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Environment: Online
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Karnataka**

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Published and Printed by: Institute for Social and Economic Change
Dr V K R V Rao Road, Nagarabhavi Post,
Bangalore - 560072, Karnataka, India.

ISEC Working Paper No. 572

February 2024

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ISBN 978-93-93879-49-3

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The Institute for Social and Economic Change,
Bangalore

Working Paper Series Editor: **Sobin George**

EDUCATION AND SOCIAL ENVIRONMENT: ONLINE CLASSES AND SECONDARY SCHOOL EDUCATION IN RURAL KARNATAKA

Sudhamani N*, Anand Inbanathan** and K.G. Gayathri Devi***

Abstract

In the context of rural Karnataka, the intersection of education and social environment took centre stage with the advent of online classes in secondary schools. This paper examines the learning process and educational situation in the schools of rural Karnataka from 2020 to 2022, shedding light on the transformative impact resulting from the transition from conventional classroom learning to virtual modes during the Covid-19 pandemic induced lockdowns. With the educational institutions remaining shut for an extended period of 18 months, it is necessary to examine the experiences of students in rural areas, particularly their capacity to engage with education via online platforms. The paper examines the availability of devices among students and teachers to switch over to online learning, and the teachers' knowledge level on the use of the online medium to teach students, and awareness about the guidelines regarding internet safety. The study also looked into the parents' economic and educational backgrounds, to discern their capacity to buy the electronic devices, and also to monitor the students' online classes. Parents' loss of jobs during the lockdown had delayed the purchase of these devices, and they faced significant challenges for access to electricity and internet connectivity. In rural areas, the minimal exposure to online learning prior to the pandemic deepened the digital divide and disparities between urban and rural areas, as well as between affluent and underprivileged families.

Education is seen as giving a boost to the quality of life. It empowers individuals to acquire knowledge, develop critical thinking skills, and foster personal and professional development. Thus, the significance of education and the learning process needs no emphasis. It acts as the means by which people access higher socio-economic status through mobility in occupations and income.

Due to social structural factors of caste, class, gender, and others causing social inequality and poverty, education is not accessible to a significant part of the population. Despite government efforts (and efforts by the voluntary sector as well), it still remains a challenge, particularly for the rural poor, where poverty coupled with inadequate resources and infrastructural barriers often hinders educational opportunities for children from vulnerable groups.

The learning process experienced a complete transformation once the global pandemic emerged in early 2020. The onset of the Covid-19 pandemic brought about an unprecedented crisis that affected all aspects of human life worldwide. It brought everyday life in most countries to a standstill, with the World Health Organisation (WHO) declaring it a 'pandemic' due to the increasing number of cases reported across nations. This crisis had far-reaching consequences in multiple sectors, including health, economy, education, transportation, livelihoods, social and cultural aspects, and everyday life.

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According to statistics, over 1.57 billion children in 191 countries, accounting for approximately 91 percent of the world's child population, were impacted by the pandemic (UNESCO, 2020).

UNICEF's 'Lives Upended' report describes the consequences of the pandemic on nearly 600 million children in South Asia, including India (UNICEF, 2020). As the pandemic threat grew, schools across the country were closed in March 2020. While school closures were announced as an interim measure, extended closure caused significant disruption in the education of school-going children, impacting an estimated 253 million children in India. Almost 84 per cent of them reside in rural areas, while 70 percent attend government schools. The UNESCO report also stated that the two levels that were most affected due to the pandemic were 14 crore primary school students, and 13 crore secondary school students in India.

Karnataka was not an exception to this crisis. All educational institutions including schools were shut from the middle of March 2020, much before the national lockdown to contain the spread of the virus. More than a crore (10 million) children had a disruption in their education.

According to the data available in the Department of Primary and Secondary Education, Karnataka, for the year 2018-19, there are over 79,000 schools including 1.15 crore children in the state. The table below captures the details of the children studying at different levels.

Table 1: Children studying at different levels across types of schools in Karnataka

Grade/Class	Govt.	Govt. Aided	Private Unaided	Others
LKG to 5 th grade	24,26,773	4,19,044	32,12,568	42,846
6 th to 10 th grade	19,62,304	10,18,460	22,39,657	2,09,071
TOTAL	43,89,077	14,37,504	54,52,225	2,51,917

Source: Department of Primary and Secondary Education, Karnataka(2020)

[https://kscpcr.karnataka.gov.in/storage/pdf/School%20Education%20Guidelines_FINAL_with%20footnotes%20\(1\).pdf](https://kscpcr.karnataka.gov.in/storage/pdf/School%20Education%20Guidelines_FINAL_with%20footnotes%20(1).pdf)

The extended closing down of educational institutions severely affected the education of children around the world. However, we should recognise that children were continuing to learn, based on what they were getting exposed to at their respective homes and communities around them, through informal and non-formal channels. Learning had not come to a complete standstill, but education towards well-defined curricular goals imparted through school-based structured learning was almost totally stopped (i.e. classroom attendance). Hence, providing this kind of education to children became a serious concern, and to continue education for children, classes commenced 'online', using internet technology.

In Karnataka as per guidelines, online classes should not be conducted the whole day. Online communication with parents of pre-primary school children, not extending beyond 30 minutes, should be held once a week. It was stipulated that for classes 1 to 5 two periods of 30 to 55 minutes should be

held on alternate days for a maximum of three days in a week. For classes 6 to 8 two periods of 30 to 45 minutes should be held per day for a maximum of five days in a week. For classes 9 and 10 four periods of 30 to 45 minutes should be held per day for a maximum of five days in a week. But later, the government took the opinion of experts from the National Institute of Mental Health and Neuro Sciences (NIMHANS) and educationists and decided that online classes would be conducted for the students of class 8 onwards and not for the lower classes (Kindergarten to class 7). This decision to ban online classes for lower classes was taken by the Minister of Primary and Secondary Education on 11th June 2020. Thus, education came to a standstill for children who were studying up to class 7 during the lockdown period of the Covid-19 pandemic in Karnataka.

The Covid-19 pandemic had required the shift to online learning, forcing educational institutions worldwide to rapidly adopt remote teaching methods (UNESCO,2020). With the closure of schools and educational institutions to prevent the spread of the virus, online learning became the primary mode of instruction for millions of students. The pandemic compelled the adoption of online learning platforms and tools, forcing educational institutions to quickly transit to virtual classrooms. Schools and universities had to rapidly adapt their curriculum, pedagogical methods, and assessment practices to facilitate remote learning. The pandemic highlighted the distinction between emergency remote teaching, a temporary response to crisis situations, and online learning, a planned and pedagogically designed educational experience (Hodges et al., 2020).

Covid-19 has exposed and exacerbated existing inequalities in education, but it has also underscored the potential of online learning to provide continuity in education during times of disruption (United Nations, 2020). The shift to online education exposed existing disparities in access to technology and the internet. Many students from disadvantaged backgrounds, particularly those in rural areas or low-income households, faced challenges in accessing devices and stable internet connectivity. Both students and teachers encountered technical difficulties while navigating online platforms and tools. Connectivity issues, lack of familiarity with online tools, and limited technical support posed challenges for effective learning and teaching. Despite the challenges, educators and students demonstrated resilience and adaptability (Pokhrel & Roshan, 2021).

Teachers developed creative strategies to engage students in virtual classrooms, such as interactive online activities, multimedia resources, and virtual simulations. Students also had to adjust their study habits, time management, and self-discipline to thrive in online learning environments. The absence of in-person interactions in traditional classrooms had a social and emotional impact on students. Many missed the social connections, peer support, and face-to-face interactions with teachers that contribute to a holistic educational experience. Educators had to find alternative ways to foster a sense of belonging and emotional well-being in the online learning environment (Jain et.al., 2021).

The focus of this paper is to understand and analyse the interlinkage, process, and consequences of education with the social environment, especially in rural areas. It is clear to all that

this concept took centre stage in the post-Covid pandemic days leading to the formalisation of what came to be known as "Online Education". Understandably, its introduction had led to many ripples in the already complex rural social fabric, where poverty and social exclusion had deprived many children from marginalised and vulnerable communities of quality education. The paper also examines the online learning process in the schools of rural Karnataka, through the years of the pandemic 2020-2022. It looks into the result or impact of such an experiment and the possible transformation it would have led to by shifting the learning locale from the more traditional 'classroom' learning to 'virtual' modes during the lockdown period.

The research questions in this context are:

- (a) What have been the challenges encountered by students, teachers, and parents because of this transition from a classroom mode to an online medium in the course of an effective learning process?
- (b) What were the various strategies and ways adopted by the above group to implement this transition?

The paper sets out with the following objectives in view:

- (1) To look into the factors that have induced the government in Karnataka to consider the online platform of education for schools in rural areas.
- (2) To capture the infrastructural, academic, and other related systems in place to facilitate such a transfer or shift.
- (3) To critically reflect upon the process and the consequential aspects of the initiative from the perspective of social development.

Methodology

The paper is based on data and findings obtained from an ongoing study of "Barriers to Girls' Secondary School Education in Karnataka" for my Ph.D. degree. Data were collected from the universe of this study, i.e., from a few villages and schools in Mulbagal taluk of Kolar district in Karnataka. Data were collected using both quantitative and qualitative methods. Canons of ethical research were strictly followed, and after a formal approval of the Ethics Committee of the Institute which endorsed the research work that was planned.

Analytical Framework of the Paper

At the outset, we note the difference between education and learning. Education is a broader concept that encompasses the systematic and structured process of facilitating learning. It refers to the formal instruction, training, or development provided by educational institutions such as schools, colleges, universities, or other learning environments. Education is designed to impart knowledge, skills, and values to individuals, preparing them for various roles and responsibilities in society. The process of education typically involves curriculum planning, instructional methods, assessment, and evaluation. It aims to promote intellectual, social, emotional, and physical development, fostering critical thinking,

problem-solving, creativity, and lifelong learning (Vermunt, 1998). Education can take place in a variety of settings and formats, including classroom-based learning, online or distance learning, experiential learning, and practical training (Lave, 1982).

Learning, on the other hand, is a cognitive process of acquiring knowledge, skills, attitudes, or understanding through studies, experience, or teaching. It involves the acquisition, organisation, retention, and application of information or abilities. It can occur in various forms, including formal education, informal experiences, observation, practice, and self-study (Bandura, 1993). Thus, learning is the process of acquiring knowledge and skills by an individual, while education refers to the broader system of providing structured learning experiences and opportunities.

Importance of Interaction in the Learning Process

Scholars (Vygotsky 1978; Piaget 1952) have highlighted the importance of social interaction between students/learners and of the cultural context in shaping cognitive development. Their theories (of cognitive development) provide insights into how children actively construct knowledge and understand the world through their interactions and experiences. Dewey's work (1938) emphasised the significance of experiential learning, in which learners actively engage themselves with their environment to construct knowledge and meaning. The constructivist theory highlights the role of active learning and the importance of organising information into meaningful structures or "Schemata" (Bruner, 1990). The significance of observational learning and the influence of social interactions, modelling, and reinforcement on the learning process was highlighted by Bandura (1977) in his social learning theory. Issues like instructional strategies, including multimedia learning, Cognitive Load Theory, and the role of visualisation in enhancing learning outcomes are stressed by Mayer (2008).

Active Versus Passive Learning

The benefits of active learning approaches, where students engage themselves in hands-on activities, discussions, and problem-solving, have been confirmed by studies, as leading to better learning outcomes compared to passive learning methods. Active learning promotes student engagement, critical thinking, and knowledge retention. This has been brought out clearly by the STEM study, which is specified in Box 1.

Box 1. STEM (Science, Technology, Engineering, and Mathematics) Study

A 2014 meta-analysis of 225 research studies in STEM classes found that the average examination scores of students in classes with active learning which engage students in learning beyond listening, reading, and memorising. This was also 6 per cent better in exams than students in classes with traditional lecturing where 1.5 times were more likely to fail than students in classes with active learning (Freeman et al, 2014). STEM education is a teaching and learning approach that is a unique combination of Science, Technology, Engineering, and Mathematics. STEM education primarily focuses on hands-on and problem-based learning methodology. It emphasises developing logical and critical thinking skills by allowing students to learn and understand things from the perspective of the real world. STEM education equips students with the skills that are required to succeed in their respective careers whether it be in jobs, entrepreneurship, etc.

Role of Teacher in the Learning Process

Teachers play a crucial role in the formal learning processes, equipping students with the necessary knowledge and skills for advancement (Darling-Hammond, 2006). Their role is varied - as guides, facilitators, and mentors, creating a supportive and engaging learning environment that fosters growth, understanding, and the development of critical skills, and helping them unlock their full potential (Darling-Hammond & Bransford, 2005). Hattie (2003) quotes from findings in educational research that teachers are among the most powerful influences in student learning. Teachers who believe they can make a difference in the lives of their students are more likely to give the additional effort, and strategies, needed to reach and engage them (Bandura, 1993). Thus, it is argued that the role of a teacher is not just to transmit knowledge but to create the necessary conditions for the invention and discovery of knowledge (Piaget, 1972). Learning is a social process, and teachers serve as mediators, scaffolding students' learning and fostering their cognitive development through social interactions (Vygotsky, 1978). Effective teaching requires a deep understanding of subject matter, pedagogy, and empathy towards the unique needs of students (Shulman, 1987).

These roles are expected to enable teachers not only to impart knowledge but also to shape the attitudes, values, and character of their students. Their influence extends beyond academic achievements, helping students develop critical thinking, problem-solving skills, and a thirst for knowledge that prepares them for success in the ever-evolving world. Students are more likely to seek help, actively participate, and take academic risks in a supportive and nurturing classroom environment (Roorda et al., 2011).

The primary objective of this paper is to reflect (based on preliminary field data) on the time during Covid-19, which imposed online teaching, especially on school children in Karnataka (and other states). It aims to see how the shift to 'Online' education has enabled learning and in comparison, to classroom learning. The paper will discuss the nature and process of online teaching. Online teaching existed even before the onset of Covid-19, but on a far lower scale.

Online Education (OE), also known as virtual or remote learning, has revolutionised the mode of acquiring and sharing knowledge/learning. It is the child of modern, technological advancements and has transcended the boundaries of traditional classrooms. It is hailed as student-centred, innovative, and flexible, using different devices (e.g., mobile phones, laptops, etc.) with internet access (Singh & Thurman, 2019; Cojocariu et al., 2014). There is a dearth of studies on forced situations like online education led by the pandemic and how people, organisations, and socio-educational systems adapted themselves to the changed situation. The following are the conclusions of studies on this issue:

Complexity in the processual aspect such as moving from classroom-based education to online education Bao (2020) and preference by students towards physical access to classroom learning, laboratories, and libraries (Patricia, 2020). Lack of sufficient time to adjust to the new situation, strategies, and institutional setup and integrate them into their existing setup (Carroll & Conboy, 2020).

A dearth of studies capturing the viewpoint of students on online education (Mishra et al., 2020) despite the system's existence in many countries before the pandemic. The challenges and difficulties involved in the online learning process – availability and reliability of gadgets and internet facilities, suitable environment at home in poor households, self-discipline, ability to grasp, raising questions and seeking clarifications, gaining, competency and preparation to face examinations etc.

Pros and Cons of Online School Education

UNESCO (2020) announced that the shift to Online Education (OE) has enabled access to quality and flexible education, in terms of time, location, learning speed, access to resources/course materials, lectures, and so on. Having begun in the pre-Covid days itself, OE had offered learning opportunities and flexibility to the students to choose from a wide variety of subjects and courses through videos, simulations, and others inculcating in the students valuable technological skills, and digital literacy. Students could become adept at using various software, online collaboration tools, and communication platforms.

However, OE is not without its own set of drawbacks. The most significant and conspicuous deprivation for students is in not having face-to-face interaction and social engagement with peers and teachers for discussions, debates, and collaborative learning, which are integral to holistic development. OE expects students to be self-motivated, disciplined, and responsible for their progress, in the absence of physical supervision and structured routines. Further, OE is dependent upon technology, software, and others that are critical for an uninterrupted learning experience¹. In addition, OE pushes them to various distractions, like household work, family members, and external noise (Jena, 2020). Thus, the quality of the online platform, instructional design, teacher-student interaction, and the support systems in place tend to determine its effectiveness (Gopal et.al., 2021).

Structure of the Study

This paper is based on data from research on the social implications of OE at the secondary school level in Karnataka. The study was carried out in both rural and urban locales, selecting the district of Kolar in the south of the state. The rural area selected was of Gram Panchayats (GPs) in Mulbagal taluk, Kolar district, Karnataka, using development indicators. However, in this paper, we have focused only on the rural area.

Socio-Economic and Educational Profile of the Study Area

The people in the 23 villages in the chosen two GPs – Mallanayakanahalli and Kurudumalai indicated agriculture as their main economic activity and horticulture and dairying as subsidiary occupations. There is a large component of SC households in these panchayats comprising more than

¹ Especially those requiring hands-on experiences, laboratory work, those needing physical presence, like performing arts, for vocational training etc.

34 per cent of the total households. Both panchayats have concentrations of Scheduled Tribe households (1.7%), and Muslim (13.1%), besides lower OB Caste (Kurubas, Agasas, Ganigas, and Gollas) households. The majority being marginal land-owning or landless, the chief means of earning a livelihood was on and off-farm casual labour. The majority of their children study in government schools, attracted by incentives like free education and certain aids such as free uniforms, books, bags, bicycles, free medical check-ups twice a year, mid-day meals, sanitary towels, etc.

Data were collected using a structured questionnaire, but besides that, focused discussions were held with parents, students, teachers, and representatives of local organizations such as Self Help Groups, and School Development and Monitoring Committee (SDMC). 75 students in the age group of 12 to 19 years, studying in classes 6-12 formed the sample. Keeping the minimum age as 12 years, some of them were studying in class 6; similarly, with the upper age limit being 19 years, some students were studying in the first year of degree. Data were collected soon after the lockdown was lifted in 2021, and by seeking the help of a local non-government organisation called Grameena Mahila Oookoota (GMO), whose representatives facilitated the smooth process of interacting with the parents and others.

Table 2: Profile of the Students

Gender	Students	
Male	20(27%)	
Female	55(73%)	
Religion	Boys	Girls
Hindu	20 (27%)	45 (60%)
Muslim	-	10 (13%)
Caste	Boys	Girls
SC	8 (12%)	21 (29%)
ST	2(3%)	9 (12%)
Kuruba	5 (7%)	16 (22%)
Agasa	2 (3%)	4 (5%)
Ganiga	-	2 (3%)
Golla	3 (4%)	3 (4%)
Age-group	Boys	Girls
12 – 14	7 (9%)	23 (31%)
15 – 17	12 (16)	25 (34%)
18 – 19	1 (1%)	7 (9%)
Education	Boys	Girls
6 – 7	0	10(13%)
8 – 10	11 (15%)	29 (39%)
1 -2 PUC	4 (5%)	13 (17%)
1 year degree	2 (3%)	3 (4%)
ITI	3(4%)	0
Type of School	Boys	Girls
Government	19 (25%)	46 (61%)
Aided	1(2%)	4 (5%)
Private	-	3 (4%)
Govt Hostels	-	2 (3%)

Source: Field Data, 2021

Table 3: Profile of the Parents

Gender	Parents	
Male	15 (20%)	
Female	60 (80%)	
Age-group	Father	Mother
25 -35	0	30 (40%)
35-45	12 (16%)	21 (28%)
45-55	2 (3%)	4 (6%)
55-65	1 (2%)	3(5%)
65-75	0	2 (3%)
Education	Father	Mother
Illiterate	5 (6%)	28 (37%)
Primary	2 (3%)	2 (3%)
Middle	3 (4%)	16 (21%)
High School	4 (5%)	10 (13%)
PUC	0	3(4%)
Degree	0	1 (2%)
Teacher training course (TCH)	1 (2%)	0

Source: Field Data, 2021

Table 4: Occupation of Parents		
Occupation	Father	Mother
Agriculture	5 (7%)	14 (18%)
Labourer	5 (7%)	19 (25%)
Stone crushing	4 (5%)	13 (17%)
Real estate	0	1 (2%)
Tailor	0	2 (3%)
Teacher	0	2 (3%)
Construction worker	1 (2%)	5 (7%)
Garments	0	1 (2%)
Sericulture	0	1 (2%)
Carpenter	0	1 (2%)
Petty shop	0	1 (2%)
Monthly Income	Father	Mother
Less than 10000	4 (5%)	20 (26%)
10000 -15000	5 (7%)	16 (21%)
15000-20000	4 (5%)	14 (19%)
20000 – 25000	1 (2%)	6 (8%)
More than 25000	1 (2%)	4 (5%)

Source: Field Data, 2021

(The incomes that parents indicated during interviews were what they earned just before the Covid pandemic and lockdowns).

Out of the total number of students interviewed, 89% were in government schools including residential schools, 7% studied in aided schools, and 4% in private schools. The impact of Covid-19 on household incomes was negatively high. The children had been deprived of mid-day meals, some of them losing their only source of adequate nutrition. Providing dry ration kits to their homes proved to be a futile effort, riddled with funding constraints. The students' parents had lost out on employment due to the complete lockdown, and had to depend on ration kits supplied by gram panchayats, NGOs, and well-wishers, to sustain their families. Their wage rates obtained before the lockdown varied depending on the place and type of work -construction sites, quarries, which offered Rs.700/- to Rs. 1000/- per day for men, and women earned Rs. 500/-. Agricultural wage rates were relatively lower, where men earned Rs. 500/- to Rs. 700/- and women were paid Rs. 300/-. Agricultural activity being seasonal, they preferred to take up other activities to augment the income from agricultural labour. They were not getting timely MGNREGS work, where the wage rate is Rs.309/-, and it is only for 100 days of the year. Table 4 above shows the monthly incomes of the family before Covid, and Table 5 below shows the family size and the number of adults who were engaged in labour activity.

Table 5: Family size and Number of persons engaged in economic activity

Family size	No. of HHs	No. of working persons in each Household
2-4	39 (52%)	2
4-6	31 (41%)	3
6-8	3 (4%)	6
8-10	2 (3%)	8
Total	75 (100%)	

Source: Field Data, 2021

Online Classes

Parents believed that only education could liberate them from the present living conditions and wanted their children to be educated. Tables 6 and 7 below show the reasons for educating girls and the maximum education that a girl child should acquire.

Table 6: Reasons why girls were to be educated

Reasons	Mothers	Fathers
To lead a good life	32 (42%)	5 (7%)
To get a better job & empowered	17 (23%)	3 (4%)
To gain knowledge	2 (3%)	7 (9%)
To get a good proposal	3 (4%)	5 (7%)
Learning disability	1 (1%)	0
Grand Total	55	20

Source: Field data, 2021

Table 7: Maximum education to be given to girls

Max. Education	Mothers	Fathers
Degree	28 (37%)	4 (5%)
As per their desire	13 (17%)	3 (4%)
10 th or 12 th	3 (4%)	8 (11%)
12 th & Madarasa	5 (7%)	0
Don't Know	6 (8%)	5 (7%)
Grand Total	55	20

Source: Field data, 2021

(a) Infrastructure and Devices

Suitable and basic infrastructure, and suitable and adequate devices are integral components of the Online Education (OE) learning process. These include personal devices such as televisions, smart phones, computers, or laptops to participate in the OE learning process. The study brought out that this was the first limitation for rural students. For example, 41.4 per cent of the students had only access to televisions, and 24 per cent of them did not have a television and depended on a smart phone. 25.3 percent could access both a television and a smart phone, while 9.3 per cent did not have access to either a television or a smart phone.

An essential requirement for OE on the part of teachers too is the possession of the right equipment/tool. The study showed that 30% of teachers did not possess either a television or a mobile phone set, which is essential for conducting OE classes. Some had tried to purchase a smart phone by raising loans from friends/relatives, paying high interest rates. They considered investing in a smart phone as financially more viable than purchasing a laptop.

In their turn, not all students were at ease to possess and use a smart phone for OE. Six per cent of them had to get their father and/or elder brother to borrow funds to acquire a phone. Others lost classes for up to six months, until their parents were able to purchase a phone by raising loans. Recharging internet packs, connectivity, and electricity supply issues bothered them throughout.

Case 1: 70-year-old Puttamma's daughter stayed in Srinivasapura taluk with her four children. Being poor and dependent on wage labour as the only source of income for survival, the eldest daughter (i.e. Puttamma's granddaughter) was withdrawn from school to take care of domestic chores in her mother's absence for wage labour. But sticking to her conviction to get girls also educated, the grandmother Puttamma took on the responsibility of this granddaughter. Bhavani, the girl was good in her studies and was enrolled for class VIII in the nearby government high school.

Covid-19 and the aftermath led to a complete lockdown like elsewhere and the subsequent commencement of OE. Although Puttamma, being illiterate, did not understand anything about online classes, she soon realised the importance of a smart phone for her granddaughter who was now in class X, a crucial phase to get into a career-giving further education. She raised a personal loan in the SHG where she had a membership. She sold a goat to repay the loan. The loan was sanctioned but was delayed in the Sangha meetings. This delay cost Bhavani her timely attendance of classes, with defective internet and power connectivity adding to the problems.

(b) Time Allocation for OE Learning

The second significant factor in making OE learning successful is the amount of time that the student can allocate to attend classes, grasp the lessons, and their ability to understand the subjects taught by the teachers. The study aimed to elicit students' views on the utility of OE, in terms of clarity of online lessons, in doing their assignments, or partially useful in that they were able to grasp some part of the lessons and had to take the help of other students on a WhatsApp group to write their assignments. Those who responded as 'not useful' meant that the students attended the online classes that did not meet their requirements.

The study has shown that more than half (52%) of the students did not benefit from OE in either grasping the lessons or preparing the given assignments. Teachers' assistance was sought to complete them. The gap of nearly 6-7 months in accessing OE had a negative impact on their ability to grasp the lessons as significant portions of the curriculum had been taught in their absence. About 26.7 per cent of students opined that the OE was detrimental to their studies as they could not access them due to issues relating to internet connectivity, power failure, and sharing of the device with siblings who at times had their classes at the same time.

(c) Parents' perceptions of educating their daughters

Parents of school-going children in backward rural areas generally look forward to the education of children to improve their socio-economic condition and pull them out of poverty. They are largely illiterate (44%), and the parents and grandmothers (96%) who were residing in the same household {see table 8 below} look forward to the younger generation performing well in their studies and getting higher paying and better employment in cities. In their view, secondary school education is a stepping stone for this upward mobility. A significant finding of the study is that these poor rural families have placed equal emphasis on girls' education as on boys' education. 91% of students went to government schools and were eligible for all the aid and inputs already mentioned, and a small number (4%) could seek education in private schools, and had English as the medium of instruction. Some of them had mothers educated up to PUC and above. However, even children born to illiterate parents wanted to gain access to quality education in government schools.

This was the pre-Covid situation. When online classes were announced, the economic condition of the parents of these 56 per cent of students was economically very weak, with job losses, irregular earnings, and indebtedness to moneylenders even to meet daily needs. Postponement of buying a smartphone was the immediate reaction that went on for up to 6 months or more. Associated costs on electricity and internet connections added to their burden.

Table 8: Intergenerational Educational Status

Education	Parents		Grandmothers	Students	
	Mothers	Fathers		Boy	Girl
Illiterate	27 (36%)	6 (8%)	72 (96%)	0	0
Primary	2 (3%)	0	3 (4%)	0	0
Middle	16 (32%)	5 (7%)	0	10 (13%)	0
High school	10 (13%)	4 (5%)	0	29 (39%)	11 (15%)
PUC	3 (4%)	0	0	13 (17%)	4 (5%)
Degree	1 (1%)	0	0	3 (4%)	2 (3%)
TCH	1 (1%)	0	0	0	0
ITI	0	0	0	0	3
Total	60	15	75	55	20

Source: Field data, 2021

The illiteracy of parents (44%) greatly impacted the progress of OE of their children, due to their inability to monitor studies. About 13 per cent of children's mothers were high school educated, and 4 per cent were with PUC, who were in a relatively better position to involve themselves in their children's online learning by themselves, listening and noting down what was taught. They also reached out to teachers for clarifications and some notes. Being jobless during the lockdown period enabled their involvement.

The study has documented the tension and chaos in the houses of parents who are poor who could not satisfy their child's need for a smart phone for OE. Cases where the latter went on hunger

strike, quarrelled, etc were not rare. But there were also ample instances of 'misuse' of smart phones by children to watch movies, listen to songs, send messages, capture photos, and watch videos on platforms like TikTok, Facebook, etc. Parents (especially semi-literate and illiterate) expressed helplessness in arresting this behaviour as the children were out of control.

Soon after schools reopened, the parents took back their smart phones to repay loans.

(d) Teachers and online classes

When we tried to elicit the views of teachers about OE, the following insights were obtained. It should be noted that none had any prior experience in conducting online classes. They had been instructed by the Department of Education (DoE) to conduct online classes through self-owned devices. Not all of them could buy such devices and only 2 out of 10 teachers owned a laptop², five had smart phones used only for WhatsApp, while the rest possessed only ordinary phones used to send and receive messages. The former group used their children's laptops for virtual teaching and as a new experience. Even those with smart phones were no different from them in lacking familiarity with online teaching through electronic devices. There was considerable uncertainty about the teaching having reached their students. It was trial and error for the teachers. For the most part, they did not know for sure whether the students understood what was taught, if they had attended the class at all, or only gave physical presence by logging in and engaging in other non-academic activities. There was also inequality among the students in accessing online classes due to poor connectivity, depleted data package, and lack of money and other resources for recharging. OE compelled a few teachers who lacked financial resources to seek loans to purchase the needed device/s. There was no support from the government to enable the teachers to acquire the devices.

Another dimension of the teachers' plight to conduct online classes related to their ignorance about the guidelines regarding internet safety, issued by the Department of Primary and Secondary Education, Government of Karnataka, to promote safe, legal, and ethical internet usage by students. They included rules about the timing of such online classes, for a specific duration each day, without interfering with students' personal time for food and/or physical activities. Parents were advised to monitor their children's device usage and ensure that they refrained from using devices two hours before bedtime. The NCERT guidelines also emphasised that students should not engage in arguments with cyber bullies, avoid meeting strangers whom they encountered online, and teachers were instructed to monitor students for behavioural changes, and attitude differences, besides warning them about their involvement in cybercrime.

Much of the deviant behaviour and misuse of the access to devices like smart phones was recognised by parents and teachers only after the lockdown was lifted and school education returned to its regular classroom mode. The highest were the cases of misuse that hit WhatsApp group user students, who began to receive non-academic messages, besides the danger of their photos reaching outsiders. Smart and quick learning to navigate the internet to access various websites had thus led to

² Laptops used by their college-going children.

such misuse, further manifested in growing disrespect and disobedience towards teachers and elders at home. Being physically away and hidden, while not using video but only audio, while the online classes were held, had given ample opportunity for the boys to learn a lot of misbehaviour and learning what was not relevant to their class³.

The narration above only highlights how the sudden imposition of online education/classes on an unprepared, naïve, rural community of students would cause serious harm to children's upbringing, let alone the learning process. In this way, media literacy gains importance for both teachers and students in online education. It is essential to understand not only how to use the educational methods and media, but also how the media can influence individuals. The pre-existing backwardness, ignorance about the use of such devices, and the need to adapt to the changed situation—have played a negative role in making online education ineffective during the lockdown period.

Discussion

This paper being a part of an ongoing study on 'Barriers to girls' secondary school education: role of family and community in Karnataka' brings to the forefront certain significant challenges that the sudden introduction of online teaching/learning imposed upon the teachers, parents, and students. These are discussed below:

The Inevitability of Online Education and Systemic Changes in the Educational Policy

Covid-19 created havoc in all societies by uprooting existing systems and jeopardising social equilibrium. Entire life was brought into disarray with high mortality, prolonged sickness, and hospitalisation expenses, orphaning of children and dependents. After the pandemic subsided, its fear still lingered on, including in schools, and public institutions which dared not to function as before. 'Work from home and online education', were major outcomes of this societal tragedy. The governments in power in all the affected countries came out with many changes in their existing policies and programmes to keep life moving – economic, educational, and health.

In Karnataka, the Department of Primary and Secondary Education introduced the 'Vidyagama Programme' in August 2020, providing education at the doorsteps of children, including those living in rural areas. Local public places like temples and playgrounds were identified to act as the premises for teacher-student meetings and engaging in academic activities. However, the rise in Covid cases among students and teachers led to its discontinuation in October 2020. Subsequently, with the launching of the Chandana Vahini programme by the state government, in collaboration with Prasara Bharati, OE classes continued reaching rural students studying in grades 1 to 10. Criticisms raised by experts and educationists about the negative effect of long hours of screen time, on small children, led to

³ As the case of a student who began to imitate a Telugu film personality, when the teacher in an online class posed a question to him.

abandoning online classes for the very young, and holding them only for class VII onwards with specific timings earmarked brought some relief.

Socio-economic Vulnerability and Impact on Equal Access

The most significant negative aspect of the government reforms to keep the learning or school system continuing in the wake of the pandemic by introducing online classes/OE was on the children from marginalised and hitherto socially excluded communities, particularly in village society. The shift from classroom teaching to virtual mode is understandable and was the need of the hour. Governmental digital platforms/portals, DTH (Direct To Home) Channels, and such others are examples here. But the already reluctant rural society had on its lap issues like school drop-out, or out-of-school children, poor or low enrolment rate, sex-based bias in enrolment and retention with girls withdrawn from schools mostly at secondary school level as they were needed by poor households to assist their mothers in household chores. Further, they were nearing the age of attaining puberty, large family sizes with more girls born in the expectation of the birth of a male child, all came under further difficulties in facing this type of learning. Studies have pointed out that stark differences existed between rural and urban areas in the case of internet penetration. Primary schools being excluded from this, and private schools continuing with normal practice further “aggravated the gap between public and private schools” (Bairagya et.al., 2020). The limited internet penetration in rural areas and the decision not to conduct online classes for primary school students in the state further exacerbated the disparities between public and private schools.

The sudden shift from traditional classroom learning to virtual education, despite aiming to maintain continuity in learning, failed to produce any positive results, especially for the most disadvantaged and marginalised students. The inequality gap widened mainly in rural areas, due to the digital divide, and Karnataka was no exception to this. For example, nearly 61 per cent of the sample students of the present study (on which this paper is based) hailed from the Scheduled Caste and Scheduled Tribe groups, more than 13 per cent were from Muslim households – all three categories traditionally known for their disadvantaged and marginalised existence, especially in rural areas. With their livelihoods based on wage work, which was eroded by the pandemic, their school-going children found it a severe challenge to procure devices to attend online classes. The educational backwardness of parents further handicapped them in learning at home. A similar situation was reported by studies across the globe (UN DESA, 2021). Nearly 90 per cent of students in our sample attended government schools, the remaining were distributed between aided (6.7%) and private (4%) schools. Nevertheless, the difficulties discussed above (in accessing OE) apply to all. While intermittent power failure and/or internet disconnection affected their continued participation in the classes online, they also suffered from a lack of clarity about what had been taught, loss of lessons, and related guidance to prepare the required assignments and notes. Those at the lower levels of such education (like class VI and VII or even class VIII) failed in regular attendance in these online classes. The ones at higher levels and those who had to face public examination in class X were more serious in attending, despite several difficulties. Strategies used by them were combined studies with classmates who possessed

better devices and/or connectivity, and learning from the classmates forming peer groups. Girl students faced constraints here too as they were older (age 10 +) and were not permitted to go to other students' houses, which also posed caste and class barriers for doing so.

Irregularity in conducting classes or in attending them caused much harm in completing the curriculum, submission of assignments, and rigorous preparation for their final exams. Moreover, the lockdowns deprived them of the joy of studying and playing with their classmates/students, peer learning, participation in games and sports, spending time together during lunch, etc. Many students reported that they lost their only nutritious meal in the form of a Mid-day Meal. With 54 per cent of the parents relying on wages from agricultural and casual labour for their livelihood, the lockdown severely curtailed their only source of income. Savings were nil for most of them, and women who were members of self-help groups were indebted by taking loans for carrying out certain income-generating activities, which again had to be stopped due to the pandemic. Dependence on ration kits provided by NGOs and panchayats to meet their daily food requirements was not a viable and long-term solution, and to satisfy their hunger, they had to depend on money lenders.

Impact on teachers

We now discuss the impact of lockdown-induced online teaching on the teaching fraternity in the study area. Their woes and difficulties are useful for this analysis of OE in general. Two factors are to be noted that confirm the socio-economic inability of teachers in government schools to successfully apply online teaching using devices, and working from their homes. One relates to the access to the necessary devices – a few of them had to raise loans to buy a smart phone. Buying laptops was out of their reach, considering their economic conditions. The second challenge was to make provisions for a congenial atmosphere at home to undertake to teach for long hours, without any disturbance or noise, people talking to them or among themselves, uninterrupted power supply, proficiency in speaking clearly on the device, listening to students' doubts, questions and offer clarifications, ask questions, conduct evaluation, etc. They also faced other challenges in carrying on online teaching. These include the lack of prior experience, and no training to conduct classes in the online mode, power shutdown, lack of interest by students, and absenteeism among students. They confided that they were pushed to such a virtual teaching mode without proper and prior preparation. No training was given in this novel method of teaching that depended on learning experiences, and trials with errors. Those teachers with college-going children at home were able to receive some assistance with the online mode of teaching. They, in turn, guided those teachers who needed such help. In summary, the teachers were unhappy for various reasons regarding the compulsion to teach online. They indicated that they could not ascertain if the students understood the lessons taught or not in this online mode.

Another significant finding of the study is the gender dimension that OE tends to have. With most of the teachers being women, and hailing from relatively poor and low-income households, carrying on online teaching from their homes did not offer any congenial atmosphere to them. They endured immense pressure to complete household chores and at the same time attend to their

children's needs, while struggling to ensure active participation in online classes. This juggling act proved to be the most challenging and exhausting for them. We have to remember that the lady teachers had to fulfil their domestic work, and child care, and such multi-tasking took a toll on their well-being, leading to fatigue and frustration.

Parents as teachers

An interesting fallout of the introduction of online education following the lockdown due to the pandemic was the increasing role of a teacher played by the parents of school children who had to attend OE. In a few cases, the mother of the child would complete domestic and other household chores before the start of her children's online classes. She would listen to the teacher, take down points or notes, and later teach their children, like a tuition teacher. Understandably, this added to their already existing demands of household and income-generating activities. Some mothers in the study area stated that they suffered from emotional and financial stress, leading to intensified conflicts within the household.

Behavioural Changes among the Students

Access to the internet transformed the behaviour and attitudes of many students, mainly boys, giving them an edge over girl students in receiving greater freedom to spend time outside their homes and hang out with friends for long hours, under the pretext of combined learning/studies. Arrogant behaviour and disobedience among them were often noticed by teachers of the study area, who attributed this behavioural change to the changed mode of learning, using devices such as smart phones, and accessing online platforms. Respect for teachers had certainly been reduced. The absence of face-to-face interactions and the greater prevalence of anonymity facilitated such changes among students. Viewing videos, and amid loose classroom structures, students were exposed beyond limits. Secondly, they lacked systematic and responsible guidance to proceed in a proper direction. Third, their activities and learning gradually moved away from being only academic, and diversified into entertainment, chatting, sharing photos, surfing websites, cyber bullying, or watching films, all of them without any definite academic focus. Girl students were particularly targeted by the boys, by sharing the formers' photos in their peer circles. Teachers were helpless to arrest this deviant behaviour among some students. They felt that youngsters were quicker than adults in learning the techniques of using smart phones. They found it tough to understand and control the negative usage of the device and the online learning process.

Conclusions

There was no support for teachers to acquire equipment and devices to teach online. No training, even of a minimal kind, was provided in a context where the teachers were new to this form of teaching. Considering the situation of the Covid-19 pandemic, which was a new experience in everyone's lifetime, online school education had to be introduced with proper thought, careful training to teachers, and enabling them to acquire equipment. And most of all, the students should have been enabled to acquire these instruments of learning by the government, rather than leaving it to the parents to raise the

necessary resources at a time of low income and virtually no employment. When all these were not done, it would be clear to all that the programme would not be able to successfully surmount all the problems, and thereby result in a poorly implemented and less than successful programme. The three years of Covid would certainly have been a big gap in the learning process for most students, compared to the time when Covid was not present.

Our discussion further reveals a significant lapse on the part of the government while introducing online education among school children. It relates to the neglect of creating awareness about internet safety and cyber security as part of this transition in the delivery of educational services at the school level, a lapse that has resulted in a series of unforeseen consequences. As Covid and other viruses are still haunting our society even to this day, certain lessons must be learned about this situation created by the sudden clamping of the online learning process on school-going children, that too without any preparations and training for them, for their parents, and teachers. It was crucial for school administrations, parents, and policymakers to have recognised the significance of integrating the new techniques and modes of learning into the school curriculum. Educating students about responsible online behaviour, identifying and reporting cyber bullying, protecting personal information, and avoiding potential risks can help mitigate the negative impacts of online access. While online education presented new possibilities, it also exacerbated existing inequalities in society. Rural areas, which had limited exposure to online learning prior to the pandemic, faced significant challenges in terms of access to electricity, internet connectivity, and devices. This digital divide further deepened the disparities between urban and rural areas, as well as between affluent and underprivileged families.

References

- Agarwal, A., Sharma, S., Kumar, V., & Kaur, M. (2021). Effect of E-learning on public health and environment during Covid-19 lockdown. *Big Data Mining and Analytics*, 4(2), 104-115.
- Aguilera-Hermida, A. P. (2020). College students' use and acceptance of emergency online learning due to Covid-19. *International Journal of Educational Research Open*, 1, 100011.
- Allen, K. A., Ryan, T., Gray, D. L., McInerney, D. M., & Waters, L. (2014). Social media use and social connectedness in adolescents: The positives and the potential pitfalls. *The Educational and Developmental Psychologist*, 31(1), 18-31.
- Armstrong, T. (2016). *The power of the adolescent brain: Strategies for teaching middle and high school students*. ASCD.
- Bairagya, I., Manasi, S., & Thomas, R. (2020). *Covid-19 Pandemic and Primary Education in India: Does it Cause More Inequality Between Public and Private Schools?*. Institute for Social and Economic Change.
- Bandura, A., & Walters, R. H. (1977). *Social learning theory* (Vol. 1). Prentice Hall: Englewood Cliffs.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117-148.
- Bao, W. (2020). Covid-19 and online teaching in higher education: A case study of Peking University. *Human Behavior and Emerging Technologies*, 2(2), 113-115.

- Billings, D.M. (2000). A framework for assessing outcomes and practices in web-based courses in nursing. *Journal of Nursing Education*, 39 (2), 60-67.
- Bojović, Ž., Bojović, P. D., Vujošević, D., & Šuh, J. (2020). Education in times of crisis: Rapid transition to distance learning. *Computer Applications in Engineering Education*, 28(6), 1467-1489.
- Bruner, J. (1990). *Acts of meaning: Four lectures on mind and culture* (Vol. 3). Harvard University Press.
- Carroll, N., & Conboy, K. (2020). Normalising the "new normal": Changing tech-driven work practices under pandemic time pressure. *International Journal of Information Management*, 55, 102186.
- Carter, M. J., & Fuller, C. (2015). Symbolic interactionism. *Sociopedia. isa*, 1(1), 1-17.
- Casper, M. (2001). A definition of "social environment". *American Journal of Public Health*, 91(3), 465-470.
- Cassel, J. (1976). The contribution of the social environment to host resistance: the Fourth Wade Hampton Frost Lecture. *American Journal of Epidemiology*, 104(2), 107-123.
- Darling-Hammond, L. (2006). Constructing 21st-century teacher education. *Journal of Teacher Education*, 57(3), 300-314.
- Dewey, J. (1938). *Experience and Education*. New York, Published by Macmillan.
- Frith, K. H. (2020). Assessment of online education: Part 1. *Nursing Education Perspectives*, 41(5), 320-321.
- Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 111(23), 8410-8415.
- Gopal, R., Singh, V., & Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of Covid 19. *Education and Information Technologies*, 26(6), 6923-6947.
- India, R. L. I. A. (2020). India Report Digital Education. Department of School Education and Literacy, Ministry of Human Resource Development, Government of India, New Delhi.
- Jain, S., Lall, M., & Singh, A. (2021). Teachers' voices on the impact of Covid-19 on school education: Are ed-tech companies really the panacea?. *Contemporary Education Dialogue*, 18(1), 58-89.
- Jena, P. K. (2020). Impact of pandemic Covid-19 on education in India. *International Journal of Current Research (IJCR)*, 12.
- Jena, P. K. (2020). Online learning during lockdown period for Covid-19 in India. *International Journal of Multidisciplinary Educational Research (IJMER)*, 9.
- Martin, F., Wang, C., Petty, T., Wang, W., & Wilkins, P. (2018). Middle school students' social media use. *Journal of Educational Technology & Society*, 21(1), 213-224.
- Mayer, R. E. (2008). Advances in applying the science of learning and instruction to education. *Psychological Science in the Public Interest*, 9(3), i-ii.

- Mishra, L., Gupta, T., & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of Covid-19 pandemic. *International Journal of Educational Research Open*, 1, 100012.
- Organisation for Economic Co-operation and Development. (2020). *Learning remotely when schools close: How well are students and schools prepared? Insights from PISA*. OECD Publishing.
- Perreault, H., Waldman, L., Alexander, M., & Zhao, J. (2002). Overcoming barriers to successful delivery of distance-learning courses. *Journal of Education for Business*, 77(6), 313-318.
- Piaget, J., & Cook, M. (1952). *The origins of intelligence in children* (Vol. 8, No. 5, pp. 18-1952). New York: International Universities Press.
- Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology*, 95(4), 667.
- Pokhrel, S., & Chhetri, R. (2021). A literature review on impact of Covid-19 pandemic on teaching and learning. *Higher Education for the Future*, 8(1), 133-141.
- Roorda, D. L., Koomen, H. M., Spilt, J. L., & Oort, F. J. (2011). The influence of affective teacher-student relationships on students' school engagement and achievement: A meta-analytic approach. *Review of Educational Research*, 81(4), 493-529.
- Sampasa-Kanyinga, H., & Lewis, R. F. (2015). Frequent use of social networking sites is associated with poor psychological functioning among children and adolescents. *Cyberpsychology, Behavior, and Social Networking*, 18(7), 380-385.
- Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-23.
- Sintema, E. J. (2020). Effect of Covid-19 on the performance of grade 12 students: Implications for STEM education. *EURASIA Journal of Mathematics, Science and Technology Education*, 16(7), em1851.
- UNESCO.(2020). School closures caused by Coronavirus (Covid-19) Retrieved from <https://en.unesco.org/covid19/Educationresponse>
- UNESCO. (2020, March 4). Education: From Disruption to Recovery.Retrieved from <https://en.unesco.org/covid19/educationresponse>.
- UNESCO. (2020). Covid-19 educational disruption and response. Retrieved from <https://en.unesco.org/covid19/educationresponse>
- Unicef. (2020). *Averting a lost Covid generation: a six-point plan to respond, recover and reimagine a post-pandemic world for every child*. UNICEF.
- United Nations. (2020). Policy brief: Education during Covid-19 and beyond. Retrieved from <https://unsdg.un.org/resources/policy-brief-education-during-covid-19-and-beyond>
- United Nations Department of Social and Economic Affairs (2021). Policy brief: Leveraging digital technologies for social inclusion. Retrieved from https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2021/02/PB_92-1.pdf
- Vegas, E., Shah, S., & Fowler, B. (2021). Ed Tech and Educational Opportunity during the Covid-19 School Closures: A Case Study of Chennai, Tamil Nadu. *Center for Universal Education at The Brookings Institution*.
- Vygotsky, L. S., & Cole, M. (1978). *Mind in society: Development of higher psychological processes*. Harvard University Press.

Wan, G., & Gut, D. M. (2008). Media use by Chinese and US secondary students: Implications for media literacy education. *Theory into Practice*, 47(3), 178-185.

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory into Practice*, 41(2), 64-70.

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ISBN 978-93-93879-49-3



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(ISEC is an ICSSR Research Institute, Government of India
and the Grant-in-Aid Institute, Government of Karnataka)

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