

***India's Digital Divide and Kerala's 'First Bell':  
A Radical & Alternative Form of Digital Education During COVID-19***

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**Abstract**

Education suffered one of the biggest blows due to Covid-19 in 2020-22. As educational institutes moved to digital-online teaching and learning, 'digital divide' or the unequal access of the internet and other digital tools among students, turned out to be a major impediment in its proper conduct & success. In India, caste, class and gender barriers are major contributors to the digital divide, and with the pandemic, this also caused an increased chasm between those who could afford to learn despite difficulties and those who couldn't. This led to widespread discontent and protests by students of various ages across India, raising demands to reopen educational institutes, to provide students with free internet and other digital requirements etc. However, a small state in India's southern end called Kerala came up with an innovative and reformatory form of pedagogy in the same period, that stressed on egalitarianism and justice. For a state with high television penetration, the Left-wing state government's well-structured 'First Bell' programme proved useful for students from all backgrounds, and when compared to other Indian states, was able to bridge the digital gap to a great extent. It democratised digital education by making the lessons not only available via the internet but on the government's TV channel too, and secondly, it provided and campaigned to provide students with free laptops, TVs and other gadgets required for e-learning. This paper is on 'First Bell' as a radical and alternative form of digital-online education, with an investigation of its methods and results.

Keywords: Kerala, Covid-19, E-Learning, Education, First Bell, Left-Wing, Digital Divide, Egalitarianism

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## **Introduction**

This article delves into Kerala's distinctive approach amidst the landscape of Indian states in democratising e-learning and online education, particularly focusing on its initiative, the state government-run 'First Bell' lessons. It examines how Kerala pioneered efforts to ensure accessibility, especially for marginalised students through this initiative, which, unlike in any other Indian states, utilised government-led online classes to address the 'digital divide' exacerbated by the pandemic. It emphasises Kerala's historical commitment to education and literacy, showcasing 'First Bell' as a significant milestone in the society's pursuit of egalitarian principles. Furthermore, it examines how the central government failed in ensuring adequate infrastructure for education across the nation, contrasting this with Kerala's pioneering efforts to bridge the digital gap. This exploration is thus framed within two broader contexts: (1) the onset of the pandemic in India, magnifying the digital divide across states, and (2) Kerala's unique response to Covid-19, diverging from approaches adopted by other states.

The study draws upon various sources, including reports, surveys from international and national agencies, social media posts by Kerala's government representatives, newspaper articles, and secondary literature. Remarkably, despite its significant implications, there remains a dearth of academic research on Kerala's strategies in addressing the digital divide.

The key arguments that this essay aims to present are: (1) First Bell stands as a singular experiment unparalleled in other Indian states; (2) its tangible outcomes significantly mitigated Kerala's digital divide, setting it apart from struggling states; and (3) these efforts should not be viewed in isolation but rather as a continuum of Kerala's long-standing commitment to literacy, post-literacy, and education since the 1990s, emphasising democratic and egalitarian principles.

The first section delves into the multifaceted impact of Covid-19 on India, examining not only its epidemiological ramifications but also the socio-economic and political reverberations experienced across the nation. The second section scrutinises the stark disparities exacerbated by the pandemic, drawing on comprehensive surveys by international and national organisations. Section 3 discusses the spread of the pandemic in Kerala and how the state dealt with it in the context of previous calamities that hit the state, as well as provides a brief introduction to the state Department of General Education's use of digital tools. Section 4 delves deeper into 'First Bell' and the participation and support offered by Kerala's civil society for it, underscoring its commitment to inclusive education and adaptive crisis management. Section 5 explores the challenges encountered by 'First Bell' and Section 6 investigates the results of 'First Bell'.

Ultimately, it calls for a comprehensive study of Kerala's digital initiatives, recognising their transformative potential in revolutionising access to education and narrowing educational disparities on a larger scale.

## **Covid-19 in India**

India, positioned in the Global South, faced devastating repercussions from the SARS-CoV-2 outbreak, witnessing the spread of successive variants—Omicron and its sub-variant, Eris, in 2023. The nation endured three waves of the pandemic, recording 45,001,384 confirmed cases and 533,294 fatalities, amounting to a 1.19 per cent fatality rate (WHO website, 2023).

The initial case emerged on January 30, 2020, triggering the first wave from March to October 2020, followed by subsequent waves from April 2021 to July 2021 and December 2021 to January 2022 (MyGov website, 2023). India initiated its vaccination program on January 16, 2021, administering approximately 1.7 billion doses, including first, second, and booster doses, to over 720 million individuals. Covishield, Covaxin, Sputnik V, and Moderna constituted the approved vaccines in India (Mukim, et.al., 2022).

The central government faced severe public scrutiny concerning its pandemic response and policies. The ruling Bhartiya Janata Party (BJP henceforth) drew criticism (Al Jazeera, 2021) for neglecting the welfare of marginalised communities (Ebrahim, 2022), especially the mishandling the displacement of migrant labourers (Koppikkar, 2020; Sirimane & Thapliyal, 2020), propagating unscientific and religious measures (Indian Express, 2021; Padma 2021), sluggish response (Frayer, 2021), curbing freedom of expression, etc (Imran & Javed, 2023; Radhakrishnan & Thaliyil, 2021). The pandemic's impact reverberated across economic sectors, plummeting India's Gross Domestic Product (or GDP) to 3.1 per cent in the 2020 fiscal year's fourth quarter. Business sectors witnessed a 53 per cent impact, unemployment surged by 19 per cent, and the tourism industry incurred a staggering loss of around Rs. 15,000 crores. Multiple sectors, including service, oil & gas, pharmaceuticals, telecom, automobiles (Nayak, et.al., 2022), real estate & construction (India Today, 2021), transport (Gomathi, et.al., 2021), food & agriculture (Rathore, 2023), suffered severe setbacks, as documented in various studies and news reports.

Reports from various organisations shed light on the dire educational situation during lockdowns. Diverse approaches to the pandemic emerged among Indian states despite centralised regulations on lockdowns and restrictions. Instances of protests surfaced across regions and sectors. For instance, in Karnataka, frontline workers rallied for a fixed monthly wage (Chhabra, 2020), while in states like Chhattisgarh (Tiwari, 2021), and New Delhi (Jha, 2021), both school and university students and teachers protested the blended and online education modes (Kaushal, 2021). Concerns over the digital divide were echoed by students' and teachers' organisations, condemning the shift to online examinations, emphasising the risks of excluding those lacking internet access. The gendered aspect of the digital gap, shedding light on the additional responsibilities faced by girl students, including household chores and potential exposure to abusive environments within their homes, has also been underscored by studies and protests (Mathrani, et.al., 2020).

## **Digital Divide**

India stands as the world's most populous nation with 1.43 billion inhabitants and boasts one of the largest education systems globally, comprising 250 million students across 1.5 million schools and 37.4 million enrolled in 50,000 Higher Educational Institutions (India Today, 2020). However, the abrupt shift to online education amid the pandemic overlooked the nation's vast digital disparity. This oversight disproportionately affected marginalised groups such as the Scheduled Castes, Scheduled Tribes, Other Backward Castes (OBCs) which includes Muslims, girls, and rural students, resulting in their exclusion from continued education (Oxfam India, 2022). Multiple surveys conducted by international and national agencies, including Oxfam India, UNESCO, UNICEF, Azim Premji Foundation, the National Council of Educational Research and Training (NCERT henceforth), the People's Archive of Rural India (PARI henceforth) ICRIER & LIRNEAsia, and the central government's Economic Survey 2021-22, corroborate these findings.

Oxfam India highlighted that over 80 per cent of students in government schools across Eastern and Northern Indian states like Odisha, Bihar, Jharkhand, Chhattisgarh, and Uttar Pradesh did not receive educational materials. UNICEF's study revealed that approximately 67 per cent of parents felt their children's overall skill development lagged due to limited access to digital devices and e-learning tools.

Surveys documented by organisations like PARI indicated the absence of support from government schools and local authorities, resulting in students' discontinuation of studies in Northeastern, Eastern and North Indian states such as Assam, Bihar, Jharkhand, and Uttar Pradesh. The UNESCO report following the pandemic emphasised the widespread perception among respondents that students were falling behind, not just academically but also in social skills, fitness, and future job prospects.

The NCERT survey in 2020 unveiled significant challenges: 27 per cent of Indian school students lacked smartphones or laptops, 2.28 per cent faced hindrances due to frequent power outages, and 3.33 per cent struggled to concentrate during online classes. Moreover, these classes could not effectively address issues in subjects like Mathematics and Science, while 50 per cent of students lacked essential school textbooks. Another survey by the Azim Premji Foundation in 2021 revealed that nearly 60 per cent of Indian school children were unable to access online learning.

Data from the survey conducted by ICRIER & LIRNEAsia in 2021 indicated that only 20 per cent of Indian school children had access to remote education during the pandemic. Alarming, 38 per cent of households reported at least one child dropping out due to these challenges. Additionally, the Economic Survey 2021-22 noted a decline in rural children's enrolment (ages 6-14) in schools, highlighting the profound impact of the pandemic on education accessibility.

### **Covid-19 in Kerala**

Kerala was where the first Covid-19 positive case was detected in India – a student of medicine who had just returned home to Kerala's Thrissur district from Wuhan, China – on January 30th, 2020 (Andrews, et.al., 2020). Importantly, the pandemic had arrived in a state which was still recovering from calamities like the Ockhi cyclone (KSDMA website) in 2017 which caused massive infrastructural damage, killed 75 people, and left 208 missing, an outbreak of the Nipah virus in 2018 which led to 17 deaths and 18 confirmed cases (WHO website), and two devastating state-wide floods in 2018 (NIDM, 2020) and 2019 (NRSC, 2019). As far as Covid-19 is concerned, Kerala recorded 65,34,352 cases and 68,197 deaths in total as of April 2022 (Govt of Kerala Dashboard website). The state government received a lot of praise for their handling of the spread of the virus at various stages (Roy & Babu, 2020; Vora, 2020) and was also criticised when it went wrong. However, Kerala's proactive crisis management – testing, contact tracing and communication -- has been considered by experts, policymakers, and surveys as the best when taken in consideration along with the condition in other states (WHO website; Menon, et.al., 2020). Democracy and rationalism have been the axes around which Kerala's response to the pandemic was formulated (Chathukulam & Tharamangalam, 2021). Kerala's robust primary healthcare system was lauded for having laid the foundation for the state's ability to deal with such unprecedented crises – visible in both Nipah and Covid outbreaks (Covid-19 Management, 2022). Along with this, decentralisation and public participation, the use of media by government

representatives for regular communication etc have also been considered exemplary contributors (Ajayakumar, 2020).

Kerala's tryst with literacy and education has been one of the most successful and long-standing models in the country. As per India's Ministry of Education in 2023, Kerala is the most literate state in India, with a literacy rate of 94 per cent, often rounded off as 'total' or '100 per cent literacy', followed by Lakshadweep at 91.85 per cent and Mizoram at 91.33 per cent (India Today, 2023). This is not a new development. Kerala began its literacy campaigns in the form of a coordinated, state-wide mass movement post the Indian independence, which was then followed by post literacy campaigns (Raju, 2023). Public participation was again key in these campaigns, for though initiated by the then Left-wing governments, they were soon taken up by non-governmental agencies, community organisations, etc. Most of Kerala's efforts towards literacy was achieved within a year, between the years 1990 and 1991, when it was declared the most literate state in India (Kumar, 1993).

Attempts towards social development in Kerala is not restricted to education. Kerala tops the country in terms of many other key human development indices like sex ratio, life expectancy, etc, despite low income rates – collectively called the 'Kerala Model' of development (Parayil, 2010).

To cite more recent examples, in 2020, Kerala became the first Indian state to have ICT-enabled hi-tech classrooms in all public schools, according to Chief Minister Pinarayi Vijayan (Krishnakumar, 2020). The state stands first in the School Education Quality Index published by Indian government's think tank NITI Aayog in 2019. As per UNESCO's 'Global Education Monitoring Report' of 2023, Kerala's successful use of technology in education deserves praise. The report specially mentions the state General Education Department's 'SchoolWiki' project, which connects schools to facilitate collaborative content creation and learning. It adds that at least 2 million computers in the state are equipped latest open-source software, due to the state's free software policy (UNESCO, 2023). Further back in 2019, the Kerala High Court had declared access to internet a basic right (LiveLaw, 2019). Kerala is now said to be on the move towards complete digital literacy, as per the state Ministry of General Education (The Hindu, 2023).

### **'First Bell': A Radical Alternative**

Kerala's innovative 'First Bell' initiative for the academic year 2020-21 was orchestrated by a collaboration among several key agencies owned by the state Ministry of General Education: the Kerala Infrastructure and Technology for Education (KITE), the State Council of Educational Research and Training (SCERT), Samagra Shiksha Kerala (SSK), and the State Institute of Educational Technology (SIET). Together, they executed a virtual school education program that aimed to address the challenges posed by the pandemic and ensure continued learning for students across the state (First Bell website).

The program's cornerstone was the telecast of classes on the KITE-run 'Victers' channel, following a daily timetable publicised statewide. These classes, ranging from Grades I to X and XII, were aired on weekdays from 9:30 am to 5:30 pm. The sessions varied in duration, some lasting thirty minutes while others extended up to two hours (First Bell website). To enhance accessibility, the classes were not only broadcast on the Victers channel but also uploaded on YouTube (@itsvicters) and the program's dedicated website (First Bell website). Moreover, they were made available for download, allowing students to view them later. In a

bid to reach even remote areas, the videos were accessible at Akshaya Centres, state government-run resource hubs established across various localities (Akshaya Centre website).

Before the trial lessons commenced, Samagra Shiksha Kerala conducted an extensive survey to gauge the number of students in government/aided schools without internet connections or access to television. Shockingly, the survey estimated that over 2,61,754 families, roughly 6 per cent of the total, lacked these essential resources (The Hindu, 2020). Tragically, one of the individuals on this list, a 14-year-old, succumbed to suicide. This revelation prompted an urgent need for action (PTI, 2020). Consequently, teachers underwent rigorous training, with around 82,000 teachers passing the preparatory program. Through necessary interventions and modifications, the number of households without access to virtual lessons reduced significantly, dropping from 2.6 lakhs to 1.15 lakhs by May 31<sup>st</sup> (Radhakrishnan, 2020).

Expressing the government's commitment, Kerala's Education Minister, C. Raveendranath, highlighted the initiative's importance in mitigating the disruption caused by the pandemic on one of his Facebook Live sessions. He called for public involvement during the initial trial week, encouraging feedback on the program's efficacy and identifying individuals unable to access these classes (Raveendranath, 2020).

As the trial period neared completion, the number of households without access further decreased to 17,774 by June 11th, prompting the announcement of the second phase of the 'First Bell' initiative, set to commence by June 15<sup>th</sup> (IANS, 2020).

As of Jan 30, 2021, the subscriber count of the YouTube channel of VICTERS has crossed over 2.4 million. Apart from India, the classes were viewed by people from Middle East, USA and Europe too (IANS, 2021). Approximately 27 terabyte data was downloaded in a single day through the website (IANS, 2020). The success of the 'First Bell' program led to an overwhelming demand for the re-telecast of these virtual lessons, despite the Victers channel airing content round the clock. To meet this demand, the authorities launched another channel, called 'Kite Victers PLUS', in September 2021, with similar educational objectives (Ibid). In fact, Victers is an acronym for 'Versatile ICT Enabled Resource for Students'.

The suicide highlighted the urgency and necessity of inclusive measures. In response, various progressive organisations stepped up their efforts to distribute television sets and other essential devices to facilitate virtual education. Youth and student organisations like the Democratic Youth Federation of India (DYFI), the Students' Federation of India (SFI), and tech groups in Kerala were at the forefront of this movement (John, 2020). Soon, governmental, and non-governmental agencies, irrespective of political affiliations, actively joined in (Mathruhumi News Live, 2020). Common study rooms were established even in remote areas, utilising libraries (ANI, 2020), and Akshaya Centres as hubs for students lacking electronic devices.

Dr. T. M. Thomas Isaac, the then Finance Minister, emphasised the critical role of widespread public support in Kerala's educational progress. He urged collective action to ensure that students, especially from marginalised backgrounds, did not fall behind in academics. The local government took proactive steps by offering financial support for the procurement of television sets and laptops (Isaac, 2020). The Kerala State Financial Enterprises, in collaboration with local self-governing bodies, undertook the responsibility of addressing this issue at the grassroots level. MLA funds were directed toward purchasing

TVs and laptops, while various governmental and non-governmental bodies collaborated to set up study centres in communities.

The engagement with local communities and civil society underscored the decentralised nature of Kerala's approach to addressing the digital divide. Efforts were directed towards determining the families without TVs or devices, setting up study centres, and providing necessary infrastructure. This collective action extended to the opening of 'Ayalpakka Padhanakendranganal' (neighbourhood study centres), where students could gather for shared learning experiences using a single television. Kudumbashree, a statewide women's community network, was also mobilised to aid in this initiative. Additionally, schools received support in the form of laptops, projectors, and TVs to assist students in need. The Industries Department launched a 'TV Challenge' on June 4th, inviting public contributions of new television sets to be later distributed to students lacking access. The 'TV Challenge' gained momentum rapidly, with local businesses and individuals enthusiastically contributing television sets to their nearest District Centre. E. P. Jayarajan, the then Minister for Industries, used social media, specifically Facebook, to rally support for the cause (Jayarajan, 2020). Moreover, the participation extended beyond party lines – the Indian National Congress's Ernakulam MP Hibi Eden extended their support by contributing tablets to the 'Tablet Challenge' in their constituencies (Eden, 2020). This groundswell of support and widespread public participation contrasted with protests in other parts of the country against the exclusivity of online education and examinations, as mentioned in a previous section.

Notably, Wayanad, a district in northern Kerala, faced significant challenges, with an estimated 21,653 families lacking access to TVs or devices, accounting for 15 per cent of the district's student population (The Hindu, 2020). To address this, around 9,200 common study centres were established under the guidance of the local MLA, C. K. Saseendran (Saseendran, 2020). Wayanad also houses the highest number of tribal families in the state. Efforts were directed towards ensuring power connections and availability of TVs in these homes. Similar initiatives were undertaken in coastal areas by Matsyafed, the state-run cooperative federation for fisheries development. This initiative began with a count of families lacking adequate facilities along the coast, which was then forwarded to KSFE for action (Isaac, 2020).

Kerala's unique experiment combined the shift to virtual education with concerted efforts to ensure inclusivity through a decentralised process. Class teachers and school headteachers were tasked with identifying students lacking electronic devices (PTI, 2020). Additionally, the government opted against conducting exams online due to the requisite preparation involved (DNA, 2021).

Soon there were approximately 43-45 lakh students relying on KITE Victors for their daily lessons in Kerala (Philip, 2020). However, it is important to note that virtual or remote education cannot fully replicate the comprehensive learning environment provided by physical classrooms. Though the initiative has made substantial strides, it was also faced with the challenge of reaching all the students in the state. Progressive student organisations stressed that governments should prioritise building more schools, classrooms, and enhancing educational infrastructure, considering the deep-rooted digital divide prevalent in the country.

## Challenges

While several parts of the country experience a complete standstill in academic activities, with the central government advocating a digital education approach without ensuring sufficient infrastructure, Kerala stands out. What the state witnessed was a historic mass movement, serving as a significant lesson in both preserving public education and democratising virtual learning.

This phase in Kerala's educational transition showcases not just the challenges but also the complexities associated with the shift to online education, underlining the importance of addressing accessibility issues and social concerns within the digital space.

The 'First Bell' initiative faced its own set of challenges, notably marked by the tragic incident in Malappuram, where a 14-year-old girl took her life allegedly due to the lack of resources required for attending the state government's virtual classes. Her father, a daily wage earner from a Scheduled Caste background, revealed the family's struggles with a malfunctioning television and their inability to afford a smartphone (Prashanth, 2020).

In response to this incident, Chief Minister Pinarayi Vijayan reiterated that the initial online classes were trial sessions and would be re-telecast entirely in the following week. Emphasising that the shift towards online education was a temporary measure, he expressed the government's desire to reopen schools at the earliest possible opportunity (Philip, 2020).

However, alongside issues of accessibility, the transition to online learning brought forth socio-political challenges within the digital space. Shortly after the trial classes aired, reports emerged of cyber harassment against some female teachers. Screenshots of these teachers were circulated through newly created "fan pages," prompting the intervention of the Social Justice Department, which initiated legal action in response to these incidents (Indian Express, 2020; NewsMinute, 2020).

## Results

In the state's post-pandemic school exams of the academic year 2020-21, Kerala achieved an extraordinary pass percentage of 99.47 per cent, a record even by the state's high standards. Notably, these exams were conducted amidst the pandemic, whereas many other educational boards had opted against holding exams during that time (TNN, 2021). The results were striking, with over 1.2 lakh students securing the highest grade, 'A plus.' This achievement represented a noteworthy increase from the previous academic year, showcasing a rise in the pass percentage from 98.82 percent to 99.47 percent (Ibid).

UNESCO's *India Case Study: Situation Analysis on the Effects of and Responses to Covid-19 on the Education Sector in Asia* of 2021 reports the situation in Kerala as thus:

Kerala is an exception: about 70 per cent of parents of both younger and adolescent students believe that overall learning progress is the same or better than it would be in school. Kerala has the greatest technology access, and it has also been among the most proactive states in supporting students: it is the only state where nearly everyone who used remote learning reports that the government has provided remote learning resources, more than 90 per cent report that students are speaking with their teachers. (UNESCO, 2021)



## **Conclusion**

In the wake of a global pandemic that disrupted educational landscapes worldwide, Kerala, nestled in the southern reaches of India, embarked on an unprecedented journey in democratising e-learning and online education. This exploration delves into Kerala's pioneering 'First Bell' initiative, an endeavour unparalleled in other Indian states, which sought to democratise access to education, especially for marginalised students. Situated within the larger context of the pandemic's outbreak and the digital divide pervasive in various states, Kerala's distinctive response to COVID-19 stands as a beacon of innovation. Utilising government-run 'First Bell' lessons and a meticulously devised system for accessibility, Kerala not only stands apart in its approach but also underscores a historical commitment to literacy, education, and egalitarian principles. This essay navigates through Kerala's unique initiatives, shedding light on its remarkable efforts to bridge the digital gap and revolutionise learning opportunities, inviting a deeper exploration of its transformative impact amidst a landscape grappling with educational disparities. Upon examining available statistics and online resources, it becomes evident that Kerala distinguishes itself in terms of technology accessibility. The concerted efforts of the government and civil society have notably extended access, particularly to those residing on the fringes of society. While acknowledging its imperfections, Kerala's exceptional approach stands out in stark contrast to the scenario prevalent across various parts of the nation. Kerala's noteworthy initiatives in preserving public education and democratising virtual learning demand a comprehensive exploration. My essay merely skims the surface, leaving numerous unanswered questions and unexplored avenues, which I aim to thoroughly investigate in the future.

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