जनजातीय कार्य मंत्रालय
MINISTRY OF TRIBAL AFFAIRS
GOVERNMENT OF INDIA

Pratham
Every Child in School & Learning Well

असर ASER
Evidence for Action

Impact of Pandemic on School Dropouts among Tribal Children in Odisha and Way Forward

BY

SCHEDULED CASTES AND SCHEDULED TRIBES RESEARCH AND TRAINING INSTITUTE (SCSTRTI)
ST & SC DEVELOPMENT DEPARTMENT, GOVT. OF ODISHA

IN COLLABORATION WITH

ASER CENTRE,
PRATHAM EDUCATION FOUNDATION

WITH SUPPORT FROM

MINISTRY OF TRIBAL AFFAIRS, GOVT. OF INDIA

JULY 2022

IMPACT OF PANDEMIC ON SCHOOL DROPOUTS AMONG TRIBAL CHILDREN IN ODISHA AND WAY FORWARD

BY

SCHEDULED CASTES AND SCHEDULED TRIBES RESEARCH AND TRAINING INSTITUTE (SCSTRTI), BHUBANESWAR

ST & SC DEVELOPMENT DEPARTMENT, GOVT. OF ODISHA

IN COLLABORATION WITH

ASER CENTRE,
PRATHAM EDUCATION FOUNDATION

WITH SUPPORT FROM

MINISTRY OF TRIBAL AFFAIRS, GOVT. OF INDIA

JULY 2022

Acknowledgement

For Extending Financial Assistance and Administrative Support

- Ministry of Tribal Affairs (MoTA), Government of India.
- ST & SC Development, Minorities and Backward Classes Welfare Department, Government of Odisha

For Extending Guidance and Direction

- Smt. Ranjana Chopra, I.A.S., Principal Secretary, ST & SC Development, Minorities and Backward Classes Welfare Department, Govt. of Odisha
- Prof. (Dr.) A. B. Ota, I.A.S., Director-Cum-Special Secretary, SCSTRTI
- Dr. Rukmini Banerji, CEO Pratham Education Foundation

For Technical Review

- Prof. (Dr.) A. B. Ota, I.A.S., Director-Cum-Special Secretary, SCSTRTI, Govt. of Odisha
- Dr. Rukmini Banerji, CEO Pratham Education Foundation
- Shri Tuku Barik, OWS, Joint Director, ST & SC Development Department, Govt. of Odisha
- Ms. Sweta Mishra, Lead Consultant, SCSTRTI

For Management Support and Assistance

- Ms. Madhusmita Sahoo, AD (Research), SCSTRTI, Govt. of Odisha, Nodal Officer

Research Team

Project Director

- Prof. (Dr.) A. B. Ota, IAS
  Director & Special Secretary, SCSTRTI, Govt. of Odisha

Nodal Officer

- Ms. Madhusmita Sahoo
  AD (Research), SCSTRTI, Govt. of Odisha

Research Partner

- ASER Centre
- Pratham Education Foundation

Contents

Executive summary 7

About the Study 12

Survey coverage 14

Strand 1: Overview, Methodology and Process

- Overview 17
- Sample design 18
- Sample description 19
- Survey process summary 20
- Partners 21
- Assessment tasks 22

Strand 1: Findings

1. Enrolment 28
2. Reading ability 31
3. Arithmetic ability 34
4. Applied mathematics ability 37
5. Learning resources at home 39

- Key takeaways 40

Strand 2: Overview, Methodology and Process

- Overview and coverage 43
- Sample design 45
- Sample description 47
- Survey process summary 48
- Assessment tasks 49

Strand 2: Findings

1. Students 53
    - Student enrolment and retention 53
    - Dropouts 56
    - Attendance patterns 60

- Learning outcomes 62
- Student experiences during the pandemic 69
- Students' aspirations for the future 73
- Key takeaways 75

2. Schools 76
- Overview 76
- Teaching staff 77
- Infrastructure 78
- Inside the classroom 81
- Contact with key stakeholders 83
- Teachers' perspectives on teaching after school reopening 84
- Key takeaways 86

Recommendations and guidelines to address gaps caused by the pandemic on tribal children and adolescents

- What issues does the data show us on the impact of the pandemic on tribal children and adolescents? 88
- Based on these issues, what are the recommendations for the way forward? 91

List of Tables and Charts

Strand 1

Table 1: % Children enrolled in different types of schools by age group and sex. 2022

Table 2: % Children age 6-14 enrolled in different types of schools by social category and sex. 2022

Table 3: % Enrolled girls who are in govt schools. 2018-22

Table 4: % Enrolled boys who are in govt schools. 2018-22

Chart 1: % Children not enrolled in school by age group and sex. 2012, 2014, 2016, 2018 and 2022

Table 5: Enrolment status of children aged 6-14 by district. 2018 and 2022

Table 6: Enrolment status of children aged 15-16 year by district. 2022

Table 7: % Children by grade and reading level. All children. 2022

Table 8: Reading in govt schools by sex and grade. 2022

Table 9: Reading in govt schools by social category and grade. 2022

Table 10: % Children by grade and reading level. All children. 2018

Table 11: Reading in selected grades in govt schools .2012, 2014, 2016, 2018 and 2022

Table 12: Reading in govt schools by district and grade. 2018 and 2022

Table 13: % Children by grade and arithmetic level. 2022

Table 14: Arithmetic level in govt schools by sex and grade. 2022

Table 15: Arithmetic level in different grades in govt schools by social category and grade. 2022

Table 16: % Children by grade and arithmetic level. All Children. 2018

Table 17: Arithmetic level in selected grades in govt schools .2012, 2014, 2016, 2018 and 2022

Table 18: Arithmetic in govt schools by district and grade. 2018 and 2022

Table 19: % Enrolled children aged 14-16 in govt schools who can correctly answer applied mathematics questions by sex. 2022

Table 20: % Enrolled children aged 14-16 in govt schools who can correctly answer applied mathematics questions by social category. 2022

Chart 2: % Children who take tuition by school type. 2016, 2018 and 2022

Table 21: % Children who take tuition by grade and social category. 2022

Table 22: % Households with learning resources available at home. By social category. 2022

Table 23: % Households with learning resources available at home. 2018 and 2022

Strand 2

Table 1: Categories of schools under the ST & SC Development Department (SSD) in the five studied districts.

Table 2: Total number of schools offering to Std VI-X. By district and school type. 2022

Table 3: Number of schools selected in the sample. By district and school type. 2022

Table 4: % Schools sampled as a proportion of the total number of schools in that category and district. By district and school type. 2022

Table 5: Sample Description

Table 6: Total students enrolled in Std VI-X. By district and school type. Academic year 2021-22

Table 7: Total enrolment. By grade, school type and sex. Academic year 2021-22

Table 8: Of total enrolled students in Std VI-X, % who are boarders. By sex and type of school. Academic year 2021-22

Table 9: Of total enrolled students in Std VI-X, % who are boarders. By grade, sex and type of school. Academic year 2021-22

Table 10: Of all students who were enrolled in sampled schools in 2019, % who continued in the same school in 2021-22. By sex and school type.

Table 11: Number and % of students from tracked cohorts who left sampled school. By school type. Academic year 2019-20 and 2021-22

Table 12: Number and % of students from tracked cohorts who left sampled school. By sex and school type. Academic year 2019-20 and 2021-22

Table 13: % of tracked cohorts who left sampled school. By grade and school type. Academic year 2019-20 and 2021-22

Table 14: Number and % of students from tracked cohorts who left sampled school. By school type. Academic year 2019-20 and 2021-22

Table 15: Number and % of students in sampled schools who obtained their SLC before leaving school. By sex and school type. Academic year 2019-20 and 2021-22

Table 16: Number of students in tracked cohorts who left sampled Educational Complexes and of those, % who obtained/did not obtain SLC. By district. Academic year 2019-20 and 2021-22

Table 17: Reasons given by school staff for individual students in tracked cohorts having left the sampled school (%). By sex and reason provided. 2022

Table 18: Of total enrolled students, % present in class on the day of survey. By sex and school type. Academic year 2021-2022

Table 19: Of total enrolled students, % present in class on the day of survey. By grade and school type. Academic year 2021-2022

Table 20: % Students present on the day of survey in school by location of their home village. By village location and type of school. 2022

Table 21: % Students present on the day of survey. By sex and village location. 2022

Table 22: Of total enrolled students in Std VI-VIII, number and % who had not returned to school reopening. By school type and sex. Academic year 2021-22

Table 23: Of the total enrolled boarders and day scholars, % and number of students who had not returned to school after school reopening. By school type. Academic year 2021-22

Table 24: Of total enrolled students, % and number who had not returned to school after school reopening. By school type and std. Academic year 2021-22

Table 25: Students who had not returned to school after school reopening in Educational Complexes. By district. Academic year 2021-22

Table 26: Of the total enrolled students % and number who were absent on the day of the survey. Of these, % and number who are extended absentees. By school type. Academic year 2021-22

Table 27: Total students tested. By grade, sex and school type. 2022

Table 28: % Students who responded correctly to Language Comprehension questions. By task and grade. 2022

Table 29: % Students who responded correctly to Language Comprehension questions. By task and sex. 2022

Chart 1: % Students who responded correctly to the Vocabulary and Creative Writing tasks. By grade and sex. 2022

Table 30: % Students in Std VIII who responded correctly to language comprehension tasks. By task and school type. 2022

Table 31: % Students who responded correctly to basic arithmetic tasks. By task and grade. 2022

Table 32: % Students who responded correctly to basic arithmetic tasks. By task and sex. 2022

Table 33: % Students who responded correctly to basic arithmetic tasks. By task and school type. 2022

Table 34: % Students who could do applied mathematics tasks. By task and grade. 2022

Table 35: % Students who could do applied mathematics tasks. By task and sex. 2022

Table 36: % Students who could do applied mathematics tasks. By task and school type. 2022

Table 37: Total students surveyed in school. By grade and type of school. 2022

Table 38: % Students taking paid tuition classes during lockdown. By grade. 2022

Table 39: % Students taking paid tuition classes during lockdown. By school type. 2022

Table 40: % Students receiving learning support at home. By family member and grade. 2022

Table 41: % Students receiving learning support at home. By family member and school type. 2022

Table 42: % Students with learning resources available at home. By type of resource and grade. 2022

Table 43: % Students with learning resources available at home. By type of resource and school type. 2022

Table 44: % Students who had contact with teachers during school closures. By type of contact and grade. 2022

Table 45: % Students who had contact with teachers during school closures. By type of contact and school type. 2022

Table 46: Total students surveyed for the Aspirations format. By grade, sex and school type. 2022

Table 47: % Students who want to work in various professions. By sex and profession. 2022

Table 48: % Students who have heard about vocational courses. By sex. 2022

Table 49: % Students who have heard about vocational courses. By grade. 2022

Table 50: % Students who want to pursue a vocational course. By sex. 2022

Table 51: % Students who want to pursue a vocational course. By grade. 2022

Table 52: % Students who want to pursue various vocational courses. By sex and type of course. 2022

Table 53: Total Teachers Appointed in school. By school type. 2022

Table 54: % Teachers present in school on the day of the visit. By school type. 2022

Table 55: % Schools with selected facilities available. By facility and school type

Table 56: % Schools with Physical Education provisions. By school type. 2022

Table 57: % Schools with residential facilities. By facility and school type. 2022

Table 58: % Schools with multigrade classrooms. By grade and school type. 2022

Table 59: % Schools with TLM other than textbooks available in classrooms. By grade and school type. 2022

Table 60: % Classrooms with digital devices available. By grade and school type. 2022

Table 61: % Classrooms with neither usable blackboard nor digital devices. By grade and school type. 2022

Table 62: % Schools with SMC and PTM. By school type. 2022

Table 63: Total number of teachers surveyed. By district and school type. 2022

Table 64: % Teachers reporting taking various initiatives for bringing students back to school. By school type. 2022

Table 65: % Teachers reporting teaching different types of content in class. By school type. 2022

Table 66: % Teachers reporting using different types of teaching material in class. By school type. 2022

Table 67: % Teachers facing various challenges in teaching. By school type. 2022

Executive summary

Background

In March 2020, the COVID-19 crisis resulted in school closures across the world, causing massive disruption to children's schooling and learning. In India, almost two academic years passed without any face-to-face interaction between teachers and students, and this led to growing concerns over higher dropout rates and 'learning loss' among children. This fear was exacerbated in the case of children belonging to marginalised groups and disadvantaged castes and tribes.

According to Census 2011, Odisha is one of the states with the highest concentration of Scheduled Caste (SC) and Scheduled Tribe (ST) populations in the country. To bridge gaps faced by these historically disadvantaged social categories, the Government of Odisha has implemented several schemes aiming to enable children in remote tribal hamlets to access school education and thus address the issues of low literacy, poor educational attainment and high dropout rates among these children.

With schools having reopened across the state, it is a critical time to understand the impact of the pandemic-induced closure of residential and non-residential schools on these populations. This includes understanding the different challenges that children from these communities face and how to mitigate learning losses and dropouts.

Objectives

In October 2021, the Scheduled Castes and Scheduled Tribes Research and Training Institute (SCSTRTI), Government of Odisha invited proposals for undertaking a research study on the 'Impact of the pandemic on school dropouts among tribal children in Odisha and way forward'. Specific objectives of the study, as stated in the RFP, included:

- Ground Truthing of school dropouts among tribal children in the study districts
- To assess the impact of the Pandemic on the school dropouts among tribal children
- To capture the field level information on possible numbers of tribal children school dropouts due to the Pandemic
- To bring out theme wise recommendations to address gaps in providing realistic solutions and bringing back the dropouts into the education fold.
- Sharing models and experiences including best practices & innovations of alternate learning practices.
- To develop a road map for an alternate learning strategy.

Pratham Education Foundation submitted a technical proposal which was subsequently accepted by SCSTRTI.

Scope & Methodology

The study was designed to understand children's schooling status and learning outcomes, as well as their experiences related to learning opportunities during the pandemic; these findings would be used as the basis for a set of recommendations for the way forward. The scope of the study included five tribal districts of Odisha: Mayurbhanj, Sundargarh, Gajapati, Malkangiri and Rayagada. The study was designed in two strands, each with distinct objectives and methodology, summarised individually below. Fieldwork for the study was conducted in the weeks after school reopening, from February to April 2022 (2021-22 academic year).

Strand 1 of the study was a household survey across 200 randomly selected villages in the 5 selected districts of Odisha. It is modelled after the ASER (Annual Status of Education Report) survey, which is the largest annual education survey in India. ASER surveys children aged 3-16 in rural India and has reported trends in schooling status and learning outcomes since 2005.

Strand 1 of the study employed ASER's standard operating procedures in order to provide estimates of children's schooling and learning in the five districts covered by this study. A larger sample of 40 villages were surveyed in each district, as compared to 30 villages in the usual ASER survey. 20 households were randomly chosen in each village, leading to a total sample of about 800 households per district and close to 4,000 in the sample overall.

In order to obtain an overall picture of the educational status of all children in these districts, the household-based survey design enabled all children to be included in the study - those who have never been to school or have dropped out, as well as those who are in government schools, private schools, or any other type of school. Other than enrolment information,

children's learning levels were also tested. Children aged 5-16 were assessed in foundational reading and arithmetic, and children aged 14-16 were also tested on their ability to apply mathematics to everyday tasks.

Strand 2 of the study focused on a sample of 50 residential schools run by the SC & ST Development Department in Odisha. Within these schools, data collection focused on upper primary and secondary grades (Std VI-X). Schools were sampled from each of the 5 districts included in this study and included the following 5 categories of schools: Ashram Schools, Educational Complexes, High Schools, Girls' High Schools, and Model Residential Schools.

Overall, this sample comprised 13% of the residential schools operated by the Department in these 5 districts. Given that individual districts have varying numbers of schools in each category, the sample although not representative of individual districts, is sufficiently large to generate insights into the functioning and student population in these schools and the differences across school types.

In each sampled school, data collection focused on several related issues. First, cohort tracking compared enrolments before and after school closures in order to identify students who had not returned after school reopening. A further analysis of those who had not returned enabled the identification of children who continued to be enrolled in sampled schools but had not returned by the time of fieldwork for the study; those who had obtained their school leaving certificate and therefore most likely had transferred to a different school; and those who appeared to have actually dropped out of the education system. For the latter category, teachers' opinions on the reasons for drop out were also explored.

Second, an assessment of student's learning outcomes enabled an analysis of how much students in sampled schools had learned, including differences in performance by school type, sex, and social category among others.

Third, a survey of school and hostel facilities permitted an examination of the status of these facilities and whether they met the criteria specified both by the national Right to Education Act as well as by the guidelines issued by the SC & ST Development Department for these schools.

Key Findings

The findings from this report focus on two key areas: a) learning levels and b) attendance and dropout levels. Prior research has shown that these two areas are intrinsically linked. Inadequate foundational skills prevent students from being able to cope with grade-level curricula, and poor learning levels increases the likelihood that children will drop out of school. This study provided data into the current situation of children in 5 tribal districts- both those who live at home in the village, as well as those who are in residential school.

- **Learning Levels :** The data from the study shows that learning levels of children across age groups are largely below grade level, and that 'learning loss' is visible in both reading and arithmetic- during the period when school were closed due to the pandemic.

  Strand 1 data found that the **reading levels** of children aged 5-16 in the surveyed districts (who belong predominantly to the SC-ST community) are largely below grade-level. For instance, only 14.4% of Std III children could read at Std II level of difficulty- while this improved for higher grades, only 33.3% and 56.3% of children in Std V and Std VIII could read at Std II level respectively. Strand 2 echoed this finding. Learning levels for Std VI to X students enrolled in tribal schools were much below grade-level; students performed well below expectations on all of the simple metrics that were used in this study. In both strands, data showed that girls performed better than boys, with the gender gap increasing in higher grades.

  When looking at **arithmetic**, the results are similar. Strand 1 found that only about one in four children in Std IV can do subtraction, while only one in five Std VIII children can do division. Results were just as poor for applied maths questions. Similarly, in Strand 2, most in-school students once again performed below grade level. For example, only 40.1% of Std VI students could solve a Std IV level subtraction numeric problem, while only 14.2% of these students could solve a Std IV level subtraction word problem. The greatest gaps were seen in word problems and applied maths questions, with boys outperforming girls in all grades.

  Importantly, these findings show that the pandemic has caused significant **learning loss.** The Strand 1 analysis compared data from this study with ASER data for the same districts from earlier years. Steep drops are visible in learning levels from 2018 to 2022, likely due to extended school closures. Basic reading and arithmetic levels have fallen below levels recorded ten years ago in 2012. Higher grades show greater evidence of learning loss than lower grades, which if not addressed promptly may lead to increasing dropout rates in the months and years ahead.

While the results summarised above are averages across the five districts covered by this study, **variations by school type, district, and children's socioeconomic background** are also visible. Immediate, focused attention may be required in the specific locations where outcomes are the poorest. In both strands, Malkangiri and Mayurbhanj experienced greater learning losses for both reading and arithmetic, while Rayagada showed learning improvements for older age groups. Moreover, when looking at school types, Ashram Schools and Educational Complexes had lower learning outcomes as compared to other schools. These results also reveal important differences across children from different social categories. Most importantly, across all learning tasks, children belonging to Scheduled Tribes performed significantly worse than children from Scheduled Castes. This outcome is visible for children in all grades and across all domains that were assessed - reading, arithmetic and applied mathematics.

- **Dropouts and Extended Absenteeism:** On the positive side, an important finding from Strand 1 of the study is that less than 2% of all children in the 6-14 age group are not enrolled in school – which is very much in line with enrolment numbers elsewhere in the country. Also similar to other parts of India, the proportion of children not currently enrolled is higher for older age groups (7.4% for 15–16-year-olds), but this proportion has been falling steadily in recent years. Given the timing of this survey which was conducted in the weeks after school reopening, Strand 1 revealed that many children who were enrolled in residential schools were found at home, especially among older children. It is possible that some of these children may have returned to school subsequently. Overall, however, the good news is that enrolment trends have not changed much since 2018, despite two years of school closures.

  There are some variations. While only 0.9% of SC-ST children (aged 6-14) were not enrolled, ST communities were at a disadvantage, and were less likely to be enrolled, especially girls. Furthermore, certain districts performed worse than others- Gajapati and Rayagada had the highest proportion of out-of-school children for the older age group.

  While data from Strand 1 provides representative estimates of enrollment and dropout, it is also important to consider the findings from sampled schools as reflected in Strand 2 data. Although these findings are not representative of the schools or of the districts, they do provide important indicators regarding the impact of COVID-19, including the extended school closures, on retention and dropout rates. Mirroring the Strand 1 enrollment data, Strand 2 found that retention rates are high: of the students enrolled in the 2019-20 academic year, 93% were enrolled in the same schools in 2021-22 academic year, with girls having a higher retention rate than boys. However, enrolment figures mask the number of students actually attending school. Thus, the high enrolment figure includes children who had been consistently absent since schools reopened (whom we have termed "extended absentees"). Across all school types included in this study, more than 800 students (6.2% of those enrolled) had not returned to school after reopening, even though their names were still on the enrolment registers. On the other hand, among students who had officially dropped out of the sampled schools (their names were no longer on the school's enrolment register), almost 6 out of every 10 (58.2%) had obtained a school leaving certificate, which indicates that they are likely to have transferred to another school rather than left the education system altogether.

  The remaining 291 students – approximately 2.9% of the 2019-20 cohorts that were tracked – can be inferred to have dropped out of the education system completely. Teachers and school staff gave a variety of reasons for individual students having dropped out, ranging from marriage (for girls) to household responsibilities and employment (for boys); however, these may not be full explanations for these students having dropped out of school.

  Finally, it is worth noting that these findings varied significantly across school type and district. Educational Complexes (which cater to PVTGs) had the highest rate of both extended absenteeism and drop-outs, and the lowest attendance. Across districts, Mayurbhanj, Sundargarh and Malkangiri had the biggest issue of extended absenteeism.

Recommendations

The issues described in the report lead to a number of recommendations for the way forward. These can be classified in the following five categories:

- Reducing dropouts and supporting out of school children and adolescents
- Implementing new methods of teaching and learning
- Assessing and bridging learning gaps
- Engaging the community
- Monitoring and measuring progress

These recommendations are summarised individually below.

Reducing dropouts

Various vulnerable groups have been affected by the COVID-19 crisis. Data from this report shows, for instance, that enrolment levels were lower among children in tribal communities (compared to those in Scheduled Castes) and students in Educational Complexes (which cater to mainly PVTGs) were less likely to return to school after extended COVID-19 school closures. Similarly, students who have inadequate foundational language and mathematics skills, and those who could not return to school because they became disengaged with the learning process during lockdown due to a lack of access to technology are likely to be out of school currently, or are at heightened risk of dropping out in the future.

Special efforts are needed to mobilise these students and ensure that all children return to school. This applies not only in the aftermath of COVID-19 related school closures, but also during all periods of long school closures such as summer vacations. Similar efforts are required during periods of transition from one school system to another.

Key recommendations include identifying chronic absentees, children who are at risk of dropping out and those who have dropped out. A quick response mechanism is needed that closely tracks students' attendance and, if absent, their reason for not being in school and their current location so that they can be encouraged to return. Once they rejoin school, catch-up activities on missed learning are crucial. Connections with parents and family member can build trust between parents and teachers and can encourage greater awareness and participation from family members in activities intended to support their child's learning.

Such activities are important not only for those who have recently dropped out of school, but equally for those who have been out of the education system for many years. Re-engagement or "Second Chance" centres can help such students build the skills and the confidence to prepare for Std X exams through open schooling mechanisms. These centres can be set up in local high schools, with classes after school hours.

Implementing new methods of teaching and learning

The pandemic has opened our eyes to new possibilities, such as leveraging participation of parents and family members in their children's learning (especially when schools are closed). For instance, this can be done by sending Whatsapp and SMS messages with learning material to children's homes. Content that takes advantage of students' family context and encourages family members to engage with these materials and activities can strengthen students' engagement with learning even when not physically present in school. Communities can be mobilised and trained on how to build children's basic foundational skills at home or in the village, and community volunteers can be identified to transmit such materials to children who do not have access to smartphones.

In addition to exposure to academic content, students also need to build the ability and the confidence to solve everyday problems. Components of "learning for life" and "learning for work" can be introduced into the school curriculum. Existing life skills content taught in many SSD schools can be strengthened, and specific modules designed for this purpose can cover topics such as digital literacy, menstrual hygiene, career opportunities and vocational skills, among others.

Finally, it is also important that examinations have greater flexibility and incorporate a variety of methods for assessment. Technology can play a role in enabling this.

Assessing and bridging gaps in learning

In order to address the issue of low learning levels and COVID-19-induced 'learning loss', an intense, immediate focus is needed on catch-up and building foundational competencies across various domains. Children and adolescents need to be supported to be ready for school after nearly two years of school closures. Subsequent catch-up campaigns should be conducted after any long period of school closure (such as summer vacations) to ensure that all children are at grade level, can cope with the curriculum, do not fall behind, and are therefore less likely to drop out.

These catch-up activities can occur in school or in the hostels, with dedicated time spent on reading and mathematics abilities for elementary grades, and if needed, other subjects for upper primary and secondary grades. Pratham's "teaching-at-the-right-level" approach has shown promising results in terms of significant learning gains in a short period of time, at a low unit cost.

Engaging the community

In addition to support in identifying dropouts, communities, parents, CSOs and other entities can be leveraged to support the learning of students who are day-scholars and boarders during periods when they are at home. Digital learning can be used as a tool to engage the community by sharing digital content through SMS and Whatsapp, setting up two-way communication channels between the sender and receiver, and using other media such as TV and radio broadcasts. A strong social structure can be built within the community comprising of youth, parents and other community members to create awareness and ownership on children's learning.

Monitoring and measuring progress

In order to ensure that the steps described above are relevant and effective, strong monitoring, measurement and evaluation frameworks are required. Regular data collection is required at the school, block and district level to ensure rapid identification of areas (geographic or content) that require additional support. This data should be collected regularly, with quality checks, and should be available dynamically to all stakeholders within and outside the government system.

About the study

In March 2020, the COVID-19 crisis resulted in school closures across the world, causing massive disruption to children's schooling and learning. In India, almost two academic years passed without any face-to-face interaction between teachers and students, and this has led to growing concerns over higher dropout rates and 'learning loss' among children. This fear was exacerbated in the case of children belonging to marginalised groups and disadvantaged castes and tribes.

According to Census 2011, Odisha is one of the states with the highest concentration of Scheduled Caste (SC) and Scheduled Tribe (ST) populations in the country. To bridge gaps faced by these historically disadvantaged social categories, the Government of Odisha has implemented several schemes aiming to enable children in remote tribal hamlets to access school education and thus address the issues of low literacy, poor educational attainment and high dropout rates among these children.

With schools having reopened across the state, it is a critical time to understand the impact of the pandemic-induced closure of residential and non-residential schools on these populations. This includes understanding the different challenges that children from these communities face and how to mitigate learning losses and dropouts. To address these questions, ASER Centre and Pratham Education Foundation collaborated with the Scheduled Castes and Scheduled Tribes Research and Training Institute (SCSTRTI), Government of Odisha to conduct a research study in the five tribal districts of Mayurbhanj, Sundargarh, Gajapati, Malkangiri and Rayagada in Odisha from February to April 2022 (2021-22 academic year).

The study focuses on understanding the status of children in terms of schooling (school enrolment) and learning and experiences related to learning opportunities during the pandemic, and providing recommendations for the way forward.

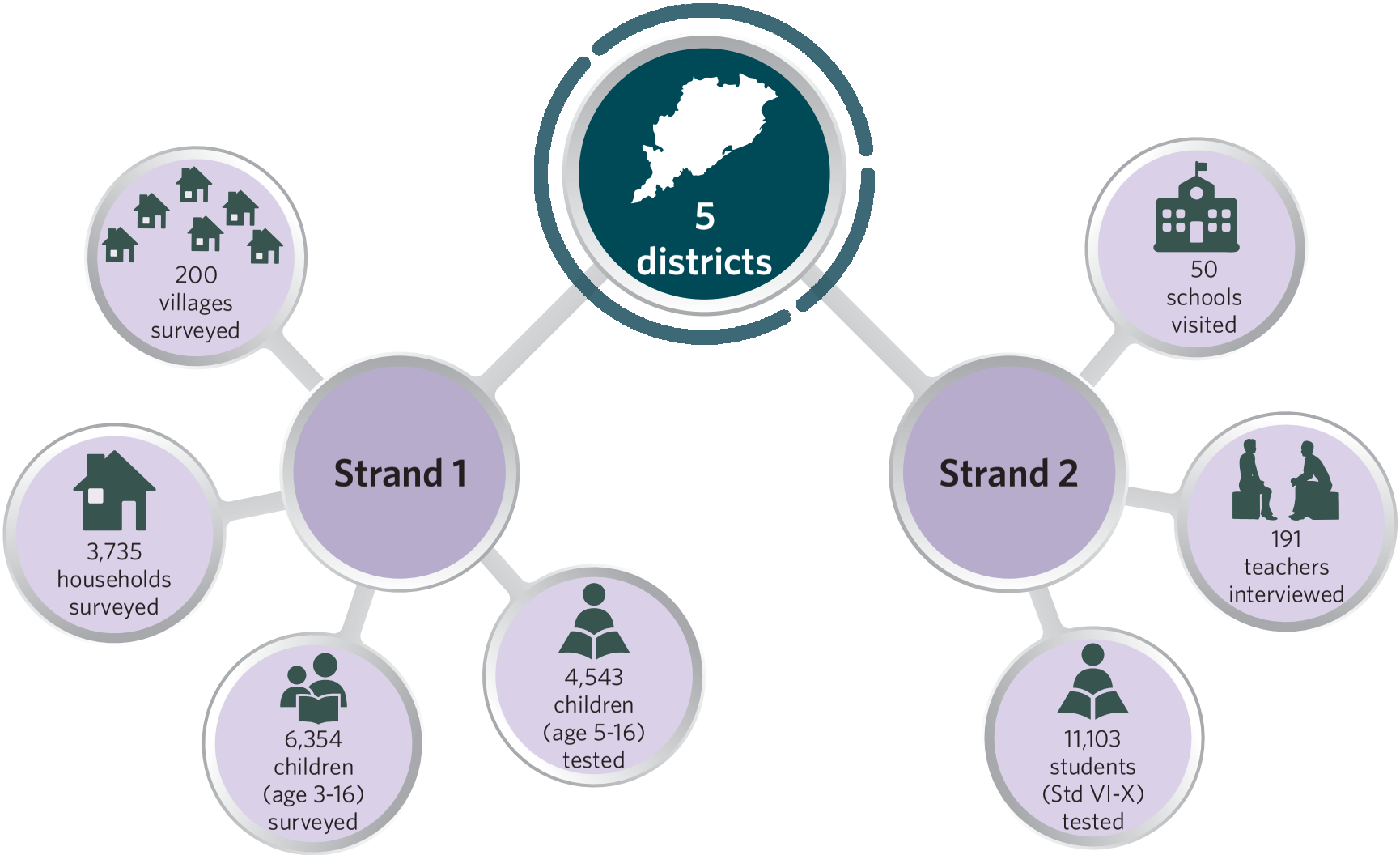
The specific objectives of the study specified in the call for proposals released by SCSTRTI included:

- Ground Truthing of school dropouts among tribal children in the study districts.
- To assess the impact of the Pandemic on the school dropouts among tribal children.
- To capture the field level information on possible numbers of tribal children school dropouts due to the Pandemic.
- To bring out theme wise recommendations to address gaps in providing realistic solutions and bringing back the dropouts into the education fold.
- Sharing models and experiences including best practices & innovations of alternate learning practices.
- Develop a road map for an alternate learning strategy.

The study is divided into two strands. Strand 1 is a household survey that employs the ASER methodology. ASER or the Annual Status of Education Report is the largest household survey of education in rural India. Over the years, ASER has provided district, state, and national estimates of children's schooling and foundational learning status. Strand 1 of this study provides individual district estimates, as well as the aggregate estimates across the five districts. In each of the five districts, 40 randomly selected villages were surveyed. In each of the sampled villages, 20 households with children in the age group of 3 to 16 were surveyed to find out their enrolment status, and children in the age group of 5 to 16 were assessed one-on-one on foundational reading and arithmetic. Additionally, older children in the age group of 14-16 were tested on tasks requiring the application of mathematics to daily life. Strand 1 also touched upon domains such as reasons for dropping out and possibility of re-enrolment of dropout students; learning support for children at home and children's access to learning aids and resources.

Strand 2 focused on residential schools run by the ST & SC Development Department (SSD). It was carried out in a sample of 50 government tribal schools (10 schools in each district, selected to cover 5 different types of schools; Ashram Schools, Educational Complexes, High Schools, Girls High Schools, Model Residential Schools). It included administration of survey questionnaires to teachers and students; enrolment and attendance tracking using school registers, mapping geographical spread of each school; and an observation of school facilities. For children in Std VI to X, a learning levels assessment was also conducted, which tested reading comprehension, arithmetic ability, and application of mathematics to daily life. Although it was not possible to track students who had dropped out to their homes, teachers were asked if they had any information about the reasons why each student had left the school.

The study concludes with recommendations to improve tribal children's schooling and learning status, and provides a road map for the way forward.


5
districts
Strand 1
200
villages
surveyed
3,735
households
surveyed
6,354
children
(age 3-16)
surveyed
4,543
children
(age 5-16)
tested
Strand 2
50
schools
visited
191
teachers
interviewed
11,103
students
(Std VI-X)
tested

Strand 1

Strand 1
Overview, Methodology and Process

Overview

Strand 1 of the study is a household survey across 200 villages in the 5 selected districts of Odisha. It is modelled after the ASER (Annual Status of Education Report) survey, which is the largest annual citizen-led survey in India. ASER surveys children aged 3-16 in rural India, and generates estimates of their schooling status and learning outcomes.

Strand 1 employs the standard operating procedure of ASER and provides estimates of children's schooling and learning in the five districts covered by this study. 40 villages were surveyed in each district, where 20 households in each village were randomly chosen, leading to a sample of about 800 households per district. More details on the sample design and survey process are provided later in this report.

The household-based survey design enables all children to be included in the study - those who have never been to school or have dropped out, as well as those who are in government schools, private schools, or any other type of school. Other than enrolment information, data on children's learning levels was also collected. Children aged 5-16 were assessed in foundational reading and arithmetic, and children aged 14-16 were also tested on there ability to apply mathematics to everyday tasks.

The major findings reported here cover the enrolment status of children aged 3 to 16 years; learning levels of children aged 5 to 16 years; and children's access to learning aids, learning resources and learning support at home during the extended period of school closures.

Sample design

Strand 1 of the study had a two-stage sample design. In the first stage, 40 villages were sampled in each district from the 2011 Census village directory. In the second stage, 20 households were randomly selected in each of the villages selected in the first stage. This sampling strategy generated a sample of 800 households per district. The data obtained was then aggregated to obtain a combined picture of the five districts.

Villages were selected in each district using the probability proportional to size (PPS) sampling method. This method allows villages with larger populations to have a higher chance of being selected in the sample. It is most useful when the first stage sampling units vary considerably in size, because it ensures that households in larger villages have the same probability of getting into the sample as those in smaller villages, and vice versa.*

In each sampled village, 20 households were selected for inclusion in the survey following ASER's standard 'every fifth household rule'. Ideally, a complete list of households of the selected village should be made and 20 households selected randomly from it. However, given time and resource constraints, this alternative procedure for selecting households preserves randomness as much as possible while also being more frugal in terms of resource requirements. The field investigators were first asked to divide the village into four parts. In each of the four parts, investigators were asked to start at a central location and pick every 5th household with a child in the age group of 3-16 until 5 such households had been selected. In each such household, information on all resident children in the age group of 3-16 years was collected, children in the age group of 5-16 were tested on foundational reading and arithmetic. Children in the age group of 14-16 were also tested on higher level competencies through tasks requiring the application of mathematics to daily life tasks.

In order to aggregate estimates from the district level, households were assigned weights — also called inflation factors. The inflation factor corresponding to a particular household denotes the number of households that the sampled household represents in the population. Given that 800 households were sampled in each district regardless of the size of the district, a household in a larger district will represent many more households and, therefore, have a larger weight associated with it than one in a sparsely populated district.

The data is representative at the district level.

*Most large household surveys in India, like the National Sample Survey and the National Family Health Survey also use this two-stage design and use PPS to select villages in the first stage.

Sample description

District	Surveyed Villages	Surveyed Households	Children surveyed				Children tested		
			Age 3-16	Age 3-5	Age 6-14	Age 15-16	Reading (Age 5-16)	Arithmetic (Age 5-16)	Applied mathematics (Age14-16)
Sundargarh	40	794	1190	241	857	92	994	988	82
Mayurbhanj	40	797	1238	240	875	123	1023	1015	107
Gajapati	40	604	979	191	674	114	635	634	80
Rayagada	40	785	1437	327	911	199	778	754	43
Malkangiri	40	755	1510	280	1032	198	1157	1152	79

Distribution by social category

Social Category	Gen	OBC	SC	ST	Total (5 districts)
Total	112	451	448	2249	3735*

* The total number includes households which did not state their social category or whose response could not be identified from the official caste list of Odisha.

Survey process summary

1. A team of two field investigators goes to the village assigned to them by their Master Trainer. They take the Village Pack given to them in the training to the village.

2. Once in the village, the field investigators meet the Sarpanch/village representative. During the meeting, they:
   - Clearly explain what the study is and why it is important.
   - Give him/her the 'Letter for Sarpanch' and request cooperation to conduct the survey in the village.

3. The field investigators then walk around the entire village and:
   - Make a rough map of the village, marking the important landmarks in the village. Once the field investigators have walked around the entire village, they make a final map in the survey booklet.
   - Fill up the Village Information Sheet based on what they observe in the village.

4. Field investigators record some basic information about all the households they visit during the sampling process in the Household Log Sheet.
This includes: hamlet/section number, locked or no response household, number of children in the age group of 3-16 who regularly live in the household or regularly go to residential school and the mobile number of the household.

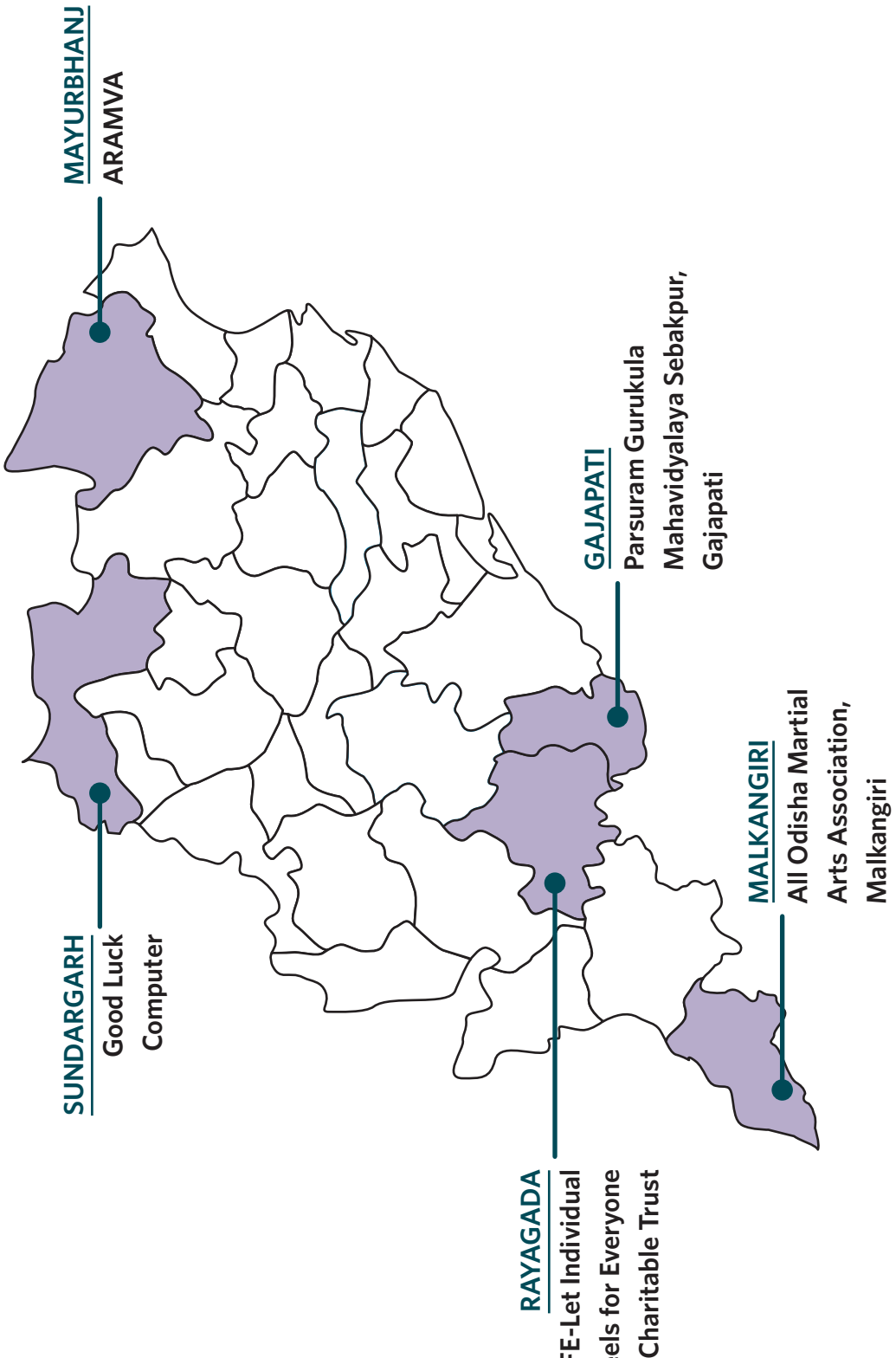
5. Next, the field investigators begin the household survey. They:
   - Divide the map into 4 sections or select 4 hamlets.
   - Randomly select 5 households with children age group 3-16 from each hamlet/section using the 'every 5th household rule'.
   - Survey 20 households in total from the selected sections/hamlets.

6. In each sampled household, the field investigators:
   - Record information about all children in the age group of 3-16 years.
   - Assess the basic reading and arithmetic levels of children in the age group of 5-16 years and record the highest level that they can do comfortably.
   - Additionally, assess 14-16 year olds on application of basic arithmetic skills to everyday tasks and record their response to each question.
   - Record information about household assets.

7. After all 20 households are surveyed, the field investigators submit the completed survey booklet to their respective Master Trainers.

Partners

Strand 1 of the survey was conducted with the help of field investigators from various local organisations. This map shows partners for the survey in each district.



Assessment tasks

The testing process for Strand 1 addresses ASER's central question - are children acquiring foundational reading and arithmetic skills? Children are assessed on basic reading and arithmetic. That is, rather than testing grade-level competencies, ASER is a 'floor test' focusing on basic learning. The process is designed to record the highest level that each child can comfortably achieve.

Testing is conducted at home, rather than in schools, so as to include children who are not currently enrolled and children attending different types of schools. All children in the 5-16 age group in a sampled household are tested using the same tools, irrespective of age, grade, or schooling status.

ASER's testing process incorporates various measures to ensure that it captures the best that each child can do. Field investigators are trained to build rapport with children to create a relaxed and encouraging environment. Children are given the time they need to do each task on the assessment. The testing process is adaptive to the child's ability so that she does not have to attempt all levels. Thus, at the core of this test design is the child's comfort and a commitment to accurately record the highest level the child can reach comfortably.

The following pages outline the testing process used in Strand 1 of the study to assess each child on reading and arithmetic. The test was administered in Odia.

Reading tasks:

All children are assessed using a simple reading tool. The reading test has 4 tasks:

- **Letters:** Set of commonly used letters.
- **Words:** Common, familiar words with 2 letters and 1 or 2 *matras*.
- **Std I level text:** Set of 4 simple linked sentences, each having no more than 6 words. These words (or their equivalent) are in the Std I textbooks.
- **Std II level text:** Short story with 7-10 sentences. Sentence construction is straightforward, words are common and the context is familiar to children. These words (or their equivalent) are in the Std II textbooks.

While developing the reading tool, care is taken to ensure:

- Comparability with previous years' tools with respect to word count, sentence count, type of words and conjoint letters in words.
- Compatibility with the vocabulary and sentence construction used in Std I and Std II language textbooks.
- Familiarity of words and context, established through extensive field piloting.

Sample: Reading test (Odia)*

Std II level text

ମାମା ଓ ମିତା ଦୁଇ ମିତ । ଦୁଇ ଜଣ ସବୁବେଳେ ମିଳିମିଶି ରହୁଥିଲେ । ସେମାନେ ସବୁଦିନ ଚାଲି ଚାଲି ପାଠ ପଢ଼ିବାକୁ ଯାଉଥିଲେ । ଦିନେ ଗଲାବେଳେ ମିତା ବାଟରେ ପଡ଼ିଗଲା ଓ ତା'ର ଚପଲ ଛିଣ୍ଡିଗଲା । ମାମାର ମନ ଭାରି ଖରାପ ହେଲା । ସେ ତା ଚପଲ ମିତାକୁ ଦେଇଦେଲା । ମିତା ଖୁସି ହୋଇଗଲା । ସେ ଏହି କଥା ତା ବାପାଙ୍କୁ କହିଲା । ମିତାର ବାପା ଏହା ଶୁଣି ମାମା ଘରକୁ ଗଲେ । ମାମାକୁ ଓ ତା'ର ଘର ଲୋକଙ୍କୁ ଧନ୍ୟବାଦ ଜଣାଇଲେ ।

Std I level text

ଆସରେ ମିତ ଏକାଠି ହେବା,
ନାନା ରକମର ଖେଳ ଖେଳିବା ।
ସଭିଏଁ ମିଶି ଖେଳିବା ଦୋଳି,
ପିଲାମାନେ ଦେଖି ମାରିବେ ତାଳି ।

Letters

ଦ	କ
	ଚ
ବ	ଥ
ଳ	ଡ
	ହ
ମ	ଖ

Words

କାନ	ମୂଷା
	କଳା
ରାଗ	ଖୁସି
ଶାରୀ	ନାଲି
	ଶାଗ
କୂଳ	ଧୋବା

*This is a sample. It has been shortened to a more concise layout for purposes of this report. However, the four components or 'levels' of the tool remain the same in the full version.

How to test reading?

Start here

Std I level text (Paragraph)

Ask the child to read either of the 2 paragraphs.
Let the child choose the paragraph herself. If she does not choose, give her any one paragraph to read. Ask her to read it. Listen carefully to how she reads.

The child is not at **'Paragraph Level'** if the child:

- Reads the paragraph like a string of words, rather than sentences.
- Reads the paragraph haltingly and stops very often.
- Reads the paragraph fluently but with **more than 3 mistakes.**

If the child is not at **'Paragraph Level'** then ask her to read words.

Words

Ask the child to read any 5 words from the list of words.

Let the child choose the words herself. If the child does not choose, then point out any 5 words one by one for her to read.

The child is at **'Word Level'** if she reads at least **4 out of the 5 words** correctly.

If the child is at **'Word Level'**, then ask her to try to read the same paragraph again and follow the instructions for paragraph level testing.
If she can correctly and comfortably read at least 4 out of 5 words but is still struggling with the paragraph, then mark the child at **'Word Level'**.
If the child is not at **'Word Level'** (cannot correctly read at least 4 out of the 5 words chosen), then show her the list of letters.

Letters

Ask the child to recognise any 5 letters from the list of letters.
Let the child choose the letters herself. If she does not choose, then point out any 5 letters one by one for her to read.
The child is at **'Letter Level'** if the child correctly recognises at least **4 out of 5** letters correctly.

If the child is at **'Letter Level'**, then ask her to try to read the same words again and follow the instructions for word level testing. If she can recognise at least 4 out of 5 letters but cannot read words, then mark the child at **'Letter Level'**. If the child is not at **'Letter Level'** (cannot recognise at least 4 out of 5 letters chosen), then mark the child at **'Beginner Level'**.

The child is at **'Paragraph Level'** if the child:

- Reads the paragraph like she is reading sentences, rather than a string of words.
- Reads the paragraph fluently and with ease, even if she is reading slowly.
- Reads the full paragraph with **3 or less than 3 mistakes.**

If the child can read a paragraph, then ask her to read the story.

Std II level text (Story)

Ask the child to read the story.
The child is at **'Story Level'** if the child:

- Reads the story like she is reading sentences, rather than a string of words.
- Reads the story fluently and with ease, even if she is reading slowly.
- Reads the story with **3 or less than 3 mistakes**.

If the child can read the story, then mark the child at **'Story Level'**.
If the child is not at **'Story Level'**, then mark the child at **'Paragraph Level'**.

In the Household Survey Sheet, mark the child at the highest level she can read.

Arithmetic tasks:

All children are assessed using a simple arithmetic tool. The arithmetic test has 4 tasks:

- **Number recognition 1 to 9**
- **Number recognition 11 to 99**
- **Subtraction:** 2-digit numerical subtraction problems with borrowing.
- **Division:** 3-digit by 1-digit numerical division problems with remainder.

While developing the arithmetic tool for the ASER age group, care is taken to ensure compatibility with the learning outcomes defined for number recognition, subtraction (with borrowing), division (3-digits by 1-digit) in state textbooks for Std I, II and III/IV, respectively.

Sample: Arithmetic test (Odia)

ଅଙ୍କ ଚିହ୍ନଟ ୧-୯		ସଂଖ୍ୟା ଚିହ୍ନଟ ୧୦-୯୯		ଫେଡ଼ାଣ		ହରଣ
୧	୪	୯୬	୧୫	୮୨ − ୬୪	୫୧ − ୨୮	୮) ୯୯୪
୭	୩	୨୪	୬୧	୩୭ − ୧୮	୬୬ − ୩୮	୬) ୭୫୮
		୭୪	୪୬			
୬	୯	୩୯	୮୯	୭୩ − ୫୭	୪୨ − ୧୭	୭) ୮୬୩
୫	୨	୫୨	୨୭	୯୮ − ୭୯	୭୫ − ୫୮	୪) ୫୫୧
୫ଟି ପଚାର । ୫ଟିରୁ ୪ଟି ଠିକ୍ ହେବା ଉଚିତ୍ ।		୫ଟି ପଚାର । ୫ଟିରୁ ୪ଟି ଠିକ୍ ହେବା ଉଚିତ୍ ।		ଯେ କୌଣସି ୨ଟି କରାଅ, ଉଭୟ ଠିକ୍ ହେବା ଉଚିତ୍ ।		ଯେ କୌଣସି ୧ଟି କରାଅ, ଏହା ଠିକ୍ ହେବା ଉଚିତ୍ ।

How to test arithmetic?

Start here

Subtraction (2-digits with borrowing)

The child is required to solve 2 subtraction problems. Show her the subtraction problems. First ask her to choose a problem. If she does not choose, then pick a problem.

Ask the child what the numbers are, then ask her to identify the subtraction sign.

If she is able to identify the numbers and the sign, then ask her to write and solve the problem in the rough booklet. Check if the answer is correct.

Even if the first subtraction problem is answered incorrectly, ask the child to solve the second problem following the process explained above. If the second problem is correct, ask her to try and do the first problem again.

If the child makes a careless mistake, then give her another chance with the same question.

If the child **cannot do both** subtraction problems correctly, then ask her to recognise numbers from 11-99.

Even if she does just one subtraction problem incorrectly, give her the number recognition (11-99) task.

If the child **does both** the subtraction problems correctly, then ask her to do a division problem.

Number Recognition (11-99)

Ask the child to identify any 5 numbers from the list. Let her choose the numbers herself. If she does not choose, then point out any 5 numbers one by one for her to read.

If she can correctly recognise at least **4 out of 5** numbers, then mark her at **'Number Recognition (11-99) Level'**.

If the child is not at **'Number Recognition (11-99) Level'** (cannot correctly recognise at least 4 out of 5 numbers chosen), then ask her to recognise numbers from 1-9.

Number Recognition (1-9)

Ask the child to identify any 5 numbers from the list. Let her choose the numbers herself. If she does not choose, then point out any 5 numbers one by one for her to read.

If she can correctly recognise at least 4 out of 5 numbers, then mark her at **'Number Recognition (1-9) Level'**.

If the child is not at **'Number Recognition (1-9) Level'** (cannot recognise at least 4 out of 5 numbers chosen), then mark her at **'Beginner Level'**.

Division (3-digits by 1-digit)

The child is required to solve 1 division problem. Show her the division problems. She can choose any one problem. If not, then pick one for her.

Ask her to write and solve the problem.

Observe what she does. If she is able to correctly solve the problem, then mark the child at **'Division Level'.**

Note: The quotient and the remainder both have to be correct.

If the child makes a careless mistake, then give the child another chance with the same question.

If the child is unable to solve the division problem correctly, then mark her at **'Subtraction Level'**.

The child must solve the numerical arithmetic problems in the rough booklet.

In the Household Survey Sheet, mark the child at the highest level she can reach.

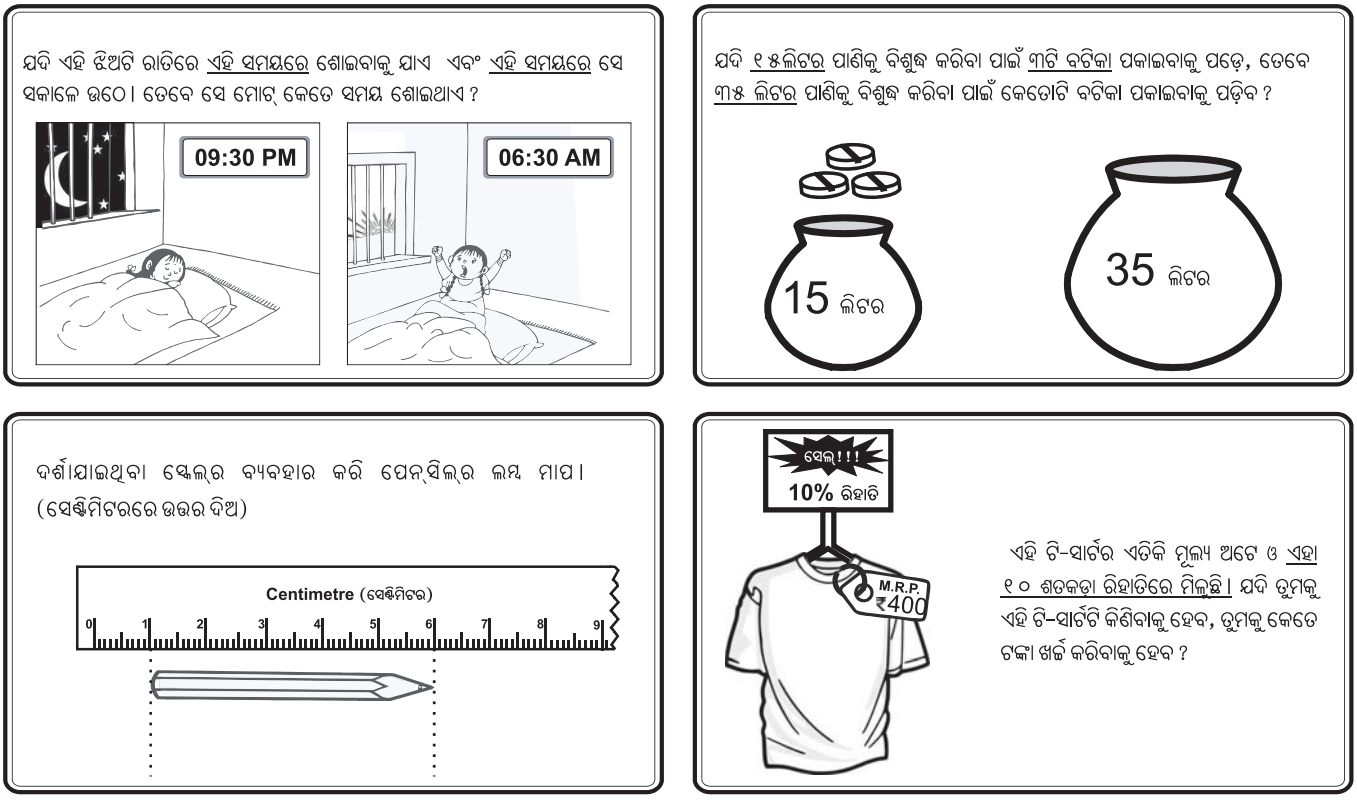
Applied mathematics tasks:

In ASER 2017 'Beyond Basics', the survey tested youth across the country in the age group 14 to 16 on their ability to apply basic reading and arithmetic skills to everyday tasks. These tasks included common calculations like counting money, adding weights, measuring length, and calculating the time; specific financial calculations like managing a budget, financial decision making using simple operations, and computing discounts and interest on loans; reading and understanding written instructions; and general knowledge.

Out of the questions asked in 2017, four were selected to be administered to 14 to 16 year olds in addition to the basic ASER assessment in reading and arithmetic in this study. These four questions involved calculating time, applying unitary method and using simple operations to calculate discounted price. Each question is mapped to learning outcomes reflected in state textbooks for Std IV or VI.

Sample: Applied mathematics test (Odia)

Only for children aged 14-16



To standardise the testing process, field investigators followed a set of instructions while administering these questions to 14 to 16 year olds:

- For each task, the surveyor showed the visual and read out the question. She was not permitted to change/alter the question or give the child an additional explanation, restricting the variation in oral stimulus.
- The surveyor could repeat each question only once. However, the child had the option to read it multiple times on her own.
- The exact answer given by the child for each question was recorded by the surveyor.
- The child could review each answer once.

Strand 1
Findings

Enrolment

Current enrolment status

Table 1: % Children enrolled in different types of schools by age group and sex. 2022

Age group and sex	Govt	Govt residential	Pvt	Other	Not enrolled	Total
Age 6-14: All	89.6	3.3	5.4	0.0	1.7	100
Age 7-16: All	88.5	3.5	5.5	0.0	2.5	100
Age 6-10: All	90.6	2.2	5.9	0.0	1.2	100
Age 6-10: Boys	89.9	2.3	6.6	0.0	1.2	100
Age 6-10: Girls	91.4	2.1	5.3	0.0	1.2	100
Age 11-14: All	88.3	4.5	4.8	0.1	2.3	100
Age 11-14: Boys	90.0	3.6	4.6	0.0	1.9	100
Age 11-14: Girls	86.5	5.6	5.0	0.1	2.9	100
Age 15-16: All	83.1	4.2	5.3	0.0	7.4	100
Age 15-16: Boys	80.7	6.1	5.0	0.0	8.3	100
Age 15-16: Girls	85.4	2.4	5.7	0.0	6.6	100

'Other' includes children going to Madarsa or EGS.
'Not in school' includes children who never enrolled or have dropped out.

In March 2022, across the 5 tribal districts covered in this study, less than 2% of all children in the compulsory schooling age group (6-14 years) were not currently enrolled in school (Table 1). This figure is close to the state estimates of 1.8% in Chhattisgarh and 1% in West Bengal out of school children in this age group generated by the ASER exercises conducted in these states in 2021*. The proportion of children not currently enrolled is higher among older children in the secondary school age group (15-16 years), more so among boys (8.3%) than girls (6.6%). Out of the 87 drop out children encountered, about 40 had dropped out during the pandemic.

A distinguishing feature of this survey is the fact that because it was conducted at a time when residential schools in Odisha had only recently opened after prolonged school closures, many children who would normally be in hostel (and therefore not part of a household survey) were found at home. This is shown by the proportion of children enrolled in residential schools in Table 1 above. This proportion is quite low at 3.3% among the 6-14 age group, but is somewhat higher among older children. It was highest among 15-16-year-old boys, 6.1% of whom were living at home at the time of the survey despite being enrolled in residential schools.** Because such children were not included in previous years' data collection exercises, we exclude them from all further analysis.

Table 2: % Children aged 6-14 enrolled in different types of schools by social category and sex. 2022

Social category and sex	Govt***	Pvt	Not enrolled	Total
SC: All	90.2	8.9	0.9	100
SC: Boys	88.9	10.7	0.5	100
SC: Girls	91.3	7.4	1.3	100
ST: All	93.3	4.3	2.4	100
ST: Boys	93.7	4.3	2.0	100
ST: Girls	92.8	4.3	2.9	100

The survey was conducted in 5 tribal districts of Odisha, which are predominantly inhabited by ST and SC communities. The sample size of children belonging to general and OBC categories is not sufficient to generate representative estimates.

Across all age groups, the vast majority of children in these districts are enrolled in government schools – approximately 90% overall. Although enrolment rates for children from Scheduled Caste (SC) and Scheduled Tribe (ST) communities are also high at over 90%, children belonging to the Scheduled Caste category are significantly more likely to be enrolled in private schools, especially boys (10.7%) (Table 2). Similarly, rates of non-enrolment also vary by social category, with children belonging to the Scheduled Tribes category more likely to be not currently enrolled, especially girls (2.9%).

*Data for out of school children is available in the respective state reports - ASER Chhattisgarh (http://img.asercentre.org/docs/asercg2021_fullreport_11.01.2021.pdf), ASER West Bengal (http://img.asercentre.org/docs/aserwb20215-pager08.02.202211.36amfinal1.pdf)
**This trend is also reflected in the Extended absenteeism section of Strand 2 findings. A significant proportion of children enrolled in residentan schools had not returned to school at the time of feild work.
***Excludes children enrolled in residential schools.

Trends over time

Enrolment figures have not changed much since 2018, despite the two-year period of school closures caused by COVID-19. In particular, unlike the trend observed in many other states, government school enrolments have not increased significantly, probably due to the fact that government school enrolment in these districts was already very high to begin with. Tables 3 and 4 show that among both boys and girls, elementary school enrolment rates in government schools are similar in 2018 and 2022, although some variations are visible across grades.

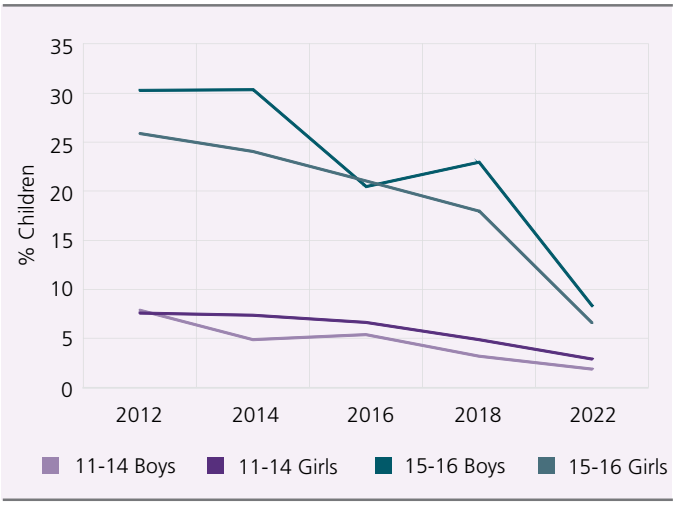
Table 3: % Enrolled girls who are in govt* schools. 2018 and 2022

Std	2018	2022	% point change
Std I-II	92.7	95.4	2.7
Std III-V	97.2	92.9	-4.3
Std VI-VIII	98.5	95.0	-3.5
Std IX & above	95.0	95.5	0.5
All	95.8	94.5	-1.3

Table 4: % Enrolled boys who are in govt* schools. 2018 and 2022

Std	2018	2022	% point change
Std I-II	91.7	93.1	1.4
Std III-V	94.6	92.9	-1.7
Std VI-VIII	98.4	96.1	-2.3
Std IX & above	95.0	93.8	-1.2
All	94.8	94.0	-0.8

Chart 1: % Children not enrolled in school by age group and sex. 2012, 2014, 2016, 2018 and 2022



Children who are not enrolled includes children who never enrolled as well as those who dropped out of school.

The continuation of earlier trends is also visible in the comparison over time of the proportion of older children not enrolled in school (Chart 1). These figures show that over the last decade, the proportion of children not enrolled has been falling steadily in the upper-primary age group (age 11-14), and more sharply in the secondary school age group (age 15-16). This downward trend is visible among both boys and girls and can be seen in the years before, during, and after the pandemic-induced school closures. This trend is echoed in other states as well**. More boys than girls in this older age group are not enrolled.

*Excludes children enrolled in residential schools.
**Data for out of school children is available in the respective state reports - ASER Karnataka (http://img.asercentre.org/docs/aserkn3-pager_06.09.211.pdf), ASER Chhattisgarh (http://img.asercentre.org/docs/asercg2021_fullreport_11.01.2021.pdf), ASER West Bengal (http://img.asercentre.org/docs/aserwb20215-pager08.02.202211.36amfinal1.pdf)

Comparing districts

The composite picture described earlier varies somewhat when individual districts are compared. For example, Table 5 shows that in Sundargarh and Rayagada, enrolment in government schools has fallen from 2018 to 2022, accompanied by a fall in the proportion of out of school children. This shows a shift towards private schools. On the other hand, in Malkangiri, the proportion of unenrolled children has fallen, accompanied with an almost exact corresponding increase in government school enrolment. This implies that out of school children in Malkangiri have been absorbed by government schools in the district. Mayurbhanj and Gajapati have remained largely stable, with minor changes in both these figures.

Table 6 reflects the current district-wise picture of enrolment among older children. As children grow older, their likelihood of not being in school increases. Gajapati and Rayada have the highest proportion of out of school children in this age group.

Table 5: Enrolment status of children aged 6-14 by district. 2018 and 2022

District	% Children enrolled in govt* schools			% Children not enrolled in school		
	2018	2022	% pt change	2018	2022	% pt change
Sundargarh	96.1	90.3	-5.8	1.2	0.7	-0.6
Mayurbhanj	94.8	93.2	-1.6	0.6	1.5	0.9
Gajapati	90.1	90.4	0.2	1.9	1.9	0.0
Rayagada	89.2	91.5	2.3	7.8	4.1	-3.7
Malkangiri	90.1	96.9	6.8	7.1	1.7	-5.4
Total (5 districts)	93.4	92.6	-0.8	2.6	1.8	-0.8

Table 6: Enrolment status of children aged 15-16 year by district. 2022

District	Enrolled in govt* schools	Not enrolled
Sundargarh	96.4	1.6
Mayurbhanj	93.0	4.5
Gajapati	78.6	10.5
Rayagada	76.8	16.6
Malkangiri	79.8	7.8
Total (5 districts)	86.7	7.7

*Excludes children enrolled in residential schools.

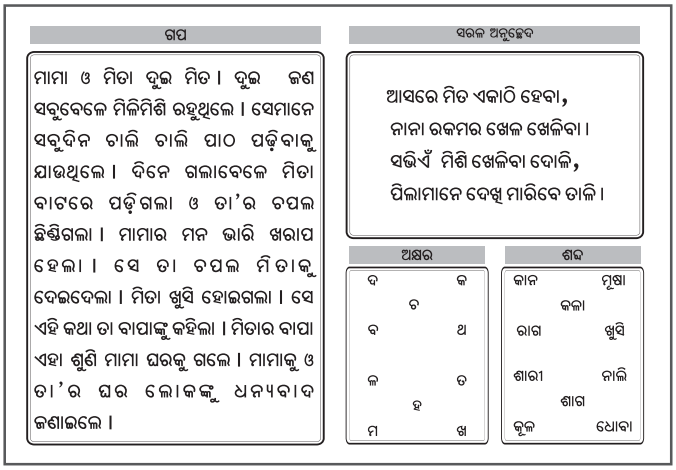
Reading ability

Overview of process

This study in five districts of Odisha comprised a household survey which included testing all children aged 5-16 in sampled households on basic reading and arithmetic tasks. An overview of the tools and testing process can be found in the section on Assessment tasks.

In this section we focus on the results of the basic reading assessment, which is a progressive tool including tasks on letter recognition and children's ability to read simple everyday words, a short 4-sentence paragraph at Std I level of difficulty, and a longer 'story' at Std II level of difficulty. All reading tasks were administered in Odia, and each child was marked at the highest level that she could read comfortably. Children who were as yet unable to read letters were classified as 'beginners'.

Reading tool (Odia)



Current status

Table 7: % Children by grade and reading level. All children*. 2022

Std	% children who can read					
	Not even letter	Letter	Word	Std I level text	Std II level text	Total
Std I	43.2	36.0	13.5	4.1	3.2	100
Std II	28.7	37.4	20.4	4.8	8.7	100
Std III	19.7	31.3	27.5	7.1	14.4	100
Std IV	6.3	20.6	25.8	22.8	24.5	100
Std V	6.0	12.4	25.1	23.2	33.3	100
Std VI	6.2	9.1	21.4	22.6	40.8	100
Std VII	7.6	8.4	16.3	27.7	40.1	100
Std VIII	6.9	5.5	15.4	15.9	56.3	100

The reading tool is a progressive tool. Each row shows the variation in children's reading levels within a given grade. For example in Table 7, among children in Std III, 19.7% cannot even read letters, 31.3% can read letters but not words or higher, 27.5% can read words but not Std I level text or higher, 7.1% can read Std I level text but not Std II level text, and 14.4% can read Std II level text. For each grade, the total of these exclusive categories is 100%.

As children move up from Std I to Std VIII, the distribution of reading ability moves steadily to the right, meaning that the proportion of children at beginner level and those who can read letters but not more than that decreases from one grade to the next; similarly the proportion who can read Std I and Std II level text increases. However, it is worth pointing out that progress from one grade to the next is much slower than the curriculum expects. For example, just 13.5% children in Std II can read at grade level, meaning that they are able to read a Std I level text. Similarly, only 14.4% of Std III children can read a text at Std II level of difficulty. Children's ability to read at Std II level of difficulty improves in higher grades, but only about a third of those in Std V and a little more than half of all children in Std VIII can read at this level.

*Excludes children enrolled in residential schools.

Table 8: Reading level in govt* schools by sex and grade. 2022

Sex	% Children who can read letters or more	% Children who can read Std II level text	
	Std I-II	Std III-V	Std VI-VIII
Boys	63.2	18.6	40.9
Girls	63.4	25.8	49.0
All	63.3	22.1	44.7

Table 9: Reading level in govt* schools by social category and grade. 2022

Social category	% Children who can read letters or more	% Children who can read Std II level text	
	Std I-II	Std III-V	Std VI-VIII
SC	73.0	26.4	48.2
ST	58.9	17.2	39.8

The survey was conducted in 5 tribal districts of Odisha, which are predominantly inhabited by ST and SC communities. The sample size of children belonging to general and OBC categories is not sufficient to generate representative estimates.

With respect to gender gaps in reading ability, we see that while in the early grades of primary school (Std I and II) girls and boys in government schools are almost equal in their development of reading skills, in higher grades girls do significantly better than boys (Table 8). For example, about half of all girls in Std VI-VIII can read a Std II level text, which is about 8 percentage points more than the proportion of boys who can do so. Similar to previous research, this indicates that gender-based differences in learning levels start to emerge as children grow older. ASER data from previous years has shown that these specific gender differences – that is, girls showing higher reading skills than boys – is a pattern that is visible not only in these five districts but across the country. Further in-depth research is required to understand the reasons behind these observed gender gaps in achievement

Turning to an examination of children's reading ability by social category, we see major differences between children in the SC and ST categories. The reading levels for government school children in ST category are 10 to 15 percentage points lower than those in the SC category, for all grades (Table 9).

Trends over time

Table 10: % Children by grade and reading level. All children. 2018

Std	Not even letter	Letter	Word	Std I level text	Std II level text	Total
Std I	47.0	30.9	15.3	4.1	2.8	100
Std II	25.6	30.2	22.8	11.8	9.6	100
Std III	9.2	26.5	33.6	12.0	18.8	100
Std IV	5.5	11.6	27.6	18.6	36.8	100
Std V	4.5	12.9	20.1	21.6	40.9	100
Std VI	2.1	6.8	21.0	17.2	53.0	100
Std VII	2.0	4.4	14.0	20.2	59.4	100
Std VIII	1.3	3.0	9.2	19.4	67.2	100

The reading tool is a progressive tool. Each row shows the variation in children's reading levels within a given grade. For example in Table 10, among children in Std III, 9.2% cannot even read letters, 26.5% can read letters but not words or higher, 33.6% can read words but not Std I level text or higher, 12% can read Std I level text but not Std II level text, and 18.8% can read Std II level text. For each grade, the total of these exclusive categories is 100%.

Comparing this study's data with ASER data from previous years shows how children's learning levels have changed over time and also allows us to understand whether and how the prolonged school closures affected the development of children's reading ability. Table 10 shows children's reading ability by grade obtained in ASER 2018. Comparing these results with those for the current year (Table 7) reveals that except for Std I, children's reading ability has dropped in all grades. For example, in 2018, 40% of children in Std V could read at Std II level, as compared to 33% currently. Similarly 66% of children in Std VIII could read at this level in 2018, versus 56% currently. In lower primary grades, 21.4% children in Std II were able to read at grade level (Std I level text) in 2018; this proportion dropped to 13.5% currently. The steep drops in reading ability observed in the period 2018-2022 are likely to be the result of the extended school closures in 2020 and 2021.

*Excludes children enrolled in residential schools.

Table 11: Reading level in selected grades in govt* schools. 2012, 2014, 2016, 2018 and 2022

Year	% Children who can read letters or more		% Children who can read Std II level text		
	Std I	Std II	Std III	Std V	Std VIII
2012	49.4	81.8	18.6	44.5	76.3
2014	59.1	83.0	15.2	29.7	66.8
2016	52.6	81.0	20.5	35.2	67.7
2018	53.5	74.3	18.8	41.0	67.4
2022	57.1	71.8	14.0	33.7	56.7

Table 11 takes a longer view of trends over time, looking at changes in reading ability over the last decade. The table shows outcomes for children in government schools only, who comprise about 90% of all children in these districts, and presents data for selected grades and indicators. These data show worrying trends for children in Std II and above. Higher grades show higher losses in children's reading ability. Worryingly, in Std III and above, reading levels have fallen below the levels reported a decade ago in 2012. For example, there is a drop of almost 20 percentage points since 2012 in the proportion of children in Std VIII who can read Std II level text fluently.

District level outcomes

Table 12: Reading level in govt* schools by district and grade. 2018 and 2022

District	% Children who can read letters or more			% Children who can read Std II level text					
	Std I-II			Std III-V			Std VI-VIII		
	2018	2022	% pt change	2018	2022	% pt change	2018	2022	% pt change
Sundargarh	69.0	69.0	0.1	36.5	33.2	-3.4	67.5	68.5	0.9
Mayurbhanj	71.0	68.6	-2.4	43.5	21.7	-21.8	63.2	42.2	-21.0
Gajapati	64.9	75.9	11.1	29.3	21.9	-7.4	51.8	42.5	-9.2
Rayagada	60.6	57.1	-3.5	15.7	24.1	8.4	40.0	50.9	10.9
Malkangiri	33.8	35.5	1.7	14.4	3.7	-10.6	52.3	11.5	-40.8
Total (5 districts)	62.0	63.3	1.3	31.4	22.1	-9.3	59.3	44.7	-14.7

The data shown in earlier sections presented aggregate estimates for the five districts covered by this study. However, these aggregates conceal significant variations across districts.

The drops in reading levels for children in higher grades can largely be attributed to 2 districts: Malkangiri and Mayurbhanj (Table 12). There is a 40 percentage point and 21 percentage point fall in the proportion of children in VI-VIII who can read a Std II level text in Malkangiri and Mayurbhanj respectively. On the other hand, Gajapati shows marked improvements for children in Std I-II, and other districts show little to no change for this grade group. Rayagada exhibits the opposite trend — with younger children showing a minor loss in reading levels, and substantial improvements for older children.

*Excludes children enrolled in residential schools.

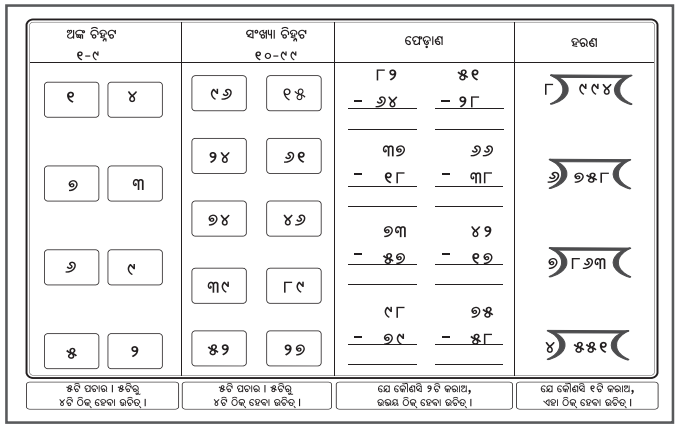
Arithmetic ability

Overview of process

This study in five districts of Odisha comprised a household survey which included testing all children aged 5-16 in sampled households on basic reading and arithmetic tasks. An overview of the tools and testing process can be found in the section on Assessment tasks.

In this section we focus on the results of the basic arithmetic assessment. Similar to the reading assessment, the arithmetic assessment uses a progressive tool with five levels – division (two digit by one digit), subtraction (two digit with borrowing), two-digit number recognition (11-99), one-digit number recognition (1-9), and beginner (cannot yet recognise numbers). Each child is marked at the highest level that she can do comfortably.

Arithmetic tool (Odia)



Current status

Table 13: % Children by grade and arithmetic level. All children.* 2022

Std	Not even 1-9	Recognise numbers		Subtract	Divide	Total
		1-9	11-99			
Std I	46.4	37.3	11.4	4.0	0.9	100
Std II	24.2	43.3	23.3	6.0	3.1	100
Std III	19.0	39.4	28.8	10.7	2.2	100
Std IV	6.0	23.7	43.8	19.9	6.6	100
Std V	7.7	16.0	44.0	20.0	12.4	100
Std VI	4.1	16.5	42.3	21.5	15.6	100
Std VII	9.1	8.0	42.7	22.5	17.9	100
Std VIII	5.4	8.8	37.6	28.1	20.1	100

The arithmetic tool is a progressive tool. Each row shows the variation in children's arithmetic levels within a given grade. For example, in Table 13, among children in Std III, 19% cannot even recognise numbers 1-9, 39.4% can recognise numbers up to 9 but cannot recognise numbers up to 99 or higher, 28.8% can recognise numbers up to 99 but cannot do subtraction, 10.7% can do subtraction but cannot do division, and 2.2% can do division. For each grade, the total of these exclusive categories is 100%.

Data on children's arithmetic skills shows that 46.4% of children in Std I are at beginner level, meaning that they cannot yet recognise single-digit numbers (Table 13). This figure is fairly similar to the proportion who are at beginner level in reading (could not yet read letters). As in the case of reading ability, we see that children's ability to do basic arithmetic improves as they move to higher grades, as shown by the decrease in the proportion of children at beginner or number recognition levels and an increase in the proportion who can do subtraction and division. However, even in higher grades children are unable to meet the expectations of the curriculum. Only about a quarter of children in Std IV can do subtraction, which is usually taught in Std II or III. Similarly, only one in five children in Std VIII can do division, a skill usually taught in Std IV.

*Excludes children enrolled in residential schools.

Table 14: Arithmetic level in govt* schools by sex and grade. 2022

Sex	% Children who can recognise single digit numbers or more	% Children who can do subtraction or more	% Children who can do division
	Std I-II	Std III-V	Std VI-VIII
Boys	64.0	19.3	13.5
Girls	62.6	24.8	20.7
All	63.3	22.0	16.8

Table 15: Arithmetic level in govt* schools by social category and grade. 2022

Social Category	% Children who can recognise single digit numbers or more	% Children who can do subtraction or more	% Children who can do division
	Std I-II	Std III-V	Std VI-VIII
SC	75.6	23.6	20.5
ST	56.9	19.4	13.8

The survey was conducted in 5 tribal districts of Odisha, which are predominantly inhabited by ST and SC communities. The sample size of children belonging to general and OBC categories is not sufficient to generate representative estimates.

As in the case of reading, gender differences in arithmetic ability do not appear in the early primary grades. For example close to two thirds of both boys and girls in Std I-II can recognise single digit numbers. Gender gaps in arithmetic skills begin to appear as children get older, with girls outperforming boys (Table 14). For example among children in government schools in Std III-V, a quarter of girls can do subtraction or more, while less than 20% of boys can do so. In Std VI-VIII, 20% of girls can do division, which is 7 percentage points higher than boys. These results are contrary to the trends seen in ASER data over the years, which show that in most states gender gaps play out in the opposite direction with boys outperforming girls in arithmetic ability especially in higher grades.

Turning to an examination of children's arithmetic ability by social category, these data show a similar trend as was the case in children's basic reading levels. Table 15 shows results for children from SC and ST communities in selected grades and tasks. These data show that regardless of grade or indicator, children in the SC category perform better than those in the ST category. The difference is highest among children in Std I-II who entered school relatively recently, possibly reflective of differences in socioeconomic conditions in these children's households.

Trends over time

Table 16: % Children by grade and arithmetic level. All children. 2018

Std	% children who can					
	Not even recognise 1-9	Recognise numbers		Subtract	Divide	Total
		1-9	11-99			
Std I	50.1	31.7	14.9	3.0	0.3	100
Std II	24.1	35.3	31.6	9.0	0.0	100
Std III	9.0	35.1	41.7	9.8	4.5	100
Std IV	3.3	26.1	43.0	17.9	9.7	100
Std V	3.3	18.4	41.5	20.4	16.4	100
Std VI	2.1	9.1	38.3	25.5	25.0	100
Std VII	0.9	7.4	36.8	29.5	25.4	100
Std VIII	0.7	4.9	33.9	25.5	35.1	100

The arithmetic tool is a progressive tool. Each row shows the variation in children's arithmetic levels within a given grade. For example, in Table 16, among children in Std III, 9% cannot even recognise numbers 1-9, 35.1% can recognise numbers up to 9 but cannot recognise numbers up to 99 or higher, 41.7% can recognise numbers up to 99 but cannot do subtraction, 9.8% can do subtraction but cannot do division, and 4.5% can do division. For each grade, the total of these exclusive categories is 100%.

Comparing this study's data with ASER data from previous years shows that changes in arithmetic levels follow similar trends as in the case of reading. Table 16 shows data from ASER 2018 on children's arithmetic ability in these 5 districts, separately for each grade. Comparing these results with those for the current year (Table 13) reveals that as in the case of reading, the outcomes for children in Std I are fairly similar in 2018 and 2022, but higher grades show clear evidence of 'learning loss' in arithmetic. For example, in 2018, about a quarter of the children in Std VI could do division, but in 2022 this proportion has fallen by 10 percentage points. The proportion of children in Std VIII who can do division is 20% in 2022, which is a 15 percentage point drop from 2018. These steep drops in arithmetic ability are likely to be the result of the extended school closures in 2020 and 2021.

*Excludes children enrolled in residential schools.

Table 17: Arithmetic level in selected grades in govt* schools. 2012, 2014, 2016, 2018 and 2022

Year	% Children who can recognise single digit numbers or more		% Children who can do subtraction or more	% Children who can do division	
	Std I	Std II	Std III	Std V	Std VIII
2012	11.9	33.2	16.4	13.1	42.0
2014	50.4	79.5	16.1	13.7	26.8
2016	53.6	80.0	18.9	14.0	18.5
2018	48.7	75.3	13.4	14.2	34.4
2022	53.0	75.4	10.4	10.9	19.4

Table 17 takes a longer view of trends over time, looking at changes in arithmetic ability over the last decade. The table shows outcomes for children in government schools only, who comprise about 90% of all children in these districts, and presents data for selected grades and indicators. These data show worrying trends for children in Std III and above. Aligned with the findings from the data on reading levels, children in higher grades have suffered sharp drops in arithmetic abilities. In Std III and above, arithmetic levels have fallen below the levels reported a decade ago in 2012. For example, there is a drop of over 20 percentage points since 2012 in the proportion of children in Std VIII who can do division. This is similar to the decline in reading ability for this grade.

District level outcomes

Table 18: Arithmetic level in govt* schools by district and grade. 2018 and 2022

District	% Children who can recognise at least single-digit numbers			% Children who can do at least subtraction			% Children who can do division		
	Std I-II			Std III-V			Std VI-VIII		
	2018	2022	% pt change	2018	2022	% pt change	2018	2022	% pt change
Sundargarh	62.6	70.1	7.5	21.6	25.0	3.4	16.2	22.8	6.5
Mayurbhanj	70.1	68.6	-1.5	39.1	25.3	-13.8	39.4	17.3	-22.1
Gajapati	66.7	85.6	19.0	33.6	24.4	-9.2	20.2	14.5	-5.7
Rayagada	57.8	61.6	3.8	8.2	21.6	13.4	5.6	19.9	14.3
Malkangiri	36.2	27.0	-9.3	16.4	6.3	-10.1	28.0	4.6	-23.5
All 5 districts	60.3	63.3	3.0	24.9	22.0	-2.9	27.9	16.8	-11.2

The data shown in earlier sections presented aggregate estimates for the five districts covered by this project. However, these aggregates conceal significant variations across districts. It is important to reiterate here that this data does not include children enrolled in residential schools, so as to make the comparison over time possible.

The drops in arithmetic levels for children in higher grades can largely be attributed to 2 districts: Malkangiri and Mayurbhanj (Table 18). These were the two districts driving the fall in reading levels as well. Both Malkangiri and Mayurbhanj show over 20 percentage point drops for children in Std VI-VIII who can do division. On the other hand, Gajapati and Sundargarh have made improvements for Std I-II children who can recognise numbers or more. Rayagada is an exception with improvements across all grades, consistent with its performance for the reading levels data.

*Excludes children enrolled in residential schools.

Applied mathematics ability

In addition to the assessment of basic reading and arithmetic ability that was conducted with all children in sampled households, older children in the age group 14-16 were also assessed on their ability to apply basic arithmetic skills to everyday tasks. This segment of the assessment consisted of four questions, each of which was mapped to the state mathematics textbooks. Of these 3 tasks (calculating time, applying unitary method and measuring length) are taught in Std IV, while the fourth (computing a discount) is taught in Std VI. These questions were administered to all children in the age group 14-16, regardless of their foundational arithmetic levels.

Applied math tool

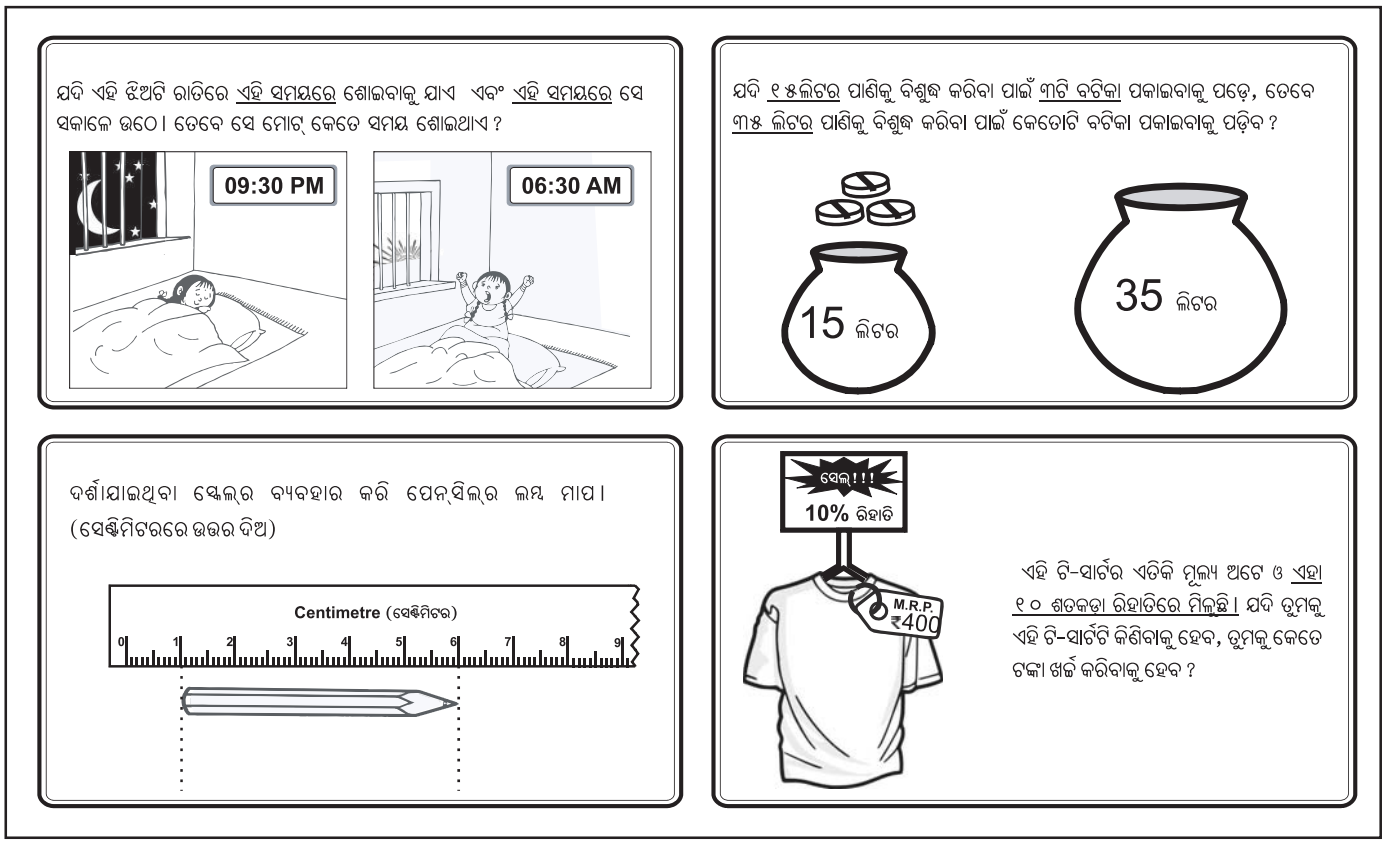


Table 19: % Enrolled children aged 14-16 in govt* schools who can correctly answer applied mathematics questions by sex. 2022

Sex	Expected in Std IV			Expected in Std VI
	Calculating time	Applying unitary method	Measuring length	Calculating discount
Boys	46.4	39.8	37.3	17.2
Girls	47.2	36.8	29.6	19.2
All	46.8	38.1	33.0	18.3

As seen in both reading and arithmetic, similar trends appear by social category in children's applied mathematics skills.Table 20 shows that a higher proportion of children in the SC category could perform these tasks as compared to those in the ST category.

District-wise analysis for these tasks could not be done due to insufficient sample sizes: because the proportion of children not currently enrolled in school is much higher among older children, the number of enrolled children in the age group 14-16 in each district was too small to enable these comparisons to be done.

The data reported here is based on children enrolled in government schools, who comprise over 90% of the sample overall. Table 19 shows how children aged 14-16 responded to each of these questions, separately for boys and girls. These data show that among the tasks that children are expected to be able to do in Std IV, less than half of all 14-16-year-old children in government schools in these five districts could calculate time, while between 30% and 40% could measure length and apply unitary method. The performance of boys and girls was broadly similar across tasks, except in measuring length, where boys outperformed girls. Children struggled the most with the task to calculate discount, which is usually taught two years later in Std VI. Overall, fewer than 1 in 5 children were able to do the task correctly (17%), with minimal gender gaps visible.

Table 20: % Enrolled children aged 14-16 in govt* schools who can correctly answer applied mathematics questions by social category. 2022

Social category	Expected in Std IV			Expected in Std VI
	Calculating time	Applying unitary method	Measuring length	Calculating discount
SC	49.9	50.0	35.7	38.9
ST	45.9	37.3	30.5	15.4

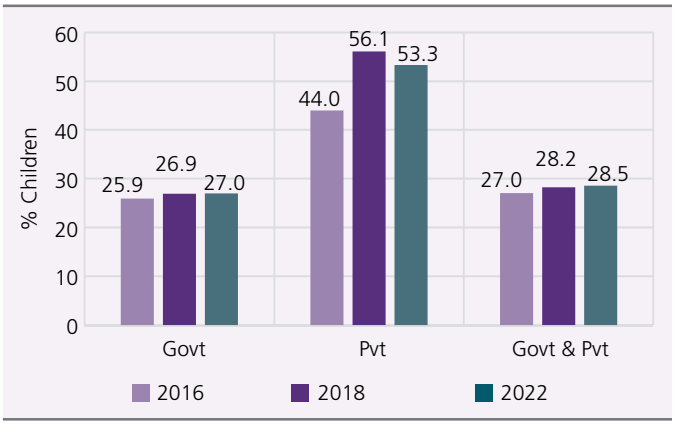
The survey was conducted in 5 tribal districts of Odisha, which are predominantly inhabited by ST and SC communities. The sample size of children belonging to general and OBC categories is not sufficient to generate representative estimates.

*Excludes children enrolled in residential schools.

Learning resources at home

Finally, the study also collected data on children's access to support for learning outside of school.

Chart 2: % Children who take tuition by school type*. 2016, 2018 and 2022



The study mapped the prevalence of tuition classes among children, to understand how many children receive external learning support. While tuition uptake has remained steady since 2016, private school students are almost twice as likely to be attending paid tuitions (Chart 2).

As in previous sections, differences by social category are apparent here as well. While the proportion of children taking tuition is higher for SC than among ST children in every grade, this difference is much higher in primary grades. For example, almost twice the proportion of children in Std I-II in the SC category attend tuitions as compared to those in the ST category, and the same is true of children in Std III-V. However, this gap is far smaller for children in higher grades (Table 21).

Table 21: % Children who take tuition by grade and social category. 2022

Std	SC	ST
Std I-II	42.5	22.9
Std III-V	42.0	21.8
Std VI-VIII	25.1	22.5
Std IX & above	20.7	16.8
All	33.5	21.6

The survey was conducted in 5 tribal districts of Odisha, which are predominantly inhabited by ST and SC communities. The sample size of children belonging to general and OBC categories is not sufficient to generate representative estimates.

Table 22: % Households with learning resources available at home. By social category. 2022

Social category	Television	Smartphone
SC	56.3	71.6
ST	28.8	59.4

The survey was conducted in 5 tribal districts of Odisha, which are predominantly inhabited by ST and SC communities. The sample size of children belonging to general and OBC categories is not sufficient to generate representative estimates.

Table 23: % Households with learning resources available at home. 2018 and 2022

Year	Smartphone	Television	Reading material (apart from textbooks)
2018	23.6	40.9	2.1
2022	64.9	37.4	1.0

The study also captured the availability of resources in the households that can aid learning, such as smartphones, televisions and reading material. Key findings show that television and smartphone ownership display some disparities (Table 22). Even though smartphone ownership per household has more than doubled since 2018 (Table 23), which is in keeping with the national trends seen in other surveys, SC households are far more likely than ST households to have a smartphone at home. Only a miniscule proportion of households have any type of reading material at home other than children's textbooks.

*Excludes children enrolled in residential schools.

Key takeaways

The data from households on enrolment, learning levels, and availability of learning resources provided insights into the overall schooling and learning status in these five districts, as well as the variations across them.

Enrolment rates are high, and close to 90% of children are enrolled in government schools in the 6-14 years age group. Older children (15-16 years) are more likely to be currently unenrolled, but this proportion has been falling since the last few years. Comparing non-enrolment rates by social category and gender, it is seen that girls from the Scheduled Tribe category are most likely to be out of school (2.9%). There are varying enrolment patterns by district- while Sundargarh and Rayagada show a shift towards private schools, out of school children in Malkangiri have been absorbed by government schools over the past few years. High non-enrolment among 15–16-year-olds can be attributed mainly to trends in two districts: Gajapati and Rayagada.

Among children who are not currently enrolled, 87 drop out students were encountered. Of those, around 40 had dropped out during the COVID-19 pandemic. Although the survey included questions on reasons for dropping out and intentions to re-enrol, these findings could not be reported here because of insufficient sample sizes.

Data on learning levels shows largely similar patterns across reading and arithmetic. Both reading and arithmetic levels improve with grade, but higher grades also show greater drops in learning levels when comparing trends over time. Girls and boys start off on an equal footing: their learning levels are similar in Std I-II. But as children progress to higher grades, girls begin to outperform boys. Children from the Scheduled Tribe category trail behind those in the Scheduled Caste category by a significant margin. Comparing learning levels district-wise, it is seen that Malkangiri and Mayurbhanj are consistently low performing districts.

Further, 14–16-year-old children find it difficult to apply mathematical concepts to questions based on everyday tasks. While calculating time is relatively easier (close to half of all children could do so), calculating discounts is the most difficult task (less than 20% of children could do so). There are no significant differences by gender, but children in the ST community lag behind those in the SC community.

Lastly, the survey recorded availability of learning resources for children outside of school. Smartphone ownership has almost doubled since 2018, but children in the SC category are more likely to have a smartphone than those in the ST category. This difference by social category is also apparent in the prevalence of tuition classes, but the gap reduces as children move to higher grades. Only a miniscule proportion of households have any type of reading material at home other than children's textbooks.

Overall, findings from Strand 1 of this study suggest that while the proportion of children out of school is not a cause for serious alarm, children's learning outcomes are well below grade-level expectations. While this was the case even before the COVID-19 related school closures, learning outcimes have dropped sharply since 2018, especially in higher grades. Urgent action is needed to enable these children to catch up, especially for children from ST communities.

Strand 2

Strand 2
Overview, Methodology and Process

Overview

Strand 2 comprised a deep-dive into 50 ST & SC Development Department (SSD) residential schools across the 5 districts covered by this study. It investigates various aspects of the school, teaching staff, and student body, focusing on upper primary and secondary grades (Std VI to X).

The first section of the Strand 2 report focuses on students, starting with data on enrolment levels, dropouts and absentees, which was obtained through school registers. Data from learning level assessments is then presented, and the findings from a survey done to understand student's learning experiences during the pandemic are discussed. Finally, responses of a sample of students to questions regarding their aspirations after completing their studies are explored. The second sections covers observations on the school, classroom and hostel facilities and resources. Following this, findings from a teacher survey are presented, which covered teachers' perspectives on school reopening.

As part of the ST & SC Development Department, Government of Odisha's residential schooling program, there are a total of 1,728 ST & SC Development (SSD) schools across 30 districts in Odisha. Of these, 590 schools are located in the five districts included in this study (Gajapati, Malkangiri, Mayurbhanj, Rayagada, and Sundargarh). These are all residential schools.

Table 1: Categories of schools under the ST & SC Development Department (SSD) in the five studied districts.

School Type	Std*	No. of schools	Remarks
Sevashram (SS)	Std I-V	146	Partially non-residential
Ashram Schools (AS)	Up to Std VIII	221	Fully residential
High Schools (HS)	Up to Std X	86	Fully residential
Girls' High Schools (GHS)	Up to Std X	88	Fully residential, girls only
Educational Complex (EC)	Up to Std X	10	Fully residential. These are GHS, which specifically cater to students belonging to Particularly Vulnerable Tribal Groups (PVTGs).
Eklavya Model Residential Schools (EMRS)	Std VI-XII	12	Fully residential
Kalinga Model Residential Schools (KMRS)	Std VI-XII	1	Fully residential
Higher Secondary Schools (HSS)	Std XI-XII	26	Fully residential
Total		590	

Among these 590 schools, 372 schools offer Std VI to X, the target grades for this study. They fall into six distinct categories, described below:

- **Ashram Schools:** These schools cater to students from Std I to VIII. They are affiliated to the Board of Secondary Education (BSE), Odisha and are Odia-medium.
- **High Schools:** These schools cater to students from Std I to X. They are affiliated to the Board of Secondary Education (BSE), Odisha and are Odia-medium.

- **Girls' High Schools:** These schools also cater to Std I to X, but admit only girls. They are affiliated to the Board of Secondary Education (BSE), Odisha and are Odia-medium.

As per the department guidelines, admission to the hostels for the above 3 types of schools should be done at a 10:1 ratio for ST to SC students. Preference is given to students living in the same block, with students beyond a 5 km radius from the school to be admitted as boarders. The selection for students in Std I-VII is decided by lottery, while for Std VIII and above a written test is conducted. There is a 10% reservation in hostels for "deserving" students, including PVTGs (Particularly Vulnerable Tribal Groups), disabled students, and dropouts.

- **Educational Complexes:** These schools were established for students belonging to Particularly Vulnerable Tribal Groups (PVTGs), a subcategory within Scheduled Tribes comprising groups with particularly low development indices, native to certain regions of the state. There are a total of 19 Educational Complexes across the state, of which 15 schools have been upgraded to High Schools. This means that these 15 schools are now also open to groups of other castes/tribes. In the five sample districts, all 10 Educational Complexes have been upgraded to High Schools. The admission criteria are hence the same as described above. They are affiliated to the Board of Secondary Education (BSE), Odisha, and are Odia-medium and coeducational, offering Std I to X.
- **Eklavya Model Residential School (EMRS):** These schools are part of a central government sponsored scheme which aims to promote all-round development of tribal children. Guidelines for these schools include provision of high-quality infrastructure such as labs, hostels, sports facilities, extra-curricular activities, as well as remedial classes, preparatory classes for competitive examinations, and skill development. These schools are English-medium and affiliated to the Central Board of Secondary Education (CBSE), offering Std VI through XII. Selection into the school is done for Std VI students through an entrance examination, open to any child belonging to a Scheduled Tribe or Caste from any district.
- **Kalinga Model Residential School (KMRS):** These schools were formed with the same objective as EMRS, but are sponsored and administered by the state government. They also offer Std VI-XII, are affiliated to CBSE, and are English-medium. The admission criteria are the same as for EMRS.

Table 2 below shows the distribution of the 372 schools in the 5 districts included in this study.

Table 2: Total number of schools offering to Std VI-X. By district and school type. 2022

District	Educational Complex	Ashram School	Girls High School	High School	Kalinga Model Residential School	Eklavya Model Residential School	Total
Gajapati	1	18	9	9		1	38
Malkangiri	3	37	9	12	1	1	63
Mayurbhanj	2	88	32	22		4	148
Rayagada	3	27	16	25		2	73
Sundargarh	1	6	21	18		4	50
All 5 districts	10	176	87	86	1	12	372

Throughout the report, KMRS and EMRS have been combined under one category, "Model Residential Schools". Also, while all the Educational Complexes have been upgraded to High Schools in the five districts, they are treated as a separate category in the analysis, as they cater mainly to PVTGs as they are located in PVTG-concentrated areas.

Sample design

As described in the previous section, of the 590 SSD schools, 372 schools cater to students in the study's target age group of Std VI-X. Of these, **10 schools per district were selected for the sample** (a total of 50 schools) on the basis of an agreed set of criteria, summarised below:

- Because each district has only a few (1-3) Educational Complexes, EMRS and KMRS, 1 school of each type was selected for inclusion. If there was more than one school of the same school type in a district, the school with enrolment closest to the average enrolment was sampled.
- Because Ashram Schools do not have students in Std IX-X (which were an important focus group for the study), it was decided to include 2 Ashram Schools as opposed to 3 Girls' High Schools, and 3 High Schools from each district. Among all 5 districts, there was only one KMRS located in Malkangiri; hence, in order to include this in the sample, 1 less High School was taken in that district (2 High Schools were sampled instead of 3).
- Educational Complexes comprise more than one school. For purposes of this study, only the girls' school within each Educational complex was Included.
- Once the number of schools in each category was decided, specific schools in each district were selected using random systematic sampling techniques (selecting schools at a regular interval from a randomly numbered list).

The final distribution of schools included in Strand 2 is shown in Table 3 below.

Table 3: Distribution of schools included in Strand 2 of the study. 2022

Districts	Ashram School	Girls High School	Educational Complex	Eklavya Model Residential School	Kalinga Model Residential School	High School	All Schools
Gajapati	2	3	1	1	0	3	10
Malkangiri	2	3	1	1	1	2	10
Mayurbhanj	2	3	1	1	0	3	10
Rayagada	2	3	1	1	0	3	10
Sundargarh	2	3	1	1	0	3	10
All 5 districts	10	15	5	5	1	14	50

*There are some exceptions to these broad grade categories. For example, there are 10/146 Sevashrams in the 5 districts that also have a small number of students in Grades 6,7 or 8

Table 4 shows the distribution of the 50 schools sampled for this study, as proportions of the total number of such schools in the district. Overall, 13% of schools in these categories were included in the sample; but given the varying number of schools of each type, this coverage ranges from 6% of all Ashram Schools to 50% of all EMRS across the 5 districts. Similarly, district-wise coverage ranges from 7% of all schools in Mayurbhanj to 26% in Gajapati.

Table 4: Schools sampled as a proportion of the total number of schools in that category and district. By district and school type. 2022

District	Educational Complex	Ashram School	Girls High School	High School	Kalinga Model Residential School	Eklavya Model Residential School	All Schools
Gajapati	100	11.1	33.3	33.3		100	26.3
Malkangiri	33.3	5.4	33.3	16.7	100	100	15.9
Mayurbhanj	50.0	2.3	9.4	13.6		25.0	6.8
Rayagada	33.3	7.4	18.8	12.0		50.0	13.7
Sundargarh	100	33.3	14.3	16.7		25.0	20.0
All 5 districts	50.0	5.7	17.2	16.3	100	41.7	13.4

- Within each sampled school, the teacher survey was administered to the headmaster and to one teacher each who teaches Std VI, Std VIII and Std X. Teachers who have at least 1 year of experience were selected, so that they could respond to questions related to school closures during the pandemic. Priority was given to regular teachers, but if no regular teacher was present, then para teachers were surveyed. In case the headmaster was not available, the HM-in-charge or most senior teacher was surveyed.
- Student activities (including a classroom survey, village mapping activity and learning assessment) were done with all present in the classroom. For the Aspirations survey, 10 children per grade in VIII, IX, X were sampled on the basis of (N/ 10^{th}) systematic random sampling.

Sample description

Table 5: Sample description

Districts	Total Schools Surveyed	Total Enrolled Children (2021-22)	Teachers Surveyed	Tested Children by grade					Tested children by sex		Total Tested Children	Total surveyed children (headcount)
				Std VI	Std VII	Std VIII	Std IX	Std X	Girls	Boys		
Gajapati	10	2,536	39	459	478	487	440	412	1,540	736	2,276	2,267
Malkangiri	10	2,664	41	443	418	450	409	316	1,246	790	2,036	2,008
Mayurbhanj	10	2,243	39	420	371	485	387	293	1,257	699	1,956	1,965
Rayagada	10	3,016	36	395	348	494	561	547	1,590	755	2,345	2,340
Sundargarh	10	2,711	36	449	434	580	489	534	1,547	939	2,486	2,475
Total	50	13,170	191	2,166	2,049	2,496	2,286	2,102	7,180	3,919	11,099	11,055

Survey process summary

1

A team of four field investigators go to the sampled school after taking permission from the District Welfare Officer to visit and stay in the school premises.
Each survey team includes one female field investigator for residential facility observation.

2

When inside the school, the team meets the school principal/head teacher. During the meeting, they:

- Explain the objective of the study.
- Share the letter from the District Welfare Office and request cooperation to conduct the survey and observe the classrooms in school.

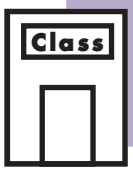
3

The field investigators walk around the school to examine facilities and to observe its residential blocks. They record this information in the relevant survey formats.

4

The field investigators then visit the school office and they:

- Record information on enrolment in the previous two years in school using the attendance registers.
- Interview the staff about their experience during the pandemic.



5

In each classroom, the field investigators conduct:

- Village mapping: Map the villages that the students come from.
- Interview with students: Ask the students questions regarding their studies during the period of school closures.
- Written assessment task: Assess the proficiency of students in reading comprehension, arithmetic and applied mathematics tasks .

6

After the classroom activities, the field investigators:

- Randomly select 10 students from Std VIII-X classroom using (N/10)th child (N=class size) rule.
- Administer questions to the sampled students in Std VIII-X to understand their aspirations and record the same.

7

Once all the activities in the school are completed, field investigators submit the completed survey formats to their respective Master Trainers.

Assessment tasks

Assessment Tasks for Strand 2 are created to understand children's fluency in reading, and proficiency in solving arithmetic problems including daily-life based calculation problems. These assessment tasks are designed at the reading level for Std IV.

The assessment is administered in the classroom in a traditional method, with present students solving the assessment tools in the stipulated time. The surveyors conduct the assessments after doing the village mapping and asking the children in the classroom about their pandemic experiences- this ensures a comfortable environment for the students to attempt their assessment.

The assessments were conducted in Odia for the students. However, the children studying in the surveyed schools are coming from tribal areas and have their unique dialect.

Besides the written assessment tasks, 10 children from each grade have been randomly selected and tested with ASER Oral Tools. This section describes the written assessment in detail. The oral language assessment was conducted in the same way as Strand 1 assessment tasks.

The written assessment includes the following sections:

- **Reading Comprehension Assessment**
- **Arithmetic Assessment**
- **Applied Mathematics Assessment**

The following pages explain the competency covered in each section.

I. Reading comprehension Task

Sample: Reading comprehension test (Odia)*

ପକ୍ଷୀ

ଅଧିକାଂଶ ପକ୍ଷୀମାନଙ୍କର ଆଖି ମୁଣ୍ଡର ଦୁଇ ପାର୍ଶ୍ୱରେ ଥାଏ। ଏମାନେ ଗୋଟିଏ ସମୟରେ ଦୁଇଟି ଭିନ୍ନ ଭିନ୍ନ ଜିନିଷ ଉପରେ ନଜର ପକାଇ ପାରନ୍ତି। ଯେତେବେଳେ ଏମାନେ କେବଳ ଆଗକୁ ଦେଖନ୍ତି ସେତେବେଳେ ଏମାନଙ୍କର ଦୁଇଟିଯାକ ଆଖି ଗୋଟିଏ ଜିନିଷକୁ ଦେଖିଥାଏ। ତୁମେ ଦେଖିଥିବ ଅନେକ ପକ୍ଷୀ ବେକକୁ ଅନେକ ଥର ଏପଟ ସେପଟ କରିଥାନ୍ତି। କାହିଁକି ଜାଣିଛ କି ? ଅଧିକାଂଶ ପକ୍ଷୀମାନଙ୍କର ଆଖିର ତୋଳା ବୁଲି ପାରେନାହିଁ। ଏଥିପାଇଁ ସେମାନେ ନିଜର ବେକକୁ ଏପଟ ସେପଟ ବୁଲାଇ ଆଖପାଖର ଜିନିଷକୁ ଦେଖିଥାନ୍ତି।

ଚିଲ, ଛଞ୍ଚାଣ ଏବଂ ଶାଗୁଣା ଏପରି ପକ୍ଷୀ ଅଟନ୍ତି, ଯେଉଁମାନେ ଆମ ଠାରୁ ଚାରିଗୁଣ ଅଧିକ ଦୂରକୁ ଦେଖିପାରନ୍ତି। ଯେଉଁ ଜିନିଷ ଆମକୁ ଦୁଇ ମିଟର ଦୂରରୁ ଦେଖାଯାଏ ସେହି ଜିନିଷକୁ ଏହି ପକ୍ଷୀ ଆଠ ମିଟର ଦୂରରୁ ଦେଖିପାରନ୍ତି। ସାଧାରଣ ଭାବେ କୁହାଯାଇଥାଏ ଯେ, ଦିନରେ ଜାଗ୍ରତ ରହୁଥିବା ପଶୁ କିଛି ରଙ୍ଗ ଦେଖିପାରନ୍ତି। ରାତିରେ ଜାଗ୍ରତ ରହୁଥିବା ପଶୁଙ୍କୁ ପ୍ରତ୍ୟେକ ଜିନିଷ ଧଳା ଓ କଳା ରଙ୍ଗର ଦେଖାଯାଏ।

ଆମକୁ ପକ୍ଷୀମାନଙ୍କର କାନ ଦେଖାଯାଇ ନଥାଏ। ତାଙ୍କର ବାହାର କାନ ଛୋଟ-ଛୋଟ ଛିଦ୍ର ଭଳି ହୋଇଥାଏ। ଯାହାକି ସେମାନଙ୍କର ପର ଦ୍ୱାରା ଢାଙ୍କି ହୋଇ ରହିଥାଏ। ପକ୍ଷୀ ଅଲଗା ଅଲଗା ସ୍ୱର ବାହାର କରିଥାଏ।

ନିର୍ଦ୍ଦେଶ : ଉପରେ ଦିଆଯାଇଥିବା ଅନୁଚ୍ଛେଦ ଆଧାରରେ ନିମ୍ନରେ ଦିଆଯାଇଥିବା ପ୍ରଶ୍ନର ଉତ୍ତର ଦିଅ। ପ୍ରଶ୍ନ ୧ ରୁ ୩ର ଉତ୍ତର ମାତ୍ରାଗୁଡ଼ିକୁ ଧ୍ୟାନରେ ରଖି ପୂର୍ଣ୍ଣ ବାକ୍ୟରେ ଦିଅ।

Direct Fact Retrieval

ପ୍ର.୧) କୌଣସି ଗୋଟିଏ ପକ୍ଷୀର ନାମ ଲେଖ ଯାହାର ଆଖି ମୁଣ୍ଡର ଉଭୟ ପାର୍ଶ୍ୱରେ ଅଛି ?

.....

.....

Indirect Fact Retrieval

ପ୍ର.୨) କିଛି ପକ୍ଷୀ ନିଜର ବେକକୁ ବୁଲେଇ କାହିଁକି ଦେଖନ୍ତି ?

.....

.....

Vocabulary

ପ୍ର.୩) ସଠିକ୍ ବିକଳ୍ପ ବାଛ : ପକ୍ଷୀ ପଶୁ ମାଛ ଚଢ଼େଇ

ଅଧିକତର ସବୁଠାରୁ କମ୍ ସବୁଠାରୁ ଅଧିକ ସମାନ

.....

.....

Creative writing

ପ୍ର.୪) ଚିଲ ବହୁତ ଦୂର ପର୍ଯ୍ୟନ୍ତ ଦେଖିପାରେ। ଦୂର ପର୍ଯ୍ୟନ୍ତ ଦେଖିବାରେ କ'ଣ ଲାଭ ମିଳେ ଚିଲକୁ ?
ଗୋଟିଏ ବା ଦୁଇଟି ଲାଭ ବିଷୟରେ ଲେଖ।

II. Arithmetic Tasks: Basic operations and word problems

Sample: Arithmetic test (Odia)*

Numeric Problems

Q1.- ନିମ୍ନରେ ଦିଆଯାଇଥିବା ପ୍ରଶ୍ନଗୁଡ଼ିକୁ ସଧାଧାନ କର।

i) ୪ ୫ ୩ + ୨ ୪ ୪ + ୩ ୨ ୮	ii) ୫ ୦ ୩ − ୨ ୫ ୯	iii) ୨ ୫ x ୬
iv) ୩ ୪ ୪ x ୬	v) ୬) ୯ ୬ (	vi) ୪) ୬ ୨ ୨ (

Word Problems

Q2.- ନିମ୍ନରେ ଦିଆଯାଇଥିବା ଶାବ୍ଦିକ ପ୍ରଶ୍ନଗୁଡ଼ିକୁ ଧ୍ୟାନର ସହ ପଢ଼ ଓ ସଧାଧାନ କର।

i) ଆଶିଷ ତ୍ରିପାଠୀ ଗୋଟିଏ ବହି ଲେଖିଲେ ଯାହାକି ତିନୋଟି ଭାଗରେ ବିଭକ୍ତ ଅଛି। ପ୍ରଥମ ଭାଗରେ ୨୧୫ଟି ପୃଷ୍ଠା ଅଛି, ଦ୍ୱିତୀୟ ଭାଗରେ ୩୬୨ଟି ପୃଷ୍ଠା ଅଛି ଏବଂ ତୃତୀୟ ଭାଗରେ ୧୯୮ଟି ପୃଷ୍ଠା ଅଛି। ତେବେ କୁହ, ଏହି ବହିରେ ମୋଟ୍ କେତୋଟି ପୃଷ୍ଠା ଅଛି ?	ii) ଗୋଟିଏ କାରଖାନାରେ ୨୧୫ ଜଣ ପୁରୁଷ ଓ ୩୦୨ ଜଣ ମହିଳା କାମ କରନ୍ତି। ତେବେ ଏହି କାରଖାନାରେ ପୁରୁଷଙ୍କ ତୁଳନାରେ କେତେ ଜଣ ଅଧିକ ମହିଳା କାମ କରନ୍ତି ?
iii) ଇଶାର ଓଜନ ୧୫ କିଲୋଗ୍ରାମ୍ ଏବଂ ତା'ର ବାପାଙ୍କ ଓଜନ ତା' ଓଜନ ଠାରୁ ୪ ଗୁଣ ଅଧିକ ଅଟେ। ତେବେ କୁହ, ଇଶାର ବାପାଙ୍କ ଓଜନ କେତେ ହେବ ?	iv) ଯୁବରାଜର ପରିବାର ବସ୍‌ରେ ସହରକୁ ଯାଉଥିଲେ। ତା' ପରିବାରର ୫ଜଣ ସଦସ୍ୟ ଥିଲେ। ସମସ୍ତଙ୍କ ପାଇଁ ବସ୍ ଟିକେଟ୍ କିଣିବାରେ ମୋଟ୍ ୩୦୦ ଟଙ୍କା ଖର୍ଚ୍ଚ ହେଲା। ତେବେ କୁହ, ଗୋଟିଏ ଟିକେଟ୍‌ର ମୂଲ୍ୟ କେତେ ଟଙ୍କା ଥିଲା ?

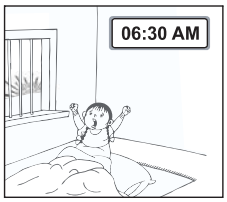
III. Applied Mathematics Tasks

Sample: Applied mathematics test (Odia)*

Calculating Time

ସମୟ କୁହନ୍ତୁ

ପ୍ର୧.



ଯଦି ରାଣୀ ରାତି ୦୯.୩୦ ମିନିଟ୍ ସମୟରେ ଶୋଇବାକୁ ଯାଏ ଏବଂ ସକାଳ ୦୬.୩୦ ମିନିଟ୍ ସମୟରେ ଉଠେ। ତେବେ ସେ ମୋଟ୍ କେତେ ସମୟ ଶୋଇଥାଏ ?
ସଠିକ୍ ବିକଳ୍ପ ବାଛି (✓) ଚିହ୍ନ ଦିଅ।

i) ୩ ଘଣ୍ଟା ☐
ii) ୧୫ ଘଣ୍ଟା ଓ ୩୦ ମିନିଟ୍ ☐
iii) ୯ ଘଣ୍ଟା ☐
iv) ୬ ଘଣ୍ଟା ଓ ୩୦ ମିନିଟ୍ ☐

Discount Calculation

ରିହାତି ବିଷୟରେ ଜାଣିବା

ପ୍ର୨. ଗୋଟିଏ ଟି-ସାର୍ଟର ମୂଲ୍ୟ ୩୦୦ ଟଙ୍କା ଅଟେ ଏବଂ ଏହା ୧୦ ପ୍ରତିଶତ ରିହାତିରେ ମିଳୁଛି। ଯଦି ତୁମେ ଏହି ଟି-ସାର୍ଟଟି କିଣିବାକୁ ଚାହୁଁଛ, ତେବେ ତୁମକୁ କେତେ ଟଙ୍କା ଖର୍ଚ୍ଚ କରିବାକୁ ହେବ ?

Decision Making

କିଣା-ବିକା ସମ୍ବନ୍ଧିତ ନିର୍ଣ୍ଣୟ

ଦୋକାନର ୧ର ମୂଲ୍ୟସୂଚୀ	
ବହିର ନାମ	ମୂଲ୍ୟ
ବିଜ୍ଞାନ	ଟ. ୫୦
ଗଣିତ	ଟ. ୮୦
ଇଂରାଜୀ	ଟ. ୩୦
ହିନ୍ଦୀ	ଟ. ୭୦
ଇତିହାସ	ଟ. ୪୦

ଦୋକାନର ୨ର ମୂଲ୍ୟସୂଚୀ	
ବହିର ନାମ	ମୂଲ୍ୟ
ବିଜ୍ଞାନ	ବିଶେଷ ରିହାତି !!! ସମସ୍ତ ବହିର ସେଟ୍ ମାତ୍ର ୨୯୯ ଟଙ୍କାରେ
ଗଣିତ	
ଇଂରାଜୀ	
ହିନ୍ଦୀ	
ଇତିହାସ	

ପ୍ରଶ୍ନ. ତୁମକୁ ୫ଟି ବହି କିଣିବାର ଅଛି। ବଜାରରେ ୨ଟି ବହି ଦୋକାନ ଅଛି। ପ୍ରତ୍ୟେକ ଦୋକାନ ସମାନ ୫ଟି ବହି ବିକ୍ରି କରୁଛନ୍ତି। ଦୁଇଟି ଦୋକାନର ମୂଲ୍ୟସୂଚୀକୁ ତୁଳନା କରି ନିମ୍ନରେ ଦିଆ ଯାଇଥିବା ପ୍ରଶ୍ନଗୁଡ଼ିକର ଉତ୍ତର ଦିଅ।

i) କେଉଁ ଦୋକାନରୁ ତୁମେ ୫ଟି ବହି କିଣିବ ? ☐
ii) ତୁମେ ସେହି ଦୋକାନୀକୁ କେତେ ଟଙ୍କା ଦେବ ? ☐

Grading for Assessments

All the written assessments taken were manually graded by the field investigators using the answer key provided. Each answer was marked as 'No Response', 'Incorrect' and 'Correct' answer accordingly.

Strand 2
Findings

Students

Enrolment and retention

Enrolment in Std VI to X

After the extended period of COVID-19 related school closures, schools reopened in Odisha on 7 February 2022 for Std IX and X and on 28 February 2022 for all other grades. Except for Model Schools this period was included as part of academic year 2021-22. Model Schools reopened on the same dates but for the academic year 2022-23. For the sake of consistency across all schools in this study, field investigators recorded the enrolment numbers for academic year 2021-22 for all schools.

Across the 50 schools sampled for this study, a total of 13,170 students were enrolled in Std VI-X in academic year 2021-22 (Table 6). Across the 5 districts, these numbers varied from 2,243 students in Mayurbhanj to 3,016 in Rayagada.

Almost 40% of all students from the sampled schools are enrolled in High Schools. The 5 Educational Complexes contribute only 7% of the total enrolled students to our sample.

However, these proportions vary across districts. In Malkangiri, 18.3% of the students from the sampled schools in the district are enrolled in Model Schools, the highest proportion among all districts. Sundargarh has the highest proportion of students enrolled in the Education Complex (12.2%) while Rayagada has the lowest (3.6%). Across districts, Gajapati has the lowest proportion of students enrolled in Ashram Schools (6.9%), which is almost half the proportion seen in other districts.

Table 6: Total students enrolled in Std VI-X in sampled schools. By district and school type. Academic year 2021-22

District	Enrollment	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Gajapati	Total students enrolled	189	174	774	1,092	307	2,536
	%	7.5	6.9	30.5	43.1	12.1	100
Malkangiri	Total students enrolled	164	375	773	864	488	2,664
	%	6.2	14.1	29	32.4	18.3	100
Mayurbhanj	Total students enrolled	141	276	726	863	237	2,243
	%	6.3	12.3	32.4	38.5	10.6	100
Rayagada	Total students enrolled	92	373	1,120	1,214	217	3,016
	%	3.1	12.4	37.1	40.3	7.2	100
Sundargarh	Total students enrolled	331	330	812	947	291	2,711
	%	12.2	12.2	30.0	34.9	10.7	100
Total	Total students enrolled	917	1,528	4,205	4,980	1,540	13,170
	%	7.0	11.6	31.9	37.8	11.7	100

Table 7 shows the distribution of enrollment in Std VI-X in sampled schools by school type and sex. While enolment in sampled Model Schools is similar for boys and girls, High Schools and Ashram Schools have a higher proportion of enrolled boys than girls. High Schools have almost twice the number of enrolled boys than girls. In the case of Educational Complexes, because the girls' school in each Educational Complex was selected for inclusion in the sample, enrolment in Std VI-X is stil mostly girls.

Table 7: Total enrolment in Std VI-X in sampled schools. By grade, school type and sex. Academic year 2021-22

School type	Ashram School			Educational Complex			Girls High School			High School			Model Residential School		
Std	Total Enrolled	% Boys	% Girls	Total Enrolled	% Boys	% Girls	Total Enrolled	% Boys	% Girls	Total Enrolled	% Boys	% Girls	Total Enrolled	% Boys	% Girls
Std VI	559	58.3	41.7	257	7.4	92.6	686		100	727	63.3	36.7	350	50.9	49.1
Std VII	470	54.9	45.1	184	9.2	90.8	628		100	802	63.8	36.2	346	49.4	50.6
Std VIII	499	55.1	44.9	216	18.5	81.5	945		100	1073	67.5	32.5	331	49.8	50.2
Std IX				155	0.0	100	989		100	1165	66.1	33.9	338	49.4	50.6
Std X				105	0.0	100	957		100	1213	65.4	34.6	175	51.4	48.6
All	1528	56.2	43.8	917	8.3	91.7	4205		100	4,980	65.4	34.6	1540	50.1	49.9

Table 8 shows the proportion of girls and boys enrolled in Std VI-X in sampled schools who stay in school hostels. The vast majority of girls enrolled in sampled schools are boarders. This proportion is over 90% for all school types with the exception of High Schools (83.4%). Overall, a higher proportion of girls (93.5%) than boys (89.3%) are boarders.

The proportion of boarders in Std VI-X also varies across school types. Educational Complexes, which cater largely to students belonging to PVTGs due to their geographic location, do not have day scholars. High schools are the only category which shows an inverse trend - with a higher proportion of boys (86.4%) than girls (77.6%) who are boarders.

Table 8: Of total enrolled students in Std VI-X, % who are boarders. By sex and type of school. Academic year 2021-22

Sex	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Girls	100	92.7	97.8	77.6	98.6	93.5
Boys	100	91.5		86.4	98.1	89.3
All	100	92.0	97.8	83.4	98.3	91.9

Finally, it is worth noting that a higher proportion of girls and boys in upper primary grades were boarders as compared to those in secondary grades (Table 9). The difference in these proportions is highest in High School, where the proportion of girls who are boarders in Std VI-VIII is almost 15 percentage points higher than in Std IX-X.

Among enrolled boys, the proportion of boarders in upper primary grades is 6 percentage points higher than secondary grades.

Table 9: Of total enrolled students in Std VI-X, % who are boarders. By grade, sex and type of school. Academic year 2021-22

Std & Sex	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Std VI-VIII : Girls	100	92.7	98.1	85.0	99.8	95.4
Std IX-X : Girls	100		97.5	69.3	96.1	90.6
Std VI-VIII : Boys	100	91.5		88.9	99.0	91.5
Std IX-X : Boys	100			83.7	96.1	85.5
All : Girls	100	92.7	97.8	77.6	98.6	93.5
All : Boys	100	91.5		86.4	98.1	89.3
All	100	92.0	97.8	83.4	98.3	91.9

Retention

Attendance registers for the academic years 2019-20 (pre-COVID-19) and 2021-22 were compared to understand retention and dropout trends during the period of school closures. With the help of these registers, field investigators identified students who were enrolled in school in 2019-20 in Std IV-VIII and whose names subsequently remained in the attendance register in the academic year 2021-22 (post the reopening of schools in February). Students of this cohort whose names had been struck off or were missing from the attendance register of 2021-22, were considered to be dropouts, whereas the rest were considered to be retained in school.

Only those students who were tracked from 2019-20 to 2021-22 are included in this analysis. Because the different school types included in this study offer different grades, the specific grades tracked from 2019-20 varied: Std IV to VII in Ashram Schools; Std IV to VIII in Educational Complex, Girls High School and High Schools; and Std VI to VIII in Model Residential Schools.

Table 10 shows the proportion of students who were enrolled in the sampled schools in 2019-20 and were still enrolled in the same school two academic years later, in 2021-22. Overall, retention rates are high in sampled schools. 93% of the students enrolled in 2019-20 are continuing in the same school in 2021-22. However, this figure includes students who are enrolled but had not returned to school at the time of fieldwork, discussed in the next section.

It is observed that girls have a slightly higher overall retention rate. Only in High Schools, an inverse of this trend is observed, with a three percentage point difference in proportions of boys and girls who stayed in the sampled schools.

Table 10: Of all students who were enrolled in Std IV-VIII sampled schools in 2019, % who continued in the same school in 2021-22. By sex and school type.

Sex	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Girls	88.2	89.5	96.9	89.4	98.8	93.3
Boys	*	89.9		92.5	97.1	92.6
All	88.8	89.8	96.9	91.4	97.9	93.0

*This figure is not reported for boys in Education Complexes because only a very small number of boys had been admitted to these schools in 2019-20

Dropouts

Students who left sampled schools between 2019-20 and 2021-22

The previous section on enrolment showed that retention rates are high across the schools sampled for this study, even during the two-year period of COVID-19 related school closures. A very high 93% of students who were enrolled in Std IV-VIII during 2019-20, the year prior to COVID-19, were still enrolled in the same schools in academic year 2021-22 and had moved two grades up to be currently enrolled in Std VI-X, the focus grades for this study.

While the overall proportion of students no longer enrolled in sampled schools is small at 7%, this section examines some characteristics of these students. First, the number and proportion of such students is shown in Table 11 below; the same information is provided separately for girls and boys in Table 12.

Table 11 shows that the proportion of students from tracked cohort who had left the school by 2021-22 is much higher in educational complexes (11.2%) and Ashram schools (10.2%) than in other categories of school.

Overall, the proportion of girls and boys who left sampled schools are comparable, at almost 7% points. Differences are observed only in High Schools, where a slightly higher proportion of girls left the sampled High Schools than boys. This figure is not reported for boys in Education Complexes because only a very small number of boys had been admitted to these schools in 2019-20.

Table 11: Number and % of students from tracked cohorts who left sampled school. By school type. Academic year 2019-20 and 2021-22

Students in tracked cohorts who were: *	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All
Enrolled in sampled schools in 2019-20	936	1,464	2,893	3,847	862	10,002
No longer enrolled in sampled schools in in 2021-22	105	150	91	332	18	696
% of tracked cohort who left sampled schools	11.2	10.2	3.1	8.6	2.1	7.0

Table 12: Number and % of students from tracked cohorts who left sampled school. By sex and school type. Academic year 2019-20 and 2021-22

Sex	Children who left sampled schools	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Boys	Total enrolled children tracked from 2019 to 21		786		2,454	445	3,733
	% of Total cohort left sampled schools		10.1		7.5	2.9	7.4
Girls	Total enrolled children tracked from 2019 to 21	888	678	2,893	1,393	417	6,269
	% of Total cohort left sampled schools	11.8	10.5	3.1	10.6	1.2	6.7

Table 13 examines the proportion of students from tracked cohorts who left sampled schools by the grade they were enrolled in academic year 2019-20, i.e. from Std IV to Std VIII. These figures suggest that students who did not continue in sampled schools were primarily those in transition grades – Std V, the last year of primary school, and Std VIII, the last year of upper primary school.

*Only those students who were tracked from 2019-20 to 2021-22 are included in this total. Because the different school types included in this study offer different grades, the specific grades tracked from 2019-20 varied: Std IV to VII in Ashram Schools; Std IV to VIII in Educational Complex, Girls High School and High Schools; and Std VI to VIII in Model Residential Schools.

Table 13: % of tracked cohorts who left sampled school. By grade and school type. Academic year 2019-20 and 2021-22

Std (In 2019-20)	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All schools
Std IV	4.7	10.3	3.4	2.2		5.9
Std V	11.4	12.2	4.0	5.5		8.6
Std VI	13.4	8.6	2.5	4.5	1.5	5.1
Std VII	12.6		2.4	12.1	1.7	7.1
Std VIII	17.8		4.1	12.4	3.8	8.7
All	11.2	10.2	3.1	8.6	2.1	7.0

Reasons for leaving sampled schools

Although this study did not track former students in sampled schools to their current locations to explore the reasons why they were no longer enrolled in the sampled school, this question was explored in sampled schools in two ways.

Students likely to have changed schools

First, field investigators documented whether students who had left sampled school since 2019-20 had obtained a School Leaving Certificate (SLC), which can be interpreted to signify the student's intention to transfer to a different school, thus remaining in the education system rather than dropping out of school altogether.

Overall, more than half the students who had left sampled schools since 2019-20 had obtained an SLC (58.2%) (Table 14). In other words, about 6 out of every 10 students who were no longer studying in sampled schools had probably moved to a different school to continue their education. High Schools saw a fairly large number of students intending to change schools, with almost 60% of those who are no longer enrolled having obtained their SLC – nearly 200 students in all. The proportion of such children is highest in Ashram Schools (84% of those no longer enrolled in the sampled schools, or more than 120 students overall), which may relate to the fact that these schools only offer elementary grades.

Table 14: Number and % of students from tracked cohorts who left sampled school. By school type. Academic year 2019-20 and 2021-22

Students from Tracked cohorts who: *		Educational Complex	Ashram Schools	Girls High School	High School	Model Residential School	All Schools
Were not enrolled in sampled schools in 2021-22		105	151	90	332	18	696
Of those who left sampled schools, % who:	Obtained SLC	15.2	84.1	61.1	58.4	72.2	58.2
	Did not obtain SLC	84.8	15.9	38.9	41.6	27.8	41.8
Total		100	100	100	100	100	100

In all, of the tracked cohorts in the schools sampled for this study, just over 400 students had obtained the SLC before leaving the school. A breakdown of these students by sex shows that overall, roughly equal proportions of boys and girls obtained their SLC except in the case of High Schools where a far higher proportion of girls (9.1%) than boys (2.7%) did so (Table 15).

*Only those students who were tracked from 2019-20 to 2021-22 are included in this total. Because the different school types included in this study offer different grades, the specific grades tracked from 2019-20 varied: Std IV to VII in Ashram Schools; Std IV to VIII in Educational Complex, Girls High School and High Schools; and Std VI to VIII in Model Residential Schools.

Table 15: Number and % of students in sampled schools who obtained their SLC before leaving school. By sex and school type. Academic year 2019-20 and 2021-22

Sex	Obtained SLC before leaving sampled school	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Boys	N	0	70		67	10	148
	% of boys in tracked cohort	0.0	8.9		2.7	2.3	4.0
Girls	N	16	57	55	127	3	257
	% of girls in tracked cohort	1.8	8.4	1.9	9.1	0.7	4.1
All	N	16	127	55	194	13	405
	% of total tracked cohort	1.7	8.7	1.9	5.0	1.5	4.1

Students likely to have dropped out of school

The discussion above showed that overall, among the students in tracked cohorts who had left sampled schools, although the majority (58.2%) had obtained the SLC, the remaining 41.8% may have dropped out of school altogether. This problem is most serious in Educational Complexes, which had the highest proportion of students leaving sampled schools (13.7%), and among these students, also by far the highest proportion who did not obtain their SLC (84.8%). A closer look at these students shows that they are not equally distributed across the 5 Educational Complexes in the sample. For example, none of the tracked students in the Rayagada Educational Complex obtained an SLC and only 1 out of every 10 in Mayurbhanj did so. On the other hand, almost three quarters of tracked students in Sundargarh did obtain an SLC, suggesting that they transferred to a different school.

Table 16: Number of students in tracked cohorts who left sampled Educational Complexes and of those, % who obtained/did not obtain SLC. By district. Academic year 2019-20 and 2021-22

District		Gajapati	Malkangiri	Mayurbhanj	Rayagada	Sundargarh	All Districts
No. of students in tracked cohorts who left sampled schools		4	11	29	50	11	105
Of these, % who:	Did not obtain SLC	50.0	72.7	89.7	100	27.3	84.8
	Obtained SLC	50.0	27.3	10.3	0.0	72.7	15.2

Finally, although it was not possible to locate students who were no longer enrolled in sampled schools, field investigators spoke to the school staff (headmaster, senior teachers and/or clerk) and asked about each such child individually. The responses received were grouped into 1 of 8 categories, which although not obtained directly from students or their families, do provide some information as to what had caused students to leave the school (Table 17). Overall, school staff thought that more than half these students had left because they joined another school, especially in the case of girls. While work and household responsibilities were thought to be two other causes of drop out among boys, 5% of girls were thought to have dropped out due to marriage.

*Only those students who were tracked from 2019-20 to 2021-22 are included in this total. Because the different school types included in this study offer different grades, the specific grades tracked from 2019-20 varied: Std IV to VII in Ashram Schools; Std IV to VIII in Educational Complex, Girls High School and High Schools; and Std VI to VIII in Model Residential Schools.

Table 17: Reasons given by school staff for individual students in tracked cohorts having left the sampled school (%). By sex and reason provided. 2022

Sex	Joined other school	Household responsi--bilities	Marriage	Working	Migrated to different area	Health reasons	Repeating grade	Death of close family member	Other	Don't know	Total
Boys	50.2	5.7		4.3	1.1	0.7	0.7	0.4	19.2	17.8	100
Girls	56.4	1.0	4.6	1.0	1.9	1.4	1.2		24.3	8.2	100
All	53.9	2.9	2.7	2.3	1.6	1.1	1.0	0.1	22.3	12.1	100

*Only those students who were tracked from 2019-20 to 2021-22 are included in this total. Because the different school types included in this study offer different grades, the specific grades tracked from 2019-20 varied: Std IV to VII in Ashram Schools; Std IV to VIII in Educational Complex, Girls High School and High Schools; and Std VI to VIII in Model Residential Schools.

Attendance patterns

Attendance was calculated on the basis of the headcount of students observed in school on the day of the survey, compared with the number of enrolled students for academic year 2021-22.

Overall, student attendance on the day of the visit was high at 84.8%. This figure varies by type of school and district (Table 18). Although Educational Complexes are the only schools to provide hostel facilities for all students, these schools had the lowest overall attendance on the day of the survey, for both boys and girls. At the time of the survey, many students of Educational Complexes had not yet returned to school after reopening (see discussion on Extended Absenteeism, later in this report).

Overall, not much variation was observed between upper primary and secondary grades (Table 19). However, attendance figures for girls and boys varied, with higher attendance among enrolled girls than among enrolled boys across all school types (Table 18). This difference is especially pronounced in High Schools, with a 14 percentage point difference in attendance between girls and boys.

Table 18: Of total enrolled students, % present in class on the day of survey. By sex and school type. Academic year 2021-2022

Sex	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All schools
Girls	76.5	86.8	89.3	88.6	93.5	87.8
Boys	71.1	79.1		75.7	91.1	79.6
All	76.9	83.5	89.3	80.6	92.3	84.8

Table 19: Of total enrolled students, % present in class on the day of survey. By grade and school type. Academic year 2021-2022

Std	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All schools
Std VI-VIII	76.0	83.5	89.0	80.7	92.5	84.7
Std IX-X	79.5		90.2	80.8	91.5	85.8
All	76.9	83.5	89.3	80.6	92.3	84.8

Home locations of attending students

To understand the geographical spread of catchment area for each school, field investigators engaged the students present on the day of the survey in a village mapping exercise in the classrooms. Field investigators using chart paper and sketchpens, asked the students to name the villages they were from. Tally marks were made on the chart for children who came from each village. These chart papers were then compiled for all grades together. The villages of the students were further categorised as villages in the same block as school, villages in a different block but in the same district as school, and villages in a different district than the school district.

Table 20 shows the distribution of students' homes across three categories - same block as the school, same district but different block and different district from the school.

Except for Model Residential Schools, the majority of students present during the survey (three quarters or more) come from the same block in which their school is located and roughly a quarter of all students are from a different block but from the same district. Because admission to Model Schools is based on competitive examination, students in these schools come from a much wider catchment area, with more then two-thirds coming from blocks other than where the school is located.

Table 21 depicts the same information, by sex of the student instead of school type. Almost 70% of girls enrolled in these grades come from locations within the same block as their schools, while this number falls to 63% among enrolled boys. This shows that boys are slightly more likely than girls to be enrolled in a school that is further off from their village.

Table 20: % Students present on the day of survey in school by location of their home village. By village location and type of school. 2022

Home village located in	Ashram School	Educational Complex	Girls High School	High School	Model Residential School	All Schools
Same block	78.6	78.8	75.3	73.2	27.1	68.9
Same district, different block	21.2	20.4	23.7	26.1	68.2	29.8
Different district	0.2	0.8	1.0	0.7	4.6	1.3
Total	100	100	100	100	100	100

Table 21: % Students present on the day of survey. By sex and village location. 2022

Sex	Same block	Same district, different block	Different district	Total
Boys	62.8	35.5	1.6	100
Girls	72.3	26.6	1.0	100

An important caveat to this analysis is the fact that it includes only students who were present on the day of the survey. It is possible that the approximately 15% of students who were enrolled but not present during the survey are those who come from areas that are further away or hardest to reach. Including these students in the analysis might change the picture of school catchment areas presented above.

Extended Absenteeism

To identify students who had not returned to school, field investigators first identified the students who were absent on the day of the survey through the classroom attendance register for the academic year 2021-22. Among these, those students who had not returned at any time since school reopening were noted and identified as extended absentees.

This survey revealed that more than 800 students who are currently enrolled had not returned since school reopening which was 4 to 6 weeks before the field survey was conducted. The highest proportion of these students are from Educational Complexes (19%), followed by Ashram Schools (6.8%) (Table 22). Overall, a higher percentage of boys (7%) had not returned than girls (5.7%), a trend that is consistent across all school types except Educational Complexes. Only 2% of the students enrolled in Model Residential Schools had not returned, the lowest among the other school types.

Table 22: Of total enrolled students in Std VI-VIII, number and % who had not returned to school after school reopening. By sex and school type . Academic year 2021-22

Sex	Extended Absentees	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Boys	Number who are extended absentees	14	72		242	17	350
	% of Total enrolled students	18.4	8.4		7.4	2.2	7.0
Girls	Number who are extended absentees	160	32	200	63	14	469
	% of Total enrolled	19.0	4.8	4.8	3.7	1.8	5.7
All	Number who are extended absentees	174	104	205	305	31	819
	% of Total enrolled	19.0	6.8	4.9	6.1	2.0	6.2

Table 23: Of total enrolled boarders and day scholars, % and number of students who had not returned to school after school reopening. By school type. Academic year 2021-22

Student Type	Extended Absentees	Educational Complex	Ashram School	Girls High	High School	Model Residential School	All Schools
Boarders	Total enrolled boarders who are extended absentees	174	96	191	223	31	715
	% of total enrolled boarders who are extended absentees	19.0	6.8	4.6	5.4	2.0	5.9
Day Scholars	Total enrolled dayscholars who are extended absentees		8	14	82		104
	% of total enrolled day scholars who are extended absentees		6.6	15.4	9.9	0	9.7
All	Total enrolled students who are extended absentees	174	104	205	305	31	819
	% of total enrolled students who are extended absentees	19.0	6.8	4.9	6.1	2.0	6.2

Day scholars are slightly more likely to be extended absentees, as compared to boarders (Table 23). However, it should be noted that only 7.3% of the students in our sample are day scholars (Table 8), meaning that the actual number of day scholar who are extended absentees is small relative to the number of boarders.

Table 24: Of total enrolled students, number and % who had not returned to school after school reopening. By grade and school type. Academic year 2021-22

Std	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All schools
Std VI	16.0	3.9	3.2	2.2	1.1	4.1
Std VII	19.0	6.2	3.7	4.0	0.9	5.0
Std VIII	23.6	10.6	6.3	6.4	2.4	7.9
Std IX	24.5		5.1	7.0	3.8	6.9
Std X	8.6		5.2	8.7	1.7	6.9
All	19.0	6.8	4.9	6.1	2.0	6.2

Across all school types, the proportion of extended absentees is relatively low in Std VI and VIII, but increased in higher grades. Std VIII students comprised the highest proportion of those who had not returned to school (Table 24). Examined by school type, the transition from elementary to secondary school appears to be especially tricky for Educational Complex students with as many as 1 in 4 of Std IX students in these schools yet to returned after school reopening.

We noted earlier that students in Educational Complexes had the lowest attendance on the day of the visit across all school types; Table 24 above confirms that these schools had large proportions of students who had not returned to school after school reopening – almost 1 in 5 students across both boys and girls. However, the situation was not the same across all districts (Table 25). At the time of fieldwork for this study Educational Complexes in three districts were experiencing particularly acute issues of students not returning to school: Mayurbhanj (28.4%), Sundargarh (22.4%), and Malkangiri (22%).

Table 25: Students who had not returned to school after school reopening in Educational Complexes. By district. Academic year 2021-22

District	Total enrolled	Total who had not returned	% of total enrolled who had not returned
Gajapati	189	19	7.9
Malkangiri	164	44	22.0
Mayurbhanj	141	40	28.4
Rayagada	92	16	13.0
Sundargarh	331	124	22.4
Total	917	243	19.0

To conclude this discussion of attendance, it is worth noting that more than a third of all absentees are extended absentees, i.e., they have not been coming to school since school reopening in February 2022. This proportion is especially striking for Educational Complexes, where three in every four absent children are extended absentees. In Girls High Schools, this proportion is close to half (Table 26).Given that these are largely residential schools, the issue of regular attendance is in inextricably link to the question of how to ensure that students return to school after extended school closures.

Table 26: Of the total enrolled students % and number who were absent on the day of the survey. Of these, % and number who are extended absentees. By school type. Academic year 2021-22

Absentee Type		Educational Complex	Ashram School	Girls High	High School	Model Residential School	All
Absent on the day of survey	Total Students absent on the day of the survey	234	279	442	1,051	109	1881
	% Total enrolled students absent on the day of the survey	23.1	16.5	10.7	19.4	7.7	15.2
Of these, those who are extended absentees	No of students who are extended absentees	174	104	205	305	31	819
	% of total absent students who are extended absentees	74.4	37.3	46.4	29.0	28.4	38.7

Learning outcomes

To understand the status of learning, especially after a prolonged period of school closure, all students in Std VI-X who were present in the sampled school during the field visit were tested on selected language and mathematics competencies. The same assessment was administered to all students regardless of grade or school type. This pen-paper assessment spanned three domains: language comprehension; basic arithmetic operations; and the application of basic mathematics skills to everyday tasks. The assessment tasks and administration process are described in the *Assessment Tasks Section* of this report.

An overview of students tested in each type of school is provided in Table 27 below, separately by grade and sex. As this table shows a total of 11,103 children were tested, about two-thirds of whom were girls (since a significant proportion of sampled schools in this strand of the study were girls' schools).

Table 27: Total students tested. By grade, sex and school type. 2022

Std and Sex	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All schools
Std VI : All	193	490	615	593	326	2,217
Std VI : Boys	16	276		363	153	808
Std VI : Girls	177	214	615	230	173	1,409
Std VII : All	136	391	555	653	319	2,054
Std VII : Boys	12	210		390	150	762
Std VII : Girls	124	181	555	263	169	1,292
Std VIII : All	154	395	830	807	304	2,490
Std VIII : Boys	14	195		546	152	907
Std VIII : Girls	140	200	830	261	152	1,583
Std IX : All	113		903	952	312	2,280
Std IX : Boys				622	153	775
Std IX : Girls	113		903	330	159	1,505
Std X : All	92		855	948	167	2,062
Std X : Boys				586	83	669
Std X : Girls	92		855	362	84	1,393
All : Boys	42	681		2,507	691	3,921
All : Girls	646	595	3,758	1,446	737	7,182
All	688	1,276	3,758	3,953	1,428	11,103

Language Comprehension

Assessment tasks for language comprehension comprised 4 tasks based on a text at Std IV level of difficulty: direct fact retrieval, indirect fact retrieval, vocabulary, and creative writing.

Data from this assessment shows, not surprisingly, that for every question children's ability to answer correctly improves with grade (Table 28). For example, while 34.5% of children in Std VI could answer the direct fact retrieval question correctly, this proportion almost doubles to 66.5% in Std X. Students across all grades struggled with the indirect fact retrieval task. It is worth remembering that these tasks are based on a text at the Std IV level of difficulty, indicating significantly poorer performance than expected in these grades.

Table 28: % Students who responded correctly to Language Comprehension questions. By task and grade. 2022

Task	Std VI	Std VII	Std VIII	Std IX	Std X
Direct Fact Retrieval	34.5	48.5	55.3	64.5	66.5
Indirect Fact Retrieval	11.7	19	25.2	27.8	28.4
Vocabulary	23.7	32	36.5	42.6	49.6
Creative Writing	8.6	15.6	21.3	23.7	26.3

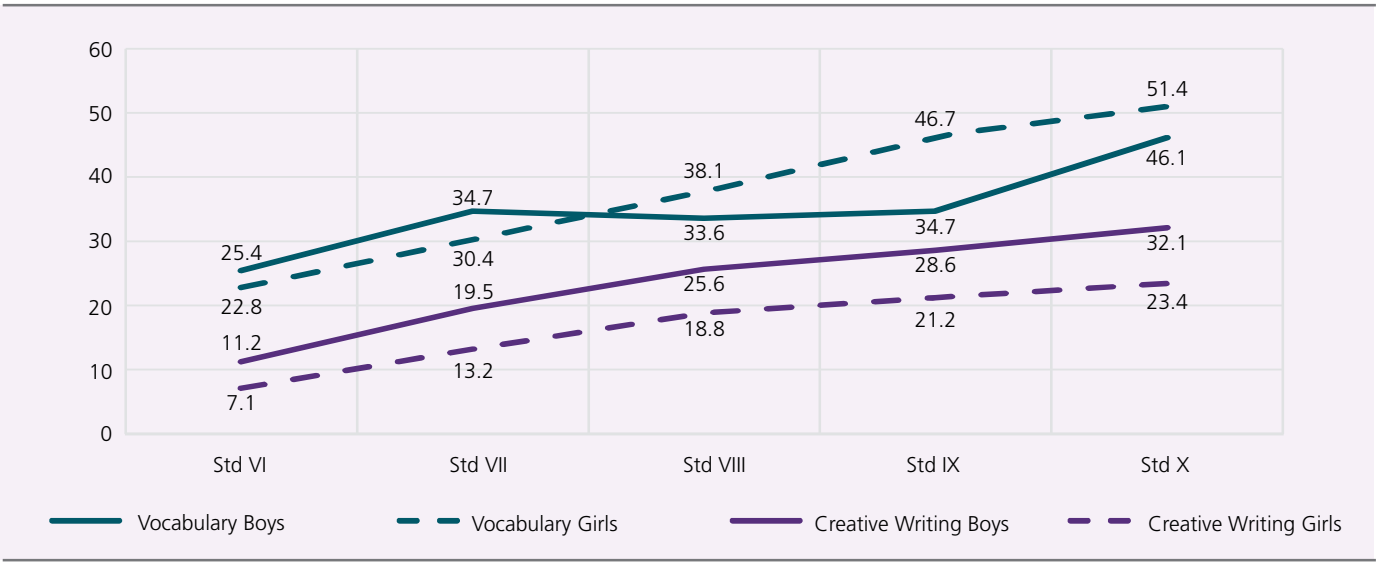
Of these 4 tasks, the creative writing task was the most difficult for students. The task involved expressing an opinion on a theme extracted from the passage. Students were graded as "correct" if they could write 2-3 coherent lines related to the topic. Even in Std X, only about a quarter of all students were able to respond correctly to this task.

For the most part boys and girls found these questions equally difficult, with girls doing slightly better on the vocabulary questions and boys on the creative writing task (Table 29). However, as has been seen in other research studies examining student achievement by gender, the difference in the performance of girls and boys increases with increases in grades. That is, gender gaps grow as students grow older and move into higher classes. This can be seen in their performance on the Vocabulary and Creative Writing tasks (Chart 1), although both boys and girls perform largely the same on both fact retrieval tasks.

Table 29: % Students who responded correctly to Language Comprehension questions. By task and sex. 2022

Task	Girls	Boys	% pt difference
Direct Fact Retrieval	53.6	54.7	1.1
Indirect Fact Retrieval	22.7	23.0	0.3
Vocabulary	38.0	34.5	-3.5
Creative Writing	17.0	23.3	6.3

Chart 1: % Students who responded correctly to the Vocabulary and Creative Writing tasks. By grade and sex. 2022



Because the different types of schools included in this study cater to different grades, Table 30 below compares the performance of children in Std VIII across school types. These data reveal large variations in performance on reading comprehension tasks. Std VIII students in Model Residential schools perform better on all 4 reading comprehension questions. Those in Girls High schools are also doing better than the rest of schools on all tasks except writing. Out of all the schools, children in Ashram Schools perform the lowest on these language comprehension tasks.

Table 30: % Students in Std VIII who responded correctly to language comprehension tasks. By task and school type. 2022

Task	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Direct Fact Retrieval	39.7	35.6	54.4	53.8	77.0	54.0
Indirect Fact Retrieval	16.7	11.8	22.7	21.1	40.5	22.8
Vocabulary	21.1	21.7	42.7	32.8	53.1	36.8
Creative Writing	13.8	10.3	16.0	19.5	38.0	19.3

Basic arithmetic operations

The assessment included basic arithmetic tasks. These included addition, subtraction, multiplication, and division. Each operation was tested using both a numeric as well as a word problem. The addition tasks in arithmetic tool are at grade 3 level, subtraction and multiplication are at grade 4 level and division tasks are at grade 5 level.

Table 31 shows the performance of students on arithmetic operations by grade. As expected, for word problems, addition is the easiest to do. Division problems are the most difficult. As was the case with the language assessment tasks, performance of students on these tasks improves as we move from Std VI to Std X. Expectedly also, students' ability to solve a numeric sum in every case exceeds their ability to solve a word problem using the same arithmetic operation, regardless of grade or the operation being tested. The difference between these two numbers is very large at 20 to 30 percentage points.

Table 31: % Students who responded correctly to basic arithmetic tasks. By task and grade. 2022

Task		Std VI	Std VII	Std VIII	Std IX	Std X
Addition	Numeric problem	68.7	76.1	80.4	84.7	86.4
	Word problem	40.4	54.6	59.8	66.1	73.3
Subtraction	Numeric problem	40.1	50.1	55.9	60.4	70.6
	Word problem	14.2	24.6	35.2	43.8	51.5
Multiplication	Numeric problem (2 by 1)	61.3	73.1	78.3	82.3	87.1
	Numeric problem (3 by 1)	36.6	47.4	56.7	63.5	71.7
	Word problem	22.0	35.1	39.4	50.5	58.1
Division	Numeric problem (2 by 1)	51.5	64.9	69.5	73.4	81.7
	Numeric problem (3 by 1)	32.0	43.8	51.1	59.9	69.6
	Word problem	14.9	22.8	29.2	34.3	40.7

With regard to basic arithmetic abilities by gender, we see that overall, boys perform better as compared to girls (Table 32). Moreover, the difference in the proportion of boys and girls answering these questions correctly increases with an increase in the difficulty level of the competencies, with the maximum difference being observed in a division word problem. The same trend can be seen in the findings from the Arithmetic section of Strand 1. Both boys and girls are at similar arithmetic levels in lower grades, but as they move up, the gap between their arithmetic skills widens.

Table 32: % Students who responded correctly to basic arithmetic tasks. By task and sex. 2022

Task		Girls	Boys	% pt difference
Addition	Numeric problem	78.7	80.3	1.6
	Word problem	57.5	61.0	3.5
Subtraction	Numeric problem	52.0	61.4	9.4
	Word problem	29.0	42.7	13.7
Multiplication	Numeric problem (2 by 1)	74.7	79.4	4.7
	Numeric problem (3 by 1)	51.3	62.2	10.9
	Word problem	37.3	47.5	10.2
Division	Numeric problem (2 by 1)	66.0	72.0	6.0
	Numeric problem (3 by 1)	47.5	57.9	10.4
	Word problem	25.1	34.3	9.2

Finally, as in the case of language comprehension, we examine the performance of students in Std VIII by the type of school in which they were enrolled (Table 33). As in the case of the language comprehension tasks, for basic arithmetic tasks too we observe that students in Std VIII in Model Residential Schools significantly outperform children from the rest of schools. Std VIII students in Ashram Schools and Educational Complexes demonstrate the poorest outcomes with respect to basic arithmetic, with students in High Schools and Girls' High Schools somewhere in between.

Table 33: % Students who responded correctly to basic arithmetic tasks. By task and school type. 2022

Task		Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Addition	Numeric problem	65.8	65.3	79.2	81.7	91.7	79.3
	Word problem	37.5	39.3	58.9	59.4	84.4	58.8
Subtraction	Numeric problem	38.2	34.2	52	58.6	82.1	55.3
	Word problem	10.3	12.2	28.9	37.4	67.7	33.8
Multiplication	Numeric problem (2 by 1)	59.2	62.9	75.7	78.7	92.3	76.4
	Numeric problem (3 by 1)	26	32.8	51.6	60.2	84.5	55.1
	Word problem	16.7	18.8	37.1	43.9	73.9	40.9
Division	Numeric problem (2 by 1)	50.1	51.3	66.6	70.9	88.2	68.1
	Numeric problem (3 by 1)	22.5	27	47.4	56.1	82.8	51.2
	Word problem	11.3	16.5	24.6	30.6	50.5	28.3

Application of mathematics to everyday life

The third section of the learning assessment included 4 questions which tested children's ability to apply mathematical concepts to everyday life. The tool contained one question on calculating time, one question on calculating discount, and two questions on financial decision making. The time calculation task is taught in state textbooks in Std III, while the other tasks are taught in Std VI.

As we noted for the language comprehension and basic arithmetic tasks, students' performance on all four of these questions increases steadily with grade (Table 34). However, while most students were able to master three of the tasks by Std X, the discount calculation proved to be very difficult – even in Std X, less than a quarter of all students could complete this task correctly. This is consistent with Strand 1 findings where under 20% of all children could do this task.

As in the case of basic arithmetic, across these tasks we also see a clear gender gap in students' ability to answer correctly (Table 35).

Table 34: % Students who could do applied mathematics tasks. By task and grade. 2022

Task	Std VI	Std VII	Std VIII	Std IX	Std X
Calculating Time	34.1	48.5	53.7	59.5	66.3
Discount Calculation	4.6	19	10.8	13.9	23.2
Decision Making 1	25.3	32	49.8	54.8	64.6
Decision Making 2	24.5	15.6	51.7	53.6	66.6

Table 35: % Students who could do applied mathematics tasks. By task and sex. 2022

Task	Girls	Boys	% pt difference
Calculating Time	45.8	61.8	16
Discount Calculation	8.1	18.5	10.4
Decision Making 1	44.4	50.6	6.2
Decision Making 2	44.9	51.2	6.3

Finally, as before we compare the performance of Std VIII students in sampled schools across school type. The advantage seen among students in Model Residential schools continues to be visible in these results, with these students doing between 10 and 25 percentage points better than those in any other school type (Table 36).

Table 36: % Students who could do applied mathematics tasks. By task and school type. 2022

Task	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Calculating Time	36	38.7	45.5	57.8	68.6	51.5
Discount Calculation	7.7	3.6	5.9	14.7	28.4	11.8
Decision Making 1	24	22.3	44.9	49.9	74.7	46.6
Decision Making 2	27.3	25	45.5	51.1	69.6	47.1

These results show that children from Model Residential Schools performed better than their peers in other schools across all tasks - language, mathematics and applied mathematics. Given that fieldwork for this study was conducted soon after schools reopened after two years, a likely reason for this observed difference in performance may be the difference in children's own as well as in their household characteristics. Unlike other school categories in this study, children in Model Residential Schools go through a rigorous selection process; those selected are likely to be high-performing students and may also have better support available at home.

Student Experiences during the Pandemic

School closures during the COVID-19 pandemic affected students' access to educational content and processes in many ways. In order to understand how this period affected students in sampled schools, field investigators administered an oral survey in all Std. VI-X classes in sampled schools. In this survey, field investigators first introduced themselves and made the students feel relaxed and comfortable by asking a few 'warm-up' questions. Field teams then asked students a series of closed-ended questions and recorded the number of students raising their hand in response to each option. In this way, between 2,000 and 2,500 students were surveyed in each of Std VI-X. In all, 11,182 children responded to this questionnaire (Table 37).

Table 37: Total students surveyed in school. By grade and type of school. 2022

Std	Ashram School	Educational Complex	Girls High School	High School	Model Residential School	All Classrooms
Std VI	194	492	614	592	326	2218
Std VII	137	389	560	627	320	2033
Std VIII	149	391	838	821	298	2497
Std IX	111	46	889	950	311	2307
Std X	93	43	860	964	167	2127
All	684	1361	3761	3954	1422	11182

Who helped students during school closures?

Across all schools, 15% of students reported taking paid tuitions during school closures (Table 38). This percentage is lower than the household data reported in Strand 1, where 26.7% of government school children reported taking tuition classes. There was variation across grades, with a higher percentage of students in Std. IX and X taking tuitions (about 25%) as compared to students in Std. VI-VIII (about 8%). Across school types, the greatest percentage of students reporting taking paid tuitions during school closures were those in Educational Complexes at 31.9% as compared to only 7.3% in Ashram Schools.

Table 38: % Students taking paid tuition classes during lockdown. By grade. 2022

Std VI	Std VII	Std VIII	Std IX	Std X	All
8.6	7.8	8.4	22.8	27.8	15.0

Table 39: % Students taking paid tuition classes during lockdown. By school type. 2022

Educational Complex	Ashram Schools	Girls High School	High School	Model Residential School	All Schools
31.9	7.3	17.6	10.7	19.3	15.0

Most students were also supported in their studies by family members: overall, only 6% reported that no one had helped them while studying at home during school closures (Table 40). The greatest percentage of students reported taking support of their siblings while studying at home, closely followed by their fathers. A small minority reported having no one to support them. When looking at the breakup by grade, sibling support is greater and parental support is lower for higher grades. This is similar to trends in the nation-wide phone-based ASER survey in late 2021, which found that as students' grade increases, parents' ability to support their studies decreases. By school type, trends were roughly even across schools.

Table 40: % Students receiving learning support at home. By family member and grade. 2022

Family member	Std VI	Std VII	Std VIII	Std IX	Std X	All
Father	38.7	38.2	26.6	29.7	17.7	30.1
Mother	25.0	24.0	21.0	18.1	13.0	20.2
Siblings	19.7	26.8	36.6	29.8	39.9	30.7
Others	8.1	9.3	10.2	13.4	12.6	10.7
No one	4.9	2.0	8.2	6.5	7.8	6.0

Table 41: % Students receiving learning support at home. By family member and school type. 2022

Family member	Educational Complex	Ashram Schools	Girls High School	High School	Model Residential School	All
Father	37.1	30.2	30.4	26.4	35.7	30.1
Mother	21.1	29.5	17.4	20.2	18.6	20.2
Siblings	26.2	29.8	32.5	31.7	25.9	30.7
Others	12.6	5.4	9.7	13.8	9.2	10.7
No one	3.5	6.8	6.6	5.8	5.1	6.0

It's worth mentioning that learning support at home was open to interpretation by the students who were asked this question, and is not only limited to parents helping out with studies. It could also include parents encouraging the students to study, providing them tutors, or simply providing resources for the children to study at home.

Learning resources at home

Two trends in students' access to learning resources at home are clearly visible in these findings. First, access improves as children move to higher grades. Roughly half of all students reported having access to reading material at home (Table 42), and this proportion increased in higher grades. Similarly, children's access to smartphones for their studies increases steadily from about a quarter of all students in Std VI to half of all students in Std X. Parents of students in higher grades were more likely to have purchased a new phone for studies during this period than parents of students in lower grades.

Table 42: % Students with learning resources available at home. By type of resource and grade. 2022

Learning resource	Std VI	Std VII	Std VIII	Std IX	Std X	All
Access to reading material at home	42.7	48.2	46.8	58.8	63.6	53.1
Smartphone is available for studies	9.4	23.9	28.1	36.6	53.5	32.7
Parents purchased a new phone for studies during lockdown	19.4	9.7	18.4	16.5	29.7	18.2

Second, across school types, students in Model Residential Schools reported having greatest access to reading material at home (63.6%) and smartphones (53.5%); also 30% of these students reported that their parents had purchased a new phone for this purpose (Table 43). These figures may reflect the socioeconomic characteristics of households that students in these schools belong to: since admission to these schools is via a competitive examination in Std VI, it is possible that students enrolled in these schools are advantaged relative to their counterparts in the other categories of school included in this study. Students in Educational Complex schools fared the worst in this respect, with 9.4% students able to access a smartphone and 42.7% able to access reading material at home during the period of school closures.

Table 43: % Students with learning resources available at home. By type of resource and school type. 2022

Learning resource	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All
Access to reading material at home	42.7	48.2	46.8	58.8	63.6	53.1
Smartphone is available for studies	9.4	23.9	28.1	36.6	53.5	32.7
Parents purchased a new phone for studies during lockdown	19.4	9.7	18.4	16.5	29.7	18.2

Contact with schools and teachers

Students were asked about the nature of the contact they had with schools and teachers while schools were closed, in terms of receiving learning materials remotely, having contact with a teacher, and attending online classes.

Looking first across grades, the percentage of students who received learning material when schools were closed was very high and roughly even across grades, with an average of 86.3% students reporting having received some form of learning materials (Table 44). About half of all students reported having contact with their school teacher (51.1%), with an increasing trend from lower to higher grades. The primary medium of contact was phone calls (73.5%). About a third of all students reported contact with teachers during online classes (33.6%) and via Whatsapp (31.1%). The proportion reporting online classes and Whatsapp messages from teachers was highest for Std. X, which aligns with the fact that Std X students had the greatest access to smartphones. For students who were attending online classes, 28.3% attended regularly (more than three times a week), a trend which was even across grades barring Std. VI where the fraction of students reporting regular attendance in these classes was much higher at 46.5%.

Table 44: % Students who had contact with teachers during school closures. By type of contact and grade. 2022

Type of contact with teacher		Std VI	Std VII	Std VIII	Std IX	Std X	All
Received any learning material when schools were closed		83.5	84.8	84.7	92.8	85.5	86.3
Had any contact with the school teacher (from your school)		39.3	47.6	44.7	58.9	65.8	51.1
Of those who have contact with school teachers, medium used	Message	8.8	3.6	7.7	5.7	3.6	5.7
	Whatsapp	16.6	20.0	25.4	39.1	44.5	31.1
	Phone Call	73.4	72.5	84.6	71.4	67.4	73.5
	Home Visit	27.1	19.3	25.5	23.8	25.1	24.2
	Online Class	19.5	18.6	28.6	38.3	52.3	33.6
	Other	2.8	3.2	2.0	7.1	3.9	4.0
Of those attending online classes, those attending regularly (more than thrice a week)		46.5	20.0	21.6	28.3	28.3	28.0

An examination of these results by school type shows that here too, students from Model Schools reported having the most contact with their school teachers during school closures (60.4%) (Table 45). There was some variation in the nature of this contact. A significantly greater proportion of students from Educational Complexes experienced home visits (74% compared to the average of 24.2%), and a smaller proportion experienced phone calls (42.1% compared to the average of 73.5%) or Whatsapp messages (6.8% compared to average of 31.1%). In terms of online classes, Model Schools had the greatest percentage of children attending online class (45.4%), while once again, Educational Complexes had the least (9.3%). This may be due to the fact that as reported earlier, Model School students had the greatest access to smartphones for studies, while students in Educational Complexes had the least. There was also variation seen in terms of those who were attending classes regularly (more than thrice a week), with 15.6% from Ashram Schools compared to 42.3% from Model Schools.

Table 45: % Students who had contact with teachers during school closures. By type of contact and school type. 2022

Type of contact with teacher		Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All
Received any learning material when schools were closed		84.6	88.6	85.4	85.3	89.9	86.3
Had any contact with the school teacher (from your school)		47.2	47.0	47.4	53.3	60.4	51.1
Of those who have contact with school teachers, medium used	Message	3.6	4.7	5.7	7.7	3.6	5.7
	Whatsapp	6.8	12.2	35.8	31.2	44.1	31.1
	Phone Call	42.1	82.6	70.6	72.1	88.0	73.5
	Home Visit	74.0	21.4	26.1	24.5	2.7	24.2
	Online Class	9.3	17.1	35.8	35.7	45.4	33.6
	Other	0.0	1.4	6.8	1.9	6.9	4.0
Of those attending online classes, those attending regularly (more than thrice a week)		30.0	15.6	23.0	26.6	42.3	28.0

It should be noted that during the school closures the Department launched different initiatives to maintain contact with students – for example, Alternative Learning and Mentorship Program (ALMP) and 'school on a wheel' (for PVTG area). While the survey did not ask if the students were reached out as a part of specific initiative, there are clear differences noted in physical home visits for children studying in Education Complex (74%), which cater to PVTG children.

Students' aspirations for the future

In addition to the current situation with regards to facilities, resources, and learning outcomes in these schools, this study also explored what students in sampled schools aspire to do in the future. To do so field investigators randomly selected 10 students from each class from Std VIII, IX, and X for administration of a short oral survey on their aspirations, interests, and awareness about career options. Table 46 below shows the coverage of the aspirations survey across all sampled schools.

Table 46: Total students surveyed for the Aspirations format. By grade, sex and school type. 2022

Std	Sex	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Std VIII	All	50	100	149	141	58	498
	Boys	4	44	NA	67	31	146
	Girls	46	56	149	74	27	352
Std IX	All	50	NA	151	139	62	402
	Boys	NA	NA	NA	79	33	112
	Girls	50	NA	151	60	29	290
Std X	All	50	NA	149	141	30	370
	Boys	NA	NA	NA	81	17	98
	Girls	50	NA	149	60	13	272
All Std	All	150	100	449	421	150	1270
	All Boys	4	44	NA	227	81	356
	All Girls	146	56	449	194	69	914

What do students aspire to do after completing their studies?

Table 47 presents differences in students' future aspirations by sex. Expectedly, students' aspirations show variations that may be attributed to gendered social norms. For example, majority of the girls reported wanting to become either a doctor or a teacher (27% and 26% respectively). Boys expressed more varied aspirations than girls: while the majority reported wanting to become teachers (20%), many also mentioned police (14%), army (11%) and doctor (12%). It is worth noting that very small percentages of students reported wanting to do household work (1.3% girls and 1.7% boys) or work in the agriculture sector (0.7% girls and 4.5% boys).

Table 47: % Students who want to work in various professions. By sex and profession. 2022

Sex	Teacher	Doctor	Police	Govt Job	Engineer	Army	Sports	Household work	Agriculture	Pvt Job	Other*	Don't know yet	All Students
Boys	19.8	11.5	13.7	7.5	12	10.9	10.9	1.7	4.5	1.1	8.9	4.2	100
Girls	25.7	27.2	10.1	6.6	3.2	2.1	2.1	1.3	0.7	0.1	17.3	4.6	100
All	24	22.8	11.1	6.9	5.7	4.6	4.6	1.4	1.7	0.4	15	4.5	100

*The 'other' category included options like nursing, tailoring, working on crafts etc. Many of these respond to girls' need for shorter and more flexible work hours in locations closer to home.

Interest in vocational courses

Students were asked whether they had heard about vocational courses, and whether they would be interested in pursuing such a course. Table 48 summarises the responses obtained, and shows that awareness about vocational courses averages about 44% across the sample, with boys being slightly better informed (49%) than girls (41.9%). However, a clear upward trend is visible by grade: while a third of students in Std VIII reported having heard of vocational courses, by Std X this proportion increases to more than half of all students (56.8%) (Table 49).

Table 48: % Students who have heard about vocational courses. By sex. 2022

Sex	% Students who have heard about vocational course
Boys	49.0
Girls	41.9
All	43.9

Table 49: % Students who have heard about vocational courses. By grade. 2022

Std	% Students who have heard about vocational course
Std VIII	33.3
Std IX	45.3
Std X	56.8
All grades	43.9

As part of the survey, students who did not know about vocational courses were explained what they are; and all students were then asked whether they would be interested in pursuing such a course. Their responses suggest that interest in vocational courses is high, with three quarters of the sample expressing interest (Table 50). There is a small difference of 5 percentage points in the proportion of boys and girls wanting to pursue a vocational course. Looked at by grade, as students get closer to completing Std X they appear to be more interested in such courses: 72.5% of Std VIII students surveyed expressed interest, as compared to 81.6% of the Std X students (Table 51).

Table 50: % Students who want to pursue a vocational course. By sex. 2022

Sex	% Students who are interested in pursuing vocational course
Boys	79.1
Girls	74.6
All	75.9

Table 51: % Students who want to pursue a vocational course. By grade. 2022

Std	% Children who are interested in pursuing vocational course
Std VIII	72.5
Std IX	74.9
Std X	81.6
All grades	75.9

Students' preference for specific types of vocational courses is clearly gendered (Table 52). Beautician, tailoring, and nursing are options preferred almost exclusively by girls, while the electrical options was mentioned almost entirely by boys. While many of these options were mentioned by one or the other, computer courses were a popular option among both boys (54.8%) and girls (31.5%)

Table 52: % Students who want to work in various professions. By sex and profession. 2022

Sex	%Students who are interested in pursuing vocational course	Of those interested, % students who want to pursue different courses									
		Computer Course	Tailoring	Nursing course	Electrical/ electrician	Hospitality	Beautician	Welder/ fitter	Others	Don't know	Total
Boys	79.1	54	3.1	1	23.3	3.5		3.8	4.9	2.1	100.0
Girls	74.6	31.6	24.7	23	4.4	3.4	3.4	0.4	0.7	1.6	100.0
All	75.9	38.3	18.3	16.5	10.1	3.4	2.4	1.5	1.9	1.8	100.0

Key takeaways

The data from school registers, learning level assessments, and surveys with students themselves generated a number of insights into the student experience in ST & SC Development schools.

The majority of students in the sampled schools are boarders, with a greater percentage of girls than boys as boarders. Among students present on the day of the visit, when looking at their home villages, boys were more likely to have come from further away than girls.

Overall attendance was high (84.8%), with lower attendance for boys than girls on the day of the visit across all school types. Among all enrolled students, 6.2% had not returned since school reopening, with a greater proportion of boys than girls forming these extended absentees. Educational Complexes had the greatest proportion of extended absentees among all school types, while Model Residential Schools had the lowest.

The trends seen for attendance and extended absentees is the same when looking at retention from 2019-20 to 2021-22. Girls have slightly higher retention rates than boys (93.3% compared to 92.6%), and among school types, Model Residential Schools have the highest retention, while Educational Complexes have the lowest. When looking into the reason for students dropping out of sampled schools, it was found that almost 60% of students who had left the school had obtained a School Leaving Certificate, suggesting that they had transferred to another school.

Overall, it is evident from the enrolment, attendance and cohort tracking that a larger proportion of girls returned to school when schools reopened, and are attending school now. However, among boys and girls currently attending these schools, boys performed better than girls in all tasks except for vocabulary. Moreover, the gender gap in learning outcomes increases with grade. Students in Model Residential Schools had the best scores in arithmetic, applied maths and language (for Std VIII), while those in Ashram Schools had among the lowest.

It's also interesting to note that even though the students are coming from a widespread catchment area, especially for Model Residential Schools (where 30% students are from villages outside the school block), the schools maintain a high retention rate and low rates of absenteeism, suggesting that dropouts and absenteeism may not be related to the distance from the homes of students.

The student surveys revealed that during school closures a greater proportion of students from higher grades compared to lower grades took tuitions, received support from their siblings rather than their parents to learn at home, had access to learning resources in the form of reading material and smartphones, and attended online classes. Among school types, Educational Complexes had the highest proportions of students taking tuitions, and the lowest proportion who had access to learning resources at home. In contrast, students from Model Residential Schools, who may come from affluent socio economic backgrounds, had the greatest access to learning resources at home.

Discussions on aspirations showed that student's interests for their future are heavily influenced by social and gender norms, with more girls than boys being unsure of their preferences or mentioning vocations such as teaching, medicine, beauty, and tailoring. A lack of role models was also noticeable, with a third of students not knowing anyone pursuing the career that they are interested in.

Overview
Schools

In this section of report, we present findings on the physical and human resources available in sampled schools, collected during field visits to each school by field investigator teams. The data collection process and tools are described in the About the Study Section of this report. It should be noted at the outset that although the process followed in sample selection (described in the Sample Design Section) aimed to maintain randomness of the selection to the extent possible while also covering all 6 distinct school types and 5 districts, the results presented here are not representative at the district level. All comparisons are presented across the different school types rather than by district, and the findings are indicative rather than definitive in nature.

The section is organised as follows. We begin by examining the key human resources available in these schools: teachers and headteachers, both appointed as well as present during the field visit. We then examine physical infrastructure available in the school, ranging from the availability of electricity, drinking water, and toilets, to the existence of infrastructure for physical education and the nature of hostel facilities. Third, we go inside the classroom, examining key indicators related to class grouping and the availability of basic teaching-learning infrastructure for selected grades. And finally, we look at whether two key mechanisms for contact and communication with key stakeholders are operational in these schools – School Management Committees (SMC) and Parent-Teacher Meetings (PTM).

Schools
Teaching staff

Table 53 shows the number of head teachers, regular teachers, and contract teachers appointed in sampled schools. These teaching staff were appointed to teach all grades offered in the school, not only Std VI-X that are the focus of this study. The interpretation of staff strength thus needs to keep in mind not only the number of teachers but also the number of grades in the school.

With regard to head teachers, almost all sampled schools had a HM appointed, with the exception of Model Schools (where only 3 out of 6 schools had HMs) and Ashram schools (8 out of 10).

The situation with respect to teachers is much more varied. While all schools have both regular government teachers as well as contract teachers appointed, different types of schools appear to rely more heavily on one or the other type of teacher. For example, Ashram Schools are overwhelmingly staffed by regular government teachers (36), with very few contract teachers appointed (9). Model schools show the opposite pattern, with few regular government teachers appointed (14) and a large number of contract teachers (67). These differences may be reflective of differences in the grades offered by the different school types: in the examples mentioned earlier, Ashram Schools, offering only elementary grades, have an average of 5.3 teachers per school; at the other extreme, Model Schools offer higher secondary grades and therefore may need more specialised teaching staff. Educational Complexes appear to be significantly better resourced than other school categories, with an average of 14 teachers per school, as compared to 10.8 teachers in High Schools and 9 in Girls' High Schools.

Table 53: Total Teachers Appointed in school. By school type. 2022

Indicator	Educational Complex (Std I-X)	Ashram School (Std VI - VIII)	Girls High School (Std I-X)	High School (Std I-X)	Model Residential School (Std VI-XII)	All schools
Number of schools visited	5	10	15	14	6	50
HM appointed	5	8	15	14	3	45
Govt teachers appointed	26	36	73	84	14	233
Contract teachers appointed*	36	9	47	53	67	212
Total appointed	67	53	135	151	84	490
Average teachers appointed per school	13.4	5.3	9.0	10.8	14.0	9.8

*Contract teachers include para teachers, community teachers and part-time teachers

Table 54 shows the proportion of teaching staff who were observed to be present during the field visit. On average, teacher attendance is very high: 90% of teachers were present across all schools, with the highest percentage seen for contract teachers. This rate is in line with data collected from successive ASER reports, which show that teacher attendance in Odisha government upper primary schools (grades 1-7/8) increased from 83.8% in 2010 to 92.7% in 2018. Among school types, the greatest attendance was seen in Model Schools, followed closely by High Schools.

Table 54: % Teachers present in school on the day of the visit. By school type. 2022

Indicator	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
HM	80.0	87.5	86.7	100	100	91.1
Govt teachers	80.8	69.4	89.0	91.7	92.9	86.3
Contract teachers*	94.4	88.9	93.6	92.5	95.5	93.9
Total teachers	88.1	75.5	90.4	92.7	95.2	90.0

*Contract teachers include para teachers, community teachers and part-time teachers

Infrastructure

School Infrastructure

Table 55 shows how schools in each category perform on the availability of basic infrastructure. Almost all of the items shown in the table are mandated to be provided by all schools under the Right to Education Act (RTE). Others are specifically mandated for use in the schools run by the ST & SC Development Department, such as water purifiers.

Most schools in this sample were well equipped on these parameters. The majority had drinking water (90%) and electricity (92%), an office-cum-store (94%), and library books in the school (86%). Variation across school types was not observed to be very large. One exception was the availability of drinking water from water purifiers, which although required by the Department were available in only 2 out of 5 (40%) of Educational Complexes, as opposed to 83.3% of Model Residential Schools. Across all school types, Educational Complexes had the least provisions for drinking water in terms of hand-pump, taps or wells as well as purifiers, followed by Ashram Schools.

There was a significant variation in the availability of usable toilets in the schools. Model Residential Schools had the greatest provisions available, with 83.3% of both boys and girls' toilets being available and in usable condition. In contrast, for the other school types, girls' toilets were in worse condition than boys'; 33.3% of girls' toilets compared to an average of 60% of boys' toilets were available and usable across all schools.

Table 55: % Schools with selected facilities available. By facility and school type

% schools with		Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Office/Store/ Library	Availability of office-cum-store	80.0	90.0	100	92.9	100	94.0
	Library books in the school	80.0	90.0	86.7	78.6	100	86.0
	Library books being used by children	20.0	50.0	40.0	50.0	33.3	42.0
Drinking water (handpumps, taps or wells)	No facility for water	20.0	10.0	0.0	7.1	0.0	6.0
	Facility available but no drinking water	20.0	10.0	0.0	0.0	0.0	4.0
	Water available	60.0	80.0	100	92.9	100	90.0
	Total	100	100	100	100	100	100
Drinking water (water purifier)	No purifier	20.0	30.0	20.0	21.4	16.7	22.0
	Purifier available but no drinking water	40.0	20.0	6.7	14.3	0.0	12.0
	Drinking water available from purifier	40.0	50.0	73.3	64.3	83.3	66.0
	Total	100	100	100	100	100	100
Toilet facilities	Girls' toilets available and in usable condition	40.0	40.0	20.0	21.4	83.3	33.3
	Boys' toilet available and in usable condition		60.0		42.9	83.3	60.0
Electricity	No electricity connection	20.0	10.0	0.0	14.3	0.0	8.0
	Connected but no power on the day of visit	0.0	0.0	0.0	0.0	0.0	0.0
	Connected and available on the day of visit	80.0	90.0	100	85.7	100	92.0
	Total	100	100	100	100	100	100
First aid facilities available in the school		80.0	80.0	86.7	85.7	66.7	82.0

Infrastructure for physical education

Table 56 below shows the infrastructure available in sampled schools for physical education (P.E.), aggregated by school type. This includes dedicated time on the timetable for these activities; the availability of a teacher; availability of a playground and of equipment for outdoor as well as indoor games. Across all sampled schools, less than two thirds had P.E. in the timetable or dedicated time allocated to physical education during the week (64%). Just over half had a separate P.E. teacher (52%) and less than half had a playground (48%). While almost three quarters of these schools had sports equipment

available (74%), students were observed doing a sporting activity in only 20% of them. The most extreme example comprised the Ashram Schools where although 90% of sampled schools were observed to have sports equipment, students were not observed engaging in sports in a single school.

However, all these parameters vary enormously across school types. For example, although overall 74% of schools were observed to have sports equipment, the highest proportion was seen in Ashram Schools (90%), and the lowest in High Schools (57.1%). Similarly, when field investigators visited the school, they observed students engaging in a physical education activity under the supervision of a teacher in 60% of Educational Complexes versus 0% of Ashram Schools.

Table 56: % Schools with Physical Education provisions. By school type. 2022

Physical education indicator	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
A dedicated time scheduled for physical education	60.0	40.0	80.0	64.3	66.7	64.0
PE teacher	20.0	80.0	46.7	57.1	33.3	52.0
Of schools that don't have a PE teacher, % schools where other teachers take PE regularly	0.0	50.0	57.1	50.0	0.0	46.2
Playground for children	60.0	10.0	53.3	64.3	50.0	48.0
If no playground within school, % schools with any other playground where children can play during school hours	20.0	50.0	13.3	21.4	33.3	26.0
Sports equipment	80.0	90.0	73.3	57.1	83.3	74.0
Students engaging in sports activity	60.0	0.0	20.0	21.4	16.7	20.0

Hostel facilities

As noted at the start of this section, all schools visited for this study are residential schools, and had separate boarding facilities for boys and girls. This section reports on selected characteristics of the hostel facilities available to girls in sampled schools, aggregated by school type.

Table 57 summarises observations from these hostel facilities. In terms of beds, in Model Residential Schools and Educational Complexes, all students had their own individual bed. Among the other school types, between 30-50% of schools had hostels where students were sharing beds. Access to hostel amenities was high, with between 80% and 100% of schools providing soap, oil, sanitizer, uniforms, and mosquito nets. All five Educational Complexes provided all items.

The vast majority of hostels had electricity available, with the exception of a small proportion of High School hostels (7.1%). When an electricity connection was available, it was almost always connected to hostel rooms, while a smaller percentage had connections in common rooms and dining areas as well.

Across all hostels, only 62% had drinking water available through a purifier. Model Schools had the highest percentage of hostels with drinking water at 83%, while High Schools had the lowest, at 57.1%.

Hostels had more toilets available and in usable condition than schools (Table 6 and 7), with 68.6% of girls' toilets, and 70% of boys' toilets available and in usable condition across all school types. This varied, as High Schools only had 57.1% of toilets available and usable (for both sexes) compared to 83.3% in Model Residential Schools (for both sexes).

Only 42% of hostels had a working CCTV camera, with the greatest percentage of working CCTVs seen in Educational Complexes (60%). Strikingly, 66.7% of Model Residential Schools did not have any CCTV installed in the campus, which was the highest among all school types. 88% of schools had a separate boundary wall for the hostel building.

82% of schools had provision for logging Prevention of Sexual Harassment (PoSH) complaints and other grievances. This included, for instance, a complaint box available in the hostel in which students can write and leave their complaints. 100% of Ashram Schools and Educational Complexes had this provision, while only 66.7% of Model Schools did. Model Schools had the greatest percentage of hostels with emergency exits (again at 66.7%), compared to other school types.

A fire extinguisher was observed in 80% of hostels. Among different school types, 100% of Model Schools and Educational Complexes had provision of fire extinguishers.

Table 57: % Schools with residential facilities. By facility and school type. 2022

Residential facility		Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Beds for students	Beds available for all students	100	70.0	60.0	50.0	100	68.0
	Students sharing the beds	0.0	30.0	40.0	50.0	0.0	32.0
	Total	100	100	100	100	100	100
Access to hostel amenities	Soap and oil	100	90.0	93.3	92.9	100	94.0
	Sanitiser	100	90.0	93.3	85.7	83.3	90.0
	Uniform	100	100	100	92.9	83.3	96.0
	Mosquito net	100	100	93.3	92.9	83.3	94.0
Electricity	No electricity connection	0.0	0.0	0.0	7.1	0.0	2.0
	Connected to common room and dining areas	60.0	70.0	80.0	57.1	66.7	68.0
	Connected to hostel rooms	100	100	100	92.9	100	98.0
Drinking water (purifier)	No facility for water	20.0	20.0	26.7	28.6	16.7	24.0
	Facility available but no drinking water	20.0	20.0	13.3	14.3	0.0	14.0
	Water available	60.0	60.0	60.0	57.1	83.3	62.0
	Total	100	100	100	100	100	100
Toilet facilities	Girls' toilets available and in usable condition	60.0	80.0	73.3	57.1	83.3	68.8
	Boys' toilet available and in usable condition		80.0		57.1	83.3	70.0
CCTV	No CCTV in the campus	0.0	10.0	40.0	21.4	66.7	28.0
	CCTV installed but not working	40.0	40.0	26.7	35.7	0.0	30.0
	CCTV installed and working	60.0	50.0	33.3	42.9	33.3	42.0
	Total	100	100	100	100	100	100
Separate boundary wall in the hostel building		80.0	90.0	100	71.4	100	88.0
Provision for logging grievances and PoSH complaints		100	100	73.3	78.6	66.7	82.0
Emergency exit in the hostel		40.0	30.0	26.7	28.6	66.7	34.0
Fire extinguisher available		100	80.0	73.3	71.4	100	80.0

Inside the classroom

As part of the school observation protocol, field investigators visited one Std VI, Std VIII, and Std X classroom in each sampled school offering these grades. They observed both grade groupings as well as basic teaching-learning infrastructure available in these classrooms.

Multigrade classrooms

Successive ASER reports and other research studies have shown that the incidence of multigrade classrooms is high in primary schools across the country. This was not the case in the schools visited for this study. Relatively few of the upper primary and secondary classrooms had more than one grade sitting together. The exceptions were Educational Complexes, where multigrade classrooms were observed in 2 out of 5 of the Std VI classrooms observed (40%), and 1 out of 5 (20%) of the Std VIII and X classrooms observed (Table 58).

Table 58: % Schools with multigrade classrooms. By grade and school type. 2022

Std	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Classrooms
Std VI	40.0	10.0	7.7	8.3	16.7	13.0
Std VIII	20.0	0.0	6.7	7.1	16.7	8.0
Std X	20.0		6.7	7.1	16.7	5.0

Teaching - learning material

Availability of teaching-learning material (TLM) other than textbooks, such as storybooks, charts on the wall, picture and story-cards, was low across all school types, with the lowest observed in Ashram Schools at 30% in both Std VI and Std VIII classrooms. Educational Complexes had the highest percentage, with 60% of classrooms in Std VIII and X having TLM other than textbooks available (Table 59).

Table 59: % Schools with TLM other than textbooks available in classrooms. By grade and school type. 2022

District	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Classrooms
Std VI	40.0	30.0	46.2	41.7	50.0	41.3
Std VIII	60.0	30.0	53.3	35.7	50.0	44.0
Std X	60.0		40.0	35.7	33.3	40.0

Very high proportions of all categories of sampled schools had usable blackboards, averaging over 90% for Std VI and Std VIII and 85% for Std X. Model schools had lower proportions of classrooms with blackboards available, probably because many of these schools had a digital "smart board" with audio-visual aids which could also be used by the teacher to write.

Digital devices refer to projectors and tablets. The majority of schools across districts did not have digital devices in the classroom. Model Schools and Educational Complexes had the greatest percentage of classrooms with digital devices (Table 60). Girls High Schools were roughly on par with Model Schools in terms of availability of devices for Std X. High Schools had the lowest percentage of classrooms with digital devices available.

Table 60: % Classrooms with digital devices available. By grade and school type. 2022

District	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Classrooms
Std VI	40.0	30.0	33.3	21.4	66.7	37.0
Std VIII	60.0	30.0	40.0	28.6	50.0	38.0
Std X	60.0		46.7	28.6	50.0	42.5

While most schools had either blackboards or digital devices if not both, a small subset of schools had neither (Table 61). A greater proportion of Std X classrooms were in this category (10%) than either Std VI or VIII classrooms (less than 5% in each case). All of these are either Model Schools or High schools.

Table 61: % Classrooms with neither usable blackboard nor digital devices. By grade and school type. 2022

District	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Classrooms
Std VI	0.0	0.0	0.0	8.3	16.7	4.3
Std VIII	0.0	0.0	0.0	7.1	16.7	4.0
Std X	0.0		0.0	7.1	50.0	10.0

Contact with key stakeholders

We examine two key mechanisms for ensuring that schools communicate and coordinate with key stakeholders: School Management Committees (SMCs) and Parent Teacher Meetings (PTMs).

Table 62 shows that, overall, 96% of schools visited reported having a School Management Committee. This number stood at 100% for Ashram Schools, High Schools and Girls' High Schools, while Model Schools and Educational Complex schools reporting a slightly lower proportion at around 80%. The school administration's response to this question was verified by checking the last date of the SMC meeting in the school register.

80% of schools reported having organized a PTM (Parent-teacher meeting) in the previous six-month period, information which was verified by checking the school register. Model Schools again reported the lowest proportion of PTMs among these schools, with two thirds of these schools having held a PTM in the last six months.

Table 62: % Schools with SMC and PTM. By school type. 2022

SMC/PTM	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Schools which reported having an SMC	80.0	100	100	100	83.3	96.0
Schools which reported organising a PTM	80.0	80.0	80.0	85.7	66.7	80.0

Teachers' perspectives on teaching after school reopening

In order to understand teachers' perspectives on questions related to teaching-learning methodology and classroom process once schools reopened after the extensive 2-year COVID-19 closures, selected teachers in sampled schools were asked to respond to a questionnaire on these and other topics. Out of the total of 487 teachers appointed in sampled schools, the teachers' questionnaire was administered to 191 head teachers and teachers who taught Std VI, VIII or X and who had at least one year of experience in the sampled school. The distribution of this subsample of teachers is shown in Table 63.

Table 63: Total number of teachers surveyed. By district and school type. 2022

District	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Gajapati	4	7	12	12	4	39
Malkangiri	4	8	12	8	9	41
Mayurbhanj	4	8	11	12	4	39
Rayagada	4	6	11	11	4	36
Sundargarh	4	4	12	12	4	36
Total	20	33	58	55	20	191

What initiatives are being taken to bring students back to school?

Because this survey was conducted in the weeks following school reopening, ensuring that students returned to school was a specific concern. The ST & SC Development Department, Government of Odisha and individual schools introduced various initiatives to bring the students back to school, including conducting phone calls and organising welcome ceremonies for the students. From teachers' responses to this question, it can be seen that the majority (82.2%) reached out to the students telephonically (Table 64). 79% of teachers organised welcome ceremonies for the students, with the proportion varying across school types (for example, 97% of teachers from Ashram Schools, compared to 52% of teachers from Model Residential Schools.) Overall, personal home visits were conducted by 60% of teachers to bring the students back; however, only 32% of teachers in Model Residential Schools physically visited the students regarding school reopening. The inability of teachers in Model Residential Schools to reach the students physically is understandable given that the students in these schools come from locations across the district and even from outside the district where the school is located. At the opposite extreme, 85% of surveyed teachers in Educational Complexes reported physically visiting students' homes.

Table 64: % Teachers reporting taking various initiatives for bringing students back to school. By school type. 2022

Initiative taken	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Telephone calls to students	90.0	87.9	70.7	83.6	92.0	82.2
Welcome ceremony for students	85.0	97.0	82.8	74.5	52.0	79.1
Contacted through parents and other students	80.0	69.7	58.6	85.5	64.0	71.2
Personal visits to home	85.0	60.6	63.8	60.0	32.0	60.2
Posters sent to villages	0.0	6.1	8.6	3.6	24.0	7.9
Government announcements in media	5.0	9.1	1.7	0.0	4.0	3.1

What content are teachers teaching currently?

Given that schools have recently reopened after 2 years, teachers were asked what type of content they are teaching currently. For example, were they covering the regular grade level curriculum, or revising the previous year's curriculum?

These were not mutually exclusive options. Across schools, 79.1% of teachers reported teaching the regular curriculum in schools. This did not vary much across school types. However, the majority of teachers (61.8%) also reported revising the previous year's curriculum because students were having difficulties coping with grade-level content (see analysis of challenges later in this section). Educational Complexes had the lowest proportion of teachers who reported doing so (45%), as compared to around 70% of teachers in Ashram Schools (Table 65).

Table 65: % Teachers reporting teaching different types of content in class. By school type. 2022

Type of content	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Regular curriculum	80.0	75.8	81.0	76.4	84.0	79.1
Revision of last year's curriculum	45.0	69.7	63.8	63.6	56.0	61.8

What materials do teachers use to teach?

83.8% of teachers reported using textbooks in class, and this did not vary significantly across school types (Table 66). As per the school observations conducted as part of this study, around 40% of observed classrooms also had teaching-learning material available other than textbooks, as observed by field investigators. Teachers self-reported a higher usage than what was observed in classrooms (Table 66), with usage of worksheets, online recorded videos, charts, models, toys and library books being reported by between 43% and 60% of surveyed teachers. There was variation across school types, particularly for Model Residential Schools and Educational Complexes, where teachers reported a higher usage of online videos (68% and 45% respectively), charts, models and toys (76% and 80% respectively), and library books (52% for teachers in Model Residential Schools).

Table 66: % Teachers reporting using different types of teaching material in class. By school type. 2022

Teaching material	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Textbooks	80.0	84.8	84.5	85.5	80.0	83.8
Worksheets	60.0	54.5	53.4	45.5	56.0	52.4
Online recorded videos	45.0	30.3	43.1	38.2	68.0	42.9
Charts, models or toys	80.0	45.5	55.2	58.2	76.0	59.7
Library books	40.0	39.4	43.1	41.8	52.0	42.9
Sports and game equipment	5.0	30.3	19.0	21.8	32.0	22.0

What challenges are teachers facing currently?

Finally, teachers were asked whether they faced any challenges due to school reopening after a prolonged period of closures. A very high proportion of teachers (84.3%) mentioned the issue of students being unable to catch up with the curriculum as being a major challenge (Table 67). Students not paying sufficient attention was the second biggest challenge (63.9%), followed by implementing COVID guidelines in class (42.4%), and finally low attendance (14.1% of teachers). This order of issues (in terms of proportion of teachers mentioning it) was consistent across school types.

Table 67: % Teachers facing various challenges in teaching. By school type. 2022

Challenge	Educational Complex	Ashram School	Girls High School	High School	Model Residential School	All Schools
Students unable to catch up with the curriculum	90.0	87.9	87.9	74.5	88.0	84.3
Students showing low attention	50.0	78.8	69.0	56.4	60.0	63.9
Implementing COVID guidelines in class	40.0	30.3	50.0	41.8	44.0	42.4
Low attendance	20.0	15.2	8.6	18.2	12.0	14.1

Key Takeaways

Data from sampled schools reveal some common trends across all school types. Most schools were well equipped on parameters such as library books, office-cum-store, blackboards, hostel amenities (such as soap, uniforms and mosquito nets), electricity and even fire extinguishers. All schools also had high teacher attendance on the day of the visit, and fewer incidences of multigrade classrooms. Provisions for Physical Education were relatively poor across school types, with significant fluctuations observed. Additionally, with the exception of Model Residential Schools, girls' toilets were mostly not in usable condition, while hostels had a higher percentage of of working toilets than schools.

However, no one school type performed consistently well across all parameters measured. Model Residential Schools, which were set up with the purpose of providing high-quality infrastructure, performed well on parameters such as individual beds for students, drinking water and usable toilets (in both hostels and schools), as well as presence of digital devices. On the other hand, they did less well in terms of working CCTVs, provision for PoSH complaints, or organisation of PTMs.

The five Educational Complexes (which in this sample, consisted only of Girls' High Schools within each complex) also fluctuated widely; they performed the worst in terms of availability of drinking water in schools (both from purifiers or hand-pumps, taps or wells) and having a high percentage of multigrade classrooms. In contrast, they had the highest percentage of individual beds, hostel amenities, as well as the availability of digital devices and alternative TLM in classrooms.

Recommendations and guidelines to address gaps caused by the pandemic on tribal children and adolescents

What issues does the data show us on the impact of the pandemic on tribal children and adolescents?

This study has provided data regarding the current situation of children in 5 tribal districts in Odisha. It covered both children in the age group 3-16 who are living at home in sampled villages, as well as those who are in upper primary and secondary grades (Std VI-X) in government-run residential schools.

The findings from the study point to two key areas where action is required:

- **Learning Levels**
- **Attendance and Dropout Levels**

Prior research, including a study based partly in Sambhalpur district of Odisha[1], has shown that these two areas are intrinsically linked. Inadequate foundational skills prevent students from being able to cope with grade-level curricula, and poor learning levels increases the likelihood that children will drop out of school.

Learning levels

Data from this study shows that learning levels of children across age groups are largely below grade level. While ASER data from previous years shows that this was true prior to the COVID-19 pandemic, between 2018 and 2022 there is clear evidence of 'learning loss' in children's ability to read simple text and do basic arithmetic, likely caused by extended school closures that were a result of the pandemic.

Poor learning outcomes

Strand 1 data found that the **reading levels** of children aged 5-16 in the surveyed districts (who belong predominantly to the SC-ST community) are largely below grade level. For instance, only 14.4% of Std III children could read at Std II level of difficulty. While this improved for children in higher grades, only 33.3% of children in Std V and 56.3% in Std VIII could read at Std II level.

Data from Strand 2 echoed this finding. Learning levels for Std VI to X students enrolled in tribal schools were much below grade level; students performed well below expectations on all of the simple metrics that were used in this study. In both strands, data showed that girls performed better than boys, with the gender gap increasing in higher grades.

When looking at **arithmetic**, the results are similar. Strand 1 found that only about one in four children in Std IV can do subtraction, while only one in five Std VIII children can do division. Results were just as poor for applied maths questions. Similarly, in Strand 2, most students in sampled residential schools performed below grade level. For example, 40.1% of Std VI students could solve a numeric subtraction problem, while a far smaller proportion could solve a subtraction word problem (14.2%). These problems are at Std IV level of difficulty. The poorest outcomes were seen in word problems (all operations) and in applied maths questions, with boys outperforming girls in all grades.

Learning loss

These results also show that the pandemic has caused significant **learning loss**. A comparison of Strand 1 data with ASER data for the same districts from earlier years shows that there are steep drops in learning levels between 2018 to 2022, likely due to extended school closures. Worryingly, basic reading and arithmetic levels have fallen below levels recorded ten years ago in ASER 2012. Higher grades show greater evidence of learning loss than lower grades, which if not addressed promptly may lead to increasing dropout rates in the months and years ahead.

Variations

While the results summarised above are averages across the five districts covered by this study, immediate, focused attention may be required in the specific locations where outcomes are the poorest. The above results vary considerably by both school type and district. In both strands, Malkangiri and Mayurbhanj experienced greater learning losses for both reading

[1]Ramanujan P. and Deshpande A. (2018), A study of access, transition and learning in secondary schools. New Delhi: ASER Centre

and arithmetic, while Rayagada showed learning improvements for older age groups. Moreover, when looking at school types, Ashram Schools and Educational Complexes had lower learning outcomes as compared to other schools.

These results also reveal important differences across children from different social categories. Across all learning tasks, children belonging to Scheduled Tribes performed far worse than children from Scheduled Castes. This outcome is visible for children in all grades and across all domains that were assessed: reading, arithmetic and applied mathematics.

Enrolments, dropouts and 'extended absenteeism'

On the positive side, an important finding from Strand 1 of the study is that less than 2% of all children in the 6-14 age group are not enrolled in school – a statistic that is in line with enrolment numbers elsewhere in the country. Also similar to other parts of India, the proportion of children not currently enrolled is higher for older age groups (7.4% for 15–16-year-olds), but this proportion has been falling steadily in recent years. Given the timing of this survey which was conducted in the weeks after school reopening, Strand 1 found that many children who were enrolled in residential schools were still living at home, especially among older children. It is possible that some of these children may have returned to school subsequently. Overall, however, the good news is that enrolment trends have not changed much since 2018, despite two years of school closures.

There are some variations. While only 0.9% of SC-ST children (aged 6-14) were not enrolled, ST communities were at a disadvantage, and were less likely to be enrolled, especially girls. Furthermore, certain districts performed worse than others: Gajapati and Rayagada had the highest proportion of out-of-school children for the older age group.

While data from Strand 1 provides representative estimates of enrollment and dropout for these districts, it is also important to consider the findings from sampled schools as reflected in Strand 2 data. Although these findings are not representative of the schools or of the districts where they are located, they do provide important indicators regarding the impact of COVID-19, including the extended school closures, on retention and dropout rates. Mirroring the Strand 1 enrollment data, Strand 2 found that retention rates are high: of the students enrolled in the 2019-20 academic year, 93% were enrolled in the same schools in 2021-22, with a slightly higher retention rate among girls than boys.

However, enrolment figures mask the number of students actually attending school. Thus, the high enrolment figures include children who, at the time of fieldwork for this study, had not returned to school after schools reopened. We have termed this group of students "extended absentees", since it is not clear whether they were simply late returning to school or had decided to drop out altogether. Across all school types included in this study, more than 800 students (6.2% of the total enrolled) had not returned to school after reopening, even though their names were still on the enrolment registers. On the other hand, among students who had officially dropped out of the sampled schools (their names were not on the school's enrolment register for 2021-22), almost 6 out of every 10 (58.2%) had obtained a school leaving certificate, indicating that they are likely to have transferred to another school rather than left the education system altogether.

The remaining 291 students – approximately 2.9% of the 2019-20 cohorts that were tracked – can be inferred to have dropped out of the education system completely. Teachers and school staff gave a variety of reasons for individual students having dropped out, ranging from marriage (for girls) to household responsibilities and employment (for boys). However, given that these were teachers' opinions on the reasons for individual children dropping out, these may not be full or accurate explanations.

In summary, data from Strand 2 of this study suggests that the proportion of students dropping out of the educational system altogether is fairly low and in line with district level estimates of dropout both from this Strand 1 of this study as well as from elsewhere in the country. A larger proportion can be assumed to have left the sampled schools in order to transfer to a different school. The greatest area of concern, based on the data generated in Strand 2, is the fact that many 'extended absentees' had not returned to school after the 2-year period of school closures, which if not attended to may lead to higher proportions of students dropping out in the future. It is worth noting that these findings varied significantly across school type and district. Educational Complexes (which cater to PVTGs) had the highest rate of both extended absenteeism and drop-outs. Across districts, Mayurbhanj, Sundargarh and Malkangiri had the biggest issue of extended absenteeism.

Learning during School Closures, Aspirations

Strand 2 found that the majority of students in Std VI-X (86.3%) reported having received learning material and 51% reported having some form of contact with their school teachers during school closures. This contact was mostly through phone calls. About 34% of students reported attending online classes, and 31% received Whatsapp messages.

However, disaggregated data reveals that there were variations in access to learning resources during the pandemic. For example, the Strand 1 household survey found that ST children are less likely to take tuitions than SC children, or have access to learning resources at home such as a television or smartphone. Similarly, Strand 2 found that students from Educational Complexes (mainly PVTGs) had the lowest access to learning resources at home.

Discussions on aspirations found that student's aspirations for their future are heavily influenced by social and gender norms- girls were less aware than boys, and more likely to choose traditional vocations or jobs such as teaching or beauty.

Based on these issues, what are the recommendations for the way forward?

Reducing dropouts and supporting out of school children and adolescents

Perspective/Way Forward

The COVID-19 crisis has affected different target populations in different ways. Those who were most vulnerable before the pandemic are likely to be the worst affected. As the data from this report shows, enrolment levels were lower among children in tribal communities (compared to children from Scheduled Castes) and students in Educational Complexes (which cater mainly to PVTGs) were less likely to return to school after extended COVID-19 school closures. These and other disadvantaged groups will need special focus in ensuring that they return to school and continue their learning journey.

These groups include:

- Children and adolescents who are academically weak, who may be kept back at home to help with household chores, or help parents in their work
- Children and adolescents belonging to tribal communities (Scheduled Tribes) especially Particularly Vulnerable Tribal Groups (PVTGs)
- Children and adolescents who have not returned to school due to lack of access to technology, distance and migration hence have become disengaged from the learning process.

Implementation Strategy

Special efforts to mobilize students are needed to ensure that all children and adolescents return to school. This is true not only for the post-pandemic situation but, going forward, after every extended holiday/break and also during every transition (e.g., transition from Std V to VI or from Std VIII to IX etc). In addition, clear activities should be in place and implemented to track daily attendance with immediate action if a few days of absence from school is noted.

Specific steps could include:

- **Mohalla-wise mapping** of specific populations and locations in catchment areas of schools to identify both **chronic absentee locations** as well as vulnerable households from where children and adolescents are at **risk of dropping out,** and those who **have not returned** (dropouts).
  - Our data shows that an area of concern is those students who are **extended absentees**. If a residential student is absent for an extended period, or a day-scholar is absent for a few days, a **quick response mechanism** is needed to ensure that they do not drop out. Teachers and the headmasters should keep a continuous check on those who enrolled, but absent for an extended period of time. This involves keeping track of their reason for absenteeism, verifying this with their family and classmates, locating them to ensure they re-join school and **catch-up** on missed learning. Their mohalla or village can also be mapped to identify particularly vulnerable areas. Home visits and phone calls are extremely effective in this scenario.
  - Since the issue of extended absenteeism is particularly acute among PVTG schools, special incentives can be offered to parents for the continuance of their children in the same schools. Similarly, incentives can be offered to students for maintaining good attendance in schools.
  - The same applies to students who have **dropped out**. Immediately identifying dropouts at the beginning of a school year, or after a period of school closures, and understanding their reason for dropping out is crucial, such that the school staff can intervene and support the student wherever possible. For instance, if a student dropped out due to early marriage, failure in examinations, migration, or medical issues, the school faculty can try to ensure that they do not drop out of the education system entirely.
- **Reconnecting with school:** Setting up a rotation for parents/family members to visit school (for example once every few months) at a pre-decided time for a one-on-one meeting) to meet and consult with teachers to give feedback on the specific student's learning activities and discussing the plan for the coming months. These individual parent-teacher meetings serve several purposes: (a) trust builds between parents and teachers (b) personal attention to child's learning needs is possible from both parent and teacher. As this report shows, sampled schools do organise PTMs, but identification

and follow-up with families that do not attend is important.

- After any period of extended school closure (including exceptional cases like the pandemic, or routine cases like annual summer vacations), one of the ways in which students will begin to return to school is if there are activities where their presence is required – **celebrations and projects that students can do in small groups** to assist with school reopening should be encouraged.
- Setting up **re-engagement centres** or "Second Chance" provisions for dropout learners within school premises, such that dropout students can **re-enter the education system** (regardless of their age, or when they dropped out) by appearing for their Std X examinations through SIOS (State Institute of Open Schooling, Odisha), NIOS (National Institute of Open Schooling), Correspondence Course (Distance Education), or BSE (Board of Secondary Education, Odisha), depending on their existing qualifications. School faculty can support these students after school hours by both strengthening their foundational competencies, and doing specific Std X-focused preparation as per the syllabus. For dropouts who are taking secondary school examinations via "Second Chance" and open mechanisms, doing away with registration fees and other examination costs is also essential.
- Since secondary and higher secondary grades are where a higher dropout rate has been seen, incentivizing participation can help more dropouts continue their schooling. NEP 2020 also emphasizes the importance of targeted scholarships, conditional cash transfers to incentivize parents to send their children to school, providing bicycles for transport, etc., which can significantly increase participation of dropouts. Similarly, awards can be provided, for instance, smartphones on completion of Std X, or internet vouchers and transportation vouchers for those enrolled in higher grades.
- In upper primary grades, "at risk" children and adolescents must be identified and receive strong academic support to prevent drop out (learning support is covered in the subsequent sections).

Implementing new methods of teaching and learning

Perspective/ Way Forward

Experiences of the prolonged period of school closure during the pandemic have opened our eyes to new possibilities. As the findings from this study show, while schools were closed, depending on capabilities and availability of resources, family members helped children with learning activities. Going forward, new possibilities include:

- Leveraging participation of parents and family members in supporting children's learning (especially when schools are closed, for example during summer vacations)
- Role of communities in assisting and enhancing children's learning
- Flexibility in organizing assessments and examinations
- Exploring a variety of "hybrid" mechanisms of teaching-learning
- Widening curriculum and expanding activities to include not only academic learning but also "learning for life" and "learning for work" with an emphasis on collaborative methods of learning.

Learning from the COVID-19 crisis, schools and communities should be ready for any future sudden school closures both at local level and at macro level so that learning does not get completely disrupted as it did in 2020 and 2021.

Implementation strategy

- **Sustain and strengthen direct contact with home and parents:** Since March 2020, different organizations and governments have used variety of strategies for reaching children and staying in touch with families. While some schools catering to urban middle-class populations were able to provide online classes, many children depended on their parents' phones for receiving learning materials. As this report shows, children whose families did not have smartphones were further disadvantaged. However, during this period there was also significant support for learning at home from family members. A direct home link established via daily Whatsapp and SMS messages (and in many cases with regular phone feedback and follow up) must be sustained for day scholars, when residential students are at home, and for drop outs. Direct and personal contact with parents and families on the issue of children's learning is a big

benefit. More details on this are covered in the subsequent sections.

- **"Catch up" campaign for rebuilding foundational skills for elementary school children:** This is discussed in detail in the following section.
- **Flexibility for certification and assessment:** With examination schedules disrupted and uncertain, this is the time to develop flexible examination timetables and variety of methods to get tested. Technology can be of help here.
- As the report shows, children and adolescents had the lowest performance in applied maths, word problems and creative writing. Moreover, there was limited awareness and exposure to various aspirations and careers, particularly among girls. Among tribal children, it is likely that many students (especially girls), are the first in their families to reach Std VIII or higher. Students' **everyday problem-solving abilities** should be strong enough to equip them to be confident and productive adults.
  - Continued exposure to schooling brings potential opportunities for the students themselves, but also for their families and for broader society. Therefore, in upper primary grades, apart from academic teaching-learning special efforts are needed so children are exposed to **"learning for life"** and **"learning for work"**, through specific modules (Pratham has existing material and can support the design of these modules).
  - While these skills may range from basic digital literacy and functional financial processes, it can also include exposure to first aid and basic health and nutrition, menstrual hygiene.
  - Modules on "preparation or learning for livelihoods" can include communication skills and exposure to variety of future pathways. Exposure to various vocational, entrepreneurship and upskilling opportunities is useful for both **in-school students** and **dropouts**.

Assessing and bridging gaps in learning

Perspective/ Way Forward

Even prior to the pandemic, for a variety of reasons, basic learning levels across India were worryingly low and a significant proportion of children were considerably below their current grade level (NAS 2017, ASER 2018). Data from this report confirms that with prolonged school closure, many children who had already spent several years in school have suffered a major "learning loss". Hence, the government system must focus on helping school children **"catch up"** now that schools have reopened. The urgent need for "catch up" is also reinforced by the New Education Policy 2020's strong commitment to achieving foundational learning for all primary school children by 2025.

As school reopen, rather than going back to "business as usual" and to grade level curriculum immediately, governments should plan for a special period to help children **get ready for school**. This phase needs to be run as a high energy focused campaign with highest priority given to strengthening foundational skills (reading and arithmetic).

Implementation Strategy

Once schools reopen and attendance stabilizes, here are key elements of a possible **100 day "catch up" campaign:**

- Dedicated daily time and effort **(1 hour a day each for reading and mathematics)** needs to be allocated for "catch up" activities for children in primary and upper primary grades. For secondary grades, foundational competencies in subjects such as Science and English can also be covered. This can also be conducted after school hours, as most students are residential.
- Grade level curriculum and content can be put aside during this time each day to allow for rebuilding of basic foundational skills.
- Before starting this catch up instructional work, teachers need to measure students' learning level, through a simple one-on-one assessment for reading and math (An example of such a tool is the ASER tool, which was used for this study).
- These basic reading and arithmetic one-on-one tasks help the teacher reconnect in a personal way with each child, enables the teacher to get a clear picture of each child's current learning needs but also helps her understand the

distribution of learning levels that she will have in her classroom.

- Children can be **grouped by their current learning level** (rather than by grade), available teachers allocated to different groups rather than to grades and appropriate instructional activities can be done with each group using relevant simple learning materials.
- Focused interventions based on **Pratham's "teaching-at-the-right-level"** approach have been used in the recent past by several state governments and shown promising results in terms of significant learning gains in a short period of time and at low cost.

Such "catch up" programs can be carried out during the summer months when usual summer holidays happen as well as during the regular school year.

The campaign is a way to jump start the process of catch-up. Assessment of progress will indicate further "booster" doses of catch-up activity that need to be continued during the school year. This campaign should be done at least once since school reopening after the pandemic, but should also be done after any period of school closures (such as summer vacations).

Engaging the community through digital and alternative means

Perspective/ Way Forward

Prior knowledge especially on home location and learning status of each child lies with government schoolteachers. Hence, keeping the teacher and the school system at the core, the community, parents, CSOs and other entities can be leveraged to support the teacher to reach every last child. Appropriate mechanisms need to be instituted so that teachers and community/ SHGs/ CSOs both understand their responsibilities and work in unison to identify and improve the educational levels of children. In this situation, "educationally backward" hamlets/pockets in the catchment area of the school need to be kept in mind.

Digital learning can be used as a tool to facilitate this. The focus of digital learning should be on integrating the learning happening in the classroom and home through digital activities. The digital tools should not be driving the learning experience rather providing support to teachers, parents, children in the learning journey.

Implementation Strategy

The following methods can be used to strengthen direct contact with parents and communities for dropouts, absentees, day scholars and during vacation/school closure periods.

- **Availability of print material in the school**
  - For families who do not have smartphones, parents can be invited to come to school to pick up printed materials like worksheets or booklets or books that are available in the school library.
  - If parents visit school even once, teachers can have a personalized session with parents about what children can do at home that week and how parents can support.
- **Daily learning materials/activities sent via phones with two-way communication**
  - **Daily SMS and WhatsApp** messages can be sent to all families during school closure periods. These can be segregated by grade/stage.
  - For primary school children, these can be focused on reading/ language and maths whereas the upper primary children could get subject wise material.
  - It is critical to set up a **'two-way communication channel'** between the sender and receiver (i.e., teacher and the child) in the form of follow up phone calls. This is important so that the teacher can not only ensure whether technology solutions are accessible to the child but can also guide/ mentor the child in the digital activities and assess whether the digital resources are contributing to the child's learning.

- **Invest in multi-modal solutions:** TV and radio broadcast of learning content through Akashvani and Doordarshan will help connecting to a larger wider audience, however this must be supplemented with daily home activities shared via SMS/ WhatsApp and two-way communication with the schoolteacher. This will enable a firm connection between what is shared via broadcast media and the learning activities done by the child at home.

- **Develop and utilize existing social structures within the community:** To promote the regular use of digital learning solutions, besides the teacher, a strong social structure at the **village level comprising of youth, parents and other community members** needs to be leveraged so that they can facilitate the process of learning by providing technology access (e.g., shared devices) to those being left out, creating awareness about the various digital platforms and regularly providing support and feedback to teachers.
- **Help teachers and parents collaborate on learning:** The role that Whatsapp and other messaging tools can play in bringing in parents into the learning process is quite clear. By supporting teachers with some automation, a good communication channel can be established between parents and teachers. Activities and instructions that the parents can use to ensure learning continues at home can be sent easily with minimal intervention from the teachers. Solutions need to be designed keeping in mind context and access realities.
- **Build teacher capacity on creating digital content:** The challenges that a student faces are best understood by the teacher. While there are platforms for hosting digital content, good quality digital content is scarce, especially for regional languages and contexts. Training teachers on creating digital content would ensure the governments can move independently on digitizing teaching-learning.

Monitoring and measuring progress

Robust monitoring and measurement mechanisms are needed to ensure that the solutions provided are relevant and to track progress in both learning levels and enrolment. As the report showed, there are significant variations by district and school type, and data collection is required at the school, block and district level to ensure that areas which require additional focus are identified. This data should be available dynamically, with easy-to-understand visualisations that are updated as more data is collected, such that it can be utilised by all stakeholders both within and outside the government system.

www.asercentre.org
www.pratham.org

E-mail us at:
contact@asercentre.org
info@pratham.org

ASER Centre
B-4/58, Safdarjung Enclave
New Delhi 110 029

Phone: +91-11-46023612

Follow ASER Centre on Twitter,
LinkedIn, Facebook, Instagram

असर
ASER
Evidence for Action