacts are reported may be taken as containment zone with all neighboring wards/zones/towns/districts in the buffer zone.

- **Applying strict perimeter control:** Most of the inhabitants of such communities are daily wage workers, who might be compelled to go outside for work. Hence, strict perimeter control must be enforced to regulate entry and exit from the containment zone. Section 144 under CrPC will be enforced to ensure people remain in their dwelling units. The local administration however must make every effort to maintain supply of essential commodities (food, milk, groceries, medicine and other essential supplies) in such area. The routine medical needs of the population (immunization, RCH, TB, Dialysis, NCDs) must be catered to. If feasible, the relief centers in the containment zone may be geo-tagged and information may be made available through mobile applications. The containment activities shall be implemented in line with the MoHFW's plans on COVID-19 containment and for small clusters and large outbreaks respectively. However, special considerations and needs of such population should be kept in mind while implementing the plan in these dwellings as detailed below.

- **Surveillance:**
    - **Active Surveillance:** Considering the large and dense population, the designated health worker may be allotted a much larger number of households to be visited per day. However, in spite of that some of these areas would require mobilization of large human resource trained and listed earlier. The identified and trained health workforce and also the already listed volunteers shall be deployed for active surveillance in the containment zone. The key activities for surveillance workers during house to house visits are:

- Active case search through questionnaire
- Listing and tracking of contacts
- Coordinating sample collection as per criteria
- Recording temperature with handheld thermometer, recording oxygen saturation with pulse oximeter
- Identification of high-risk individuals based on contact history, age, and comorbidities
- Inter-personal communication with households for creating awareness on COVID-19 and other essential health services (immunization, RCH, nutrition, NCDs etc.)
- Address stigma, health seeking behavior and other issues.
- Adequate provisions for appropriate PPEs must be made for field level surveillance teams.

- o **Passive Surveillance:** In addition to government health facilities serving these population, surveillance network linkages need to be established with private medical practitioners working in such localities. These practitioners also need to be informed about common signs and symptoms of COVID-19, the IPC protocol to be followed while dealing with suspect cases, need for alerting the local public health authorities and referral centers for suspect cases. If deemed necessary, suitable incentive/compensation to such practitioners may be considered by local authorities. The surveillance teams conducting active surveillance and passive surveillance being undertaken in the containment as well as buffer zones must submit their daily reports on suspect cases detected and referred; contacts traced etc.

- **Clinical management:**
  - o The management of the suspect and confirmed cases shall be institutional, in accordance with MoHFW guidelines and no
  - o COVID-19 case will be managed at home.
  - o Those undergoing treatment at the identified COVID care centers shall be monitored using pulse oximetry and a provision for early oxygen supplementation and referral to Dedicated
  - o COVID Health Centers shall be made for those showing low/declining oxygen saturation. Referral system has to be

clearly defined and it shall be ensured that there are no delays in transferring patients from one facility to another as per need including availability of sufficient ambulances. Strict adherence to Infection, Prevention and Control practices shall be followed in all COVID and Non-COVID health facilities.

- o In case of occurrence of a death, management of the dead body shall be in accordance with the MoHFW guidelines.

- **Psychosocial support:** A provision for psycho-social counselling (including addressing issues like stigma, discrimination etc) through inter-personal communication or helplines should be made available to such communities by trained personnel. Psycho-social teams shall be deployed to the area to address mental health needs (incl. treatment of pre-existing psychiatric illness) and provide mental health services.

- **Non-pharmaceutical interventions (NPI):** NPI measures include:
  - o Imposition of social distancing, including ban on all sorts of social gatherings, and very restricted movement of personnel especially within the containment zone.
  - o Mandatory use of face covers with proper disposal at identified sites and intensification of community cleaning and disinfection drive under the Swatchh Bharat initiative, with more frequent cleaning of public places especially toilets.
  - o The high-risk population as per clinical assessment and feasibility of effective home quarantine, if need be, can be shifted to institutional quarantine so as to have focused management of such cases as it may have an impact on mortality.
- **Risk Communication:**
  - o **COVID Appropriate Behavior:** There will be further intensification of risk communication and community mobilization to inculcate COVID appropriate behavior for lifestyle changes, especially hand hygiene and respiratory etiquettes. The surveillance teams during their house to house visits shall inform the inhabitants about common signs and symptoms, preventive measures that need to be adopted, need for prompt reporting of symptoms and also address stigma and fake news. It must be stressed at all times that hiding of cases would only prove detrimental to not only their health but also to their close family members. Social

mobilization will be achieved by engaging local religious, self-help groups, NGOs, local community, opinion makers and religious leaders.

- **Supervising, monitoring and reporting:** The Incident Command will daily review the implementation of containment plans in the settlements. All information will be shared on a daily basis with the District and State Control rooms also. The Control rooms shall analyze the information on a daily basis and necessary guidance in turn will be provided to the teams at field level as per the information so collated regularly.

iii. Rural Response to Coronavirus Disease 2019 (COVID-19)

a. **COVID-19: Rural Communities:** Centers for Disease Control and Prevention (CDC) Guidance and resources from the CDC to help rural communities respond during the COVID-19 pandemic. Includes information for public health professionals, rural healthcare systems and providers, community-based organizations, rural residents, and businesses. Also addresses risk to COVID-19 in rural communities.

b. **NRHA COVID-19 Technical Assistance Center:** National Rural Health Association Supports the needs of rural providers and communities impacted by the COVID-19 pandemic. Assists rural healthcare organizations through financial consultations, operational support, and help obtaining essential medical resources, including Personal Protection Equipment (PPE).

c. **Re-imagining Leadership:** A Pathway for Rural Health to thrive in a COVID-19 World Colorado Hospital Association, Eugene S. Farley, Jr. Health Policy Center A COVID-19 emergency response playbook for rural healthcare delivery systems. Includes an assessment tool to help rural communities examine governance and leadership, community engagement, financial health, clinical care, and emergency preparedness and resilience.

d. **Rural Healthcare Surge Readiness:** COVID-19 Healthcare Resilience Working Group Up-to-date and critical resources for rural healthcare systems preparing for and responding to a COVID-19 surge.

e. **RHC COVID-19 Webinars:** Federal Office of Rural Health Policy, National Association of Rural Health Clinics a collection of webinars focused on

COVID-19 testing and related topics. Useful to a broad range of rural providers, though targeted to Rural Health Clinics.

4.29 Safety, Economic & Social Welfare Measures / Policies to Protect Livelihoods and Economic Activities

Karnataka government has adapted the below measures to prevent spread of COVID-19.

a. **Safety Measures:** Karnataka government has issued safety regulations **'Karnataka Epidemic Diseases, COVID-19 Regulations, 2020'** which aims to prevent the spread of the disease.

- All Hospitals (Government and Private) should have Flu corners for the screening of suspected cases of COVID-19.
- All Hospitals during the screening of such cases shall record the history of travel of the person if he/she has travelled to any country or area where COVID-19 has been reported in addition to the history of coming in contact with a suspected or confirmed case of COVID-19 shall be recorded. In case the person has any such history in the last 14 days and the person is asymptomatic then the Person must be kept in home quarantine for 28 days from the day of exposure. In case the person has any such history in the last 14 days and the person is symptomatic as per case definition of COVID – 19, the person must be isolated in a hospital as per protocol and will be tested for COVID – 19 as per protocol. Information of all such cases should be given to the Office of District Health and Family Welfare of the concerned district immediately.
- No person/institution /organization shall use any print or electronic media for misinformation regarding COVID-19 without prior permission of the Department of Health and Family Welfare. This is to avoid the spread of any rumour or unauthenticated information regarding COVID-19. In case any person/institution/organization is found indulging in such activity it will be treated as a punishable offence under these regulations.
- No private laboratory has been authorized to take or test samples for COVID-19 in the state of Karnataka. All such samples shall be collected as per guidelines of Government of India and these shall be sent to the designated laboratory by the district nodal officer of the department of health and family welfare of the concerned district.
- Any person with a history of travel in the last 14 days to a country Or area from where COVID-19 has been reported must report to the nearest Government hospital or call at toll-free helpline number 104

so that necessary measures if required, may be initiated by the department of health and family welfare.

- All persons with a history of travel to a country or area from where COVID-19 has been reported in the last 14 days, but who do not have any Symptoms cough fever, difficulty in breathing should isolate themselves at home and cover their mouth and nose with a mask. Such persons must take precautions to avoid contact with any person including family members for a period of 14 days from the date of arrival from such area.

- Authorized persons as per regulation 3 of these regulations are authorized under this Act to admit a person and isolate the person if required in case he/she has history of visit to an area where COVID-19 endemic or has come in contact with a person of that area and the concerned person is symptomatic.

- If a suspected case of COVID-19 refuses admission or isolation, the offices authorised in section 3 of these regulations shall have powers to forcefully admit and isolate such case for a period of 14 days from the onset of symptoms or till the reports of the lab tests are received, or such period as may be necessary.

- If cases of COVID-19 are reported from a defined geographic area such as village, town, city, ward, colony, settlement etc., the district administration of the concerned district shall have the right to implement the following containment measures, but not limited to these, in order to prevent the spread of the disease:
  - Sealing of the geographical area
  - Barring entry and exit of the population from the containment area.
  - Closure of schools, offices and banning public gatherings.
  - Banning vehicular movement in the area.
  - Initiating active and passive surveillance of COVID-19 cases.
  - Isolation of all suspected cases in the hospitals.
  - Designating any government /private building as a containment unit for isolation of the cases.
  - Any other measures as directed by the department of health and family welfare to prevent/contain the spread of COVID-19.
  - Stall of all government departments shall be at the disposal of district administration of the concerned area for discharging the duty of containment measures.

b. **Economic Measures:** The Karnataka government on announced a 16,100 million rupees relief package for the benefit of those in distress due to the COVID-19-induced lockdown. The measures announced by the Chief Minister, has brought the relief to farmers, flower-growers, washer men, auto rickshaw and taxi drivers, MSMEs, large industries, weavers, building workers and barbers.

The government also announced a 11 per cent excise duty hike, which is in addition to the six per cent announced in the budget. People from all sections of society are facing financial difficulties due to lockdown of more than one and a half months, the Chief Minister noted.

- Flower growers have destroyed their flowers following lack of demand for their produce due to the lockdown. It is estimated that farmers cultivated flowers in about 11,687 hectares. Realising the problems facing flower growers, the government announced a compensation of Rs 25,000 per hectare limited to a maximum extent of one hectare for the crop loss.
- Farmers who have grown vegetables and fruits were not able to market their produce, and the government has decided to announce a relief package for them.
- COVID-19 has also affected service professionals such as barbers and washer men (dhobis) both in urban and rural areas, and it has been decided to provide a onetime compensation of Rs 5,000 each to benefit about 60,000 washer men and about 2,30,000 barbers.
- A decision has also been taken to help about 7,75,000 Auto & Taxi drivers by providing one-time compensation of Rs 5,000 each.
- The monthly fixed charges of electricity bills of MSMEs will be waived for two months. Payment of fixed charges in the electricity bills of the large industries would be deferred without penalty and interest for a period of two months.
- The Government also announced certain benefits for electricity consumers of all categories.
- The state government has already announced 1090 million rupees weavers loan Waiver scheme, of which 290 million rupees has been released during 2019-20. Balance amount of 800 million rupees would be released immediately. This would help weavers get fresh loans to continue their occupation.
- The Chief Minister also announced a new scheme, Weaver Samman Yojana (Nekarara Sammana yoja Sammana yojane) for the benefit of the suffering weavers. Under this scheme, the government would deposit Rs 2,000 directly into the bank account of the handloom weaver through DBT. This will benefit about 54,000 handloom weavers in the state.

- There are 1.5.8 million registered building workers in the state. The government has already transferred Rs 2,000 to the bank account of 1.18 million building workers through DBT. Action has already been initiated to transfer Rs 2,000 to the accounts of the remaining 0.4 million construction workers soon after verifying beneficiaries bank account details. In addition to this, the government has transferred additional amount of Rs 3,000 to building workers through DBT.

The above compensation would be provided with an estimated cost of Rs 161 million, which would help those who are in distress due to lockdown.

c. **Social Welfare Measures:** The Karnataka government has taken all necessary steps to control spread of COVID-19, which was haunting like a monster, the Government announced a slew of initiatives for the poor, whose livelihoods have been hit due to the state-wide lock down. Calling it testing times and the aim to ensure that the state does not reach the third stage of COVID-19 outbreak, The Government announced measures for the poor like payment of two months of social security pension in advance, release of Rs 1,000 per person to about 2.1 million construction workers and waiving of 132 million loan under "Badavara Bandhu" scheme, among others.

The Karnataka government provided the social security pension of two months and it has released in advance for the poor, additional working days amount has released in advance under MNREGA scheme and two months ration has been supplied immediately. Also, 2.1 million construction workers paid Rs 1,000 per person, adding that the government under Badavara Bandhu (interest-free loan to roadside vendors) scheme, and decided to waive 132 millon loans. "This include 91 million in 2018-19 benefiting 15,120 people, and 51.6 million in 2019-20, benefiting 6,500 people.

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Mental Health and Psychosocial Support during COVID-19

Best Practices from Ghaziabad

Asmita Lal, IAS

1.0 Abstract

The paper enumerates the pandemic response initiatives incorporated by District Administration to support psychological wellbeing and counter consequences and effects of COVID-19 pandemic on mental health. District Administration launched Sarthi helpline to provide mental health and psycho-social support to frontline workers, patient of COVID-19 and their family member dealing with issues of anxiety, depression, insomnia, fear, anger and stress. Further a helpline named Sakhi was launched to provide counselling services to women suffering from domestic violence increased due to Pandemic. These initiatives helped in providing the specific need based interventions to vulnerable persons remotely. These services can be integrated into pandemic response and coordinated nationally to prioritize mental health care.

Keywords: Mental Health, Tele Counselling, Domestic Violence, COVID-19

1.0 Introduction

World Health Organisation declared COVID 19 a Public Health Emergency of International Concern which was an unprecedented pandemic in our times. The pandemic reached the level of humanitarian crisis and impacted the socio-economic structure of the world. Besides the negative effects of the infection on the physiological well-being of individuals, it also brought the risk of psychological distress in people who are diagnosed with it, people who are more vulnerable to it, the healthcare professionals and other essential workers who are at the front line, fighting the disease from close proximity and the overall global and local societies. Strict lockdown, social distancing, misinformation, increase screen time, non-availability of alcohol, loss of employment increased the risk of psychological distress (Roy et al. 2020: 2). Increased screen time, no schools, and lack of outdoor activities impacted psychological wellbeing of children and adolescent (Patra 2020: 1015). Therefore, it becomes imperative to equip ourselves and the others with techniques and other tools to deal with the psychological tension and burden that the prevailing situation has brought upon us.

So, for this reason, as part of our psychological crises intervention, district Ghaziabad, had a team of trained mental health professionals to supplement the efforts of the health care community to allay the fears, distress, myths and other possible cognitive distortions surrounding the same. It was recognized that patients undergoing COVID-19 treatment had many apprehensions and misinformation which led to resistance in getting treatment initially. Patients were also non-cooperative with health care professionals. Many patients had depressive symptoms and news of instances of suicide and vandalism was observed. Various

studies even suggested that people with attention deficit, hyperactivity disorder, depression, schizophrenia and bipolar disorder are more vulnerable to COVID-19 virus (Wang 2020: 124).

2.0 Intervention for Mental Health Support

We provided all the information to give a firm understanding of the disease. This was important for disputing myths and/or dealing with apprehension surrounding the disease and cleared all doubts regarding the same. The employment of psycho-education techniques helped in reducing anxiety and harmful behaviour towards self and others. We ensured the provision of continuous and regular supply of essentials such as food, masks, sanitizers, soaps, mosquito coil, sanitary napkins, medicines for pre-existing ailments such as diabetes, blood pressure etc. Attempts were made to set a routine by serving food at fixed intervals so as to maintain the circadian rhythm, which has implications for psychological well-being. We also introduced evidenced based psychological therapies such as Cognitive Behaviour Therapy, Rational Emotive Therapy, Narrative therapy and solution- focused therapies to deal with the psychological stress, anxieties, and depressive moods and dispute any existing cognitive distortions that may deteriorate their mental health.

We also organised support groups (while maintaining prescribed physical distancing) which was useful during quarantine period to help people in processing the prevailing situation and the negative effects of it which they all were going through collectively (North et al 2020: 511). It helped curbing the loneliness that comes with isolation and may have helped the individuals in the process of catharsis, reflection, sharing and supporting each other. Individual counselling was provided to those who exhibit serious symptoms and extreme negative affect due to their condition. District Administration established a dedicated mental health helpline called "Sarthi" number –0120-4155313 (official) for the individuals to access mental health care whenever they would feel extremely distressed and would like to refer to the professional for help.

The National Commission for Women shared the concern of a surge in Domestic Violence as these complaints doubled during the lockdown. A need of a separate helpline number for women in distress was felt. A dedicated helpline number called "Sakhi" 7235004603 was established for women in distress and victim of domestic violence. The paper focuses on the interventions of Helpline number Sarthi and Helpline number Sakhi by Ghaziabad District Administration to provide psychosocial support to people in distress.

3.0 SARTHI -Mental Health and Psychosocial Support Helpline, Ghaziabad
3.1 Interventions and outcomes
District Administration, Ghaziabad shared the concern of raising psychological issues in the district with UNICEF and suggested to have a helpline number to provide telephonic counselling service to the residents of Ghaziabad. On 25th April 2020, "Sarthi", a mental health and psychosocial support helpline number was operational at Mukundlal Municipal Government (MMG) Hospital, Ghaziabad. The purpose of this support was to assist people to navigate through their psychological issues and equip them to deal with their mental health issues. This helpline number started with six counsellors including mental health experts and psychosocial experts from

Mukundlal Municipal Government Hospital. These counsellors provided online counselling services from 10 a.m. to 4 p.m. and later with addition of 8 more counsellors, the timing were extended till 8 p.m. to cater the mental health and psychosocial support need of the people.

The helpline number was disseminated among people and in community through local print media, existing WhatsApp platforms of volunteers, NSS cadres, and government functionaries. A poster was placed at every Police Station, Government Offices, Hospitals, CHCs, Block Offices, chemist and Major Retail Grocery Stores.

Since inception, the helpline centre received various cases of rise in feeling of anxiety, worry, depression, loneliness, uncertainty due to the lockdown and post lockdown, the anxiety and stress increased with the surge in the number of positives cases. The counsellors helped the cases through immediate response, professional counselling services with complete anonymity and non-judgmental attitude and supported through Cognitive Behavioural Therapy and by referring mental exercises along with some lifestyle changes. The counsellors conducted counselling for a total of 3835 cases and cumulatively provided counselling session for 764 hours. The counselling services reached to people as young as 6 years and people as old as 79 years of age and the average age of the callers being 44 years. Out of the total, 17 cases found critical and referred for higher level intervention for mental health experts. UNICEF supported the Mental Health and Psychosocial support Helpline number- Sarthi by developing IEC materials, information dissemination, identification and orientation of counsellors, provided technical support in designing call sessions, developed mechanism for post-care follow-up and case management.

Table 1. Segregation of Callers in terms of Gender

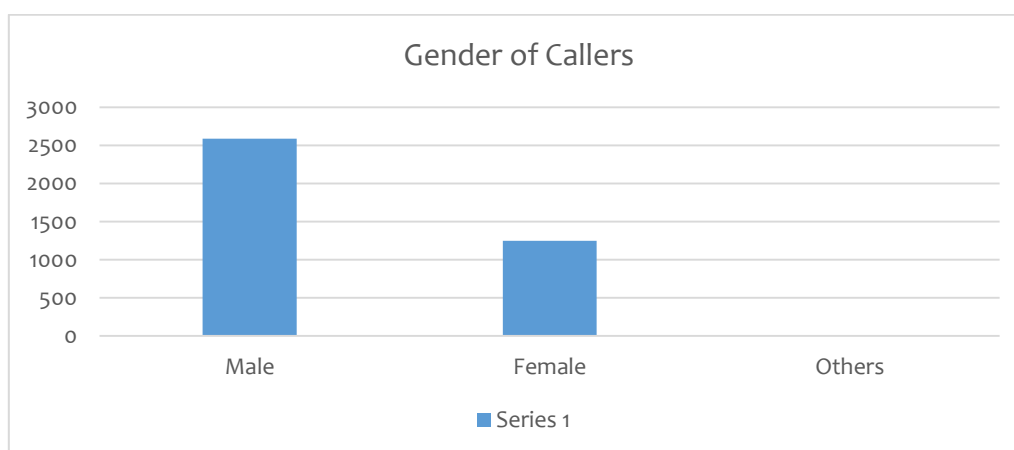| Gender	Male	Female	Others	Total
Number of Callers	2586	1249	0	3835

Figure 1- Classification of Callers on the basis of Gender: The calls from male patients were twice of the female patients and no call was received from the transgender community.

Table 2. Segregation of Callers in terms of Gender

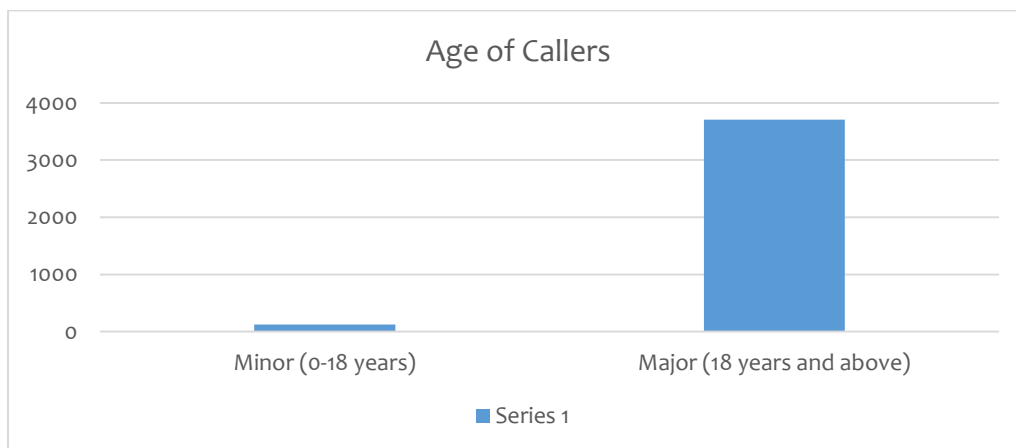| Age	Minor (0-18 years)	Major (18 years and above)	Total
Number of Callers	126	3709	3835

Figure 2- Classification of Calls on the basis of Age: The helpline number received calls from children who were in need of psycho-social support.

Table 3. Issues Reported by Minors

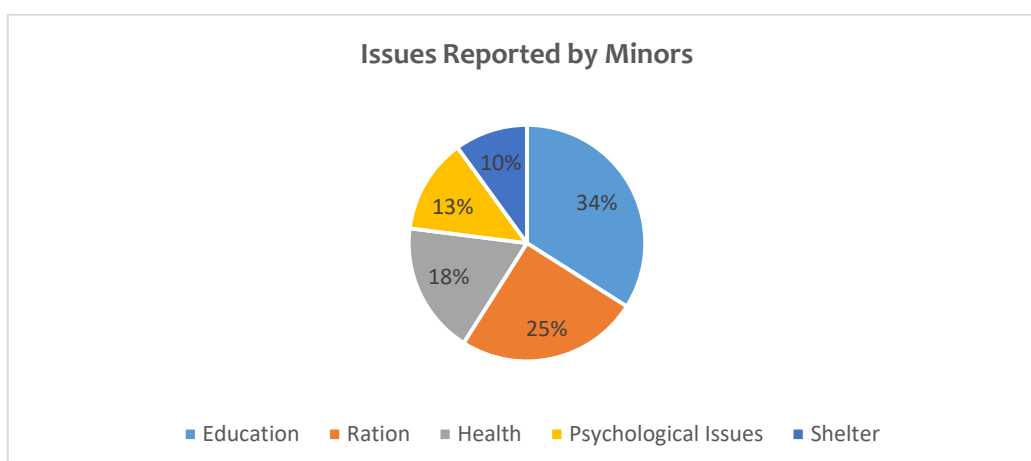| Issues Reported by Minors	Education	Ration	Health	Psychological Issues	Shelter
Number of Callers (in%)	34%	25%	18%	13%	10%

Figure 3- Classification of Calls from children on the basis of the nature of their problem: Majority of the calls made by children were regarding stress and fear due to lack of education and ration and a significant number of the children faced issue of insomnia.

Table 4. Issues Reported by Majors

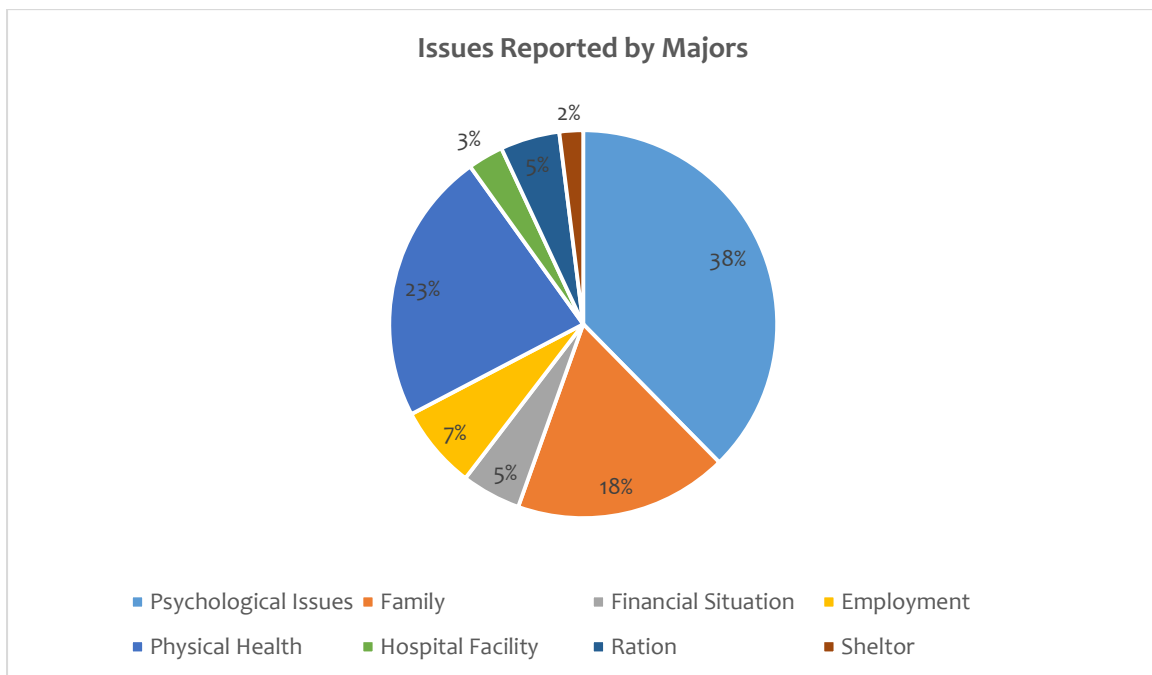| Issues Reported by Majors	Psychological Issues	Family	Financial Situation	Employ- ment	Physical Health	Hospital Facility	Ration	Shelter
Number of Callers (in%)	38%	18%	5%	7%	23%	3%	5%	2%

Figure 4- Classification of Calls from Adults on the basis of the nature of their issues. The calls received from adults were maining regarding psychological issues and anxiety about their physical health and concern about their family members

3.2 Learnings & recommendations

People considered psychological issues as a taboo subject and even failed to assess the need of counselling. They were more concerned about the confidentiality of their problems but with the help of psychosocial support and awareness, mental health issues were addressed and people with anxiety and depression approached the helpline. The calls regarding psychological issue was much more in case of adults in comparison to children and only 17 cases needed higher level intervention, the rest of the cases were supported by Psychosocial Counsellors. It can be derived that all cases don't require higher level of interventions and adequate support can be provided in majority issues.

4.0 SAKHI helpline number

As countries imposed lockdown and other restrictions to control the spread of COVID-19 virus, women all around the world saw a steep rise in domestic violence against them (Gautam 2020: 101594). The increase in domestic violence cases during the lockdown caused by the pandemic

was termed as the "shadow pandemic" by the executive director of the UN Women. According to Centre for Disease Control and prevention, approximately one in four women and nearly one in ten men have experienced intimate partner violence in their life time (Smith 2018: 7). In India, the number of domestic violence complaints received by the National Commission for Women doubled from 123 distressed calls to 239 domestic violence complaints from March to April 2020. Everyday newspaper carried the details of domestic violence which led the district administration Ghaziabad to take initiative to protect the rights of the women and to make help accessible and available to all women.

Key factors of increased Domestic Violence (Gelder 2020: 100348)
- Isolation - During the lockdown, offices, parks, gym, marketplaces closed, social isolation became Govt. sanctioned, and that which led to the isolation of the abused and assertion of the abuser.
- Economic anxiety – The fear of losing one's job was looming high on households during the lockdown. Various studies show that unemployment and violence in households are directly correlated.
- Stress- Stress serves as an important contributor and a compounding factor that can lead to domestic violence.
- Lack of resources- coupled with financial strain plays key role in increased frustration and violence.
- Too much time together- During the lockdown invariably families had increased interaction and as identified by sociology and gender literature violence may occur without any specific reason and probably can only be attributed to the dynamic of human psychology.

4.1 Intervention
District Administration, Ghaziabad in response to the rising violence against women issues during COVID-19 lockdown, released a helpline number 7235004603 to provide telephonic counselling and other services like medical help, police facilitation, legal help etc. for the affected women. The objective of Ghaziabad administration was to reach out to maximum number of women and children suffering from violence so that they can access help and register complaint through the helpline number so that they get quick response and resolution. Flyers of the helpline were prepared and were circulated on major social media platforms, print media and were pasted at all important offices of the district.

The helpline was integrated with One Stop Centre (OSC), which was formulated by The Ministry of Women and Child Development (MWCD), Government of India as a central scheme funded through Nirbhaya fund. OSC is intended to support women affected by violence, in private and public spaces, within the family, community and at the workplace. Women facing physical, sexual, emotional, psychological and economic abuse, irrespective

of age, class, caste, education status, marital status, race and culture are facilitated with support and redressal.

4.2 Services provided by the One Stop Centre
- Emergency response and rescue services
- Medical assistance
- Assistance to women in lodging FIR/NCR/DIR
- Psycho-social support/counselling
- Legal Aid/advice
- Shelter
- Video Conferencing Facility

The Dedicated helpline received cases related to Domestic Violence, Dowry, Sexual Harassment, Stalking and Eve Teasing, Cyber-crime, Missing, Kidnapping and Abduction. These cases were forwarded to the OSC centre in charge and to the OSC counsellor panel. The Centre in charge along with her team helped survivors through immediate response, Medical Help, Police Help and Legal Services. The Counselling panel consisting of four counsellors provided professional counselling services with complete anonymity and non-judgmental attitude to the survivors. The panel Conducted counselling sessions for a total of 4000 calls which were received on the dedicated helpline number. Out of them, 616 cases were registered under domestic violence category and counselling services were extended to the survivors and the rest of the calls were forwarded accordingly to respective departments.

4.3 Efforts by district administration to deal with violence against women during lockdown and after lockdown
- The Sakhi Helpline Number was published in print and local media by administration.
- The flyer regarding services provided by One Stop Centre through the helpline was placed at every social media platform.
- Awareness regarding dedicated Sakhi helpline number was done with ASHA workers, Anganwadi workers, supervisors from block and district level, healthcare officers.
- Provided Assurance about the confidentiality of their Identity.
- Provided a safe mode of counselling (telephonic and video conferencing) during lockdown by Psychosocial Counsellors of OSC.
- Supported Migrant Women and Children with medical assistance and psycho-social support.
- Developed a strong Mechanism for post care follow-up and Reporting to Higher Officials.

Table 5. Month wise detail of Domestic Violence Cases received on Sakhi helpline

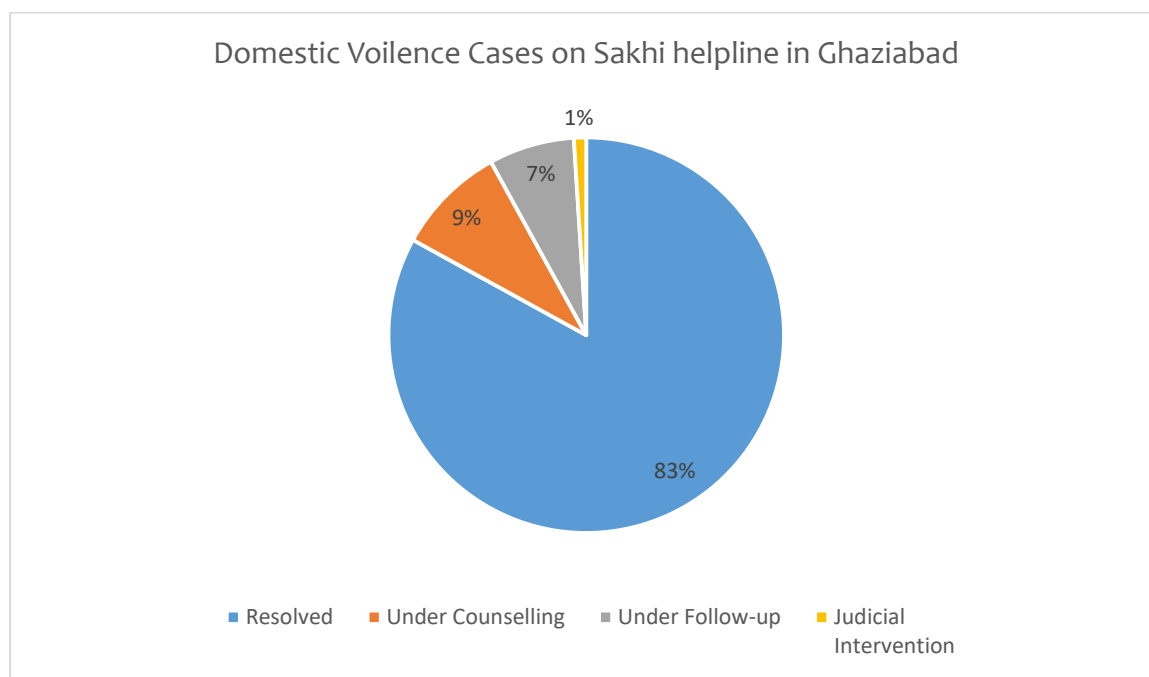|	Month wise detail of Domestic Violence Cases received on Sakhi helpline										
	Apr 2020	May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Resolved Cases
Domestic Violence	21	64	82	56	60	91	66	75	59	42	511/616

Figure 5- Classification of Cases received on Sakhi Helpline Number. In 616 registered complaints, 511 were successfully resolved. In the remaining 105 complaints, 56 cases are under counselling process, 43 cases are under follow-up process and only 06 went for judicial intervention

4.4 Outcome

With the promotion of dedicated Sakhi helpline number, OSC Ghaziabad received the highest number of complaints of women and children amongst all OSC's in the State of Uttar Pradesh. During lockdown domestic violence against women has been rapidly increased. Sakhi helpline number received 15 to 20 calls on average daily by women in distress. With continuous effective counselling, 511 cases out of 616 cases of domestic violence were resolved, 56 cases are under counselling process, 43 cases are under follow-up process and only 06 went for judicial intervention. With the coordination of Sakhi helpline and one stop centre, effective counselling was provided to survivors to resolve domestic violence cases during COVID Pandemic.

5.0 Conclusion

The various intervention measures put in place by the government in dealing with the pandemic is pivotal. The multivariate studies on previous outbreaks and the current

pandemic show that they have serious and long-term cognitive as well as mental health effects on the people. Therefore, it is important to disseminate correct information and emphasise the mental health well-being of the population and take proactive steps to formulate and implement interventions that mitigate the effect of COVID-19 pandemic.

The onset of the pandemic had the world initially focus on the physiological and economic aspects of it. But the unfolding of the global event has shown us that its implications on our psychological wellbeing are equally detrimental. Even though the effects of the pandemic may be looked at from various perspectives, it needs to be understood that the consequences are mostly always overlapping as well. Therefore, it is imperative that our pandemic response for the future should most definitely be holistic in nature and incorporate the psychological dimension from the get-go, rather than undergoing a collective phase of denial-overwhelmingness-burnout.

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Comprehensive Response to COVID-19 in Central Jail, Farrukhabad

Dr. Rajender Pensiya, IAS

Since the COVID-19 outbreak began in India, concerns have been raised about the spread of the virus in prisons and efforts have been made to prevent them from becoming an epicentre of the pandemic. The rapid spread of COVID-19 doesn't come as a surprise. Crowding makes it difficult to control the spread of infectious diseases in jails and prisons. Jails and prisons are proving to be viral hot spots in the COVID-19 pandemic.

Unsanitary conditions, overcrowding, poor nutrition, co-morbidities and a shortage of hygiene products in these confined spaces have rendered inmates vulnerable to disease outbreaks even in normal times. Indian prisons are overcrowded by up to an average of 100-150 per cent, which makes social distancing impossible to maintain. Legal researchers have pointed out that in some prisons, there is not enough space for all the prisoners to even sit comfortably, let alone sleep at the same time.

As per the issued guidelines from the health department, sampling for COVID-19 was to be done in crowded places such as prisons, hostels, etc. Therefore, under the guidelines, sampling was done in central Jail, Farrukhabad.

COVID-19 got into the prison through a constable. The cook in the prison got infection from the constable. The first COVID-19 positive case was reported on 30-07-2020 in the central Jail, although a cluster of cases were reported for the first time on 21-09-2020. Maximum positive cases in a single day that were reported from the central jail were 110. The situation was alarming.

It was important to find the best approach to the problem. District authorities in Farrukhabad ensured social distancing and ensured that everyone in the prison has access to information and adequate medical care. The authorities put in place appropriate hygiene and cleaning protocols, including providing training and supplies such as masks, sanitizers, and gloves to reduce the risk of further infection.

The complex balance between the security needs and the protection of the prisoner's right to health deserves special attention. They live forced in cramped, overcrowded, poorly ventilated environments, in which it is not always possible to observe the general hygiene rules. For these reasons, during the ongoing pandemic emergency, it could be even more difficult to concretely protect the right to health of this portion of the population. It is also known that there are some contextual factors within the prisons, which contribute to a higher risk of infectious disease transmission among prisoners. Such factors include

overcrowding, risk behavior, delay or lack of diagnosis and treatment, limited access to clean water, inadequate sanitation, and lack of harm reduction measures. There is a need for a continuous balance between the protection of the security of the prison administration, with the need to limit the use of external hospitalization only to the necessary cases, and the protection of the health of detainees.

All this was taken care of by the district authorities. To combat the spread, the prison staff was isolated, and 100 % sampling was done. Since the district had limited capacity to isolate the cases, the central jail was converted into a L1 hospital. Healthy prisoners were segregated from the COVID-19 positive cases. Physical distancing was ensured among all in the central jail. Vitals including temperature recording using an infrared thermometer and SpO_2 using pulse oximeter were recorded on a daily basis. A 24-hours ALS ambulance was deputed at the central jail.

It was ensured that proper treatment and care of the prisoners is being done. It was also ensured that there is no stock-out of medicines. A visit by the physician was done twice daily to assess the condition of the positive cases. A nodal point was made for the central jail in the COVID war room to resolve any issues being faced in the central Jail. Proper disposal of the biomedical waste generated at the central jail was done and transport for its proper disposal was ensured. The entire central jail was sanitized on a daily basis. Healthy food and water for the prisoners was ensured through support from the private sector.

Six positive cases associated with a co-morbidity were in a severe condition, thus were shifted to a L2 hospital. Among them was an 82 years old man who was in a critical condition. A daily follow-up from the administration was done to ensure that the case Mr. Anil (name changed for confidentiality) is being taken care of. A team of police was deployed at the central jail as well as at the L3 hospital to track all the activities being undertaken at the two places. A total of 917 (Total prisoners are 2252) cases were reported from the central Jail with no reported death.

A daily meeting was conducted among the district officials and the central jail officials to review the situation in the central jail. Thus, this management ensured saving life of around 20000 prisoners. Last COVID-19 positive case in the Central Jail was reported on 28-10-2020. This entire teamwork and good management prevented central jail from becoming an epicentre of the COVID-19 pandemic.