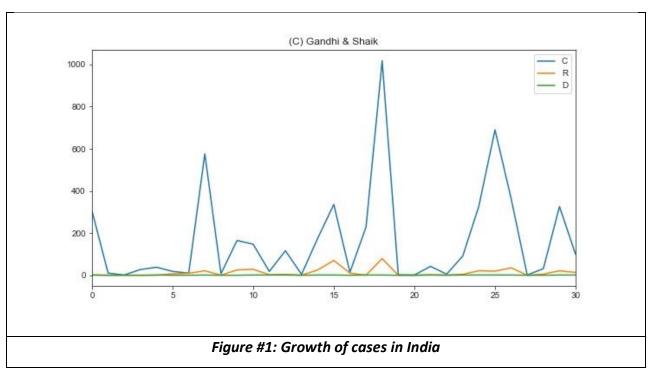
Contribution of Indian Leadership in war against COVID-19

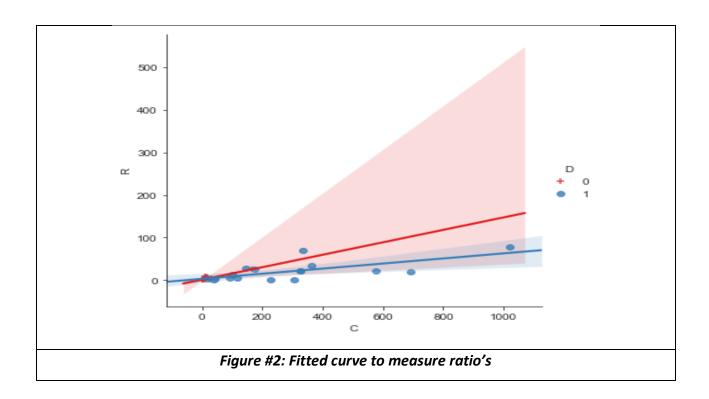
Prof. T. Radha Krishna, Prof. K.R.R. Gandhi and Dr. Israr Ali Mohiuddin Shaik

The first case of the corona virus (COVID-19) pandemic in India was reported on 30^{th} January 2020, originating from China. As of 10^{th} April 2020, the Ministry of Health and Family Welfare have confirmed a total of 6,414 cases, 504 recoveries and 199 deaths in the country. The infection rate (R* or R₀) of COVID-19 in India is reported to be 1.7, significantly lower than in the worst affected countries.

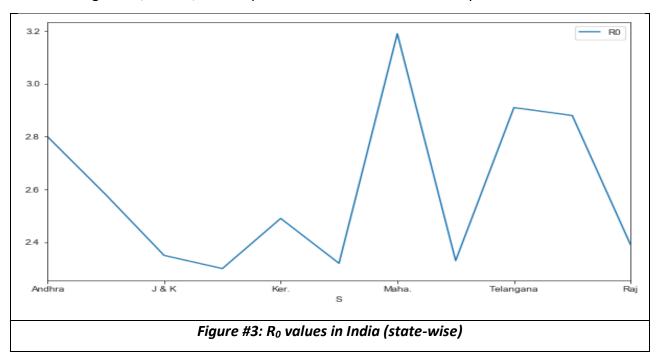
On January 30, India reported its first case of COVID-19 in Kerala, which rose to three cases by February 3; all were students who had returned from Wuhan, China. No significant rise in cases was seen in the rest of February. On 4thMarch, 22 new cases came to light, including those of an Italian tourist group with 14 infected members. The transmission escalated during March, after several cases were reported all over the country, most of which were linked to people with a travel history to affected countries. On 12thMarch, a 76-year-old man who had returned from Saudi Arabia became the first victim of the virus in the country.



Fitted curve for prediction/growth



Based on Figure #1, and #2, we computed the R0 values in the country.



The following are some important milestones in handling of the epidemic by India:

3rd **March**¹: The Telangana State (TS)government reviewed preparedness and measures to check the spread of COVID 19 in the wake of a man from the state testing positive for the virus. A decision was taken to set up a 24-hour call center, besides strengthening the existing one. After the first patient tested positive for the virus on Monday, who returned to Bangalore from Dubai, and travelled to Hyderabad, the TS government has begun the process of tracking those who came in contact with him (about 80 people), including his family members and medical staff at the private hospital where he underwent treatment. This action of tracking and isolating the possible infected people was first such initiative in the country.

3rd **March²:** CREDAI TS outlined best practices to be adopted at construction sites, offices and owners association to safeguard the employees and communities for example like: construction sites/ offices/ apartment associations to be disinfected multiple times in a day, to have a cleaning station and all personnel are advised to wash their hand thoroughly for about 20 seconds, to adopt a no-contact policy, to scan employees and crews with thermal scans to identify sick personnel on daily basis, encourage personnel to bring their own lunch box and avoid eating outside.

14th March: First of its kind cluster handling in the Country by TS³: One of the major inflecting events in the TS has been attributed to a group of Indonesian Islamic Clerics. They arrived in New Delhi on February 22, and 10 of them along with three Indians arrived in Karimnagar on March 14. The moment 8 of the above party tested positive, the TS health department rolled out cluster containment plan by pressing into service 100 medical teams to screen the people in the area where Indonesian citizens had stayed for two days. Police personnel were deployed to cordon off three km area around the place where the group of Indonesians had stayed for a religious programme. The police analyzed the CCTV footage to identify the places where the Indonesian citizens had gone. The health personnel launched efforts on war-footing for a door-to-door screening of people for suspected symptoms of COVID-19 in that region. Two medical colleges with 50 beds were readied as a precautionary measure.

22nd**March:** India woke up to the pandemic and observed a 14-hour voluntary Janata curfew at the instance of the Hon'ble prime minister Narendra Modi with a possible view to escape from the contagion whose life on surfaces is about 12 hrs. The government followed it up with lockdowns in 75 districts where COVID cases had occurred as well as all major cities. Further, on 24thMarch, the prime minister ordered a nationwide lockdown for 21 days, affecting the entire 1.3 billion population of India. PM also announced the formation of a COVID-19 Economic Response Task Force immediately.

24th March⁴: Central Govt. allocated Rs 15,000 Crore to health care sector of the country to prepare against the pandemic. Telangana is the first state to announce a seed fund of Rs.500 Crore to health care sector for COVID-19 preparedness, where TRS MPs, MLAs, MLCs donate Rs 500 crore to CM relief fund. The ruling TRS party has decided that all its MPs, MLAs and MLCs will contribute their one-month salary to CM Relief Fund. Besides this, they will also contribute one year's constituency development fund to the CM Relief Fund. The total amount is estimated to be Rs 500 crore.

The other notable contributions by prominent leaders are: On 19thMarch, Kerala Hon'ble chief minister Sri. Pinarayi Vijayan announced a stimulus package of Rs 20,000 crore to help the state overcome both the Covid-19 epidemic and economic hardship caused by it. On 21stMarch, Uttar Pradesh Hon'ble CM Sri. Yogi Adityanath announced Rs 1,000 to all daily wage labourers. On 22 March, Punjab Hon'ble CM Sri. Amarinder Singh announced Rs 3,000 to all registered construction workers. NCP President Sri. Sharad Pawar announced that his party's MLAs would donate their one month's salary to Maharashtra CM's Relief Fund. A unique initiative "Grama Volunteer" of AP state Govt. under the leadership of Hon'ble CM, Sri. YS Jagan Mohan Reddy has enabled the Govt to reach to the gross root level for delivery of health and essential services during the COVID management. Also, AP state Govt is first to transfer the promised package to the poor by 2nd April itself.

With 12 deaths and around 418 COVID-19 positive cases, Telangana is one of the states with a high number of infections. However, health experts say as the first state to order a total lockdown and with effective implementation of the restrictions and social distancing it is showing the way too many other states in the country. The following are some of the best practices the Govt of Telangana adopted towards positive leadership initiatives:

24thMarch⁵: TRS government has quickly came to rescue of the downtrodden people with a promise to provide 12 kg rice and Rs 1,500 to white ration card holders with immediate effect.

31st**March**⁶: The National Institute of Rural Development and Panchayati Raj (NIRDPR), TShas launched an awareness initiative to help gram panchayats (GPs) across the country deal better with the Covid-19 outbreak.

2ndApril⁷: It was a first of its kind gesture by the Govt of Telangana Hon'ble CM, Sri. KCR to announce in a public press meet an action plan to buy all the state agricultural produce (rice and makka) of 55 crore tones to the last kilo, by the state govt through allocating a special budget of 30,000 crores, at MSP to help the state farmers. He also narrated the systematic plans envisaged by his Govt. for the timely help the farmers in keeping the machinery and procurement system ready as the crops are about to reach their pinnace.

6th April⁸: Telangana deploys India's first real-time technology to intensify centralized COVID-19 surveillance. In a major COVID-19 pandemic Public Health initiative, the Public Health and Family Welfare Department, Govt of Telangana, has invested swiftly to deploy India's first automated "COVID – 19 Monitoring System App" by Vera Smart Healthcare to identify, undertake live surveillance, track, monitor, and provide real-time analytics to Chief Minister and the Health Department. "COVID – 19 Monitoring System App", has been developed in a record time to deal with the pandemic, enables live surveillance, monitoring, tracking, reporting, and major bulletins. The analytics by the app also facilitate assurance to the stakeholders by providing the facts and figures in their fingertips

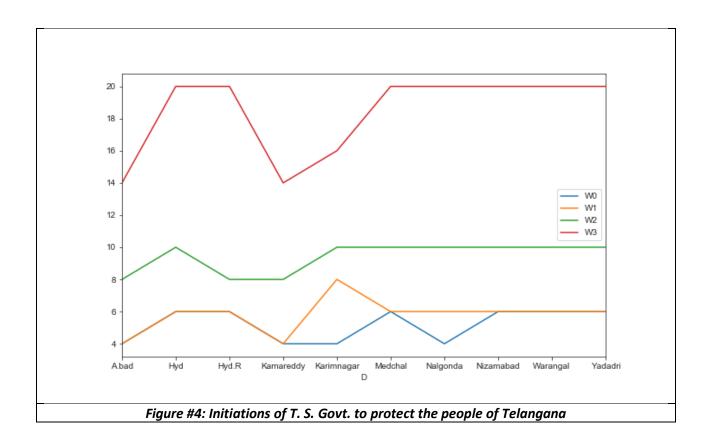
6th April⁹: Govt of TS launches 'fact check' website to counter misinformation on COVID-19 "It is aimed at dispelling the fake news and misinformation campaigns on social media platforms and to provide facts and context wherever applicable," the website states. (https://factcheck.telangana.gov.in)

6th **April**¹⁰: Govt of TS, facilitates, liquor manufacturing companies through quick approval to immediately produce and supply Hand Sanitizer, the most essential item in arresting the spread of CORONA disease. Bacardi India starts hand sanitizer production at Telangana plant, targets 70,000 liters.

6th **April**¹¹: TS Chief Minister KCR announced "Chief Minister's gift" to frontline warriors waging a battle against Covid-19 in the state. Doctors who were paid full salary will also receive 10 per cent of their gross salary as CM's gift and Rs 7,500 would be given to each sanitation worker in the GHMC as also the staff of Metro Water Works for the crucial role they had been playing in keeping the city clean and supplying potable water. sanitation workers in gram panchayats and municipalities will receive Rs 5,000 as a gift. "Safai anna, salute anna" is what he said. While the State is undergoing financial constraints due to the lockdown, the Govt is ready to spend Rs 100 crore to recognize their services.

7th **April** ¹²: To contain the increase in COVID cases in TS, the health department has identified and declared about 100 villages and areas in various districts as "hot spots" (containment clusters) and imposed more restrictions on the movements of people there. People in these hot spots would not be allowed to come out of their houses for 14 days, while all provisions, vegetables and medicines will be given at their door steps.

Also, there is an apparent human approach in extending the lock down, from some leaders, for example **Sri KCR, CM, TS,** said" We can recover from the economic problem. But we cannot recover the lives of the people".



Note: Based on figure #4, we can expect some drop in R_0 in next couple of weeks in Telangana. However, the Govt. of TS should implement stringent measures like sealing of the hot spots, with strict containment policy for clusters, locking down till end of the May, etc., so as to expect R_0 value close to 1.

Across the world, now leaders of major nations were found wanting in taking right decisions for their peoples. Having summarized few positive leadership initiatives, the analysis of the facts however naturally points at the visible lacunae: When the fist tiny burst (22 cases) was recorded on 3rd March, why the lock down was waited till 24th March?, Why some sections of the society were loose to defy the lockdown and continue undesirable practices? Was there a necessity to cut salaries of the employees, for a meager 21-day lockdown? What do all our reserves accumulated over decades through privatization, additional tax on Petro products, other commodities and generated through a robust GST regime will go? Why the knowledge society of the country not consulted through participative approach to arrive at a mitigating plan to overcome the crisis and also in arriving at important policies and decisions? India, with so much of prior experience, could have handled this pandemic through a Central Plan, dictated to states and with continued support of logistics and services. The various security agencies (CRPF, SPE, CISF, and many) should have been medically certified and pressed into service to help the local governments in supply chain and essential logistics. There could be many...

We need to have a lot of EQ (emotional attachment for the people, valuing their life and living as foremost and not self-image and profits). The world will learn a lot from this pandemic. Lot of humbling and a Lot more empathy too is necessary...

With so much knowledge, history of evolution, critical observation abilities and power of human intelligence, it's only a matter of good practice of preventive measures, spread management and gradual eradication that has to get into the disciplined social life which can soon make this pandemic, an event of the past. A collective negligence leads to a glaring mistake before the unforgettable lessons are learnt. Although a strategic plan is conceptualized by the respective governments, its gross root implementation is a question mark owing to the distributed social culture and behavior of the people. The Chinese confinement was a remarkable success, in the world's largest populated country, thanks to the dictatorship Govt. that implemented a total lockdown and had the people behavior fully supportive too. The need of the hour finally points out at a synchronous effort through better governance, contribution of medical/research society, think tank/ policy making, and most importantly transforming the people to self-learn and adopt best practices for the eradication of this evil. Remember, "A river cuts through a rock, not because of its power but its persistence".

Authors and their association:

Prof. T. Radha Krishna

Emeritus Professor, AICTE Sr. Professor of Physics (Rtd) JNTUH.

Prof. K.R.R. Gandhi

Sr. Professor, Management Sciences GITAM University Visiting Professor, MDI/IIM.

Dr. Israr Ali Mohiuddin Shaik

Professor of Physics Member, Accreditation Bodies.