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The impact of COVID-19 on school education and the road to recovery

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Foreword KPMG in India

The COVID-19 pandemic has impacted the entire globe, and the onslaught continues unabated in many parts of the world. The pandemic led to a global learning disruption which was unprecedented and unimagined. In India, around 250 million students[1] were affected due to school closures at the onset of lockdown induced by COVID-19. The pandemic, along with the pressing challenges of prolonged school closures and induced digital divide, has given rise to many pertinent questions. Increased instances of dropouts amongst the society's disadvantaged sections, decline in learning outcomes and well-being of students, integration of and adoption to digital-based learning, reconfigured role of educators and teachers and sustainability of private schools are some of those questions which the pandemic has put forth before our education leaders.

Technology was seen as a key enabler to ensure learning continuity during this period. Focused efforts were made by governments, civil society organizations, schools, and teachers to provide access to classes and minimize learning losses. Initiatives such as PM eVIDYA were launched by the Central government as a part of the national recovery efforts to support the education sector. State governments and civil society organizations also undertook various initiatives to provide access to classes to students through various modes.

However, many of these efforts were stop gap measures. With schools reopening and children returning to schools, it is not only important to address some of the adverse effects caused by the pandemic period, but also to take a forward-looking approach to bring in transformation in the sector. This transformation shall take a learner centric approach and focus on quality in learning and learning outcomes. It is important to focus on scalable and impactful interventions which will build resilience in the sector to withstand future shocks to the system. The National Education Policy (NEP) 2020, and subsequent initiatives such as National Digital Education Architecture (NDEAR) and National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat) are expected to provide a blueprint for this transformation.

This paper is an effort by CII and KPMG in India and draws on the learnings from CII School Summit 2021 and inputs from multiple stakeholders in the school education system. It is centred around five themes: (1) curtailing dropouts during and post pandemic (2) decline in learning outcomes and well-being (3) integration of digital based learning (4) the role and capacity of teachers and (5) sustainability of private schools. The paper analyses the impact of the pandemic across these themes and maps the various initiatives undertaken by governments and civil society organizations to address the challenges. It further chalks out a roadmap to recovery for the school education system centred around the vision laid down by NEP 2020 as well as drawing from best practices across the globe.

We at KPMG in India, thank everyone who has helped us through their valued inputs, in bringing out this paper. We hope that it kindles and guides thoughts for some transformative actions and makes for a fitting support to education leaders, assisting them in building up an equitable, inclusive, and holistic education system for the country.

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1. Education, Guidelines for Out of School Children and Mitigation of Loss of Learning, Ministry of Education, January 2021

Foreword CII

Government of India is laying emphasis on transforming Indian education system starting from the School itself and has also come up with the National Education Policy 2020. The policy is a comprehensive framework covering all levels education from for elementary education to higher education as well as vocational training in both rural and urban India. The Centre and State Government are fully committed to improving the quality of schools and school education in the states.

The importance of futuristic school education for the country's economic growth can hardly be overstated. It is at the school level that the intellectual and moral foundations of children are built as they grow to be responsible and contributing citizens. Ensuring that they are provided with quality education is not only our responsibility, but also a moral obligation to the next generation. Also, as India entered its 75th year of independence in August this year, we are devoted to celebrating India's achievements on completion of 74 years of our independence under the banner of "Azadi ka Amrit Mahotsava". To renew our commitment to galvanize collaboration amongst the stakeholders and to synergize our efforts with national priorities, to make an inclusive and Aatmanirbhar Bharat, improving school education and making it future ready therefore becomes inevitable.

CII and KPMG in India have created this joint report after having spoken to several leaders and captains of the industry. Fast track execution of the declared National Education Policy, by Government of India which will open up new learning opportunities to the students. Its biggest impact would be the change in the learning environment and the learning process for the students.

RCM Reddy
Chairman, CII School Summit 2021 &
Managing Director & CEO
SchoolNet India Limited

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Abbreviations

AI	Artificial Intelligence
AR/ VR	Augmented Reality/ Virtual Reality
ASER	Annual Status of Education Report
BRC	Block Resource Centres
CAAT	Cricket as an Assessment Tool
CapED	Capacity Development for Education
CASEL	Collaborative for Academic, Social, and Emotional Learning
CBBT	Cluster Based Training of Teachers
CBSE	Central Board of Secondary Education
CII	Confederation of Indian Industry
CPD	Continuous Professional Development
CRC	Cluster Resource Centre
CSR	Corporate Social Responsibility
CWSN	Children with Special Needs
DEO	District Education Offices
DIKSHA	Digital Infrastructure for Knowledge Sharing
DIY	Do It Yourself
GATE	Girls' Access to Education
GDP	Gross Domestic Product
ICT	Information and Communications Technology
ID	Identification
IICBA	International Institute for Capacity Building in Africa
ISL	Indian Sign Language
IVR	Interactive Voice Response
JPAL	Abdul Latif Jameel Poverty Action Lab
KVS	Kendriya Vidyalaya Sangathan
LCPS	Low-Cost Private Schools
MCL	Multi-Classroom Leaders
ML	Machine Learning
MNREGA	Mahatma Gandhi National Rural Employment Guarantee
MoES	Ministry of Education and Sports
MoU	Memorandum of Understanding
MSMEs	Micro, Small, or Medium Enterprises
NCERT	National Council of Educational Research and Training
NCFTE	National Curriculum Framework for Teacher Education
NCT	National Capital Territory
NDEAR	National Digital Education Architecture
NEP	National Education Policy
NGOs	Non-Governmental Organizations
NIOS	National Institute of Open Schooling
NISA	National Independent Schools Alliance
NISHTHA	National Initiative for School Heads' and Teachers' Holistic Advancement
NPST	National Professional Standards for Teachers
NSSO	National Sample Survey Office
NVS	Navodaya Vidyalaya Samiti
OECD	Organisation for Economic Co-operation and Development
PACES	Programa de Ampliación de Cobertura de la Educación Secundaria
PAT	Periodic Assessment Test
PEF	Punjab Education Foundation
PLI	Production Linked Incentive
PPP	Public-Private Partnership
PRADIGI	Pratham Digital
PRAF-II	Programa de Asignación Familiar
SDG	Sustainable Development Goal
SEDG	Socially and Economically Disadvantaged Groups
SEL	Social, and Emotional Learning
SHG	Self-Help Group
SME	Small and Medium Enterprises
STEM	Science, Technology, Engineering, and Mathematics
Swayam MOOCs	Study Webs of Active-Learning for Young Aspiring Minds Massive Open Online Course
TTIs	Teacher Training Institutions
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UNITE	Ugandan National Institute for Teacher Education
USAID	United States Agency for International Development
USE	Universal Secondary Education
WASH	Water, Sanitation and Hygiene

Executive Summary (1/2)

The education sector in India is undergoing a massive transformation in recent times owing to changing job landscape, digital integration in education, demand for quality education from both students and parents, implementation of the National Education Policy (NEP) 2020 and school closures induced by COVID-19. In many places, the pandemic acted as a catalyst to drive digital adoption in schools. However, this changed mode of delivery brought its own challenges.

The CII School Summit 2021 brought together policy makers, industry heads, and service providers together on a platform to deliberate on the road to recovery for schools post the pandemic. As an out-turn of the summit, this paper focusses on the disruption and the road ahead across five themes in school education: (1) curtailing dropouts during and post pandemic (2) decline in learning outcomes and well-being (3) integration of digital based learning (4) the role and capacity of teachers and (e) sustainability of private schools.

Theme	Challenge	Recommendations
1. **Curtailing dropouts during and post pandemic**	Experts estimate that the number of out of school children in India will double from 32.2 million[1] in the aftermath of the pandemic, with children from marginalised communities disproportionately affected[2].	Recommendation 1: Leverage the federated identification (ID) proposed under National Digital Education Architecture (NDEAR) and Artificial Intelligence (AI) based software to track and identify at-risk or out of school children; enhance convergence between departments and states to exchange data of migrants, child laborers, and other vulnerable populations Recommendation 2: Inclusive information campaigns, monetary aid, and establishing flexible alternate pathways to bring back students into schools Recommendation 3: Bridge courses to even out learning gaps for students who were out of school
2. **Decline in learning outcomes and well-being**	Evidence indicates that students are now facing more complex learning losses without the attainment of the prerequisite foundational abilities[3]. Socio-emotional development of children is also affected due to limited social interactions during the school closure period.	Recommendation 4: Just-in-time assessments to establish current level of students and aligning resources and timetable to deploy established remediation approaches such as teaching at the right level Recommendation 5: Governments and schools should undertake curriculum and pedagogical reforms that focus more on application and problem-solving skills and experiential learning. Focus on building foundational literacy and numeracy to expedite learning at higher levels Recommendation 6: Provisions for counselling and capacity building of teachers that strengthen their role as first responders and enable sensitivity catering to psycho-social wellbeing of students Recommendation 7: Strengthening school resources and infrastructure to provide safe, quality, and inclusive education to all

1. National Sample Survey Organisation's 2017-18 household survey, Live Mint, 2020
2. Status Report: Government and Private Schools During COVID-19, Oxfam India, 2020
3. Loss of Learning during the Pandemic, Azim Premji University, February 2021

Executive Summary (2/2)

Theme	Challenge	Recommendations
3. **Integration of digital based learning**	The Annual Status of Education Report (ASER) 2020 Wave 1 (rural) report which covered 59,251 students from 26 states and 4 UTs highlighted that around 62 per cent of children enrolled in schools had access to a smartphone during the lockdown period[4]. Around 10–20 per cent stakeholders found teaching and learning during COVID-19 as a difficult experience[5]. Studies have also shown the negative impact of digital learning on the physical and mental health of children.	Recommendation 8: Innovative financing mechanisms and partnerships need to be explored to bridge access to digital infrastructure Recommendation 9: Improving classroom practices through remedial, hybrid, digitally aided learning programmes aimed at learning exploration and futuristic learning
4. **The role and capacity of teachers**	More than 9.6 million lakh teachers[6] transitioned from traditional in-person learning to digital learning. COVID-19 has changed the norms for the teacher, and they need to now shift their focus from 'how students learn or what students learn' to 'why students learn'.	Recommendation 10: Appropriate resource allocation and capacity building initiatives for enabling teachers to incorporate frugal innovation and design thinking in their day to day activities through mentoring, peer circles, and school leader training Recommendation 11: Pre-service and in-service training curriculum needs to be enhanced to ensure that teachers are able to deal with practical problems such as need-based remediation, multi-grade teaching, and respond to evolving sectoral needs
5. **Sustainability of private schools**	Nearly 50 per cent school owners reported uncollected fees[7], resulting in loss of revenue. This has a huge impact on the sustainability of Low-Cost Private Schools (LCPS) from non-payment of teachers' salary to shutting down of schools.	Recommendation 12: Enable the ecosystem for financing to institutions and parents of private school going children Recommendation 13: Tap into low cost private schools through public private partnerships to utilize existing infrastructure, support financing, and build teacher capacity for enhanced education provisioning

4. SER 2020 Wave 1 (Rural) findings-India, ASER, 2020
5. Students' Learning Enhancement Guidelines, NCERT, August 2020
6. UDISE 2019–20, Government of India, Ministry of Education, Department of School Education and Literacy, 2021
7. State of the Sector Report on Private Schools in India, Central Square Foundation, 2020

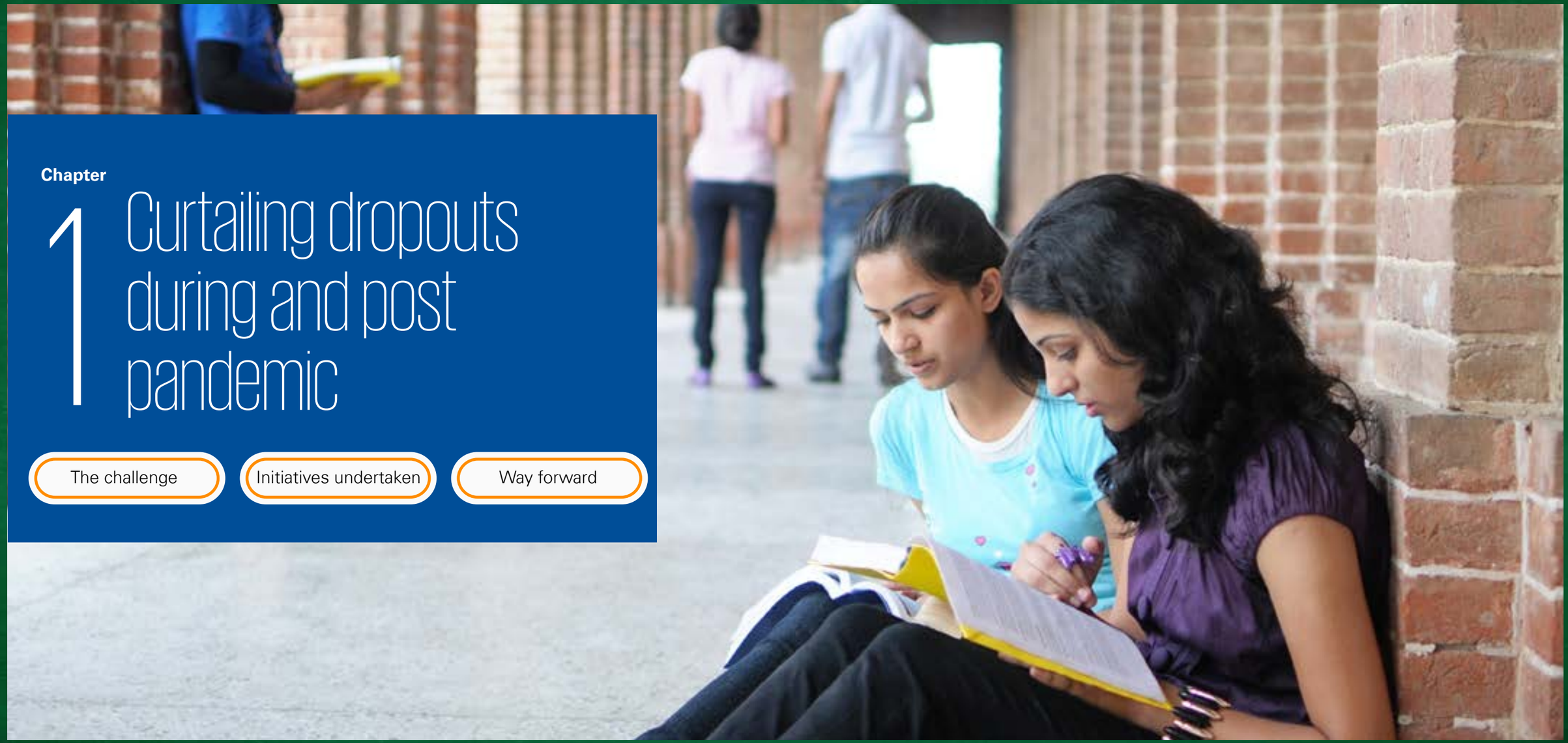
Introduction

The education sector in India, which was hitherto slow to change, has been witnessing a massive transformation recently. This change has been brought forth by the following contributing factors:

- Changing job landscape- The world of work is changing rapidly with the advent of emerging technologies. Employers are looking for talent that is adaptable to these changes. 21st century skills such as critical thinking, creativity, problem solving, analysis, etc. are gaining more importance. The key findings of 'The future of Jobs Report, 2020' released by World Economic Forum suggests critical thinking and analysis, problem solving and skills in self-management such as active learning, resilience, stress tolerance and flexibility to be the top skills and skill groups which employers foresee to grow till 2025.[8]
- Technology for education- In addition to the inclusion of digital skills in education, emerging technologies have also had an impact in education delivery and management. Use cases of digital integration in education vary from deployment of artificial intelligence (AI) based software for personalizing education pathways to using Augmented Reality/Virtual Reality (AR/VR) for creating engaging content. Examples of technology adoption in K-12 education, range from making access to digital devices and Information and Communication Technology (ICT), developing scripted lesson plans for teachers, using adaptive learning software for personalized learning, and making available pure online as well as blended courses. Adaptive intelligent learning technologies being used at scale to strengthen primary and secondary education in Netherlands[9], Command and Control Centre 2.0 launched by Gujarat Government, India to effectively track and evaluate state's education schemes, education quality, student attendance, learning outcomes and preparedness of teaching faculties are few of the examples of new-age intelligent technologies making significant positive imprints in the field of school education.[10]
- Demand for quality education- In this connected world, parents and students are more aware of the options that they have. The rising middle-class population can afford and are willing to invest in quality education and are demanding the same from service providers across the education sector.
- Evolving policy environment- The NEP 2020, aims to transform the education sector in India through a learner centric approach. It focuses on making education well rounded, holistic, futuristic, and fulfilling to the learner. The policy ensures that the access, equity, and quality measures are well integrated into the education system of India by tapping into critical inputs. COVID-19 pandemic- Around 250 million students[11] in India were affected due to school closures at the onset of lockdown induced by COVID-19. To diminish the influence of school closures and ensure continuity of education, government and practitioners had to change the nature of education delivery. The pandemic acted as a catalyst for digital adoption in the education sector in India.

With schools reopening in many states, it is important that a careful strategy is built in to smoothen the transition of children back to school after more than 15 months of home-based learning. The following section maps out the challenges across each of the five themes mentioned above, the strategies adopted by the school education ecosystem and governments in India to address these challenges, and the way ahead.

8. The Future of Jobs Report 2020, World Economic Forum, October 2020
9. How could intelligent technologies help during the pandemic?, UNESCO, July 2020
10. Command & Control Centre 2.0' launched in Gujarat to monitor implementation of various educational projects, The Times of India, June 2021
11. Education, Guidelines for Out of School Children and Mitigation of Loss of Learning, Ministry of Education, January 2021



Chapter

1 Curtailing dropouts during and post pandemic

The challenge

Initiatives undertaken

Way forward

Curtailing dropouts during and post pandemic

In 2020, United Nations Educational, Scientific and Cultural Organization (UNESCO) estimated that nearly 24 million students from pre-primary to tertiary education across the world would not be able to continue their education due to the disruption caused by COVID-19. At close to 25 per cent, South and West Asia accounted for the highest percentage of students at risk of dropping out of school.

1. The challenge

1.1.1 Experts estimate that the number of out of school children in India will double from 32.2 million[12] in the aftermath of the pandemic, with children from marginalised communities disproportionately affected[13]

The pandemic caused schools to change education delivery from a traditional face-to face method to an online mode. However, every segment of the population didn't have the means to access these online classes. In a survey conducted by Oxfam, over 80 per cent of parents report that education was not delivered during the lockdown period. This can be attributed to either a lack of awareness among parents regarding the alternate modes of education delivery, or the lack of access to digital devices to access these classes[14]. Learning discontinuity was also caused due to the inability of households to pay the school fees. It is estimated that around 84 per cent households suffered a loss in income during the pandemic period[15]. The loss in income forced many parents to default on school fee payment, leading to a discontinuation of studies for children.

The impact of the pandemic is exacerbated for marginalised sections and girl children. A report by ChildFund India, mentions that a delay in opening schools will result in an increase of 47 per cent in girl student dropout rates[16] which could lead to an increase in child marriages, early pregnancy, gender-based violence and trafficking[17]. Additionally, the impact is expected to be heightened for children of migrant labourers who are expected to drop out of schools to provide financial support to their families[18] or have returned to their hometowns. As reported by Aide et Action, during the first wave of the pandemic, approximately 18 per cent of migrant children accompanied their parents to worksite, while the percentage rose closer to 100 per cent during the second wave[19]. Education continuity for children who lost one or both parents due to the pandemic is also a cause of concern. In India, this number is estimated to be nearly 0.12 millionlakhs, of which around 90,000 children lost their fathers[20].

1.2 Initiatives undertaken

1.2.1 Door-to-door surveys, community engagement, bridge courses have been undertaken to identify and support out-of-school children

To minimize the number of students who dropout and to ensure that out of school children are not adversely affected by school closures, guidelines by the Ministry of Education proposed continued education for both groups of students. The Ministry suggested providing non-residential training through volunteers, local teachers, and communities for out of school children, while children with special needs would receive home-based training through volunteers and special educators. Furthermore, the Ministry also directed the states and union territories to conduct door-to-door surveys in a bid to identify out of school children aged between 6 to 18 years, and later conduct school enrolment drives[21].

In alignment with the Central Government directive, state governments also undertook many initiatives to track and bring back out of school children into mainstream education. Many states used technology as a key enabler to track children at-risk of dropping out and monitor their progress in school. Initiatives were also undertaken making learning exciting and joyful for students to prevent students from dropping out, as well as bridging their learning gaps. Multimodal access to classes was provided to ensure that all students have access to online classes.

12. National Sample Survey Organisation's 2017-18 household survey, Live Mint, 2020
13. Status Report: Government and Private Schools During COVID-19, Oxfam India, 2020
14. Status Report: Government and Private Schools During COVID-19, Oxfam India, 2020
15. How are Indian Households Coping Under the COVID-19 Lockdown? Eight Key Findings, Rustandy Center for Social Sector Innovation, 2020
16. ChildFund Report: 64Percent children feel they won't be able to cope with curriculum after reopening of schools, The CSR Journal, 2021
17. Policy Brief on Girls' Education, RTE Forum, 2021
18. Status Report: Government and Private Schools During COVID-19, Oxfam India, 2020
19. India: COVID-19 subjecting children of seasonal migrants to child labour, Aide et Action, 2021
20. Over 15 lakh children lost a parent to Covid, including 1.2 lakh in India, India Today, 2021
21. Ministry of Education issues guidelines for identification, admission and continued education of migrant children, Ministry of Education, 2021

Some of the initiatives undertaken by the state governments are listed below:

Door to door surveys	The Public Instruction and Panchayat Raj departments in Dakshin Kannada district conducted a door to door survey to identify children till the age of 18 years who had dropped out of schools. The survey pointed out that many children were dropping out due to financial constraints and migration.
Software to track at-risk students	The Gujarat Government launched the "Command & Control Centre 2.0" which uses machine learning (ML) and artificial intelligence (AI) of Periodic Assessment Test (PAT) and school attendance to forecast important insights such as, students likely to migrate, places to which they will migrate and students facing high-risk of dropping out.
Alternate education centres	The Government of National Capital Territory (NCT) of Delhi has launched Gyan Loks which will serve as learning environments for out of school children. These special training centres will be equipped with technology like projectors and SMART TVs. The aim of these Gyan Loks is to provide a joyful learning experience to dropouts or out of school children to ensure that students do not drop out again.
Community engagement to ensure continued education delivery	Teachers in rural schools in Chhattisgarh collaborated with communities to play audio lessons through loudspeakers. Through this collaboration, communities have been able to make students focus on educational recordings rather than entertainment-related recordings.
Bridge courses	The Government of Andhra Pradesh launched the Vidhya Varadhi bridge course for students in grades 1 to 5. The content was delivered via television for three hours a day on Doordarshan. These courses will ensure that dropout students are at par with other students enrolled in the same grades

While the Central and state governments have undertaken several measures to ensure education continuity for all school children, there is a need for focused interventions for the marginalised sections who were disproportionately impacted by the pandemic. Governments need to join hands with civil society organisations as well as community leaders to in order to reach out to such children and their families.

1.3 Way forward

The NEP 2020 lays strong emphasis on universal provisioning of school education from preschool to secondary level by 2030. The policy aims to achieve this through a two-pronged approach- provision of sufficient infrastructure and mapping and tracking of at-risk or out of school children to bring them back into the system. The policy also proposes establishing alternative and innovative education centres in partnership with civil society organisations to bring out of school children back into mainstream education. NEP 2020 also states that to ensure that students have multiple options of learning, both formal and non-formal modes of education should be incorporated into school education.

1.3.1 Recommendation 1: Leverage the federated IDs proposed under NDEAR and AI based software to track and identify at-risk or out of school children, and convergence between departments and states to exchange data of migrants, child laborers, and other vulnerable populations

- **Mapping of out of school children:** A mapping exercise needs to be undertaken to identify at-risk and out of school children. This can be done through door to door surveys by district and block level officials, local governments and/or civil society organisations. One way of tracking at risk or out of school children is to closely monitor children from families linked to social security schemes. A key challenge will be mapping invisible children such as children of migrant labourers, street children and working children. There needs to be greater coordination within the state as well as between states to exchange data of children who have migrated from one place to another. This mapping exercise has to be conducted in a decentralised manner with every school conducting a census of children within their catchment area annually. Collaboration with Non-Governmental Organizations (NGOs) will be a key enabler in conducting this exercise. There should also be a cross checking of information with health department, especially to identify Children with Special Needs (CWSN). The Ministry of Education may team up with the Ministry of Women and Child Development to create a database of abused and trafficked children, child victims of violence, child labourers, children in conflict areas and runaway children. The implementation of federated identity of students proposed in the National Digital Education Architecture (NDEAR) will be a key enabler to create this database.

Electronic database in Lithuania for tracking children's absenteeism

The 'National Information System on Children's Absenteeism and Pupils' Truancy' acts as an early warning system to detect children who have a high probability of early leaving from education. Students who have not attended more than half of the lessons over a period of one month are registered in this system. This data is subsequently transmitted to other departments such as social justice, internal affairs, or healthcare[26]. **Multi-stakeholder involvement to identify at-risk or out of school children in Albania**

In Albania, teachers are responsible for identifying at-risk children, while school psychologists maintain a database of children who have dropped out or show irregular attendance. The psychologists also develop an action plan customized to each child. School psychologists, along with regional inspectors, visit the homes of such children. Unresolved cases are referred to other government agencies such as the Labour Inspectorate or the police[27].

22. Worst Covid effect yet? Children dropping out of school in droves, The New Indian Express, 2021
23. Progress Report in r/o Gyan Lok 2019-20, Educil, 2020
24. India Report Digital Education, Ministry of Human Resource Development, 2020
25. India Report Digital Education, Ministry of Human Resource Development, 2020
26. Lithuania- Preventing Early Leaving from Education and Training, European Union, Accessed 2021
27. Identification and Monitoring of Out of School Children and Dropping Out of Students- Kazakhstan, UNICEF, 2013

- **Leveraging technology:** Technology can be a key enabler for identifying such children. For example, early warning systems using AI and ML can track student behaviour such as attendance, performance in exams, migration patterns, etc. to predict their likelihood for dropping out, as seen in the case study for Gujarat's Command and Control Centre previously. The United Nations Children's Fund (UNICEF) Framework for Monitoring Children and Adolescents who are Out of School or at Risk of Dropping Out proposes a set of indicators for monitoring dropout risk[28] -

A	**Academic achievement is below standard**
B	**Behavioural issues**
C	**Chronic absenteeism**
D	**Disability**
E	**Entry and progression in education**

There should be specific focus on children in grades 9 and above when there is a high likelihood of dropping out as seen in many states of India, for example, nearly 19 per cent of the 0.27 million students enrolled in class 9 during 2018-19 in Delhi dropped out[29]. However, electronic systems should only be used as tools and shouldn't be a substitute for human intervention for continuous interaction, counselling, and course correction.

28. Monitoring Education Participation: Framework for Monitoring Children and Adolescents who are Out of School or at Risk of Dropping Out, UNICEF, 2016
29. Delhi: 40% of students who fail Class 9 dropping out, The Indian Express, 2021
30. Using a Returns to Education Campaign to Avoid School Dropouts: A Pilot Replication in Times of COVID-19, JPAL, 2020
31. Lessons from Ebola: how to reach the poorest children when schools reopen, UNICEF, June 2020 Back to School After the Ebola Outbreak, The World Bank, May 2015

1.3.2 Recommendation 2: Inclusive information campaigns, monetary aid, and establishing flexible pathways to bring back students into schools

- **Targeted advocacy to bring students back:** Once out of school children have been mapped, they need to be brought back into schools. Government, schools, teachers, social workers, civil society organisations, etc. need to work together to achieve this. Targeted advocacy efforts need to be undertaken with these children, their families, and communities to assure them about the safety of returning to schools as well as the benefits and returns on investment in education.

Information campaign on educational attainment in Chile

Abdul Latif Jameel Poverty Action Lab (J-PAL) is working with the Ministry of Education in Chile to run an information campaign on the returns to education with the objective of reducing dropout rates. The campaign uses telenovela-style videos and group discussions to inform students of grades 6–12 regarding the economic returns on education, career paths and opportunities for availing financial aid[30].

Lessons from Ebola

The closure of schools for a considerably long period in Sierra Leone, Liberia, and Guinea during the Ebola pandemic left their children exposed to different forms of exploitation. In the absence of safe expanse of schools, teenage pregnancies amongst the adolescent girls increased alarmingly. The countries undertook massive targeted back-to-school campaigns with messages including varying school safety measures and support to learners returning to the schools. These communication strategies aimed to encourage caregivers and parents for sending their wards to schools. Extensive communication and advocacy were carried out to promote awareness amongst girls towards enrolment in schools. In addition to these, the Sierra Leone Government waived off fees related to children's school and examination for two years to encourage parents to allow their wards to resume their schooling. Scaling-up the school feeding programmes, the Government tried to address the food security issue persisting in the community after the pandemic. Learning materials were also provided by the Government to all the learners, including assistive devices to children with disabilities. All these efforts were directed towards attracting children to reopened schools[31].

Keeping parents engaged: Parents need to be continuously engaged even after children are enrolled in schools. This can be done by providing at-home activities for children, providing continuous feedback instead of only corrective measures, establishing parent support groups and inviting families to volunteer for school development based on their knowledge and skills. The school should work with social workers while dealing with sensitive parents and ensure that the communication is continuous and not patronising or judgmental.

- **Support to parents and students:** Incentives such as fee waivers, scholarships, provision of food/meals, material support for textbooks and uniform, transport support, etc. may also be provided to attract students back into schools. Parents and students also need to be provided handholding support by volunteers to register and complete documentation for enrolling in schools.

Conditional cash transfer program in Honduras

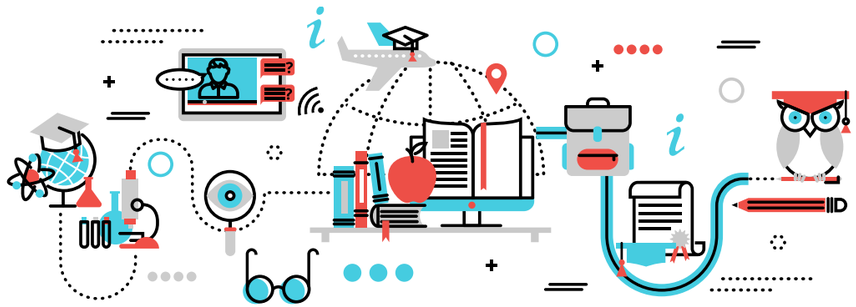
The Government of Honduras implemented a conditional cash transfer program called Programa de Asignación Familiar (PRAF-II). The program focused on 70 municipalities with the highest malnutrition rates. Within these municipalities, all households with children in the age group of 0–12 received vouchers[32].

1.3.3 Recommendation 3: Bridge courses to even out learning gaps for students who were out of school

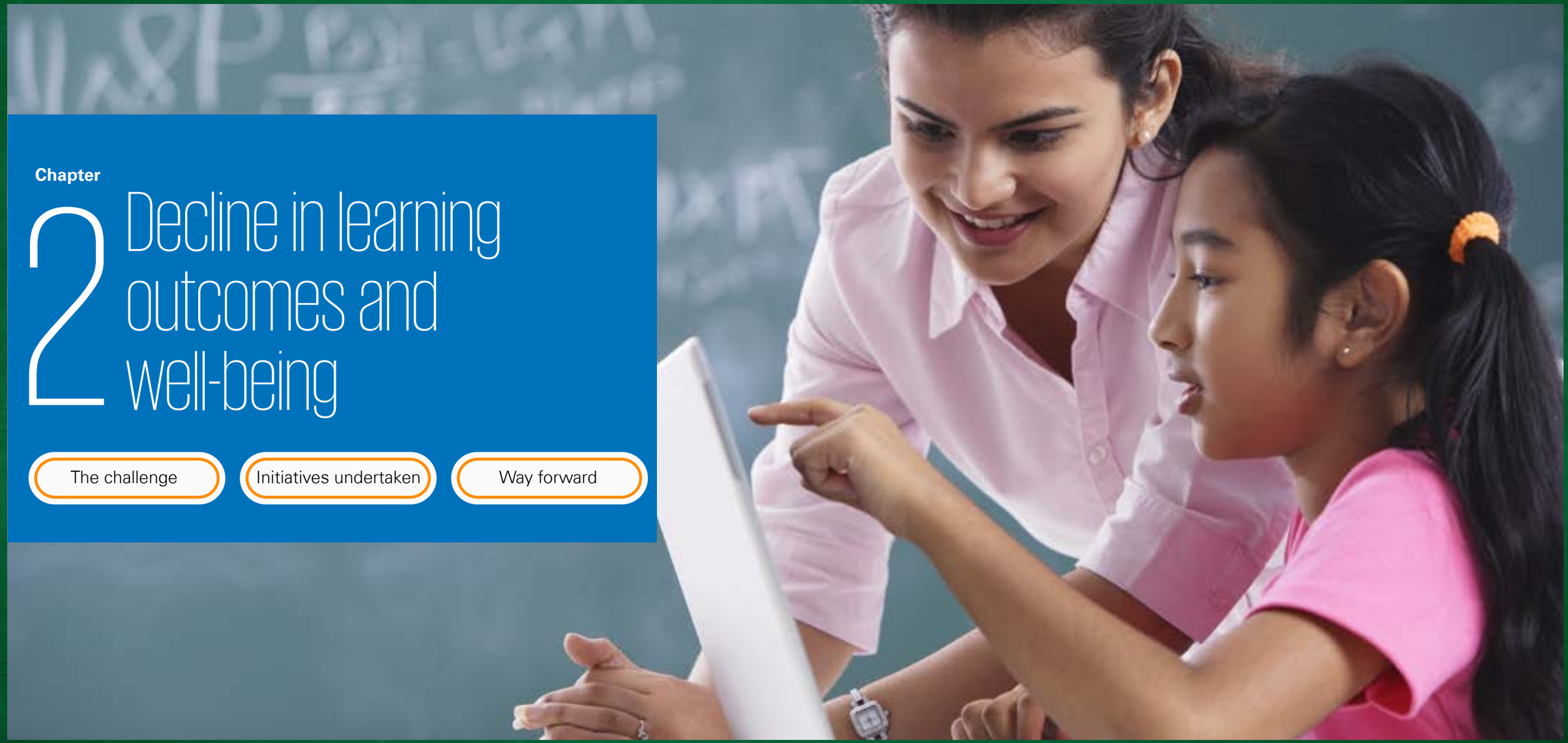
- Alternative pathways for addressing gaps in learning: Remedial classes can be offered to such children post normal schooling hours to support them in integrating within schools. Bridge courses may also be offered to them before they are enrolled in schools to even out the learning gaps. Vulnerable sections of the population, such as girl children and marginalized children who form 48 per cent and nearly 73 per cent of around 264.5 million students enrolled in schools in India in 2019-20[33], need to be targeted for such initiatives. Alternate modes of education which provide flexibility can also be explored to ensure continuity of education for such children. Such strategies may include establishment of alternative and innovative education centres, providing education access through National Institute of Open Schooling (NIOS) and State Open Schools, integration of vocational education in schools and design of flexible pathways of learning. Life skills education should be imparted to these children to correct any behavioral issues and help build self-esteem, confidence, and conflict resolution skills. Offering counselling services, creative and sports classes will also help in building such skills.

Girls' Access to Education (GATE) programme in Nepal

GATE is a non-formal programme aimed at getting the marginalised adolescent girls in Nepal back to school. It provides basic literacy, numeracy, and life skills to adolescent girls to reenter the formal education system. Topics such as child marriage, gender-based violence and reproductive health were also covered under this programme. The evaluation of the programme showed that 95 per cent of the enrolled girls who were sampled completed the programme. The sample also showed improvement in grade 3 level competencies from pre-assessment to post-assessment. 89 per cent of the students who completed the programme move to a formal school[34].



32. The Long-Term Impacts of Conditional Cash Transfers in Honduras, JPAL, Accessed 2021
33. Unified District Information System for Education Plus (UDISE+) dashboard, Government of India, 2019-20
34. Bringing Education to the Most Marginalized Girls in Nepal: Evidence from the Girls' Access to Education (GATE) programme, UNICEF, 2020



Chapter

2 Decline in learning outcomes and well-being

The challenge | Initiatives undertaken | Way forward

Decline in learning outcomes and well-being

2.1 The challenge

Studies conducted by various agencies have suggested that prolonged school closures could result in learning loss for students. Existing evidence suggests that students in grades 1–12 affected by school closures may expect a decrease in 3 per cent in their future earnings, while countries may face an average of 1.5 per cent lower Gross Domestic Product (GDP) for the remainder of the century[35].

2.1.1 There is an increase in share of lower secondary-aged children across the world below the minimum level of proficiency by 25 per cent[36] due to COVID-19

Data published by World Bank on 28 April , 2021 indicates that 53 per cent of children of primary schools in low- and middle-income countries were living in learning poverty. Learning poverty indicates the inability of the students to read and understand a simple story by the age of 10. Learning disruption caused by COVID-19 may lead to increase in learning poverty. In the intermediate scenario, there may be as much as a 25 per cent increase in the share of lower secondary-aged children below the minimum level of grade level proficiency. Thus, we may likely witness a slow down in the progress made towards the goal of halving the share of learning poor by 2030. It is also estimated that the school closures could lead to falling test scores on average[37].

While all levels of education are affected by school closure, some studies indicate the effect on early childhood education will be significant[38]. A survey undertaken together by UNESCO, UNICEF, the World Bank and Organization for Economic Co-operation and Development (OECD) in 2021 reported that the use of remedial instruction is lowest at the preprimary level[39]. The regression will lead to a cumulative learning loss over the years, thereby impacting the current and future academic performance of the students. This may also lead to disconnect in further learning processes, peers, and schooling, and ultimately in dropouts.

In addition to academic learning losses, the psychological wellbeing and development of children will also be affected due to limited access to socialisation, play and physical contact. Undeniably, during school closure students have experienced fear, anxiety, anger, and sadness. The distance and disconnect from peers and adjusting to new methods of learning have made them more vulnerable. This has implications on the mental wellbeing of the students – an aspect which should be catered to with emergency through curriculum and pedagogical changes.

Prior experiences in public health emergencies also suggests a high likelihood of violence against children, especially in vulnerable families[40]. Thus, the COVID-19 pandemic also has an enormous influence on the socio-emotional development of children.

35. Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates, World Bank Group, June 2020
36. Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates, World Bank Group, June 2020
37. Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates, World Bank Group, June 2020
38. The impact of COVID-19 on ECCE sector: Lesson learned and promising practices from the Asia-Pacific, UNESCO Bangkok Office, Accessed August 2021
39. What's Next? Lessons on Education Recovery: Findings of a Survey of Ministries of Education amid the COVID-19 Pandemic, UNESCO, UNICEF, the World Bank and OECD, June 2021
40. Psychosocial Support for Children during COVID-19: A Manual for Parents and Caregivers, UNICEF and ChildLine India Foundation, Accessed August 2021

2.2 Initiatives undertaken

2.2.1 Alternate means of delivery of education were used during the pandemic to ensure continuity of education in order to mitigate learning losses

To address the learning losses strategically and systemically, the Ministry of Education and State education departments have undertaken multiple alternative initiatives for providing education to students. The initiatives included distribution of textbooks at homes of learners, telephonic guidance by teachers and online and digital content through TV and radio. Further, the Alternative Academic Calendar was released which presented a week-wise learning plan for students with a set of interesting activities and challenges, with reference to chapter/theme from the textbook mapped to the defined learning outcomes by National Council of Educational Research and Training (NCERT).

Many state governments experimented with technology tools to deliver learning and assessments during the school closure period. Some of these initiatives were in partnership with other ecosystem players such as ed-tech firms and civil society organisations. In addition to bridging academic learning, some states also focused on the socio-emotional wellbeing of children. Gamification and activity-based learning were explored to ensure that students are motivated and engaged. Governments have also realized the importance of formative assessments to identify the learning gaps before the reopening of schools.

Technology enabled learning	Project Phonenix, a technology medium, was launched in Chandigarh to assess the learning outcomes of students from grades 1 to 8. The program is accessible via both mobile app and web portal. It allows teachers, heads of school and monitoring teams to monitor and track the progress of learners. The initiative helps in identifying learning gaps, which allows students to take remedial measures[41].
Gamified assessments	The Chhattisgarh Government launched 'Cricket as an Assessment Tool' (CAAT), which uses gamification to make school curriculum interesting for students and keeps them engaged in schooling[42].
Assessment dashboards in Himachal Pradesh	The assessment dashboard developed by the state of Himachal Pradesh enables monitoring and assessment of learning profiles of elementary students[43].
Happiness classes	The Government of Delhi conducted happiness activities for students from classes KG to 8th during the pandemic period. It also organised daily online happiness classes for families of children[44].

The focus so far has been on providing access to classes during the pandemic period. Before the schools reopen, there is an urgent need to identify the learning losses which had happened during the school closure period. Pre-assessments as a tool will help in identifying the learning levels of children, which will enable designing teaching at the right level. It is also important to focus on the socio-emotional and mental well-being of children while they transition back into schools.

41. India Report Digital Education, Ministry of Human Resource Development, 2020
42. India Report Digital Education, Ministry of Human Resource Development, 2020
43. India Report Digital Education, Ministry of Human Resource Development, 2020
44. India Report Digital Education, Ministry of Human Resource Development, 2020

2.3 Way forward

2.3.1 Curriculum, pedagogy, and assessments

In the age of fourth industrial revolution, the first step is to set the wave of innovation in education and revitalising it as an agent to social mobility and inclusion in the future. Global citizenship, personalised and self-paced learning, accessible and inclusive learning, problem solving and collaborative learning, lifelong and student driven learning, interpersonal skills, technology skills, innovation and creativity skills and global citizenship skills need to be integrated into school education system in order to enable students to become both productive contributors of future economies, and responsible and active citizens in future societies[45].

Aligning to the same, the NEP 2020 envisions the curriculum promotes the holistic development of learners, with a focus on 21st century skills. The policy also calls for reduction in curricular content to enhance essential learning and critical thinking and provide greater focus on experiential learning. The policy also recommends a shift from summative assessment to formative assessment. Assessment should be competency based while promoting learning process; it should also test higher order skills of the students such as critical analysis and thinking, curiosity while enhancing conceptual clarity among the learners.

This transition requires a multi-pronged approach for enabling development of quality curriculum and assessment and its effective transaction. The multi-pronged approach should involve multiple initiatives ranging from teacher capacity building, development of an holistic and engaging curriculum and teaching learning, mapping the curriculum with learning outcomes and developing their measurement indices, assessment techniques, tracking of learning progress, etc. for bringing in effective curriculum, pedagogy and assessment reforms.

2.3.1.1 Recommendation 4: Just-in-time assessments to establish current level of students and aligning resources and timetable to deploy established remediation approaches such as teaching at the right level

- **Remedial and teaching support:** As the schools are reopening, governments, private sector, and NGOs must ensure that students who are lagging receive support. The support can be in the form of remedial and targeted programs, training of teachers in effective pedagogical methods which includes teaching at the right level, digital pedagogy and provision of teaching aids.
- **Just in time digital assessments can be implemented:** To conduct effective learning, the first and foremost step is to assess the current learning levels of children to create personalised learning pathways and solutions based on their requirement. The assessment should be just-in-time (upon school reopening) to identify the learning needs of the students. Digital assessments can be implemented using multiple channels such as SMS, WhatsApp, mobile apps, and web-based portals. In case of students without access to any of these digital channels, teachers or volunteers may conduct pen and paper-based assessments in person. In addition to pre-assessments, regular ongoing formative assessments are also required to track the progress of student learning.
- **Multilevel, age appropriate teaching spread over years to bridge learning gaps:** Based on the results of these pre-assessments, children can be grouped based on their learning levels. Children in each group should be taught based on their existing level. Revision of the already known concepts should also be built into the curriculum. Rather than packing everything into a three- or six-month bridge program, the curriculum has to be spread over two or three years in order for students to bridge their learning gaps. Students should be continuously evaluated to track their learning progress. These remedial classes can be conducted post the normal schooling hours for two to three hours every day. Teachers need to be supported by other teaching assistants or volunteers to implement these classes.

Remedial tutoring improves learning outcomes

The JPAL researchers evaluated the impact assessment of the Balsakhi Program on student learning. The program consisted of a remedial tutoring education intervention implemented in schools in Vadodara and Mumbai, India,. Balsakhi (tutor) identified and enabled learning at the right level for the students of grades 2, 3 and 4 who were falling behind their peers in learning outcomes. The Balsakhi typically met with a group of approximately 15–20 of these children in a separate class for two hours of the four-hour school day each day. The program evaluation indicated substantial positive impacts on children's academic achievement. In both Vadodara and Mumbai, the Balsakhi program significantly improved overall test scores by 0.14 standard deviations in the first year and 0.28 standard deviations in the second year, Largest gains were observed in math. The weakest student had gained the most.

45. Schools of the Future- Defining New Models of Education for the Fourth Industrial Revolution, World Economic Forum, 2020
46. Balsakhi Remedial Tutoring in Vadodara and Mumbai, India, JPAL, Accessed in 2021

2.3.1.2 Recommendation 5: Curriculum and pedagogical reforms that focus more on application and problem-solving skills and experiential learning. Focus on building foundational literacy and numeracy to expedite learning at higher levels

- **Develop re-adjusted academic plan:** As the schools are reopening, it is necessary to adjust the curriculum, textbooks, and pedagogy to ensure that the students can gain the right concepts with re-adjusted academic plan. The Ministry of Education, Government of India has recommended that the academic calendar may be realigned for the whole year.
- **Curriculum must be cut down to essential components in order to focus more on application and problem solving:** Further to the re-adjusted curriculum it is necessary to make curricular and pedagogical reforms to make learning relevant and enjoyable for students. As NEP 2020 suggests, the curriculum must be cut down to essential components in order to focus more on application and problem solving. There should be greater focus on building foundational literacy and numeracy skills, especially in the primary classes. 21st century skills such as critical thinking, problem solving, reasoning, etc. need to be integrated in the curriculum for higher grades to smoothen the transition of students into higher education institutes and prepare them for the jobs of the future.
- **Personalized content to be developed to cater to all students:** Content also must be personalised for each student group. This is especially true for marginalised students. There is a greater need for content in vernacular languages for such students. Content delivery platforms also need to provide multiple access options for CWSN such as audio books, speech recognition tools, screen readers, etc. Content also must be user-centric and provided in various formats such as energised textbooks, interactive games, audio and video clips, virtual labs, AR/VR format, etc. to make learning more experiential, engaging, and enjoyable. Content also needs to be modular and in alignment with the attention span of students across various ages.
- **Pedagogical reforms to make learning more engaging:** Along with the content, there should be strong focus on the pedagogy. A 2018 OECD study identifies six clusters of innovative pedagogies[47].
  - Embodied learning: focuses on non-mental factors and the use of body and feelings in learning; includes arts and design-based learning
  - Experiential learning: includes project-based learning, service-based learning and teaching uncertainty competencies
  - Computational thinking: intersection of mathematics, Information and Communications Technology (ICT) and digital literacy
  - Blended learning: enhancing classroom activities through technology
  - Gamification: creating a playful environment for student engagement:
  - Multiliteracies and discussion: use of diverse platforms, languages and cultural variables to understand texts

Learnings from Kenya's Tusome program

Tusome Literacy programme was implemented by Kenya's Ministry of Education in collaboration with United States Agency for International Development (USAID). The program aimed at improving literacy outcomes in the country. The high-quality age-appropriate textbooks provided to each child on a 1:1 student to textbook ratio basis, organised teacher guides closely aligned with these textbooks provided to students, teachers' professional development and support from pedagogical support officers-turned-coaches are some of the important technological and resource-related support provided to the schools under the Tusome programme. The teacher guides are simple, straightforward, following a consistent instructional method and designed suitably for a 30-minute lesson. The coaches are provided resources and tools to support teachers. They make regular visits to schools, observe teaching styles of teachers and provide them with constructive real-time feedback for their classroom performance. They are also provided with laptops, which not only offer them with important coaching materials, but also serve as a platform to assemble and organize student assessment and teacher observational data. This data is automatically synced to a cloud-based platform generating its report on monthly basis, which later gets analysed by policymakers to monitor teaching training and classroom teaching practices[48].

2.3.1.3 Recommendation 6: Provisions for counselling and capacity building of teachers that strengthen their role as first responders and enable sensitivity catering to psycho-social wellbeing of students

- **Assess and provide adequate support to the students for the socio – emotional well-being of students:** Student's mental and psycho-social well-being is a human right and the most essential prerequisite for attainment of learning. Schools are regarded as the important space for children's development which not only facilitates their learning but also act as spaces for their socialization and social – emotional development. However, months of school closure may have led to a feeling of confinement and social isolation among the students. It is therefore necessary to assess and provide adequate support to the students not only during school closure but also when school reopens. Mexico in the first week of school reopening assessed students' emotional status and provided adequate remediation. France, St.Lucia, and China also provided counselling services to the students[49].

  The Collaborative for Academic, Social, and Emotional Learning (CASEL) addresses five areas of competence in socio-emotional learning: self-awareness, self-management, social awareness, relationship skills and responsible decision making[50]. Schools need to integrate these in their classroom transactions through practices such as cooperative learning, project-based learning, integration of SEL and academic curriculum, etc. It is also important that schools work with families and communities to design the SEL program and extend it to the child's home so that it is more contextual to the child's background and surroundings. This is of great importance especially for children from marginalised groups. The NEP 2020 also calls for integrating sports and arts into school education to make learning more holistic. Thus, curricular, and pedagogical reforms need to focus on the holistic development of children and teaching them at the right level.

47. Teachers as Designers of Learning Environments: The Importance of Innovative Pedagogies, OECD, 2018
48. Building Back Better: Accelerating learning when schools reopen, and what Kenya's Tusome program can teach us, World Bank Blogs, 2020
49. UNESCO COVID-19 Education Response Education Sector issue notes
50. CASEL's SEL Framework, Collaborative for Academic, Social, and Emotional Learning (CASEL), Accessed 2020

2.3.2 Infrastructure and Resources

The NEP 2020 aims to provide universal access to safe, engaging, and quality education by supporting the nation's educational system with high-quality, effective, and sufficient infrastructure and resources.

2.3.2.1 Recommendation 7: Strengthening school resources and infrastructure to provide safe, quality, and inclusive education to all

- **Infrastructure preparedness to ensure hygiene standards:** With sufficient capacity and resources, schools need to execute implementation and compliance of context-appropriate health and hygiene protocols. This comprises of symptom screening, surface cleaning/disinfecting, use of protective equipment and establishment of basic WASH facilities. The availability of WASH facilities becomes even more important for WASH-vulnerable populations such as that of girls, persons with disabilities, children belonging to impoverished households and children living in vulnerable contexts. Every school should have improved sources of drinking water, improved and usable toilets/toilet facilities and adequate number of handwashing facilities duly checked for availability of water and soap.
- **Resources to support mental well-being of children:** School closures have risked children's learning, nutrition, mental health, and overall development. Some students, especially girls are on the verge of never returning to formal education system of schools[51]. Under such concerns, it becomes imperative for schools to provide tailored psycho-social support to their students, integrated into the mainstream of learning processes. This can be ensured through either setting up in-house counselling centres in the schools or ensuring availability of professional counsellors in them to address the emotional and mental health priorities of its students.

Tamil Nadu reopening the schools with an added focus on students' mental and emotional health

The Tamil Nadu Government has directed the management of all its schools and colleges to focus mainly on the emotional and mental health of their students, with the reopening of schools, post pandemic. The School Education Department has directed the school management to engage with professionally acclaimed counsellors to look after the emotional needs of the students. The School Education Department has directed the school management to engage with professionally acclaimed counsellors to look after the emotional needs of the students[52].

Alternatively, digital infrastructure providing psycho-social support and services of varying nature and degrees can also be set up to offer important advisory and tips to students and school community, enabling them to function efficiently in circumstances like COVID-19 and beyond.

- **Support for CWSN:** Innovative solutions should be designed and implemented, tailored to the special needs of the children with disabilities. Technology should be leveraged to achieve design and delivery of such solutions.

Enabling education of persons with disabilities through technology enabled inclusive learning material, with specific focus on Indian Sign Language-based content

National Institute of Open Schooling (NIOS), through its programmes aims to provide special focus to the educational needs of persons with disabilities, particularly deaf and hard-of-hearing learners, and other minority groups. The programme focused on using digital tools and local language to allow learners with disabilities to access Indian Sign Language (ISL) – based content. The programme developed videos in Indian sign language for about seven different subjects being taught at secondary and senior secondary levels. It also developed an ISL dictionary, available on NIOS portal. The effective integration facilitated by the programme, with ICT resources enhanced the enrolment of person with disabilities in the academic programmes of NIOS. The institute now aims to develop more ISL-based content in all the remaining subjects for students belonging to grades 1-12. In addition to the same, NIOS also hopes to come up with assessments in sign language, that match the language needs of the deaf and hard-hearing learners[53].

The aforementioned initiatives need to be undertaken in a collaborative fashion by government and school administration with the participation and support from the community and philanthropic organisations.

51. Mission: Recovering Education in 2021, The World Bank, March 2021
52. Reopening TN schools, colleges to focus on students' mental health, The Times of India, August 2021
53. UNESCO literacy prize is awarded to programme enabling education of persons with disabilities in India, UNESCO, September 2021

Chapter

3 Integration of online learning

The challenge

Initiatives undertaken

Way forward

Integration of online learning

3.1 The challenge

The shift towards online education delivery post pandemic brought forth its own challenges. Many students, especially from the marginalised sections, didn't have access to digital devices to attend these online classes. Even among students who were able to access online classes, some found the experience difficult and burdensome.

3.1.1 Only 11 percent of households own a computer or other digital device[54]

As per NSSO 2017–18, less than 15 percent of rural Indian households have access to internet facilities in comparison to 42 percent of urban Indian households[55]. The ASER 2020 Wave 1 (rural) report which covered 59,251 students from 26 states and 4 UTs highlights that the percentage of enrolled children with access to smartphones has risen from 36.5 per cent in the year 2018 to 61.8 per cent in the year 2020. However, it is also important to note that this smartphone is mostly controlled by the father, limiting its use for educational purposes. The report also highlights that only around 18 per cent rural students, mostly of grades higher than class 8 and belonging to private schools, attended online classes[56].

3.1.2 Around 10–20 per cent stakeholders found teaching and learning during COVID-19 as a difficult experience

In a survey conducted by NCERT among Kendriya Vidyalayas, Navodaya Vidyalayas and Central Board of Secondary Education (CBSE) schools, 10–20 per cent stakeholders (students, teachers, parents, school principals) felt that the teaching and learning experience during COVID-19 was difficult and burdensome. The survey highlighted factors such as poor internet connectivity, difficulty in sharing content through mobile phones and lack of knowledge on digital pedagogy as some of the factors which created a hindrance in learning. About 50 per cent of the students also reported that they did not have the school textbooks even though the electronic versions were available on NCERT website and Digital Infrastructure for Knowledge Sharing (DIKSHA). Mathematics and science were identified as the subjects most difficult to learn over online medium. Only one third of the students were comfortable with online assessments[57]. Another survey conducted by Learning Spiral, an organization providing effective management of applicant and assessment/examination processes, reported that 84 per cent of teachers encountered challenges while delivering education digitally, with access to devices and internet being a key concern.

3.1.3 Online classes have been found to have significant impact on the socio-emotional abilities and physical health of students

The new mode of digital learning lacks peer-to-peer interaction and social learning. Students do not have friends to talk to and building new friendships seems to be difficult in digital classrooms. The digital learning pathway adopted by school education has been found to raise such issues of socio-emotional development. Apart from the mental health issues, this new mode of learning has also increased physical health problems. Increased eyesight problems, frequent headaches and sleep disorders are some of the major physical health problems associated with exposure to prolonged screen time[58].

Some governments also expressed these concerns during the initial phase of school closure. For example, the Karnataka Government had banned online classes for preschool and primary students initially. However, the Government had to reverse this order since education continuity had to be maintained due to prolonged school closures.

54. NSSO Annual Report 2017–18, Ministry of Statistics and Programme Implementation, 2018
55. Household Social Consumption on Education in India, NSS 75th Round, Ministry of Statistics and Programme Implementation, Government of India, July 2017–June 2018
56. ASER 2020 Wave 1 (Rural) findings-India, ASER, 2020
57. Students' Learning Enhancement Guidelines, NCERT, August 2020
58. Effect of online classes on children's physical health, Narayana Health, October 2020

3.2 Initiatives undertaken

3.2.1 Government was focused on providing multi-modal access to education to bridge the digital divide

To bridge the digital divide and to enable education for all, the Government had launched multi-modal access to education i.e. PM e-VIDYA, The initiative includes: DIKSHA, access through TV channels-SWAYAM PRABHA, Study Webs of Active-Learning for Young Aspiring Minds Massive Open Online Course (Swayam MOOCs) for open schools and pre-service education, extensive use of radio, community radio and podcasts, along with digital study material for the differently-abled. State governments, civil society organisations and social enterprises also joined their hands to solve the issue of digital divide.

Involvement of community and local self-government	In Kerala, local self-governing institutions, libraries, Akshaya centres, Anganwadis and Kudumbasree started neighbourhood study centres, financed by Kerala State Financial Enterprise to facilitate collective viewing of virtual classes being broadcasted. Many student organisations, individuals and NGOs came forward to distribute television sets and smartphones to those not having them[59].
Use of alternative low-cost technology for education delivery	ThinkZone, through its solution based on Interactive Voice Response (IVR) and SMS is providing a free-of-cost solution for continued education using non internet-based technology. Parents can access activity-based Do It Yourself (DIY) learning modules through remote instructions by phone, SMS and automated voice calls and can participate in their children's learning by helping them complete those home-based learning modules. The modules are user-friendly and can be understood by all the parents irrespective of their literacy levels[60].

Government, civil society, and community organisations, social enterprises and philanthropic entities need to come together in order to solve the issue of digital divide by providing access to digital devices, especially for students from marginalised sections. It is also important to explore low cost technology solutions for education delivery so that they are affordable to all sections of the society. Classrooms of the future may need to adopt 'phygital' or blended learning approach combining the benefits of traditional classroom instruction with technology.

3.3 Way forward

The pandemic compounded the rate of digital adoption in school classrooms. The NEP 2020 is also cognizant of the investment in 21st century education infrastructure and believes that technology has the power to l play a critical role in bridging the learning gaps in the 'recovery' phase.

Hence the policy recommends appropriate integration of technology into all levels of education. Technology has the power to improve classroom processes, support teacher professional development, enhance educational access for disadvantaged groups and streamline educational planning, administration, and management. This may involve standardisation and systematic integration of ed-tech players in formal education in such a way that there is equitable and quality delivery of education through technology.

3.3.1 Recommendation 8: Innovative financing mechanisms and partnerships need to be explored to bridge access to digital infrastructure

- **Provision of open digital resources and open digital access controlled by government :** SDG4 of the 2030 Agenda for Sustainable Development states "inclusive and equitable quality education and promote lifelong learning opportunities for all." The definition of Right to Education must be expanded to give considerable attention to the integration of technology to ensure learning continuity. Digital solutions (e.g. DIKSHA, SWAYAM and other private player's applications) which were institutionalised during COVID-19 must envision equity and inclusion in the delivery of education. Open digital resources and open digital access controlled by government are the key for providing equitable, inclusive, affordable, and quality education to all.

59. How the Kerala Model of Bringing Classrooms Home Works, The Wire, Anupama A.R, Sreekala M.V, July 2020
60. Bridging the 'Digital Divide', ThinkZone India, June 2021

- **Multi-stakeholder funding involving public, private and civil society stakeholders to bridge digital divide:** Access to devices needs to be expanded, particularly in schools located in areas with a high proportion of SEDG students. This can be done in partnership with community organisations, NGOs, and philanthropic organisations. Government schemes such as Operation Digital Blackboard, Production Linked Incentive (PLI) scheme and PM WANI will be key enablers to achieve this outcome. Assistive devices also need to be developed to address the learning requirements of CWSN. Innovative financing options such as crowd sourcing, digital inclusion bonds and self-help group (SHG) micro loans need to be explored to fund such initiatives. Digital inclusion bonds shall allow edtech players and governments to raise funds from international capital markets. The proceeds from these bonds shall be used for implementing specific digital inclusion projects, or the bond's coupon can be tied to the achievement of performance indicators in digital inclusion.

Digital Saathi campaign by Government of Himachal Pradesh to bridge the digital divide

The Digital Saathi campaign launched by the Government of Himachal Pradesh invites individuals and corporate donors to donate smartphones[61].

Mexico's SDG Sovereign Bond

In 2020, Mexico completed an offering of aggregate USD750 million global notes due by 2027. The proceeds of this bond will fund projects aligned to the SDGs. The eligible projects in the education sector include purchase of hardware for public education and teacher training[62].

3.3.2 Recommendation 9: Improving classroom practices through remedial, hybrid, digitally aided learning programmes aimed at learning exploration and futuristic learning

- **Hybrid model of learning is the future:** Strengthening the foundational learning of students through digital transformation plans, that include components of both infrastructure and technology can prepare students more efficiently for future digital instruction. Efforts should be directed towards providing the same, using a hybrid model of learning. Technology is believed to offer non-linear exploration of knowledge while the classroom is more inflexible and linear, thus making the hybrid model of learning, one of the most efficient solutions for futuristic learning. Technology can also help in scaling up education delivery through prerecorded lessons, distance learning or distribution of hardware with preloaded content. Technology can also help in personalizing education through adaptive technology or live tutoring by high quality teachers.
- **Nurture students with 21st century skills:** In addition to strengthening of remedial learning to cover up the limitations imposed by pandemic, it is equally important to prepare the students for the upcoming demands and challenges. It is essential for the schools to equip the current generation with required 21st century skills such as critical thinking, computational thinking, design thinking, communication, collaboration etc. The same can be achieved by setting up learning spaces like Atal Tinkering labs, digital language learning labs and Science, Technology, Engineering and Mathematics (STEM) labs which encourage experiential learning amongst the students. Hybrid learning programmes leveraging digital infrastructure and contextualised learning content aimed at enhancing the numeracy, literacy and computational ability of the students and making the learning process more engaging, can also make up for a potential solution reducing the learning poverty induced by the pandemic.

Kabakoo Academies- Teaching innovative Skills

The Kabakoo Academies in Africa focuses on training middle school, high school and university level students in rapid prototyping, robotics, web design and biotech, in addition to other emerging areas. Students can choose any local issue and participate in courses and projects which can help them in developing solutions to the identified issue. The pilot academy was built in a low-income neighbourhood. Students also have an option to enter income sharing agreements and pay their fees only after securing a job or setting up their business[63].

Kendriya Vidyalaya introduces Digital Language Labs in 100 schools pan India

To promote the skill of language learning in the Indian educational architecture, Kendriya Vidyalaya Sangathan (KVS) has introduced technology-enabled digital language labs in 100 of its schools across India. The initiative aims at improving the language learning in schools by blending traditional pedagogical methods with modern and technology equipped resources and makes education fun and engaging. The lab offers students a focused, conducive, and self-paced learning environment with individual systems, headphones, and enthralling software. It also provides interactive and personalized content enabling quality learning of the students through resources such as animated videos, functional exercises, and assessment sheets[64].

61. Himachal Pradesh to facilitate virtual learning for students, Times of India, 2021
62. Guidebook to Digital Inclusion Bond Financing, World Economic Forum, 2021
63. Schools of the Future- Defining New Models of Education for the Fourth Industrial Revolution, World Economic Forum, 2020
64. KVS launch digital language labs for interactive learning, The Times of India, Jagriti Kumari, January 2021

- **Game based learning and assessment should be incorporated into classroom instruction:** Technology also plays a pivotal role in assessments and analytics. AI and ML based software can assess the learning levels of children and design customised learning pathways for them. Schools can experiment with various forms of blended learning including the rotation model, flipped classroom and a la carte model[65].

PraDigi Open Learning Programme of Pratham Education Foundation

Pratham started its community-driven, digitally aided Hybrid learning intervention titled "PRADIGI- Pratham Digital" in 2015. The programme aims to improve the literacy and numeracy skills amongst children through its three identified pillars of social structure, digital infrastructure, and teaching learning methodology. The initiative involves providing electronic tablets pre-loaded with content to groups of children in the villages, with the village community taking participation and co-ownership in the children's learning in the village. The initiative aims at making the education engaging for children by including content modules curated in the form of games and videos. The tablets trigger curiosity of students and the task-based games enhance the computational ability of the students. This group-based learning conducted in open spaces of the villages promotes the spirit of self-directed peer-based learning amongst the students, encouraging them to help each other. Involving village leaders, generating community awareness towards education, and allotting education rating to villages motivate community members to aid the groups by providing ad-hoc spaces of learning. The initiative also attempts to address the challenge of ensuring availability of devices to learning groups by tapping into innovative models of ownership such as retail fundraising, SHG micro-loans and incentivising community youth[66].

These interventions would require government/schools to enter into partnerships with technology partners, industry professionals, academia, and institutes of higher education for preparation of online delivery platform and digital content. These would also require government/schools to collaborate with NGO partners and civil societies to leverage their firsthand experiences related to education in designing innovative, sustainable, and responsive hybrid remedial solutions.

65. Blended learning models, Blended Learning Universe, Accessed 2021
66. Embedding Technology in Education: The Potential of India's Solutions in East Africa, Ob server Research Foundation, Anurag Reddy, March 2021

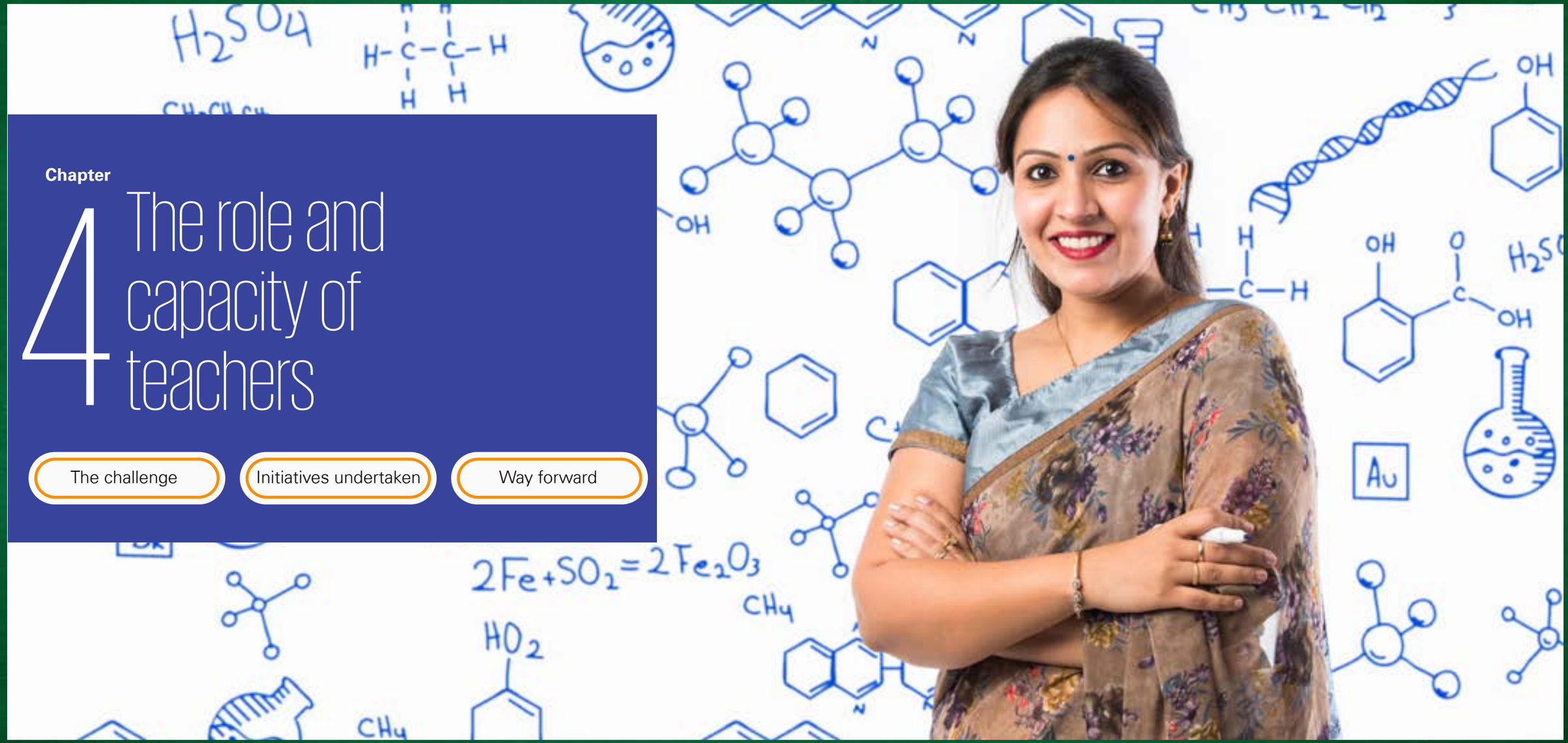
Chapter

4 The role and capacity of teachers

The challenge

Initiatives undertaken

Way forward



The role and capacity of teachers

4.1 The challenge

Teachers have been regarded as transmitters of knowledge and values. However, with the advent of digital education, especially during the COVID-19 pandemic, the school education system has seen a radical change, postulating a significant change in the teachers' role. The teachers have adopted the high – tech and low – tech technology solutions of teaching learning process; however, access to the digital devices has been limited, especially for students from Socially and Economically Disadvantaged Groups (SEDG). Despite the constraint, the teachers had adopted innovative and multi-modal techniques so that education reaches all.

4.1.1 More than 9. 6 million teachers transitioned from traditional face-to-face learning to digital mode of learning

There has been a transition from face-to-face learning to digital mode of learning, creating a different experience for more than 9.6 million teachers[67]. This transition was accompanied by concerns that online learning may not act as a good substitute for face-to-face learning due to lack of access to infrastructure (hardware and software) for teachers. The concern is more enunciated with There was lack of capacity among the teachers to address the unique demands of online teaching learning process. The misery was enunciated with salary cuts and mental health issues among the teachers.

The unprecedented situation highlighted the need for supporting teachers' capacity on the use of digital resources for constructivist pedagogy and promoting teaching practices for ensuring equitable access to education for all. With the increased volume of digital content, the student now does not have one teacher but multiple teachers available 24 x 7 to learn from.

COVID-19 has changed the norms for the teacher to view knowledge as content to knowledge as a process. Instead of behaviouristic pedagogy, the focus is now more on experiential and experimental learning, creativity, teamwork, and problem solving. The teacher should now shift their focus from 'how students learn or what students learn' but about the 'why students learn' and enable this shift as "edupreneurs" in the classroom.

4.2 Initiatives undertaken

4.2.1 Training programmes for teachers were delivered online to equip teachers with necessary skills for digital mode of teaching

The Ministry of Education has strengthened National Initiative for School Heads' and Teachers' Holistic Advancement (NISHTHA) for capacity building of 4.2 million teachers and school principals at the elementary stage[68]. The programme was conducted face to face before the pandemic. However, it was made 100 per cent online aligned to the multimodal teaching–learning process. Financial support of up to INR1000 has been provided to each teacher at elementary level, on reimbursement basis for purchasing pen-drives, module prints and high-speed data-pack connectivity plans, with reimbursement subject to successful completion of the training course.

Other government bodies, state governments and private players also focused on capacity building of teachers during the pandemic period. Special emphasis was given on imparting digital skills for teachers to deliver classes online.

Digital skill development	Training was imparted by Navodaya Vidyalaya Samiti (NVS) to teachers on online assessment and GeoGebra[69].
Private technology players to impart training on online teaching	Google has collaborated with CBSE to train teachers on delivering blended learning using free Google tools such as G Suite for Education, Google Classroom and YouTube. Google has also partnered with Kaivalya Education Foundation to support teachers from low income communities.
Involvement of NGOs in teacher training	The Chhattisgarh Government collaborated with more than 22 NGOs to impart capacity development programmes for teachers. Organisations such as Million Spark Foundation, TheTeacherApp, Language Learning Foundation, etc. supported the teachers by proving them with online learning modules[70].

There needs to be greater focus on capacity building of teachers catering to low income and marginalised students. They need to be equipped with necessary skills and tools for improving classroom instruction, tracking the learning progress of such children as well as addressing their socio-emotional needs. With a hybrid learning model envisioned for the future, teachers also need to build their digital skills for online teaching.

67. UDISE 2019–20, Government of India, Ministry of Education, Department of School Education and Literacy, 2021
68. NISHTHA website, Accessed August 2021
69. Compilation of Initiatives/Actions taken to mitigate the effect of Covid-19 pandemic on education of school children, Government of India, Ministry of Education, Department of School Education and Literacy, 2020
70. India Report Digital Education, Ministry of Human Resource Development, 2020

4.3 Way forward

The quality and extent of a student's achievement is influenced by teacher competence, sensitivity, and teacher motivation. The NEP 2020 places teachers in the centre of the learning process. Their recruitment, continuous professional development, positive working environments, and service conditions are the key systemic reforms suggested by the policy for achieving the educational reforms. The role of teachers needs to be visualized as 'edupreneurs' instead of 'knowledge holders'. The policy also strives to improve the quality of teacher education in India through standards such as National Professional Standards for Teachers (NPST) and National Curriculum Framework for Teacher Education (NCFTE).

Specific initiatives related to teacher professional development may include:

4.3.1 Recommendation 10: Appropriate resource allocation and capacity building initiatives for enabling teachers to incorporate frugal innovation and design thinking in their day to day activities through mentoring, peer circles, and school leader training

- **Refine the role of teachers to 'edupreneurs'**: The role of teachers in 21st century classrooms needs to be redefined. They should transition from 'knowledge holders' to 'edupreneurs' who can innovate in their classrooms and schools. The role of the teachers is not only to transmit the content but enable a holistic and experiential learning process. Teachers should serve as the nodal point for holistic development of children, community advocacy, etc. as schools re-open and students return to schools. They should act as first responders and role models, especially for students from marginalised communities. Teachers must incorporate frugal innovation and design thinking in their day to day activities in order to improve classroom interactions.

Jharkhand teachers beat the odds of COVID-19 to enable continuous learning

During school closure, Shyam Kishore Singh Gandhi, the headmaster of a Jharkhand village school addressed the challenge of digital divide i.e. lack of smartphones or internet for online learning by teaching students through loudspeakers in the village. The classes were conducted for two hours daily. The principal was supported by five teachers and two para teachers[71].

- **Innovative staffing models:** Innovative staffing models need to be explored so that students have access to both teachers with subject expertise as well as those who are good at establishing relationships.

Multi-classroom leadership model by Opportunity Culture

Teachers with a track record of high-growth student learning and leadership competencies are selected as Multi-Classroom Leaders (MCL). While the MCLs teach part of the time, they lead a team of 2–8 teachers, paraprofessionals, and teacher residents during the other part. The MCLs are responsible for defining the roles and goals of their team members every year. The MCLs co-plan, co-teach, coach, and give feedback to the team. Through this model, students get access to high quality teachers. An evaluation of this program showed that teachers who were in the 50th percentile produced student learning gains equivalent to those of teachers in the 75th to 85th percentile post joining a team led by an MCL. An average MCL receives a supplement pay equivalent to 20 per cent of base pay[72].

- **Mentoring and peer learning services for teachers:** In addition to pre-service and in-service training, teachers and school leaders also need to be provided with mentoring services. Online networking and knowledge sharing platforms can be established which will allow teachers to brainstorm and exchange ideas.

Online teacher collaboration in Gujarat

In Gujarat, teachers, and officers from various government agencies such as Block Resource Centres (BRC) and Cluster Resource Centres (CRC) were connected on an online platform wherein they could share innovative practices with each other. The platform witnessed over 2000 posts every day. The video conferencing facility also allowed them to interact with the Chief Minister, Education Minister, and other Heads of the Departments[73].

Government, civil society, and private players must not only invest in the capacity building of the teacher on teaching methodology but also enable teachers to be edupreneurs. Several strategies may be deployed to address this-

- Innovative and practical methodologies for school leaders to reduce administrative burden on teachers
- Mechanisms to train teachers to customise lesson plans and pedagogy based on their students' needs
- Opportunities for training and certification need to be provided for teachers on an ongoing basis depending on the need-gap assessed at a block or cluster level by local departments
- Concerted and streamlined efforts by the government to create peer-learning circles, opportunities for collaboration, and create a community of practice for teachers need to be institutionalised through digital platforms and in-person conglomerations
- Rewards and recognition may be instituted for exceptional work done by teachers. Career mobility and progression should be linked to merit

71. Jharkhand teacher uses loudspeakers for 'virtual' classes in village amidst lockdown, Indiatoday.in, June 2020
72. Multi-classroom Leadership School Model, Opportunity Culture, Accessed in 2021
73. India Report Digital Education, Ministry of Human Resource Development, 2020

4.3.2 Recommendation 11: Pre-service and in-service training curriculum needs to be enhanced to ensure that teachers are able to deal with practical problems such as need-based remediation, multi-grade teaching, and respond to evolving sectoral needs

- **Teachers' training should also focus on multilevel teaching, conducting remedial and tutoring classes and providing psycho-social support to students.:** Enabling training, coaching and professional development opportunities on hybrid learning to be a priority: The pandemic acted as a check for the adaptiveness and resilience of teachers. The changing times suggest that the hybrid model of learning is here to stay, thus making it imperative for the teachers to enhance their skills. Training, coaching, professional development opportunities directed towards strengthening the involvement and practice of teachers with blended/hybrid mode of learning has emerged as one to the top priorities to be covered by the education system. The trainings and professional development opportunities should enable, enhance, and brush up the capacity of the teachers to understand, assess and adapt to the changing pedagogical requirements, student needs and technical expertise of blended learning. They should also be equipped with the necessary skills for online content creation.

This needs to be done at both pre-service and in-service teacher education level. NEP 2020 proposes minimum 50 hours of continuous professional development (CPD) for teachers and school leaders every year. Additionally, teachers must be trained to assess students once they return to school so they can re-design their pedagogy according to the learning needs of the students.

The aforementioned interventions would require government/schools to enter into partnerships with technology partners, industry professionals, academia, and institutes of higher education for preparation of online delivery platform and digital content.

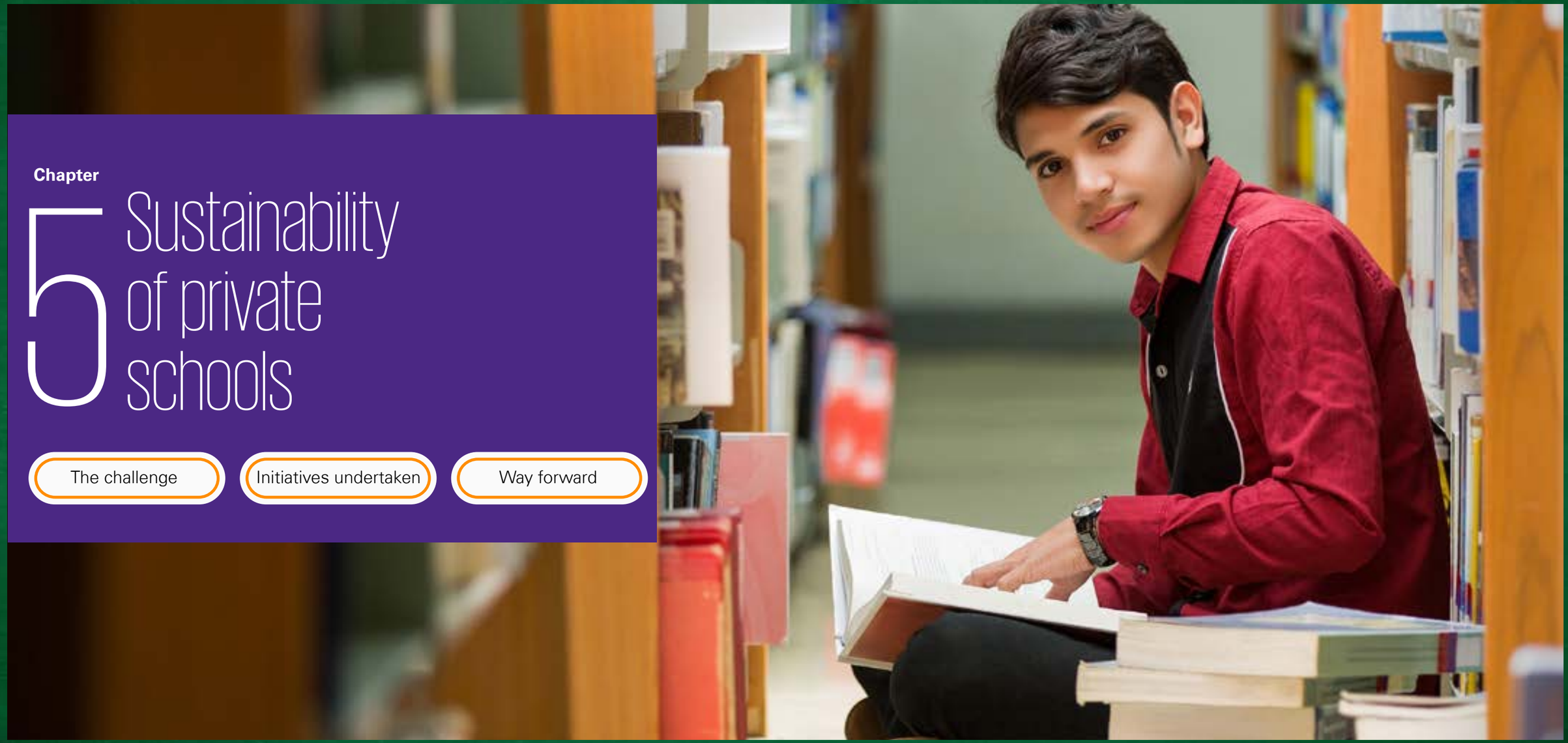
Chapter

5 Sustainability of private schools

The challenge

Initiatives undertaken

Way forward



Sustainability of private schools

5.1 The challenge

By 2025, low-cost private schools (LCPS) segment is expected to grow to around 0.5 million schools in India[74]. These schools rely heavily on fees collected to remain operational. The pandemic has resulted in loss of income in many households which affected the revenue streams of such schools. With extremely limited cash flows and debt burden, LCPS have been struggling to stay afloat.

5.1.1 Nearly 50 per cent school owners reported uncollected fees[75]

School closures have put LCPS, which enrol close to 12 crore school going students[76], under great financial strain owing to their already limited revenue streams. Many state governments changed fee collection rules, while others prohibited the collection of school fees entirely. Many schools struggling to remain financially viable due to reduced fee collection, existing debts and outstanding bill payments and the costs of preparing for reopening . In a survey conducted by Central Square Foundation, nearly 50 per cent school owners mentioned that they had uncollected fees, ranging from INR 0.4 million to INR 48 million[77]. Furthermore, raising capital through formal channels is difficult, due to a lack of collateral, lack of auditing processes and low financial literacy[78]. Additionally, Right to Education reimbursements pose long delays in approval. Reimbursements for 0.31 million students in 12 states were not approved in 2019-20[79].

On account of reduced income, parents are likely to withdraw students from low-cost private schools and enrol them in government schools due to their inability to pay fees, a phenomenon known as 'reverse migration'. Many states such as Karnataka, Kerala and Telangana witnessed a shift of students from private unaided schools to government schools[80].

Another challenge arising from the loss in revenue of LCPS is the inability of schools to pay salaries of teachers. Among the sample surveyed by Central Square Foundation, less than 20 per cent of private school teachers received salaries from March 2020[81]. This led to teachers finding other means to earn money, for example, a few teachers in Telangana turned to Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) programmes or found work as manual labour at farms[82].

All the above challenges pose a threat to the sustainability of LCPS, and with no/limited income, many LCPS have been forced to shut down.

5.2 Initiatives undertaken

5.2.2 NGOs are assisting LCPS in finding alternative revenue sources

NGOs and other community organisations are assisting LCPS in multiple ways to ensure their sustainability during these troubled times.

Capacity building of school leadership	A Mumbai-based NGO, Barefoot Edu Foundation identified that most challenges faced by LCPS were due to financial constraints, and launched an incubation programme, 'Rehnuma', for school leaders to teach them fundraising, and identify alternative revenue streams[83].
Resources for teachers	A Mumbai-based NGO, 321 Foundation, created content-rich and interactive learning plans that teachers can use to teach students via WhatsApp. The NGO reported that close to 700 schools registered for the cost-free programme and that teachers had more time to focus on student-teacher interactions[84].
Alternative methods for paying teachers' salaries	An LCPS, Ideal Radiant Public School in Delhi handed out ration kits to teachers which were acquired on credit from local shopkeepers because of limited finances to pay teachers' salaries. This could act as an incentive for teachers to continue their association with the school rather than quitting and finding alternative livelihood avenues[85].
Teacher training	National Independent Schools Alliance (NISA) trained many teachers and provided INR6000 as scholarship. Currently, NISA, in collaboration with multiple foundations is training 1500 teachers. In the future, NISA plans to train 0.1 million LCPS teachers for free. The vision is to ensure that teachers who are not trained by the government of CBSE schools are provided with training so that children benefit from improved education delivery[86].

74. KPMG in India analysis, 2021
75. State of the Sector Report on Private Schools in India, Central Square Foundation, 2020
76. State of the Sector Report on Private Schools in India, Central Square Foundation, 2020
77. State of the Sector Report on Private Schools in India, Central Square Foundation, 2020
78. KPMG in India analysis, 2021
79. KPMG in India analysis, 2021
80. Students switch to public schools in reverse migration, The Hindu, 2020; Government Schools See 'Reverse Migration' in Telangana, Telangana Today, 2020; Reverse migration: 1.5 lakh kids switch from private to govt schools in Karnataka, The New Indian Express, 2020
81. State of the Sector Report on Private Schools in India, Central Square Foundation, 2020
82. Private school teachers in Telangana turn to daily wage work amid COVID-19 crisis, The News Minute, 2020
83. Budget private schools fear closure, pay teachers in rations as funds dry up amid pandemic, The Print, 2020
84. Budget private schools fear closure, pay teachers in rations as funds dry up amid pandemic, The Print, 2020
85. Budget private schools fear closure, pay teachers in rations as funds dry up amid pandemic, The Print, 2020
86. Primary interview conducted by KPMG with Mr. Kulbhushan Sharma, President, NISA

5.3 Way forward

NEP 2020 intends to bridge the gap between the private and public schools, by promoting cross-school sharing and exchange of resources, learnings, and best practices. It envisions of building an education system where all the schools, both private and public schools, will follow and practice minimum professional and quality standards. This will strengthen and standardize the quality of offerings in term of safety, security, basic infrastructure, teaching staff, financial probity, and governance. To encourage these LCPS, NEP 2020 also proposes adoption of a regulatory approach mandating full public self-disclosure of finances, procedures, programme offerings, governance mechanisms and educational outcomes by all the schools, irrespective of their nature. The practice aims to not only highlight and encourage the LCPS exhibiting model learning outcomes and practices, but will also introduce before these schools, a scope of continuous improvement.

The following are some of the initiatives which can be undertaken to revive the LCPS sector:

5.3.1 Recommendation 12: Enable the ecosystem for financing to institutions and parents of private school going children

- **Consider LCPS as MSMEs for availing funding:** The challenges with financing are witnessed by both financial institutions as well as customers. The government should consider LCPS schools to be eligible for receiving grants or loans worth INR4500 billion earmarked for Micro, Small, or Medium enterprises (MSMEs) hit by COVID-19 under the Emergency Credit Line Guarantee Scheme (ECLGS). Priority should be given to those LCPS which are catering to the most disadvantaged sections of the population, or those which are serving regions which are not served by the public-school education system.

Stimulus package for private schools in Ghana

Private schools in Ghana were categorised as Small and Medium Enterprises (SMEs) and were made eligible for the government's Coronavirus Alleviation Programme Business Support Scheme for Micro, Small and Medium Enterprises. Approval has been given to disburse this package to around 1000 private schools[87].

- **Collaboration with financial institutions:** To ease the financial burden, central and state governments should provide loss cover to financial lenders catering to schools. This can be done through Memoranda of Understanding (MoUs) between governments and financial institutions providing loans to LCPS, detailing terms under which an LCPS can be eligible for loss cover. The MoU should also include clauses to ensure that financial institutions offer low interest loans with flexible repayment options for LCPS schools. In a recent study by KPMG India in 2021, it was reported that a majority LCPS schools found identification of a financial institution which gives loans to schools as one of the top three challenges in access to finance[88]. Hence there is a need for intermediary organisations to organise targeted campaigns among LCPS schools to create awareness about funding options and handhold them in the application process.
- **Provision for special funds and waivers:** Furthermore, to reduce the burden of operating costs while schools are closed due to COVID-19, governments should waive off taxes such as property tax, and bills such as electricity and water bills. A provision for special funds should be made for LCPS on the verge of shutting down due to lack of funds. A mechanism should be set up under which any LCPS requiring the special fund can apply to the Gram Panchayat or Block Office which will forward the applications to the District Education Offices (DEO) for verification. DEOs will check financial statements of LCPS and perform ground-level checks in collaboration with Gram Panchayats or Block Offices before approving or declining the request for special fund.
- **Incentives to parents to fund their children's education:** In case of demand side financing, governments should provide incentives to parents such as paying a percentage of a student's fees, or providing cash incentives to students for attending schools, or providing vouchers to students that would cover the cost of school tuition. As providing financial aid to every student attending LCPS is not feasible, the government can establish criteria to be fulfilled by students to be eligible for financial aid. These criteria could include financial status of parents, gender, caste, and academic performance of students. Voucher or voucher like programmes can be implemented to provide funding to students studying in LCPS. Some of these programmes include special stipends for girls, scholarships for marginalised students, government sponsorship of students in LCPS, low interest school fee loans, providing bicycles to girls, etc.

Colombian government distributed fee vouchers to students for schooling

Programa de Ampliación de Cobertura de la Educación Secundaria (PACES) was a programme run by the Colombian government in which vouchers were distributed to students to partially cover the cost of attending a private school at secondary level. Over 125,000 students from poor urban areas in Columbia were provided with these vouchers through a lottery system because the demand was higher than the supply. Due to subsidised access to education, completion rate in secondary school increased by 15 to 20 per cent[89].

87. Estimating the Impact of COVID-19 on the Non-State Education Sector in Low- and Middle-Income Countries: A Rapid Review, Global Schools Forum, October 2020
88. KPMG in India Analysis, 2021
89. Vouchers for Private Schooling in Colombia, Abdul Latif Jameel Poverty Action Lab, accessed in September 2021

- **Exploring CSR funding and partnerships:** Schools can approach corporates to provide scholarships or sponsor students, especially girl students or students from marginalised communities, through Corporate Social Responsibility (CSR) funds. Financial service providers should introduce innovative solutions that would help their clientele in paying for their children's education.

Flexible loan repayment through ReadyPay School Fees Loan

Fenix International, an energy and financial services company operating in Africa, developed a financial solution that would provide loans to Ugandan parents for the education of their children. Under ReadyPay School Fees Loan, the company provided loans to certain existing customers who took solar loans to enable them to spend on educational expenses right before the start of a school term. The loan amount was added to the existing solar loan and had to be cleared by the borrower to prevent a home solar system shut down. In surveys conducted by the company, 38 per cent of the borrowers said it was less likely their children will be sent home due to outstanding fees[90].

5.3.2 Recommendation 13: Tap into low cost private schools through public private partnerships to utilise existing infrastructure, support financing, and build teacher capacity for enhanced education provisioning

- **Alternative operating models and revenue streams:** Through alternative operating models such as public-private partnerships, i.e., public funding and private management, both parties would be able to achieve their goals. The Central and state governments would be able to fulfil their responsibilities under the Right to Education Act by utilizing existing school capacities rather than building new capacity, and school management would be able to focus on improving learning outcomes and infrastructural facilities. There are various public-private partnerships models which can be explored including government subsidising education of students in LCPS and government contracting with LCPS to enrol students in regions which are not served by the public-school system. The LCPS can be provided with a per student payment not exceeding the unit cost of education delivery in public schools.

As significant reverse migration is anticipated once schools reopen, the government must put in place mechanisms to deal with the strain that will be put on public schooling systems. Governments can sign MoUs with LCPS to ensure that schools comply with the necessary regulations to provide students with quality education in these schools. The public-school education system also has to be equipped to accommodate for the reverse migration to government schools.

PPP between Ugandan government and LCPS

Ugandan schools experienced a drastic increase in student enrolment in government schools at secondary level due to Uganda's Universal Secondary Education (USE) policy. To prevent overcrowding of government schools, the Ugandan Ministry of Education and Sports (MoES) partnered with LCPS through a PPP model in which MoES provided subsidies to LCPS per student in order to replace enrolment fees. This program increased private school enrolments and improved academic performance of students[91].

schoolteachers. Alternatively, governments can fund teacher training for private schoolteachers through a cluster approach. Clusters can be a mix of government schools and LCPS, for example, three government schools and four LCPS. This mix can be modified based on the number of government and LCPS schools in the locality or area where the training is required. Government can sign MoUs with certified, private teacher training providers for each district/state.

Capacity building of private school teachers

In Pakistan, Punjab Education Foundation (PEF), an autonomous statutory body, provides training to teachers through a cluster approach, where each cluster comprises of 7 to 10 schools and 30 to 35 teachers. The Cluster Based Training of Teachers (CBBT) programme provides training focused on building content knowledge. Teachers are provided with an allowance to attend the training, and the training is either provided by private contractors through a PPP model or PEF's staff[92].

90. Off-Grid Solar Company Helping Customers Pay School Fees, Consultative Group to Assist the Poor, 2018
91. The Impact of Government Subsidies on Private Secondary School Performance in Uganda, Abdul Latif Jameel Poverty Action Lab, accessed in September 2021
92. Public-Private Partnerships in Basic Education: An International Review, CfBT Education Trust, 2008

About KPMG in India

KPMG in India, an Indian member firm of KPMG International is a leading professional service firm in the country providing advisory services across wide-ranging industries and sectors namely, consumer markets, financial services, education and skill development, energy and natural resources, infrastructure, health, human and social services and climate change and sustainability. The firm got established in September 1993 and is currently operating across the nation through its network of 14 offices functional in the Indian cities of Ahmedabad, Bengaluru, Chandigarh, Chennai, Gurugram, Hyderabad, Jaipur, Kochi, Kolkata, Mumbai, Noida, Pune, Vadodara, and Vijayawada. KPMG engages and collaborates with several national and international clients to offer its industry-acclaimed services in the aforementioned sectors. Equipped with the leverage of global network of firms and recognised experience in Indian business environment, we endeavour to provide paramount dynamic, performance-based, industry-tailored, and technology-enabled services to our clients.

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CII attempts to bring and channelize required change by engaging closely and proactively with Government and notable thought leaders, facilitating engagements on pressing policy matters, and providing platform for essential consensus-building and networking. It also makes robust efforts towards increasing the efficiency, competitiveness, and business opportunities for industry through wide-ranging specialised services and strategic global linkages

In addition to pursuing its agenda of strengthening business, CII also assists industry to identify and implement various corporate citizenship programmes. It partners with civil society organisations to undertake and execute corporate initiatives across the diverse domains of affirmative action, livelihoods, diversity management, skill development, empowerment of women, sustainable development etc. to facilitate and promote integrated and inclusive development.

Working in lines with the 2020-2021 theme of 'Building India for a New World: Lives, Livelihood, Growth, Sustainability, Technology ', CII will proactively engage with government, industry and all the other important stakeholders to diminish the huge human cost induced by the pandemic and to bring back growth to the economy by protecting jobs and livelihoods.

With its 62 offices, including 10 Centers of Excellence, in India, and 8 overseas offices in Australia, Egypt, Germany, Indonesia, Singapore, UAE, UK and USA, as well as institutional partnerships with 394 counterpart organisations functioning in 133 different countries, CII continues to act as a focal point for Indian Industry and international business community.

About CII School Summit 2021

CII Northern Region organised the third edition of its flagship initiative CII School Summit – Navigating the future of School Education on 25th August 2021. The summit was organised with a vision to bring together various perspectives on some of the most pertinent and thought-provoking deliberations and concerns with respect to the future of school education in India in the wake of the COVID-19 pandemic and implementation of National Education Policy (NEP) 2020. The summit intended to highlight not just the most relevant challenges being encountered by Indian school education system, but also acted as a forum to facilitate productive exchange of best practices and experiences from across the national and international domains. Prominent speakers, personalities, leaders and changemakers from all across the nation participated in the event to exchange their views, expertise, and experience about the recent advancements made in the school education sector, its foremost concerns, and potential futuristic opportunities lying ahead for India in order to make a mark as an emerging leader of school education in these changed times.

The summit unfolded engaging discussions on some of the most important thematic areas of school education such as, road-to-recovery guided by NEP for Indian school education system in the post pandemic period, path leading to quality relationship between student and educator, systemic interventions redefining the role of teachers as 'edupreneurs', role of digital technology in impacting teaching-learning process and solutions bridging the learning gaps in curriculum, pedagogy and assessments. Aforementioned themes were covered in three plenary sessions, two exclusive sessions, one special session and one leadership roundtable conference. Apart from the same, there were also some keynote addresses made by prominent leaders of education sector. Mr. Vijay Inder Singla, Education Minister, Government of Punjab graced the virtual summit as the 'Guest of Honour'.

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