Quality and Systemic Functioning in Secondary Education in India

A study in Andhra Pradesh and Rajasthan

Centre for Budget and Policy Studies

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CONTENTS

Chapter 1

Introduction to the study

Authors

Niveditha Menon & Rashmi Sharma

1. Introduction to the topic

Education or educational systems are foundational stones for creating responsible and responsive citizenry. They are also seen instrumentally as a way of boosting economic growth by providing educated and skilled workers (Agrawal & Indrakumar, 2014)[1], as well as enhancing prospects of social and economic mobility. If we take these two broad goals of education—citizenship and employability—as markers to assess our educational systems, it is clear that they are not functioning, especially for those who are in the most marginalised communities. Over and over, we have seen that there are significant lags with respect to quality educational training, which is especially true for secondary education.

Secondary education is an important area of focus as it is a critical transitionary phase that has the potential to empower and prepare youth for economic mobility, provide means for social empowerment, and create pathways for an engaged citizenry. Available data and studies indicate that secondary education is not faring well, and the imperfect foundations of elementary education do not provide the knowledge or skills required to engage with secondary education, thus leaving many children ill-prepared to take on the stressors and challenges of secondary education. Gendered attitudes towards role expectations (for both boys and girls) also create important social barriers for engaging or even participating. The lack of funds, the inefficiency of management, and the policy and institutional structures also inhibit the manner in which secondary education caters to the diverse set of circumstances that students are placed within, or even the diversity of skills or learning among the student body. Therefore, it is important to understand the nature, the quality, and functioning of secondary education in India.

1.1 Study objectives

The broad objective of the study was to understand the functioning of the secondary school system in India. The scope of the study included a scrutiny of policies, apex and field level institutions, the functioning of secondary schools, as well as children's access to secondary education and learning outcomes. Two large states in north and south India, Rajasthan and Andhra Pradesh (AP), were selected for study. In the study, in-depth quantitative and qualitative analysis regarding the following:

I. Government policies and programmes that for secondary education
II. Governing and supporting institutions for secondary education
III. The availability, access, and importance of schooling infrastructure
IV. Access to secondary education and functioning of secondary schools
V. Educational outcomes and performance of students at the secondary level
VI. Social factors that limit access, participation, and completion, especially for marginalised groups

The broad objectives of the study were to understand the functioning of the secondary schooling systems by studying closely the policies, the institutions, and the functioning of secondary education in India. It was also important to understand the broader contexts of institutional structures in addition to the individual geographical and social diversity of the country. Therefore, it was decided that a comprehensive analysis will be carried out in two states, Rajasthan and Andhra Pradesh (AP), to examine the various issues faced by boys and girls.

1 *Agrawal, Rashmi, and Indrakumar. "Role of Vocational Education in Shaping Socio-Economic Landscape in India." The Indian Journal of Industrial Relations (2014): 483-98.*

The more specific objectives of the study were to undertake an in-depth quantitative and qualitative analysis of the following:

I. Government policies and programmes that specifically address secondary schooling.
II. The impact of these policies and programmes.
III. The availability, access, and importance of schooling infrastructure.
IV. The educational outcomes and performance of students at the secondary level.
V. Social factors that limit access, participation, and completion, especially for marginalised groups.

The purpose of these analyses was to formulate specific strategies to improve the systems of secondary schooling in India. More specifically, the study focused on the following areas of enquiry:

I. Government policies and programmes: the patterns of financing, policies, and programmes for secondary education, as well as policies and programmes to address related social issues such as early marriage, etc.
II. Governing and supporting institutions for secondary education: the government institutional structure for school administration, academic support, and addressing the special needs of socio-economically and educationally marginalised children and its functioning.
III. Access to education and transition to various stages of education (both from elementary and to senior secondary): the location, distance, and availability of schools; social and economic factors that impede education; academic preparedness; and school related factors such as teacher participation or teacher training.
IV. Quality of schools: availability of teachers; knowledge, skills, and motivation of teachers; school infrastructure; curriculum, content, and pedagogic practices; and school functioning.
V. Issues of gender: early marriage, sexual harassment and safety issues, social barriers to education, parental perception, and discrimination within the classrooms.

1.2 Study design

The study was designed to capture the macro- and micro-dynamics of secondary education. By comparing the states of Rajasthan and AP, the study aimed to illustrate not only the similarities of systemic challenges faced in secondary education, but also the diversity of the contexts, policies, institutional structures, and functioning and outcomes. For example, at the macro-level, issues related to enrolment, financing, and school infrastructure as well as the influence of private education were studied extensively. At the micro-level, field studies were employed to understand closely the implications of these processes by understanding the social perceptions and experiences of the communities. In order to frame these macro- and micro-analyses, an extensive analysis was carried out both in terms of data and the literature on secondary education. For both macro- and micro-components of the project, the following components were central:

I. A desk-based analysis of data, literature, policies, and programmes relevant to secondary education.
II. Field-based quantitative and qualitative study of 9 schools in six villages in each of the states to understand the experiences of children between the ages of 14-18.

III. Field-based interviews with government officials on the institutional structure and functioning as well as policies of secondary education.

The desk-based analysis concentrated on the policies and programmes regarding elementary and secondary education in India, the availability of secondary schools, and privatisation of secondary schools. Additionally, we also analysed secondary data on enrolment, drop-out and school completion trends for boys and girls, and tried to understand the structure of the schooling system.

To analyse the governing and supporting institutional structure, a scrutiny of organisations concerned with management, academic support, examinations, and education of out-of-school children at various levels, i.e. state, district and sub-district was undertaken. The documents of the organisations such as plans and annual reports were studied and interviews were conducted. A total of 20 organisations were analysed, and 57 officials and teacher educators form these organisations, as well as teacher union leaders and non-governmental organisation (NGO) representatives were interviewed.

Field-based study of 12 villages (6 villages in each state) and 18 schools (9 schools in each state) were also done through quantitative and qualitative methods. The analysis of the data from the villages and the schools was done with a specific focus on gender to examine the issues related to access, experience, and expectation of secondary school education from the community. To understand the institutional structure and the policy regimes that influence secondary school education, field interviews were conducted with relevant officials in each individual state. Additionally, curriculum and textbook analysis was also conducted.

The qualitative and quantitative methods included classroom and school observations, interviews and Focus Group Discussions (FGDs) with students, a household survey in all six villages, interviews and FGDs with school teachers and Head Masters (HMs), in addition to assessment tests administered to at least 300 students per state.

The study was designed in this multi-layered manner to provide insights into the programmatic and socio-cultural aspects of education, and it could aid in recommendations that would allow for inclusive and sustainable practices and policies for secondary education.

1.3 Themes of the report

This report consists of six chapters:

I. Chapter 1: Introduction to the Study, authored by Niveditha Menon and Rashmi Sharma.
II. Chapter 2: The Status and Financing of Secondary Education in Andhra Pradesh and Rajasthan, authored by Jyotsna Jha and Shreekanth Mahendiran, Centre for Budget and Policy Studies (CBPS).
III. Chapter 3: The Policy Framework of Secondary Education, authored by Rashmi Sharma.
IV. Chapter 4: The Governing and Supporting Institutional Structure of Secondary Education, authored by Rashmi Sharma.
V. Chapter 5: Secondary Education in Rajasthan: A Qualitative Study, authored by Vimala Ramachandran, Nagendra Nagpal, and Jaipur Team, Centre for Education, Research & Practice (CERP).
VI. Chapter 6: Dullards, Drop-outs, and Daughters: Examining Quality of Secondary Education in Andhra Pradesh, authored by Jyotsna Jha, Niveditha Menon, Neha Ghatak, and Archana Purohit (CBPS).

1.4 Thematic summary of chapters

Chapter 1 introduces the study and lays out the organisation of the report. Chapter 2 is an overall analysis of the secondary schooling in India, including an analysis of linkages with early marriage. Chapter 3 is a policy study of secondary education in both Andhra Pradesh and Rajasthan and is followed by Chapter 4 that is an institutional study in both the states. Chapter 5 is the report on secondary education of Rajasthan and Chapter 6 is the report on secondary education in Andhra Pradesh. Taken together, this report provides insights into the systemic, institutional, and socio-economic factors that influence secondary education, and can be seen as the first step towards greater engagement with this important phase of schooling and education.

Chapter 2 traces the historical and current trends of secondary education in the states of AP and Rajasthan and indicates that there are some positive signs. For example, while Rajasthan has been educationally one of the most backward states, the participation indicators for secondary schools for marginalised groups (such as girls, Scheduled Castes, Scheduled Tribes, and Other Backward Classes [SCs, STs, and OBCs]) have been rising. However, there are also troubling trends such as attendance ratios that are very low as compared to enrolment ratios (in both the states)—they indicate that while schools might be accessible, participation is still quite low.

As is already known, urban areas have greater availability and comfort of traveling to schools, especially at the crucial stage of moving from primary to secondary, but it is also clear that distance is not necessarily the only factor. In Rajasthan, for instance, social norms continue to play a major role in girls' secondary education even when the availability of schools is high and the distance to the school is low. The relationship of social norms and education is much clearer when we examine private expenditure on education, where we see a clear disparity in private spending on secondary education for boys and girls. This is further solidified by our understanding of child marriage patterns where despite the higher levels of secondary school participation rates among girls in AP, the decline in child marriage is not concurrent.

It is also clear from this chapter that unaided private schools are an important influence on secondary education and are a stakeholder in the secondary education in the country. These have differential influences on the population, especially for the marginalised who are unable to afford these institutions. Perhaps, the most critical analysis of the chapter is the finding that high public expenditure on school education does have an impact on both education and empowerment outcomes, and the context of public spending on expenditure must be carefully examined in order to obtain positive educational outcomes.

Chapter 3 examines the education policies of AP and Rajasthan, with a focus on secondary education. It examines policies related to the school structure, access to secondary education, enrolment and retention, quality of education, education of children from socio-economically marginalised communities, private schools, and access to private funds.

The findings are that the policies of the two states, AP and Rajasthan, for secondary education were different in some ways, but alike in others. As far as access to secondary education was concerned, Rajasthan had moved ahead, establishing a higher secondary school at every Gram Panchayat. However, in AP, universal access to government secondary schools, and more so to senior secondary schools, remained unaddressed. Moreover, while Rajasthan had systematically created large, viable integrated schools from classes 1 to 12, in AP, the school structure was very fragmented, with classes 11 and 12 forming separate intermediate colleges.

In terms of quality of schooling, in both states, there was heavy emphasis on providing infrastructure and equipment in schools. However, while in Rajasthan, there was little focus on improved pedagogy, in AP, textbooks for classes 9 and 10 had been revised to make them interactive and continuous, and a comprehensive assessment had been introduced, and so on.

Ironically, while Rajasthan had not focussed on pedagogic issues, thus limiting the gains from its improved access to school and school structure, limited access to secondary and higher secondary education in AP and the fragmented school structure reduced the scope of pedagogic initiatives in AP.

For educationally disadvantaged children, e.g., girls, children of SC and ST categories, the two states followed similar policies. One, they facilitated access by providing opportunities for open and distance learning, establishing hostels and residential schools, and providing bicycles and transport vouchers. However, the lack of a policy for universal access to secondary schools and intermediate colleges in AP was most deleterious for children from disadvantaged communities. Two, they mitigated the cost of education by providing free textbooks, and in AP, mid-day meals were provided to class 9 and 10 students as well. The two states also provided a range of scholarships to children from various disadvantaged categories.

Chapter 4 examines the set of governing and supporting organisations for secondary education in the two states, focussing on 20 organisations at the state, district, and sub-district level. The structure, the human resources, infrastructure, as well as processes of functioning are described and analysed.

The findings illustrate serious shortcomings in the governing and supporting institutional structure for secondary education. Structurally, the academic support structure was patchy and inadequate, i.e., organisations to support some types of activities simply did not exist, while some activities were undertaken by organisations where these were not the core mandates. Moreover, the supporting structure was especially weak at the district level and below. The personnel structure was characterised by lack of expertise, especially in pedagogy, the needs of marginalised children, human resource management and community participation. There were a large number of vacancies in academic organisations, and several field level organisations had very scanty staff. Further, the personnel management policies created an adverse incentive structure. There was a high degree of centralisation, and hierarchy was emphasised along with stress on monitoring and discipline in tandem with paltry or no research or analysis on pedagogic issues. There was also political interference in day-to-day working.

This institutional structure, human resources, and working processes resulted in fault-lines in the system that constrained it in achieving goals. The central goal, i.e., learning, remained at the periphery, the space for substantive work was reduced—individuals rather than systems were important. Commercial interests often became dominant, as inadequate human resources, combined with patronage and rent-seeking, reduced that capacity to regulate. Finally, relationships with the community were vitiated, as the skills to respond to the needs of the children who attended government schools, mainly from socio-economically marginalised sections of society, did not exist.

These fault-lines led to a system largely capable of performing simple administrative tasks i.e., erecting school buildings, providing mid-day meals, and scholarships, and so on. However, it was not a system that was geared towards the complex task of delivering high-quality education, especially to children from the under-privileged backgrounds that it served. It also examined the play of patronage, rent-seeking behaviour, and issues of control and autonomy within these educational systems.

From the chapter, we can easily discern that while the supporting institutional structures in both the states performed five broad roles of

I. administration and management
II. programme administration
III. academic and resource support
IV. examination
V. students dropping out

they differed in the manner in which the institutional structures responded to these concerns. A key problem, for example, that has been identified with the governing and supporting institutional structures in both the states is that the primary objective—learning—has remained consistently in the periphery of activities within these institutions. For example, activities such as making curricula and textbooks or training teachers are carried out by institutions such as examination boards, for whom this is not the core mandate. Therefore, there is no consistent academic support, nor is there any basic structure to provide such support. As a result, teachers are ill-equipped to handle the demands of the schooling system, and often blame the communities as the ones who are unable to support their children's education.

What this chapter highlights is that the institutional structures in both the states appear to be constructed to administer simple tasks such as building school infrastructure, provide mid-day meals, and monitor entitlements. However, as soon as the actual education outcomes are to be dealt with, which require a lot of more complexity and continued engagement with social and community factors, it does not have the necessary tools to deal with it, the result of which is primarily borne by children who come from marginalised communities.

Chapter 5 examines the state of secondary education in Rajasthan with a specific focus on understanding the experiences of both boys and girls in secondary schools. One of the more important findings of the chapter is that the experiences of boys and girls appear to be quite different. For instance, boys did not mention any safety issues that they faced, yet girls overwhelmingly reported that teasing by boys on the way to and from school was quite common. Girls also reported that they modified their behaviour (travel in groups, for instance) to cope with these challenges. Another disturbing trend was related to child marriage. Although not reported directly, it is clear from this chapter, that many girls are still getting married by the age of 13 or 14, and do not attend schools after the wedding. This is not true for boys who do attend school even after they have had an under-age marriage.

In terms of similar experience shared by boys and girls, both reported that the quality of education was poor with very few teachers teaching consistently in class. While they were eager to study beyond secondary education, they did not necessarily have the knowledge of the process, availability, or procedures by which to gain access to these institutions. Both girls and boys also reported that their parents do support them during examinations by ensuring that they get their favourite foods, and help them create a conducive environment at home, but it is not clear (especially for girls) whether they would be supportive beyond secondary school.

In terms of assessment of their knowledge and skills, the chapter engages with proficiencies in languages and science and finds that writing skills are not very advanced in Hindi. Similarly, in English, students faced issues with attempting to identify capital letters, and their grasp of the language was not strong. Because of the difficulties in languages, it also had an impact on the assessment in maths, especially when it related to word problems. What the chapter indicates clearly is the manner in which the experiences of boys and girls are congruent with the kinds of policies and institutions that are put in place in the state. It is clear that much has to be done to improve the status of secondary education in Rajasthan.

Chapter 6 examines the status of secondary education in AP and is organised by examining the accessibility of secondary education, the quality of this education, and the socio-cultural factors that influence both the accessibility and quality of education. One of the more important learnings from this chapter is that the schooling system in Andhra Pradesh does not seem to understand or work with the socio-economic background of the individual children, their expectations, or even the restraints imposed by language, class, caste, and terrain.

A critical finding in the chapter is the importance of language in creating false divisions within the classroom. In many of the schools, the “good” students are being pushed towards English medium and the :bad” students into Telugu, creating a clear demarcation and labelling of the students that often gives rise to discriminatory practices in the classroom. The report also indicates high levels of corporal punishment, which has been identified as one of the significant factors that propel children to drop out of schools entirely.

It is also clear from the report that in the absence of a system that puts learning and pedagogy at the centre of its focus, children from the most marginalised environments are the most affected. Moreover, it shows that without systemic changes within the system, the higher spending on education is not going to yield better educational outcomes for the children in secondary schools in AP.

This report is a comprehensive study of the secondary schooling systems in Rajasthan and Andhra Pradesh. From the report, it is clear that in order for us to move forward in our understanding of secondary education, we have to consider a wide range of social and material factors such as family and village circumstances, financial incentives and support, institutional structures and integration of policies, the pedagogical spaces within schools, and the economic environment of the children, in an integrated manner. Currently, even if policies exist apparently to address these issues, they function parallel to each other with little or no impact on the real issues that are closely interlinked and complex for an adolescent dealing with several challenges associated with age, context, and learning. Without addressing these interweaving factors in a composite and comprehensive manner, it would be hard to argue for an inclusive space in our schools that can respond to the aspirations of all children.

Chapter 2

The Status and Financing of Secondary Education in Andhra Pradesh and Rajasthan

Authors

Jyotsna Jha & Shreekanth Mahendiran
(Centre for Budget and Policy Studies)

2. Introduction

With significant movement towards universal primary education in India, the education discourse is naturally shifting towards secondary education. Although a number of pertinent challenges still remain in attaining universal primary schooling, the demand for secondary schooling has also gone up notably. The importance of secondary stage of education cannot be overstated given that the completion of this stage is critical for entry to either labour market or tertiary education. Whether it is looked at through the narrow perspective of the human capital formation or the wider perspective of enhancing the capabilities, secondary education remains important. Since 1958, when economist Jacob Mincer introduced the 'Mincer Earning Function' where years of schooling and wages were plotted alongside each other, education has been seen as a pathway to higher wages and thus a way to escape the vicious cycle of poverty. In their study on the relationship between domestic product and education, Mathur and Mamgain (2004)[1] found significantly positive effects of education on economic development in India. In another similar analysis of basic regression relationship between post-primary education and economic development in India, Tilak (2007)[2] found that secondary education leads to greater economic security, reduces absolute and relative poverty, and better life expectancy.

Secondary education caters to an important phase of life for students as they transition from childhood to adulthood through adolescence, and, hence, it is very important for forming of ideas, aspirations, and values. In India, a large number of girls end up getting married and even bearing babies before they legally turn an adult, i.e., of 18 years of age; therefore, secondary education also assumes importance from the perspective of influencing their lives, choices, freedoms, and capabilities. The capability approach, as first propounded by Sen and later by Nussbaum, moving away from the narrow human capital approach, recognises the power of education in enhancing the voices of young women and reducing the caste-class-gender based-inequalities, even though acknowledging that it is no magic bullet on its own (Nussbaum, 2000; Sen, 1997)[3].

In 2009, government of India introduced Rashtriya Madhyamik Shiksha Abhiyan (RMSA), a country-wide programme, to improve secondary education i.e., classes 9 and 10—in some ways, this was a recognition of the increasing relevance of the secondary stage of education. The draft New Education Policy 2020 mentions extending the right to education to cover ten years of compulsory education as a fundamental right, as against the present provision of eight years. Therefore, it recognises the importance of secondary education.

This chapter examines the status of access, enrolment, and expenditure, both public and private, in secondary education in India with a special focus on the two states of Andhra Pradesh (AP) and Rajasthan. We make use of large household surveys such as education rounds conducted by National Sample Survey Office (NSSO) in 2007-2008, 2014-2015, and 2017-18; Indian Human Development Survey in 2005 and 2011; Annual Financial Statements (budget documents) of both the states and the union government; and relevant data from Unified District Information System For Education (UDISE), the national source of school-based data.

In the NSSO data, we have access to the raw data for the education specific NSSO 64th Round (2007-08) and 71st Round (2014-15) but not for the 75th Round (2017-18). Therefore, we use the first two rounds for detailed year-wise and specific age-wise analysis while the 75th Round report has been used for broad comparisons. There are also some issues of comparability because of the change in definitions used between the 71st and 75th Rounds, and the same has been pointed out where relevant.

1 Mathur, A. & Mamgain, RP, (2004) Human capital stocks, their level of utilization and economic development in India in Indian Journal of Labour Economics, 2004 (10)655-75

2 Tilak, JBG (2007), Post-elementary education, poverty and development in India in International Journal of Educational Development, Volume 27, Issue 4, July 2007, Pages 435-445 https://doi.org/10.1016/j.ijedudev.2006.09.018

3 Nussbaum, Martha C. (2000), Women and Human Development: The Capabilities Approach, Cambridge University Press.
Sen, A (1997), Editorial: Human Capital and Human Capability, World Development, Vol. 25, No. 12, pp. 1959-1961, 1997 Published by Elsevier Science Ltd.

3 Nussbaum, Martha C. (2000), Women and Human Development: The Capabilities Approach,
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Sen, A (1997), Editorial: Human Capital and Human Capability, World Development, Vol. 25, No. 12, pp. 1959-1961, 1997 Published by Elsevier Science Ltd.

The NSSO 75th Round report is much less detailed in terms of age-group specific information and hence we have largely restricted ourselves to the 71st Round data analysis.

In 2014, AP was bifurcated into two states: AP and Telangana. This study is for AP, but we have used the data for undivided AP for the pre-bifurcation period. This also means that NSSO 71st and 75th Round reports are not strictly comparable for AP though it works well for an indicative purpose. When it comes to state budgets, we have used post-bifurcation data for AP, and for the sake of comparison, we have used Rajasthan's data also for the same period: 2015-16 to 2019-20. The chapter also discusses the issue of child marriage and secondary education in some detail, again with primary reference to AP and Rajasthan. Here, we have mainly analysed Census of India 2011 and the National Family Health Service (NFHS) 2015 and juxtaposed these with education data to understand the relationship.

2.1 Access, enrolment, transition, and retention

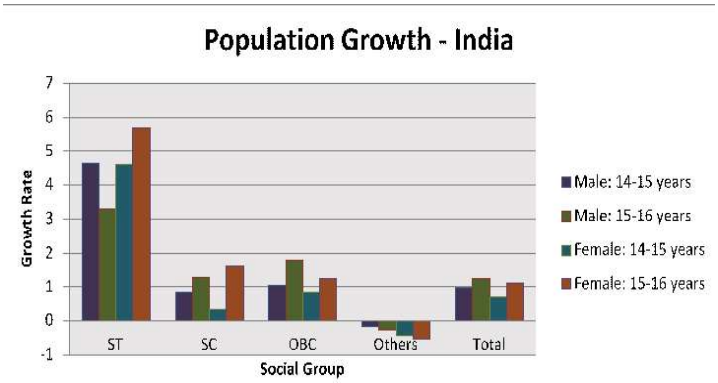
We start with a discussion on the estimates of child population and growth patterns in the last decade to understand the size and characteristics of the population secondary education serves or is supposed to serve.

2.1.1 Child Population in India and the emerging challenges

With continuous references to the demographic dividend in India and its youth population set to form the bulwark of the working population in the next twenty years, it is imperative to study the population growth dynamics of children aged 14-17, who constitute the age-appropriate population for secondary education. The NSSO estimates undertaken for the 71st Round in 2014-15 indicate the population in India to be 45.67 million for the age group of 14-15 years, and 40.91 million for the age group16-17 years; and about 6% in each age-group in AP and Rajasthan. The male and female population in both the states for both the age-groups are almost equal, with the exception of the age group 14-17 years in Rajasthan, where the male population constitutes about 52% of the estimated population.

India observed about 1% growth in this age-group's population between 2007-08 and 2014-15, but the growth rates for various social groups have been different (see Figure 2.1)Scheduled Tribe (STs) have reported the highest growth rates followed by Other Backward Classes (OBCs) and the Scheduled Caste (SCs) while the remaining, Others, have shown a negative growth rate. Among the OBCs, the growth rate for female population has been lower than that of males, but the opposite is true for STs and SCs. Rajasthan experienced a similar growth rate for the age group population on the whole, but the highest growth rate was reported by SCs followed by the OBC population groups. Andhra Pradesh (AP) experienced a negative growth rate for both age groups. This is perhaps indicative of economically and educationally advanced states experiencing a decline in the birth rate, and the burden of school seats expansion will be felt more in states like Rajasthan where the population growth rate continues to be positive. This also shows that education systems everywhere will have to gear themselves to serve students from more deprived and hitherto educationally backward social groups. This gets confirmed when we analyse data based on economic quintiles next.

FIGURE 2.1: Year-wise child population growth by social class, with base as 2007-08



Source: National Sample Survey Office (NSSO) 64th and 71st Education Rounds conducted in 2007-08 and 2014-15, respectively.

Data across India suggests that child population for the age group 14-17 years has increased the most among the poorest and the middle-income quintiles (3% on average) and the least in the richest quintile (1.25%). In the rural sector, the richest quintile has seen an annual rise of only 0.34%. At the national level, across all quintiles, female growth rate has been slower than the male growth rate. In Rajasthan, there seems to be negative growth in child population among the richest quintile class, with varying and positive average growth seen across both urban and rural sectors. Distinctively, there has been an average rise of 8% among urban males in AP, and this has been contributed by over 12% growth in the poorest quintile. The three median quintile classes in urban Rajasthan and AP see positive growth, much above the national average (4% in Rajasthan and 5% in AP). This is very significant as it indicates that young adolescents from poor households, especially male population, are migrating to urban areas and the secondary school systems thus need to cater to urban poor effectively[4].

Another challenge is the low and declining sex ratios observed for the country as well as for certain specific states. Although we are using different sources that are strictly not comparable, the declining trend for the sex ratio is clear from Table 2.1. All ages have a higher sex ratio in 2015 as compared to a younger age cohort in 2017-18, reflecting the worsening of the ratio in the country as a whole. Andhra Pradesh (AP) has a high sex ratio but that too seems to be declining whereas Rajasthan continues to have a very low sex ratio, lower than the all-India average. Nevertheless, Rajasthan is showing some signs of hope as the sex ratio for the age group 0-6 years was higher than that for the entire population in 2015 while the opposite was true for AP. These trends are important in the context of understanding challenges of secondary education, especially when seen when seen through the linkages between gender and child marriage.

TABLE 2.1: Changing Sex Ratios: Andhra Pradesh (AP), Rajasthan and All-India.

States	2015 (Source: NFHS-4)	2017-18 (Source: NSSO 75th Round)
AP	1,027 (all ages); 1,010 (0-6 years)	1,003 (3-35 years)
Rajasthan	928 (all ages); 945 (0-6 years)	912 (3-35 years)
All India	991 (all ages); 916 (0-6 years)	927 (3-35 years)

Source: National Sample Survey Office (NSSO) and National Family Health Service (NFHS).

4 Although the National Sample Survey Office (NSSO) report for the 75th Round Survey is in the public domain, we were not able to access the raw data and, hence, a similar analysis for later years is not attempted. However, we are sure that this trend would have remained the same. Therefore, the analysis remains valid and important.

2.1.2 Enrolment levels: are they responsive to the emerging challenges?

According to the NSSO estimates, enrolment in secondary stage in India is estimated to be 3,98,02,166 (around 39 million) in 2014-2015, where 9.7 million students have enrolled in regular school education since 2007, thereby contributing to a growth of 4.6% per annum. The gender parity in enrolment has improved by a smaller margin from 0.74 in 2007 to 0.84 in 2014, owing to higher level of per annum growth in female enrolment of 6.05% relative to that of male enrolment (3.55%). Similar level of higher per annum growth in female enrolment relative to male enrolment is observed across ST, SC, and OBC groups, whereas the female and male enrolment belonging to General caste has increased by about 2% and 1.34% during 2007-2014. Among the social groups, enrolment of the ST students has increased by 13% per annum where the growth in male and female enrolment is about 10.44% and 16.88%, respectively.

This is followed by an increase in enrolment of the SC students by 6% per annum, OBC with 4% and General with 2% per annum. These trends are desirable considering that the educationally backward groups, in general, and females, in particular, need to catch up with their counterparts in the majority of states.

Similarly, the significant variations between the two states, AP and Rajasthan, can also be explained partially through the development that has taken place till then. In AP, the enrolment at secondary stage has increased only by 0.33% per annum to 24,19,074 in 2014. The overall growth rate masks the considerable increase in enrolment of students belonging to ST, which is at 14.18% per annum, and which is the only social group that has registered an increase in the enrolment. On the other hand, total enrolment is about 25,79,825 in Rajasthan which is similar to the numbers in AP. But the enrolment has grown by 3.5% per annum in Rajasthan owing to considerable growth rate of 17.89% and 16.56%, observed for ST and SC groups, respectively. Another important difference is that enrolment of female students has been more than male students during 2007-2014 in Rajasthan. While it is encouraging that more females are enrolling in Rajasthan, the gender parity still stands at about 0.71 which is lower than the ratio observed for AP. Thus, AP with higher educational attainments in the past is showing slower growth rates in enrolment as compared to Rajasthan, and females and educationally deprived social groups are registering higher growth rates in enrolment in both the states but more in Rajasthan than in AP.

At the senior secondary stage, however, the story changes. The class and gender norms seem to have been resurfacing strongly at senior secondary stage in AP, whereas in Rajasthan, though starting at a much lower base, all social groups reveal similar growth rates—this is also true for all-India. The total enrolment in India is estimated to be 2,63,16,845 (around 26 million) in 2014 growing at a rate of 6.69% per annum since 2007. The gender parity has improved by a similar level as observed in secondary education to 0.80. Again, the enrolment of female students grew at 9.61% per annum relatively higher to growth of male students which was observed to be 6.29% per annum. Similar to secondary education, there are variations in growth rate in enrolment across caste groups. Here again, the highest growth rate was 16.77% per annum in ST, followed by 8.61% in SC, 7.12% in OBC, and 3.97% in General. This is suggestive of greater number of students choosing to be pursue their senior secondary state, and not discontinue on completion of secondary stage.

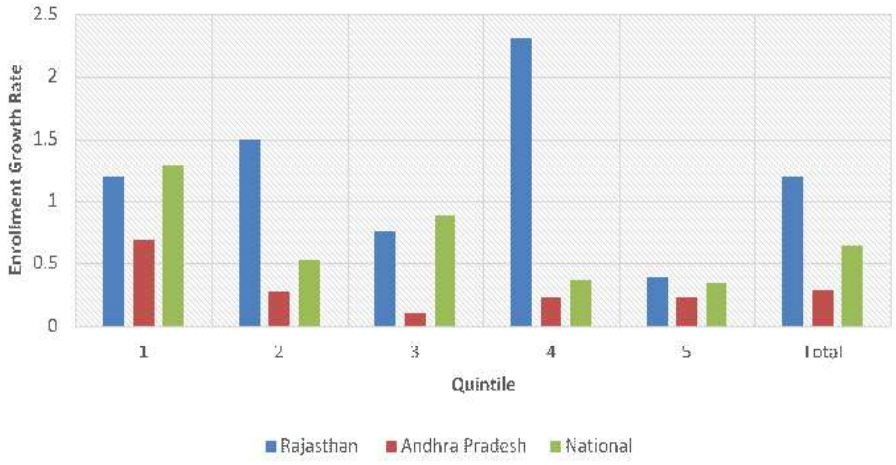
The national average of senior secondary enrolment growth stands at 6.69%; Rajasthan stands at 14.07% and AP at 4.90%. In Rajasthan, the 14.07% per annum observed growth is owing to 22% and 12% growths observed for ST/SC and OBC/General respectively; more importantly, there has been a significantly higher level of growth in female enrolment compared to male enrolment. In contrast, in AP, it is the students belonging to OBC and General caste who have continued to increase their enrolment in senior secondary stage during the same period. In AP, the growth rate of enrolment for SC has been only 1.28% per annum, and it has actually declined by 1.11% per annum for ST.

Another aspect of analysing enrolment and changes in growth is to understand how these numbers differ across economic quintiles as measured by the NSSO[5]. The quintile indicator is an extremely important point of observation as it gives an idea of the relationship between income levels and their behaviour vis-à-vis school attendance of the children. At secondary stage, the average growth rate per annum was observed to be 0.49% in the two poorest quintiles whereas it was about 0.16% in the top two richest quintiles in India. The growth rate in enrolment in senior secondary stage is relatively higher than in secondary stage across all quintiles. But the trend of growth rate being higher in first two poorest quintile relative to the top two richest economic quintiles is true at senior secondary stage as well. A reason that explains this could be the declining birth rate coupled with a saturation point of enrolment among the richest quintiles.

In rural Rajasthan, it can be distinctly noted that the behaviour is different for secondary as against senior secondary students. In the two poorest economic quintiles, about 42% and 32% of male and female age-appropriate population are enrolled for secondary stage, which declines to only 18% and 28% of male and female population at senior secondary stage. In contrast, in urban Rajasthan, female enrolment at secondary level was half of the total number of students coming from the poorest two quintiles, and this fell to just over 26% in the case of senior secondary schooling. This is despite the fact that higher growth rate was observed for the bottom two economic quintiles relative to the top two economic quintiles.

In AP, it is a different story as most of the students enrolled in secondary stage proceed to senior secondary stage as well. In rural AP, there are comparably similar amounts of students enrolled across different economic quintile classes, while there is a greater concentration of poorer classes attending secondary schooling and above in urban areas[6]. This could also be due to a higher population concentration in lower-income quintiles. The absolute numbers in AP in terms of enrolment are higher than those in Rajasthan as compared to their respective populations, and, hence, the enrolment growth rate in AP is not very high and nearly around the range of 0.5% to 1%. Notably, enrolment of females in secondary stage has dropped i.e., it sees a negative growth rate across first four quintiles in AP. Similarly, a majority of the population are already enrolled in senior secondary stage; hence, the growth has not been very notable, standing at 0.29% annually (Figure 2.2).

FIGURE 2.2 Annual growth in enrolment 2007-08 to 2014-15, quintile wise



Source: National Sample Survey Office (NSSO) 64th and 71st Education Rounds conducted in 2007-08 and 2014-15, respectively.

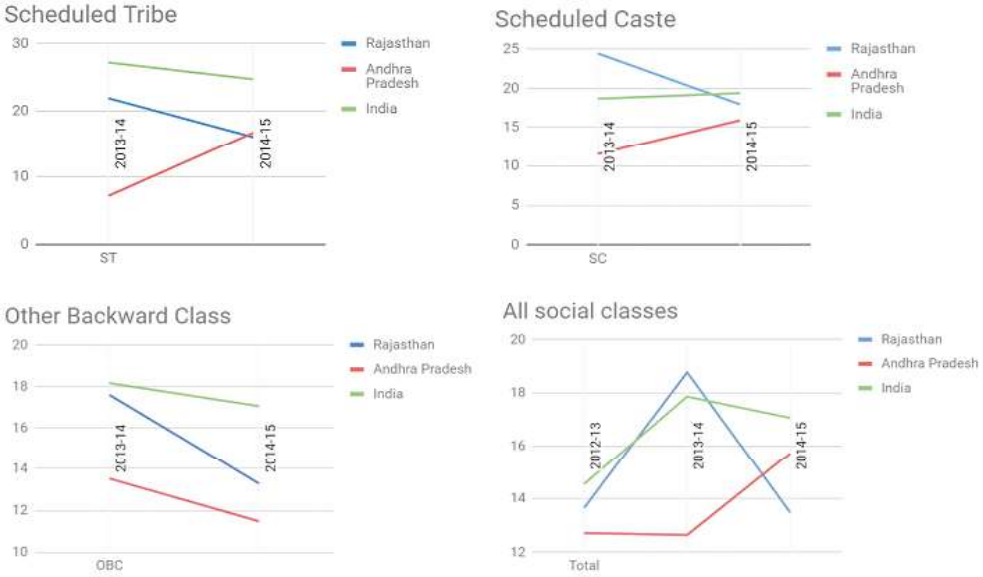
5 The National Sample Survey Organisation (NSSO) measures an index of household consumption expenditure based on a basket of goods and services. This helps create income quintiles that aid in the analysis as a measure of the income and purchasing power of a household.
6 In urban Andhra Pradesh, enrolment of males in the poorest quintile is 1,43,717 whereas the richest quintile is just 39,556. Similarly, for females, the corresponding numbers are 81,852 and 31,927.

Similar trends are also visible when we analyse the dropout rates. Figures 3a and 3b describe the story of the past decade and a half in terms of dropout rates between classes 1 to 10 using UDISE (school-based data) statistics[7]. There is a significant negative trend in dropouts, falling from over 65% in 2001-02 to a shade over 50% in 2011-12. The dropout of female students has declined at a greater rate than that of male students from 2006-07. The female dropout rate has dipped even further and below that of male dropout for the first-time post 2008-09. Although it coincides with introduction of the Right to Education Act and RMSA in 2009, it is difficult to say it with certainty that these measures alone have contributed, though these could have contributed to an extent.

FIGURE 2.3A AND 2.3B: DROPOUT RATE, I-X, ALL INDIA (2001-02 TO 2011-12); TRANSITION RATE FOR ANDHRA PRADESH AND RAJASTHAN (2012-13 TO 2016-17)

Source: Unified District Information System for Education (UDISE) for transition rate; and Education Statistics, and Ministry of Human Resource Development (MHRD) for drop-out rates.

Figure 2.4a, 2.4b, 2.4c, and 2.4d: Year-wise dropout rate, upper primary to secondary, study states and India (2013-14 to 2014-15)



Source: Unified District Information System for Education (UDISE).

Figures 2.4a, 2.4b, 2.4c and 2.4d show that while AP sees a lower dropout rate in the range of 10-15% over the period of 2013-14 to 2014-16 across different social groups, the transition into secondary education from successful completion of elementary stage averages about 96%

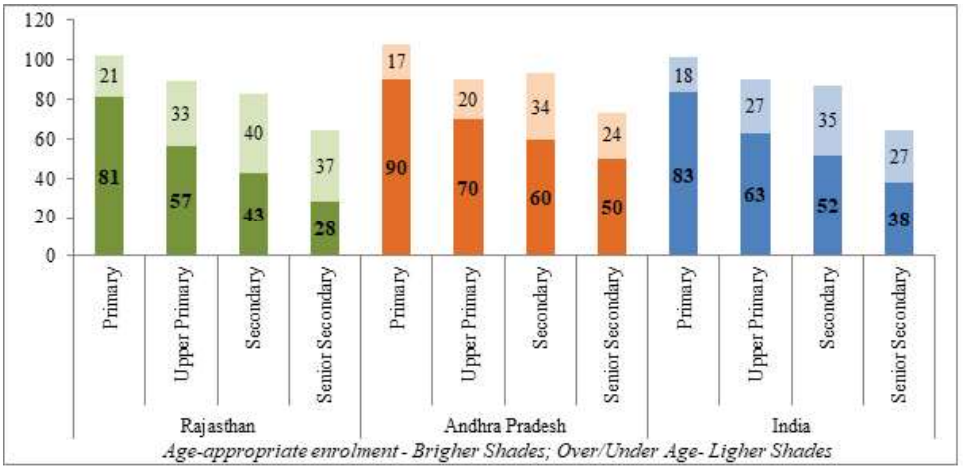
7 The data has been procured from Unified District Information System for Education (UDISE) (2012 onwards) and the Ministry of Human Resource Development (MHRD) statistics data (2001-2011). The dropout rate for the period 2001-2011 was available only for classes 1 to 10, and for classes 1 to 12. It was available for elementary and secondary stage separately for the period 2012 and onwards. Thus, we make use of the dropout rate for the period 2001-2011 to understand the general trend in the country and investigate the data from 2012 onwards for understanding the stage-wise trend in dropouts for Andhra Pradesh and Rajasthan.

between 2012-13 to 2014-15. The national average transition rate over the five years, across all classes stands at 92.68%. The two states perform better than the national average at 16.49%, in terms of annual dropouts since 2012-13; the annual dropout average of Rajasthan is 15.3% and of AP is 13.69%. Lastly, retention rates[8] at the secondary level is 76.87% in AP, which makes it the fourth ranked state in India for this indicator, behind generally well-performing states in education indicators such as Himachal Pradesh, Tamil Nadu, and Maharashtra. The national average and Rajasthan's retention rates for 2016-17 stand at 56.4% and 44.07%, respectively. Given this and considering the enrolment pattern at secondary stage, there is greater growth in enrolment of students belonging to ST and SC in Rajasthan relative to AP. But it emerges that students have greater probability of continuing their secondary education in AP, where the majority constitutes of male students belonging to General and OBC households. Probably, the higher enrolment of ST, SC, and female students, who are known to face several challenges in continuing their education, may be a contributing factor to the lower retention rates observed for Rajasthan. At this stage, it is important to discuss the enrolment ratios and the age-appropriate enrolment levels to understand whether all economic and social groups are equally participating in schooling or not.

Age-Appropriate Enrolment

The age-appropriate enrolment allows us to estimate those enrolled in schooling only pertaining to specified age-categories that are "generally" considered to be the ages when children should attend a particular class. However, in most situations in rural India, there is a greater chance of lag in enrolment driven by various factors. Ideally, as defined by school systems and practices, particular types of schooling may be most suitable for specific age groups but this does not mean that the ones who attend school at a slightly different age level must not fit in, as long as they sequentially complete their education process. Nevertheless, the government ought to promote age-appropriate education to maintain parity and deliver age-appropriate education to children. Thus, it is useful to examine changes and growth in age-appropriate enrolment alongside overall enrolment numbers as this will provide a basis for comparison.

FIGURE 2.5 Age-appropriate enrolment by different education stages - Andhra Pradesh, Rajasthan, and India (2014-2015)

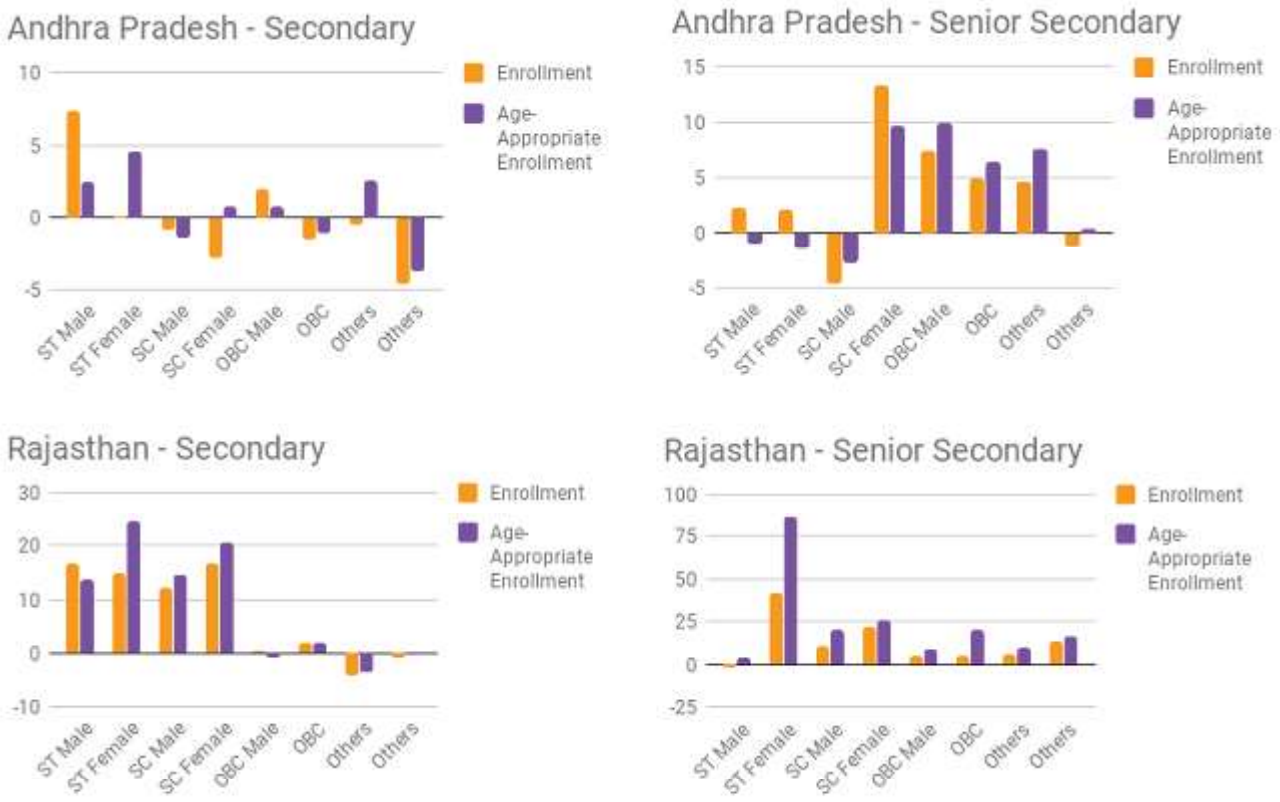


Source: National Sample Survey Office (NSSO) 71st Education Round conducted in 2014-15.

8 Data on retention rates and average annual dropouts have been obtained for the Unified District Information System for Education (UDISE) Secondary Education Statistics Dashboard (former) and UDISE Flash Statistics for Secondary Education (latter), which is available for the years 2014-15 and 2015-16. Retention rates data is available only at the secondary stage and not at the senior secondary stage. Similarly, there is missing data on senior secondary stage dropout rates for both Rajasthan and India across social classes and the two years. The Ministry of Human Resource Development (MHRD) website's statistics have data on dropouts only till 2011-2012, measured using a different index as mentioned in footnote 7.

Figure 2.5 reports the age-appropriate and non-age-appropriate enrolment by different education stages in AP, Rajasthan, and India. Since the introduction of RTE, the enrolment at primary stage has improved and breached the 100% mark consistently in the last five years in addition to the fact that more than 80% of the enrolled are also age-appropriate at the primary stage. But the level of participation and age-appropriate enrolment successively declines as we progress from primary to upper primary to secondary and senior secondary stage. There are two stages at which students do not successfully transition to the next education stage: (a) from primary to upper primary, and (b) from secondary to senior secondary. A majority of students who enrol in primary stage at the appropriate age seldom pursue their education continuously for the twelve-year period to complete their senior secondary stage. There are many students who discontinue their education at the end of primary and secondary stage, but enrol at a later stage as indicated by the considerable percentage of over/under age under age students participating in upper primary, secondary and senior secondary stage. This pattern emerges across the two study states and at the national level as well. In the case of Rajasthan, students from the OBCs form the greatest part of the age-appropriate enrolment in the rural and urban sector, followed by SCs. The distribution is quite similar for AP, where OBCs contribute to almost 50% (~5% more than Rajasthan), whereas the General category accounts for the next highest. At the national level too, OBC and General category contribute to the most, adding up to ~70% of the age-appropriate enrolment.

Figure 2.6a[9], 2.6b, 2.6c, 2.6d: Total Enrolment v/s Age Appropriate Enrolment Growth Rates for study states in 2014-2015



Source: National Sample Survey Office (NSSO) 71st Education Round conducted in 2014-15.

Figure 2.6a[9], 2.6b, 2.6c and 2.6d plots enrolment growth rates for the states in general and in age-appropriate categories in 2014-2015. In Rajasthan, female enrolment in senior secondary stage for STs is at a hefty 400%, whereas the growth in enrolment of age-appropriate female is about 87%, which is still a very fast growth. This suggests that majority of the growth in enrolment of female students at senior secondary stage is driven by those who are either under or over the age-appropriate level of 16-17 years. It can also be observed that the growth in non-age appropriate students is observed for males at the secondary stage and females at the senior secondary stage. Another distinctly observable point is that the growth of enrolment across

9 The values for Scheduled Tribe (ST) male for Andhra Pradesh secondary are 74.1% and 24.6% for enrolment and age-appropriate enrolment, respectively. They have been represented as a tenth of their original values, so as to be comparable to the other statistics for the same table.

social classes in India lies between 4.87% and 7.89%, while age-appropriate enrolment has a larger range of 3.11% to 8.4%, primarily due to stupendous growth observed for female students in senior secondary stage.

Attendance Ratios

From enrolment, now we move to look at attendance. Attendance here refers to those who are currently attending rather than those who are merely enrolled and may not be attending. This difference is important to understand as many who enrol do not attend school at all; this is not about regularity of attendance but generally not attending. Those not attending should ideally not be considered as being part of the schooling system. Unlike in the previous analysis where we used the raw data from the NSSO 71st Round Survey, here we are using the NSSO reports for the 71st and 75th Rounds for the Gross and Net Attendance Ratios. Gross Attendance Ratios (GAR) tell us the ratio of total attendance at that level as against age-group population, while Net Enrolment Ratios (NAR) tell us the ratio of age-appropriate population attending that level as against total estimated age-group population for that level.

In general, what we notice is that the difference between GAR and NAR for most population groups (male, female, rural, urban) is higher for Rajasthan as compared to AP, reiterating the same point discussed earlier that age-specific enrolment is higher in AP. For secondary stage, the inter-state differences are higher for rural areas than urban areas between these two states, depicting that secondary schooling participation is still a major challenge in rural Rajasthan as compared to AP. The differences exist for senior secondary schooling as well but are smaller at the senior secondary stage; this shows that though AP has much better participation rates that Rajasthan, it is still far from universal. In terms of location, the pace of increase for both GAR and NAR is higher in rural areas as compared to urban areas; this is true for both secondary and senior secondary but much more marked for secondary. At the senior secondary stage, the pace of growth is slower for both GAR and NAR, especially in urban areas. The same is not true for Rajasthan, where the rate of increase in these ratios for senior secondary has been higher than that for the secondary level. This could partially be due to the lower base of participation rates in Rajasthan.

In terms of gender, an interesting pattern emerges from AP where female GARs have increased at a higher rate; therefore, the male-female differences have either reduced or have changed in favour of females over the period from 2007-08 to 2017-18. This is visible in both rural and urban areas, and at both secondary and senior secondary stages. The same was not true for Rajasthan even though a high growth rate for enrolment was reported from there till 2014-15. But this seems to be changing there as well for both rural and urban areas at the senior secondary stage; there seems to be near gender parity existing at a low level of participation at that stage in 2017-18. However, given that gender disparities continue to be high at the secondary stage in Rajasthan, the parity at senior secondary stage is unlikely to be sustained for long without a shift at secondary stage.

What emerges from this in the context of secondary school participation rates is that gender disparity against girls is shrinking but both girls and boys are disadvantaged in Rajasthan whereas the situation is relatively better for both in AP. In AP, we also see signs of emerging reverse gender disparity, something that is commonly seen in a large number of middle and high-income countries when they reach near universal elementary education stage (Jha and Kelleher, 2006; Jha, Menon and Chatterjee, 2017)[10]. It has implications for teaching, counselling, and other schooling processes and therefore it is important to take note of these in the beginning before the problem becomes too deep to handle.

10 Jha, J and Kelleher, F. 2006, Boys Underachievement in Education, Commonwealth Secretariat and Commonwealth of Learning, London http://oasis.col.org/handle/11599/168);
Jha, J. Menon, N. and Chatterjee, D. 2017, Boys' Underperformance in Education: Revisiting the Issue in the Commonwealth, Commonwealth of Leaning http://oasis.col.org/handle/11599/2810).

FIGURE 2.7: Gross Attendance Ratio in 2007-08, 2014-15, and 2017-18

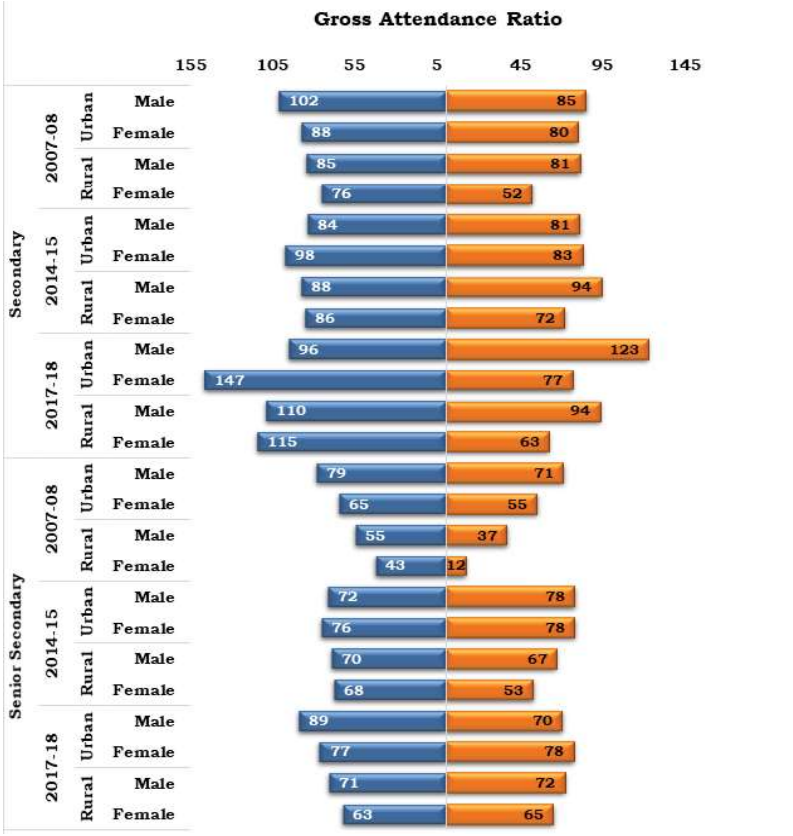
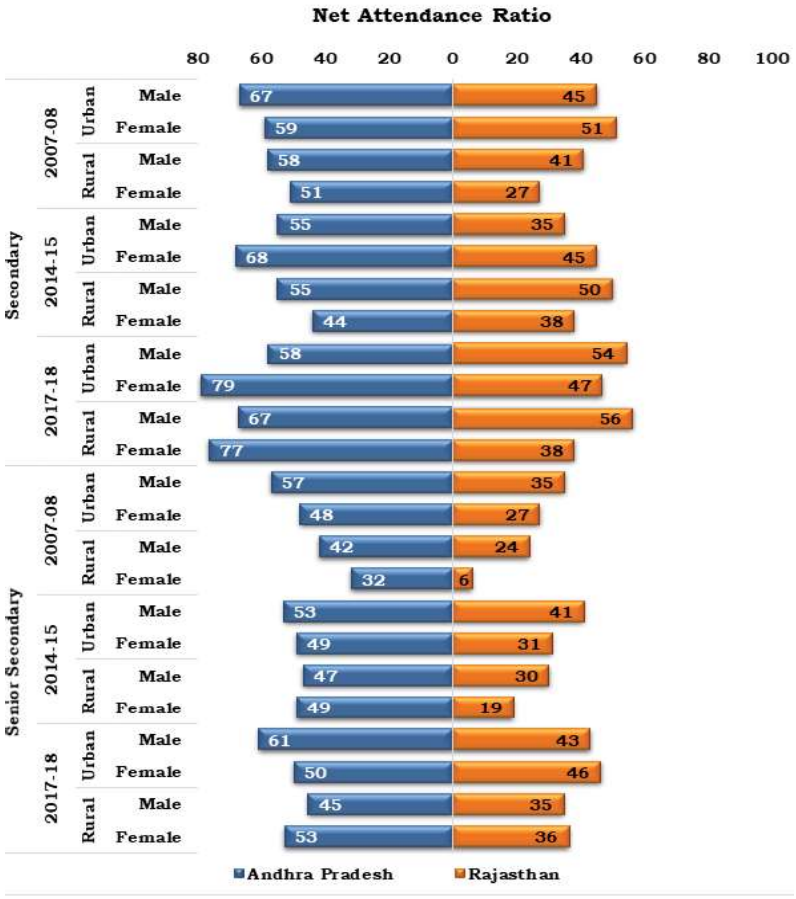


FIGURE 2.8: Net Attendance Ratio in 2007-08, 2014-15, and 2017-18



A perusal of the Gender Parity Index (GPI) of the GAR by social group and economic quintile (or economic groups divided into five levels of consumption expenditure) for these states in 2014-15 shows that the GPIs for the ST population has declined in both the states, indicating a higher growth rate for the males than females among adivasis. In comparison, both SCs and OBCs have reported an improvement in GPI figures in both the states. Across the economic quintile, no clear pattern emerges in either state, indicating that girls' participation in secondary schooling may not have a linear relationship with the economic status of the household. This is an important observation in the context of child marriage, and we would return to this later. At the senior secondary level, as noticed earlier, the GARs are low for both males and females in almost all social and economic groups except the General category and the highest quintile. It strengthens our earlier observation that participation at senior secondary education is an issue for both boys and girls. Next, we try to see next whether the presence of schools and their accessibility have any role to play in this context.

TABLE 2.2: Gender Parity Index (GPI) of the Gross Attendance Ratio (GAR) by social group, 2014

State and Social Group	2014						Change in GPI Since 2007	
	Male		Female		GPI			
	Sec	S. Sec	Sec	S. Sec	Sec	S. Sec	Sec	S. Sec
Rajasthan								
ST	101	20	91	37	0.91	1.87	-0.14	1.46
SC	104	71	75	60	0.71	0.83	0.19	0.09
OBC	79	80	70	62	0.89	0.78	0.28	0.37
General	98	90	68	74	0.69	0.82	-0.33	0.21
Total	91	70	74	59	0.81	0.84	0.10	0.32
Andhra Pradesh								
ST	84	41	81	38	0.97	0.94	-0.07	0.19
SC	68	56	106	78	1.56	1.39	0.63	0.40
OBC	84	83	102	73	1.22	0.88	0.37	0.12
General	115	80	91	76	0.80	0.95	-0.07	0.02
Total	88	74	98	73	1.12	0.98	0.24	0.13
India								
ST	77	56	79	48	1.02	0.86	0.23	0.15
SC	82	54	91	56	1.12	1.04	0.25	0.22
OBC	86	64	84	61	0.97	0.95	0.14	0.20
General	98	81	92	75	0.94	0.92	0.06	0.05
Total	87	66	87	63	1.00	0.95	0.14	0.14

Source: National Sample Survey Office (NSSO) 64th and 71st Education Rounds of 2007 and 2014, respectively; this table has been reproduced from Jha[11], Ghatak, Minni, Rajagopal, & Mahendiran, 2020.
Note: ST stands for Scheduled Tribes, SC stands for Scheduled Castes, OBC stands for Other Backward Classes, S stands for Secondary, and S. Sec stands for Senior Secondary

11 Jha, J., Ghatak, N., Minni, P., Rajagopal, S., & Mahendiran, S. (2020). Open and distance learning in secondary school education in India: Potentials and limitations. Abingdon, Oxon: Routledge, Taylor & Francis Group.

Table 2.3 Gender Parity Index of the Gross Attendance Ratio (GAR) by economic quintiles

By State and Economic Quintile	2014						Change in GPI Since 2007	
	Male		Female		GPI			
	Sec	S. Sec	Sec	S. Sec	Sec	S. Sec	Sec	S. Sec
Rajasthan								
0 to 20	66	14	56	30	0.85	2.09	0.29	1.53
21 to 40	103	60	62	43	0.60	0.71	-0.33	0.33
41 to 60	59	74	76	53	1.28	0.72	0.46	0.13
61 to 80	125	102	87	89	0.70	0.87	0.12	-0.05
81 to 100	104	112	131	102	1.25	0.91	0.41	0.51
Andhra Pradesh								
0 to 20	78	82	107	61	1.38	0.75	0.54	0.08
21 to 40	88	68	128	69	1.45	1.01	0.50	0.16
41 to 60	87	58	67	67	0.77	1.16	-0.08	0.28
61 to 80	93	72	112	87	1.21	1.20	0.30	0.33
81 to 100	106	104	91	82	0.85	0.79	-0.06	-0.20
India								
0 to 20	72	41	69	39	0.95	0.94	0.08	0.06
21 to 40	87	57	91	56	1.05	0.98	0.15	0.19
41 to 60	83	68	92	68	1.11	1.00	0.26	0.26
61 to 80	103	81	92	80	0.89	0.99	0.03	0.13
81 to 100	107	94	110	89	1.03	0.95	0.14	0.05

Source: National Sample Survey Office (NSSO) Calculated using NSS 64th and 71st Education Rounds of 2007 and 2014, respectively; this table has been reproduced from Jha et al., 2020.

Note: Sec stands for Secondary, and S. Sec stands for Senior Secondary.

2.1.3 Presence of schools and its accessibility

An important question associated with schooling and enrolment has been if the number of schools and their intake capacities are adequate, and whether the institutions are physically accessible considering the relevant age-group. There were about 2,39,148 secondary and 1,12,637 senior secondary schools[12] in 2015-2016 in India. The number of secondary and senior secondary institutions is much higher in Rajasthan than in AP (Table 2.2). This is despite the fact that the total age-appropriate population, in the age-group 14-17 years, is similar at about 5.28 million and 5.56 million in AP and Rajasthan, respectively. This, on an average, translates to a single secondary school serving about 227 persons in AP, relative to 110 persons in Rajasthan and 191 persons in all-India, to reach 100% age-appropriate enrolment. At the senior secondary stage, a single institution, on an average, serves about 1024 persons in AP, relative to 145 persons in Rajasthan and 363 persons in all-India.

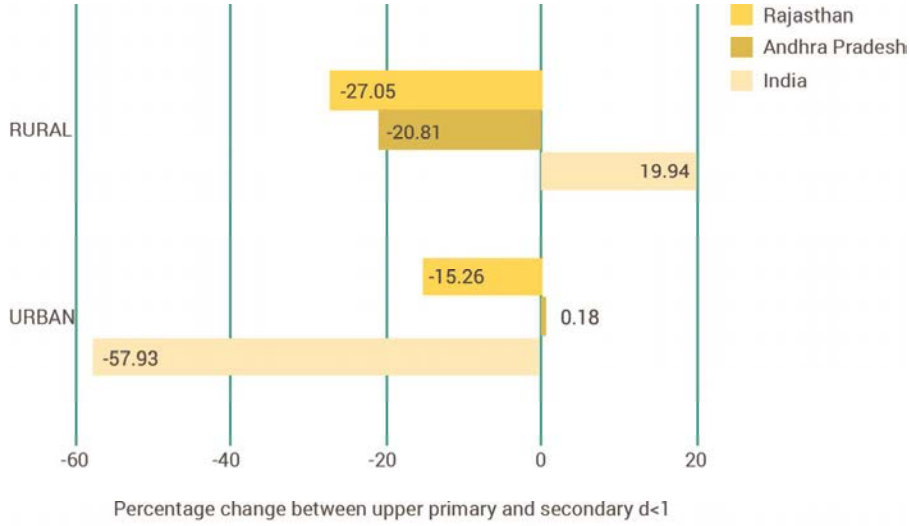
12 Schools here refer to educational institutions including pre-university colleges.

Table 2.4: Number of Schools in Secondary and Senior Secondary Stage in Andhra Pradesh, Rajasthan, and India, in 2015-16

Heads	Andhra Pradesh	Rajasthan	India
Number of Schools			
Secondary	11,583	28,195	2,39,148
Higher Secondary	2,589	16,958	1,12,637
Percentage of Schools in Rural Areas	65.76	73.96	69.45
Percentage of Secondary Schools by Management			
Department of Education	6.6	49.1	34.56
Tribal/Social Welfare Department	4.96	0.14	2.09
Local Body	40.91	0	4.37
Aided Private	4.07	0	16.58
Unaided Private	42.17	50.26	39.48
Other Government Managements	0	0	0.25
Central Government	0.49	0.37	0.99
Percentage of Higher Secondary Schools by Management			
Department of Education	23.48	56.76	36.73
Tribal/Social Welfare Department	6.91	0.2	1.55
Local Body	0	0	0.38
Aided Private	5.95	0	16.68
Unaided Private	62.22	42.4	41.43
Other Government Managements	0	0	0.28
Central Government	1.39	0.56	1.66
Percentage of Schools established since 2006			
Secondary	26.17	9.75	15.06
Higher Secondary	35.34	6.44	13.29
Student-Classroom Ratio			
Secondary	35	35	46
Higher Secondary	39	35	47
Pupil-Teacher Ratio			
Secondary	20	21	27
Higher Secondary	71	32	37

Source: Education Statistics 2015-2016, Government of India

Figure 2.9: Percentage difference of the presence of secondary school against upper primary for a 1 km radius, 2007-08 and 2014-15.



Source: National Sample Survey Office (NSS) 64th and 71st Rounds conducted in 2007-08 and 2014-15.

One reason that can explain this is that AP has a much higher population density (308 people per square km) as against Rajasthan (201 people per square km) in Rajasthan, implying the need for a higher number of schools disbursed over a larger spread to reach the same population size in Rajasthan. Also, the number of secondary schools has gone up recently in Rajasthan due to upgradation of a large number of upper primary schools, often without necessarily being backed by increase in the number of schools and facilities, and that is why perhaps the enrolment ratios still remain lower than AP despite having high number of schools[13]. Another reason that explains the vast difference in the number of schools, especially at the senior secondary stage, is the difference in the school structure: while the higher secondary stage is part of school education department in Rajasthan, in AP, it continues to be imparted through intermediate colleges linked with universities (Jha, et al., 2020). We will explore the relationship between the availability of schools and child marriage at a later stage in this chapter.

Another important fact is the high presence of private schools at secondary stages in both the states. At the national level, unaided private schools constitute about 40% of both secondary and senior secondary schools. At the secondary stage, unaided private schools constitute about 42% and 50% of total schools in AP and Rajasthan, respectively. At the senior secondary stage, unaided private institutions constitute about 62% of total institutions in AP and 42% in Rajasthan. The presence of aided private institutions, which charge nominal fees in comparison to unaided private institutions and where the government remains the major funder as it supports most of the teachers' salary, is nil in Rajasthan and about 4% and 6% respectively at secondary and senior secondary stages in AP. The presence of unaided private schools needs to be understood in the context of high user fees, non-inclusive environment, and a course structure designed to cater to economically and socially better-off groups (Kingdon, 1996; Tilak, 2002; Jha, 2016)[14]. The presence of fee-charging private schools or absence of free education through public schools has often been associated with having adverse impact on girls' education because of parents' unwillingness to pay for daughters' schooling—something we would come back to when we discuss the issue of child marriage.

The distance to the nearest school is an important measure to understand accessibility. As per established norms, primary schools should be available within 1 km, upper primary within

13 Please refer to the chapter on Rajasthan in this report.
14 Kingdom, Geeta (1996), The Quality and Efficiency of Private and Public Education: A case – study of Urban India, Oxford Bulletin of Economics and Statistics,https://doi.org/10.1111/j.1468-0084.1996.mp58001004.x
Jandhyala B. G. Tilak (2002) Education and Poverty, Journal of Human Development, 3:2, 191-207, DOI: 10.1080/14649880220147301.
Jha, Jyotsna (2016), Education India private limited, in Education at the Crossroads, India International Centre Quarterly, (edited by Apoorvanand and Omita Goyal), Wonter 2016-Spring 2016

a radius of 3 km and secondary within a radius of 5 km. According to NSSO 71st round (2014-2015), no parents reported that they have to send their children beyond 1 km to attend primary classes[15]. At upper primary stage, the access still remains healthy as distance is less than 2 km, barring only a few exceptions, for more than 90% children in both urban and rural areas across the states. However, for secondary levels, 15% in AP and 8% in Rajasthan in rural areas have to go to beyond 5 km to attend a school. In urban areas, however, the situation is different, as no one in Rajasthan and less than 1% in AP have to go beyond 5 km to attend a school. With the opening of more schools in the recent past, the situation may have changed in rural Rajasthan, but the NSSO 75th Round report does not provide this data.

Figure 2.9 highlights the apparent difference in access to schools under the distance of 1 km. It can be seen that as of 2014-15, in rural Rajasthan and AP, availability of a school within 1 km drops by 27% and 21%, respectively; parents have to now choose to send their children beyond 1 km in pursuit of schooling. The national figure in this context is a healthy improvement of 20%, which also underlines that these two states have performed poorly in this indicator. At the national level, it is reported that 82% have access to secondary schools under 1 km, and only 1% need to travel a distance larger than 3 km. However, in the urban centres, these two states do better, as AP shows an improvement in availability of secondary schools as against upper primary by 0.18percentage points. Although the national norm is to provide secondary schools within a 5 km radius, this analysis helps in understanding the specific needs, especially in the context of girls where safety concerns and transport facilities become an important part of the decision-making processes. In this context, it also becomes important to discuss the reach and coverage of Open and Distance Learning (ODL) at secondary and senior secondary stages.

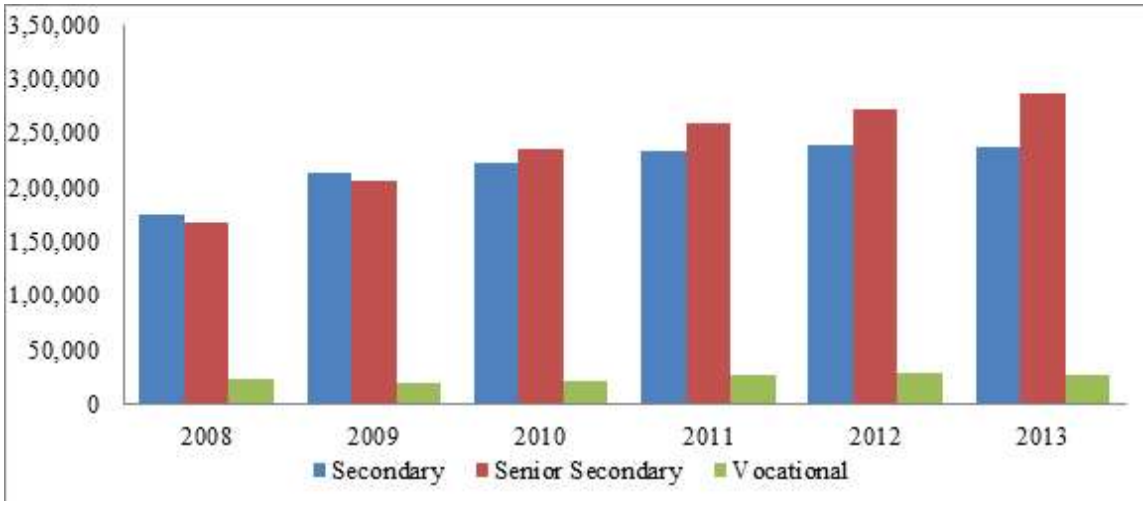
2.2 Open and distance learning in secondary education

Open and Distance Learning (ODL) in secondary education is provided by National Institute of Open Schooling (NIOS) and respective State Open Schools (SOS). The State Open Schools are available in AP, Gujarat, Rajasthan, Tamil Nadu, Delhi, Haryana, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Punjab, and West Bengal. Both these institutions provide several flexibilities such as freedom in choice of subjects, five-years to complete a course, nine-chances to appear for examinations, self-learning and self-explanatory learning materials, and others. The vision of these institutions is to improve access to secondary education for the unreached and marginalised sections of the society. Open and distance learning has emerged as an important alternative in AP though the numbers still remain small as compared to regular schooling. Although both NIOS and SOS are present in both the states, they are used much more as an alternative to regular schools in AP for a variety of reasons. In this section, we discuss the trends and patterns seen in ODL-based secondary and senior secondary education, largely based on a recent research focused on this very issue[16]. We first discuss NIOS enrolments followed by a discussion on the SOS enrolments and then the potential of the ODL based systems.

15 The parent reports on a scale of distance measured indices like 'd<1' meaning distance taken to travel is less than 1 km to 'd>5', which means that the distance needed to travel is greater than 5 km.
16 Jha et al., 2020

Enrolments in ODL based systems, whether NIOS and SOS, need to be considered on a cumulative basis because of the in-built flexibility that allows them to complete a course in five years[17]. Figure 2.10 reports the absolute number of learners who had enrolled in a particular year in academic and vocational courses. In 2008, there were 3,64,925 individuals who had enrolled with NIOS, of which 94% enrolled for academic (secondary/senior secondary stage) and 6% for vocational courses. This distribution of learners by academic and vocational courses remained unchanged in 2013, even though the total enrolled increased to 5,50,787.Unpacking this, we observe that per annum growth in enrolment was around 8.83% for academic courses, increasing from 3,42,582 in 2008 to 5,24,018 in 2013. The enrolment in secondary and senior secondary courses grew by 5.85% and 11.96% per year, respectively. Relatively, the enrolment in vocational courses grew at a much slower pace of 3.30% per annum during the time period 2008-2013.

FIGURE 2.10 Number of Learners Enrolled that year by Course and Year [2008-2013]



Source: National Institute of Open Schooling (NIOS) as reproduced from Jha et al., 2020

Enrolment in NIOS appeared to initially be concentrated around the national capital and surrounding areas, which seems to be changing slowly. For instance, Delhi and Haryana account for the highest concentration of learners at 20.48% and 14.82% respectively in 2008, but this has reduced to 11.86% and 11.03% respectively in 2013. This change is a manifestation of both lower per annum growth in these two states and expansion of enrolment in other states. Delhi and Haryana had registered a per annum growth rate of -1.90% and 2.31% during 2008-2013. In contrast, states such as AP, Rajasthan, Chandigarh, Gujarat, Jharkhand, Kerala, Madhya Pradesh, Arunachal Pradesh, and Tripura registered a per annum growth rate of more than 20% during 2008-2013. The representation of learners from these states has increased from 13% in 2008 to 25% in 2013. Of the 25%, AP, Kerala, Madhya Pradesh, and Rajasthan account for 17.37% of learners in India.

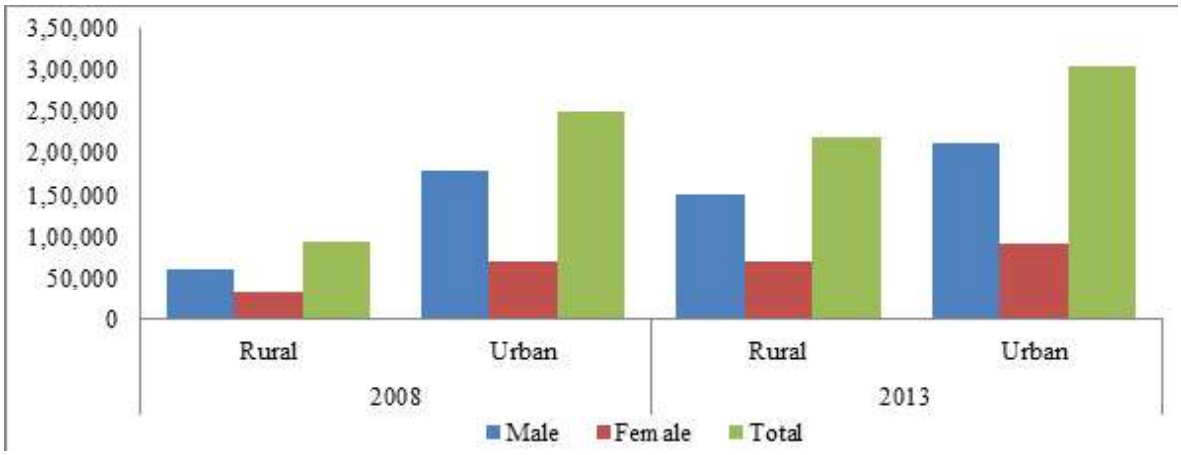
The change is not limited at the state level but can be observed at the rural-urban level as well. The enrolment in urban areas was much higher and accounted for 73% of the total in 2008. But the growth rate in enrolment from rural areas has been a considerable 22% per annum during 2008-2013, where it increased from 93,766 learners in 2008 to 2,19,767 learners in 2013. Urban areas, on the other hand, experienced a much lower growth rate of 4% per annum during the same period. This has led to some bridging of the rural-urban divide in enrolment, though not wholly[18].

17 Here, we mainly use the analyses used in Jha et al., 2020 as this is the only source that has analysed ODL-based secondary education in India in detail. The data is a little dated, but this is the only source that provides comprehensive data. Relevant websites also do not have updated information.

18 The rural-urban ratio was about 0.38 in 2008, which improved to 0.72 in 2013.

If we look at the male-female ratio in enrolment, it remained at an almost similar level between 2008 and 2013, with a ratio of 0.44 in 2013. Even in rural areas that registered a relatively higher per annum growth rate, the male-female ratio has remained stagnant primarily due to both male and female learners enrolling at similar rate. This suggests that more females are enrolling with NIOS in recent years, which is encouraging and may be indicative of increasing interest in NIOS from female candidates, yet the male learners account for the dominant segment in the system (Figure 2.11). Similarly, the distribution of caste and income levels of learners has not changed since 2008. A majority of learners belong to General caste and poor households; whereas only 9%-12% of learners belong to SC, ST, and OBC groups that are traditionally considered to be the marginalised sections of the society. Thus, there are a greater number of individuals enrolling with NIOS, but they belong to the sections of the society that had accessed NIOS in the past. In other words, the growth in enrolment does not transpire from extension of NIOS reach to previously unreached section of the society such as SC, ST or OBC, or females, who are conventionally considered to be the deprived sections of the society.

Figure 2.11 Distribution of enrolment in National Institute of Open Schooling (NIOS) academic courses across gender and location for secondary and senior secondary stages (2008 and 2013)



Source: National Institute of Open Schooling (NIOS), as reproduced from Jha et al., 2020.

In 2008, there were similar number of learners about 7,400, enrolled in academic courses in AP and Rajasthan. By 2013, the enrolled learners increased by 3.5 times in Rajasthan and reaching a total of 26,011, outpacing the growth observed in AP that was about 2.22 times. While this can be considered indicative of an increasing demand for academic courses, there exists an inter-temporal variation in growth across the two states suggestive of non-deterministic nature of enrolment. To illustrate, enrolment in AP increased from 7,482 in 2008 to 24,351 in 2011, registering a per annum growth rate of 56%. However, there was a significant decline by 23% in 2012, which further declined by 11% in 2013. Similar trends were observed with respect to enrolment in Rajasthan.

The concentration of learners is higher in respective district headquarters, namely Jaipur in Rajasthan and Visakhapatnam in AP[19]. The rural-urban distribution reflects this phenomenon where enrolment is observed to be higher in urban areas.However, there has been an increase in enrolment of learners from rural areas resulting in reduction of the rural-urban divide, similar to the movement observed at the national level. The rural-urban ratio in 2008 was about 0.14 and 0.18 for AP and Rajasthan, respectively, which improved to 0.71 and 0.35, respectively in 2013. It has to be noted that the rural-urban divide is severe in Rajasthan, and much lower than the ratio observed at the national level.

19 Andhra Pradesh (AP)is now bifurcated into AP and Telangana with two regional offices. The National Institute of Open Schooling (NIOS) regional office located at Visakhapatnam was started to serve as the regional office for the entire south and then gradually changed to focus only on the districts in the state of AP (non-bifurcated).

Further, male learners outnumbered female learners during 2008-2013 in both AP and Rajasthan. However, the per annum growth rate observed for female learners is much higher than their male counterparts in AP and varies at secondary and senior secondary stage. The per annum growth rate at the secondary stage was about 46% and 86% for male and female learners, respectively, and about 11% and 24% respectively at the senior secondary stage. Despite this, the gender disparity observed in AP is the highest at 0.45 and 0.32 at secondary and senior secondary stage, relative to Rajasthan. In Rajasthan, the per annum growth rate for male learners was observed to be 43%, higher than the 39% for female learners.

The distribution of enrolment across social groups[20] in these two states show that the representation of General category, which is non-SC/ST/OBC, stood at 80% in AP, higher than the national average of 69%)' in Rajasthan, it stood at about 69% (Table 2.5). This pattern is true for both secondary and senior secondary levels. The per annum growth rate of each social group category indicates a significant increase in enrolment in all three states. The cross-sectional analysis indicates that male learners belonging to urban areas are high in number within General category. Hence, upper caste male learners from urban areas outnumber all others in the NIOS enrolment.

Table 2.5: Enrolment by course and Social groups in Academic courses: NIOS (2013)

Education Level/State	General	SC	ST	OBC	Others	Total
Secondary (Row percentages are given in parentheses)						
Andhra Pradesh	4,129	362	66	820	2	5,379
	(76.76)	(6.73)	(1.23)	(15.24)	(0.04)	(100.00)
Rajasthan	12,416	1,362	1,407	2,604	23	17,812
	(69.71)	(7.65)	(7.90)	(14.62)	(0.13)	(100.00)
India	1,57,818	26,109	23,547	29,030	954	2,37,458
	(66.46)	(11.00)	(9.92)	(12.23)	(0.40)	(100.00)
Senior Secondary (Row percentages are given in parentheses)						
Andhra Pradesh	9,203	629	231	1,173	20	11,256
	(81.76)	(5.59)	(2.05)	(10.42)	(0.18)	(100.00)
Rajasthan	5,555	613	551	1,459	21	8,199
	(67.75)	(7.48)	(6.72)	(17.79)	(0.26)	(100.00)
India	2,03,133	28,746	20,914	33,252	1,063	2,87,108
	(70.75)	(10.01)	(7.28)	(11.58)	(0.37)	(100.00)

Source: National Institute of Open Schooling (NIOS), as reproduced from Jha et al., 2020.
Note: ST stands for Scheduled Tribes, SC stands for Scheduled Castes, and OBC stands for Other Backward Classes.

Majority of the NIOS learners belong to the age-group 16-35 years. In particular, the age group 16-20 years constitutes about 50%-60% of the total enrolled in 2013. On the other hand, the age-appropriate population for secondary and senior secondary level constituted about 11%-12% and 20% of the total enrolled in Rajasthan and AP, respectively. The increase in enrolment in the age group 16-20 years was observed to be about 36% per annum both in AP and Rajasthan, significantly higher than the 6% per annum growth rate observed at the national level. This resulted in a similar age-wise distribution across the two study states and national level in 2013.

20 National Institute of Open Schooling (NIOS) maintains data for all the categories for which reservation of seats exists that includes ex-servicemen and differently abled population and categorised as 'Others' in Table 2.5.

An examination of the two study states reveals a major shift in economic distribution of learners from 2008 to 2013, where there is a greater consolidation at the lowest economic category, which has an annual income less than Rs 50,000. To illustrate, in AP, about seven out of ten learners belonged to the top-most economic category of annual income more than Rs 1,50,000 in 2008. The distribution was completely reversed by 2013 with eight out of ten learners belonging to the lowest economic category. A similar shift in concentration of learners at the lowest economic category was observed in Rajasthan, where about six out of ten learners belong to the lowest economic category in 2013[21].

The NIOS provided support to all SOS but they have evolved differently in different states. It is difficult to gauge the total enrolment in absence of a reliable database in public domain, but enrolment has been growing in both AP and Rajasthan. In 2013-14, at the secondary stage, more than 78,000 students were enrolled in SOS in Rajasthan; about two-thirds in secondary and one-third in senior secondary level[22]. As per a report by Commonwealth of Learning (COL) in 2011, a cumulative of 1.2 million students had been enrolled with Andhra Pradesh Open School Society (APOSS). In 2019 a total of 56,149 students appeared for the APOSS Secondary School Certificate (SSC) exam that year, while 60,997 students appeared for the intermediate exam[23]. Interestingly, SOS in both the states have a greater presence in rural areas and greater representation of girls. A major difference between the two states is that it has emerged in AP as an option to regular schooling in areas where it is operational where students come to broaden their subject range and use the flexibility, while in Rajasthan, this is a choice that is used once students fail in the regular system *(Jha et al., 2020)*. This perception is based on a range of evidence: the age range that attains APOSS is the same as those attending regular schools at secondary stages and the contact classes are held regularly and attended widely on weekends in AP *(Jha et al., 2020)*. The analyses also assets that the APOSS has succeeded in having a much wider reach among poorer households in rural areas because of lower dependence on technology.

In sum, the enrolment in NIOS is also concentrated in urban areas with an over-representation of male and upper caste students. Even within urban areas, the enrolment is highly concentrated in the cities where regional centres are situated, thereby making them physically more accessible to learners. However, with a low dependence on technology and a creation of more accountable processes, the APOSS has succeeded in reaching rural areas and there lies the potential of ODL based education. If it is to be designed taking the context-specific barriers into account and processes become successful in lowering the 'transactional distance', often cited as a reason for its failure or low quality, it can act as an effective option for those who for whatever reason are unable to attend or choose not to attend regular schools. Girls' access may still remain an issue because of the very lack of easy access to technology and control over their own lives, as inferred by Jha et al. 2020 in their analysis.

2.3 Public expenditure on education

We now move to expenditure; first, we discuss public expenditure and then private expenditure on secondary education. Public expenditure analysis is based on the analysis of budgets of the two states. Since AP is a newly created state, the budget and expenditure data are available only from 2015-16, and therefore for the sake of comparability, we have retained the periods same for both the states: 2015-16 to 2019-2020. The annual expenditure on school education went up in both the states till 2017-18 in both nominal and real terms, but it declined in AP in the following year while it continued to increase in Rajasthan. Nevertheless, the per-child expenditure has remained higher in AP despite this stagnation though Rajasthan has reached closer to the amount in in AP. This difference is higher if one considers an average of five-year period that has been analysed here (Figure 2.12 a, b, c, d, e, d, f).

21 As pointed out earlier, the veracity of the income data is suspect as these are self-certification by learners and National Institute of Open Schooling (NIOS) does not validate the information through either additional documents or any other verification processes. So, this statement has to be considered as only a conjecture due to data validity issues.
22 https://rsosapp.rajasthan.gov.in/News/Brochure%202015_16_23072015.pdf
23 https://www.thehindu.com/news/national/andhra-pradesh/open-school-society-results-declared/article27952462.ece

FIGURE 2.12 a
Annual School Education Expenditure in Andhra Pradesh (2015-16 to 2019-20)

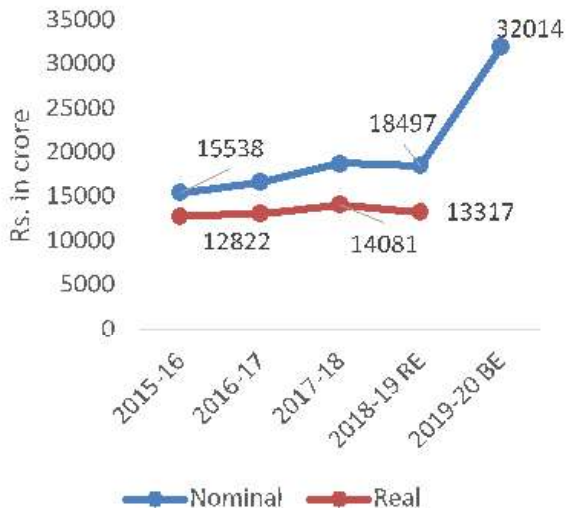


FIGURE 2.12 b
Annual School Education Expenditure in Rajasthan (2015-16 to 2019-20)

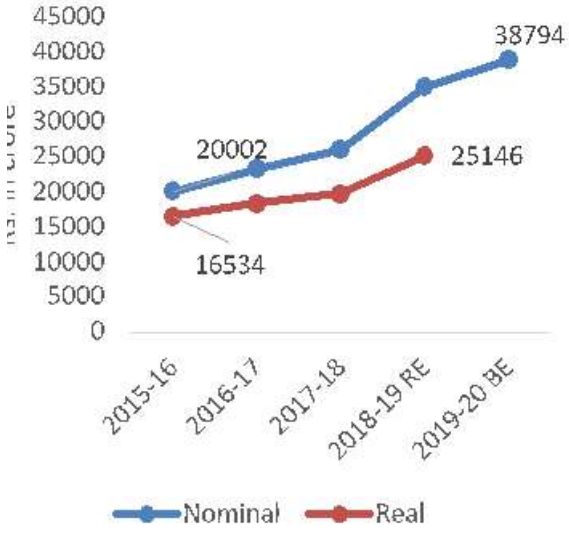


FIGURE 2.12 c
Per-child School Education Expenditure in Andhra Pradesh (2015-16 to 2019-20)

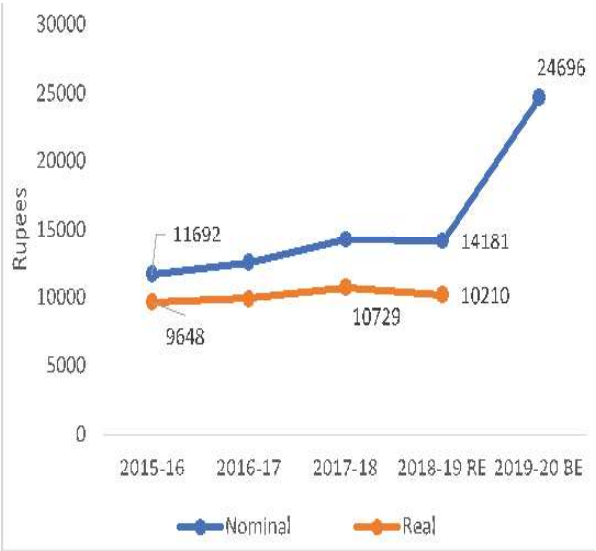


FIGURE 2.12 d
Per-child School Education Expenditure in Rajasthan (2015-16 to 2019-20)

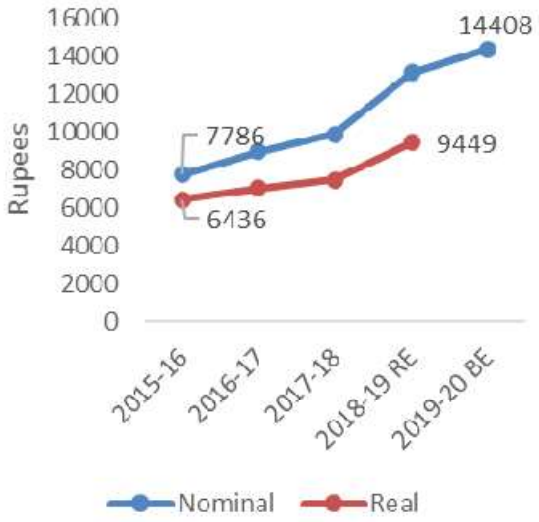
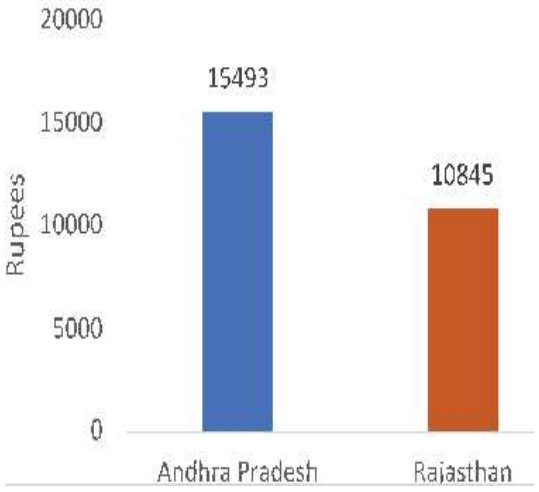


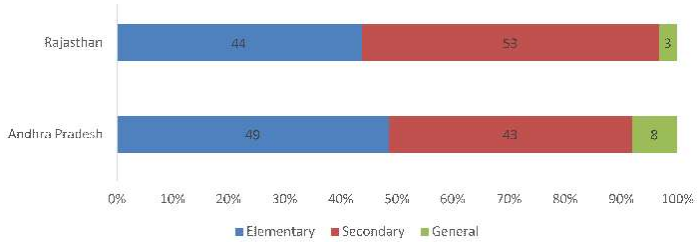
FIGURE 2.12 e
Annual Average School expenditure (2015-16 to 2019-20)

FIGURE 2.12 f
Per-capita Annual School expenditure (2015-16 to 2019-20)



Rajasthan spent a higher percentage of the school expenditure on secondary level (53%) as compared to AP (43%), as seen in Figure 2.13. However, this still amounted a higher size of public expenditure on secondary level in AP (more than 12,000 crores) as compared to Rajasthan (about 11,000 crores) during 2015-16 and 2019-20.

FIGURE 2.13 Share of Elementary, Secondary and General education expenditures (2015-16 to 2019-20)

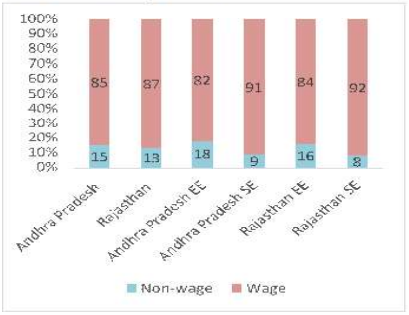


Note: General refers to expenditures pertaining to both elementary and secondary education such as hostels, Sanskrit schools, etc.

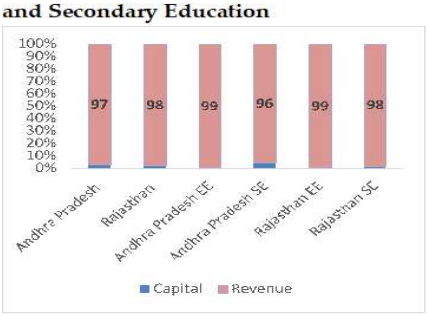
Both AP and Rajasthan spend more than 90% of their total expenditure on all kinds of wage expenditure including teachers' salaries, with only about 8%-9% being spent on non-wage components. This percentage is higher than that on wages in elementary education sector in both AP and Rajasthan, where they spent 82% and 84% respectively (Figure 2.14a). This is obviously because of higher levels of salaries at secondary stage as the number of teachers remains higher, but the size of salaries is smaller at elementary level. Both states spent 99% of expenditure at elementary level on revenue heads, while at secondary level AP spent 96% and Rajasthan 98% on revenue heads. This means that there was not much space for capital expenses, especially in Rajasthan. This also means an absence of fiscal space for expansion of the schooling infrastructure and facilities (Figure 2.14b).

FIGURE 2.14 (a, b, c, and d): Distribution of public expenditure on school education, elementary education and secondary education across wage/non-wage, revenue/capital, direct transfers-direct expenditure, and respective contributions of flagship schemes (2015-16 to 2019-20)

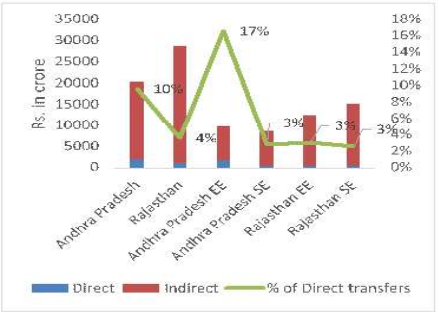
a. Share of wage and non-wage expenditures in School, Elementary and Secondary Education



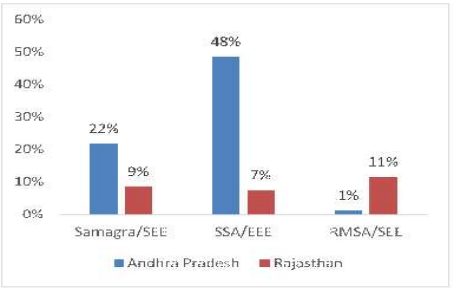
b. Share of Revenue and Capital expenditures in School, Elementary and Secondary Education



c. Share of Direct Transfers in School, Elementary and Secondary Education



d. Share of Samagra, SSA and RMSA in School, Elementary and Secondary Education



Every government spends a good amount of money in providing schooling services while a portion of public money is spent in making provisions for either cash on in-kind transfers such as meal, textbooks, uniforms, etc. These are being referred to as direct transfers here. Andhra Pradesh (AP) spends more than Rajasthan in the form of direct transfers at elementary level, but the proportion of direct transfers is the same for the two states at secondary stage (Figure 2.14c). All states receive some percentage of their total education expenditure from the union government, generally in the form of centrally sponsored schemes. As stated earlier, Sarva Shiksha Abhiyan (SSA) and Rashtriya Madhyamik Shiksha Abhiyan (RMSA) are the two flagship schemes at elementary and secondary levels, which have recently been merged to form Samagra Shiksha. Surprisingly, the share of these schemes, which are co-funded by the state and union governments, is much higher in AP as compared to Rajasthan (Figure 2.14d). The probable reasons could be better spending performance and also a higher base of enrolment, which itself then attracts higher amounts as a number of scheme inputs are based on the respective enrolments.

Next, we examine the secondary education expenditure as proportions of total expenditure, social service expenditure, revenue receipts and Gross State Domestic Product (GSDP) in these two states (Figure 2.15). This analysis tells us about relative priority in terms of money, and also helps us understand the capacity to spend. The discussion is also important from the perspective of the impact of the 14th Finance Commission (FC) award[24]. The 14th FC recommended a reduction in the allocation of tied funds through Centrally Sponsored Schemes (such as SSA and RMSA) and increased the state's share of untied funds from 32% to 42% of the total revenue collected. Since we start our analysis from 2015-16, it does not allow us to see the pre-14th FC trends, but it helps us understand the important FC trends in a comparative perspective.

Figure 2.15 (a, b, c, and d): Share of School Education Expenditure as% of Social Services Expenditure (SSE), Total Expenditure (TE), Gross State Domestic Product (GSDP) and Revenue Receipts (RR), and Social Service Expenditure as proportion of Revenue Receipts

FIGURE 2.15 a
Share of School Education Expenditure as % of Social Services Expenditure (SSE), Total Expenditure (TE), Gross State Domestic Product (GSDP) and Revenue Receipts (RR) in Andhra Pradesh

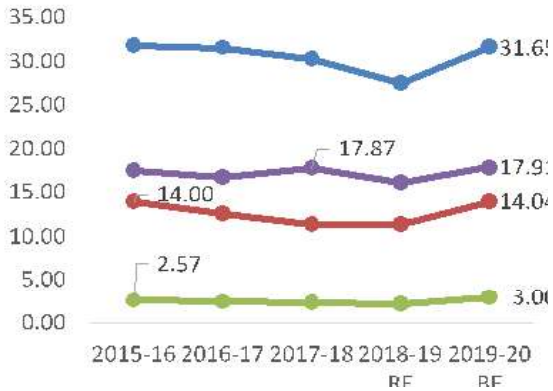
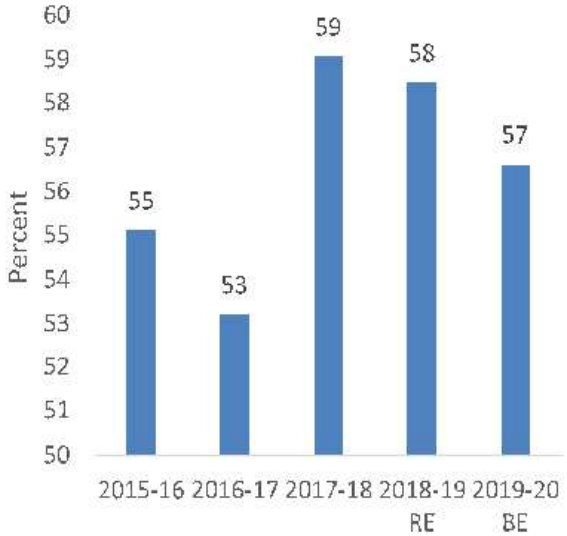


FIGURE 2.15 b
Social Services Expenditure (SSE) as a proportion of Revenue Receipts (RR)



24 The 14th Finance Commission (FC) award period is 2015-16 to 2019-20; FC is the constitutional institution that determines the mechanism for sharing of revenue between union and state governments every five years. Its recommendations are perceived as mandatory.

FIGURE 2.15 c
Expenditure (SSE), Total Expenditure (TE), Gross State Domestic Product (GSDP) and Revenue Receipts (RR) in Rajasthan

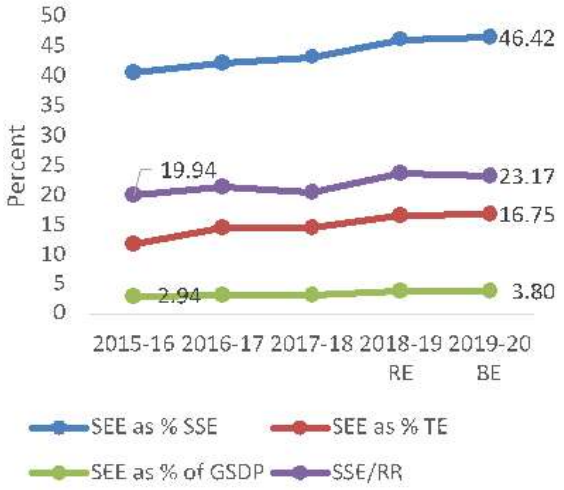
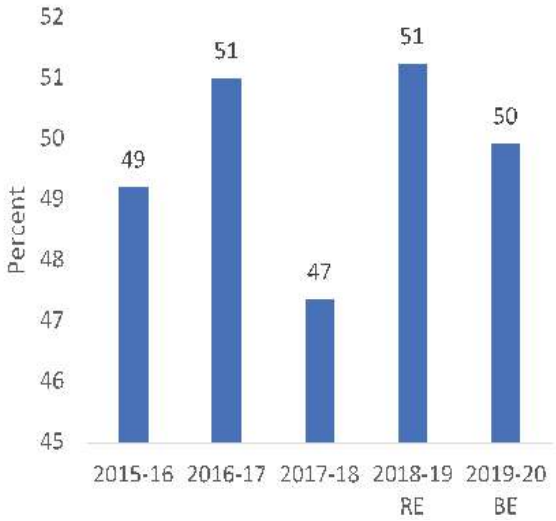
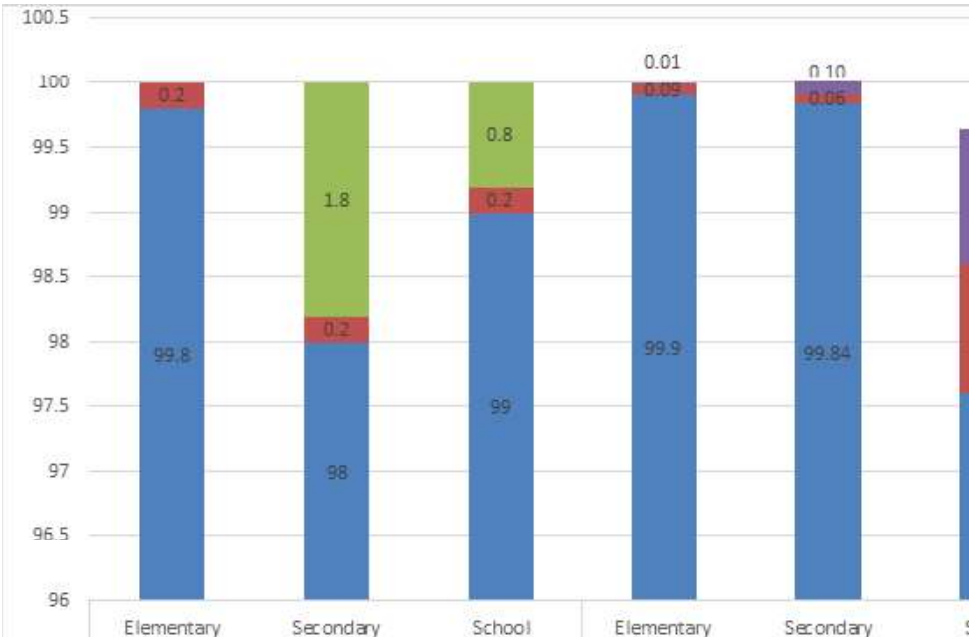


FIGURE 2.15 d
Social Services Expenditure (SSE) as a proportion of Revenue Receipts (RR)



In AP, the Secondary School expenditure has been less than three% of the GSDP, with a stagnant trend in this period. The share of secondary school expenditure declined both as a percentage of total and social sector expenditure till 2018-19, after which it went up for the 2019-2020 budgeted estimates. With this revival in the 2019-2020 budgets, this share went up to 31% of social sector expenditure, 14% of total expenditure and 18% of revenue receipts (Figure 2.15a). The share of social sector expenditure in revenue receipts saw a decline in the immediate post-14th FC phase but it revived in 2017-18, after which it again has been declining (Figure 2.15b). In Rajasthan, the share of social sector expenditure was the lowest in 2017-18 after which it went up; however, this share still remains lower than that in AP (Figure 2.15d). With a lower size of the total expenditure, a lower proportion going to social sectors would mean much lower expenditure in absolute terms. However, Rajasthan spent a much larger share on secondary education and its share has been generally increasing during this period, seen either as a percentage of total expenditure or social sectors expenditure, revenue receipts or GSDP. Nevertheless, as discussed earlier, the absolute amount spent on secondary education and per-child expenditure still remained lower in Rajasthan compared to that in AP despite a clear prioritisation towards the sub-sector.

Figure 2.16 Share of Elementary, Secondary and School Education Expenditure among key departments



Five departments from the respective state governments contribute towards secondary education in both the states but the Department of Education remains the largest contributor for both elementary and secondary levels in both the states. However, in AP, the Backward Classes and Social Welfare departments contribute about 2% of the entire expenditure at secondary stage while this contribution is less than 1% in Rajasthan.

Andhra Pradesh (AP) has been in a revenue deficit situation in recent years, but this has changed to a surplus of Rs 54 billion in 2018-19. The state has tried to contain the fiscal deficit in the last two years while it had crossed the Fiscal Responsibility and Budget Management (FRBM) Act limit to reach 4.5% of GSDP in 2016-17. But the fiscal situation is worse in Rajasthan, where the fiscal deficit reached 6% of GSDP in 2016-17. This poses severe limitations to the sustained increase in its SEE, as this is also a state with poor education indicators, especially at the secondary education stage, and therefore requires high and consistent investment *(Jha et al., 2019)*.

Table 2.6: Average per child expenditure (2012-13 to 2018-19) on school education[25]

Rank (E&E value)	State	Education & Empowerment Index Value (E&E value)	Per Child Expenditure in School Education (Rs)
1	Kerala	0.98	11,574
2	Himachal Pradesh	0.82	17,921
3	Tamil Nadu	0.74	10,071
4	Karnataka	0.70	8,112
5	Telangana	0.62	9,572
6	Maharashtra	0.61	10,255
7	Odisha	0.55	7,124
8	Andhra Pradesh	0.53	10,962
9	Gujarat	0.53	7,262
10	Assam	0.51	6,605
11	Chhattisgarh	0.50	8,435
12	Madhya Pradesh	0.42	5,649
13	West Bengal	0.37	5,453
14	Rajasthan	0.30	6,755
15	Jharkhand	0.25	3,518
16	Uttar Pradesh	0.24	5,294
17	Bihar	0.23	2,869

Source: Fact Sheet on Status of School Education Financing in India (http://cbps.in/wp-content/uploads/Factsheet-Final-1.pdf)

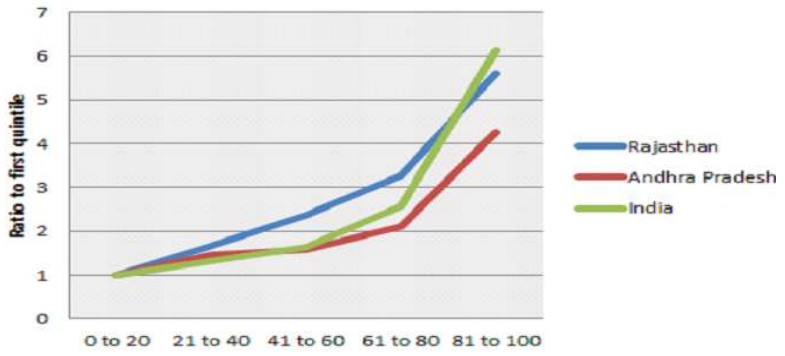
25 The three states of Telangana, Andhra and Uttar Pradesh have data for only five years as opposed to others who have data for seven years.

High and consistent expenditure on school education is correlated with better education and empowerment outcomes. A recent analysis looking at the school education expenditure of the states and the Education and Empowerment (E&E) Index reported a high degree of correlation between per-child expenditure and the E&E index (r= 0.77). The index was constructed using four indicators from NSSO 75th round and two indicators from NFHS-4 data[26]. While the state of Kerala stood 1st with an index value of 0.98, AP stood 8th, and Rajasthan stood14th. While it is clear that per child spending alone does not determine the outcomes, it is also clear that high public spending on education is a necessary condition for better education and empowerment outcomes. Nevertheless, public spending alone is not enough, especially if it is not adequate and not designed in a manner that it enables all children to attend schools. We next move to discuss that private expenditure on education in these two states and see how that acts as an impediment for those who remain excluded from schooling.

2.4 Household expenditure on education

Private expenditure on secondary education, as expected, varies by income quintile and also by social groups. As is known, a large section of the poorest and most marginalised never reach the secondary stage. Among those who reach, the General category, which is the non-SC/ST/OBC group, spends the highest; this is true for both the states as well as all-India. There is a huge gap between the rural and the urban sector on education spending. The average per student expenditure in urban Rajasthan was nearly twice as much as in rural areas, and more than twice in AP and all-India. This can perhaps be explained both by lower purchasing power and greater ability to spend in urban areas. In Rajasthan, students belonging to the General category spend on an average the same as other social classes in the rural sector, but in urban areas, they spend nearly 60% more than the next highest spending social class for both males and females. In AP, General category students spend the most on education in rural sector, followed by OBCs, SCs and STs; in the urban sector, STs spend the most followed by General category, OBCs, and SCs.

Figure 2.17: Expenditure for a child – ratio to the first quintile

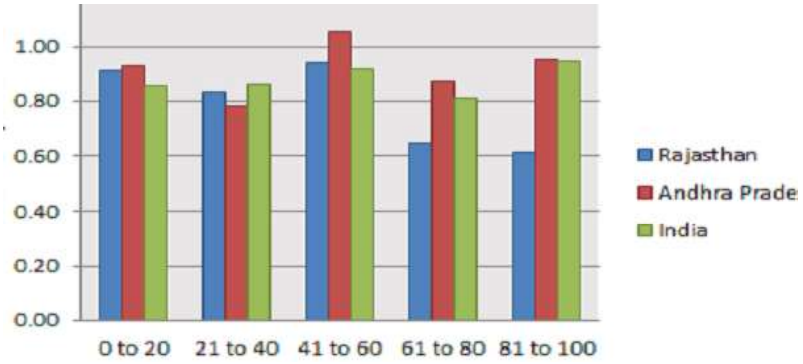


Source: National Sample Survey Office (NSS) 71st Education Round conducted in 2014-15.

As families get richer, more is spent on a child's education at the secondary level. This effect is far more pronounced in Rajasthan, and specifically so for rural males, where parents in the richest quintile spend over 9 times as much those in the poorest quintile. The income-gap is a little closer in urban areas, where the richest quintile spends 6.27 and 5.54 times more on the male and female child, respectively, as compared to those in the poorest quintile. In AP, the income-gaps are less pronounced for the four lower quintiles and spending is a lot more equally distributed across quintile groups and gender. However, the richest quintile spends much more as compared to the rest. The average spending in the poorest quintile in AP is also nearly twice as much in the same quintile Rajasthan.

26 This index was developed by CBPS and has been explained in the recently published report on public expenditure on children in India in collaboration with UNICEF: http://cbps.in/wp-content/uploads/Public-Finance-for-Children-PF4C-across-16-Indian-States.pdf.

Figure 2.18 GPI on household expenditure for a child, 2014-15



Source: National Sample Survey Office (NSS) 71st Education Round conducted in 2014-15.

Andhra Pradesh (AP) performs much better than Rajasthan and the national average in terms of Gender Parity Index (GPI) for the per student expenditure at secondary stage, even breaching the 1.00 mark for the middle-income quintile class. Also, in AP, richer households in the rural sector too tend to spend higher on the girl child as seen in a GPI greater than 1 in the richer three quintile classes. Nationally, there is gradual improvement in the GPI, and this reaches a high of 0.95 for the richest quintile class. In Rajasthan, even the richest quintile spends on girls only 60% of what they spend on boys, and the GPI goes down with an increase in income. This reflects that the gender gap is much higher in the per student expenditure for the richer quintiles as compared to the poorer quintiles in Rajasthan.

TABLE 2.7: Average expenditure (Rs) per student in the age group 3-35 years (2017- 18)

Region	Male	Male	Male	Female	Female	Female	Total	Total	Total
	General course	Technical/ professional course	Any course*	General course	Technical/ professional course	Any course*	General course	Technical/ professional course	Any course*
AP	7,755	35,224	9,531	6,739	29,259	7,679	7,285	33,126	8,686
Rajasthan	6,429	36,081	7,008	5,060	30,580	5,454	5,828	33,982	6,327
All-India	5,579	32,376	6,362	4,812	31,622	5,277	5,240	32,137	5,887

Source: National Sample Survey Office (NSSO) 75th Education Round conducted in 2017-18.

The 75th Round NSSO report does not provide this information by stages of schooling, and it clubs averages for all in the age group 3-35 years; hence, we cannot compare it with figures of the 71st Round that have been analysed here. Nevertheless, it provides some important insights regarding gender disparity in the per student expenditure. One, per-student expenditure is much higher for technical courses as compared to the general courses everywhere and two, gender gaps appear in favour of males for technical/professional courses even in AP.

2.5 Reasons for discontinuity

The earlier figures on dropout, retention, and transition rates emanated the fact that as children progress to secondary and senior secondary schooling, their tendency to continue schooling dims down, and in case of India, both institutional reasons and social norms play a big role in this decision to discontinue. While it is known to most parents these days that investing time into school education until completion may bring about a better economic fortune in their lives in the future, they are often caught by circumstances to cater to immediate economic needs.

The most cited[27] reason as of 2014-15 for discontinuity across the study states and India is 'engaged in economic activity' or 'not interested in studies' for male students whereas 'engaged

27 It is to be noted that multiple selections cannot be done for this question. Thus, the biggest reason for dropping out is what would have been selected in every case, though, in most households, it would be a mixture of various reasons for dropping out.

in economic activity', "engaged in domestic chores' or 'not interested in studies' for female students. While one-third of female students cite domestic chores as the reason for dropping out in Rajasthan, one-third of female students of AP seem to discontinue for engaging themselves in economic activity, followed by about one-fifth who drop out due to engagement in domestic chores. However, the inter-caste disparity is much wider in AP where only 9% of female students in General category as against 41% among SCs cite engagement in domestic chores as a reason for discontinuity. In the General category, 61% of the girls cite economic activities as the reason for dropping out in AP.

In AP, one-third to half of male students in all social categories drop out due to engagement in economic activities. On a positive note, the reason of 'non-accessibility of institution' seems to be the least possible reason for dropping out across all quintiles and all social classes. Except in the case of male ST students in AP, where 38% cite that non-accessibility is their reason for dropping out, no other social group across the study states seem to have this as their sole reason for dropping out.

In Rajasthan, 33% male students belonging to STs cite engagement in domestic duties as their reason for dropping out. This number is greater than the percentage of ST female students citing the same reason (26%), and it is also greater than the national percentage of 11%.There is a near equal distribution among SCs, OBCs and the General category as they cite both non-interest and economic activity engagement as reasons (~85% of the time). For females, there is a near equal distribution (25% to 30%) among the three major reasons cited, accounting for 90% of the dropouts.

Table 2.8: Reasons for not attending secondary education by gender and caste

By State & Caste	Male (age group 14-17 years)						Female (age group 14-17 years)					
	Not interested in Studies (%)	Unable to Cope (%)	Non-accessibility of Institution (%)	Engaged in Economic Activity (%)	Engaged in Domestic Duties (%)	Others (%)	Not interested in Studies (%)	Unable to Cope (%)	Non-accessibility of Institution (%)	Engaged in Economic Activity (%)	Engaged in Domestic Duties (%)	Others (%)
Rajasthan												
ST	24	2	0	38	33	4	42	6	4	18	26	5
SC	51	5	0	41	0	2	40	3	5	9	32	9
OBC	49	4	3	39	5	0	42	2	6	4	42	2
General	35	29	0	29	6	0	16	3	13	33	25	11
Total	43	7	1	38	10	1	36	3	7	14	33	6
Andhra Pradesh												
ST	4	0	38	47	10	0	45	0	0	34	0	21
SC	29	18	0	50	0	3	9	0	0	16	41	34
OBC	43	10	2	37	9	0	24	1	8	30	18	18
General	37	0	0	45	0	19	1	0	11	61	9	18
Total	31	9	8	43	6	3	19	1	6	34	19	22
India												
ST	36	14	3	30	11	5	30	9	4	23	26	8
SC	45	5	1	42	2	5	28	7	5	22	25	11
OBC	40	5	1	41	6	5	23	5	5	26	33	7
General	41	5	1	42	5	5	27	4	5	24	25	14
Total	41	6	1	40	6	5	26	6	5	24	29	10

Source: National Sample Survey Office (NSSO) 71st Education Round, 2014; this table has been reproduced from Jha et al., 2020.

TABLE 2.9: Reasons for not attending secondary education by gender and economic quintile

By state & economic quintile	Male (age group 14-17 years)						Female (age group 14-17 years)					
	Not interested in studies (%)	Unable to cope (%)	Non-accessibility of institution (%)	Engaged in economic activity (%)	Engaged in domestic duties (%)	Others (%)	Not interested in studies (%)	Unable to cope (%)	Non-accessibility of institution (%)	Engaged in economic activity (%)	Engaged in domestic duties (%)	Others (%)
Rajasthan												
0 to 20	44	5	0	36	14	2	46	0	2	21	23	9
21 to 40	46	0	1	35	18	0	28	2	9	8	50	0
41 to 60	47	18	4	30	0	2	28	11	13	15	20	11
61 to 80	25	0	0	75	0	0	30	4	9	8	43	4
81 to 100	0	5	0	92	0	0	57	0	0	3	39	0
Andhra Pradesh												
0 to 20	16	1	26	38	14	6	20	2	5	34	10	29
21 to 40	36	19	0	35	7	3	30	0	9	23	5	33
41 to 60	40	3	0	56	0	1	19	0	7	34	34	7
61 to 80	25	21	0	54	0	1	3	0	0	21	41	35
81 to 100	100	0	0	0	0	0	0	0	0	100	0	0
India												
0 to 20	39	5	1	43	6	4	27	4	4	28	28	8
21 to 40	47	4	2	37	4	6	23	5	6	26	28	11
41 to 60	40	8	1	39	7	6	27	11	8	16	28	9
61 to 80	38	12	2	36	7	3	24	7	4	21	32	10
81 to 100	44	3	2	37	4	8	24	4	3	20	34	14

Source: National Sample Survey Office (NSSO) 71st Education Round, 2014, this table has been reproduced from Jha et al., 2020.

In a quintile-based analysis in Rajasthan for male students, it is disturbing, however, to note that the reason of being less interested in studies is reducing and that of engagement in economic activity is increasing as families' income levels go up. This is counter intuitive to some extent as one would expect that poorer parents would want their child to drop out for having to work and contribute to the income. In AP, students belonging to the richest quintile solely cite[28] their non-interest in education as the reason for dropping out. Female students in AP show a similar trend in their increasing interest in engaging in economic activity as the sole motivator of dropping out. Engagement in economic activities and lack of interest remain the two most cited reasons for males; engagement in domestic chores and economic activities are the two most cited ones for females at national level in India. Interestingly, early marriage does not figure as a reason in either state even though the incidence is high, especially in Rajasthan. We next discuss this issue in relation to secondary education and see what data tells us there.

2.6 Child marriage and secondary education

Child marriage is not rare, especially in African and South Asian countries (UNICEF 2009)[29]. It is defined as a marriage in which either or both parties have not attained the minimum legal age for marriage, as prescribed by the law for each country (UN Convention on Consent to Marriage, Minimum Age for Marriage and Registration of Marriages, 1962). In India, child marriage is defined as a marriage where either girls are below 18 years old and/or boys are below 21 years old (PCMA, 2006)[30]. The impact of child marriage is adverse for both boys and girls but the degree of impact is the highest for girls, spanning across the their lifetime, adversely affecting their participation in education, poorer health indicators, higher probability of early pregnancy and child birth, and chances of experiencing domestic violence. It is often considered as another form of violence (UN Women 2017)[31] and a violation of the child's rights (UN Convention on the Rights

28 It is the parents who report on behalf of their children, and not the children themselves.

29 UNICEF (2009), The State of the World's Children: Maternal and New Born Health (https://www.unicef.org/protection/SOWC09-FullReport-EN.pdf) (last visited 24 July 2018).

30 The Prohibition of Child Marriage Act, 2006 http://ncw.nic.in/acts/pcma2006.pdf (last visited 24 July 2018).

31 Mlambo-Ngcuka, Phumzile (2017), Executive Director's Blog Series: Ending Child Marriage; UN Women, 30 November 2017 http://www.unwomen.org/en/news/stories/2017/11/op-ed-ed-phumzile-16days-day6 (last visited 23 July 2018).

of the Child, 1989)[32]. Early pregnancy, often associated with child marriages, has subsequent consequences on the health and development of the new-born (low birth weight, under nutrition and late physical and cognitive development), maternal deaths among those in the age-group 15-19 years and higher infant mortality in the first 12 months (UNICEF 2009). Early marriage and pregnancy, therefore, restricts girls' freedom unlike anything else and completely limits their life choices, often with detrimental implications for themselves.

Child marriage has also been identified as impacting the development and the economy adversely. The greatest economic outcome of eradication of child marriage is estimated to be with respect to girls' education, which in turn initiates a cycle of lower number of children, higher economic earnings during adulthood (about 9%) and an increased ability to take decisions (Woden et al., 2017[33]; Woden and Petroni, 2017[34]). Other positive impacts include lower fertility rates decreasing population growth, and greater participation by women in decision making (Parsons et al., 2015[35]). Given this background, it is not surprising that complete eradication of child marriage has been incorporated within the Sustainable Development Goals (SDGs).

TABLE 2.10 Number and percentage of girls' marital status, 2011*

Age Group	Currently married	Widowed	Separated	Divorced	Total Ever Married	Total Girls	Percentage of Ever Married
India							
10-14	17,09,811	63,647	32246	6,496	18,12,200	6,32,90,377	2.86
15-18*	32,32,919	78,247	26,724	7,773	33,45,663	3,35,92,084	9.62
10-18*	49,42,730	1,41,894	58,970	14,269	51,57,863	9,68,82,461	5.32
Andhra Pradesh (Undivided)**							
10-14	95,912	4,472	1,752	310	1,02,446	39,92,711	2.57
15-18*	2,09,239	5,103	1,931	389	2,16,662	22,28,059	9.72
10-18*	3,05,151	9,575	3,683	699	3,19,108	62,20,770	5.13
Rajasthan							
10-14	1,62,756	2,156	1,416	199	1,66,527	39,49,822	4.22
15-18*	3,24,866	3,082	1,677	274	3,29,899	20,45,474	16.13
10-18*	4,87,622	5,238	3,093	473	4,96,426	59,95,296	8.28

** Census 2011 combines respondents aged 17 years and 18 years in the same age group. Hence, a percentage of those married within the age group 15-18 years and 10-18 years include those who were married after they completed 18 years of age.*
***Andhra Pradesh was bifurcated on 1 March 2014*

Source: Census of India, 2011

Despite its intergenerational impact on every aspect of the girl-bride's life (Jha, 2016) and being prohibited by law (PCMA, 2006), child marriage is being practiced extensively across India, especially for those in the age-group 15-17 years. Table 2.10 is a clear indication that the percentage of child marriages below 14 years of age, which used to be an issue earlier, has gone down and is extremely low as compared to marriages in the 15-18 age-group. This is true for both AP and Rajasthan and also for all-India. Two notable facts emerge here: one, the incidence is much higher in Rajasthan and it is also prevalent for girls below 15 though not as high as for those in the age-group of 14-18, and two, the incidence in AP is as high as the all-India average even though it performs much better that the all-India average on all secondary education related indicators. This is despite the clear relation between child marriage and education that emerges from the analysis of Census 2011, wherein it is evident that a majority of those who were married early were either illiterates or had low levels of schooling.

About 65% of women who were married before 18 years of age and living in rural India were

32 UN Convention on Rights of the Child, 1989 https://www.ohchr.org/Documents/ProfessionalInterest/crc.pdf (last visited 24 July 2018).

33 Woden, Quentine; Male, Chata; Nayihouba, Ada; Onargoruwa, Adenike; Savadogo, Aboudrahyme; Yedan, Ali; Edmeades, Jeff; Kes, Aslihan; John, Neetu; Murithi, Lydia; Steinhaus, Mara and Petroni, Suzanne (2017) Economic Impacts of Child Marriage: Global Synthesis Report, Conference Edition, ICRW and The World Bank, 27 June 2017. http://disde.minedu.gob.pe/bitstream/handle/MINEDU/5588/Economic%20impacts%20of%20child%20marriage%20global%20synthesis%20report.pdf?sequence=1&isAllowed=y (last visited 24 July 2018)

34 Woden, Quentine and Petroni, Suzzane (2017) The Rippling Economic Impacts of Child Marriage, Education for Global Development, The World Bank 27 June 2017 http://blogs.worldbank.org/education/rippling-economic-impacts-child-marriage (last visited 24 July 2018).

35 Parsons, Jenifer; Edmeades, Jeffery; Kes, Alishan; Petroni, Suzanne; Sexton, Maggie and Woden, Quentine (2015) Economic Impacts of Child Marriage: A Review of the Literature, The Review of Faith and International Affairs, Vol. 13, No. 3, Pg: 12-22, https://doi.org/10.1080/15570274.2015.1075757(last visited 24 July 2018).

illiterate. This percentage was highest for those married in the age-group 10-11 years (75.55%). Only 18.9% of rural women married as child brides had completed their elementary education and 5.6% had completed their secondary education (Census 2011). However, what also emerges is that perhaps schooling alone is not the solution as the proportion of those who were married before 18 years but have completed their secondary schooling is also high in AP as compared to Rajasthan (Table 2.11). In order to go deeper into this relationship, it is imperative to analyse the changes that have taken place in education levels and child marriage patterns over time and space, rather than just analysing one-time data.

Table 2.11 Percentage of girls married below 18 years of age and their current education status: India and Sample States, Census 2011 (Total)

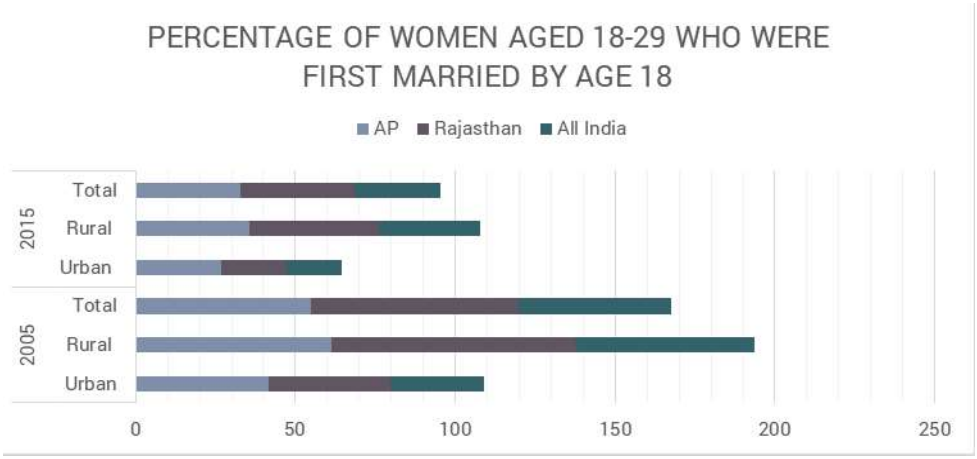
Age at marriage	Current Education Level							
	Illiterate (1)	Literate but below primary (2)	Primary but below middle (3)	Middle but below matric or secondary (4)	Matric or secondary but below graduate (5)	Graduate and above (6)	Literate but not through formal education*	Total Ever Married (Females)
	India							
Less than 10	54.53	6.06	11.49	7.05	9.96	4.02	6.88	100.00
10-11	70.82	5.67	9.46	4.83	4.77	1.06	3.39	100.00
12-13	68.63	7.73	11.70	4.77	3.31	0.51	3.35	100.00
14-15	63.92	8.07	13.17	6.57	4.44	0.48	3.34	100.00
16-17	55.07	7.76	14.83	9.21	8.69	0.90	3.54	100.00
Total	59.00	7.65	13.70	7.84	7.09	1.00	3.72	100.00
	Andhra Pradesh							
Less than 10	61.22	4.00	12.04	2.99	9.44	3.66	6.64	100.00
10-11	81.54	3.56	7.26	1.17	2.83	0.61	3.04	100.00
12-13	74.01	4.97	12.35	2.09	3.06	0.43	3.08	100.00
14-15	68.34	5.16	14.35	3.11	5.29	0.53	3.21	100.00
16-17	56.12	5.29	17.48	4.44	11.69	1.13	3.84	100.00
Total	63.49	5.04	15.06	3.51	8.12	1.03	3.74	100.00
	Rajasthan							
Less than 10	71.53	5.03	9.45	4.54	3.08	1.52	76.37	100.00
10-11	77.63	4.67	9.05	3.82	1.98	0.42	80.06	100.00
12-13	75.86	4.57	9.87	4.59	2.12	0.36	78.49	100.00
14-15	73.65	4.39	10.37	5.50	2.89	0.45	76.39	100.00
16-17	66.83	4.67	12.23	7.48	4.92	0.89	69.81	100.00
Total	70.82	4.61	11.01	6.12	3.70	0.74	73.82	100.00

** This is not reported in the Census data but calculated as a difference between numbers given for total ever married females and the total number for those with some level of schooling (sum of columns two to six). Since there was a difference in the numbers, it is assumed that this is for those who were literate but did not have any formal education. This assumption is based on the calculation wherein sum of total literates and total illiterates matched the total ever married.*

Source: Data from Census of India, 2011.

National Family Health Survey (NFHS) surveys in 2005 and 2015 provide us comparable data and reveal a very critical pattern vis-à-vis two states. While the incidence of child marriage is overall lower in AP as compared to Rajasthan and has remained so, the incidence continues to be higher in urban AP as compared to urban Rajasthan. The urban-rural disparity is higher and continues to be so in Rajasthan. The rate of decline in the incidence of child marriage for girls has been higher in Rajasthan in comparison to AP. Despite girls having high secondary schooling participation rates in AP and a GPI that favours girls in certain contexts, the continued high incidence of child marriage in AP, especially in urban areas is puzzling. This reinforces the inference that though secondary education plays a role, that alone is not sufficient to reduce the child marriages among girls. A district-level data-based analysis suggests that the effect of middle schooling, within the levels of schooling, is more pronounced than that of secondary and higher schooling[36].

FIGURE 2.19 Percentage of women aged 18-29 years who were first married by age 18.



Source: National Family Health Survey (NFHS) reports, NFHS-3 and NFHS-4.

Research has shown that though easy access to secondary schooling helps in reducing child marriage, widely accepted social norms usually play an` important role in retaining the practice of child marriage. The quality and content of schooling in terms of facilities as well as processes also could be playing a role in impact on attitudinal and behavioural change (Muralidharan, 2013; ICRW, 2016). Similarly, although poverty is an important driver, child marriage is also prevalent among high-wealth quintiles in areas where such social norms in are strong and widely prevalent (Jha, 2016). Both AP and Rajasthan seem to fall in a category where social norms tend to undermine the effect of schooling in promoting child marriage. A number of social practices such as mass marriages on a particular day that is considered auspicious is common in Rajasthan and AP, and consanguineous marriages are common in AP; these are considered to be contributing to the continuation of child marriage in these states (ICRW, 2016; Jha, 2016). In AP, incidences of girls being married off to serve as labour has also come into light—this perhaps explains why economic activities figure prominently as reason for dropping out while child marriage is rarely mentioned. The root cause is, of course, linked with patriarchy and how gender norms view girls' sexuality as a family honour that needs to be protected by marrying them off early.

The union and state governments have adopted certain policies and schemes such as conditional cash transfers that aim at promoting secondary education in combination with preventing child marriage, but it remains to be examined if these are the best policy responses to influence deeply patriarchal social norms remains debatable[37]. Most evaluation studies seem to suggest that cash transfer alone does not help in changing social norms, especially if the practice is prevalent even among high-wealth quintile population. Therefore, it becomes important to understand the quality and delivery of secondary schooling even to understand its linkages with social practices such as child marriage.

36 https://www.icrw.org/wp-content/uploads/2016/10/District-level-study-on-Child-Marriage-in-India.pdf;
Jha, Jyotsna et al., Reducing Child Marriage in India: A model to scale up results, Centre for Budget and Policy Studies and United Nations Children's Fund, New Delhi, 2016. http://cbps.in/wp-content/uploads/Child-Marraige-UNICEF.pdf
37 Please refer to the chapter on the policy framework in this report to go into greater details of these policies.

2.7 Conclusions

Andhra Pradesh (AP), as compared to Rajasthan, has better educational indicators at secondary stage of education in terms of enrolment, transition, and retention. One simple reason is the negative population growth in AP whereas, the rate of population growth, despite reductions, has been high in Rajasthan. Historically, Rajasthan was educationally one of the most backward states and has had weaker indicators than AP in comparison. However, Rajasthan's performance has been better than the national average on some counts and that means it is moving ahead faster than many other states. Also, the growth rates for secondary school participation indicators are higher for hitherto excluded groups such as girls, SCs, STs and OBCs in Rajasthan; STs have the highest growth rates in both the states. These are positive signs. The share of age-appropriate enrolment is higher in Rajasthan as compared to AP but, in general, the proportion of age-appropriate students goes down in higher stages. 'Others' or upper caste groups in both the states report stagnant or negative growth rates, which can be explained by the declining birth ratio and already existing high participation rates. However, a point of worry is that, in both states, the attendance ratios are low as compared to enrolment ratios, indicating that a good proportion of students though enrolled does not attend schools in both the states.

As is known, urban areas are better served in terms of availability and comfort of travelling to schools at the point where students transition from upper primary to secondary stage. What also emerges is that at higher stages, it is not the proximity of school or educational institution that matters but the accessibility to the institution; this is based on the evidence that despite having fewer institutions and long distances to be covered, a majority of students proceed to senior secondary schooling. Perhaps social norms also play a role in Rajasthan as despite the number of schools being high and distances lower, the transition rates for girls has been lower at both secondary and senior secondary stages.

The role of social norms become even clearer when the private expenditure on education is examined. In rural Rajasthan, not only is the average private expenditure for females' secondary education lower than that of males', but the disparity in private spending on male and female secondary education is much higher even for those in the higher economic quintiles. Rajasthan's GPI for the poorest and the richest quintiles are 0.92 and 0.61, respectively, consistently reducing at each higher income quintile. In AP too, though the trend is erratic but the GPI for private expenditure is lower than 1 for all quintiles except the middle one. Therefore, what is clear that the rich in both the states spend less on girls' education than that on boys' education though the overall expenditure for both boys and girls is lower in Rajasthan.

The stickiness of social norms going against girls becomes even clearer when we examine the child marriage patterns. Although on a larger scale at all-India levels, studies have shown that education is the most important effect in reducing the incidence of child marriage (ICRW, 2016), analysis for individual states reveals that in some areas the practice is not necessarily guided by poverty and illiteracy but by deeply entrenched social customs. Thus, the incidence of child marriage does not necessarily show a linear relationship with schooling, especially the higher levels of schooling. This is perhaps also a comment on the quality and content of the education being delivered in the schools. The incidence of child marriage is high in both states, higher in Rajasthan than in AP, but despite higher levels of secondary schooling participation rates among girls in AP, the decline in the incidence has not been as high.

It is also interesting to note that child marriage does not emerge as a major reason in self-reported reasons for dropping out from schools. Among the reasons for dropping out at secondary stage, one of the primary reasons given for dropping out is students not being interested in studies and education; this is followed by engagement in economic activities by both males and females, and engagement in domestic activities by females. The quintile wise analysis reveals that the reason of engagement in economic activities is cited more often in richer quintiles, even for girls. Given that marriage before the age of 18 is illegal, there is a

possibility of under-reporting this, and engagement in household chores or economic activities may partially be used as a proxy for that.

High presence of unaided private schools is another important feature in both states: at secondary and senior secondary levels, the share is as high as 42% and 62% respectively in AP, and 50% and 42% in Rajasthan. Privatisation has implications for the poor as they might find it unaffordable, and also for girls, as parents may not like to spend money on their schooling. An aspect that this data-based chapter has not been able to analyse is the emergence of coaching institutions at secondary level, especially in certain urban areas in both the states. It is difficult to ascertain their reach, but they are also an important stakeholder in the context of open schooling as a good number of NIOS and SOS enrolees also belong to coaching institutions (Jha et al., 2020). Open and Distance Learning (ODL) based secondary education caters to a large number, especially in AP, but still covers only a small proportion of total students at that stage.

The analysis also revealed that high public expenditure on school education is linked with better education and empowerment outcomes. Here, we see a stagnation in terms of the share of total expenditure or revenue receipts being spent on secondary education in AP as compared to Rajasthan that has witnessed steady increases in these shares. The total as well as per-child expenditure remains much smaller in Rajasthan as compared to AP although it is catching up. In AP, there is a much higher rate of participation and a negative rate of population growth; hence, an increase in public spending may not be needed for expansion of the system unlike Rajasthan which still has a long way to go.

Chapter 3

The Policy Framework of Secondary Education in Andhra Pradesh and Rajasthan

Author

Rashmi Sharma

3 Introduction

This chapter examines the policies of Andhra Pradesh (AP) and Rajasthan in school education, with a focus on secondary education. In this scrutiny, two issues need to be kept in view.

One, state policies in India are framed by Government of India (GoI), or the central government schemes, as these provide substantial funds for school education for specific activities. In particular, the Samagra Shiksha Abhiyan[1] (SMSA) provides funds for a range of activities to states, and state policies are driven by the availability of these funds. However, in many areas, such as curriculum and pedagogy, personnel policies, including teacher recruitment, regulation of private schools, etc., states, though influenced by central policy recommendations and discourses, have more independent policies as they are not dependent on central government funds. Consequently, a wider variation is seen in these areas among states. Two, as a rule, state governments do not formulate comprehensive policy documents. Instead, state government policies are issued as discrete documents: laws and rules, schemes, plan documents, government orders, etc., and the 'policy' has to be discerned from these. Consequently, state policies were identified through these documents and subsequently followed up with discussions with government officials for greater clarity.

3.1 School structure

The Draft National Education Policy 2019 lays emphasis on integration of schools and recommends the creation of large 'school complexes' comprising one secondary school, along with other schools offering lower classes in its neighbourhood[2]. Such school complexes are expected to enable greater resource sharing in terms of teachers, infrastructure, social workers, and counsellors, as well as promote better school governance and support to teachers[3]. This emphasis on integration is also visible in the Samagra Shiksha Abhiyan, which attempts to provide 'an integrated/composite school system from pre-school to higher secondary level[4].

Andhra Pradesh (AP) and Rajasthan differed dramatically in the extent to which they had integrated schools (Table 3.1). Rajasthan had nearly 10,000 government schools with classes 1 to 12, while AP had less than 200 such schools. While in both the states, the largest number of schools were primary schools for classes 1 to 5, in AP, the second largest number of schools were for classes 6 to10 and third largest for classes 1 to 8, while in Rajasthan, the second largest number of schools were for classes 1 to 8 and third largest for classes 1 to 12.

1 Government of India (2019), Draft Document, Samagra Shiksha Abhiyan (SMSA), An Integrated Scheme for School Education, Framework of Implementation 2019, and D.O No. 2-16/2017-EE.3 dated 5 April 2018.
2 This recommendation was made by the Education Commission 1964.
3 Government of India (2019), Draft National Education Policy 2019, Ministry of Human Resource Development (pp 157-179).
4 Draft document, Samagra Shiksha Abhiyan, An Integrated Scheme for School Education, Framework of Implementation 2019 (pp 9).

TABLE 3.1: Types of Schools in Andhra Pradesh and Rajasthan in 2017-18

School with classes	Number in Andhra Pradesh (AP)						Number in Rajasthan					
	Central	State and Local Government	Total Government	Aided Private	Unaided Private	Total Private	Central	State and Local Government	Total Government	Aided Private	Unaided Private	Total Private
Higher Secondary												
1-12	18	170	188	0	38	38	59	9689	9748	0	7702	7702
6- 12*	15	168	183	2	3	5	37	330	367	0	386	386
9-12	0	0	0	0	0	0	0	71	71	0	142	142
11-12		1028	1028	171	1731	1902				0	0	0
Total	*33*	*1366*	***1399***	*173*	*1772*	***1945***	*96*	*10090*	***10186***	*0*	*8230*	***8230***
High Schools												
1-10	13	525	538	8	1394	1402	6	3989	3995	0	6992	6992
6-10	10	5561	5571	458	4131	4589	1	68	69	0	129	129
Total	*23*	*6086*	***6109***	466	5525	***5991***	7	4057	***4064***	0	***7121***	***7121***
Upper primary schools												
1-8/7	2	4281	4283	285	4722	5007	6	20254	20260	0	16517	16517
6-8	0	6	6	0	0	0	0	199	199	0	20	20
Total	2	4287	***4289***	285	4722	***5007***	6	20453	***20459***	0	16537	***16536***
Primary schools												
1-5	6	33648	***33654***	1492	4145	***5637***	1	34805	***34806***	0	4102	***4102***

*Includes Model Schools

Source: Educational Statistics, Andhra Pradesh, 2017-18, State Report Card, Rajasthan, DISE 2017-18

In Rajasthan, school integration has been high on the agenda since 2014, and as per officials, it has influenced the national policy for school integration. Senior officials in Rajasthan reported that the focus on school integration developed with the realisation that several small schools for different classes led to sub-optimal utilization of resources in small schools with low student enrolment and inadequate number of teachers, and children dropped out when they were required to shift schools for higher classes. Consequently, for the Department of Education of Rajasthan, the goal was to establish a composite school for classes 1 to 12 in every Gram Panchayat (GP) (see Box 3.1).

The Adarsh Vidyalaya Yojana was started in Rajasthan, whereby an integrated school for classes 1 to 12, called Adarsh school, or, if that was not feasible, a school for classes 1 to 10 was set up at every GP[5] in three phases. At the time of the fieldwork of the study, all GPs had integrated schools for classes 1 to 12. Moreover, Adarsh schools were declared as Panchayat Resource Centres, and were mandated to support all the schools within the GP[6]. The state also began to integrate Anganwadi centres, which provide pre-school education, with Adarsh schools. A state government official commented:

> *Adarsh is an ideal school. It has basic infrastructure and improved processes. This will reduce dropouts, as the school is responsible for all stages of education. Resources are concentrated. The Adarsh school is a form of branding, i.e., government schools as quality schools.*

5 Government of Rajasthan, GO No. P.4 (6), Shiksha-1/2014 dated 12th May 2015.
6 Government of Rajasthan, School Education Department, Order No. P21(32)/ Prashikshan/ Ayojana/2017 dated 08 August 2017

To ensure adequate access at the elementary stage, Adarsh schools were supplemented with high quality 'Utkrisht' schools for classes 1 to 8[7]. In nearly all the GPs, a primary or elementary school with maximum enrolment, in a village other than that with an Adarsh school, was strengthened or upgraded to the class 8 level. At the time of the fieldwork of the study, such schools existed in 884 of 984 GPs. For habitations that were not served adequately at the primary school level by Adarsh and Utkrisht schools but were eligible for primary schools, the primary schools were retained.

BOX 3.1: Process of School Integration in Rajasthan as Related by Officials Involved

When a new government was elected in 2014 in Rajasthan, the chief minister (CM) was keen to improve school education and undertook extensive field visits along with ministers and officials. These visits showed that the education system was fractured. There were different schools for classes 1 to 5, 6 to 8, and 9 to 12. Many schools had hardly any students or were without teachers. Some were located next to each other. Consequently, there was mismanagement of resources, and inadequate supervision.

In August 2014, the process of integrating schools was started. To begin with, elementary classes were added to schools with secondary education, and some schools were merged. At the same time, 5,000 schools were upgraded. The outcome was more schools with classes 1 to 10 and 1 to 12. Around 8,000 schools closed, and 7,000 secondary and senior secondary schools started. This created good access to class 12.

However, there was a backlash to this integration of schools. When primary schools were merged with secondary schools, primary teachers came under close supervision and began to resent it. Members of the Legislative Assembly (MLAs) complained. There were many writs in high courts. However, in parallel, the state government undertook large scale teacher promotions and recruitments. Some 1.25 lakh teachers were promoted, and 1 lakh new teachers hired. Teacher availability increased, and a large number of teachers were promoted. Because of promotions, the teacher dissatisfaction abated.

In this exercise, several schools were merged in other schools, or closed down. A comparison between the number of various types of government schools in 2013-14 and 2016-17 shows that the school structure changed, with a dramatic increase in the number of schools from class 1-12, and a decline in stand-alone schools of classes 6-10 and 6-12 (Table 3.2).

Table 3.2: Different Types of Government Schools in Rajasthan in 2013-14 and 2016-17

School Type	Number in 2013-14	Number in 2016-17	Change	Schools Offering	Number in 2013-14	Number in 2016-17	Change
Class 1-5	48031	33433	-14598	Class 1-5	73003	67289	-5714
Class 1-8	22666	20251	-2451	Class 6-8	35533	34497	-1036
Class 1-12	100	9419	+9319	Class 9-10	12646	14052	+1406
Class 1-10	2206	4186	+1980	Class 11-12	3624	9783	+6159
Class 6-12	3524	364	-3160				
Class 6-10	6816	83	-6733				
Class 6-8	221	194	-27				

Source: U-DISE Data 2013-14 and 2016-17

7 Source: Government of Rajasthan, School Education Department, Order No. P 17 (3)/ Prashikshan/ Ayojana/Utkrisht Vidyalaya 2016 dated 23 May 2016.

The Adarsh schools became the focus of the department. And though a new government was formed in Rajasthan in December 2018, as per officials, the policy of school integration continued, as it had now become part of national policy.

In contrast, in AP, the school structure was extremely fragmented across different levels of education. There were elementary schools from classes 1 to 8, or from classes 1 to 5 for habitations eligible only for a primary school, high schools from classes 6 to 10, and inter-colleges for classes 11 to 12. Notably, classes 11 and 12 were not considered part of the school system but were seen as a stage between school and college, and called 'inter-colleges'.

This created difficulties for the state, as GoI had begun to promote integrated schools, and did not provide funds to strengthen stand-alone inter-colleges easily. Consequently, the possible merger of inter-colleges and schools was under discussion in the state government, but no policy had been announced so far. Interviews with officials revealed several hurdles in integrating inter-colleges with schools. First, intermediate education was highly privatised. At the inter-college stage, there were more private than public institutions (Table 3.1)**.** The powerful private school lobby opposed the merger. Second, the cost of starting classes 11 and 12 in existing schools was very high. Third, inter-college teachers opposed it, as they did not want to teach lower classes. A senior official of the state commented:

> *Having separate institutions for class 11 and 12 is a problem. But the private lobby is very strong, and the intermediate (inter-college) stage of education is almost completely privatised. There are few government schools for this stage. The government does not run more schools for classes 11 and 12 because of the cost.*

The state struggled to consolidate elementary schools with low enrolment of students too. A large number of elementary schools had been started since the mid-1990s in previously unserved Scheduled Caste (SC) and Scheduled Tribe (ST) colonies. While the intent was to provide access, this had also led to separate schools for children of different castes. This was a thorny issue for school integration. An official commented:

> *School rationalisation is a political issue. The SC colony schools have a label. No forward caste children will go there. We no longer discuss these issues, though earlier we used to.*

Further, several schools had very few students. A senior official commented:

> *Fifty per cent primary schools have less than 30 children. Sometimes there are five schools in a radius of 1 km. But teacher unions oppose a merger because teachers in small schools are not monitored.*

In both states, Model schools were supported by the central government in 2010, on the pattern of Kendriya Vidyalayas or Central schools in educationally backward blocks (EBBs). Model schools were English medium schools for classes 6 to12, with good infrastructure. However, after the 14th Finance Commission[8], GoI withdrew financial support for these schools, on the grounds that state governments could use their own funds.

In AP, Model schools had been started in less than half the eligible mandals. Model schools in the remaining mandals could not be set up because the central government withdrew support before the process could be completed. The state government now funded these[9]. In Rajasthan, out of 186 EBBs, 134 EBBs had Model schools, called Swami Vivekanand Vidyalayas. The state government had taken these over and was adding primary sections to them. In addition, in Rajasthan, Mahatma Gandhi English medium schools from classes 1-12, were being set up at the district level. While AP recruited separate staff for Model schools, Rajasthan selected staff from among the existing teachers[10].

8 As per the recommendations of the 14th Finance Commission, a greater portion of funds from the common pool from revenues were provided as untied funds to state governments than earlier.
9 In Andhra Pradesh, Model schools were headed by a principal and had 12 postgraduate teachers and 7 trained graduate teachers. Each class had two sections. A separate Model School Society was created to manage the Model schools. There was an entrance exam to admit students in these schools.
10 In Model schools in Rajasthan, there was 55% reservation for girls. In class 6, students were admitted through lottery. For class 9, students took an exam was taken for admission, and for class 11, the marks in class 10 were taken into account. Priority was given to Scheduled Caste/Scheduled Tribe/ Below Poverty Line (SC/ST/BPL). The teachers got an extra 15% of salary as deputation allowance (the central schoolteachers were paid around Rs 5,000 more than state government teachers.) The teachers had to be present for an extra two hours after school on the central school pattern. As per officials, because of English medium and extra two hours, the teachers did not want to go to the Model schools.

3.2 Physical Access

The policies to ensure physical access to school included provision of formal schools with a negotiable distance, provision of residential schools and hostels where children could stay, as well as transport facilities.

3.2.1 Location of Schools

In both the states, the norms for the establishment of elementary schools followed the Right to Education (RTE) norms, though in case of Rajasthan, for upper primary schools, these were more liberal (Box 3.2).

BOX 3.2: Norms for Location of Schools

	Andhra Pradesh (AP)	Rajasthan
Primary school	Within walking distance of 1 km	Within walking distance of 1 km, with exceptions for very small habitations.
Upper primary school	Within walking distance on 3 km	Within walking distance of 2 km
Higher secondary school	Classes 9 and 10: Where there is no high school within a distance of 5 km and at least 20 children are available to enrol in class 9. Classes 11 and 12: One inter-college in each mandal	An integrated school from class 1 to 12 at every GP headquarter

In AP, elementary schools were available as per stated norms. Out of 50,008 habitations, 48250 (96.5%) had primary schools, and 47529 (95.0%) had upper primary schools. The remaining were not eligible for primary and upper primary schools, respectively. In the unserved habitations, 21,541 children attended neighbourhood schools and 220 children were out of school. Since 2016-17, no new primary or upper primary schools had been started, though in 2018-19, the proposal under SMSA was to upgrade 220 primary schools to upper primary schools. State officials reported that many primary schools did not have adequate students, and 50% schools had less than 20 students. A senior official commented:

> *Teachers from tribal welfare and school education fight over admitting children to their schools. In 2017-18, 305 primary schools and 364 upper primary schools, a total of 669, were closed*[11].

As noted above, Rajasthan had closed down several small schools to create bigger schools. In this exercise, not only did the number of stand-alone primary and upper primary schools in the state decline, but the absolute number of schools offering these classes declined too. In 2016-17, compared to 2013-14, the number of schools with primary sections had reduced by 5,714 (Table 3.2). For example, the merger of schools in one sample block was as follows:

11 *Annual Plan Samagra Shiksha Abhiyan 2018-19, Andhra Pradesh*

TABLE 3.3: Change in School Types in a Sample Block in Rajasthan

	Earlier	Now	Increase/Decrease	Comment
Primary (classes 1 to 5)	74	31	-20	43 stand-alone schools decreased, and 4 primary sections attached to upper schools decreased (total 47). but 2 schools with class 1 to 10 schools and 25 schools with class 1-12 schools (total 27) were added.
Upper Primary (classes 1 to 8)	66	62	-6	4 independent upper primary schools decreased and as the total number of class 10 and 12 schools declined from 29 to 27, 2 more upper primary facilities reduced.
Class 10	25 (Classes 6 to 10)	2 (Classes 1 to 10)	-2	23 independent schools of classes 6-10 decreased but 21 schools were upgraded to class 12 and retained classes 6 to 10.
Class 12	4 (Classes 6 to 12)	25 (Classes 1 to 12)	+21	

Interviews with state officials revealed that in this exercise, some tweaking of the RTE norms had been undertaken, and for children living in remote areas, transport facilities were provided in lieu of schools within the stipulated distance. For children living in remote areas, a primary school was provided in a habitation with at least 150 population and 20 school-going children, and an upper primary school in a habitation that had at least 3 feeding schools and at least 30 children. For smaller habitations, the state government provided facilities for transport and residential schools[12]. However, as per officials, with the change of government, re-opening some elementary schools where access was too difficult was being considered. One block level official interviewed commented:

> *The fact that for some children, especially SC/ST children, primary schools are located further off means that their attendance at school has declined, even if they are enrolled in school.*

Samagra Shiksha Abhiyan (SMSA) supports universal access to secondary and senior secondary education. It provides financial support for upgradation of upper primary schools to secondary schools and secondary schools to senior secondary schools. For states that had not notified norms for establishing secondary and senior secondary schools, the norm was to establish a secondary school within 5 km of each habitation and a higher secondary school within 7 km of a habitation, provided an adequate number of students were available, and the schools were cost-effective[13]. However, the two states differed widely in the policy for establishing secondary and senior secondary schools. As noted above, in Rajasthan, the policy was to have a school up to class 12 in every GP, and these had, in fact been established. In AP[14], the policy was to upgrade upper primary schools to secondary schools (up to class 10) if there was no secondary school in a radius of 5 km and a minimum 20 students in class 9 were available. Since 2010, 285 new high schools had been sanctioned or upper primary schools upgraded, of which 178 had become functional[15].

For classes 11 and 12, the policy was to provide an inter-college in every mandal. There are 670 mandals in AP, and 1,028 government inter-colleges[16]. Though, on an average, there were 1.5 inter-colleges per mandal, officials reported that there were mandals without inter colleges too. On an average, a mandal had 26 villages, and a population of around 74,000. Consequently, in AP, a government institution to provide education for classes 11 and 12 existed for an average population of around 35,000. In contrast, in Rajasthan, on an average, there was a government institution to provide class 11 and class 12 education for a population of 6,300. Access to government institutions for classes 11 and 12 in AP was thus very limited.

12 Rajasthan Right of Children to Free and Compulsory Education Rules 2011, Rajasthan
13 Draft document, Samagra Shiksha Abhiyan, An Integrated Scheme for School Education, Framework of Implementation 2019 (pp 18-19).
14 Annual Plan Samagra Shiksha Abhiyan 2018-19, Andhra Pradesh
15 Annual Plan Samagra Shiksha Abhiyan 2018-19, Andhra Pradesh.
16 Educational Statistics, Andhra Pradesh, 2017-18.

3.2.2 Hostels and Residential Schools

Both AP and Rajasthan had a history of setting up residential schools and hostels to enable children who had problems in attending school, to have access to education. In AP, the focus of this activity had been on socially deprived groups, and departments concerned with the welfare of SC/ST/OBC (Other Backward Classes); Minority Welfare had set up residential schools and hostels for children of these communities since the1970s. In Rajasthan, the focus had been on girls, children living in the desert area, from nomadic tribes etc. Sharade Girls Hostels for classes 9 to 12 had been set up in 186 backward blocks in 31 districts of the state[17], and the state also set up hostels for children living in remote areas[18].

These state initiatives had converged over time with similar national initiatives, especially setting up of Kasturba Gandhi Balika Vidyalayas (KGBVs), i.e., residential schools for girls, as well as residential schools and hostels for children living in areas where primary, upper primary and higher secondary schools are not viable, and for urban children without adult support[19]. Both AP and Rajasthan had set up KGBVs as per GoI norms. In AP, 352 KGBVs for classes 6 to 8 had been established in 346 educationally backward mandals, of which 18 were for minorities. In addition, there was a move to convert existing hostels into residential schools[20]. In Rajasthan, 319 KGBVs had been set up (Table 3.4).

TABLE 3.4: Kasturba Gandhi Balika Vidyalayas (KGBV) in Andhra Pradesh and Rajasthan

	Classes				No. of KGBVs		
		Andhra Pradesh (AP)			Rajasthan		
		Hostel-cum-schools	Hostels	Total	Hostel-cum-schools	Hostels	Total
KGBV Type 1	6-8	352	0	352	78	13	98
KGBV Type 2	6-10	0	0	0	0	0	0
KGBV Type 3	6-12	0	0	0	100	9	109
KGBV Type 4	9-12	0	0	0	0	119	119
Total		352	0	352	178	141	319

Source: Information provided by officials

3.2.3 Transport

Samagra Shiksha Abhiyan (SMSA) provides for transport and escort facilities for children in classes 1 to 8 living in areas with sparse population where a school is not mandated as per RTE norms, or in urban areas for children who lack parental support, and links these to the rationalisation of schools by states[21]. In both AP and Rajasthan, transport allowance or vouchers were provided to children aged 6-14 years who lived in habitations that were not eligible for schools as per RTE norms[22].

In addition, in AP, bicycles were provided to girl students studying in classes 8 and 9, and in Rajasthan, to girls in class 9. Moreover, in Rajasthan, girls studying in classes 9 to 12 could

17 Annual Report 2017-18, Rajasthan Council for Secondary Education.
18 Annual Report 2017-18, Rajasthan Council for Elementary Education.
19 Draft document, Samagra Shiksha Abhiyan, An Integrated Scheme for School Education, Framework of Implementation 2019 (pp 16).
20 Government of Andhra Pradesh, Backward Classes Welfare Department, GO. MS. No. 12 dated 26/6/2018.
21 Draft document, Samagra Shiksha Abhiyan, An Integrated Scheme for School Education, Framework of Implementation 2019 (pp 16)
22 Annual Plan Samagra Shiksha Abhiyan 2018-19, Andhra Pradesh.

avail either free bicycles or transport vouchers if they had to travel more than 5 km to access a secondary school. Further, if in classes 11 and 12, the subjects that a girl wanted to opt for were not available in a school within 5 km, she was eligible for a transport voucher to study in a school where the subject was available. This facility was also available to girls of Swami Vivekanand schools if they had to travel more than 2 km for classes 6 to 8 and more than 5 km for classes 9 to 12[23]. Recently, the state had stretched the provision of transport vouchers to the upper primary level too.

In AP, higher secondary students were provided subsidised bus passes. However, as per field officials, recently, the AP Transportation Corporation had withdrawn from interior villages as they had incurred many losses, so commuting was an issue for inter-college students living in remote facilities.

3.3 Enrolment and Retention

3.3.1 Formal Schools

While provision of formal education up to class 8 is mandatory as per RTE, this is not the case for classes 9 to12. In both the states, interviews revealed that officials tracked enrolment and retention at the elementary stage carefully and took measures to ensure universal enrolment. For example, along with enrolment drives, in AP, remedial classes were held to ensure students' transition from class 5 to class 6, and in Rajasthan, residential and non-residential educational camps were organised to mainstream out-of-school children in the age group 6-14.

At the secondary stage, though both states took measures to enrol children, the efforts were less rigorous, especially in Rajasthan. In Rajasthan, a survey to identify out-of-school children in the age group 3-18 in the form of 'Praveshotsav' was undertaken annually. At the state level, though figures for out-of-school children in the age group 6-14 were easily available, figures for the age group14-18 were not complied. A state official commented:

> *For the elementary stage, we try to get children to school, but for the classes 9 to 12, we encourage them to join open school. For age group 14-18, there is no law. We cannot compel them, but we can motivate.*

A field level official in Rajasthan said the following:

> *There is no target right now about drop out at the class 9 to 12 stage.*

Moreover, as per RTE, no fees could be charged for classes 1 to 8, but there was no such law for secondary education. In AP, there was no fees for classes 9 and 10, but in inter-colleges, a fee of Rs 1,150 and Rs 950 per student was taken for science and commerce/arts streams, respectively. Out of this, the school gave Rs 200 per student to the government and used the rest. The government reimbursed half this fee to students, including to students studying in private schools. In Rajasthan, at the secondary stage, a 'school development fee' could be charged as decided by the school management committees (SMC).

However, both states encouraged and facilitated enrolment of children in secondary classes. In AP, interviews revealed that there were instructions to headmasters of elementary schools to personally ensure that children enrolled in class 9 after completing class 8. In the sample district, officials were aware of the approximate number of out-of-school children for classes 9 and 10. Moreover, as per a senior official, as per a drop-out prediction, it was found that children were most likely to drop out in class 9. Subsequently, the state started organising remedial classes after class 9 in the summer vacation. For classes 11 and 12, while out-of-school children were not tracked, officials reported that they campaigned and undertook admission drives. In Rajasthan, there was a concept of 'Ujiyari Panchayat', i.e., GPs where all the children aged 0-18 years were in school. Ujiyari GPs were honoured at the state level. In 2018-19, 3,921 GPs had applied and 1,854 were declared Ujiyari.

Along with universalisation of education, interviews with officials in both states showed concerns

23 Government of Rajasthan: GO Rajasthan School Education/ j/ Alternative Education/ 2018-19 (undated).

about declining enrolment in government schools, and a sense of competition with private schools, especially in Rajasthan. There were attempts in both states to attract children to government schools instead of private schools. A comment made by an official in Rajasthan is illustrative:

Enrolment in private schools is declining. People prefer Adarsh schools.

Similarly, a district level official in Rajasthan said the following:

For the last two years, enrolment in government schools has been increasing. The government schools are performing better because of teacher training and leadership training for headmasters.

An office bearer of the AP Private Schools Association commented:

Today, government is sending teachers to people's houses to get children. They get many free benefits. Recently, enrolment in government schools has increased. Sometimes there are threats that Aadhar will be cancelled if you do not enrol. Only English medium can survive. Government is starting English medium schools.

3.3.2 Open School

At the secondary stage, both AP and Rajasthan provided an opportunity for students who had dropped out to complete their education through the Andhra Pradesh Open School Society (APOSS)[24] and the Rajasthan State Open School (RSOS) Society[25], respectively. Both organised programmes to enable students who were not in formal schools to study and obtain certification for classes 10 and 12[26]. In both states, to enrol in the class 10 programme, learners had to be over 14 years, and to enrol in the class 12 course, over 15 years and had to have passed class 10. There were no upper age limits. In addition, APOSS conducted the Open Basic Education course for elementary education to enable those who had dropped out at the elementary stage to study up to class 8[27].

In both states, state open schools undertook three main processes: enrolling students, organising contact programmes to support them, and conducting examinations. Open schools attempted to attract two types of students: school students who had failed the board examination, and people of all ages who had dropped out of school. Consequently, they conducted two examinations: one after the results of the board examinations were declared, for school students who had failed, and one at the end of the academic year.

The open schools struggled with enrolment in both the states. In AP, there was a fair amount of effort to enrol students, but the results were not satisfactory. A faculty member of APSOS commented:

We are not able to enrol enough students. We have enrolment drives. Posters and pamphlets are sent to every school. Coordinators go to schools and ask children to get siblings who have dropped out to enrol. We involve self-help groups and get some support from them. But there is not enough motivation. After being out of school for a long time, people lose interest.

In Rajasthan, students filled forms on-line, and officials in RPOS saw getting these forms filled as an important activity. However, the efforts made for enrolment appeared to be inadequate. An official of RPOS commented:

Today, there are many people who want to pass class 10 and 12, but we need an outreach programme, publicity, etc., to enable them to do it.

24 Government of Andhra Pradesh: G.O. Ms. No. 50, Education (SSE.2) Department dated 08 February 1991.
25 Government of Rajasthan: G.O. No. F-22 (4) Edu-1/2004 dated 04 June 2005.
26 Government of Andhra Pradesh: G.O. Ms. No. 64 dated 01 August 2012, Government of Andhra Pradesh: G.O. Ms. No. 64 dated 01 August 2012, Rajasthan State Open School, Vivranika 2019-2020, Madhyamik Evam Uchcha Madhyamik Pathyakram.
27 Students were divided into three levels, A, B and C. For primary education, neo-literates over the age of 14 could join course A and graduate to course B, for both of which classes were conducted by the Adult Education Department. Those who passed course B or had passed class 5 could take course C (for classes 6-8), for which classes were conducted by APOSS in nearby school premises. Learners were provided books and training, and they could take examinations and obtain certificates. No fees were charged except for learners who joined the C level course without clearing the B level course (Government of Andhra Pradesh: G.O. Rt. No. 723 dated 27 September 2008).

In APOSS, for class 10, learners paid admission fees of Rs 1,300 for general caste males and Rs 900 for all other categories. For class 12, learners had to pay admission fees of Rs 1,400 for general caste males and Rs 1,100 for all other categories, with a 40% concession for girls[28]. In Rajasthan, the admission fees for class 10 was Rs 1,450 and for class 12, Rs 1,700. Women, SC/ST, differently abled and ex-army candidates were required to pay Rs 225 less. State open schools reached out to 1 to1.5 lakh students every year in the two states. In both the states, more boys than girls enrolled in open school, though in AP, this difference was much greater than in Rajasthan[29].

In both states, classes were conducted through study centres or resource centres set up in higher secondary or high schools. Textbooks and other learning were made available at the study centres, and notes were provided to students. In addition, in Rajasthan, special camps were held for students, and for attending these camps, students were given an extra 10% marks. The pass percentage in Rajasthan was lower compared to AP. In AP, around 50% students passed in class 10 and nearly 60% passed in class 12, while in Rajasthan, around 40% students passed in class 10, and around 35% in class 12.

3.4 Student Benefits

In both the states, students were provided various benefits, some for all students, and some targeted at socially marginalised groups such as girls, and SC/ST students (Box 3.3). In Rajasthan, midday meals were provided to all students from classes 1 to 8, as per the GoI Midday Meals Scheme. In AP, students from classes 1 to 10 were provided midday meals, and the state government paid for the class 9 and 10 students. In both states, all students from classes 1 to 12 were provided free textbooks[30]. Two sets of uniforms were provided for free for girls, SC/ST/ BPL (Below Poverty Line) students by SMSA[31] . In AP, for students in classes 1 to 8, three sets of free uniforms were provided. For classes 9-12, principals and headmasters made efforts to get donors to provide children with free uniforms. However, in Rajasthan, students were not provided school uniforms.

Both states provided numerous scholarships or grants for SC/ST/OBC and minority students. Moreover, in AP, the government had announced that from 26 January 2020, Rs 15,000 per child per year would be provided to mothers of school-going children up to class 12[32].

BOX 3.3: Student Benefits in Andhra Pradesh and Rajasthan

	Andhra Pradesh (AP)	Rajasthan
Textbooks	Free to students from classes 1 to 12.	Free to students from classes 1 to 12.
Midday meals	Midday meals for classes 1 to 10	Midday meals for classes 1 to 8
Uniforms	Three sets of uniforms every year for children from classes 1 to 8.	No uniforms are provided.
Bicycles and transport allowance	Bicycles for girls in classes 8 and 9.	Bicycles for girls who joining class 9, and transport vouchers is they do not want.
Scholarships	Scholarships of Rs 1,000 per year for minority students in classes 1 to 10, and for Scheduled Caste (SC), Scheduled Tribe (ST) students, in classes 5 to 10; Scholarships of Rs 500 per month for 10 months to SC/ ST/ OBC (Other Backward Classes) class 11 -12 students with annual income below Rs 2 lakhs	Scholarships ranging from Rs 75 per month to Rs 230 per month for SC/ST/OBC and other deprived groups for classes 1 to 12; for children of persons involved in garbage collection and disposal for classes 1 to 10; for children of martyrs, disabled soldiers for classes1 to 12; and for talented girls of former soldiers for classes 11 and 12.
Others	Fees concession in open schools for girls, SC/ST/OBC.	Books and ad-hoc grant for SC/ST children of classes 9 and 10; for children of persons involved in garbage collection and disposal for classes 1 to 10. Maintenance allowance for children from minorities from classes 1 to 10, and admission and tuition fees for children of classes 6 to 10.

28 Information provided by officials
29 State Open School, Jaipur, G.O. No. P. 10 (20)/ Pareeksha/ 2014-15/ 3017, dated 25-6-19 and State Open School, Jaipur, G.O. No. P. 10 (20)/ Pareeksha/ 2014-15, no date.
30 Sarva Shiksha Abhiyan (SSA) Annual Work Plan and Budget 2018-19
31 Draft document, Samagra Shiksha Abhiyan, An Integrated Scheme for School Education, Framework of Implementation 2019 (pp 29).
32 Hans News Service, 31 May 2019.

3.5 Inclusion of Marginalised Groups

3.5.1 Socially marginalised groups

There was a general orientation to facilitate education of marginalised students in both the states. The educational needs of socially marginalised groups were addressed in two ways. One, these were incorporated in general strategies, such as facilitation of physical access to schools and open schools, provision of midday meals, textbooks, and uniforms. Though these were measures for all students, it can be argued that they had special meaning for students from marginalised groups, as such students may have missed out on educational opportunities without these measures. A glaring exception here was the limited availability of government facilities for secondary education, especially inter-colleges, in AP. In contrast, Rajasthan had expanded access to secondary education considerably, though the number of elementary schools had reduced. On the other hand, in AP, mid-day meals were provided to students up to class 10, and textbooks were provided to all students, beyond the SMSA norms.

The two states followed specific strategies to include specific groups of children in the educational process (Box 3.4). For girls, free hostel facilities were provided, along with transport facilities such as bicycles or travel vouchers. In addition, as per SMSA provisions, in AP[33] and Rajasthan[34], self-defence training was provided to girls in upper primary and secondary classes. Though there were girls' schools in both states, the emphasis was on co-educational schools, rather than girls' schools. For example, in Rajasthan, the percentage of girls' schools for primary schools was 1.1%, for upper primary schools 2.9, for secondary schools 3% and for higher secondary schools, 9.4%[35].

For SC/ST/OBC children, both states provided scholarships. In addition, in AP, special hostels for these groups were provided, and out of 352 KGBVs, 18 were for minorities. Further, under Sarva Shiksha Abhiyan (SSA), 195 madrasas were supported to impart education in maths (or mathematics), science, English, social studies and Telegu, and the midday meal scheme had been extended to these madrasas. In identified madrasas, computer education was provided. Children from madrasas were encouraged to join APOSS, and the state government reimbursed their fees[36].

BOX 3.4: Special Measures for Various Social Groups in Andhra Pradesh and Rajasthan

Social Group	Andhra Pradesh (AP)	Rajasthan
Girls	Girls' schools, hostels, bicycles, self-defence training, and fees concession in open schools	Girls' schools, hostels, bicycles, transport vouchers, and self-defence training
SC	Hostels, scholarships, and fees concession in open schools	Scholarships
ST	Hostels, scholarships, and fees concession in open schools	Scholarships
OBC	Scholarships, and fees concession in open schools	Scholarships
Minority	Hostels, scholarships, madrasa modernisation	Maintenance grants.

3.5.2 Children with Special Needs

To facilitate education of Children with Special Needs (CWSN), SMSA supports needed equipment as well as transport and escort facilities[37]**.** This was the broad policy followed in AP and Rajasthan. In both states, medical camps were held to identify CWSN. However, there were indications that the coverage of the programme was not adequate. For example, in AP, the

33 Annual Plan Samagra Shiksha Abhiyan 2018-19, Andhra Pradesh.
34 Annual Report 2017-18, Rajasthan Council for Elementary Education and Annual Report 2017-18, Rajasthan Council for Secondary Education.
35 State Report Card 2017-18, DISE data.
36 Annual Plan Samagra Shiksha Abhiyan 2018-19, Andhra Pradesh.
37 Draft document, Samagra Shiksha Abhiyan, An Integrated Scheme for School Education, Framework of Implementation 2019 (pp 16).

number of children with special needs in classes 9 and 10 was 1.97% of enrolment, which, as per officials, was much below the percentage of such children in the population. An official said the following:

> *The identification process is not good enough. A low percentage of children with special needs transit from class 8 to 9 and 9 to 10. Headmasters do not encourage them, because the pass percentage goes down.*

In both states, facilities such as braille books, tricycles, wheelchairs were provided. A stipend was provided to girls, and for certain types of disabilities, an escort allowance and transport allowance was provided. In addition, teachers and administrators were trained to support such children.

3.6 School Quality Norms

3.6.1 Teachers

In AP, three main types of teachers were recruited in the school system: secondary teachers for classes 1 to 5, school assistants for classes 6 to 10 and junior lecturers for classes 11 and 12. The basic required qualification for secondary grade teachers were class 12 and a DEd (Diploma in education) degree, or graduate degree with at least 50% marks, and a BEd (Bachelor of Education) degree. Teachers with BEd degrees were required to undergo a six-month bridge course within two years of appointment. School assistants were recruited for specific subjects and were required to have graduate degrees in the subject, and a BEd degree. Teachers were selected on the basis of their qualifications and a written test. In addition, physical education teachers, music teachers, craft teachers and art teachers were appointed too[38].

In Rajasthan, four main types of teachers were recruited in the school system: grade 1, called lecturers, for classes 11 and 12; grade 2, called senior teachers for classes 9 and 10; grade 3, level 2 called teachers level 2 for classes 6-8; and grade 3, level 1, called teachers level 1, for classes 1-5. Grade 1 teachers, called lecturers, were recruited to teach classes 11 and 12, and were required to have a postgraduate degree in the specific subject with 48% marks with BEd Grade 2 teachers, called senior teachers, were recruited for classes 9 and 10 and were required to have graduate degrees in the specific subject with BEd. (Box 3.5).

BOX 3.5: Types of Teachers in Andhra Pradesh and Rajasthan

Andhra Pradesh (AP)			Rajasthan		
Teacher Type	Classes Taught	Required Qualification	Teacher Type	Classes Taught	Required Qualification
Junior Lecturers	11-12	Postgraduate in the specific subject with 55% marks	Lecturer or Grade 1	11-12	Postgraduate in the specific subject with 48% marks with BEd (Bachelor of Education).
School Assistants	6-10	Graduate in the specific subject with BEd.	Senior teacher or Grade 2	9-10	Graduate in the specific subject with BEd
Secondary grade teachers	1-5	Class 12 with DEd (Diploma in Education) or BA (Bachelor of Arts) with BEd.	Teacher or Grade 3, Level 2	6-8	1. Graduate and DEd or Graduate with minimum 50% marks and BEd.
			Teacher of Grade 3, Level 1	1-5	Class 12 with minimum 45% marks and DEd.

In Rajasthan, in Adarsh schools, from classes 1 to 12 with one section each and total enrolment up to 405 students, the designated staff structure comprised 14 teachers, including one principal,

38 Government of Andhra Pradesh, School Education (Exams) Department, G.O. MS. No. 67, dated 26 October 2018.

5 lecturers i.e. 2 for compulsory subjects and 3 for optional subjects; 3-4 senior teachers for maths, social science and third language; 2-3 teachers of level 2 for maths/science/social science, Hindi, English; 2 teachers of level 1; and a physical education teacher. In case of higher enrolment, the number of teachers increased. For schools with 2 sections, 17 teachers, and for schools with 3 sections, 20 teachers were mandated[39]. In upper primary schools, the staffing pattern was of 4 teachers for 105 students, which included one headmaster of the senior teacher level and 3 teachers of level 2, with subject specialisation in English, Hindi/third language, maths/science/social science. Where the enrolment exceeded 105, 5 teachers were provided. Where enrolment exceeded 120, a physical education teacher was provided. In addition, level 1 teachers were provided as per RTE norms. In primary schools, teachers were provided as per RTE norms, and in case enrolment exceeded 150, a head teacher was provided[40].

In AP, the designated staff strength for single section high schools was one headmaster and 7 teachers for English, Telegu, Hindi, mathematics, physical science, biological science, and social studies. This had been the pattern for the last 20-25 years. When there was high student enrolment, a physical education teacher was also provided. In AP, as per an official, 1 teacher was provided if there were less than 19 students in a primary school, 2 teachers for 21-60 students, and 3 teachers for 60-90 students (Box 3.6).

BOX 3.6: Staff Structure in Main Types of Schools

<table>
<tr><td colspan="2">Andhra Pradesh (AP)</td><td colspan="2">Rajasthan</td></tr>
<tr><td>School Type</td><td>Staff Structure</td><td>School Type</td><td>Staff Structure</td></tr>
<tr><td>Intermediate college, Class11-12</td><td>A minimum of 1 lecturer per subject, and one lecturer per 40 students.</td><td rowspan="2">Adarsh Vidyalaya: Classes 1 to 12, single section, up to 405 students</td><td rowspan="2">One principal; five lecturers—two for compulsory subjects and three for optional subjects; three-four senior teachers for maths, social science/ science and third language; two-three teachers of level 2 for maths/science/ social science, Hindi, and English; two teachers of level 1, and one physical education teacher</td></tr>
<tr><td>High school: Class 6-10</td><td>One headmaster;
seven teachers for English, Telegu, Hindi, maths, physical science, biological science, and social studies; and one physical education teacher in case of higher enrolment.
Where the number of students exceeds 150, one teacher each for art and craft, physical education, and work experience.</td></tr>
<tr><td>Elementary school: class: 1-8</td><td>One teacher for every 40 students for the primary classes, but a minimum of two teachers in every primary school.
Four trained graduate teachers for upper primary sections for Telugu/ Urdu, English, mathematics and science, social studies.
Where the number of students exceeds 150, one teacher each for art and craft, physical education, and work experience.</td><td>Utkrisht Vidyalaya: classes 1 to 8, up to 105 students</td><td>One headmaster, three level 2 teachers with subject specialisation in English, Hindi/ third language, maths/science/ social science, and
Level 1 teachers as per Right To Education (RTE) norms.</td></tr>
<tr><td>Primary school: class 1-5</td><td>One teacher for every 40 students for the primary sections, but a minimum of two teachers in every primary school.</td><td>Primary school: classes 1 to 5</td><td>One teacher for Schools with
1 to 49 students, 2 teachers for 50 to 89 students, 3 teachers for 90 to 129 students, 4 teachers for 130-169 students, and 5 teachers for
170-209 students.
An additional teacher for each additional set of 40 students.</td></tr>
</table>

39 Government of Rajasthan: GO No. P (6) Shiksha 1/2002 dated 30 April 2015.

40 Government of Rajasthan: GO No. P.5 (8) Prashi/2016 dated 21 April 2016.

In AP, a district level official commented that in secondary schools, there was no post for lab assistant, library assistant, watchman, cleaner, or administrative support. For computer education, there was no instructor. The officials added the following:

We need counsellors in high schools to give career guidance, and talk about problems of adolescents, drug abuse etc.

3.6.2 Building and Equipment

Samagra Shiksha Abhiyan (SMSA) supports provision of infrastructure as per RTE norms in elementary schools (Box 3.7).

BOX 3.7: Samagra Shiksha Abhiyan (SMSA) Support for Infrastructure for Various Types of Schools[41]

	Elementary Schools	Secondary Schools
Building	One classroom per teacher, an office cum store cum head teacher room, a kitchen to cook mid-day meals, a playground, and boundary wall or fencing	One classroom for each section for secondary classes, separate classrooms for each stream of education for higher secondary schools, a headmaster room, and a staff room.
Facilities	Furniture in upper primary schools, and separate toilets for boys and girls. Safe and adequate drinking water facilities, barrier free access, and internal electrification.	Furniture, and separate toilets for boys, girls, and children with special needs. Safe and adequate drinking water facilities, barrier free access, and internal electrification
Educational equipment	Library with newspaper, magazines, books on all subjects, and story books. Play material, games, and sports equipment.	One science laboratory for secondary schools and four laboratories for physics, chemistry, biology, and maths for senior secondary schools. Vocational lab, computer room, room for counselling and medical services, art, and craft room.

In AP, better infrastructure, especially additional classrooms in existing secondary schools was a high priority in the state[42]. All high schools had science and maths kits and about 70% had science laboratories. The new government had announced a scheme to improve the school infrastructure facilities called ***Nadu-Nedu*** (Then and Now). The scheme aimed to provide the following to 45,000 high schools in three years from 2019-20 onwards, on priority:

- Toilets
- Drinking water
- Electricity – fans and tubes in each classroom
- Furniture – dual desks
- Additional classrooms
- Compound walls
- Blackboards
- Paintings and finishing
- Major and minor repairs

Further, a Swachh Vidyalaya Puraskar was provided to schools that had promoted hygiene the most[43].

In Rajasthan, there was a great deal of focus on providing good infrastructure in Adarsh schools. The Adarsh schools were divided into four categories, A, B, C and D, depending on the type of infrastructure, and the effort was to shift schools into higher categories. The state followed priorities for civil works as follows

41 Draft document, Samagra Shiksha Abhiyan, An Integrated Scheme for School Education, Framework of Implementation 2019 (pp 33-34).
42 Andhra Pradesh Sarva Shiksha Abhiyan (SSA) Annual Work Plan and Budget 2018-19.
43 Annual Plan Samagra Shiksha Abhiyan 2018-19, Andhra Pradesh.

- Building-less schools and schools with dilapidated buildings
- Adarsh and Utkrisht schools
- Schools that have high enrolment and also infrastructure gaps.

In both the states, ICT (information & communication technologies) labs had been provided in secondary schools as per a MHRD scheme started in 2008. Each lab had ten or more computers. As per the scheme, an agency was hired to run the lab for five years and then handed it over to the school. The company sent a teacher to educate the students. In AP, 71% schools had computer infrastructure to screen digital lessons. Each school was provided with two computers, one LCD projector and one screen, along with digital content hosted on the server. Further, 30 tablets each had been provided to 350 high schools to promote personalised learning, and the state planned to expand it to 2,000 high schools. In Rajasthan, ICT labs had been provided in 90% high schools.

In AP, a school grant Rs 50,000 per school per year was provided to inter colleges for up-keep etc. In Rajasthan, an annual grant of Rs 5,000 to Rs 10,000, depending on the size of the school, was provided to elementary schools for infrastructure improvement, along with a teaching and learning material grant of Rs 500 per teacher[44]. For higher secondary schools, was till the previous year, a lump sum of Rs 50,000 per school was provided, but this had now been changed, and the amount provided per year had been made contingent on the number of students enrolled, with a maximum limit of Rs 1 lakh per school.

3.7 Curriculum and Pedagogy

3.7.1 Curriculum Structure

The curriculum structure in formal schools in both states was similar (Box 3.8). At the primary stage, students studied the mother tongue, English, mathematics, and environmental science. At the upper primary stage, students studied the mother tongue, English, a third language, mathematics, science, and social science. For the third language, while in AP there were choices, in Rajasthan, this was largely restricted to Sanskrit. In classes 9 and 10, students studied 6 subjects: the mother tongue, English, a third language, science, social science, and mathematics. In both states, in classes 11 and 12, students had to focus on one stream among science, commerce and humanities, and in Rajasthan, a fourth stream of agriculture was added. Thus, after class 10, in both states, students were expected to focus on a particular stream, and could not study subjects across several streams.

BOX 3.8: Subjects taught at Different Levels of Education

	Andhra Pradesh (AP)	Rajasthan
Primary classes 1 to 5	– Mother Tongue (Telugu/ Hindi/ Urdu) – English – Mathematics – Environmental Studies (EVS)	– Hindi – English – Mathematics – Environmental Studies (EVS)
Upper primary classes 6 to 8	– Mother Tongue (Telugu/ Hindi/ Urdu) – English – Second Language (Hindi/ Urdu/ Telugu) – Mathematics – General Science – Social Studies	– Hindi – English – Sanskrit – Mathematics – General Science – Social Studies

44 Government of Rajasthan, Utkrisht Vidyalaya Yojana, Marg Darshika.

Secondary classes 9 and 10	– Mother Tongue (Telugu/ Hindi/ Urdu) – English – Third language (Hindi/ Urdu/ Telugu…) – Mathematics – Physical Science and Biological Science – Social Studies	– Hindi – English – Third language (Sanskrit/ Urdu/ Punjabi/ Sindhi, Gujarati) – Mathematics – Science – Social Science
Higher Secondary classes 11 and 12	Students have to take English and an Indian language, which can be Telegu/ Sanskrit/ Hindi/ Tamil/ Urdu. There are three optional subjects from science, commerce, and humanities streams.	Hindi and English are compulsory. Students have to take three optional subjects from four streams, i.e. science, commerce, agriculture science and arts.

While in AP, science and commerce subjects were available in nearly all higher secondary schools, this was not the case in Rajasthan. While the humanities stream was available in all schools, the science stream was available in 22% and the commerce stream in 91% schools. In the sample district, science subjects were offered in many new schools, but these subjects had to be withdrawn as there were not enough takers. Both states offered computer education in classes 9 and 10.

The open school curriculum was more flexible in both states in class 12. In AP, in APOSS, the curriculum was on the NIOS (National Institute of Open Schooling) pattern. Students could do language and any other four subjects. In Rajasthan, 38 subjects were offered, i.e.17 in class 10 and 21 in class 12 from which students could choose. In both states, officials reported that open school students found the curriculum tough to tackle. The dilemma here was that the curriculum had to be on par with other boards to ensure recognition for the certificate and to enable students to get admission for the next stage of education, but the students were not well-prepared. In AP, students were counselled to take simpler subjects, like home science. Most students studied humanities, and very few studied sciences.

3.7.2 Language

In AP, there was a strong thrust to promote education in the English medium in government schools. Around 50% government high schools ran separate English and Telegu medium sections. These were big schools, called 'success schools' by one official. In addition, English medium sections had been introduced in 7,491 primary schools with 40 or more students. All the KGBVs too had been converted into English medium schools.[45] A writer of English textbooks commented on the introduction of English:

> *We have introduced English medium in primary schools. Class 1 textbooks have been prepared. Handbooks for teachers have also been prepared. Quick Response (QR) codes have been kept in these. Primary teachers have been trained. We have also oriented Anganwadi workers, so that children get an orientation in English in pre-school. We are about to establish an English Language Teaching Institute.*

However, not all educationists were comfortable with this development. An educationist commented:

> *The performance of English medium is questionable. There have been some bridge courses to prepare teachers to teach in English. There are no problem areas with Telegu medium schools, but English medium schools are a problem. Teachers do not know English.*

In Rajasthan, except for Model schools, education was in the Hindi medium, though English was introduced from class 2 onwards. The state struggled with the English medium Model schools too. Teachers in Model schools were selected from among government schools. As per officials, it was difficult to find teachers who were comfortable in English. Consequently, students were

45 Annual Plan Samagra Shiksha Abhiyan 2018-19, Andhra Pradesh. GO Ms. No. 23, S.E. (Prog II) Dept, Dated 29 April 2015.

introduced gradually to English medium: in class 6, one subject was taught in English, and the number of subjects taught in English increased in higher classes. Even then, officials said that some children could not cope and dropped out.

In open schools, Telegu and Hindi were the was the media of instruction in AP and Rajasthan, respectively.

3.7.3 Textbooks and Pedagogy

In AP, textbooks and teaching methods were vibrant issues. Textbooks of classes 1 to 10 had been made interactive and activity-based as per National Curricular Framework (NCF) 2005, and resource persons from various non-government organisations engaged in school education had been involved. From 2010 to 2014, all the textbooks up to class 10 were revised. A state level educationist involved in the process commented on the new textbooks:

> *The new textbooks are very different from the previous textbooks. These textbooks help in the teaching-learning process. There is discussion on gender while preparing the content for all textbooks, including maths and science. The social science textbooks are really good.*

Moreover, there was focus on inculcating values, and learning from real-life experiences. In a programme for classes 6 to 10, called 'Field to School', students visited an agricultural field 8 times in a year. This was meant to sensitise students and make them aware of the dignity of work. However, along with these changes, the state also focused on preparing students for the Indian Institutes of Technology (IITs), and coaching began in class 9.

For classes 11 and 12, the syllabus was in accordance with the National Council for Educational Research and Training (NCERT) syllabus. As per officials, the purpose was to facilitate students in national eligibility tests. In science and mathematics, textbooks were the same as NCERT textbooks, while for other subjects they were adapted to the state context.

The state had also added a strong element of technology to the pedagogic process. Digital classrooms, equipped with screens, computers, projectors, and fibre connectivity had been introduced in high schools. Here, as per officials, lessons by best teachers could be broadcast, and these could also be used if a teacher were absent. The target was to provide 5,000 such classrooms, of which 2,680 had been provided. In addition, 'live textbooks' or 'QR code enabled textbooks' had been developed. In these, for various aspects of the lessons, the appropriate content available on the free internet had been identified by State Councils for Educational Research and Training (SCERT). Through the QR code, activities and knowledge linked to a subject could be accessed.

In Rajasthan, in the recent past, textbooks had been changed for political, rather than educational reasons. The textbooks had been criticised extensively in the media. The main initiative in the state in pedagogy was the State Initiative for Quality Education (SIQE), which focused on classes 1 to 5[46]. Moreover, officials and teacher educators made very few comments regarding pedagogic issues. The statements made by officials when initiatives to improve the quality of education were discussed are at Box 3.9.

Box 3.9: Statements of Officials regarding Initiatives to Improve Quality of Education

- There is no other specific initiative in secondary education for quality.
- Under the 'Shala Samblan' programme, educational administrators in various organisations are given targets to visit schools and support them. We have increased these targets this year.
- There is a teacher appraisal format (TAF) for elementary education, in which the teacher does a self-assessment and gives it to their higher authority, who examined the self-assessment. We want to do it for secondary education too.
- In the Shala Siddhi programme, in the first three years, schools did internal evaluation. Now in the fourth year, there will be external evaluation.

46 Government of Rajasthan, Order No. Rajasthan Prathmik Shiksha/ J/ SIQE/ F-60701/ 2015/ 12171 dated 8 June 2015.

- For classes 1 to 5, we took up a state initiative for quality learning. We did not use extra resources but gave training in leadership and other topics. Everyone, including administrators, was trained. Teachers have been asked to adopt child-centric pedagogy.
- One special initiative for secondary education is life skill education for adolescents, which includes issues of adolescence, societal problems, and some vocational education. We get special support from United Nations Children's Fund for this.

In both states, remedial classes were held for students to bring them on par with the course work. In AP, in class 11 and 12, for such students, there were separate study hours and remedial classes, and classes were held in the summer vacation too.

For open school, the states were heavily dependent on the NIOS material. in AP, NIOS textbooks were adapted in Telegu for the state context. Rajasthan had its own state books on five subjects, and for the rest it used NIOS material.

3.7.4 Vocational Education

Both states provided vocational education as per the Vocational Education Scheme of GoI. As per the National Skill Qualification Framework, the vocations are divided into 'works' which are sub-divided into 'job roles'. For example, in agriculture, micro irrigation technician is a job role. Ministry of Human Resource Development (MHRD) has identified 100 job roles. There are 4 levels in each job role, one for each year, through classes 9 to 12.

In AP, 14 job roles had been started in 206 schools for classes 9 and 10. Usually, in one school, two job roles were available. A school was chosen for vocational education if it had good enrolment and English medium. In classes 11 and 12, 21 vocational courses were offered, and there were some inter-colleges solely for vocational education. For example, in the sample district, there were 62 government inter-colleges. Of these, 60 were general colleges, of which 28 offered vocational courses; there were two purely vocational colleges. In Rajasthan, vocational education was offered in 905 schools. As in AP, in the selected schools, vocational education was provided in two job roles (Box 3.10).

Ministry of Human Resource Development (MHRD) gives the option of making vocational education a compulsory or optional subject. In classes 9 and 10, AP had made vocational education an optional subject. In Rajasthan, vocational subjects could be taken in place of one subject or as an additional subject.

BOX 3.10: Vocational Education Subjects

Andhra Pradesh (Class 9 & 10)	Andhra Pradesh (Class 11 & 12)	Rajasthan (Classes 9 - 12)
Agriculture	Crop Production and Management	Agriculture
Apparel and make-up	Dairying	Apparel and Home Furnishing
Beauty and wellness	Sericulture	Automotive
Banking, Financial Services and Insurance	Accounting and Taxation	Beauty and Wellness
Construction	Marketing & Salesmanship	Electronics and Hardware
Electronics and hardware	Office Assistant ship	Health Care
Information Technology and Information Technology Enabled Services	Banking & Financial Services	Information Technology
Multi-skill Foundation course	Insurance and Marketing	Plumber
Physical education	Automobile Engineering Technician	Retail
Retail	Construction Technology	Security
Telecom	Computer Science and Engineering	Telecom
Tourism and hospitality	Electronics Engineering Technician	Travel and Tourism

Media and entertainment	Electrical Wiring & Servicing of Electrical Appliances	
Healthcare	Rural Engineering Technician	
	Water Supply & Sanitary Engineering	
	DTP & Printing Technology	
	Commercial Garment Designing & Making	
	Fashion Garment Making	
	Hotel operations	
	Pre – School Teacher Training	
	Computer Graphics & Animation	
	Tourism and Travel Technique	
	Medical Lab Technician	
	Multipurpose Health Worker	
	Ophthalmic Technician	
	Physiotherapy	

3.7.5 Student Assessment

In both states, there were board examinations for classes 10 and 12 as per the all-India pattern. In AP, the focus on board examination results was intense. There were two to three-month-long programmes for class 10 to prepare for the board exam. Officials as well as headmasters were monitored rigorously on the basis of the board exam results. In addition, tests were also organised to prepare students for competitive examinations. In both states, there was a no detention policy up to class 8. In AP, in class 10 board examinations, students got unlimited chances to pass the exam. In the class 12 exam, they got 7 chances. In Rajasthan, there was no limit to the number of times a student could take the board examinations for class 10 and 12.

In addition, AP focussed on continuous and comprehensive assessment (CCE). For classes 1 to 10, there were 2 types of assessments: formative assessment (FA), which included projects, assignments, experiments, small surprise tests, and summative assessment (SA), which comprised two tests, with open-ended and analytical questions, during the year. Formative assessments were designed by teachers, while summative assessments were designed and analysed at the district level and outcomes communicated to teachers. During the class 10 board examination, CCE carried 20 marks out of 100. In Rajasthan, there was CCE up to class 8, but not beyond.

There were separate board examinations for open schools in both the states. In both states, two examinations were conducted during the year. The first examination, meant for students who had dropped out of the school system, was held in April-May, and the second was held in October-November, for students who had failed some subject in the regular board. In both states, students had nine chances to clear the exam over five years and students could take one or two subjects at a time. In the regular board, they had to take all the subjects together.

3.7.6 Prizes

In both the states, state governments gave prizes to students for academic excellence. In AP, 'Pratibha Awards' comprising Rs 20,000, a laptop and a medal were provided to 6 top students in class 10—3 girls and 3 boys, one each from general, SC/ST categories, in each mandal. In addition, Rs 20,000, a laptop and a medal were given to 248 children under the age of 17 who had been national level winners in sports. In Rajasthan, there was a complex structure of academic prizes (Box 3.11).

BOX 3.11: Awards Provided to Students in Rajasthan

Name of award	Eligibility	Detail
Gargi Award	75% marks in secondary exam.	Rs 3,000 per annum for two years for regular study in classes 11 and 12.
Girl Promotion Award	75% marks in senior secondary exam.	Rs 5,000 one time and certificate.
Padmakshi award	First rank in district in classes 8,10 and 12 with at least 60% marks, and first rank in state in Sanskrit education in class 8 / for each category of Scheduled Castes (SC) / Scheduled Tribes (ST)/Other Backward Classes (OBC)/Most Backward Class O(MBC)/Minority/General/ Children with Special Needs (CWSN)/Below Poverty Line (BPL).	Rs 40,000 and certificate for class 8, and Rs 75,000 and certificate and scooter for class 10.
Kasturba Gandhi Fixed Deposit Receipt	Girls of Kasturba Gandhi Balika Vidyalayas (KGBVs) who secure 50% marks in class 10 and 12 and continue to class 11, first year of college, respectively.	A fixed deposit of Rs 2,000 for five years for class 11, and a fixed deposit of Rs 4,000 for three years for first year college students.
Graduation Study Abroad	Girls who secure first three ranks in class 10.	Rs 25 lakh per annum.
Meritorious general students of low economic category	75% marks in class 10 and 12 and annual income less than Rs 2.5 lakh to 400 students.	In class 10, Rs 15,000 and certificate; in class 12, Rs 15,000 and certificate.
Pandit Deendayal Upadhyay State Talent Search Exam	As per qualifications in an examination for student of class 10 and 12 who secure 50% marks in class 9 and 11.	For first 50 students who secure 80% marks in exam, Rs 1250 per month for classes 11 and 12 class, and Rs 2,000 per month for undergraduate and postgraduate studies.
National Talent Search Exam	As per qualifications in an examination for student of class 10 and 12 who secure 50% marks in classes 9 and 11.	For first 50 students who secure 80% marks in exam, Rs 1,250 per month for classes 11 and 12 class and Rs 2,000 per month for undergraduate and postgraduate studies. For private school students Rs 10,000 one time.
Inspire Award Standard Scheme	For classes 6 to 10 for providing an idea useful to the community.	Rs 10,000 to convert the idea into a model and a chance to present in district, state, and national level exhibitions.
Mukhya Mantri Hamari Beti Yojana	In each district, two girls who secure 75% in secondary exam, one top ranked girl of BPL and one top ranked orphan girl.	Rs 15,000 per annum in classes 11 and 12, and Rs 25,000 per annum one time for undergraduate and postgraduate studies.
Special Pre-Metric Scholarship Scheme	Admission in class 6 through entrance test to private school.	Rs 50,000 or actual expenses, whichever is less.
Laptop Scheme	75% marks in classes 8, 10 and 12, with annual family income below Rs 1 lakh	Laptops for 6,000 students of class 8, for 6,300 students of class 10, and for 9,000 students of class 12.

In Rajasthan, among the open school students, an award of Rs 22,000 was given to best students of the state and Rs 11,000 to two best students in each district, provided they got a first division. In AP, there was no award for students of open school.

3.8 Community Management

In AP, for classes elementary schools, there was provision for a parents' committee[47], while for schools with classes 6 to 10, there was provision for school management committees (SMCs), constituted separately for classes 6 to 8 and 9 to 10. The committees were constituted every two years. For elementary school committees, members include three parents from each class, with at least two women and two parents of children from marginalised groups. The ex-officio members include the head teacher and an additional teacher nominated by the Mandal

Education Officer (MEO), concerned local government representative, neighbourhood Anganwadi and health workers, and Mahila Samakhya president of the village/ ward group, and two school supporters such as educationists, philanthropists and alumni.

In Rajasthan, in primary and upper primary schools, there is provision for a SMC[48] and in secondary and senior secondary school, for a School Development and Management Committee (SDMC)[49]. The role of the SMC was to monitor the school, and to expends funds received from the state government and the community. The SMC had a general assembly, which included all parents, teachers, and public representatives. In addition, the SMC had an executive committee of 16 members, of which 50% were women. In the SMC, the member headmaster was the secretary, and the chairperson is chosen by the parents from among themselves. In addition to the parents, local government representatives as well as representatives of the MLA were members of the SMC.

The functions of the SDMC were similar, i.e., supervision and financial management. However, in the SDMC, the principal was the chairperson. The other members included parents, teachers, local government representatives, representatives of the MLA, Self Help Group (SHG) representatives, educationists, student representatives, representatives of the finance department as well as the District Education Office (DEO). As per officials, in the SDMC, the principal was made the chairperson as he was a gazetted officer and had drawing and disbursing powers. The SDMC also had two sub-committees: School Building Committee and School Academic Committee.

3.9 Private Schools

In both states, there were detailed criteria for the establishment of private schools[50] (Box 3.12).

BOX 3.12: Facilities to be Provided by Private Schools in Andhra Pradesh and Rajasthan

	Andhra Pradesh (AP)	Rajasthan
Infrastructure	Provide six to eight square feet space per pupil, have adequate accommodation for staff in case of upper primary and high schools, laboratory, library, computer room, adequate sanitary and drinking water facilities, playground.	For schools affiliated to Secondary Education Board, with classes beyond class 6, one classroom for every class, principal's room, laboratories, storage room, toilets, drinking water facilities, staff room, and auditorium. A library, a computer lab with internet connectivity for classes 9 and above.
Safety	Have safety feature such as grills in balconies, first aid kits, get certificates for fitness of school vehicles, personnel to guide children to ensure road safety, and have sanitary and structural soundness certificates.	
Staff	Maintain student teacher ratio of under 40:1. Appoint staff with qualifications as per pattern prescribed by government, appoint staff through staff selection committee after advertisement in newspapers and obtain government approval for appointment.	For higher secondary and secondary schools affiliated to Secondary Education Board, appoint staff with qualifications as prescribed by the Secondary Examination Board, and no teacher was to teach more than two subjects in secondary schools.
Curriculum	Teach Telegu, and follow the syllabus and textbooks prescribed by government (except for schools affiliated to boards other than the state board)	For schools affiliated to Secondary Education Board, schools to follow the syllabus and textbooks prescribed by the Secondary Education Board.
Equity	Not deny admission on the basis of caste, gender, religion (with exceptions for minority institutions), not collect donations other than the fee prescribed by the governing body.	
Fees	While the fees to students would be determined by the governing body, only 5% or less of the fees collected was to be earmarked as personal income of the management.	A School Level Fee Committee comprising parents to be formed to decide the fees.

47 File No. SSA-16021/1/2019-MIS SEC-SSA.
48 Government Order P.2 (2) Shiksha-1/ Prashikshan/ 2003 dated 21-6-2016, Government of Rajasthan.
49 Government Order Madhyamik/ M-S/ SMC dated 13.7.2016, Office of the Director, Secondary Education, Bikaner.
50 Andhra Pradesh Educational Institutions (Establishment, Recognition, Administration and Control of Schools under Private Management)- Rules 1993; Handbook of Directions of Rajasthan Secondary Education Board (Revised till 2016), dated 23 January 2017; and The Rajasthan Schools (Regulation of Fee) Act, 2016.

In AP, permission for the establishment and up-gradation of such schools was to be accorded keeping in view the population of school-going children in the locality. However, in actual fact, in AP, private schools, especially those that coached students to get admission in engineering courses outnumbered government schools.

In Rajasthan, the Board was entitled to constitute inspection committees to inspect private schools, and inspection every five years was mandatory[51]. Every private school was required to constitute a Parent-Teacher Association (PTA)[52], which was to have a general body meeting at least once a year. The PTA in turn, was required to constitute a School Level Fee Committee by drawing lots from among willing parents. The management was to get approval of the proposed fees from the School Level Fee Committee, which was subsequently to be displayed on the school notice board. In case the school management or the School Level Fee Committee was aggrieved, or the School Level Fee Committee did not give approval in a stipulated time period, the matter was to be referred to a committee headed by the Divisional Commissioner, who would determine the fees as per the school characteristics. Offences under the Act were liable to be punished with fines from Rs 50,000 to twice the amount of the excess fee charged.

In Rajasthan, in the statements of senior officials, a competitive attitude towards private schools was visible:

> *We neither encourage nor discourage private schools. We are competing with them. Now the enrolment of private schools is dropping, and their number is diminishing in the rural areas. Private schools have made numerous demands and have agitated. They want government schemes to be run for them too. A cabinet sub-committee was formed to listen to them and pacify them.*

3.10 Accessing Private Funds

In AP, principals and headmasters of higher secondary schools and high schools made efforts to raise funds to provided students uniforms, notebooks etc.

In Rajasthan, elaborate arrangements had been made to attract private funds. The state has set up a portal for donations to schools. The donations can be of five types:

- A company can make its project and apply.
- A company can support an on-going project: this was not very popular.
- Donations can be given to specific schools: many individuals have donated under this. The state is also obtaining FCRA (Foreign Contribution Regulation Act) clearance so that people can give from abroad.
- CM Vidyalaya Kosh: money can simply be given to the state government, which then decides what to do with it.
- Adopt a School: a school can be adopted for three years.

In addition, principals and district level officials were asked to dovetail resources from other departments. For example, for playground development, resources were accessed from the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). The Panchayat Executive Officer (PEO) chases the GP for funds.

3.11 Conclusions

The policies of the two states, AP and Rajasthan, for secondary education were different in some ways, but alike in others. As far as access to secondary education is concerned, Rajasthan had moved ahead, establishing a higher secondary school at every Gram Panchayat. However, in AP, universal access to government secondary schools, and more so to senior secondary schools, remained unaddressed. Moreover, while Rajasthan has systematically created large, viable integrated schools from classes 1-12, in AP, the school structure is very fragmented, with classes

51 Source: Handbook of Directions of Rajasthan Secondary Education Board (Revised till 2016), dates 23.1.2017
52 Source: The Rajasthan Schools (Regulation of Fee) Act, 2016.

11 and 12 forming intermediate colleges.

In terms of quality of schooling, in both states, there was heavy emphasis on providing infrastructure and equipment in schools. However, while in Rajasthan, there was little focus on improved pedagogy, in AP, textbooks for classes 9 and 10 had been revised to make them interactive and continuous, and a comprehensive assessment had been introduced, and so on. Ironically, while Rajasthan had not focussed on pedagogic issues, thus limiting the gains from its improved access to school and school structure, limited access to secondary and higher secondary education in AP and the fragmented school structure reduced the scope of pedagogic initiatives in AP.

For educationally disadvantaged children, e.g., girls, children of SC and ST categories, the two states followed similar policies. One, they facilitated access by providing opportunities for open and distance learning, establishing hostels and residential schools, and providing bicycles and transport vouchers. However, the lack of a policy for universal access to secondary schools and intermediate colleges in AP was most deleterious for children from disadvantaged communities. Two, they mitigated the cost of education by providing free textbooks, and in AP, mid-day meals were provided to class 9 and 10 students as well. The two states also provided a range of scholarships to children from various disadvantaged categories.

Chapter 4

Governing and Supporting Institutional Structure of Secondary Education in Andhra Pradesh and Rajasthan

Author

Rashmi Sharma

4 Introduction

The government schools in Andhra Pradesh (AP) and Rajasthan were a part of a 'system', i.e., the schools were governed and supported by a set of organisations at the state and sub-state level. These organisations allotted teachers to schools, made curricula and textbooks, trained teachers, created infrastructure, supervised schools, and so on. In other words, they created the framework under which the schools functioned, providing incentives, and setting limits. The question central to this chapter is, how, and to what extent did these governing and supporting organisations stimulate schools to provide high quality, inclusive education.

To address the above question, the characteristics of this system, or set of governing and supporting organisations, are delineated and analysed. These characteristics define the limits of what is possible—they include the structure, human resources, infrastructure, and finance. For example, if relevant organisations, expertise, needed infrastructure or funds are simply not available for a particular thrust, such as academic excellence, then there is a lack of support to schools on this front. In addition, the characteristics also include the working style, such as issues of control and autonomy, the play of patronage and rent-seeking, and so on, which impact the type of activities that are undertaken.

4.1 Methodology

The analysis in this chapter is based on a study conducted in AP and Rajasthan in 2018-19. The study included a scrutiny of organisations concerned with management, academic support, examinations, and education of out-of-school children at various levels, i.e. state, district, and sub-district. The methodology includes a study of documents of the organisation such as plans and annual reports, data obtained from officials, and interviews. A total of 20 organisations were analysed and 57 officials and teacher educators form these organisations, as well as teacher union leaders and non-governmental organisation (NGO) representatives were interviewed (Table 4.1).

TABLE 4.1: Number of Organisations Studied and Interviews Conducted

	Andhra Pradesh (AP)		Rajasthan	
Level	Number of Organizations Studied	Number of Interviews Conducted	Number of Organizations Studied	Number of Interviews Conducted
State	4	16	6	17
District	4	7	4	8
Sub-district	1	3	2	6
Total	9	26	11	31

4.2 Institutional Structure

4.2.1 Overall Structure

The supporting institutional structure for school education in AP and Rajasthan had several common features but also differed in significant ways. In both states, the organisations performed five broad roles, i.e., administration and management, programme administration, academic and other resource support, examinations, and education of students who had dropped out. These roles were spread across various organisations at different levels (Box 4.1).

BOX 4.1: Organisational Structure in School Education

Andhra Pradesh (AP)		Rajasthan	
Institution	Main Role	Institution	Main Role
State Level			
Commissioner School Education	Administrative and programmatic support for classes 1 to 10	Directorate of Elementary Education	Administrative support for classes 1 to 8
Commissioner and Director Intermediate Education	Administrative and programmatic support for classes 11 and 12.	Directorate of Secondary Education	Administrative support for classes 9 to 12.
Sarva Shiksha Abhiyan (SSA) AP State Office	Programmatic support for SSA for classes 1 to 8.	Rajasthan Council for School Education	Programmatic support for Samagra Shiksha Abhiyan (SMSA) for classes 1 to 12.
State Council for Educational Research and Training	Academic support for classes 1 to 10, and prepares textbooks, teacher training modules, etc.	State Council for Educational Research and Training	Academic support for classes 1 to 12 in principle, but in practice for classes 1 to 8.
State Institute of Vocational Education	Academic support for vocational education for classes 11 and 12, and prepares curricula, textbooks, teacher training modules, etc.	State Institute of Education Management and Administration	Resource support such as research and training for management of schools for pre-primary to class 12.
Board of Secondary Education	Board examinations for classes 9 and 10	Board of Secondary Education	Board examinations for classes 9 to 12
Intermediate Education Board	Board examinations for classes 11 and 12		
State Open School	For out-of-school persons above the age of 14: registration and academic support for classes 9 to 12, and board examinations for classes 10 and 12; and support to out-of-school persons to complete elementary education	State Open School	For out-of-school persons above the age of 14: registration and academic support for classes 9 to 12, and board examinations for classes 10 and 12.
Rajasthan State Textbook	Textbook printing and distribution.	Textbook Board	Textbook printing and distribution

Division Level			
Joint Director Schools	Administrative support for classes 1 to 10	Joint Director	Administrative support for classes 1 to 12
Joint Director Intermediate	Administrative support for classes 11 and 12		
District Level			
District Education Officer	Administrative support for classes 1 to 10, programmatic and academic support for classes 9 and 10, board examinations of class 10, and Open School activities.	Chief District Education Officer	Overall supervision of all district level institutions concerned with school education.
SSA project office	Implements of SSA for classes 1 to 8.	Additional District Project Coordinator	Implementation of SMSA for classes 1 to 12.
District Vocation Office	Administrative and academic support to intermediate colleges for classes 11 and 12	District Education Office Elementary	Administrative support for classes 1-8
Regional Inspection Office	Inspection and regulation of private inter-colleges of classes 11 and 12.	District Education Office Secondary	Administrative support for classes 9 to 12
District Institute of Education and Training (DIET)	Academic support for classes 1 to 8.	DIET	Academic support for classes 1to 8.
District Common Examination Board	Organised continuous evaluation for classes 1 to 10.		
Sub-district Level			
Deputy Education Officer	Administrative support for classes 9 and 10.	Chief Block Education Office	Administrative support for classes 1 to 12.
Mandal Education Officer	Administrative and academic support for classes 1 to 8.	Panchayat Education Office	Administrative support for classes 1 to 12.

The overall organisational structure needs to be viewed against two key differences among the two states.

One, the structure of schools differed in the two states. In Rajasthan, there were generally integrated schools from classes 1 to 12 for secondary education and schools for classes 1 to 8, and 1 to 5 where higher classes were not mandated. From 2014 onwards, the state had undertaken administrative reforms to integrate schools. In contrast, in AP, inter-colleges for classes 11 and 12 were separate educational institutions, and the common pattern was to have schools for classes 1 to 5, 1 to 8, and 6 to 10.

A second important difference was that while in both states, the district[1] was an important geographical unit for administration in general and educational management, the two states followed different geographical units below the district. Below the district, in AP, organisations for education existed at the sub-division (average population 9.91 lakh) and mandal (average population 0.74 lakh) level, while in Rajasthan, these existed at the block (average population 4.15 lakh) level[2].

4.2.2 Administrative and Programme Structures

In Rajasthan, there was a single department for policy formulation and school governance for classes 1 to 12, but in AP, the School Education Department was responsible for classes 1 to10 and the Intermediate Education Department was responsible for classes 11 and12. The administrative and academic organisations for these two stages of education were separate too.

In AP, for classes 1 to 10, at the state level, the office of the Commissioner School Education and at the district level, the District Education Office (DEO) was responsible for all administrative matters. In addition, for every 4-5 districts, there was an office of the Joint Director (JD), Schools, to supervise district offices. However, responsibilities for programme implementation were split across organisations. The Commissioner School Education and DEO were responsible for programmes for classes 9 and 10, under the Rashtriya Madhyamik Shiksha Abhiyan or the part of Samagra Shiksha Abhiyan concerned with secondary education. But for classes 1 to , to implement Sarva Shiksha Abhiyan (SSA) or the part of Samagra Shiksha Abhiyan (SMSA) Sconcerned with elementary education, there were separate organisations, i.e. the SSA AP State Office at the state headquarters and its district offices at district headquarters. For classes 11 and 12, the office of the Commissioner and Director of Intermediate Education at the state level was responsible for all administrative and programmatic matters.

At the district level, the Vocation Officer (VO) was responsible for administrative and programmatic matters related to government schools and the Regional Inspection Officer (RIO) for matters related to private schools. In addition, for every four-five districts, there was an office of the Joint Director, Intermediate, to supervise district offices.

Moreover, in AP, the schools were divided into state schools on the one hand and 'Panchayat schools' in rural areas and 'municipality schools' in urban areas on the other. All these schools were alike, but the teachers in these schools formed separate cadres. Further, residential schools were managed by different departments. Within the School Education Department, the AP Residential Society managed the departmental residential schools and hostels; the Tribal Welfare Department managed and the tribal residential schools; the BC (Backward Class) Welfare Department, managed the BC Welfare schools; and the AP Social Welfare Department managed the Scheduled Caste (SC) residential schools and hostels. In addition, the AP Model Schools Society managed the Model schools. In schools of other departments, while the School Education Department had authority in academic matters, the departments concerned were responsible for the management. However, discussions with field-level officials revealed that they simply let the institutions of other departments alone.

In Rajasthan, a Commissioner School Education was the controlling authority for all organisations of school education. The office of Director Elementary Education (DEE) was responsible for administrative matters related to classes 1 to 8 and Director Secondary Education (DSE) for classes 9 to 12. As per officials, the merger of these two organisations was under consideration. For programme implementation, separate organisations, i.e., Rajasthan Council for Secondary Education to implement the Rashtriya Madhyamik Shiksha Abhiyan (RMSA), and Rajasthan Council for Elementary Education to implement the SSA, had been merged in 2018 to form a single umbrella organisation i.e., Rajasthan Council for School Education (RCSCE) to

1 The average population of a district in Andhra Pradesh was Rs 38.13 lakh in Rajasthan was Rs 20.77 lakh.

2 Educational Statistics Andhra Pradesh 2017-18, Commissioner of School Education, Andhra Pradesh, https://www.census2011.co.in/census/state/districtlist/rajasthan.html

implement the SMSA[3].This was the most important organisation for school education in the state.

At the district level, the office of the Chief District Education Officer (CDEO) had been created to oversee all organisations concerned with school education. In addition, DEO, Elementary and DEO, Secondary were responsible for administrative issues related to classes 1 to 8 and 9 to 12, respectively. The Additional District Project Coordination (ADPC) Office provided programmatic support for SMSA.

4.2.3 Structure for Academic Support and Examinations

Both states had State Councils for Educational Research and Training (SCERT) at the state level, and District Institute of Education and Training (DIET) at the district level to provide academic support and teacher training. In addition, in Rajasthan, the State Institute of Education Management and Administration (SIEMAT) provided training and other resource support for school administration and management, but there was no such organisation in AP. However, in AP, a State Institute of Vocational Education (SIVE) provided academic support for vocational courses for intermediate education.

In both states, a two-year course of pre-service teacher education for elementary education teachers, i.e., Diploma in Elementary Education (DElEd) was conducted by DIETs. Pre-service education for secondary education, i.e. Bachelor of Education (BEd), was conducted by teacher education colleges. Of these, some were upgraded to Colleges of Teacher Education (CTEs) and Institutes of Advanced Studied in Education (IASEs) (see Box 4.4). In both states, the number of private institutions for pre-service education was very high (Table 4.2).

TABLE 4.2: Number of Private Institutions for Pre-Service Teacher education

	Number of Private Institutions	
	Andhra Pradesh (AP)	Rajasthan
STC/ Diploma/ DEd Colleges	547	330
BEd Colleges	357	795

Note: STC stands for Senior Teaching Certificate, DEd stands for Diploma in Education, and BEd stands for Bachelor of Education.

In both states, board examinations for classes 10 and 12 were conducted by examination boards. In AP, the Board of Secondary Education and the Intermediate Education Board were responsible for examinations of classes 10 and 12, respectively. At the district level, the Board of Secondary Education worked through the DEO, where it had placed an official, i.e., an Assistant Commissioner, and the Intermediate Education Board worked through the VO. There was also a District Common Examination Board for continuous and comprehensive evaluation (CCEE), of which the DEO was the chairperson. In Rajasthan, the Board of Secondary Education was responsible for class 10 and 12 exams and worked through the DEO secondary education. No separate manpower was provided at the district level.

In spite of the above organisations, the academic support structure for secondary education was ad hoc in both states.

In AP, the SCERT was the leading organisation for academic support, i.e., for preparing the curriculum, textbooks, teacher training modules etc., for classes 1 to 10. But at the district level, DIETs provided academic support for classes 1 to 8 only, and DEO managed academic support related to classes 9 and 10, mainly teacher training. The academic support structure for classes 11 and 12 was patchy. The curriculum and textbooks were prepared by the Intermediate Education Board through its Education Research and Training Wing (ERTW). The State Institute of Vocational Education (SIVE), an umbrella organisation for vocational education, was also

3 Government of Rajasthan, School Education Department, Order No. P 21(32)/ Prashikshan/ Ayojana/2017 dated 24 May 2018.

responsible for teacher training at the intermediate level. At the district level, all matters were handled by the VO.

In Rajasthan, though in policy, the role of SCERT and DIETs had been redefined to provide academic support from pre-school to class 12, in practice, SCERT and DIETs provided academic support for classes 1-8 only. The curriculum and textbooks for classes 9 to 12 were prepared by the Board of Secondary Education, and teacher training was conducted by Colleges of Teacher Education, responsible for pre-service education of secondary school teachers.

Thus, in both the states, while there were distinct academic support structures for elementary education, for the secondary stage, academic activities were spread across several organisations, including some in which academic support was not the core mandate. For example, examination boards prepared textbooks for secondary education in Rajasthan, and for classes 11 and 12 in AP. In fact, along with board examinations, the boards conducted a medley of activities such as examinations for teachers, preparing textbooks, affiliating private schools and colleges, and giving awards and prizes (**Box 4.2).**

Box 4.2: Activities of Examination Boards in Andhra Pradesh and Rajasthan

	Andhra Pradesh (AP)		Rajasthan
	Board of Secondary Education	Intermediate Board	Board of Secondary Education
Examinations for students	Senior Secondary School (including regular Secondary School Certificate [SSC], oriental SSC focused on Telegu/ Sanskrit and vocational SSC); National Talent Search examination; National Means-cum-Merit Scholarship examination; Library Science examination (after class 12); and DElEd examination.	Class 12 examination	Secondary and senior secondary board examinations; First level of national talent search examination; and State talent search examination.
Examinations for teachers	Headmaster exam; Professional exam in management and accounts taken by high school teachers; Language pundit exams for Hindi, Urdu, and Telegu; and Technical teacher exams for tailoring, handloom weaving etc.		Rajasthan Eligibility Examination for Teachers (REET)
Syllabus and textbooks		For classes 11 and 12	For classes 9 to 12
Affiliate private schools and colleges		Affiliate private inter-colleges	Affiliate private schools
Prizes and medals			Medals and scholarships as per merit

Note: DElEd stands for Diploma in Elementary Education, SSC stands for Secondary School Certificate.

4.2.4 Sub-District Structure

Below the district, while AP had a fragmented organisational structure, in Rajasthan, it was well integrated. In AP, there were Deputy Education Officers (Dy EOs) at the sub-division level to supervise high schools, and Mandal Education Officers (MEOs) to supervise elementary schools. The MEOs were supported by resource persons to provide academic support to elementary schools. There was no organisation below the district to administer and support intermediate colleges. Thus, in AP, below the district, for classes 9 and 10, organisational support was sparse, comprising just a Dy EO at the sub-division, which was a unit with a population of nearly 10 lakhs. For classes 11 and 12, there was no support structure at all, while for classes 1-8, the MEOs office managed and provided academic support to schools and was easily accessible.

In contrast, in Rajasthan, an integrated office of the Chief Block Education Officer (CBEO) was responsible for the management of school education from classes 1 to 12[4], though before the administrative reforms, there had been no administrative support for secondary education below the district level, as in AP. Each CBEO had 20-25 Gram Panchayats (GPs). Additionally, principals of higher secondary schools at the GP level had been declared Panchayat Education Officers (PEO) and were made responsible for the supervision of all the schools within the GPs. The PEOs, along with their roles as school principals, performed other administrative functions too, such as maintaining service records of teachers and disbursing their salaries.

4.2.5 Role of Local Governments

In AP, Panchayats did not play any significant role in school education. At the time when the fieldwork was conducted, elected Panchayats were not in place. Moreover, discussions with the erstwhile Zilla Parishad (ZP) members revealed that the ZP was itself disempowered, and several representatives were not interested in school education. An ex ZP representative commented:

> *I used to visit schools constantly. Not all the members were as interested in schools as me, as some were not educated. The ZP has no funds. Earlier, the schools were under the control of the ZP, but not now.*

The discussions that did take place were regarding the lack of infrastructure in schools. However, an ex-Mandal Panchayat reported that the greatest focus in the Mandal Panchayat was on agriculture and education. The topics that were discussed included mid-day meals, toilets, and drinking water. Issues related to learning were not discussed. However, the Mandal Panchayat could not do much as its majority was not of the ruling party.

In Rajasthan, both the ZP representatives interviewed reported that there was a lack of interest in schools, and the ZP was most concerned with water, roads, and drains. There had been no meeting of any Panchayat Education Committee in the ZP. Interviews with Block Panchayat representatives revealed that the Panchayat had got playgrounds and boundary walls constructed through Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). As per government guidelines, the Panchayat could not do anything for secondary schools. It wanted to develop kabaddi fields, for example, but was not allowed. Moreover, the funds and powers with the Block Panchayat had been reduced in the last five years.

4.2.6 State Open Schools

Both states had state open schools i.e., Andhra Pradesh Open School Society (APOSS)[5] in AP and the Rajasthan State Open School (RSOS) Society in Rajasthan, to facilitate learners over the age of 14 to study for, and obtain class 10 and 12 board examination certificates. The open school structure was stronger in AP than in Rajasthan. Andhra Pradesh Open School provided support to persons who wanted to complete elementary education, but RSOS did not play this role.

In both states, open school programmes functioned through study centres or resource centres, set up in high schools and higher secondary schools, where one teacher was designated in charge of the study centre. In AP, there were 894 study centres for class 10 and 904 for class 12; nearly every mandal had a study centre. In Rajasthan, there were much fewer centres, i.e., 472 resource centres. In addition, in AP, in each district, there was a District Coordinator for APOS in the DEO's office, but in Rajasthan, there was no separate personnel below the state level.

Rajasthan State Open School (RSOS) officials said that they maintained direct contact with the resource centres. They reported that they did not supervise the resource centres on a regular basis, but if they got a complaint, they enquired into it. In both states, study/ resource centres could be set up in recognised private schools as well as government schools, though there were very few resource centres in private schools.

4 Government of Rajasthan, School Education Department, Order No. P21(32)/ Prashikshan/ Ayojana/2017 dated 24 May 2018.
5 Government of Andhra Pradesh: G.O. Ms. No. 50, Education (SSE.2) Department dated 08 February 1991.

4.2.7 Emerging Issues for Structure

Five important issues emerged regarding the overall institutional structure for school education.

One, in both states, academic support for secondary education was limited and fragmented. In AP, the academic support structure for intermediate education was very sketchy, and there was no dedicated organisation in the state to provide it. In Rajasthan, the academic support structure for secondary education was unclear, with various organisations in charge of different activities. In neither state did district level organisations, DIETs, provide academic support for secondary education.

Two, programme structures in both states cut across various administrative and academic activities, which added to the fragmentation, and led to role confusion. For in Rajasthan, discussions revealed role confusion between the ADPCs and DEO (Secondary) office, as both expected the other to be in charge of teacher establishment. Moreover, as the main programme was with the ADPC, the role of DEO (Secondary) office had shrunk, and mainly comprised the management of competitions, awards etc.

Three, in AP, as there was a stand-alone department for intermediate education for classes 11 and 12, this level of education was neglected. Intermediate education was informed neither by the national discourse in neither school education nor university education. Moreover, as the department was concerned with only two classes, it could set up a very limited supporting administrative and academic structures; thus, within the state too, there was limited institutional capacity to plan and strategise. It is not surprising that this stage of education was highly privatised, with chains of 'corporate schools' playing a dominant role. Moreover, the excessive splitting of organisations across the school cycle caused coordination problems. For example, in vocational education, SIVE catered to classes 11 and 12 only, and not classes 9 and 10, which also offered vocational courses. The state had planned courses in various 'job roles' at 4 levels in classes 9 to 12. But the availability of the same job role across secondary and intermediate schools could not be ensured, so students were allowed to change job roles in classes 11 and 12. Similarly, several departments concerned with the welfare of Scheduled Tribes (STs), minorities etc., ran residential schools. In theory, the DEO could monitor and inspect these, but officials admitted that they did not monitor schools of other departments.

Four, in both states, there were issues related to the penetration of the administrative structures. Because of excessive splitting, in AP, the penetration of the administrative structure for secondary education to the grassroots was poor. For classes 11 and 12, there were no organisations below the district level at all. For classes 9 and 10, the administrative structure penetrated up to the sub-division level, but not below. In contrast, for elementary education, the administrative structure penetrated up to the mandal level. Against this scenario, in Rajasthan, the sub-district administrative structures had been strengthened. The CBEO was responsible for administrative matters for secondary and elementary education. In the case of elementary education, supervision had been taken to the GP level. Thus, in terms of structure, the capacity for administrative support and regulation increased. However, as far as the examination board and open school were concerned, AP had a better penetration than Rajasthan as there was a separate official to deal with these issues at the district level.

Finally, in both states, local governments were either inadequately aware of core issues in school education, not motivated to address them, or lacked powers and financial resources to do so. Thus, neither state had attempted to train and involve local governments in school education, and hence, had missed out on initiatives and support that may have been available.

4.3 Human Resources

4.3.1 Context

The structure of human resources for secondary education followed the general pattern in government. There were regular employees, who worked till the specified age of retirement, and contractual employees, who were hired for short tenures. Regular employees were recruited to services, or cadres, which could be state cadres, where personnel could work across the state, or the more limited district cadres. For each cadre, basic qualifications were prescribed by the state government, and personnel were recruited on the basis of competition, and then posted to various positions. Salaries and allowances were fixed as per recommendations of various pay commissions, and promotions were based on seniority. For contractual employees, the mode of recruitment varied, salaries were low, and there were no avenues for promotion. The state government controlled the recruitment and management of the personnel tightly.

In school education, the vast majority of personnel were schoolteachers, who were the largest in number among state government employees. To man various administrative posts, the two states followed different approaches, as described below. For academic support, i.e., posts in SCERTs and DIETs, neither state had a coherent personnel policy.

4.3.2 Structure of Human Resources

A. Teachers

In both states, teachers for different levels of education formed separate cadres, and school headmasters and principals were promoted from among teachers. In AP, there were three main types of teachers: secondary teachers for classes 1 to 5, school assistants for classes 6 to10, and junior lecturers for classes 11 and 12. The minimum qualifications for secondary teachers were class 12 and a Diploma in Education (DEd) degree, or a graduate degree with at least 50% marks, and a BEd degree. Teachers with BEd degrees were required to undergo a six-month bridge course recognised by the National Council for Teacher Education within two years of appointment. Secondary teachers were not recruited subject-wise. School assistants were recruited for specific subjects and were required to have a graduate degree in the subject, and a BEd degree. Consequently, in elementary schools of classes 1 to 8, and in classes 6 to 8, teachers were not specialists in specific subjects; however, in high schools, from classes 6 to 10, they were. In addition, physical education teachers, music teachers, craft teachers and art teachers were recruited[6].

Secondary teachers and school assistants were selected on the basis of their qualifications and a written test by the department. In inter-colleges, junior lecturers were recruited for specific subjects through the AP Public Service Commission, i.e., through a process that was independent of the department. They were required to have post-graduate degrees in their subject with at least 55% marks but were not to have teacher training degrees. Junior lecturers were equivalent to headmasters of high schools (Box 4.3).

In Rajasthan, four main types of teachers were recruited. Grade 1 teachers, called lecturers, were recruited to teach classes 11 and 12, and were required to have a postgraduate degree in the specific subject with 48% marks with BEd. Grade 2 teachers, called senior teachers, were recruited for classes 9 and 10 and were required to have graduate degrees in the specific subject with BEd. Among grade 3 teachers, there were two levels: level 2 for classes 6 to 8 and level 1 for classes 1 to 5. Grade 1 and grade 2 teachers were recruited subject-wise (Box 4.3) and were selected through the Rajasthan State Public Service Commission (RPSC). There was a state-wide examination, usually an objective test. As per officials, lakhs of people sat for the exam, and every year, several approached the courts after the selection process. However, it was difficult to get

6 Government of Andhra Pradesh, School Education (Exams) Department, G.O. MS. No. 67, dated 26 October 2018.

teachers for English, Sanskrit, physics, and mathematics (or maths).

Grade 3 teachers formed a district cadre and were transferred out of the district only at their own request, in which case they lost their seniority. To recruit grade 3 teachers, the Board of Secondary Education conducted the Rajasthan Eligibility Examination for Teachers (REET). Earlier, REET had been just an eligibility exam, i.e., teachers were declared eligible for appointment on the basis of their marks, and separate recruitment exams followed. However, as part of administrative reforms, when a large number of teachers were recruited, REET was made the basis of actual recruitment.

BOX 4.3: Types of Teachers in Andhra Pradesh and Rajasthan

Andhra Pradesh (AP)			Rajasthan		
Teacher Type	Classes Taught	Required Qualification	Teacher Type	Classes Taught	Required Qualification
Junior Lecturers	11-12	Postgraduate in the specific subject with 55% marks	Lecturer or Grade 1	11 and 12	Postgraduate in the specific subject with 48% marks with BEd.
School Assistants	6-10	Graduate in the specific subject with BEd.	Senior teacher or Grade 2	9 and 10	Graduate in the specific subject with BEd.
Secondary Grade Teachers	1-5	Class 12 with DEd or BA with BEd.	Teacher or Grade 3, Level 2	6 to 8	(i) Graduate and DEd or Graduate with minimum 50% marks and BEd.
			Teacher of Grade 3, Level 1	1 to 5	Class 12 with minimum 45% marks and DEd.

Note: BA stands for Bachelor of Arts, DEd stands for Diploma in Education, and BEd stands for Bachelor of Education

In two areas, i.e., IT (information technology) education and vocational education, as per Government of India (GoI) schemes, teaching was outsourced in both the states. To impart computer education in high schools, private agencies were contracted. These agencies provided computers and instructors for five years, after which the agency withdrew, and the schools were expected to carry out these activities. Vocational training was provided by private agencies through certified teachers. The National Skill Development Council advertised and identified appropriate agencies for various trades, out of which the state could choose. Subsequently, these agencies provided teachers and materials to conduct vocational education classes.

There was some indication that such outsourcing went hand in hand with under resourcing. Some teacher union representatives in AP commented:

> *In 2009, computers were introduced in high schools. There was no maintenance, no staff, so it did not work. We want computers to be re-introduced, with permanent teachers. Then, children will come to government schools.*

A senior official commented regarding computer education:

> *There is no money for upkeep of the hardware: Rs 20,000 to Rs 25,000 per year is needed for 10 computers.*

Similarly, officials in AP said that in vocational courses, the budget for internship was very low, thus its quality was affected.

B. Management Personnel

In both states, at the very top administrative posts, generally, Indian Administrative Service (IAS) officers, who were generalist administrators and moved from department to department, were posted. In both states, other than the top posts, there were four levels of officials for educational administration: assistant director, deputy director, joint director, and additional director. The personnel policies of two states differed for these posts.

In AP, for classes 1 to 10, educational administrators were recruited specially, formed a state education service. The educational administrators remained in the School Education Department and occupied most of the administrative posts. There was direct recruitment of assistant directors, and the rest of the posts were filled through promotion. Teachers and clerks with teacher training degrees, were also promoted to junior administrative posts, but to a limited degree. However, for inter-colleges of class 11 and 12, no educational administrators were recruited, and lecturers and principals were promoted to administrative positions. Junior lecturers could become principals, then district vocational officers, and then additional directors in the commissioner's office.

In contrast, in Rajasthan, separate educational administrators were not recruited. In a few posts, officers of the Rajasthan Administrative Service (RAS), who were generalist administrators like IAS officers but recruited at the state level rather than the all-India level, were posted. But mainly, teachers were promoted to administrative posts, and trained in SIEMAT or other institutions for 10-15 days. A senior official commented:

> *Some promoted teachers make very good administrators, but many lack administrative skills. They have to be pushed all the time. Their strength is that they understand education better. Their weakness is lack of administrative experience.*

Notably, though in both states, teachers formed the largest pool of government employees, neither state had any experts in human resource management.

C. Teacher Educators and Academic Resource Persons

In both states, for BEd colleges, CTEs and IASEs, personnel with degrees in education were recruited. But neither state had a clear, logical policy regarding academic resource persons to frame curricula, write textbooks, etc, in SCERTs, for faculty in DIETs to conduct the DEd programmes, or provide academic support to schools. Instead, lecturers from CTEs and IASEs, as well as schoolteachers, were posted on a fairly ad hoc basis to SCERTs and DIETs.

In AP, a DIET cadre had been notified. As per rules 70% DIET posts were to be filled by promotion of high school teachers who had a Master of Arts (MA) or Master of Science (MSc), and a Master of Education (MEd) degree, and 30% by direct recruitment. However, no direct recruitment took place, and because of a court case described below, promotions too had stopped. In Rajasthan, the state government had advertised to fill up posts in DIETs from within existing personnel. The criteria for placement included an MEd degree. However, some existing DIET faculty had approached the courts against the decision, and the whole process was stayed.

The two states recruited no specialists in various pedagogic areas such as language, maths or science teaching, curriculum and textbook formulation, achievement testing, or research. For textbook writing and teacher training, both states constituted state and district resource groups in which faculty for CTEs, IASEs, and DIETs, and schoolteachers as well as resource persons from outside government were involved. Some personnel of these groups became quite proficient in some pedagogic areas. For example, an interviewee in AP SCERT, a textbook writer and trainer who was part of the state resource group, had originally been a teacher. He was picked up to be a resource person during a training programme more than 15 years ago. Now placed in the SCERT, he played an important role in various pedagogic initiatives. However, such individuals were not recognised formally in any way, and could be posted anywhere. Moreover,

the resource groups varied over time not only in terms of their composition, but also the extent to which they were involved in these activities. No psychologists or counsellors were recruited in Rajasthan, while in AP, recruitment of counsellors at the mandal level was under consideration.

D. Vulnerable children

As in the case of academic personnel, specialists to analyse and strategise for the needs for vulnerable children were generally not recruited. Neither state had gender specialists. There were separate departments for SC/ST, that ran residential schools and hostels and provided scholarships, but there were no specialists to address the special difficulties that such children might face in education, such as discrimination or differences in language.

In case of differently abled children, some expertise was available. In both states, as per SMSA guidelines, there were trained personnel to cater to Children With Special Needs (CWSN). In AP, in SSA, there was a coordinator in each mandal along with resource persons for the education of CWSN. However, these personnel catered to the needs of classes 1 to 8. There was no Inclusive Education of Disabled (IED) coordinator for classes 9 to 12. In Rajasthan, in the districts, there were three workers per block to address the needs of CWSN, across all classes.

E. Others

Finally, neither state recruited or developed, through training, people who specialised in communicating with the community or eliciting its participation.

In both states, accounts personnel and engineering personnel were taken on deputation from other state services. There were several posts of clerks and helpers, and Management Information System (MIS) personnel were hired on contract.

4.3.3 Vacancies

In addition to the structural problems described above, in both states, there were instances when even the designated manpower was not available.

In AP, the structure of human resources was acutely impacted by a court case that had been going on for 30 years. The state had four types of teachers in terms of management, or cadres: government teachers appointed to government schools, Panchayat teachers for Panchayat schools, municipal teachers appointed to municipal schools, and Tribal Department teachers appointed by the Tribal Department to schools managed by it. Of these, Panchayat teachers were the most numerous. There was no difference among these teachers in terms of their qualifications and role, but they formed separate cadres.

Till 1998, only government teachers had been eligible for promotion to administrative posts, even though both government and Panchayat teachers were recruited through a common district level examination and could opt for the government or Panchayat cadre. In 1998, Panchayat teachers asked to be made government teachers, citing political interference in the Panchayats, and the state government agreed to their demand. However, when Panchayat teachers too began to be promoted to administrative posts, government teachers filed a court case against such promotions, and the court ruled in their favour. The government appealed a presidential order merging the two cadres, but the issue remains unresolved and court case is on-going.

Consequently, promotions had come to a halt, and various ad hoc arrangements had been made. For example, of the 66 posts of Dy EOs, there was one directly recruited Dy EO and eight promoted Dy EOs, and persons had been put in charge without promotion. In the SCERT, there were no professors against 9 posts, and only 4 lecturers against 20 lecturer posts. In DIETs, of 270 faculty posts, only 45 faculty were actually available. Similarly, in intermediate education too, because of an on-going court case, there had been no promotions for the last eight-ten

years because of which 'acting' VOs and RIOs, without the requisite promotions, were in position. Moreover, while teachers were no longer being promoted to posts of educational administrators, clerks were being promoted, and hence, a disproportionate number of clerks had now become educational administrators.

Additionally, after the bifurcation of the state (of AP into AP and Telangana), state level posts had reduced. For instance, while earlier the posts of secretary of the Board of Secondary Education (classes 11 and 12) and Commissioner Intermediate Education had been held by different persons, now a single person handled both posts. Similarly, in the Secondary Education Board (classes 9 and 10), the Additional Director's post went to Telangana.

In Rajasthan, while posts of teachers and administrators had been filled as part of administrative reforms, the number of vacancies in academic institutions was high. In the SCERT, 70% (14 out of 20) academic posts were vacant, while in DIETs, 56% academic posts were vacant. Moreover, in RCSE, to oversee construction and up-gradation of schools in SMSA, engineers were taken on deputation from other departments. However, other departments were not willing to provide personnel for these posts. Consequently, all persons with engineering qualifications, such as clerks, had been posted as junior engineers—they formed 60% of the total junior engineers.

4.3.4 Service Conditions of Personnel

A. Permanent and contractual teachers

In Rajasthan, no teachers were recruited on contract as there had been a court ruling against such recruitment. This was the case for AP for classes 1 to 10 too. However, in inter-colleges,

the recruitment of regular teachers had stopped. Instead, contract teachers as well as 'guest' teachers were recruited. Consequently, inter-colleges had three types of junior lecturers: regular, contract and guest. Contract lecturers were recruited by the Joint Director, based on their marks. Most junior lecturers were on contract and got a fixed salary of Rs 37,000 per month. In contrast, a fresh 'regular' lecturer got Rs 55,000 per month and as they approached retirement, Rs 1.5 lakh per month. Since 2010, the recruitment of contract lecturers had stopped too. The guest teachers were appointed by intermediate college principals, who issued advertisements and selected candidates on the basis of their performance in demonstration lessons. The salary of the guest lecturers was Rs 150 per hour, with a cap of Rs 10,000 per month. Officials interviewed were of the opinion that this had lowered the standards. A district level official commented:

> *Because the government has stopped recruiting lecturers, standards are going down. To improve intermediate education, we need to recruit teachers regularly.*

B. Promotions

In both states, teachers were eligible for three types of promotions: as headmasters and principals in schools, as educational administrators, and as teachers for higher level classes. For example, in AP, school assistants could be promoted as headmasters or Assistant Director level post of MEO, or as junior lecturers in intermediate colleges, if they had the requisite qualifications. In addition, in AP, technically, as there was a DIET cadre, school assistants could also be promoted as DIET lecturers, though this was not operationalised. Junior lecturers at intermediate colleges could become a principal and then VO, and if they had a PhD. (Doctor of Philosophy), then as lecturers in higher education colleges too.

In both states, seniority was the main basis for promotions. In addition, the annual record of officials written by their supervisors was taken into account too, but its impact was small. As AP hired separate educational administrators, the promotion avenues for teachers as administrators were more limited in AP than in Rajasthan. Moreover, because of the on-going court case, promotions of teachers to administrative posts had come to a halt, and even promotions to

posts of headmasters had been delayed. Further, as teachers were not getting promoted, clerks were getting promoted to Dy EO posts. For example, in the sample district, all three Dy EOs had joined as clerks and got promoted, and several district officials expressed dissatisfaction with this scenario.

In addition, promotion channels were created to provide opportunity to various cadres. For example, in AP, among DEO's posts, the provision was for 40% to be filled from among the administrators, 20% from BEd college lecturers, two from among DIET lecturers, and three from among clerks on promotion. For junior lecturers, 50% posts were filled through direct recruitment, 40% through promotion of high school teachers, and 10% through promotion on non-teaching staff, i.e., clerks, if they had the appropriate qualifications. Officials of the department reported that many people got degrees through the open university to avail of promotion opportunities.

Generally, promotions were slow. For example, school assistants became eligible for promotion in 10 to12 years. An MEO commented:

> *I joined in 1998 as school assistant (maths), was promoted in 2009 as headmaster of high school, and in 2017 became MEO, which is the same rank as headmaster. My next promotion will be as Dy EO. Very few people go up to DEO. Most retire as headmasters. A small number become Dy EOs.*

In Rajasthan, promotions had been speeded up as part of administrative reforms, 1.25 lakh teachers had been promoted. Moreover, several administrative posts had been upgraded, followed by promotion of administrative personnel. For example, the post of CBEO had been upgraded, and made equivalent to the previous district level officer's post.

C. Postings

The system for postings was riddled with several problems. First, in both states, suitability for the job in terms of expertise and experience was often not the main criteria. Instead, appropriate seniority and status were considered adequate. For instance, in AP, schools assistants who were secondary school teachers became MEOs, who dealt exclusively with elementary education. Similarly, even though the focus of APOSS was educating school dropouts, the APOSS had lecturers from CTEs and IASEs, who were teacher educators. Similarly, in Rajasthan, in SIEMAT, there were no criteria for selection process for the staff, and personnel of appropriate seniority were simply posted to the organisation, irrespective of their suitability.

Moreover, patronage played a critical role. In AP, there were some checks in place as at junior levels, i.e., teachers and MEOs, a systematic and transparent system had been developed. Employees got their posting of choice on the basis of entitlement criteria such as service in rural areas, criteria for personal difficulties such as for single women, as well as performance such as institutional enrolment, pass percentage in class 10, subject-wise performance, and student evaluation by teacher etc. But at senior levels, there were no criteria, and politics played a big role in postings.

However, in Rajasthan, nearly all transfers and postings were politicised. During the administrative reform process, attempts were made to make the process of transfers and postings transparent. However, their success was very limited. Postings after promotion and new recruitment had been transparent, but the bulk remained non-transparent. During interviews, senior state level officials said that this was one reform that they could not push through; a district level official commented:

> *The policy on teacher transfers is not good. I have spent 15 to 30 days in transfer camps. There are oral orders. The actual orders are issued by the field agencies. Teacher-transfers are done to please political workers.*

Similarly, a Block Panchayat representative commented:

> *For elementary teachers, the Block Panchayat does the postings. But we just sign on what has been decided. In this block, there is one school with 56 students and 6 teachers, and another with just 2 teachers for 250 students. These issues are understood only locally, and postings should be done by us.*

Similarly, as RSOS was located in the state capital, many people wanted to be posted there. An interviewee described the criteria of posting:

> *Those who have patrons, stay, and others go.*

A small area in which the play of patronage had been cut out was the posting of Deputy Directors and Assistant Directors in RCSE, for which there was a special selection process. An official commented:

> *We get good people who are interested and motivated to work for the community. If they don't work well, we send them back.*

However, this remained an exception.

D. Training

Training of personnel reflected the institutional structure in the state. In AP, teacher training for teachers of classes 1 to10 was well organised, and SCERT prepared training modules, materials etc. However, at the district level, DIETs trained teachers from only for classes 1 to 8, and it was the responsibility of the DEO to train class 9 and 10 teachers. For this, district resource groups of 20-30 persons, with teams for each subject, were set up and trained by SCERT, and they in turn trained teachers under the supervision of the DEO. Several DIET faculty were part of the district resource group. For class 11 and 12 teachers, there had been no training since 2015, though training of principals on administrative issues had started recently.

In Rajasthan, there was a well-established system of training elementary school teachers, who were trained every year. But for secondary school teachers, funds were provided to CTEs for in service training programmes. As per officials, all new secondary teachers, as well as around 30% teachers were trained every year. However, a discussion with CTE faculty in Rajasthan told another story (Box 4.4).

Box 4.4: Sample Colleges of Teacher Education (CTE) in Rajasthan

The CTE has been a Bachelor of Education (BEd) college since 1966, and it is affiliated to a deemed university. In 1993, it was made a CTE, and in-service training, research and extension were included in its activities. Along with a regular BEd course, it runs an Master of Education (MEd) programme, an integrated BEd course in child development, a four-year integrated course which combining Bachelor of Arts/Bachelor of Science (BA/BSc) with Bachelor of Elementary Education (BElEd). It has a staff of 100, including an academic faculty of 60. The total intake of students is 750 per year.

The CTE has been allotted five districts, including the sample district. The CTE trains grade 2 teachers (for classes 9 and 10) in all 6 subjects, i.e. Hindi, English, Sanskrit, social science, maths, and science, along with theme-based trainings on issues such as disaster, peace education etc. It conducts 30 in-service training programmes per year. Funds for in-service training are allotted by the Director, Secondary Education. In 2018-19, for reasons not known to the CTE, the CTE has received no funds for in-service training, research, and extension.

As per the faculty, 40 teachers are called for each training programme, but attendance is poor. Even though authorities are strict, around 15-22 teachers come. In some cases, the same teacher comes for all programmes. As per the faculty, these are teachers who cannot manipulate authorities to let them off from training. The faculty reported that they prepared carefully for each training programme but did not know if the training programme would run as the minimum quorum needed was ten trainees. In service training used to be for 13 days, but as school

authorities could not spare teachers for this length of time, it was reduced first to 10 days, and then to 7 days.

Moreover, teachers who do come are interested only in content, i.e., specific subject-related problems, not pedagogy. Teachers say there is no time to try new teaching methods as they have to complete the course. They cannot use information technology (IT) because there is no electricity in the school. They have the pressure of getting results and have other duties. When the faculty talk about new assessment techniques, teachers say that in the board examination, the question paper will be the same.

The CTE also supports three schools that are below standard in each district. The expert faculty goes to these schools and does demonstration lessons etc. However, as per CTE faculty, when they go for on-site support, the teachers are not interested as they have to complete the syllabus. They are happy if the CTE faculty take a few classes.

In AP, in the sample district, little support was available from any BEd college. Officials reported that there was a CTE in another district which did not have adequate funds.

In both states, principals and headmasters were trained on school management and school leadership. In AP, there was a programme to train principals, supported by the Azim Premji Foundation, and nearly all principals had been trained. Digital learning groups had been set up too. In Rajasthan, a school leadership training programme for headmasters had been started at SIEMAT, based on a module prepared by National University for Educational Planning and Administration (NUEPA). However, discussions at the field level showed that the actual outreach was limited. A block level official commented:

> *'Principals are new. No training has taken place for school management. The training is organised in Jaipur and principals don't go for the training. Out of 30 principals in the block, only 10 have gone for training.'*

In AP, the training of educational administrators was sporadic. But there was more extensive training in Rajasthan through SIEMAT. For example, in 2018-19, SIEMAT had trained 15,264 personnel, including headmasters, PEOs, well as managers at the block, district and regional levels.

Significantly, neither state had any system for the professional development of its teacher educators and its senior most managers. For example, in Rajasthan, the SIEMAT faculty was given no training on joining. They got support and inputs from NUEPA and a Non-Governmental Organisation (NGO). Similarly, staff deputed to RSOS was not trained on joining and learned on the job. Teams were sent by RSOS to NIOS and other states to find out about new policies and innovations

4.3.5 Personnel in Sample Organisations

A. Overall

The personnel structure of the sample organisations reflected the above approach to human resource management as can be seen from the staff available in the sample organisations (Box 4.5).

BOX 4.5: Personnel in Sample Organisations

<table>
<tr><td>Andhra Pradesh (AP)</td><td>Rajasthan</td></tr>
<tr><td colspan="2">State Level</td></tr>
<tr><td>Commissioner School Education</td><td>Rajasthan Council for School Education (RCSE)</td></tr>
<tr><td rowspan="3">The head of office is the Commissioner School Education, usually an Indian Administrative Service (IAS) officer, but at the time of study, it was an Indian Postal Service officer.
Posts include one Additional Director, three Joint Directors, three Deputy Director posts—all from the AP Education Service. These officials are assisted by Assistant Directors, who are promoted from clerks. There five posts of statisticians and three posts of engineers, along with clerks and helpers.</td><td>RCSE has a governing council headed by the chief minister, and an executive council headed by the secretary, school education. Both have members from various departments, Government of India representatives, educationists, NGO representatives, etc.
The head of office is State Project Director drawn from IAS.
Posts include 2 Joint Directors, promoted from among teachers, 7 Deputy Commissioners drawn from Rajasthan Administrative Service (RAS), 14 Deputy Directors promoted from among teachers, 1 Superintending Engineer, finance staff, clerks, and helpers.</td></tr>
<tr><td>Directorate of Secondary Education</td></tr>
<tr><td>The head of office is the Director, an IAS officer.
Posts include an Additional Director, an RAS officer, 3 Joint Directors, 4 Deputy Directors, 19 Assistant Directors, 3 District Education Officers (DEOs) promoted from among teachers, as well as legal, financial and Management Information System (MIS) experts, clerks, and helpers.</td></tr>
<tr><td>State Council for Educational Research and Training (SCERT)</td><td>State Council for Educational Research and Training (SCERT)</td></tr>
</table>

The head of institution is the Director, from the AP Education Service. Posts include 9 professors and 20 lecturers posts, taken on deputation from Colleges of Teacher Education (CTEs) and Institutes of Advanced Studied in Education (IASEs). However, there are only four lecturers, and on the remaining posts, high school teachers have been taken on deputation. There is a post of a psychologist/ Inclusive Education of Disabled (IED) coordinator, and a post of a special educator of IED—both are vacant. There are several posts of clerks and helpers—they are vacant too.	Posts have been re-structured, but the same has not yet been operationalised. The head of institution is the Director from RAS, who holds another (non-education related) post too. Posts include two Joint Directors, which are vacant; four Deputy Directors, of which one is filled; three Deputy Director (junior)/ Assistant Director which are vacant; and seven senior lecturers, of which three are filled. There is one post of Research Officer (vacant) and nine of research assistants, of which four are filled. Posts of psychology expert and school counsellor are vacant.
	State Institute of Education Management and Administration
	There is a Governing Council headed by the Chief Secretary and Executive Committee headed by the Principal Secretary. Members include other officials, a representative of National University for Educational Planning and Administration (NUEPA), educationists and nominees of partner NGOs. The head of institution is an officiating Director. Posts include three heads of departments (HoDs) of Deputy Director rank: administration, research, and training; six Associate Officers of DEO rank, an accounts person, a junior engineer, clerks, and helpers.
Board of Secondary Education (Class 10)	Rajasthan Board of Secondary Education
There is no Board. The head of institution is a Director, a Joint Director level official from the AP Education Service. Posts include three Deputy Commissioners and ten Assistant Commissioners promoted from clerks, of whom, one Assistant Commissioner is declared secretary.	The board comprises a chairperson, usually a university vice chancellor, 7 ex-officio members who are officials, 7 elected representatives, 17 members nominated by the state government, 2 members nominated by the speaker of the legislative assembly, and 2 members nominated by the board chairperson. At the time of the study, the new board was yet to be formed. Among the management and expert posts, the board has two types of posts: posts in which officials are posted by the state government, and posts filled up by the board itself. Officials posted by the state government include the board secretary, an RAS officer, special officer (examination), financial advisor, director (academic), executive engineer, and a legal officer. The remaining six management posts are manned by officials, who are recruited as clerks by the board and promoted to administrative positions.

AP State Open School (APOSS)	Rajasthan State Open School (RSOS)
There is a State Open School society with the Chief Secretary as chairperson, and Principal Secretary, Education as vice chairperson. The Additional Director School Education was earlier the secretary of the open school, but the post has gone to Telangana. The officials are drawn from various colleges, and there are 13 coordinators, who are school assistants. APOSS has its district coordinator at the DEO's office, who looks after the open school exclusively. There is a district level society with the District Collector (DC) as chairperson. The DEO is the member-secretary.	There is a Director, drawn from RAS, who holds double charge, along with another post, and a secretary also drawn from the RAS. There are posts of two Deputy Directors, eight Assistant Directors, seven academic officers, six senior teachers, along with accounts personnel, clerks, and helpers.
District Level	
District Education Office	Chief District Education Office
The head is the District Education Officer from the AP Education Service. Posts include four Assistant Directors from the AP Education Service, Assistant Commissioner (Exams) from the Secondary Education Board and Open School Coordinator from APOSS. There are clerks, and helpers.	The office is headed by a Chief District Education Officer of Deputy Director rank. Posts include an Assistant Director of Principal rank, two resource persons, accountants, clerks, and helpers.
District Vocation Officer (VO)	Additional District Programme Coordinator (ADPC)
The office head is VO, from the principal cadre. Posts include a deputy VO from the lecturer cadre, clerks, and office support staff.	The head of office is ADPC, who is DEO rank. Posts include two Assistant Programme Coordinators of Principal rank, six Programme Officers of lecturer rank, one assistant engineer and two junior engineers, accounts personnel, clerks, and helpers.
Regional Inspection Officer (RIO)	District Education Officer (DEO) (Secondary)
Senior most principal is RIO, part-time. The RIO is assisted by clerks and helpers.	The office is headed by a District Education Officer of DEO rank. Other posts are two Additional District Education officers of principal rank, accounts personnel, clerks, and helpers. There is also provision for an MIS person, on contract.
District Institute of Education and Training (DIET)	District Institute of Education and Training (DIET)
There is post of 1 principal, 7 senior lecturers and 11 lecturers. The non-teaching staff comprises a superintendent and a senior assistant. Only one lecturer's post is filled, rest are teachers with Master of Arts/Master of Science (MA/MSc) and Master of Education (MEd) deputed from high schools, which were filled up by inviting applications and interviews.	There is 1 principal's post which is filled, 4 senior lecturer posts of which one is filled, and 18 lecturers' posts, of which one is filled. There are eight posts of office staff, of which six are filled.
Sub-district Level	
Deputy Education Officer (Dy EO)	Chief Block Education Office (CBEO)
One Dy EO, clerks, and helper.	The head of office is the CBEO. Other posts are, two Additional CBEOs, elementary and secondary, of Principal rank, 2 Resource Persons (RPs), equivalent to lecturers, and two RPs for Children with Special Needs (CSWN) equivalent to Grade 2 teachers, one junior engineer and clerks and helpers.

B. State Level Organisations

As neither state had a coherent human resource policy for academic institutions, the institutions were the worst off in terms of personnel. In both states, the directors of SCERTs were administrators. In AP, the post was at least occupied by an educational administrator, while in Rajasthan, it was occupied by a general administrator, who held charge of another post too, and could not devote all his time to SCERT. In the SCERTs, there were no experts in language, mathematics, or science teaching; psychologists and counsellors were absent too. Moreover, as neither state had a strategy to nurture and develop pedagogic experts, and an ad hoc policy, heavily influenced by patronage, for posting and transfers, it was unable to use the talents it may have had within the system. In both SCERTs, personnel were posted on a fairly ad hoc basis. An exception here was that in AP, an assessment cell had been established in the SCERT and three teachers per district were being trained. In SIEMAT Rajasthan, there were no experts in management, finance, community etc.

Personnel were posted without an assessment of their interest of suitability for working in a training institution. An SCERT faculty in Rajasthan commented:

> *We don't have the right people. People are posted here for the wrong reasons. Either they want to be in Udaipur or want the prestige of working at the state level. They are not interested in issues, or the work.*

As noted above, to undertake various academic and training activities, the institutions relied on resource groups and external experts. For example, SIEMAT Rajasthan had a state resource group drawn from among principals, senior lecturers, and DIET faculty for training. In addition, middle school headmasters acted as key resource persons (KRPs) to provide training in the district. They also called specialists from outside in subjects such as in finance, RTE (right to education), RTI (right to information), etc.

Organisations dealing with programme implementation and management had gaps too. In RCSE, administrators' posts were manned by generalist administrators, who were usually inexperienced regarding education. For example, among the six deputy commissioners interviewed, none had any previous experience in school education. There was no system to train generalist administrators on educational issues. Additionally, though RCSE in Rajasthan and Commissioner, School Education in AP, attempted to reach out to the community extensively, and fostered community-based school management committees, neither hired any experts in community mobilisation and communication. There were no experts in human resource management, in offices of the Commissioner, School Education in AP or in the Directorate of Secondary Education in Rajasthan, despite the fact that teachers comprised the largest numbers in the government work force.

The Board of Secondary Education (for class 10) in AP and Rajasthan Secondary Examination Board, both with the responsibility of assessing lakhs of students, lacked academic backbone, and were largely manned by clerks. In AP, in the Board of Secondary Education, there was no 'board' at all, as this had been dismantled 30 years ago. The main personnel recruited in both these boards were clerks, who were promoted to various administrative positions. Moreover, interviews revealed that there was no systematic training plan for the personnel who were promoted. While the AP Secondary Education Board had no educationist at all, the Rajasthan Secondary Examination Board had one educationist.

Similar ad hocism was visible in the state open schools. Neither APOSS nor RSOS had any personnel who specialised in self-learning or specialists to assist in community communication and motivating students to enrol and complete the course. Open schools in both states were governed by societies, of which the Chief Secretary was the chairperson in AP, and the Principal Secretary, Education in Rajasthan. In APOSS, there are no service rules for the society yet, and

the staffing was ad hoc. The officials were drawn from junior colleges and schools. As per the faculty, the staff available was inadequate for monitoring. Similarly, in RSOS, RAS and education department officials manned various posts. Moreover, all the staff were on deputation and kept changing. Their deputation was extended on year to year basis. The maximum tenure was four years. An interviewee thus described this situation:

> *The lack of permanent staff is a problem as the staff are not committed. We need permanent staff.*

Further, interviewees complained of shortage of staff:

> *The workload is excessive. I have three academic officers, along with clerks and helpers. There is so much computer work because of on-line forms etc., but not enough trained staff. I have asked for more staff, but I have received no response.*

C. District Level Organisations

In field level organisations, the above shortcomings were magnified. As in the case of state level organisations, there were no experts in several relevant areas. Additionally, many field organisations had very scanty staff.

At the district level, among the management and programme implementation organisations for secondary education in AP, i.e., the DEO, VO and RIO, the DEO office was the best staffed. It was headed by a District Education Officer and had four Assistant Directors along with clerks and helpers. In addition, an Assistant Commissioner (Exams) from the secondary education board and Open School Coordinator (along with a record assistant and an attendant) from APOSS formed a part of the DEO office. However, though the DEO was responsible for academic issues related to classes 9 and 10, there were no academicians. There were also no personnel to deal with community related issues, gender, and marginalised groups.

The management structure for intermediate education was very inadequate. The VO's office comprised merely of a VO, a deputy VO, clerks, and helpers. There was no academic or other resource support. The RIO office comprised a RIO, clerks, and helpers. In the sample district, the RIO also functioned as principal of two inter-colleges. The RIO had no access to legal experts, despite the fact that the corporate schools in AP were a formidable force. No special training was provided to RIOs for their role. A district level official commented:

> *There has been no systemic reform. Activities go on increasing, but there is no staff. The structure that existed with 500 schools, continues with 5,000 schools. Constant system evaluation and forecasting for manpower is needed.*

In Rajasthan, at the district level, the administrative reforms had comprised mainly of the placement of a senior official, i.e., the CDEO, to coordinate various district level organisations. There had been no enhancement in the skill set of the organisations. Moreover, the CDEO's office did not have much staff. The ADPC's office had the most staff: the ADPC, who is DEO rank, two assistant programme coordinators of principal rank, six programme officers of lecturer rank, one assistant engineer and two junior engineers, accounts personnel, clerks, and helpers. The DEO (secondary) office was headed by the DEO, who was assisted by two Additional District Education officers of principal rank, accounts personnel, clerks, and helpers. There was also provision for an MIS person on contract. There were no special personnel to conduct board examinations and to coordinate open school activities.

As neither state had a working policy to staff the DIETs, the staffing of DIETs was ad hoc. In AP, schoolteachers had been posted in the sample DIET, while in Rajasthan, most of the posts of the sample DIET were vacant. Moreover, the faculty appeared to have been placed quite casually. A DIET faculty in the sample DIET in Rajasthan commented:

> *I was a school inspection officer. I had done MEd, so I joined the DIET. My husband thought that since I was used to office work, I could work in the DIET.*

D. Sub-district Level Organisations

In AP, the MEO's office, in charge of classes 1 to 8, had an MEO, an MIS person, data entry operator, and a messenger. In addition, there were five resource persons in SSA, hired from the open market, to do school visits. The scope of this study did not encompass the quality of the resource persons, but there was at least an attempt to provide academic support. In contrast, the Dy EO's office, charged with supervising classes 9 and 10, had merely one officer. As noted above, for intermediate education, there was no departmental presence below the district.

sthan had shored up the staff at the block level considerably. Before the reforms, there had been no support structure for secondary schools at the block, but now the CBEO, equivalent in rank to the DEO, and a team of officials and resource persons was in place. Many functions such as sanction of leave, maintenance of service records etc., had been shifted from the district to the block level.

Another innovation was in Rajasthan was the PEO, which had led to further administrative decentralisation. Some of the officials interviewed said that monitoring of elementary schools had improved, and administrative tasks such as drawing salaries, leave etc., had been decentralised. However, the innovation of the PEO meant that the administrative work of school principals had increased. For this extra work, a Gram Sahayak[7] had been provided, who, though an employee of the GP, was expected to work full time for the PEO.

4.3.6 Emerging Issues Regarding Personnel

The structure of human resources in the school education departments of the two states was rudimentary as even basic skill sets were missing. Neither state had a coherent policy regarding academic resource persons, i.e., either hiring specialists, or developing capable and motivated teachers as resource persons. This issue had not been addressed in the reforms in Rajasthan. Consequently, neither state had appropriate personnel to plan and lead improvements in the quality of school education. Similarly, there were no specialists to analyse needs and strategise for less privileged children, i.e., girls, SC/ST, etc. Moreover, there were no educational researchers. Consequently, the capacity, in either state, to analyse learning issues or those related to marginalised children and make improvements in teaching methods was very limited.

Management of education presents a challenge of marrying an understanding of education with management skills. The two states approached educational management differently. Andhra Pradesh (AP) had a cadre of educational administrators, and in Rajasthan, general administrators were combined with teachers promoted as administrators. Potentially, both arrangements could work, but in neither state were educational administrators trained systematically to analyse the situation and plan, but they instead focused on day-to-day activities. Further, there were no experts in human resource management even though the education departments employed the largest work force in government. Similarly, though extensive community contact and education was required, neither state had adequate human resources for this.

The incentive structure for employees to perform optimally was faulty. As seniority was the main basis for promotion, and promotions were slow and infrequent, they did not create an adequate incentive. The play of political patronage in postings added a perverse incentive. For contract employees, this incentive was missing. Employees who pleased political bosses got postings of choice, not those who worked the hardest.

7 The Gram Sahayaks were the erstwhile Vidyarthi Mitras or contract teachers. The court had disallowed their appointment as 'backdoor' entry. They were then taken on as Gram Sahayaks, appointed for a year at a time, and paid Rs 8,000 to Rs 9,000 per month.

4.4 Infrastructure in Organisations

The physical infrastructure available in state level offices in both states was generally adequate. However, as a new state capital had been created in AP, state level offices ran in rented buildings. As in the case of human resources, in resource institutions, infrastructure could be inadequate even at the state level. In AP, there was inadequate space for SCERT. In Rajasthan, the SIEMAT lacked a vehicle, and the hostel facilities were inadequate. The buildings of state open schools in both the states were modest (Box 4.6).

Below the state level, in Rajasthan, offices had adequate buildings, though the office of the DEO, Secondary Education was poorly maintained, and the DIET lacked a vehicle. In AP, the VO functioned in the RIO's office and had inadequate space. The Dy EO functioned in a school. The DIET reported problems in touring because their travel expenses were not paid. Thus, at the district and sub-district levels, some offices were hampered by inadequate infrastructure.

BOX 4.6: Infrastructure in Sample Offices

<table>
<tr><td>Andhra Pradesh (AP)</td><td>Rajasthan</td></tr>
<tr><td colspan="2">State level</td></tr>
<tr><td>Commissioner School Education</td><td>Rajasthan Council for School Education</td></tr>
<tr><td rowspan="3">The office is in a rented building. There is adequate seating space, and the building is in good condition. The drinking water and toilet facilities are adequate. The office is clean. Officers of the rank of Joint Director and above have vehicles. Computer facilities are adequate, and officials have been provided mobile telephones.</td><td>The office is in a large, spacious building in good condition. There is adequate seating space and furniture, and the building is clean. There are adequate toilet facilities for men and women, and drinking water facilities. There are several vehicles, telephones, computers, stationery, etc.</td></tr>
<tr><td>Directorate of Secondary Education</td></tr>
<tr><td>The office is housed in an old building. There is adequate seating space for staff. There are adequate toilet facilities for men and women, and drinking water facilities. There are two vehicles and more can be hired. There are also telephones, computers, stationery etc.</td></tr>
<tr><td>State Council for Educational Research and Training (SCERT)

SCERT is housed in the building of the Commissioner, School Education, which is in good condition, clean, with adequate toilet and drinking water facilities. However, the space provided to SCERT is inadequate. There is no vehicle. There are telephones, computers, stationery, etc.</td><td>State Council for Educational Research and Training (SCERT)

There is adequate seating space and furniture, the building is in good condition and clean. There are adequate toilet facilities for men and women, and drinking water facilities. There are vehicles, telephones, computers, stationery, etc.</td></tr>
</table>

	State Institute of Education Management and Administration
	The building is in good condition and clean, with adequate seating space, toilet facilities for men and women, and drinking water facilities. Computer and telephone facilities are adequate. There is no vehicle. Training halls have a capacity of 200 trainees at a time, but these do not get used adequately as the hostel can house only 50 trainees at a time.
Board of Secondary Education (Class 10)	Rajasthan Board of Secondary Education
The office runs in a rented building. There is adequate seating space. Toilet facilities for men and women, and drinking water facilities are adequate. Computer, telephone, and stationery facilities are adequate. Two vehicles have been hired.	The office is housed in a building with adequate space and furniture for all the personnel, and the building is in good condition. Toilet facilities for men and women, and drinking water facilities are adequate. Computer, telephone, and stationery facilities are adequate.
AP State Open School (APOSS)	Rajasthan State Open School (RSOS)
APOSS is in an old, modest building, which is a little dark. Seating space is limited. There are adequate toilet and drinking water facilities.	RSOS is housed in a building with adequate space and furniture for all the personnel. The building is in good condition. Toilet facilities for men and women. and drinking water facilities are adequate. Computer, telephone, and stationery facilities, are adequate.
District	
District Education Office	Chief District Education Office
The building is very old, and seating space for personnel is inadequate. There are adequate drinking water and toilet facilities, but furniture is inadequate. The building is clean. A vehicle is available for the DEO. The computer facilities are adequate, and officials have been provided mobile phones.	The building is an old hostel, which has been converted into an office through public contribution. The building is in good condition, clean, with adequate seating space as well as toilet and drinking water facilities. Vehicles can be hired as per need, and adequate computer facilities, telephone, and stationery are available.
District Vocation Officer	Additional District Programme Coordinator (ADPC)
The office runs in the Regional Inspection Officer's (RIO) premises. It has adequate space, the building is in good condition, with toilet and drinking water facilities. There is a car. There is a shortage of computers. There is need for a hall to hold meetings of principals, store textbooks, etc.	The building is in good condition, clean, with adequate seating space as well as toilet and drinking water facilities. Vehicles can be hired as per need. Adequate facilities, telephone, and stationery are available. However, computer facilities are inadequate, and the computers are out-of-date.

Regional Inspection Officer (RIO)	District Education Officer Secondary
Not available	The building has adequate seating space, toilets and drinking water facilities. However, there is seepage in the rainy season. The toilets are not clean and old office furniture is dumped in the corridor. There is a jeep but no driver. Telephone, stationery, and computer facilities are adequate.
District Institute of Education and Training (DIET)	District Institute of Education and Training (DIET)
The building has adequate seating space as well as toilet and drinking water facilities. Telephone, stationery, and computer facilities are adequate. There is no vehicle.	The building has adequate seating space as well as toilet and drinking water facilities. Telephone, stationery, and computer facilities are adequate. There is no vehicle.
Sub-district	
Deputy Education Officer	Chief Block Education Office
The office is housed in the building of a school and comprises merely a room.	The building has adequate seating space as well as toilet and drinking water facilities. Telephone, stationery, and computer facilities are adequate. There is one vehicle.

4.5 Working Style

4.5.1 Centralisation

A key feature in both states was extreme centralisation at the state level, and even national level. Human resources were controlled tightly at the state level. The state governments determined salaries, promotion channels, and other service conditions. Financial centralisation was even more extreme. Nearly all activities for school development and even some salaries of staff, came from central government schemes. The state's own funds too were tied up with this financing pattern as a share of the money was provided by the state. The approach of the central government changed over time, which caused problems in the state. For instance, Model Schools, based on the pattern of Central Schools of the central government, were set up in both states in educationally backward blocks with central government funds. But subsequently, the central government withdrew. In AP, Model Schools could be set up in less than one fourth of the mandals, and principals could be appointed in less than half of these, and the whole project stalled.

There were issues related to the flow of funds too. For example, in Rajasthan, officials reported how delays in fund flows impacted the school construction programme adversely. If the payment to contractors stopped, they stopped work. It was tough to restart the work, and there was cost escalation due to delays. They kept the construction of buildings going to the extent possible, but purchase of furniture got delayed. In the sample DIET, even salaries were sometimes delayed by two-three months. In AP, around officials said that payments to third party agencies who provided vocational education often got delayed because funds were not available on time.

In addition, there was financial centralisation within the state, especially in AP. The RIO and Dy EO offices had no budget at all, while the budget of the VO office comprised only salaries, and two-three times a year, funds were provided for pre-defined activities.

In both states, there was a high degree of centralisation in the pedagogic processes. Not only were curricula, textbooks and teacher training modules developed centrally, there were other

prescriptions for the day to day functioning of teachers too, not all of which were useful. Some members of teachers' unions in AP described it as below:

> *The government has prescribed digital and virtual classes. There is a demand that these should be used for five hours. This disturbs regular teaching. The digital component is not good.*

In AP, an academic calendar was prescribed at the state level, and in Rajasthan, a school timetable was prescribed at the state level.

Management processes too were highly centralised. At the field level, officials complained of a lack of autonomy, and said that constant orders and instructions hampered their work. For example, a district official of AP commented:

> *There is no local planning, no freedom. This single agenda approach should stop. We can take guidance from apex bodies, but we should be allowed to do our work.*

4.5.2 Hierarchy

In addition to lack of autonomy, there was high emphasis on hierarchy, and senior officials' orders could not be questioned. A district official commented:

> *Most of the time is spent in following orders from above: attend that meeting, see to the minister's visit, receive textbooks, etc.*

An important aspect of the hierarchy was that academics and academic organisations were placed under the supervision of administrators. In AP, Director of SCERT reported to the Commissioner, School Education, and SCERT was part of the Commissioner's office. Similarly, in RCSE, the top posts were occupied by generalist administrators.

Moreover, in both the states, state officials involved the district collector and other officials concerned with regulatory administration in the activities of the school education department. In Rajasthan, the District Collector (DC) was the head of the executive committee on education, and the Sub Divisional Magistrate (SDM) attended the block level executive committee. In AP, interviewees reported that the DCs held meetings every two months with school heads to discuss results and questioned those whose results were not good.

4.5.3 Emphasis on Monitoring and Assessment

A corollary of centralisation was a high emphasis on monitoring, assessment, and discipline, rather than strengthening teachers to bring about improvements, as can be seen from the comments made by officials in **Box 4.7.**

BOX 4.7: Comments made by Officials about Monitoring

- We have Quick Response (QR) code enabled textbooks. Activities and knowledge linked to a subject can be accessed. Teachers are using these. An application has been developed to monitor the number of teachers who access the information.
- We have started monitoring teachers more closely. Month on month, we will know if teachers are providing the inputs that they are supposed to.
- For learning outcomes of classes 3, 5, and 8, Andhra Pradesh ranked 17th, in 2017. In 2018, it ranked third. This is because of more monitoring and teacher training.
- There is a video conference every two months, which all the principals attend.

- We have developed district parameters. All districts are assessed as per these parameters, and they are ranked every quarter. The best districts and principals are honoured.
- Government works on scale. Therefore, we need indicators to measure progress.
- Since the merger (in Rajasthan) in 2014, elementary teaching has improved because the principal keeps an eye on the elementary teachers.
- If I had the power to discipline, I would get principals to work.
- Assessment makes a difference. It puts pressure on teachers, and they pay attention to students, but the assessment should be more competency based.

In AP, districts were monitored for board examination results, and there was a lot of pressure on the DEOs, teachers, and school heads.

4.5.4 Analysis and Strategy Formulation

There was very little analysis and knowledge generation within the system. Given the lack of appropriate expertise in academic and other issues, neither state conducted any serious analysis on academic issues such as how children learn, what teaching strategies work best, why some schools perform poorly, which children had learning difficulties, and so on. In fact, SIEMAT in Rajasthan was the only state level institution that carried out small action research.

Instead, the data and information available were oriented towards managing, accounting, and reporting. In Rajasthan, Shala Darpan, a web-based portal, provided detailed data regarding secondary schools, teachers, scholarships, etc., along with a similar portal, Darpan, for elementary education. Similarly, in AP, a comprehensive data base which combined Uniform District Information System for Education (UDISE), child related information such as enrolment, teacher management, etc. had been created. However, this data provided few insights, and officials worked without fully understanding the situation. A senior official in AP commented:

Andhra Pradesh has the lowest Gross Enrolment Ratio in the country. The reason is hard to understand.

Some officials were aware of these shortcomings, and the fact that they were not equipped to handle learning issues. For example, a district level official in AP commented:

There should be a research and development wing in my office. If maths learning is poor, I should be able to address it.

To compensate for the lack of capacity to analyse and strategise within the system, both states attempted to collaborate with NGOs. In AP, the Commissioner's offices worked with two NGOs on remedial teaching, and student assessment[8]. Moreover, external resource persons had been involved extensively in developing textbooks and other pedagogic issues. Because of the long-term involvement of such persons, many individuals within the system too had developed capacities to deal with academic issues. In Rajasthan, several NGOs worked in school education, though they were concerned mainly with elementary education, and SIEMAT was supported by two NGOs.

However, such associations could not compensate for the lack of internal capacity for analysis and knowledge generation. Firstly, such capacity within the system is needed to identify the key areas of work, and to access the right organisations. Moreover, these associations could shift over time, and for various reasons, such as a change of government or leader, the whole work could take a different direction.

8 With the help of an NGO, a cell known as the Centre for Scientific Understanding of Student Learning had been established in the State Council for Educational Research and Training (SCERT) to develop a student assessment system. Sixteen teachers at the state level, and 39 at the district level were being trained in assessment. An NGO provided the resource person, and the state government paid the salaries of teachers, etc.

4.5.5 Use of Technology

A relatively recent thrust in both states was the increasing use of technology. This had led to some positive outcomes. Both states had created on-line databases, as described above with the help of digital technology. In Rajasthan, a senior official noted that before Shala Darpan was set up, officials had little data to go on, but they could now access information readily. Technology had been used to streamline some management processes too. In AP, as per officials, many applications such as medical cases, transfers, etc. could be done online. Additionally, E Hazari, a biometric Aadhar based attendance system, had been developed for teachers.

Further, technology had been used to enhance teachers' knowledge. An on-line platform for teachers known as AP E Knowledge Exchange had been created; 1.4 lakh teachers were registered on this platform. They shared lesson plans, views, etc. Online courses were offered to teachers.

However, there were also some limitations to the use of technology. One was that excessive enthusiasm about technology meant that it was sometimes rolled out hastily, and it often functioned poorly. For example, one district official in AP commented:

> *The biometric system of attendance has improved teacher and student attendance. But the maintenance of the system is poor, and sometimes it fails.*

Two, the use of technology gave an appearance of modernisation and efficiency, but did not, in fact, compensate for the lack of research and analysis. For example, in Rajasthan, the state open school collected data regarding student enrolment through an online portal, but it undertook no analysis of what students' pedagogic needs were, the best strategies for meeting these, and so on. In the same vein, in AP, an official had begun to use an application to analyse the results of examinations. However, this analysis was limited to marks obtained by students in various schools, and it did not get into where and why learning levels were inadequate. In other words, the analysis was extremely superficial, and contributed little to real issues.

Moreover, in an already over-centralised system, technology had been used to centralise even more. Some members of teachers' unions in AP commented:

> *The status of the use of digital technology in schools is shown on the chief minister's dashboard. The DEO issues a memo if a headmaster does not use it. We, union leaders, have approached the department on this issue. We were told that we did not understand, and that younger teachers could use this technology well.*

4.5.6 Patronage and Rent-Seeking

In both states, an informal system of political patronage was an important adjunct to the formal, rule-based system, and it had a very significant impact. The importance of patronage in postings and transfers of personnel has been described above. In addition, in Rajasthan, officials reported political interference in day-to-day working too. Several interviewees were of the view that teachers could help politicians during elections, and consequently, formed alliances with politicians for mutual benefit. Two Zilla Parishad members interviewed gave the following views:

> *Teachers want to stay in cities they, so latch on to politicians. There is no strictness at the top. When the previous chief minister was strict with teachers, they made sure that he lost in the elections. (Zilla Parishad Member 1)*

> *Teachers do politics. They are connected to people and can motivate them in favour of a candidate. Villagers trust teachers. Teachers come to politicians to get their duties changed for elections, etc. Political people need votes. (Zilla Parishad Member 2)*

Similarly, a Block Panchayat member commented:

> *Teachers come to me for getting their duty changed etc., but I avoid doing that. I don't get into party politics.*

In several interviews, officials said that interference in day-to-day working, such as matters of discipline and work allotment, eroded the working ethos. Remarks of officials can be seen in Box 4.8.

BOX 4.8: Remarks by District and Block Officials Regarding Patronage in Rajasthan

- Teacher transfers are done to please political workers. This is also true for the official level.
- Politics is very important. If principals are firm with teachers, teachers get them transferred to remote areas. This has happened to two-three principals in the block. If political pressure decreases, things would be better.
- When you take action against teachers, political pressure comes in.
- Once I conducted an enquiry of a clerk who had embezzled money. A Member of the Legislative Assembly (MLA) tried to stop it, but I stood firm and the clerk was punished. Honest people are unhappy. There should be no political pressure in education. Please write that in your report. Good people should not be harmed and those who are corrupt or negligent should be punished.
- There is political interference, and we cannot take action against teachers. There are around 25% teachers of this type.
- Children of powerful people go to private schools and powerful people play politics with government schools. People who are sincere do not have time to do chamchagiri (sycophancy), so they get annoyed.
- At the officer level, there is 100% political interference. Political leaders behave as if we are their personal servants. They use foul language. There is political pressure for shifting duties, and even for sanction of leave. If we monitor the midday meal and find something wrong, a phone comes from political leaders even before we reach office, saying 'nothing should happen to my supporter', etc. They say, 'it is fine if the rats are eating at the wheat, nothing should happen to my person'.
- Politics is all important in postings. Postings through counselling are good, others are not so good.

In AP, at the field level, officials reported that self-help groups (SHGs) that cooked midday meals in schools were changed when the government changed. SHGs worked for some party or the other and were politicised.

Apart from day-to-day processes, an important play of politics in Rajasthan was visible in textbooks. With a change of government, some textbooks had been revised to a great deal of public criticism. One official described her struggle:

> *When the last textbooks were made, I started looking at mistakes etc., and demanded changes. I got involved in a lot of fights. I made a committee of officers and asked them to look into mistakes. I pointed these out to higher authorities. Finally, they gave up and better textbooks were made. But in some cases, officials caved in. There was a big hue and cry, even some international press discussed this.*

In AP, an important consequence aspect of political patronage was that chains of private schools, known as 'corporate schools' dominated the education scenario at the secondary stage. These schools focussed on preparing students for the Indian Institute of Technology (IIT), and failing that, for other engineering colleges. These schools flouted pedagogic principles and fleeced people, as can be seen from a description in Box 4.9.

BOX 4.9: Description by a Principal of a Corporate School in Andhra Pradesh (AP)

This is an Indian Institute of Technology (IIT) based school. Our focus is on the IIT exam from class 6 onwards. We focus on physics, maths, and chemistry. In AP, our group has 143 schools for classes nursery to 10, and more than 200 inter-colleges. The fees per year at the pre-primary level is Rs 15,000; at the primary level, Rs 16,000-19,000; and at high school level, Rs 22,000-28,000.

Children in nursery are two and a half years old and are taught to make strokes with pencils on paper. From the ages of two and a half years to three and a half years, we focus on alphabets and numbers. From class 6 onwards, we focus on the state board examination and the IIT syllabus. We start teaching the intermediate syllabus from class 6 onwards, covering 10% of the syllabus each year.

School starts at 8:30 am. Primary classes go on till 4:30 pm and high school till 5:00 pm. The periods that we assign to subjects in each week are as follows:

- Maths: 15
- Science: 8
- English: 6
- Language: 3-4
- Social Science: 5

We segregate students into three levels: E1, E3, E5 (earlier there were five levels). There are exams every 15 days and a cumulative exam every month. After every cumulative exam, students are put in different levels. The difficulty of the question paper rises with each level. The atmosphere is very competitive. Students get stressed out as parents and management both put pressure. Usually, at the end of the academic year, 20% students are in E5, 20% in E1, and remaining in E3. Around 15-20% children of E5 go to IIT which means 3% to 4% of the total students. The rest go to NITs and other engineering colleges.

We are getting good ranks in competitive examinations. There is no disadvantage to children. We give more than they expect. But if students don not utilize our system, they may suffer in the state board exams. Around 5% students suffer.

Teachers and officials reported that such schools canvassed aggressively to get students (Box 4.10). In a Focus Group Discussion (FGD) with teachers in a high school, teachers said the following:

> *Private school representatives come in January, make lists of good students, contact parents, and encourage students to join.*

Teacher educators, officials and even local government representatives interviewed were aware that the educational practices of these schools were questionable, and they fooled and exploited students and parents. However, government officials said that they could not do anything about these schools as they exercised considerable influence at the very top levels of government. In fact, the promoter of one big chain was a minister in the state government. The views of officials, teacher educators, and Panchayat representatives about corporate schools are in Box 4.10.

BOX 4.10: Statements of Officials and Panchayat Representatives Regarding Corporate Schools in Andhra Pradesh (AP)

Views of Teacher Educators and Officials

- In the corporate inter-colleges, there is a lot of stress on students, no physical activity, no rest, and no extracurricular activities. Last year, two students committed suicide. Last month, a student hanged himself. He had some personal problem, but the teachers did not bother to attend to him.
- Corporate schools are very conservative (in education) and are exam oriented. Their students do not get a general education. Students in government schools have more skills. The corporate schools are the problem, not ordinary private schools. Officially, corporate schools say that they follow our syllabus, but they have different study materials. Students are doubly burdened because they have to do our exams as well as separate ones.
- Private schools monopolise the structure for classes 11 and 12. There are more candidates in private schools than in government schools. At one time, government institutions used to be the top-level institutions. Then corporate schools moved in. They took away the best teachers; government could not compete. The best

students are going to private schools. Five-six years ago, the government itself selected students from hostels through tests and sent them to these schools.

- Corporate schools take away the cream of students. They separate the best and have special coaching for them. These students go on to become engineers and doctors. They are politically powerful.
- Corporate schools and colleges go to villages before admission, admit students on the spot, and some admit good students without asking for a fee. We get poor, low IQ (intelligence quotient) students. High IQ students are grabbed by corporate colleges. Corporate colleges take the scholarships that students get from government as fee.
- The corporate school fees structure is flexible, and it matches the paying capacity of the area. Fees regulation is not possible in these schools. The maximum fees allowed is Rs 4,000 per year. The corporate schools charge lakhs, in the name of coaching fees, for ACs etc., while for education they charge Rs 4,000. This year, in a corporate school, a lecturer tortured a student, and the minister closed the school, but no other private colleges have been closed.
- There are 50-60 corporate schools in the district, mainly in urban areas. The inter-colleges are all residential. The rest provide transport facilities. They only prepare students for exams. The best teachers are for the best students. Last year there were five to ten suicides in corporate schools. The opposition parties protested. A head of a corporate chain was a minister in the previous government.
- We do not touch the private schools. This is a political issue.
- We cannot stop corporate schools and inter-colleges from doing what they want. There is a lot of political pressure. If I go to a corporate school or inter-college, there are many phone calls from politicians and senior officials.
- Corporate inter-colleges are preferred by people because there is no staff and infrastructure in government inter-colleges.
- A short time ago, I wrote a letter to ensure submission of annual reports from all private schools. I got ten phone calls from a powerful politician. I finally had to ignore the letter quietly.
- For affiliation, private colleges have to have minimum infrastructure such as 8,000 square feet of space, sanitation, playground, toilet, drinking water, fire safety certificate, and soundness certificate etc. They have to follow the government syllabus and government norms regarding fees etc. But we do not know how much they actually charge.
- Corporate schools take permission up to class 8 but go on up to class 10.

Views of Panchayat Representatives

- Corporate schools focus on rote learning. Corporate schools charge high fees. People observe others and take loans to admit their students there. There is need to reduce this and have better government schools. Government school campuses should be improved and made green.
- Government schools are good. They have qualified teachers. My daughter goes to a government school. Corporate schools have poorly qualified teachers. In corporate schools, there is more pressure on reading and writing, no sports. Parents are only concerned with marks. No students from corporate schools attend sports competitions.

Additionally, there were instances of rent-seeking or corruption in both the states. Rent-seeking led to harassment of private individuals who wanted to run genuine schools. A representative of an association of small private schools in AP (not corporate schools) commented:

> *There is a lot of corruption in registration. It should cost Rs 5,000, but the bribe is up to Rs 2-5 lakhs. There are many no-objection certificates to be obtained, for sanitation, traffic, building safety, etc. Bribes have to be paid for each at various desks. There is no option. When new sections are added, again recognition is needed, and more bribes have to be paid.*

In Rajasthan, a Zilla Parishad member claimed the following:

> *The mid-day meal supply has been given to a contractor and there has been a deal (between the contractor and officials).*

4.6 The Fault-Lines

The above structure, human resources, and working style resulted in a governance and support system with severe constraints. The fault-lines of this system framed the functioning of the schools and set limits to what they could achieve. These fault-lines are described in this section.

4.6.1 Marginalisation of the Core

A key problem with the governing and supporting institutional structure in both states was that the very core, i.e., learning, remained at the periphery. While for elementary education, a supporting academic structure in the form of SCERTs and DIETs was at least in place, this was not the case for secondary education, where activities such as making curricula and textbooks, training teachers, etc., were carried out by institutions such as examination boards and administrative offices, i.e., institutions for which these were not the core mandate. An exception was that in AP, SCERT was the lead academic for classes 9 and 10; however, even here, there was no consistent academic support at the district level. Thus, even the basic structure to support academic quality did not exist.

However, making SCERTs and DIETs responsible for academic support at the secondary stage was a necessary, but hardly sufficient condition. As noted above, these institutions lacked appropriate expertise, and were staffed casually, by posting personnel of appropriate seniority without regard to suitability in terms of knowledge and experience. In fact, through the patronage system in postings, at times, highly unsuitable personnel were posted in these institutions. Further, there was no system of training the top-most administrators and resource persons in education. As noted above, a consistent engagement with non-government resource institutions in AP had led to many personnel within the system acquiring a deeper understanding, but this was not adequately institutionalised as such personnel could be shifted at any time. In other words, there was ad hoc and patronage-based human resource management.

As there was little capacity to support schools in creating a learning environment, consequently, there was a general absence of discourse on learning issues. In Rajasthan, it was not easy to discuss pedagogic issues. When officials were asked about the quality of education, they tended to talk about infrastructure, monitoring etc. Moreover, in Rajasthan, political priorities ensure that there were no pedagogic reforms to match the administrative reforms, which meant that the positive impact of the latter was negated.

The importance of hierarchy and placing academic organisations under the control of administrators in top positions in organisations meant that administrative issues, rather than learning, gained importance. For instance, when a senior official in AP was asked to identify important policy decisions in the past five years, the reply was as below:

> *The most important policy decisions since 2014 have been bicycle distribution, kriya awards, biometric attendance, etc.*

When officials and teacher educators were asked to describe characteristics of an ideal school, they mentioned non-pedagogic issues a significant number of times (Table 4.3), and appropriate infrastructure was a characteristic identified most often.

TABLE 4.3: Perceptions of Ideal School of Officials and Teacher Educators

Characteristic	Number of Officials Reporting		
	Andhra Pradesh (AP)	Rajasthan	Total
Teachers and staff	4	6	10
Full staff	3	1	4
Good headmaster	1	2	3
Staff should be present full time		1	1
Teachers passionate about teaching		1	1
Should have a psychologist		1	1
Good enrolment	1	1	2
Infrastructure and equipment	9	5	14
Good infrastructure, drinking water, space, garden, and cleanliness	6	4	10

Teaching-learning material (TLM), laboratories, digital and virtual classrooms, computers,	3	1	4
Results and achievement	0	3	3
Children's learning levels should improve		1	1
Should have good results		1	1
Enables students to get a job immediately		1	1
Regularity and discipline	3	1	4
Teaching calendar is followed	1		1
Regular	1		1
Targets and supervision	1		1
Children's discipline should improve		1	1
Pedagogy and child	4	4	8
Latest teaching methods are used	1		1
Social and cultural activities, student committees	1		1
Teachers and students are friends, and there is congenial atmosphere, equitable atmosphere, and child centred education	2	2	4
Bring out child's potential		1	1
Should use real life examples		1	1

When the same interviewees were asked the characteristics of a good teacher, they were more likely to talk of teaching styles (Table 4.4). However, many responses were basic, such as "knowing the subject well", and administrative matters such as regularity and punctuality were mentioned often too.

TABLE 4.4: Perceptions of Ideal Teacher of Officials and Teacher Educators

Characteristic	Number of Officials Reporting		
	Andhra Pradesh (AP)	Rajasthan	Total
Number of Interviewees	7	7	14
Subject Expertise	4	3	7
Expert in subject, handles subjects well, imparts knowledge	3	3	6
Well-versed in teaching	1		1
Personal qualities	1	2	3
Honest, hard-working, sincere	1	2	3
Fulfils formal obligations	5	2	7
Regular and punctual	2	1	3
Undergoes training	1		1
Completes syllabus	2		2
Helps Scheduled Caste/Scheduled Tribe (SC/ST) students to obtain certificates		1	1
Motivation	0	1	1
Passionate about teaching		1	1
Teaching Style	7	0	7
Plans for the year and the lesson	2		2
Does not stick to textbook, uses TLM, teaching aids	4		4
Uses different teaching techniques, joyful learning	1		1
Child-centric	3	7	10
Allows students to participate, creates good environment, takes children's level into account, is child-centric, is involved with child, focuses on child as per need, and connects with students,	2	5	7
Promotes inquisitiveness, and children should be active		2	2
Pays attention to backward students	1		1
Achievement	1	0	1
Students' learning improves	1		1

In other words, in the very vision of the school system, ideas about education and learning were not well-developed. Notably, in both states, learning levels were understood through examinations and outcomes of national achievement surveys. In the latter, several interviewees

mentioned the rank obtained by the state, but no interviewee talked about areas where the states was strong or poor, and possible strategies to address these.

The marginalisation of academic work was visible at the grassroots too. For example, in Rajasthan, in a sample block, an academic resource person said that they looked at the following issues during school visits:

- Children's attendance
- Whether the teacher has made a plan and actually works as per the plan
- Midday meals
- Whether School Management Committee (SMC) meetings are held or not
- Children's progress.

When asked about the main activities for secondary education, he reported these as follows:

- Camps to give benefits for the physically handicapped
- Bicycle distribution
- Prises: Gargi Puraskar, Merit certificate, Inspire Puraskar, laptops
- Board exam preparation: Pre-board exam
- Hostels: Kasturba Gandhi Balika Vidyalayas (KGBV) hostel, ST (Schedule Tribe) hostel

Moreover, in Rajasthan, some interviewees pointed out that the designation of school principals as PEO was yet another diversion of academic resources to administrative tasks. In AP, members of various teachers' unions commented:

> *High school headmasters are involved in the midday meals, school accounts, rallies, and toilet cleaning. Twenty-nine online applications have to be uploaded daily. Now, there is a pilot project for photo attendance for midday meals. The supervision too is on non-academic issues. In the school, two teachers are usually busy uploading information.*

4.6.2 Scope for Substantive Work

The scope for meaningful work was whittled. The skewed motivation structure, produced as a combination of extremely slow, seniority-based promotions and patronage-based postings, was a deterrent to good work. Because of patronage-based postings, there were frequent changes in leadership, which led to discontinuities in work. For example, since 2008, i.e. in the last decade, AP had had had nine Commissioners of Education and in Rajasthan, there had been eight Directors of Secondary Education. Additionally, district and block officials interviewed complained that patronage-based transfer and posting made it impossible for them to discipline errant teachers and this impacted the working ethos adversely. The incentive structure became skewed, and people did well by pleasing patrons, and not through hard work.

In addition, inadequate staff, combined with excessive centralisation and hierarchy meant that officials tended to focus on tasks that were urgent, or monitored closely from the top level—that is to say they focused on what was urgent, instead of the most productive. Many tasks were performed poorly. For example, in AP, a state level official said that DIETs 'somehow did DEd'. A sub-district level official commented:

> *I need more support. I have to prioritise every day by looking at the important work next day, on a day-to-day basis.*

An official in Rajasthan commented:

> *The PEO now draws the salary of teachers. But the PEO does not have enough staff. There should be a vice principal, who can pay attention to the school while the PEO does more monitoring etc.*

Another field level official in Rajasthan claimed:

> *There is a shortage of clerks. These are not there in 50% of the schools. Salary bills etc. are made in shops, which is against official rules.*

A state level official in Rajasthan commented:

> *I am not satisfied with the performance in IED programme. Schools are quite far away, and the available workers are not able to address needs. The staff is inadequate. The staff is provided through a private agency. They are discontinued in the summer, and that means that no work can be done during that time.*

Centralisation meant that officials could not respond to needs from the ground or use resources optimally. A state level official dealing with CWSN explained:

> *The Rights for Persons with Disabilities Act 2016 identifies 21 disabilities. But the number of cases that we can cover depends on GoI approval. The funding is restricted to Rs 3,500 per child. We can either give scholarships or escorts.*

In Rajasthan, an official commented:

> *In Sharade hostels, every year there is a saving from the funds. But we cannot use it as we would like to for RO water supply, water heaters, and to replace old mattresses, etc. The Parishad has not given permission.*

In the state open school in Rajasthan, there was no attempt to use the left-over money for better contact programmes, increasing outreach etc.

Junior officials could not prioritise their substantial work over demands of senior officials for less important work. A junior official commented:

> *I have a heavy workload. My schedule is not under my control as the senior officials are always calling. I do not get time for school visits.*

A district-level official in AP comment:

> *Sixty per cent of my time goes in administration, and 40% on school supervision. I am not able to attend to academic issues.*

Another official commented:

> *Most of time is spent in meetings and reviews with senior officers. Everyone wants data immediately. There are video conferences, tele conferences, and direct conferences. There are too many messages—sometimes, a hundred in a day. It is not possible to tour.*

4.6.3 Importance of the individual

The importance of hierarchy, inadequate mechanisms for analysis and strategy formulation, as well as the play of patronage meant that individuals, rather than systems, were important. A senior official in Rajasthan commented:

> *To generate new ideas, we don't have any special system for consultation, etc. New ideas are generated during field visits, and in other ways.*

Working methods were often highly personalised, and the whole environment of an institution could change dramatically with change of leadership. An official in Rajasthan commented about a very senior official:

> *The officer is much admired. He provides leadership and has commitment. He communicates up to the principal level. He starts monitoring from 7:30 am. This is good for the department. He tries to identify root causes. He responds quickly on WhatsApp. I don't know if we will get the right leadership later.*

Another senior officer in AP commented:

> *In my opinion, the key factor in how well a school runs in the involvement of the headmaster. Things are good where the headmaster is active.*

An officer who had successfully battled out political pressures in Rajasthan commented:

> *You need a strong officer for to fight pressures. A political lobby was against me and made my life miserable.*

4.6.4 Dominance of Commercial Interests

The inadequacy of human resources on the one hand, and patronage and rent-seeking on the other, reduced the capacity to regulate commercial interests in the interest of good education. This was visible starkly in AP, where corporate schools dominated secondary education. The RIO provided for inspection of inter colleges was part-time.

For classes 9 and 10, district officials reported that they had limited interaction with private schools as they remained busy with government schools. The political importance of the corporate school lobby, and the constraints on officials' actions responsible for regulating corporate schools, have been noted above.

Examination-oriented corporate schools were so important that they had even reduced the space for smaller private schools that ran on more sound educational principals. Promoters of smaller private schools too resented the corporate schools and claimed that the government colluded with them. A representative of an association of small private schools in AP commented:

> *Corporate schools take recognition for one branch, then open several. The government is behind them. The government is closing small private schools. Government does not want independence and freedom. Small schools are threatened during inspections, etc. Smaller schools are closing down. In the last five years, 10% to 20% of smaller schools have closed down.*

Thus, corporate schools blocked real education in AP, both in the public and private sector, converting the education system of the state into a massive coaching class for a very large number of students. Notably, corporate schools had first made their entry at the intermediate stage of education—a stage, as noted earlier, informed neither by the discourse in school education nor in higher education. Subsequently, the promoters became rich and politically powerful, and spread into other stages of education too, and now reached out to toddlers aged two and a half years.

Another important way in which patronage and rent-seeking influenced school education was the existence of a large number of dubious private 'teacher training' colleges in both states. Senior officials were aware that these colleges were not real educational establishments. A state level official in AP commented:

> *Private teacher training colleges are certification shops. The students don't actually attend classes. These colleges have infrastructure but only part-time faculty.*

In Rajasthan, coaching centres for the REET examination to select teachers, impacted government working. Dissatisfied candidates often filed court cases against the outcomes. Officials claimed that coaching centres supported these cases, as when a REET exam got cancelled, people came back to get coached. An estimated 8.5 lakh students sought coaching for REET annually, and a whole coaching centre mafia had developed.

Rent-seeking also meant that the capacity to regulate private school was whittled. A senior official in AP commented:

> *There is not much regulation of private schools. It is not systematic and there is corruption. For instance, the MEO has the power to approve private schools up to class 6. I don't know what the MEO does. There are also other types of practices. We have found that high scorers from government schools give exams from private schools, and low scorers from private schools give exams from government schools.*

4.6.5 Community and Students seen as "Problematic"

Finally, the problems with the system vitiated community relations. Students in government schools came from the less well-off sections of society. However, as noted above, government institutions had no specialists who were skilled in promoting learning in this context. Unable to foster learning of students, many officials and teacher educators saw the community as problematic (Box 4.11). Parents were seen as uncaring of education, too poor to support children, or overly interested in private schools.

BOX 4.11: Views of Officials and Teacher Educators on Students, Parents, and Community-Student relationships

- After completion of class 10, only students whose parents are educated are prepared for classes 11 and 12. But usually, the staff complains to the principal about how little in-coming students know.
- Some tribal children do not join high school because of migration.
- Scheduled Tribe (ST) parents are not serious about children's schools.
- The main problem is parents who want to send their children to private inter-colleges. Now, some parents are cutting back on private colleges.
- The School Management Committee (SMC) is not effective. Parents are generally not interested. Only 30% to 40% of the parents come to the parent-teacher meetings. There is also a Parent Teacher Association (PTA) meeting every three months and everyone is called. This is also not very successful.
- SMC exists only on paper. People don't care. Meetings are called to generate contribution. When we give training to SMCs, they come only for the food etc. The SMC should be empowered. There is not enough training.
- Most parents are supportive of children with special needs, but some cannot be because of poverty.

Thus, rather than creating a school system tailored to the needs of children from less well-off backgrounds, officials and teachers saw them as 'problems', because they did not have the tools to teach such children.

4.7 Conclusions

The governing and supporting institutional structure for secondary education had significant shortcomings. Structurally, the academic support structure was patchy and inadequate, i.e., organisations to support some types of activities simply did not exist, while some activities were undertaken by organisations where these were not the core mandate. Moreover, the supporting structure was especially weak at the district level and below.

The personnel structure was characterised by lack of expertise, especially in pedagogy and the needs of marginalised children. Appropriate expertise in public administration such as human resource management and community participation was missing too. Moreover, there were a large number of vacancies in academic organisations. In addition, several field level organisations had very scanty staff. Further, the personnel management policies created an adverse incentive structure. Promotions were slow and seniority based. Postings were not based on expertise or interest. Instead, political patronage played a critical role, especially in Rajasthan, though in AP, at junior levels, there was transparent system for postings. Consequently, the two states were unable to use the talents that they had within the system. Moreover, neither state provided opportunities for professional development to teacher educators and senior-most managers.

There was a high degree of centralisation, leaving little scope for context-specific activities. Hierarchy was emphasised and academic organisations were placed under the supervision of administrators. There was stress on monitoring and discipline, rather than facilitating teachers. Given the lack of appropriate expertise, neither state conducted research or analysis on pedagogic issues. Instead, information generated was oriented towards managing, accounting, and reporting. Both states focussed on using digital technology, created online databases. In AP,

several management processes had been digitised, and online courses to enable the professional development of teachers had been created as well. However, excessive enthusiasm about technology meant that it was sometimes rolled out hastily and functioned poorly. Further, the use of technology gave an appearance of modernisation and efficiency but did not compensate for the lack of research and analysis on core issues. Moreover, in an already over-centralised system, technology had been used to centralise further through more rigorous monitoring.

There was political interference in day-to-day working. In Rajasthan, officials reported that action against errant teachers was often followed by political pressure to withdraw. Moreover, with a change of government, textbooks had been revised, leading to intense media and public criticism. In AP, the most important manifestation of political patronage was that chains of private schools, known as 'corporate schools', focussed on preparing students for entrance examinations to engineering colleges, dominated the education scenario at the secondary stage. These schools flouted pedagogic principles and fleeced people. Though officials were aware of these questionable practices, they felt powerless to check them, as the promoters of corporate schools exercised considerable influence at the very top levels of government.

The above institutional structure, human resources and working processes resulted in fault-lines in the system that constrained it in achieving goals. One, the central goal, i.e., learning, remained at the periphery because of lack of expertise. For example, there was a general absence of discourse on learning issues among school administrators and teacher educators. Two, the space for substantive work was reduced. The employee motivation structure, produced by a combination of slow, seniority-based promotions and patronage-based postings, was skewed. Employees gained little by working hard. Centralisation meant that officials could not respond to contextual needs or use resources optimally. Officials focussed on tasks that were monitored closely from the top, rather than those that were the most productive. Three, the importance of hierarchy and patronage meant that individuals rather than systems were important. Moreover, there were frequent changes in leadership, which led to discontinuities in work. Four, commercial interests often became dominant, as inadequate human resources, combined with patronage and rent-seeking, reduced that capacity to regulate commercial interests. Finally, relationships with the community were vitiated, as the skills to respond to the needs of the children who attended government schools, mainly from socio-economically marginalised sections of society, did not exist.

These fault-lines led to a system largely capable of performing simple administrative tasks i.e., erecting school buildings, providing mid-day meals, and scholarships, and so on. However, it was not a system that was geared towards the complex task of delivering high-quality education, especially to children from the under-privileged backgrounds that it served.

Chapter 5

Secondary Education in Rajasthan: A Qualitative Study

Authors

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5 Status of secondary education in Rajasthan

Rajasthan has certainly made considerable progress in the last decade and a half. As evident in Gross Enrolment Ratios (GER) at various levels, many more children of all age groups are enrolled in school. While GER is not the best indicator (because it includes overage and underage children at each level reported), what is obvious is that children's participation in elementary has improved significantly. Secondary school enrolment has also gone up steadily, especially among the Scheduled Castes (SC) and Scheduled Tribes (ST) communities. Another important factor to note is the gradual narrowing of the gender gap in Rajasthan, especially up to secondary school. Yet, it is important to acknowledge that secondary education participation remains below the national averages. In 2011, the ratio of elementary to secondary schools was 2.41 in Rajasthan, which is lower than the national average of 2.67. At the secondary to higher secondary level, the ratio of 2.90 in Rajasthan is slightly better than the national average of 2.42. It is, however, the density of schools per sq km that would be a key determinant to assess the issue of access to secondary and higher secondary schooling, particularly for girls. In Rajasthan, access to secondary level education is at 0.68 per 10 sq km radius, which is marginally higher than the national figure of 0.61. However, at the higher secondary level, access is at 0.23, which is lower than the national average of 0.25[1]. Since 2011, the number of schools has gone up marginally. As of 2014-15 there were 7,914 secondary and 5,588 higher secondary schools; by 2018-19, the number of secondary schools went down to 4,057 and higher secondary schools went up to 10,090 (Table 5.1); however, there has been little difference in the ratio of elementary to secondary schools. According to the most recent PAB of Government of Rajasthan, GER Secondary has "increased from 76.06% in 2015-16 to 78.45% in 2016-17." (Government of Rajasthan PAB 2017-18, Jaipur)

Table 5.1: Number of Secondary and Higher Secondary Schools

Year	Secondary	Higher Sec	Total
2007-08	3,398	2,925	6,323
2010-11	8,063	3,135	11,198
2012-13	7,446	3,005	10,451
2013-14	6,816	3,624	10,440
2014-15	7,941	5,588	13,529
2015-16	4,231	9,458	13,689
2016-17	4,269	9,783	14,052
2017-18	3,802	9,884	13,686
2018-19*	4,057	10,090	14,147

Source: State Report (Unified District Information on School Education-UDISE)
*Sourced from Raj Patrika, 11 July 2019

1 *National University of Education Planning and Administration (NUEPA), Rajasthan Secondary Education Management Information System (SEMIS) data, 2010-11.*

Table 5.2: Gross Enrolment Ratios (GER) various levels by social group, Rajasthan

Gross Enrolment Ratio	ALL			SCHEDULED CASTE			SCHEDULED TRIBE		
2004-05	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
CLASSES 1-5	125.4	116.66	121.24	131.48	121.27	126.66	105.81	99.97	103.01
CLASSES 6-8	84.82	54.8	70.67	80.93	48.06	65.54	86.67	51.01	70.01
CLASSES 9-10	57.98	27.94	43.91	45.46	19.63	33.63	39.03	14.65	27.55
CLASSES 11-12	28.58	13.6	21.59	21.37	8.16	15.58	25.44	7.77	17.07
HIGHER EDUCATION	7.55	4.31	6.04	5.74	2.04	4.04	7.17	1.93	4.61
2010-11	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
CLASSES 1-5	110.3	109.5	109.9	123.3	124	123.6	135.8	127.8	132
CLASSES 6-8	91	73	82.4	93.7	76.5	85.6	91.1	71.2	81.6
CLASSES 9-10	72.4	50.1	61.8	64.6	44.8	55.5	58.1	44.3	51.5
CLASSES 11-12	61.2	40.8	51.5	53.8	36	45.7	28.7	18.9	23.9
HIGHER EDUCATION	20.9	15.2	18.2	13.5	8.5	11.2	15.7	10.3	13
2015-16	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
CLASSES 1-5	101.27	99.48	100.43	107.61	105.33	106.54	107.8	105.7	106.7
CLASSES 6-8	91.46	91.21	91.34	94.91	95.11	95.0	92.55	89.36	91.08
CLASSES 9-10	81.15	70.12	76.06	80.28	70.87	75.98	78.3	73.76	76.0
CLASSES 11-12	56.0	56.0	56.2	58.21	45.99	52.63	62.03	49.3	55.92
HIGHER EDUCATION	21.8	18.5	20.2	16.7	13.4	15.2	16.9	13.5	15.2

Source: Selected Educational Statistics (SES), Government of India, various years, and Education Statistics as a Glance 2018, Ministry of Human Resource Development (MHRD), Government of India.

Net Enrolment Ratio (NER) is considered a more realistic estimate of the percentage of children from a specific age cohort attending school. Recent estimates from NITI Aayog of Government of India (GOI) has published the NER at various levels. The figures reported are not disaggregated by gender or social group; however, they reveal close to 30 percentage point difference between GER and NER. The most recent Project Approval Board (PAB) report of the Government of Rajasthan states that Secondary Education NER was 42.19% in 2016-17. Equally significant is that dropout rates (from elementary to secondary) went up from 3.28% in 2015-16 to 3.52% in 2016-17 (Table 5.3).

Table 5.3. Net enrolment ratios for various years

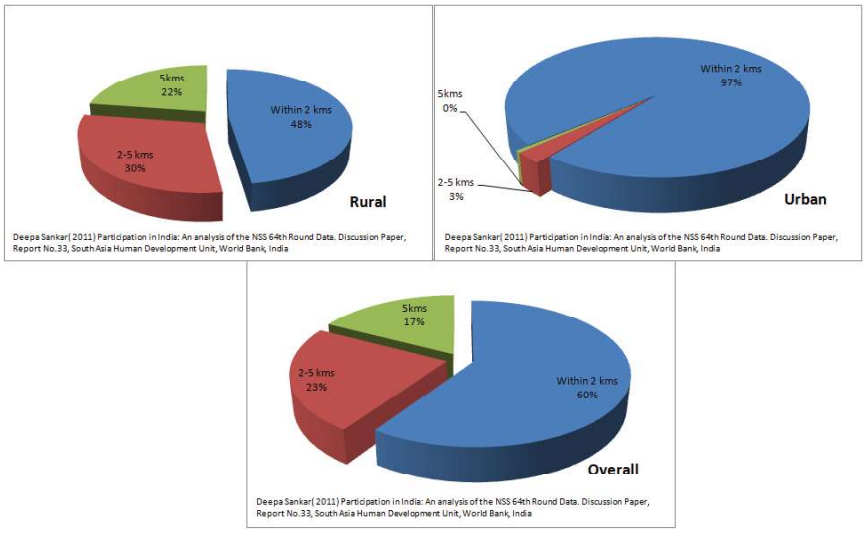
(Male & Female)	Secondary				Higher Secondary			
State	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
Andhra Pradesh	**41.31**	**43.56**	**42.82**	**52.29**	**27.57**	**37.58**	**31.84**	**24.8**
Jharkhand	**35.97**	**44.38**	**47.12**	**49.61**	**15.5**	**26.97**	**30.53**	**28.43**
Rajasthan	**36.47**	**41.04**	**39.79**	**41.14**	**21.37**	**27.34**	**30.02**	**29.82**
Uttar Pradesh	**33.27**	**36.67**	**40.09**	**41.98**	**25.64**	**34.18**	**37.07**	**33.91**
India	**41.9**	**45.63**	**48.46**	**51.26**	**23.73**	**30.43**	**32.68**	**32.3**

Source: NITI Aayog, 2018

In Rajasthan, as elsewhere in the country, the focus and thrust on strengthening secondary school sector is a fairly recent phenomenon. Unlike other states in the country, since 2014, Rajasthan has only two types of schools: schools that are run by government and schools that are under private management. There are no government-aided private schools.

It is important to note that in Rajasthan the government remains a significant provider of secondary and higher secondary education. In 2010-11, 51.81% of secondary schools and 37.16% of higher secondary schools were government schools[2]. Unlike other states where government-aided private schools are also important educational providers, in Rajasthan, the responsibility of provision of secondary education for marginalised groups, in particular, rests squarely on the government. The responsibility of ensuring equity in access also lies equally with the government. Access measured by distance to a secondary school clearly brings out the disadvantages in rural and remote areas. In urban areas, physical access is assured because only a very miniscule proportion of schools are located more than 5 km away from the residence of the students.

Figure 5.1: Access to higher secondary school



Access, however, remains a major challenge in some difficult areas/districts such as Barmer, where the distribution of schools is in favour of urban and peri-urban areas. While an increase in the numbers of schools improves physical access, it still leaves the thorny issues of social access untouched. In a state like Rajasthan, which has strong conservative cultural traditions, social access issues are equally important in determining access. A study by National Council of Educational Research and Training (NCERT) (2010-11) that explored barriers to secondary education of Muslim girls validates the finding of this study that social distance exerts as important an influence on educational participation as physical access[3]. The NCERT study (2010-11) showed that both non-availability of secondary schools as well as non-availability within areas perceived by communities as 'safe' serve as major impediments to Muslim girls' secondary education.

In a recent study done by Educational Resource Unit (ERU Consultants Pvt. Ltd.), the location of the secondary school just beyond the defined boundaries of the Muslim ***mohalla*** (neighbourhood) in Ajmer meant that girls' access to the school was restricted. The situation was similar in a rural school located in Baran district, a tribal area, where location was one of the key determinants of enhanced access and participation of girls from the tribal community. The presence of a girls-only (instead of a mixed/co-educational school) secondary school situated in the heart of a

2 Government of Rajasthan (2011-12) Shiksha ki Pragati (Progress of Education in Rajasthan), Directorate of Secondary Education, Bikaner.

3 National Council of Educational Research and Training (NCERT) (2010-11). A study of barriers in secondary education (classes IX & X) to Muslim girls' education. The study conducted a survey in four districts of Rampur, Bijnor, Barabanki and Baharaich districts of Uttar Pradesh.

tribal concentration area meant that many more girls from the tribal community were in school. Quite clearly, a detailed mapping of where secondary schools need to be opened or upgraded is required to address both locational disadvantages as well as perceived social distances from the mainstream. (Kameshwari Jandhyala et al., 2014)

In Rajasthan, by and large, co-educational higher secondary schools are known as 'boys' school'. The term boys' school (used as a generic term) is a misnomer because girls are admitted if a girls-only higher secondary school is not accessible or girls want to pursue specific subjects such as science and maths (or mathematics) that are offered only in boys' schools. In all data sets, however, they are referred to as boys' schools, inadvertently, perhaps reflecting the existing gender bias.

The number of girls-only secondary schools is very limited in the state as a whole, and it was evident in the sample districts as well. In 2011-12, for instance, there were only 557 girls-only secondary schools against 15,150 for boys in the state. At higher secondary level, there are 779 girls-only schools against 7,741 boys' schools (all boys schools are coeducational schools). The importance of government-managed schools for the education of the poor, especially girls and girls from SC/ ST groups is clearly evident. This is a trend that has been widely commented on for other parts of the country as well[4]. In Rajasthan, for instance, in 2011-12, out of a total enrolment of 41.3% of girls at the secondary level, nearly 60% were in government schools. The numbers are significantly higher for SC and ST girls at 69.49% and 79.2%, respectively, and this trend continues at the higher secondary level as well.

5.1 Teachers, especially women teachers

Over the years, especially since 2008, a number of efforts have been made to recruit secondary school teachers (as evident in Table 5.4 below). Notwithstanding these efforts, headmasters and teachers informed us that a shortage of teachers continues, especially for specific subjects.

Table 5.4: Major Recruitment drives for Secondary school teachers in the state in last ten years

Year of Recruitment	Posts	Number of Post filled	Recruiting Agency	Status
2008	Teacher Grade II	8,900	Rajasthan Public Service Commission (RPSC)	Process completed
2011	Teacher Grade II	11,000	RPSC	Process completed
2014	Teachers in Grade II & III	Teacher Grade II -9,000 thousand Teacher Grade III-20,000	Rajasthan Subordinate Service board	Completed
2013	Teacher Grade II	9,176	RPSC	Process completed
2015	Teacher Grade II	211	RPSC	Process completed
2016	Teacher Grade II	9,488	RPSC	Process completed
2018	Teacher Grade II	838	RPSC	Exam conducted in November 2018 and result is to be declared. Result withheld due to reservation issues.
2018	Teacher Grade II	8,162	RPSC	Exam conducted in November 2018 and result is to be declared. Issues related to reservation are pending in the court and are likely to take some time to be resolved.

4 Ramachandran, V. (2004). Gender and Social Equity in Primary Education: Hierarchies of Access (Ed.). New Delhi: Sage Publications.

The availability of women teachers at secondary level remains an important area of concern in Rajasthan. Shortage of teachers, in general, at secondary level is due to delays in recruitment, which are often a result of pending cases challenging the recruitment processes and the lack of a clear policy on time bound recruitments. Moreover, even when teachers are recruited, fewer women get selected due to various reasons despite the fact that there are no procedural or legal hurdles in appointing women. The cumulative impact of gender inequalities at elementary, secondary, and college levels ultimately determines the availability of women teachers. Furthermore, there are fewer women teachers available to teach science and maths. Given the social and gender relations prevalent in the society, where social and gender subordination are embedded in the social fabric, the issue of women teachers takes on a particular significance, which will be delineated in this section.

The deployment pattern of teachers shows that the presence of women teachers is much better in urban areas. However, there are sharp variations across districts, and even within districts. Overall, the number of women teachers at secondary level has increased at a very slow pace. In 1990-91, the percentage of women teachers at secondary and higher secondary level (all managements) was 22% and 25%, respectively; this improved slightly to 28.9% and 29.3% in 2011-12[5].

As one intersects gender with social categories, the gaps between social classes stand out just as sharply as the gaps between genders. The presence of women teachers from SC/ST communities is strikingly low. In Rajasthan, among the women teachers at the secondary level, only 7.7% belong to the SCs and 4.8% belong to STs. This disparity is reflected among women teachers at the higher secondary level as well where, in 2011, only 7.44% belonged to SCs and 3.73% belonged to STs. It may be pertinent to point out here that the low representation of SC/ST women teachers is mirrored in the case of SC/ ST men as well.

There is a paucity of women maths and science teachers. Girls, especially girls from the marginalized communities, have limited access to science and maths education as the government girls' schools they depend on often do not offer these subjects. Furthermore, the social perception shared both by communities and the girls themselves are that maths, in particular, is beyond the inherent capabilities of girls.

The above problem reflects itself in availability of science and maths options at the higher secondary and collegiate level and in enrolments in these subjects as well. This imbalance gets further exacerbated at the BEd (Bachelor of Education) level and thus results in very few women teachers of science and maths being trained and being available as teachers. The vicious loop then restarts and over time, the cumulative impact of a gender imbalance in science and maths education assumes huge proportions.

Nationally, as in Rajasthan, there seem to be growing disparities in higher education, in enrolment in different academic streams. Except in the Arts stream in Rajasthan, enrolments are significantly lower in the science and commerce streams than the national averages (see Table 5.5 below).

Table 5.5: Enrolment by academic discipline in higher education, Rajasthan 2008

Academic stream in higher education.	National Average	Rajasthan
Arts	60.15	64.7
Science	23.77	14.3
Commerce	16.8	13.5
Other		7.5

Source: National Assessment and Accreditation Council (NAAC) (2008),
Analysis of peer team reports of accredited institutions of Rajasthan: Issues and Strategies, Bangalore

5 Government of Rajasthan, Shiksha ki Pragati, Board of Secondary Education, 2011-12

The low percentage of women teachers in science and maths reveals that there definitely seems to be a trend towards some subjects believed to be beyond the reach of women. In the popular perception, there is gendering of subjects, wherein science and especially, maths, are seen as primarily "male" and "hard" subjects and humanities/arts are seen as "soft" subjects suitable for women, both to teach and to opt for in schools and colleges.

Accessibility to science stream is directly related to the presence of science faculty at the senior secondary level. As the situation stands, there is a shortage of teachers on the whole, which is further complicated by the issue of fewer teachers for science and maths at secondary and college levels. Particularly at the secondary level, schools are constrained from offering science/maths stream to children if teachers are not available in those subjects. And if the majority of students take Arts, then the demand for art subjects continues at undergraduate level and is further sustained at teacher-training colleges.

Not surprisingly then, there are very few women available for science faculty, especially physics and maths. The research team encountered this problem when they were selecting a rural senior secondary school offering science stream to girls. There were few such schools, and the team had to go to another block to select a school. This itself is indicative of the severity of the issue that science stream is not offered in quite a few secondary schools as faculty is not posted there or is not available or if posted, had asked to be transferred out.

Table 5.6: Social profile of enrolment in secondary schools 2011-12

	Secondary			**Secondary**
	Total Enrolment	Enrolment in government schools	Total Enrolment	Enrolment in government schools
Girls	41.3	59.75	38.27	42.26
Scheduled Caste	40	69.49	36.5	55.12
Scheduled Tribe	42.2	79.2	36.9	58.57

Source: Government of Rajasthan (GOR) Shiksha Ki Pragati, 2011-12, Board of Secondary Education

Table 5.7: Teacher training colleges, by district

S.N.	Name of District	Number of Training Colleges
1	Ajmer	25
2	Alwar	65
3	Banswara	13
4	Baran	5
5	Barmer	7
6	Bharatpur	30
7	Bhilwara	11
8	Bikaner	15
9	Bundi	7
10	Chittorgarh	12
11	Churu	38
12	Dausa	25

13	Dholpur	19
14	Dungarpur	4
15	Hanumangarh	34
16	Jaipur	147
17	Jaisalmer	4
18	Jalore	14
19	Jhalawar	10
20	Jhunjhunu	0
21	Jodhpur	43
22	Kota	29
23	Nagaur	40
24	Pali	12
25	Rajsamand	5
26	Sawai Madhopur	10
27	Sriganganagar	35
28	Sikar	97
29	Sirohi	9
30	Tonk	16
31	Udaipur	48
32	Karauli	12
33	Pratapgarh	3
	Total	**844**

5.2 Secondary education and child marriage

Child marriage has been a serious challenge in Rajasthan. As evident in the discussion (refer to Chapter 2 of this report on secondary education and child marriage), there is a two-way relationship between child marriage and secondary education. While it is not possible to establish causality between the two, the fact remains that as basic elementary education (up to class 8) became more prevalent and popular, very early child marriage (meaning before the age of 14) gradually went down. While there may not be a similar trend in marriage of children from the age group 14-18 years, there is enough qualitative evidence to show that participation in secondary education could have a positive impact on marriage. As we will discuss in subsequent sections, based on the survey and in-depth qualitative interactions, girls said that opportunities to study beyond elementary decreased the pressure on families to get their daughters married. Equally revealing is that even when girls do get married, the formal Gauna (akin to consummation) ceremony is often delayed if the girl is studying. As per National Family Health Survey (NFHS) 4, there has been a significant drop in the marriage of girls in the age group 15-19 years—it was 40.4 in NFHS 3 (2005-16) and dropped to 16.2 in NFHS 4 (2015-16) (National Analysis of Child Marriage and Teenage Pregnancy Based on NFHS 4 (2015-16), by Young Lives and National Commission for Protection of Child Rights - NCPCR, New Delhi). Another important insight is that child marriage is far more prevalent in rural areas than in urban areas of Rajasthan. What is quite significant for us, in terms of gender and social equity, is that the prevalence of child marriage across different castes is very revealing—the highest prevalence of

child marriage is among the Other Backward Class (OBC) community at 55%, followed by SC at 22%, ST at 15%, and Other Castes (forward castes) at 7% (NCPCR & Young Lives, 2018). This textured analysis of child marriage data is in sync with secondary education participation information that we presented, and overall, in Rajasthan, secondary education completion rate is 57.3% (NFHS-4).

Rajasthan has a long way to go in reducing child marriages as at least ten districts feature among the top 100 districts of India with relatively higher rates of child marriage: Bhilwara (36.4%), Chittorgarh (33.1%), Rajsamand (26%), Sawai Madhopur (25.4%), Bundi (25.1%), Tonk (24.7%), Karauli (23.5%), Ajmer (21.1), Alwar (19.4), and Jodhpur (18.9%). As Chittorgarh was a sample district in this study, we may gain some insights from it into the relationship between child marriage and secondary education.

5.3 Brief overview of Secondary Education Policy of Rajasthan

Rajasthan does not have any specific Secondary Education Policy as it is broadly governed by the policies of Government of India with respect to Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and now Samagra Shiksha Abhiyan (SMSA).

Norms used for setting up Secondary Schools

Following Ministry of Human Resource Development (MHRD), GOI norms, the Government of Rajasthan has steadily increased the number of secondary and higher secondary schools in the state. As evident in Table 5.1, in 2007-08, the number of secondary schools were 3,398 and higher secondary schools were 2,925. This went up from in 2018-19 to 4,057 and 10,090, respectively. It may be noted that in 2014-15, the number of secondary schools were 7,941—higher than in 2007-08 and 2018-19, while there were 5,588 higher secondary schools.

Policy shift in 2014

There was a major policy shift in 2014 when all government-aided schools and colleges were discontinued. As a result, many government-aided schools shut down and teachers from those schools were accommodated in the government schools. Today there are only government and private schools as evident in Table 5.8.

Table 5.8: Number and type of schools 2007-08, 2013-14 and to 2017-18

		Type of school									
		PS.	UPS	PS to UPS	PS to Sr. Sec.	UPS to Sr. Sec.	PS to Sec.	UPS to Sec.	Sec. Only	Sr. Sec. with Sec.	Total
2007-08	Dept. of Elementary (El.) Education	52708	278	21383	-	-	-	-	-	-	74369
	Dept. of Secondary (Sec.) Education	-	-	-	861	5346	-	-	-	-	6207
	Dept. of Sanskrit Education	-	-	-	-	-	-	-	-	-	0
	Dept. of Tribal and others	-	-	-	-	-	-	-	-	-	0
	Other Management	4624	22	12383	5490	460	-	-	-	-	22979
	Total	57332	300	33766	6351	5806	0	0	0	0	103555

2013-14	Dept. of El. Education	47389	23125	-	-	-	-	-	-	-	70514
	Dept. of Sec. Education	-	-	-	40	3331	2080	6755	4	1081	13291
	Dept. of Sanskrit Education	731	1001	-	-	-	-	229	-	-	2104
	Dept. of Tribal and others	-	-		-	27	-	4	-	-	31
	Other Management	7579	29356		5715	654	6730	297	20	181	50532
	Total										136472
2017-18	Dept. of El. Education	817	18	18433	-	-	-	-	-	-	19268
	Dept. of Sec. Education	-	-	-	9554	264	3751	51	-	66	13686
	Local Body (Panchayati Raj Institution)	27805		511							28316
	Dept. of Sanskrit Education	383	-	946	115	26	213	11	-	5	1699
	Dept. of Tribal and others	1520	2	6	1	36	1	4	-	-	1570
	Other Management (Social Welfare, Shiksha Karmi School [SKS], Kasturba Gandhi Balika Vidyalayas [KGBV], Madrasa, Central Govt., Private)	8383	199	16881	7780	437	7023	132	-	142	40977
	Total	38908	219	36777	17450	763	10988	198	0	213	105516

Source: Government of Rajasthan, 2019
Note: PS is Primary School, UPS is Upper Primary School, Prim is Primary Schools, and Sr. Sec. is Senior Secondary schools.

This has been a major policy shift that led to reduction in the number of secondary schools available to students.

Regular and Contract Teachers

A scheme of full-time teachers (para-teachers) named Vidyarthi Mitra was created in schools in session 2005-06. The head of the school had full power to recruit Vidyarthi Mitra in the school. However, in 2008-09, the government tried to close the scheme but the teachers working as Vidyarthi Mitra moved to the court against the decision of the government. The High Court ruled against Vidyarthi Mitra and declared the overall scheme of Vidyarthi Mitra unconstitutional. Again, when appeal was made before the double bench of High Court, the final decision was against the scheme and court allowed the state to terminate all Vidyarthi Mitra teachers. In pursuance of the order of the court, it was only in July 2014 that the government closed the scheme and terminated services of all. After dismissal, the Vidyarthi Mitra teachers formed a union and put pressure on the state for reemployment through sit-ins and protests. This agitation gradually died down when the government refused to budget. At one point of time, in 2014, the government agreed to appoint them as teacher assistants at a far lower honorarium of Rs 6,000, and also promised them that if they upgraded their educational qualifications and cleared the mandatory Teacher Eligibility test, they will be appointed as regular teachers. In August 2014, the concerned minister made a statement in the Legislative Assembly that they will create a committee to consider the demands of the Vidyarthi Mitras, including their demand for absorption of entire cadre of Vidyarthi Mitra in the regular grade. However, this never happened, and the issue seems to have died down.

TILOK SINGH & ORS. VS. STATE OF RAJASTHAN & ORS. (S. B. CIVIL WRIT PETITION NO.10339/12) & 89 CONNECTED MATTERS.

Important parts of the decision are as follows:
This Court is firmly of the opinion that the Scheme introduced by the State Government providing for the engagement of even unqualified/untrained persons as Vidyarthi Mitra for their posting against the posts of Teacher Gr. III, Senior Teacher and School Lecturer dehors the relevant recruitment Rules and the eligibility criteria laid down by the NCTE exercising the power under the relevant statute, the provisions of the Act of 2009, and against the constitutional scheme of public employment, cannot but deemed to be illegal, arbitrary and falls foul of Article 14, 21 & 21A of the Constitution of India.
Since the Scheme providing for the engagement of Vidyarthi Mitra against the vacant posts of Teachers is found to be unconstitutional, no directions can be issued by this court to permit the continuance in employment of the petitioners and their likes under the said Scheme, which will obviously amount to perpetuating an illegality. Of course, the petitioners who have discharged the duties as Vidyarthi Mitra but have not been paid the honorarium for the period they have worked are entitled to relief to this extent inasmuch as the State Government cannot be permitted to deny the payment due to them as honorarium for the period they have discharged the duties against the posts of Teachers as Vidyarthi Mitra in various schools run by the State.
In the result, the writ petition No.8154/10 is allowed. The writ petitions preferred by the petitioners assailing their termination from service, claiming continuance/re-employment as Vidyarthi Mitra and against the insistence of the Government for execution of the fresh contract, are dismissed. The Vidyarthi Mitra Scheme introduced by the State Government for engagement of 'Vidyarthi Mitra' on contractual basis on fixed honorarium against the posts of Teachers Gr. III, Senior Teachers and School Lecturers is declared illegal and unconstitutional. The respondents are restrained from engaging the Vidyarthi Mitra under the Vidyarthi Mitra Scheme against the posts of Teachers Gr. III, Senior Teachers and School Lecturers. The respondents are directed to proceed with the recruitment process to fill in all the vacant posts of Teachers and School Lecturers in various services/cadres forthwith and complete the process as early as possible, in any case, within a period of six months from the date of receipt of certified copy of this order. It is made clear that pending completion of the regular recruitment process, the State shall not be precluded from engaging the eligible persons on the various posts of Teachers on urgent temporary basis in accordance with the relevant recruitment Rules. The State shall also ensure that henceforth the determination of the vacancies of Teachers in various services/cadres is made every year as mandated by the relevant recruitment Rules and all efforts shall be made to fill up the vacancies preferably before the next academic session starts in the schools run by the State. The petitioners who have not been paid honorarium for the period they had worked with the respondents as Vidyarthi Mitra, shall be paid the amount due within a period of two months from the date of receipt of certified copy of this order. It is made clear that on account of the Vidyarthi Mitra Scheme being declared illegal and unconstitutional, the petitioners and their likes who had worked with the respondents as Vidyarthi Mitra, shall not be deprived of the benefits already accrued to them. No order as to costs.

Source: Ramachandran et al., 2018

School mergers[6]

The National Coalition for Education (NCE) submitted applications under Right to Information (RTI) to all the state governments asking for information on the numbers of schools closed or merged in academic years 2013-14 and 2014-15, with reasons for closure as well as the break-up by school management (government, aided private, and unaided private). It is interesting to note that the NCE received responses from nine state governments. The information received was uneven — as some state collated the information, while in others block or district education officers furnished the information.

Using Unified District Information System for Education (UDISE) information, we extracted data on schools closed in academic years 2012-13 to 2014-15 (Table 5.9). Data reveals that 278 primary schools were shut down during academic year 2012-13, out of which 219 were run by local bodies (Panchayat). The districts of Bikaner (31), Jodhpur (29), Rajsamand (32) and Sikar (33) accounted for a majority of closed or merged primary schools. In the same year, 56 primary with upper primary schools were closed down, out of which 53 were managed by the Department of Education. The numbers of schools managed by government/local bodies that closed increased to 563 in 2013-14 with 234 schools managed by local bodies and 325 by the Department of Education. Furthermore, the number of primary with upper primary schools closed during 2013-14 was 69, out of which 67 were managed by the department of education. The numbers increased significantly in 2014-15 with 13,216 schools closed or merged, out of which 12,042 were managed by local bodies and 1,165 by the Department of Education. The number of primary with upper primary schools closed also increased to 1,736 in 2014-15 out of which 1,732 were managed by the Department of Education. Among the districts that reported a closure of more than 500 primary schools were Alwar (625), Bharatpur (504), Bhilwara (596), Jaipur (715), Jhunjhunu (512), Sikar (682) and Udaipur (541).

It is indeed noteworthy that the information that we have through District Information System for

6 This section is based on a study done by Vimala Ramachandran in March 2016, for the National Coalition for Education (NCE). The report was not published and is available in a draft form with NCE, New Delhi.

Education (DISE) is silent on private schools. Discussions with officials in Rajasthan revealed that data on unrecognised private schools is not collected and that recognised private schools have not shut down.

The NCE team visited the six districts of Alwar, Bhilwara, Sikar, Jodhpur, Rajsamand and Jaipur. They interviewed the district education officials to gather first-hand information on the numbers of schools closed/merged in 2012-13 and 2014-15. What was striking is that the data from the two sources—DISE and the District Education Office (DEO)—do not tally. The reason given for school closures was low enrolment. In Jaipur district, the officials informed that 235 schools were not 'shut down'. We discussed this information with a few teacher union leaders in Jaipur and they also confirmed that low enrolment was an important reason for school closure. They explained that in the late 1990s and early 2000s, a large number of Rajiv Gandhi Pathshalas (RGP) were opened—many of them in villages that already had primary schools. During a field-based study on teacher motivation done in 2005, this issue was highlighted:

Enrolment for classes 1 to 5 went up by 19.69% between 1986 and 1993 and 55.09% between 1992 and 2003. This spectacular improvement may be a product of enrolment campaigns organised over the last 15 years as well as an indicator of changing social values and aspirations of parents. It is noteworthy that the rise has been particularly steep in rural areas and among girls. The disturbing trend, however, is that the rate of increase in the number of schools and teachers has not kept pace with the increase in enrolment. This has led to overcrowded schools and classes, higher student-teacher ratios, increased burden on the teachers, and worsened working conditions, escalating dropout rates at the primary level, especially among rural girls. Given that almost 40% of the children enrolled in class 1 drop out before they reach class 5, the pressure on upper primary schools and secondary schools is far less. Ironically, the rate of increase in the number of schools at the upper-primary (127% between 1993 and 2003) and higher secondary (142.11% between 1993 and 2003) far exceed the rate of increase of schools at the primary level—at -1.19%, it is in the negative. Administrators argue that while the number of formal primary schools has decreased, the number of Rajiv Gandhi Pathshalas have gone up substantially. The number of RGPs stands at 21,306 in 2004—employing an equal number of para-teachers. It is noteworthy that all RGPs are single-teacher schools being run from single rooms[7]. (Vimala Ramachandran et al., 2005)

During the course of the study teachers argued that locations of these schools were based on many considerations. After 2004, the RGPs were regularised as government primary schools, leading to multiple schools in the same village/locality. It is this anomaly that was corrected argue the senior teachers of Rajasthan.

7 Rajiv Gandhi Pathashala, 2003

District / State	2001-02		2002-03		2003-04	
	Enrolment	Centres	Enrolment	Centres	Enrolment	Centres
Tonk District	14,346	428	20,732	332	17,616	342
Rajasthan	7,61,651	21,339	12,13,574	20,559	13,34,435	21,306

Source: Government of Rajasthan, December 2004

Table 5.9: School closure with reasons, Rajasthan, 2012 to 2015

District	No. of Schools	No. of children effected	No. of Teachers effected	Average enrolment per school	Average no. of teachers per school	Stated reasons for closing of schools by officials of DEO/BEO (District Education Office/Block Education Office)
Rajasthan (2012-13 to 2014-15)						
Alwar	36	4955	173	138	4.8	Low enrolment
Bhilwara	597	28665	922	48	1.5	Low enrolment
Sikar	738	14247	2397	19	3.2	Low enrolment
Jodhpur	26	988	156	38	6.0	Low enrolment
Rajsamand	267	82430	1993	309	7.5	Low enrolment
Jaipur	980	No information	No information	739 schools closed due to low enrolment, and 235 schools merged with other schools in the same area		

Source: National Coalition for Education (NCE) Field survey, March 2016

The information obtained by the NCE team in March 2016 cannot be compared with the information or analysis given in the Azim Premji Foundation (2016), because the latter essentially deals with private schools. What is emerging from the Rajasthan DISE and field data is that many government schools (those managed by department of education, tribal or social welfare department and local bodies) have been closed or merged—the reason cited by officials and teachers is low enrolment of students. There is no data to substantiate the oft-made argument that the Right to Education Act (RTE Act) has led to closure of private schools.

Apart from these two significant policy departures, the government of Rajasthan adheres to all the GOI norms prescribed under RMSA and now SMSA.

5.4 Field work and some methodological issues

As this was conceived as a qualitative study to understand the factors that facilitate or impede secondary education participation, it was decided to select one district and two blocks within the same district. The district and blocks were selected by the CBPS team on the basis of it being representative of Rajasthan as a whole. The villages were also identified by the research team of Centre for Education, Research & Practice (CERP) in consultation with the district and block officials.

The data collection happened in two rounds. In the first round, block villages and schools of Kapasan block were covered. In the second round, block villages and schools of Begun blocks were covered. Information and interviews at block and district levels were also collected and compiled alongsideFor data collection in the field, an 11-member team was constituted by CERP: four field investigators and one supervisor, three women members from district headquarters and three field facilitators (boys) at block level. For each village, three investigators worked together. Each three-member team had a member from the CERP state team who had long experience of collection of data for similar studies, a woman who was hired at district level, and a local facilitator.

The supervisor stayed with the team during the whole period of data collection and was senior member of the CERP. In the investigator team, the presence of a woman was ensured so that the team could interact freely with adolescent girls. The team spent five days per village in Kapasan and four days per village in Begun. The principal investigator of CERP and senior members of the research team spent four-five days in the field during data collection.

For institutional mapping of state level institution, CERP assigned the task to its senior members and they went personally to collect the information, and wherever required, interviews were conducted with the officials too. All senior officials were also interviewed by Rashmi Sharma, who is a senior researcher in the project.

At the outset, it needs to be clarified that a total of 944 households were surveyed in the six sample villages. The detailed household survey questionnaire was fielded only in households that reported at least one child in the age group 14-18 years.

Child marriage was the first methodological challenge that researchers faced in Rajasthan. Given the prevalence of child marriage (according to NFHS-4, the prevalence of child marriage in Chittorgarh was 33.1%, with most marriages taking place after the age of 13 or 14), many households whose daughters were already married and had gone to their marital home were not reported as children in the specified age group. This has been a serious issue in many research studies done in Rajasthan because households only report those who are seen as being part of the family—this excludes daughters who were married. Equally disturbing is that they also do not report daughters-in-law under the age of 18 years. Also, given a greater awareness about legal age of marriage, many households do not mention their married daughters or under-18 daughters-in-law for fear of the law. This issue needs to be kept in mind while looking at household data of Rajasthan. In recent years, the government has run several campaigns to highlight the impact of child marriage and also inform communities that marriage before the age of 18 is illegal. In the months preceding this study, we were informed by local officials that such a campaign was done in Chittorgarh district, which is seen as a 'problem district' when it comes to child marriage.

The second challenge was to do with seasonal migration. As evident in Table 5.10 below, in one village only 84 out of the 105 households were present in the village on the day of the survey. While all households were visited, only 260 out of the 944 households reported having a child of 14-18 years.

Table 5.10: Number of Households (HH) covered in the survey

S. No.	Block	Village	Number of households covered	Number of families in the age group 14-18 years	Remark
1	Begun	Samariya Kala	150	25	As per Census 2011, there were 141 households.
2		Tara Pipali	84	14	As per Census 2011, there were 111 households. On the day of the survey, only 84 families were present.
3		Kalyanpura	105	11	As per Census 2011, there were 105 households.
4	Kapasan	Hathiyana	202	74	Planned for 200
5		Ramthali	190	70	Planned for 200
6		Umand	213	66	Planned for 200
		Total	**944**	**260**	

The third challenge, when compared to Andhra Pradesh (AP), was to do with the size of villages and habitations. As evident in the data presented above from Census 2011, the number of households surveyed matched the number of households mentioned in the Census 2011. The density of population is also quite sparse in Rajasthan.

As the sample was drawn village-wise and not the number of total households, the total number of households surveyed in Rajasthan does not match the total households of AP. These two geographically diverse areas (AP and Rajasthan) cannot be compared because of the reasons mentioned above. Apart from being sparsely populated, seasonal outmigration is a huge issue in Chittorgarh that is dry and arid, and agriculture linked employment is seasonal. There are no other employment opportunities.

Field work plan

As spelt out in Table 5.11 below, the field work plan was undertaken in order to complete the first level of household mapping, followed by detailed interviews in households that reported children of 14-18 years.

Table 5.11: Field work plan

Block	Team members			No of team member per village	Number of days per village	No of days in one block
	From Jaipur	Hired at district level	Total team members			
Kapasan	5 Men	3 women + 3 men =6 local village persons to facilitate the process	11	3	5 days	15 days
Begun	5 Men	3 Women + 3 men = 6 local village persons to facilitate the process	11	3	4 days	12+1 =13 days

Institutional mapping

The following institutions as listed in Table 5.12 were visited and interviewed using the survey tools developed for the project.

Table 5.12: Institutions mapped

State level	Rajasthan Council for School Education (RCSE)
	State Institute of Educational Management and Training (SIEMAT)
	State Council of Educational Research and Training (SCERT)
	Rajasthan Board of Secondary Education (RBSE)
	Directorate of Secondary Education
	Directorate of Open School
	Union Leader
Zonal level	Colleges of Teacher Education (CTE) Jaipur
District level	District Institute of Education and Training (DIET) Chittorgarh
	Chief District Education Officer (CDEO) Chittorgarh
	District Education Officer (DEO) Secondary Chittorgarh
	Additional District Project Coordination (ADPC) Chittorgarh
Block	Chief Block Education Officer (CBEO) both blocks (Kapasan and Begun)
	Janjati Hostel
	Sharade Hostel now called as Kasturba Gandhi Balika Vidyalayas (KGBV) in both blocks (Kapasan and Begun)

The sample of the schools visited are as follows in Table 5.13:

Table 5.13: Educational facilities in sample

	Sample Type and number of schools	Sample took up for the study	Reasons for deviation
Block 1	Three Secondary Schools	One Secondary School	Block 1 had only two secondary schools; one was located at block headquarters, and hence only the one which was situated in the sample village was included.
	One Senior Secondary	Three Senior Secondary School	To compensate, two more secondary schools, and three senior secondary schools were included in the sample In three sample villages, one secondary and two senior secondary schools were included in the sample. For one more senior secondary school, a village which was nearest to a sample village was included in the sample just for the purpose of study of structure and functioning of the school.
Block 2	Three Secondary Schools	Three Secondary Schools	
	One Elementary School	One Elementary School	
	In addition to above schools, one Sharade hostel was converted into Kasturba Gandhi Balika Vidyalayas (KGBV) under the new scheme of government of Rajasthan. A Janjati hostel of secondary level providing facility to students of secondary level was also included in the sample.		

5.5 Profile of the sample villages and schools in Rajasthan

Six villages of two blocks from Chittorgarh were included as sample for the study. Chittorgarh is one of six districts of the southern part of the state which has 16.20% SC and 13.05% ST population; this is almost similar to their population in the state. The state SC and ST population is 17.2% and 12.6%, respectively.

The total population of the district was 15,44,338. Of the total population, there are 7,83,171 males and 7,61,167 females in the district. This gives a sex ratio of 972 females per 1,000 males, which is more than the state average of 928 females (Census2011). At the district level, 81.52% of population lives in rural area, while at the state level, the percentage of rural population is 71.13% (Census 2011).

The percentage of main workers in the total workforce in the district is 81.83%, which is significantly more than the state main workers at 70.46% (Census 2011). A majority of workforce, i.e., 70%, is engaged in agriculture. Both blocks were situated in opposite directions from the district headquarters; block 1 was at a distance of 30 km from the district headquarters, and block 2 was at a distance of 70 km from the headquarters. In each block, three villages were included in the sample (a total of 6).

Table 5.14: Profile of Chittorgarh district and sample blocks

		Block 1			Block 2		
Population Characteristics		1	2	3	4	5	6
Total Population		5620	1820	1677	634	649	552
Male		2801 (49.83)	940 (51.64)	822 (49.01)	324 (51.10)	327 (53.38)	279 (50.54)
Female		2819 (50.16)	880 (48.35)	855 (50.98)	310 (48.89)	322 (49.61)	273 (49.45)
% Scheduled Caste (SC)		1822 (32.41)	200 (10.98)	225 (13.41)	142 (22.39)	60 (9.24)	82 (14.85)
% Scheduled Tribe (ST)		180 (3.20)	180 (9.89)	218 (12.99)	58 (9.14)	Nil	60 (10.86)
Other Backward Classes (OBC)		3017 (53.68)	600 (32.96)	600 (35.77)	211 (33.28)	468 (72.11)	410 (74.27)
Minority		0	350 (37.23)	74 (4.41)	18 (2.83)	0	0
General		601 (21.45)	100 (10.63)	500 (29.81)	205 (32.33)	59 (9.09)	0
Others		0	0	0	0	62(9.55) SBC	0
Literacy rate	T	56.82	45.95	48.48	61.99	73.48	61.76
	M	72.84	63.28	64.48	79.34	93.90	84.30
	F	41.34	28.21	32.89	54.11	52.13	39.68
Distance from Block		12 km	18 km	17 km	18 km	15 km	15 km

The OBC population was more than 30% in all the villages; however, two of the six villages had more than 70% OBC population and one more village had 53% OBC population. This information is important because child marriage has been seen to be most prevalent among the OBC community. The main caste in OBC are Jat and Gujar. In SC communities, Khatik and Balai were predominant. The major occupation of people in the area was agriculture activities. Based on their castes, many OBCs are landowners. Those who have no land work as labour in the agriculture fields or migrate out of the village for work. Seasonal migration is very common among the landless and also among those who have very small land holding.

Table 5.15: Profile of sample villages

Block 1			Block 2		
Village 1	Village 2	Village 3	Village 4	Village 5	Village 6
Dominant community is Jat in OBCs; Brahmins in general, Khatik in Scheduled Castes (SCs), and Bhil and Goarea in Scheduled Tribes (STs). Caste-wise habitation in the village is common.	Gujars are dominant and their main occupation is agriculture. Other castes include Jain, Kala, Lohar, Gayari, Khatik, Bairwa and Bhil.	Gadre, Meghwal, Mali Jat, Rajput, Mahajan, Khatik, Sharma and Lohar are the main castes.	Dhakar, Gujar, Rajput, Vaishnav Mali, Bhil, Ragore, Balai, Harijan, and Muslims.	Gujar, Bhil Balai, Jatia are the predominant castes. Rajput, Mahajan, Brahmin are the other main castes. Caste-wise demarcated pockets in the village are common.	Dhakad Barwah, Jatia, Vashna, Bhil, and Suthar are the main castes, Caste-wise pockets in the village are common.
Mainly, the Jat community is involved in agriculture. The Bhils are labourers	Agriculture workers and labourers are from SCs, and STs are mainly labourers and work as agriculture labour in the open market.	Gadre and Jat communities are involved in agriculture. Mahajans are mainly shopkeepers. In villages, areas are distributed as per caste.	Dhakad, Gujar, Rajput, Mali, Ragot are agriculturalists while Muslims are involved in masonry. Dholi caste's occupation is to beat drums. Bhils are the poorest in the villages and their main activity is working as agriculture labour.	The predominant work is masonry and agriculture.	75% of the people work in agriculture, and 25% are engaged in labour work.
A big village, it had all amenities, but no library	A big village but it had no bus facility, no post office, no bank, no streetlights, and no facility for computers.	A mid-sized village but it had no savings bank, no library, and no streetlights.	A big village, it had all facilities except a library and streetlights.	This village had no post office, bank, landline telephone, or streetlights.	This village had poor road connectivity, no bus service, no post office, no computer, no bank, and no library. Water and health services were poor too.

Educational Facilities

The sample blocks and villages were fairly representative of the state. Only two had a government secondary school within the villages. The children from these villages travelled 1 km to 3 km for a senior secondary school. This is according to the state norms for access to secondary and senior

secondary education. There were no colleges or any other post-secondary educational facility in the sample villages and the children had to travel at least 15 km to access higher education. There were no private secondary and senior secondary schools in the sample villages. Even at the elementary level, there was only one private school each in the three villages of block 2. In block 1, the sample villages had private school up to class 8. Majority of children in the sample villages went to government schools and we did not see any evidence of private tuition in the sample villages. This is reflected in the profile of educational institutions in the district.

The distribution of government schools across the district is scattered. The numbers in senior secondary schools looks high because many of them may be composite schools from primary to senior secondary. Similarly, in the private sector too, the numbers of schools drop as we move towards senior secondary education. The government continues to be the major provider of education. With the closing down of all private-aided government schools in 2014, the unviable schools may have shut down leaving only the viable ones standing.

Table 5.16: Schools in Chittorgarh District, Rajasthan

	Government			Private			Number of schools by Type (Government.)			
School Category	Urban	Rural	Total	Urban	Rural	Total	Boys	Girls	Co-ed	Total
Primary	21	776	797	62	144	206	0	1	796	797
Upper Primary	34	615	649	114	269	383	0	41	608	649
Secondary	9	65	74	60	48	108	0	9	65	74
Senior Secondary	21	306	327	48	19	67	0	10	317	327
Total	85	1,762	1,847	284	480	764	0	61	1,786	1,847

Source: Unified District Information on School Education (UDISE) Rajasthan Report Card 2017-18

The sample villages reveal a typical picture that we see all over rural Rajasthan. While the state government has upgraded many schools to the next level, access still remains a serious issue, especially after secondary education. Also, as discussed in the opening section of this report, most of the upgraded schools are co-educational (often referred to as Boys' Schools). Equally, many of them do not have women teachers and there has been a persistent shortage of teachers in mathematics, science, and social studies.

Table 5.17: Educational facilities in sample blocks

	Block1			**Block2**		
	Village 1	**Village 2**	**Village 3**	**Village 4**	**Village 5**	**Village 6**
Level of the schools which was part of sample	Senior secondary school	Secondary School	Senior secondary school	Secondary school	Secondary School	Secondary school
Highest level of education facility (government school)	Senior secondary school	Secondary school	Senior secondary schools	Secondary school	Secondary school	Secondary school
Next highest level of education facility —distance from the village	Degree college at block headquarters, 12 km from the village.	Senior secondary school was 3-4 km away, and degree college at block headquarters, 15 km away.	Degree college at block headquarters, 17 km away.	Senior secondary school was 1 km away from the village. degree college at block headquarters, 18 km from the village.	Nearest senior secondary is 3 km away, and degree college at block level, 18 km away.	Nearest senior secondary is 8 km away and the nearest facility for degree college is at bock level, 15 km away.
Other types of school	Nil	Nil	Nil	Nil	Nil	Nil
Private schools	Upper Primary School (UPS)	Private UPS school	Private UPS up to class 6	No	No	No
Residential schools /Hostels	No	No	No	No	No	No

There has been a steady increase in the number of students enrolled in secondary schools. As evident from Table 5.18 below, this increase has been across classes 8 to 10. The gender gap is also closing—interestingly, in 2018-19, there were more girls than boys in class 10. Data across different classes and years also reveal that many children drop out at all levels. The no-detention policy effectively ensured all children are on the rolls of the school till the end of class 8. After that there is a steady drop out; as we will discuss later, among the reasons cited by the teachers is that the children are not able to cope with the studies in classes 9 and 10. They effectively blame poor learning levels at elementary to explain why children drop out. Interestingly, neither teachers nor the children we interacted with said that they dropped out because of marriage or social pressure. It is interesting to note that once girls reach class 9, then it is their ability to cope with the studies which determines whether they stay on in majority of the cases.

Table 5.18: Last five-year enrolment in classes 8, 9, and 10 in sample schools

	Total enrolled		In class 8		In class 9		In class 10	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
2013-14	437	324	83	58	49	48	16	6
2014-15	555	399	94	58	68	58	46	52
2015-16	564	407	110	63	132	68	70	71
2016-17	501	425	83	51	95	80	64	58
2017-18	590	536	90	75	100	104	70	69
2018-19	620	574	110	67	119	125	65	93

Source: Data collected from the sample schools

It is important to keep in mind that children from other nearby villages without a school were also enrolled in the sample school; therefore, the number of children surveyed in the village may not match those in school. Equally, there could be some children who were enrolled in schools outside the village or living with relatives and studying elsewhere.

Interviews conducted in the households yielded some interesting information. Let us start with the profile of children. As evident in Table 5.19 given below, the number of surveyed children who are in school and out-of-school is quite revealing.

Table 5.19: Profile of children in the surveyed households

	Total children in the age group 14-18 years		Enrolled in school		Not enrolled in any school	
	Boys	Girls	Boys	Girls	Boys	Girls
Village 1	21	11	19	11	2	0
Village 2	10	7	10	6	0	1
Village 3	7	5	5	4	2	1
Village 4	46	47	38	42	8	5
Village 5	51	23	40	19	11	4
Village 6	40	31	33	26	7	5
TOTAL	175	124	145	108	30	16

Source: Survey data

As cautioned in the section of methodology, the number of girls in the surveyed households is far less than the number of boys. This could be a combination of adverse sex-ratio and girls married before they turned 18 and living away. Across all six villages, more boys than girls are enrolled in school and more boys have dropped out too. This data confirms the discussions with both in-school and out-of-school children that when girls are not married or studying well (provided they are not married) they tend to enrol in school. Out of the 253 children in the surveyed households, only 214 are studying in classes 8 to 10.

It is also significant that the numbers of girls never enrolled is low; it may be because they were married and do not reside in the natal home. This could also be pointing towards early marriage leading to dropping out or when girls' dropout they are married off by their families.The class-wise distribution of the enrolled students are as follows in Table 5.20.

Table 5.20: Class-wise enrolment of children in surveyed households (14-18 years)

	Enrolled in class 8		Enrolled in class 9		Enrolled in class 10		Enrolled in classes 11 and 12	
Children in age group 14-18 years	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Village 1	5	0	4	5	6	2	4	4
Village 2	2	2	1	0	1	2	5	2
Village 3	0	0	0	2	2	0	2	1
Village 4	5	5	3	11	13	8	12	10
Village 5	9	2	3	0	9	5	10	4
Village 6	6	5	6	8	3	3	14	8
Total	27	14	17	26	34	20	47	29

Among the 46 children who are not enrolled in any school, we were able to get data for 41. The others did not give any response probably because they dropped out at a very early stage.

Table 5.21: Stage at which students dropped out

	Dropped out before class 8		Dropped out after class 8		Dropped out after class 9		Dropped out after class 10	
Children in age group 14-18 years	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Village 1	0	0	1	0	0	0	0	0
Village 2	0	0	0	0	0	0	0	1
Village 3	0	0	1	1	0	0	1	0
Village 4	6	1	0	1	1	1	1	1
Village 5	4	2	1	0	3	0	1	1
Village 6	3	0	3	3	1	1	0	1
Total	13	3	6	5	5	2	3	4

It is indeed quite heartening to see that the majority of the enumerated children are enrolled in school. This is definitely a big change from ten years ago when field studies in Rajasthan showed much higher dropout rates and also a much larger number of never-enrolled and out-of-school children. This picture was confirmed in individual interviews with children, focus group discussion with parents, and interviews with teachers and headmasters. The social norm with respect to education is gradually changing.

Before we celebrate the finding, it is important to revisit the note of caution discussed earlier. In all probability, the situation of married girls and married boys has not been captured in the above data. The government's child marriage awareness campaigns and regular monitoring of age of marriage has increased parental/societal awareness about the issue. As a result, when young girls and boys are married before 18 years, the information is not available to outsiders—including the research team. The entire community tends to clam up and not speak. During Focus Group Discussions (FGDs) in several sample villages, questions on early marriage in a girls-only FGD met with stoic silence. In particular, when we asked if any of their friends/relatives were married before the age of 14 and between the age of 14-18, the girls invariably remained silent. It was not easy to probe this question in detail.

5.6 Insights from interaction with students and community through interviews and Focus Group Discussions

During the course of the study, Focus Group Discussions (FGDs) were held with girls and boys (separately) enrolled in school and out-of-school. The focus was on children aged 14-18 years. The discussions explored positive and negative triggers that enabled or hindered their participation in secondary school. We started the discussions with general questions such as changes they have witnessed in the last five years in the community, in family, and in schools. We must start this discussion with a note of caution—given that Chittorgarh is among the districts with high rates of child marriage (as discussed earlier), the ability to involve married adolescents to discussions was challenged by social norms. Often, families did not acknowledge married adolescents as children and invariably did not report of their presence in the household. Maybe, in future, when such studies are carried out in Rajasthan, very contextual/local specific strategies need to be used to draw all adolescents into discussion. This remains one of the weak areas of this study.

Discussions with children in school

The discussions with children were insightful. As evident in the table below, almost all the children agreed that there has been appreciable change in the last four-five years. Many more children are enrolled in secondary schools. While the opinion on whether more girls or boys are enrolling is divided, the fact remains that there are many more students in secondary schools. This is indeed a positive trend. However, it is important to note that given the availability of secondary schools, children from several villages attend one school. They either walk or cycle to school. We did not hear about children using public transport of any kind.

There were some gender differences in enrolment; girls in two schools said that enrolment has come down. When we tried to probe further, they could not substantiate their observation. Also, interestingly, most opinions were unanimous among the girls while that was not the case with boys.

Among the important insights that we gained are the following:

1. The number of teachers across all the sample schools had gone up in the last two-three years.
2. Several schools did not have teachers for all subjects. This was a worrying trend.
3. All the teachers present do not teach. In several groups, the children said that some teachers do not teach. When we probed further, they did not have any answer as to why this happened.
4. The medium of instruction is Hindi and all subjects—including English and Sanskrit —are taught in Hindi. Most children speak Marwari at home, but they said that they did not have any difficulty understanding Hindi.
5. Boys did not mention safety issues. Girls in all the groups talked about issues on their way to and from school and also in school. Teasing by boys was common—inside and outside the school. Therefore, girls moved around in groups for safety.

6. The boys were not forthcoming on the age of marriage. They said that there has been a change and most boys marry after the age of 21. However, the girls said that there is some change in few communities—they said than many girls are married off around the age of 14. As evident in the quoted from the FGD, the situation remains worrisome. They also said that many of their friends were married by the age of 13 or 14. Most do not attend school even if the Gauna has not been performed. This confirms our earlier observations that parents with married girls so not reveal their presence to the investigators. The girls also talked about boys who were married early, but they attend school.

Reasons for early marriage in our village Focus Group Discussions (FGDs) with Girls in School
• Due to the economic situation of the families and due to lack of understanding of parents and grandparents, some things have improved a lot in the last few years. • There is not much change in our village—girls still get married early. • Change is evident in some communities like Jains, Purnia, Khatik, and Lohar—these communities understand the importance of marriage at the right legal age. • Many girls in our village are married off after class 7 or 8. This year there have been far less child marriages. However, in the past girls aged 7-10 years were married off. In one case, the maternal grandmother married a girl off. Five girls are married but they still come to school (no Gauna as yet), four girls are engaged to be married, and in one case, the daughter was married off to an uncle. It is a mixed picture. • Girls are married off when they are around 13 years old and up to 15-16 years. But if the girl has a younger sister, then the younger sister may be married off much earlier. • Child marriage has been stopped by the government and people are also scared of the police; people do not talk about it.

7. Boys and girls are eager to study after class 10 and class 12; they are keen to access job-oriented courses. However, their knowledge of such courses is very poor. This calls for concerted efforts to inform students of post-secondary opportunities in their neighbourhood. Girls admitted that—if they are allowed—they would definitely study further. Give social norms, they also fear that they may not be sent out of the village to study.
8. School inspection seems to be happening—either by officials from the block or district or by the local administrators/School Management Committees (SMC) members. Almost all the groups we spoke to said that the mid-day-meals and infrastructure were the primary focus of inspection.
9. Children are aware of private schools and believe the education quality there may be better. However, they also asserted that their teachers were better qualified.
10. Extracurricular activities seem to be limited to prayer, general knowledge competitions, and games. In one school, getting milk was cited as an extracurricular activity!
11. A heart-warming insight is that parents support their children—both boys and girls—during examinations. They are excused from housework, get additional cups of tea, and are provided a quiet environment to study. Some children said they get additional tuition support during examinations.
12. While most children were silent on the issue of coping with examination stress, some said that they cope by not watching TV and the boys talked about not using their mobile phones. Interestingly girls did not say anything about mobile phones—probably because they did not have access to it.
13. Cheating during examinations was fairly common—they bring chits, ask each other for answers, and in some schools, the teachers help them out, especially in science and mathematics.
14. All schools give homework in all subjects—they are collected (not sure if they are corrected) and the children who are not able to do it are punished.
15. Punishment exists in all schools—beating with a stick, standing up holding the school bags (for girls), scolding/shouting by teacher, and being asked to stand or crouch. Apparently, teachers do not use caste/community or gender-based abusive words in school. This was indeed a positive development.

16. Knowledge of Open School was quite poor and so was their knowledge about KGBV and RMSA hostels. A few knew some who were studying there but knowledge about the existence of such facilities was very poor.
17. Computer classes were uniformly absent. While two schools had computers (with no classes), all other schools had no computers or any other technology.
18. All girls said that they come to school during their menstrual periods and they use sanitary napkins. However, only one group said that the school provided them with sanitary napkins. They all said that the toilets were dirty and unusable. Most girls said that if they need help, they go to a lady teacher. Therefore, it is important to have women teachers in secondary schools.

Table 5.22: Focus Group Discussions (FGD) with Boys and Girls attending school

	FGD with Boys enrolled and attending school, Total FGD 7			**FGD with Girls in School - Total 6 (One FGD had a few boys too)**		
	Consensus in the group	**Opinion divided**	**No opinion expressed**	**Consensus in the group**	**Opinion divided**	**No opinion expressed**
Yes, we have noticed change in last four-five years	7			6		
- Increased enrolment of boys	6	1		6		
- Increased enrolment of girls	1			4		
- Increased enrolment of girls and boys	6	1		4		
Enrolment has come down				2		
More girls enrolled	7			4		
More boys dropping out	6	1		6		
Number of teachers has increased	7			3		
Availability of teachers for all subjects - Yes	3		1	1		
Availability of teachers for all subjects - No	3		1	5		
Do all teachers teach? Yes	4			3		
Do all teachers teach? No	1		2	3		
Difficult subjects						
Hindi						
Sanskrit	4	2	1			6
English	6		1	3		3
Mathematics	6		1	2		4
Medium of instruction - Hindi	7			6		

	FGD with Boys enrolled and attending school, Total FGD 7			FGD with Girls in School - Total 6 (One FGD had a few boys too)		
English taught in Hindi	6		1	6		
Sanskrit taught in Hindi	6		1	6		
Safety issues to and from school - No	6			2		
Safety issues to and from school - Yes	1			4		
Safety issues in school - No	6		1	3		
Safety issues in school - Yes	0			3		
Punishment - Yes (all forms)	7			6		
Hitting - Boys	3	4				6
Hitting - Girls	7			3		3
Scolding	7			4		2
Abuse using caste / religion / gender and other words	0					6
Age of marriage of boys (Below 18 years)	0			1		5
Age of marriage of boys (18 years and above)	7			6		
Age of marriage of girls (Below 18 years, but after 14 years)	3		4	6		
Age of marriage of girls (Below 14 years)			7	1		5
Age of marriage of girls (Above 18 years)	1		6			6
Change in age of marriage - yes	6		1	6		
Plans after finishing school - Boys will go to college			7			
Pans after finishing school - job oriented courses for boys	6		1			6
Plans after finishing school - No plans (boys)	1		6			6
Plans after finishing school - Girls will go to college			7	6		
Job oriented courses, professional courses				2		4
Plans after finishing school - No firm plans, if allowed by parents (girls)			7	6		0
School inspection - administrators come	5		2	6		
School inspection - Panchayat, tehsildar come	2		5	6		

	FGD with Boys enrolled and attending school, Total FGD 7			FGD with Girls in School - Total 6 (One FGD had a few boys too)		
School inspection - Inspect mid-day meal	6		1	6		
School inspection - look around	3		4	6		
School inspection - ask questions	1		7	0		6
Private schools - knowledge	7			6		
Who attends - rich children	4		3	6		
More discipline in private schools	1		6	6		
Knowledge of Open School - yes	1			4		
No knowledge of Open School	6			2		
Who attends			7			7
Extra-Curricular activities in school - Prayer	3			6		
Extra-Curricular activities in school - Games / tournaments	4			6		
Extra-Curricular activities in school - General knowledge	3					6
Get milk in school	1					6
Homework - Yes	7			6		
What happens when HW not completed - scolded / beaten etc.				6		
Examination preparation - use timetable to study	3			3		
Examination preparation - parental support and freedom from housework	7			4		2
Examination preparation - study longer hours	4			6		
Additional pressure during examinations - worried	1			2		
Coping with stress - do not watch TV / use mobile	2					6
Coping with stress - we are scared / worried	2			4		2
Cheating during examinations - yes	3	2	2	3		3
How is it done - using chits				3		3
Ask each other				1		5
Teachers help during exams	2					6

	FGD with Boys enrolled and attending school, Total FGD 7			FGD with Girls in School - Total 6 (One FGD had a few boys too)		
Do you get incentives? - Yes, some students do. (Girls, Scheduled Caste, Scheduled Tribe)	5			5		1
Receive incentives - merit based				4		2
Receive incentives - cycles, money	2			4		2
Have you heard of incentives (for those who do not get it)	6		1			6
Frequency and timeliness	2					6
Computer facilities - No	6			5		
Computer classes - No	7			6		
Have computer in school but no classes	1			1		
Attend tuition classes - No	4		3			
Get help from friends	4					
Get help in family	4					
Knowledge of Kasturba Gandhi Balika Vidyalayas (KGBV) / hostel - Yes	4					
Knowledge of KGBV / Hostel - No	3					
Know friends / relatives in hostel or KGBV	4					
Tuitions during examinations				1		
GIRLS ONLY						
Do you come to school during periods				5		1
Do not get sanitary napkins				4		1
We get sanitary napkins				1		
We use sanitary napkins				5		1
We get help from lady teacher				1		5
Toilets and facilities - dirty and unusable				2		4

Table 5.23: Some insightful quotes by boys and girls

Insightful quotes from Boys
There has been a lot of change, most children automatically go up to class 8. Girls' enrolment has gone up more than boys, because boys go out of the village to study. So, in our village there are more girls in school.
Boys' enrolment has gone up because of student from nearby villages; however, the number of girls has come down because of marriage.
Greater increase in girls' enrolment because of cycle. There is a girls' school but as there are not adequate teachers, girls come to this school.
More boys' enrolment but less increase in number of girls because girls from Bhil community have no interest in studies
All teachers teach, especially the maths teacher is very good.
Teachers do not come on time. We do not understand what the teacher teaches.
English is also taught in Hindi
Teachers explain Hindi in Marwari. Sanskrit and English are taught in Hindi.
English is the most difficult and next comes maths and science.
Mathematics is the most difficult subject
Our mother tongue is Marwari; in school everything is taught in Hindi.
English and Sanskrit in taught in Hindi—we do not understand when they teach in that language.
Roads are bad and we face safety issues on our way to school.
Yes, teachers beat us if we do not do our HW, if we do not memorise the work given, or if we students fight or quarrel among ourselves. They use sticks to hit us when we are late to school (green stick). They slap us, beat with sticks, or hit with a water pipe. When we are not able to answer a question, we are beaten.
Teachers do not use bad words or abusive language. There is no discrimination between castes or between girls and boys
Earlier, early marriage was common but because of strict laws, it has gone down. Government is strict and police is also aware.
There used to be many child marriages, but incidences have come down as the educational status of our community has improved
After completing class 10 and/or class 12, we will go to college or Industrial Training Institutes (ITI) depending on our financial situation.
We have to go outside our village to study further— we will find out about opportunities. We will talk to teachers and out family elders —- ITI (Industrial Training Institute); B. Ed., and Secondary Teacher Training College
Private schools are only for rich children and they take a lot of fees. The education there is also good. We get mid-day meals in government schools but not in private schools. Government schools have no money but in government schools, there are trained teachers. However, transport facilities are available in private schools but not in government schools.

Yes, we have heard about private schools till class 8. After class 8, one has to go to the block headquarters. We have to pay high fees because they are English medium schools.
Prayer, games, knowledge, newspapers, elocution, and question/ answer are extracurricular activities.
Children get milk every day, play hockey, and say prayers every day.
Yes, in all classes, each subject is reviewed once a week. We spend one-two hours a day on homework. We get homework in all subjects. We do it at home or during free periods. If we do not do it, then we feel ashamed when we are called out. Sometimes, we are beaten, or on some days, when we do not complete our homework, we do not go to school that day.
When we do not complete homework, we are scolded. If we do well, they say 'good', and if we do not, they give a note on the copy. We get beaten when we do not do the homework; they punish us—they make us run around the grounds and sit like a hen.
Parents are aware; they give us tea and do not give any housework during examinations.
We study for longer hours and solve older question papers.
There is no internal stress; we make a timetable and study.
Yes, chits are used to cheat—mostly in English and mathematics; in science, there is no cheating because the teacher gives all the answers to us. Sometimes, the teachers even help us (especially the girls) to bring chits or write on our palms.
Yes—SC/ST/OBC get scholarship from class 6; some children get it yearly and sometimes, twice a year.
We get laptops and cycles. All who get above 85% get a laptop.
I have heard that those who get above 75% get Rs 500. A boy got a tiffin box for good discipline and good attendance.
We have heard, but we have not received any incentives. Sometimes, we get prizes from teachers for good performance like a pen or a register.
There are no tuitions but the class 10 students, before examinations, used to go to a teacher who came from outside this village.
No one in our village goes to any hostel or residential schools. A friend studies in a government school and lives in a private hostel.

Insightful quotes from Girls
In the last four-five years, there has been an increase in the number of students in classes 8 and 9. This school is better in discipline and studies, the staff/teachers are good and they take care of safety and cleanliness in the schools
Enrolment has gone up because there is no secondary school in several villages nearby and those children come to our school.
Enrolment has gone up, especially of girls, because parents have started taking interest in girls' education.
There has been an increase in boys' and girls' enrolment as the studies are quite good in our school.
There are no girls after class 8, because there is a girls' only school. Numbers of girls in our school has increased.
We have only one female teacher and we need more. We like the female teacher while we do not like the male teachers

We have no difficulty in understanding Hindi.
English and Sanskrit are taught in that language.
The teacher explains but we forget in the examinations—we girls find mathematics difficult and some girls miss school because they are scared.
All subjects are taught in Hindi—even Sanskrit and English are taught in Hindi.
We get scared to come to school alone, especially on the road. We come in groups. We face problems coming and going to school, it gets dark when we reach home, so we get scared
So far, there is no issue with respect to safety inside the school.
Boys climb on the terrace to see girls and pass comments. If boys tease us, they are punished. When we go to school, the boys laugh at us and also, inside the school. Some write 'I love you' on the desk and keep some *supari* (betelnut) and chocolate. Two boys bang into us when we leave the school.
We are beaten with a ruler on our hands or we are asked to lift our bags and stand with arms outstretched when we do not complete homework
A maths teacher beats us with a stick—because of him, we do not want to go to class 10. Yes, they hit us with neem sticks and with *jhadu* (broom).
Teachers do not use sticks or rulers to beat us; they do not use abusive words either.
In our school, there is one boy who got married when he was in class 4, and he still comes to school
Many girls in our village are married off after class 7 or 8. This year, there have been far less child marriages. However, in the past girls aged 7-10 years were married. In one case, the maternal grandmother married her off. Five girls are married but they still come to school (no Gauna has happened yet), and four girls are engaged to be married. In one case, the daughter was married off to an uncle—it is a mixed picture.
In our village, Kalyanpur, a girl aged three-four years was married but she is coming to school. One more girl in our school is married. Girls are married off when they are 13 years old and also up to the age of 15-16. But if the girl has a younger sister, then the younger sister may be married off much earlier.
Child marriage has been stopped by the government and people are also scared of the police. Many girls get married after the age of 14. Earlier, there were many more early marriages but now because of schooling, this has come down significantly. Most girls used to be married off at the age of 11- 12 but there have been some changes in the last few years.
A girl said she wants to study science and become a doctor. Another girl wants to be a teacher, and one wants to be a farmer—all of us have to go out of the village to study. We need to find out about vocational training that can enable us to find jobs and also study further.
People come twice a year to ascertain the functioning of the school; during inspection, the school is functioning well, and afterwards, it reverts to its old state.
The Tehsildar (a government officer) comes for inspection. Once, an MLA (member of the legislative assembly) came when the school was upgraded, and once the Collector came for the Udaan Abhiyan. The MP (member of parliament) also came for the district function. Once or twice a month, the people in the village—School Management Committees (SMC)—come to inspect. No one comes from outside for inspection.
When people come for inspection, they get refreshments. They came to check the mid-day meal, and they also visited classes 6, 7, and 8.

We do not go to private schools—they have teachers, but the quality of teaching is not good. Most people think if a child goes to private school, he will succeed and do something with their life. But nowadays, the government schools are as good or even better. Some children from our village go to private schools—it is far and therefore, very few go there. They take a lot of fees. Private schools have transport (bus), while we do not have that in government school
Private schools have discipline, good studies, and other facilities. The difference between government and private schools is in discipline, facilities, studies, and safety.
Some girls know about open school, but we do not like that because we like attending school. We have heard about it and two boys from our village study through open school. They are also working simultaneously because they do not have to attend classes.
We all get homework and finish it at different times. It takes four hours to do homework. If we do not complete homework, we are punished. We get homework in all subjects. We work in the evening and sometimes during free periods, we do our homework—we are scared of being scolded.
We mostly scolded if we do not complete our homework. Homework is given in all subjects and when we get time at home, we do it—it takes two-three hours; if we do not complete, then we are beaten with sticks or *jhadu* (broom).
We make a timetable and study accordingly.
When we have examinations, our parents ask us to study and do not ask us to do any housework or let us watch TV. We make a timetable and study.
Girls do not have mobile phones, and TV watching was mentioned only in one group
We are aware that a laptop is given. Seven OBC girls get a scholarship of Rs 400 a year. We get *protsahan* (merit) scholarship and if we get high marks, we can get a laptop or scooty.
Yes, we go to school; sometimes, when we have cramps, we do not go. We get sanitary pads in school. There is no problem really and we get help from the lady teacher.
Yes, when we go to school during periods, we face a lot of problems like dirty toilets, no dustbin, and no water.

Insights from Focus Group Discussions with out-of-school boys and girls

Unlike the children who are enrolled in schools, the reasons given by boys and girls for dropping out varied a great deal. They cannot be combined into a number. However, as the response of girls and boys were quite different, the two groups are being presented separately.

Out-of-school boys

1. When did you drop out and why?

This question elicited different responses in every group. While some boys dropped out due to tragic circumstances in the family (death of father was cited as an important reason), most of the boys said that the economic situation at home demanded they go to work and, in any case, they said they were not interested in studies. Boys from the Lohar and Bhil community (who are mostly landless) drop out to work; those with land were either not interested in studies or said that the teachers do not teach, and they were not learning much. In almost all the cases, the decision to drop out was taken collectively by the family. A few said that their parents did not want them to drop out, but they did because they did not like school or were not finding it useful (read—not learning).

2. Incentives in school:

a) Children from specific communities got a scholarship—some got Rs 400 per annum while some others got Rs 750 per annum. They all complained that girls got bicycles, but boys did not. Some

complained that only SC/ST/OBC got scholarships while general caste children did not. Some said they were not aware of incentives and got none. In all cases, the incentive amount was too small to make a difference to their economic situation. In one group, the boys said they all got uniforms and textbooks.

3. Corporal punishment, physical violence, verbal scolding:

a) Most of the boys said that they were beaten and scolded, especially when they did not complete their homework or did not do their work in class. In one group, the boys said that they were beaten with bats and sticks and they did not like it. Some teachers were 'kinder' and beat with a stick on the palms.

b) What was noteworthy is that none of them said that teachers used caste/community abuse ad by and large they were not too abusive. They did not experience any discrimination. Several boys complained that teachers were kinder to the girls.

c) None of the boys said they had heard of or seen any sexual harassment of boys or girls. They were perhaps reticent to talk about it. They giggled when we probed the question further.

4. What are they doing now?

a) Most of them said they either work in their fields or take goats/cattle grazing. Some of them take on daily wage labour and earn Rs 2,000 to 3,000 a month. The daily wage is Rs 100 to Rs 150 per day. When they do not have any work, they hang around the home or in the village with friends. Some said they work as drivers of tractors for payment. In one group, the boys (mostly Bhil) said they also take care of siblings. One boy said he works in the family shop. Sand mining (mostly illegal) was also cited as an opportunity to earn Rs 3,000 to Rs 5,000 per month.

b) None of them are in any formal or informal employment that gives them a regular monthly income.

5. Will you go back to school if given a chance?

a) The almost unanimous response was that they will not go back because 'we will be ridiculed'. One boy said 'our friends have moved on and we are not interested. We don't have time and work takes up all the time'. Many participants in the discussion remained silent when asked about going back to school.

6. What did you like about your school (when you were a student)?

a) Many of them liked the mid-day-meal. This gives us an insight into the economic condition of the family and the possibility of food shortages at home. They all liked sports and games, hanging around with friends, and physical training (PT). Several boys said they did not understand English and mathematics and just could not cope with the subjects.

7. Marriage:

a) Almost all of them said that their parents will take the decision. They admitted that some boys are already married, and they left school as soon as they got married. All of them agreed that boys should marry only after the age of 21 years.

8. Future Plans:

a) It was indeed heart wrenching to hear them say that they have to work, make a living, and support the family. They did not reveal any ambition or have any other aspiration. In one group a boy said, 'In future we want to be "sanskari"—we want to be cultured and respect our parents; we want to get engaged in trade or employment'. Some of aspire to build a ***pucca*** (brick and mortar) house for the family and educate their younger brothers and sisters.

There were really no surprises. To begin with, it was not easy to gather a group of out-of-school adolescent boys because most of them were away at work. The FGD happened in the evening when they returned.

Out-of-school girls

The situation with out-of-school girls was not very different. To begin with, there were very few girls who were willing to come and participate in the FGD—in all we conducted six FGDs and the number of girls varied from four to eight. It was difficult to convince parents to let the married girls (who they had not reported as a child of 14-18 years) to come out. This was a serious issue.

1. When did you drop out?

a) The girls who participated were mostly unmarried and had dropped out fairly recently. Except for a few who had dropped out at elementary school, most of the girls had dropped out around classes 8 or 9 or even class 12. The ones who dropped out after class 10 were mostly SC or Gujjar girls. The Bhil, Lohar, and Gadri community girls dropped out earlier.

2. Why did they drop out?

a) The reasons are varied. As this was a self-selected group of out of school unmarried girls their response was guarded. One or two married girls who had not yet had their gauna were present in a few FGDs. Talking about their village, they said that girls drop out because of early marriage or if they are not able to cope with their studies. Interestingly, they said they go to school with friends and when some friends drop out, they also drop out. Going alone is out of question, perhaps because of a sense of insecurity or due to fear of harassment on the way to and back from school. The following quotes are self-explanatory:

i) 'In our group of friends some dropped out because of early marriage, some because they were not interested in studies, and some because they had to work at home / farms and help parents. A few wanted to study up to class 12, but the higher secondary school was far away and there was no lady teacher in that school. Most of us take care of our siblings.'

ii) 'School is far away from the village, so one girl dropped out. For another, it was her father's death, and another failed in class 9 because she could not understand English. Some girls dropped out because their friends went to private school and they did not want to go to the government school alone.'

iii) 'Our friends dropped out because they got married or they were not interested in studies. Some needed to graze goats or had to work at home. A friend failed in class 9. Another friend left school as she had no company. One girl was scared.' As the discussion came to a close, one girl said, 'In any case, in our society, girls don't study too much'.

iv) In one village that did not have a secondary school the girls said that this was the main reason. In the same village they also said that Vaish girls get married early, so they leave after class 8.

v) In the remaining two groups the reasons cited were marriage, work at home, sickness in the family, not having any money, or failing in class 8 or 9.

3. Who took the decision to drop out?

a) Like in the case of the boys, it is a mixed situation. It is a joint decision made either because of marriage, failure, work at home, or safety. Some girls said that parents wanted them to study. One girl said her mother used to drop her to school and she used to run back home because she did not like school.

b) The decision to take married girls out of schools was invariably taken by their parents-in-law—even before the gauna was performed.

4. Incentives they received in school:

a) Almost all the girls were not only aware of the incentives that they could get, but they were also recipients of such incentives. Some of them got a bicycle on reaching class 9; they all received uniforms and textbooks; and some even received merit scholarships. SC/ST/OBC girls received scholarships of Rs 400 to enable them to purchase school supplies. They all got mid-day meals.

5. Corporal punishment, physical violence, verbal abuse, sexual harassment:

a) In four of the six FGDs, the participants said they experienced physical violence—beaten with a neem stick—for not doing the homework or not closing eyes during prayers. Some said they were beaten when they got less marks in tests or when they did not wear their uniform.

b) However, no one discussed sexual harassment or discrimination—they remained silent. We tried to probe but could not elicit any response.

6. What they do now?

a) Almost all of them work at home, in their family field, and do not go out for wage labour. Only one girl said she had a job that pays her Rs 1500 per month.

7. Would they like to go back to school?

a) Unlike the boys, many of the girls said they would love to go back or study and give examinations privately. Some of them felt ashamed of going back to study with younger children. Sadly, none of them had heard of KGBV, which could give some of them an opportunity to return to school.

8. What did they like in school?

a) They like the cleanliness, their friends, the prayer, games (basketball), their teachers, wearing uniforms and making two plaits with their hair and tying it with a ribbon.

9. What did they dislike in school?

a) English, mathematics, and the beating from teachers.

10. Marriage:

a) They all said they do not want to get married before they turn 21; however, some of them were already married and regretted it. They said they should not have been married off so early.

11. Future aspirations:

a) Sadly, they did not say much. A few said they would like to learn stitching or computer or cooking, one girl wanted to study through the open school. The rest kept silent.

Maybe the responses of the girls and boys reflect the current agrarian crisis on the one hand, and the lack of any meaningful opportunities for education and training within their reach on the other. Equally, they had little information about KGBV or the National Skills Development Programme of the government. Completing school does not make sense to most of them as it does not prepare them to face the real world. The lack of post-school educational and training opportunities, non-farm work and avenues for employment, all come together to limit opportunities for these wonderful young people of Chittorgarh. It is indeed a very tragic scenario.

Insights from interaction with the community and parents

> *'If we educate girls too much, then it is difficult to find a match for them. And we have to take full responsibility of our daughters for a longer time. We also need our girls to look after small children. All parents want their children to study, but we have our own problems.'*

- A parent in a sample village of Chittorgarh

> *'We are worried that if our daughter studies, it will be difficult for us to find a suitable march for her. If we have younger children, then it is difficult to send the girls to school. Sometimes girls do not go to school because of early marriage. I want my children to study, but…' (essentially, they hinted that social norms and poverty are big barrier to realise their aspirations).'*

- A parent in a sample village of Chittorgarh

Parents of school-going children

Parents of children in school were aware and quite involved in the lives of their children. They all had dreams and aspirations. Sometimes they felt constrained by the social norms and practices. They were far more worried about their daughters than their sons. One got the feeling that they did love their daughters but knew the daughters will eventually go away and live in another family. They felt personally responsible for the safety and security of their daughters till they were married off. They were worried about their sons too—about their ability to earn a living, to not get into bad habits, and, most importantly, to take care of the family responsibilities. The preferences for sons was glaringly evident. Daughters are their responsibility till marriage and sons are their future. This mindset is deeply ingrained in the communities we interacted with in Chittorgarh.

There may be differences between communities though. The Bhil tribe community or the dominant SC community may have different perceptions, but grinding poverty makes their life choices far more difficult. Chittorgarh has been going through an agrarian distress; there are few employment opportunities for young men and women. The post-secondary vocational or technical education opportunities are few and far between and, above all, the grim reality of rural poverty, and poor and crumbling infrastructure is evident in all corners of the district. As discussed in the opening section of this report, child marriage rate in the district remains extremely high—among the worst in Rajasthan.

It is in this context that we need to decode the responses of parents who were gracious enough to participate in the FGDs.

1. Reasons for enrolling your boys and girls in government school?

a) Parents in one FGD were of the view that the quality of teaching has improved in government schools and, therefore, they shifted their children from private to government schools. In the remaining six FGDs, this was not mentioned. Parents said that they send their children to school to become more successful and discerning (***samajdar, hoshiyar***) or to get a government job. 'If children do not go to school our community will remain uneducated.' They said that the teachers are good in school (did not mention government or private) and finally that secondary education will enhance their knowledge.

b) In five of the seven FGDs, parents said that government school is free—they get textbooks and scholarships, and the teaching is good. One of the main considerations was that secondary education was free.

c) In one FGD, parents said that teachers in private schools are good and they come to school every day.

d) In the same FGD, one parent said that they want to send their daughters to girls-only school, but there were none near their village. This, they said, was an important concern.

e) In one FGD, parents said that there were no private secondary schools near their village, so they sent their children to the government school.

2. Scholarships related:

a) While all parents seem to be aware of free textbooks, this was not the case with other incentives/ scholarships.

b) In two FGDs, parents talked about merit scholarship (***protsahan***); in two other FGDs, they said their girls got bicycles; and in another FGD, parents said their children (boys and girls) get extra coaching.

c) The scholarship amount reported by parents varied from Rs 750 to Rs 1250 per annum. In one FGD, parents mentioned that only SC/OBC children get scholarships.

3. School fees:

a) Almost all parents said that there were no 'fees' in government schools. In one FGD, the parents reported that they have to pay the board examination fee of Rs 350. In another FGD, parents reported that there used to be some fee in the past, but now there is no fee.

4. Private tuitions:

a) We did not get any clear response to this question. In five of the seven FGDs, the parents did not comment on this. In two FGDs, parents said that they cannot afford tuitions. It is interesting that in the FGDs with school children (especially, girls), they reported that they get some kind of help during examinations and that their parents pay for it.

b) In one FGD, where the parents reported sending children to private school, they reported that children get additional tuition in the school itself.

5. Skills taught in school:

a) This question also elicited more silence than response. Parents in two FGDs said that their children do not learn any skill in school and that there is no teacher for computer. They, however, added that children make charts in science.

b) Most other parents were unaware of any skill training, but they all agreed learning skills would be useful.

6. Opportunities after class 10 and class 12:

a) Most parents were unaware of any vocational training or Industrial Training Institutes (ITI). In two FGDs, parents were aware of Basic School Training Certificate (BSTC) and Polytechnic and they had heard that it costs Rs 3,000 for a private vocational training centre. Another parent said it costs Rs 34,000 for a computer course.

b) Most parents said that their children were not aware of what courses are available. As a result, most of them get back to farming or wage labour.

7. Open School

a) In three FGDs, parents had heard of open school. They said that they do not want to enrol their children in open school because they cannot study on their own. In the remaining four FGDs, parents had not heard of open school.

8. Parental aspirations:

a) This question also elicited little response. Essentially, they said that after secondary education, their children will be competent (***saksham***).

b) Parental expectations (not aspirations) for their girls was that they can help their family and learn to take care of their homes.

c) Most parents said that they will send their boys for higher studies if they find something and are interested. Their aspirations were for boys to get a government job or become an officer.

Parents of out-of-school children

At the outset it is important to keep in mind that gathering parents of out-of-school children was difficult. It took a lot of effort to convince them to participate in a discussion about schooling. After a lot of effort, the research team was able to conduct six FGDs and in each group the number of parents were between seven and nine. In future, for such qualitative studies, it may be worthwhile considering taking villages where some NGO is working, so that the research team could take their support to convince parents to participate in discussions. Another important point, especially with respect to Rajasthan, is that the research study was done between two major elections. The state elections had just concluded, and the national elections were a few weeks away. This also influences the larger social environment in many ways and people are wary of saying anything in public. Convincing them that the FGDs were about education and not about any political issue helped us get some parents to come for the discussion.

Another interesting comment that parents made, in at least five FGDs, was to do with the attitude of the children (manasik sthiti) and how this influences their participation in school, working hard on their studies, and having some aspiration that propels them further. The phrase 'manasik sthiti' came up over and over again.

1. Where were children studying before they dropped out?

a) It is indeed noteworthy that in all seven FGDs, all parents reported that their children were studying in government schools—either upper primary or secondary.

2. When did the children drop out?

a) The response was varied. In five FGDs, the parents said that their children drop out after class 8 or class 9 and that there was not much difference between boys and girls. There are significant differences across sample villages though. Here are some quotations from parents:

i) 'Most dropped out after class 8 and some after class 9. Ten per cent of our children dropped out after class 8, and another 20% after class 10, and the rest before they entered class 12. Almost 80% of our girls drop out, while a few boys study up to class 12.' (Field notes from FGD)

ii) 'Some of our children dropped out after class 5 and the rest after class 7 or class 8. Our children have been out of school for three-four years now.' (Field noted from FGD)

iii) 'Most of our children dropped out after primary school (class 6 or 8). Some (mostly boys) went up to class 10. There are no girls' schools close by.' (Field notes from FGD)

3. Why did your children drop out?

a) Failure and not being able to cope with the studies were common reasons. In three groups, they said their children were not learning anything. In one group the parents said, 'There was a shortage of teachers and no studies happening in the school, so the children dropped out (***padhai chhoot gayi***).' In another group the parents said, 'We wanted our children to continue after class 8, but they

decided to leave because they "did not want to study". They did not have any interest in studies, and they found studies difficult.' Interestingly "not interested in studies" was linked to not learning.

b) In one group the parents talked about why their daughters dropped out, 'We wanted our children to study after class 6 (pratmikh shiksha ke baad) - but we could not continue to send them to school. All the teachers were male, and we did not want to send our girls to such schools. Our daughters were not comfortable (***apni man ki baat nahin keh paati***). Toilets were very bad and not usable too.'

c) No access to a secondary school within reach was also a reason cited in one group, 'There were no secondary school close by and the higher secondary school is very far away (4-5 km away). There are no girls-only secondary schools. There are no private schools in the vicinity, and, therefore, our daughters dropped out.'

d) Friends dropping out was mentioned in one group: 'There are many reasons. Children fail and do not want to go. A friend of my daughter dropped out and my daughter had no company, so she dropped out. Earlier our village had a school only up to class 8—at that time, many dropped out after class 8."

e) Parents in one group said their children dropped out because they needed to work and earn money. In another group, the parents said that, in one case, the, death of the father forced the child to drop out and start working. In one group a parent said, 'Our economic condition is also not very good, so we also did not insist they continue. All parents want their children to study further…but what to do'?

f) In one group the parents said that some children left because they did not want to study further.

g) Interestingly, none of the parents mentioned marriage as a reason for dropping out. As discussed in earlier sections of this report, parents were wary of admitting that child marriage was prevalent. What they did say is that after the children drop out, some get married. This was mentioned after a lot of probing in one group.

4. Did their children get any incentives or scholarships (when they were in school)?

a) In all the groups parents said they their children got textbooks.

b) The response on scholarships was mixed—some said some specific castes get scholarships and some mentioned that girls got scholarships and cycles. However, almost all of them said that timeliness was an issue.

c) Some quotes from FGDs:

i) 'When our children were enrolled, they did not get any scholarship and even when they were supposed to get it, it did not reach in time. However, all children got textbooks and girls are given cycles in class 9.'

ii) 'Children of SC/ST/OBC get scholarships, and there is also some scholarship for the good performing students (***protsahan chatravriti***).'

5. Who took the decision to drop out?

a) This question elicited interesting responses. In most cases, the decision was taken by the family. However, in a few cases the child decided to drop out.

b) Here are some interesting quotes from the group discussions:

i) 'We realised that education will not help them get employment; therefore, we did not stop our children when they wanted to leave school.'

ii) 'In our village, mothers and fathers take the decision. We wanted some of our children to study in

English medium schools, but we do not have the resources to send them. Fee is high.'

iii) 'The children and the parents take a decision, but in some cases the fathers took the decision. In some cases, the mothers took the decision for daughters.'

iv) In one group, the parents said, 'The grandparents and uncles etc., said that there was no point in continuing in school, so the girls were encouraged to drop out. They felt the girls need to learn work… (but did not specify what that work meant).'

v) In one group the parents said that the most educated person in the family helps make the decision.

6. Were there any economic reasons (explore in detail)?

a) The response was mixed. Parents often contradicted each other during the discussion. At one level, some of them said that government schools are free; therefore, there were no compelling economic reasons. At another level, some said that they had to pay for transport, stationery, and uniform. None of the parents said that their children received uniforms in secondary school—not even for the girls and children from SC/ ST families.

b) Here are some quotes:

i) 'There was no economic reason because education is free in government schools. Girls and children from very poor families (SC/ST) get scholarships, bicycle, books etc.'

ii) 'Even when our children went to government schools, we had to pay for transport (secondary school) and give some money to eat something in school. We have to spend at least Rs 1,000 every month.'

iii) 'Government schools are free; however, we have to spend on pens, pencils, and books. Additionally, we have to spend Rs 1,000 on uniform.'

7. Participation in parent-teacher meetings and link with the school:

a) The parents in most groups said that they did not have any continuous link with the school; however, some did attend meetings and raised issues like the need for a laboratories, playground, and computers. As the secondary schools were not in the same village, many parents said they could not attend meetings. Several parents said they were not aware of any school committees and did not attend meetings.

b) Here are some quotes:

i) "We do not have any link with the school on a daily basis. Some of us attend the meeting (parents meeting) where we hear about how they are doing in studies.'

ii) 'We are not aware of any meetings and we don't have time. We are busy with our work.'

iii) 'None of us (in our village) went to any meetings in the schools because the secondary school that is outside the village / far away.'

8. What are the dropout children doing now and how much do they earn?

a) In almost all the cases, parents said that their children were working in the field, and sometimes they take on daily wage work. In three villages, parents said that the children earn about Rs 50,000 a year. In the other three groups, parents could not give any estimate of how much their children earn. In all the groups, parents said that the girls work in the home and in their fields, and it is the boys who work outside for wages. They also said that boys do not go out for work on a daily basis.

b) Here are some quotes:

i) 'Children, boy and girls, help in the farm / fields and in housework. They are not employed (***koi***

vishesh naukri nahin karte); and they add around Rs 50,000 a year to the household income. Girls work inside the home.'

ii) 'They help us at home—in the fields and with the animals. We do not know how much they earn or contribute. If they go for daily wage work, then they earn Rs 100-150 a day. This is not on a daily basis but whenever they get work.'

iii) 'Our children work at home and in the fields. They do not have any paid employment. One boy is a driver (tractor) and earns some money; as a driver, he earns about Rs 50,000 a year.'

9. If the children were to get a second chance to go back to school, would they?

a) Parents in only three of the six FGDs said that they will consider this. But they also said that the attitude of their children has to change for them to seriously consider going back to school. Here is what they said: 'We will definitely consider if they get an opportunity. We will be happy if they study further and make something of their life. For this to happen, the children's attitude should change (*manasik sthiti*), they should we ready to study with younger children.' In the second group, parents said they will consider it, but again they said that once a child drops out, they do not want to go back to school. What was a bit disturbing was that none of them had heard of KGBV (for girls). As a result, they had no idea of what options their daughters have in case they drop out in primary school.

10. Knowledge of Open School: One set of parents in one village (out of six) knew about Open School, and they were not sure how their children could take advantage of that. In all the other villages, the parents had not heard of Open School or KGBV.
11. Parental aspirations were limited to their sons earning a living and able to support themselves and their families. They were silent on their aspirations for the daughters—this was evident because they used the word bacche (referring to boys) and not bacchi (referring to girls) in their responses. Silence on aspirations for their girls reflect the dominant patriarchal mindset where they believe their daughters should get married and live the rest of their lives with their husband's family.

a) 'We want our children (***bacche***) to be educated and help with the family occupation also (parents referring to children who do not want to work in the fields/family occupation). Only then, will we get support.'

b) 'Our aspirations are simple—we want them (***bacche***) to work, earn, and manage their own expenses. We want them to get some good employment and live with the family and be happy.'

c) 'We want our children (***bacche***) to get a job (***naukri***) where they get a regular income. We wanted them to study and go out for work.'

The deafening silence on child marriage said a lot more that words could. As discussed in earlier sections of this report, there was a palpable fear about talking about child marriage—this district is amongst the worst when it comes to early marriage of girls.

People with more financial resources, the not so poor and the rich, were absent from any discussions. It is only the very poor who sent their children to government schools and were willing to talk to the research team. As a result, the interactions with children and parents were limited to

the poorest communities in the area.

5.7 Learning and quality of education

This section is divided into two parts. The first is an analysis of the learning outcomes (what and how much are children learning) using both existing data (from National Achievement Survey Test [NAS]) and the test administered during the survey.

What and how much are students learning

National Achievement Survey (NAS) Test result of the sample district have been compared with the result of same test at state and national level (Table 5.24 & 5.25).

It is noteworthy that subject-wise and gender-wise learning levels of students at the state level (Rajasthan) are better than the national average. However, learning outcomes in the sample district (Chittorgarh) are comparatively lower than the state averages and higher than the national average. This reinforces our own observation in the sample villages.

Table 5.24: Average Performance of Students of Class 8 in National Achievement Survey (NAS), 2017

	Language (in %)		Mathematics (in %)		Science (in %)		Social Studies (in %)	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Chittorgarh	62	64	52	50	55	55	59	60
Rajasthan	67	67	57	57	62	62	63	63
India	56	57	42	42	44	44	44	45

Table 5.25: NAS: Learning outcome of students of Class 8 in Chittorgarh

Subject	Overall (in %)	Gender (in %)		Area (in %)		Social Group (in %)			
		Male	Female	Rural	Urban	SC	ST	OBC	General
Language	63.13	62.16	64.21	63.27	62.47	62.65	61.53	63.89	62.90
Maths	50.69	51.53	49.76	50.69	50.67	49.32	51.87	50.35	52.31
Science	55.55	55.46	55.66	55.41	56.26	50.88	58.75	56.63	52.47
Social Studies	59.45	58.82	60.15	58.82	62.54	58.71	59.96	60.02	57.20

In Table 5.25, the learning outcome of students of the sample district were analysed across subjects, gender, urban and rural areas, and across social groups. In Rajasthan, there are no aided schools and data of private schools were not available; hence, they were not included in the table. Across all subjects, situations (urban or rural) and different social groups, the achievement level of student were between 50% and 60%. No significant correlation was observed in any category.

Table 5.26: Performance of Students of Class 10 in Chittorgarh, in National Achievement Survey (NAS), 2017

Subjects	District Average (% correct)	State Average (% correct)	National Average (% correct)
Mathematics	33.77	38.60	**34**
Science	32.33	37.91	**34**
Social Science	42.06	44.95	**39**
English	33.18	37.49	**36**
Modern Indian Language (Read. Comp.)	53.88	55.53	**49**

Table 5.26 depicts the performance of students of class 10 at district (Chittorgarh), state (Rajasthan), and at national level. State level average across all subjects is higher than national level. For the sample district Chittorgarh, results are broadly comparable to the national level. Performance of children in class 10 is almost half of their performance in class 8, and one of the possible reasons for this could be that teachers have not prepared students for competency levels of class 10 or it was the students' inability to understand the class 10 curriculum.

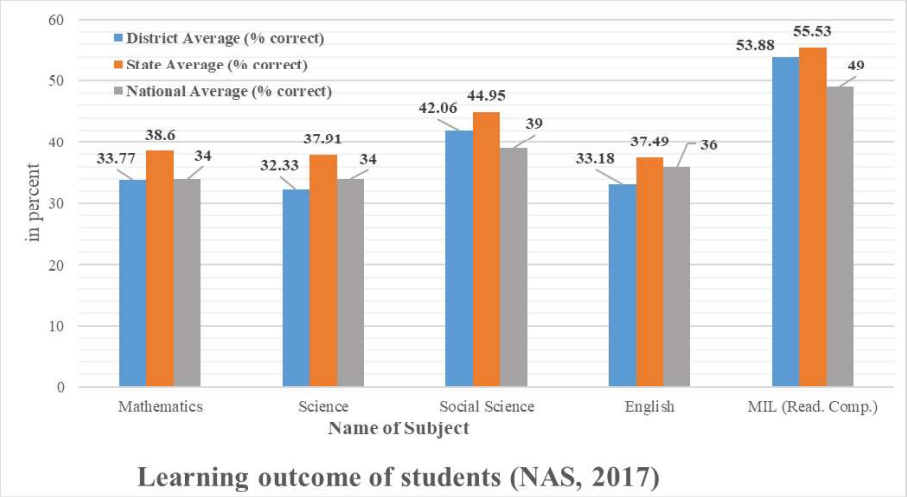


Table 5.27: Statistical highlights of Rajasthan State Board of Secondary Education (RBSE) results for Class 10, 2018

Total number of students	10,58,018
Total number of passed students	8,44,909
Overall pass percentage	79.86
Pass percentage of male students	79.79
Pass percentage of female students	79.95

In Table 5.27, the results of class 10, Rajasthan State Board of Secondary Education (RBSE) are presented. There is a significant difference in outcome of children in NAS and RBSE. One reason for the difference could be pattern of examination. For the RBSE exams, teachers specially conduct classes and explain the pattern of examination. In RBSE exams, a large number of questions are based on rote learning and classroom practices are based on solving these types of questions only. The other possibility is based on the practices teachers/schools follows for the board exams. Teachers/schools forward forms for board exams of only those students who they are confident will pass the exam.

In Table 5.28, result of class 10 of RBSE, from 2014 to 2018 have been compared. There is approximate 15% reduction in the number of students who appeared in exams in 2014 and 2018 and almost the same amount of increase in pass percentage. Certainly, there is no connection between this, but it is important that students pass percentage has increased significantly during this period.

Table 5.28: Performance in Class 10 Board Examinations from 2014 to 2018 (in %)

Year	2018	2017	2016	2015	2014
Total number of students	10,58,018	10,98,655	10,51,105	11,06,048	11,04,326
Overall pass percentage	79.86	78.96	75.89	78.10	66.46
Pass percentage of male students	79.79	79.01	76.02	77.87	66.69
Pass percentage of female students	79.95	78.89	75.70	78.41	66.46

In the study, results of school-level exams of classes 8 and 9 were also analysed (Table 5.29 and Table 5.30).

Table 5.29: Annual Assessment of boys and girls from two sample schools Chittorgarh

	School 1 Elementary		School 2Secondary (average of two secondary schools)					
	Class 8		Class 8		Class 9		Class 10	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Number of children who took the exam	9	12	31	19	12	17	20	15
No of children who got less than 33% marks	--	2	-	1	3	4	1	1
Number of children who got between 33% and 60%	1	1	12	4	4	6	15	10
Number of children who got more than 60%	8	9	19	14	5	7	4	4
Total number of children	21		50		29		35	

Table 5.30: Overall annual assessment from the sample schools, Rajasthan

	School 1 Elementary (in %)	School 2, 3, 4… Secondary (in %)		
	Class 8	Class 8	Class 9	Class 10
Children who got less than 33% marks	9.52	2	24.13	5.71
Children who got between 33 — 60%	9.52	32	34.48	71.42
Children who got more than 60%	80.95	66	41.37	22.85

In class 8, elementary school, 81% of the children got more than 60% marks while in secondary school, 66% of the children of class 8 achieved the same level.

Assessment conducted during the Study

An assessment of 249 students of classes 8 and 9 was conducted in all the eight sample schools for assessing their learning levels for language (Hindi and English) and maths. All students of classes 8 and 9 were included in the test if the total number of students in each class were 25 or less than 25. If the number of students in any class was more than 25, we randomly selected 20 students from each class.

Table 5.31: Gender wise distribution of students in the sample schools

	Written		Oral	
State Rajasthan	Numbers	Percentage	Number	Percentage
Boys	138	55.42	107	55.44
Girls	111	44.57	86	44.55
Total	249	99.99	193	99.99

All children were given pen and paper assessments in Hindi, English, and maths. In addition to the pen and paper tests, activity based oral tasks were given to test that all children have acquired the foundational skills.

Process of testing

In each school, children from the respective classes were randomly identified and their names, age, and parents' names were taken down by the investigators (in case, the number was more than 25). The investigators had been trained to conduct and record the oral and written testing by CERP team to ensure that assessments are conducted efficiently as well as in child-friendly manner. During the selection of students and throughout the testing process, concerning teachers, students who were selected, and also who were not selected were briefed about the purpose and process of testing. Ample time was given for written as well oral tests.

Written test

Children were given a time limit of one and a half hours to complete the written test. Children were made to sit in rows, at some distance from each other. There were two samples set of question papers for the pen and paper assessment. Children sitting next to each other were given different set of question papers. Questions were a combination of multiple-choice format, short constructed response, and long constructed response. In maths, basic skills like numbers, subtraction, division, fraction, etc., were included in the test paper. It was explained to the children, at length in the beginning of the pen and paper assessment, how to attempt the questions, particularly multiple-choice questions.

Oral testing

After the written test, children were asked to appear for the oral tests. For oral tests, the children were divided into groups of four. All four children in the subgroup were given different sets of reading material in Hindi, maths, and English, in the same sequence. The investigators for each group made them read the material and recorded their responses as per the directions.

Language (Hindi) Assessment

Basic Reading Tasks: A set of progressive basic reading tasks were given to all children.

Reading Skills

Table 5.32: Percentage of children at different reading levels

Reading Level	Annual Status of Education Report (ASER) 2018 - Class 8, Rajasthan Government schools (in %)	CERP Assessment - CERP Government Schools ((**107 Boys, and 86 girls; a total of 193 students**)					
		Boys	**Boys in %**	**Girls**	**Girls in %**	**Total**	**Total in%**
Beginner (cannot even read letters)	1.5	2	1.86	0	0	2	1.03
Can read letters but not words or higher	3.8	2	1.86	1	1.16	3	1.55
Can read words but not paragraphs or higher	4.5	5	4.67	1	1.16	6	3.10
Can read paragraphs but not stories	11.9 (Class 1 level test)	3	2.80	1	1.16	4	2.07
Can read stories	78.3 (Class 2 level test)	95	88.78	83	96.51	178	92.22

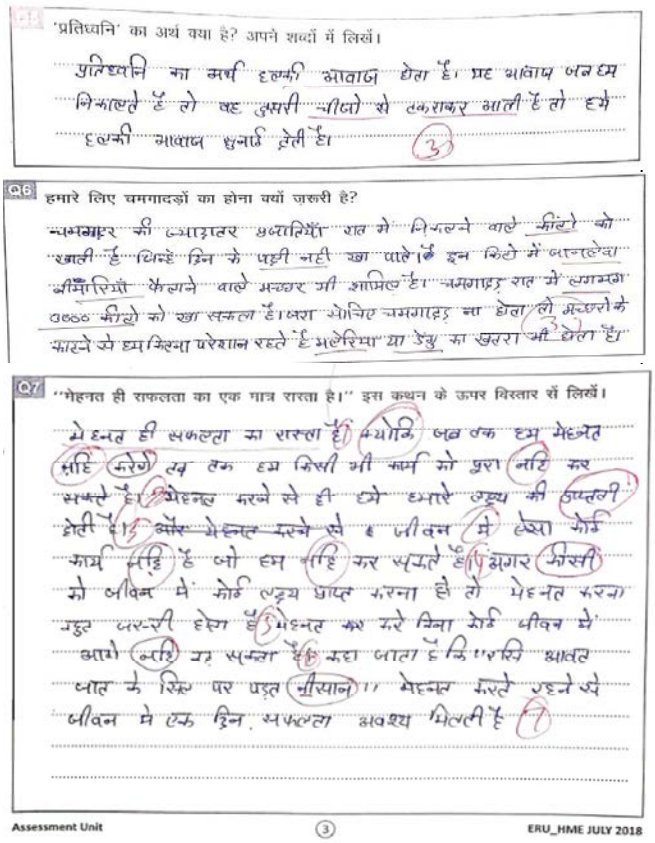
While using the above table for analysis, it is important to keep in mind that Annual Status of Education Report (ASER) is a household survey that assesses all children aged 5-16 in the sampled household. A school-based sampling was done in CERP Assessment, and the tests were administered inside the school.

The performance level of student in CERP test was better in comparison to the test conducted by ASER. Girls performed better than boys in all categories. It was surprising that around 8% students of classes 8 and 9 could not read a simple text of the story, which was of class 2 level. This is noteworthy; children seem to concentrate and focus on the work when tests are administered inside the school. When children are tested in the community in front of parents and onlookers, many of them may become self-conscious and nervous.

Table 5.33: Contents of language pen and paper assessment

Reading comprehension tasks: Questions based on a given passage (Informative passage) Retrieve fact directly from text (Open ended) Retrieve fact directly from text (multiple-choice questions [MCQ]) Integrate information (MCQ) Integrate information (Open ended) Vocabulary tasks: Writing synonyms (MCQ) Word Meaning (Open ended) Creative writing task: Writing meaningful sentences on a given statement.	There were two samples of the pen and paper assessment. Children sitting next to each other were given different samples. Questions were a combination of multiple-choice format (five options given), short constructed response and long constructed response. How to attempt multiple-choice questions (MCQ) was explained on the black board at the beginning of the Language pen and paper assessment. All papers were graded by Centre for Education, Research & Practice (CERP) team in Jaipur.

Table 5.34: What was asked in reading versus what the textbook demanded.

Excerpt from ~350 words informative passage from the assessment.	Answer sheet of a student
	

All class 8 and class 9 children who are assessed are expected to read at least this text, which was of class 7 level. The results have been compiled here in Table 5.35—it shows how well children locate a single piece of explicitly stated information given in the text.

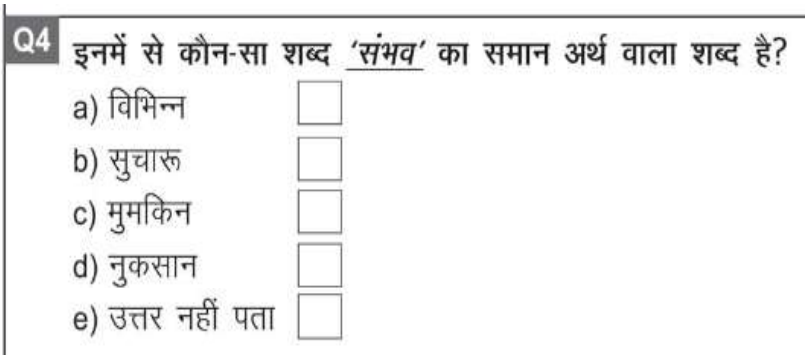
Table 5.35: Retrieve question: Locating a single piece of explicitly stated information given in the text

Q. 1: Text — Informative text (IT) - Retrieve question: Locating a single piece of explicitly stated information given in the text.				
	Not attempted	Incorrect answer	Correct answer	% of correct answer
Boys	7	13	118	85.51%
Girls	1	5	105	94.59%
Total	8	18	223	89.56%

Eleven per cent students could not give the correct answer. The percentage of girls who answered the question correctly was more than boys.

Task in pen & paper assessment
~350 words 3 multiple choice questions (MCQ) 4 constructed response questions **Retrieve question:** Locating a single piece of explicitly stated information given in the text. Questions were a combination of five options **Open ended:** Short/Long constructed type response.

Note: The open-ended questions were constructed response questions. The answers were penalised for spelling and grammar errors and were graded either incorrect, partially correct, or completely correct.


Q4 इनमें से कौन-सा शब्द *'संभव'* का समान अर्थ वाला शब्द है?

a) विभिन्न ☐
b) सुचारू ☐
c) मुमकिन ☐
d) नुकसान ☐
e) उत्तर नहीं पता ☐

Table 5.36: How well children understand the entire text and synthesis for overall meaning

Interpret question — Understanding the entire text and synthesis for overall meaning												
	Q. 2 MCQ — Multiple choice questions				Q. 3 MCQ — Multiple choice questions				Q. 4 MCQ — Multiple choice questions Writing synonyms			
	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct
Boys	3	56	79	57.25	3	63	72	52.17	6	71	61	44.20
Girls	2	59	50	45.05	6	50	55	49.55	10	50	51	45.95
Total	5	115	129	51.81	9	113	127	51.00	16	121	112	44.98

Q 2 and 3 were Multiple-Choice Questions (MCQs) taken from the story given in the text paper and —they were related to locating a single piece of explicitly stated information given in the text. In both only half of the students could answer it correctly.

Q4 was related to the text and meant to understand student knowledge about the vocabulary. Only 45% students could answer it correctly.

Table 5.37: How well can children read and comprehend?

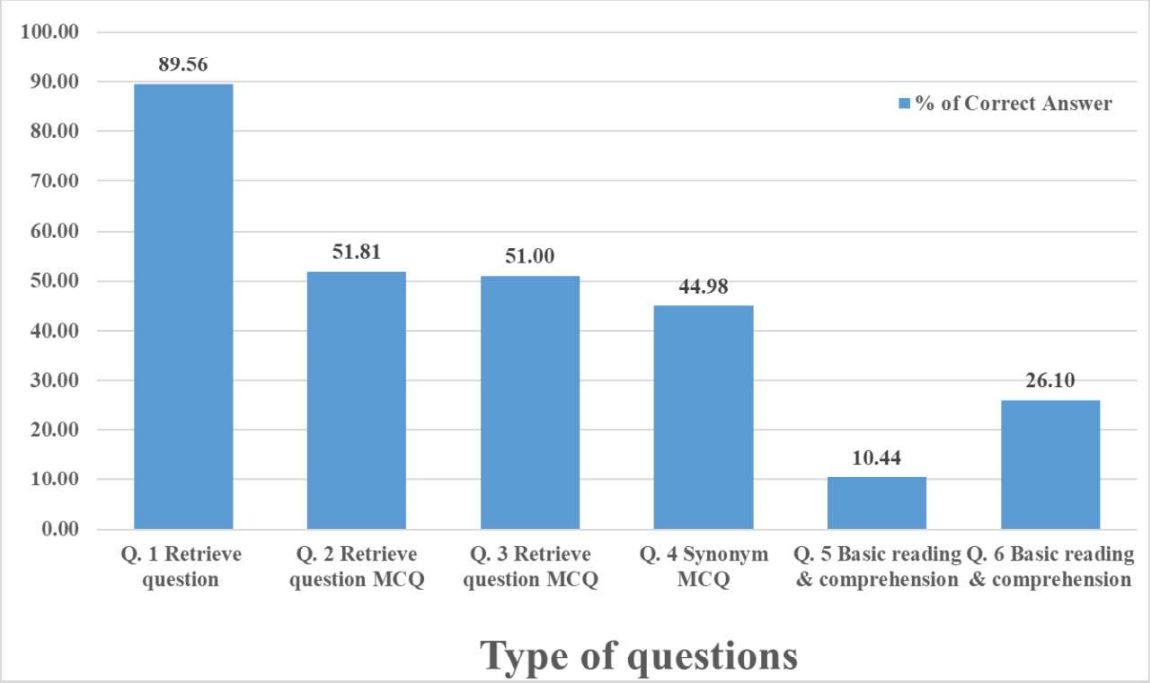
Q. 5: Word Meaning - How well can children read and comprehend					
	Did not Attempt	Incorrect Answer	Incomplete Answer	Correct Answer	% of Correct Answer
Boys	32	75	22	9	6.52%
Girls	8	67	19	17	15.32%
Total	40	142	41	26	10.44%

This question was related to testing the word meaning. Ninety per cent students either could not comprehend the meaning of the word or they had difficulty in writing the answer.

Table 5.38: Link between basic reading & comprehension

Q. 6: Is there any link between basic reading & comprehension					
	Did not Attempt	Incorrect Answer	Incomplete Answer	Correct Answer	% of Correct Answer
Boys	30	46	29	33	23.91%
Girls	14	33	32	32	28.83%
Total	44	79	61	65	26.10%

Seventy-four per cent student unable to give correct answer. It means that student understanding in basic reading and its comprehension was low.



Children were asked to write meaningful sentences on given topic. This writing task was assessed for content and ideas, grammar, spellings, and vocabulary.

Table 5.39: children write on "Content"

Content (C) — Number of sentences written on the topic				
	No sentence	1 to 5	6 to 10	11 to 15
Boys	71 (51.44)	50 (36.23)	17 (12.31)	(0 0)
Girls	56 (50.45)	32 (28.82)	19 (17.11)	4 (3.60)
Total	127 (51.00)	82 (32.93)	36 (14.45)	4 (1.60)

Fifty-one per cent children could not write even a single sentence. There was some gender wise difference in the capacity of writing sentence. Almost same percentage of boys and girls had not written any sentence. In the category of students who had written 11 to 15 sentences, number of girls were 3.60% more than boys. Only 1.60% children (both boys and girls) could write 11 to 15 sentences.

Definitions
Content (C) — Number of sentences written on the topic. Spellings and grammar mistakes were then counted for these content sentences.
Spellings (S) — Number of spelling mistakes. While counting the spelling mistakes the graders have not included the difficulty level of words.
Grammar (G) — Number of grammatical mistakes. Grammar mistakes include mistakes of tense, singular/plural, gender, connectors missing or wrong sentence construction. Only 1.63% children have made more than 4 grammatical mistakes in their answers.
Vocabulary (V) - For vocabulary, all answers were clubbed into 3 categories based on the overall usage of words in the answer — 1) Above average, 2) Average and 3) Below average.

Table 5.40: No of spelling mistakes in the content

Spellings (S) — Number of spelling mistakes																
	Spelling Mistakes (1-5 sentences)															
	0	1	2	3	4	5	6	7	8	9	10	11	12	18	19	22
Boys	7	8	4	6	3	5	5	4	3	0	0	1	1	1	1	1
Girls	4	6	5	7	1	1	3	2	0	1	1	1	0	0	0	0
Total	11 (13.41)	14(17)	9	13(16)	4	6	8	6	3	1	1	2	1	1	1	1
	Spelling Mistakes (6-10 sentences)															
	0	1	2	3	4	5	6	7	8	9	10	12	18			
Boys	2	0	1	2	3	4	0	1	0	1	1	2	0			
Girls	3	3	2	0	1	2	3	1	2	0	0	1	1			
Total	5(13.88)	3(8.33)	3(8.33)	2(5.55)	4	6	3	2	2	1	1	3	1			
	Spelling Mistakes (11-15 sentences)															
	3	5	16													
Boys	0	0	0													
Girls	1	2	1													
Total	1(25)	2(50)	1(25)													

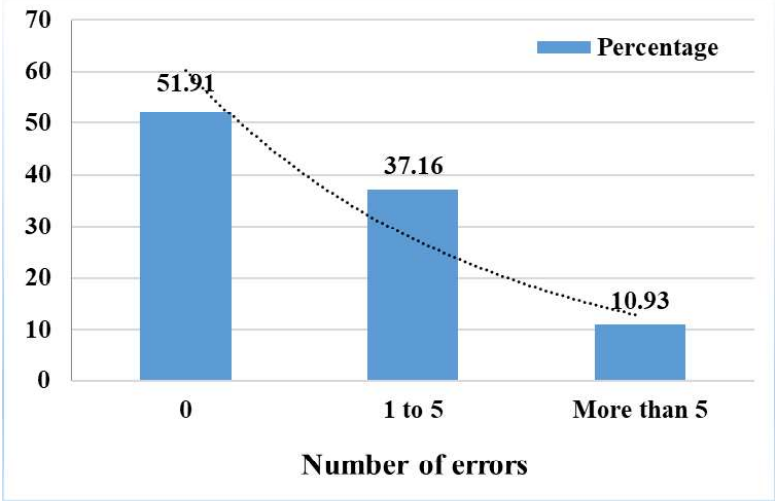
It is indeed positive that 13.41% students (1-5 sentences), 13.88% (6-10 sentences) and 25% (11-15 sentences) students committed almost no mistakes in the category of students. This was also the case with grammatical mistakes, as evident in table 5.41 below. Eighty-nine per cent, 83% and 50% students respectively committed 0 mistakes. Those who have written more sentences have committed less mistakes. Similarly, in the vocabulary section, numbers of mistakes committed by the students decrease in percentage in groups who had written more sentences (Table 5.42).

Table 5.41: No of grammatical mistakes

Grammar (G) — Number of grammatical mistakes						
	Grammar Mistakes (1-5 sentences)					
	0	1	2	3	4	5
Boys	47	1	1	1	0	0
Girls	26	1	2	1	1	1
Total	73 (89)	2	3	2	1	1
	Grammar Mistakes (6-10 sentences)					
	0	1	2	3	4	
Boys	14	2	1	0	0	
Girls	16	2	0	0	2	
Total	30 (83.3)	4	1	0	2	
	Grammar Mistakes (11-15 sentences)					
	0	1	9			
Boys	0	0	0			
Girls	2	1	1			
Total	2 (50)	1	1			

Table 5.42: Uses of words

Vocabulary (V) — Number of mistakes					
	Vocabulary Mistakes (1-5 sentences)				
	0	1	2	3	
Boys	34	9	5	2	
Girls	18	9	3	2	
Total	52(63.41)	18	8	4	
	Vocabulary Mistakes (6-10 sentences)				
	0	1	2	3	4
Boys	7	4	3	3	0
Girls	9	3	3	3	1
Total	16(44.44)	7	6	6	1
	Vocabulary Mistakes (11-15 sentences)				
	0	1	3		
Boys	0	0	0		
Girls	1	2	1		
Total	1(25)	2	1		



Summary: Language (Reading and Writing)
Reading and Comprehension:

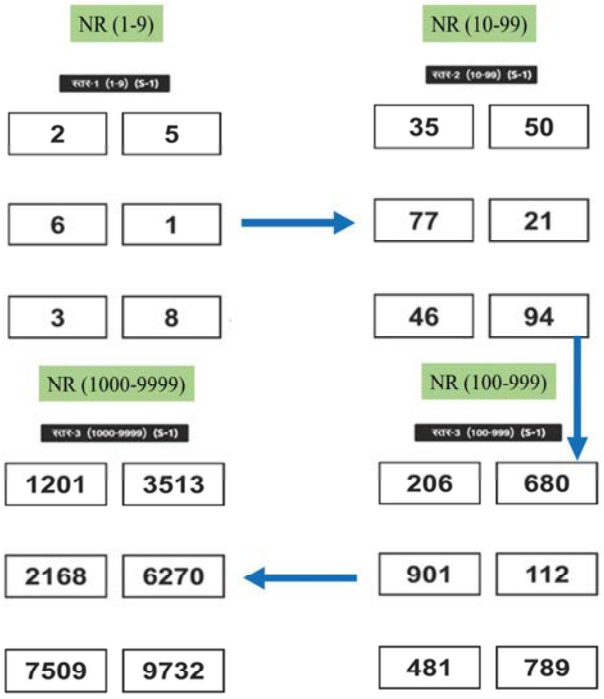
In class 8, 11% of boys and 5% of the girls could not read class 2 level content. In the retrieval and MCQ questions, students' performance was comparatively much better than questions based on comprehension and word meaning. It reflects that not enough opportunities are provided to students for written exercises.

Writing:

Fifty-one per cent children could not write meaningful single sentence, 33% could write only 1 to 5 sentences. Only 4% children were in the group that could write 11 to 15 sentences. No mistakes committed in grammar, vocabulary, and spelling mistakes by 86.03%, 56.55%, and 14.75% of students, respectively.

Mathematics Assessment
Basic Math Tasks

A set of progressive basic number recognition tasks were given to all children:



Numbers reorganisation
Percentage children who can recognise numbers

We have tried to present what we found in the sample schools and juxtaposed it to the ASER 2018 (Grade 8 [class 8], Government schools) performance. We found that 77% students could recognise 1,000 to 9,999 number correctly. No particular difference was observed between boys and girls. It is noteworthy that all students who are in secondary could not recognise numbers up to 9,999. This reveals that the students are far below the expected level in mathematics.

Table 5.43: Students performance in number recognition

Arithmetic level	Annual Status of Education Report (ASER) 2018 - Grade 8 Rajasthan Government schools (in per cent)	Centre for Education, Research & Practice (CERP) Assessment - CERP Government Schools (**107 Boys, and 86 girls; a total of 193 students**)					
		Boys	**Boys in %**	**Girls**	**Girls in %**	**Total**	**Total in%**
Not even 1-9	0.8	**2**	1.87	**1**	1.16	**3**	1.55
Can recognise numbers up to 9 but not higher numbers	6.8	2	1.87	3	3.49	5	2.59
Can recognise numbers up to 99 but not higher numbers	29.4	9	8.41	3	3.49	12	6.22
Can recognise numbers up to 999 but not higher numbers	Data not available	14	13.08	11	12.79	25	12.95
Can recognise numbers up to 9999	-do	80	74.77	68	79.07	148	76.68

Table 5.44: Contents of Maths Pen & Paper Assessment

Number System	Recognize Place value 4 digit in numbers and words. Represent numbers in fraction, decimal, and percentage.
Number Operations	Addition, subtraction, and division Addition of fractions
Word Problem	Subtraction, division Multi Step Word Problem (Unitary Method) Average Simple Interest
Shape and Geometry	Triangles Area and perimeter
Others	Data handling

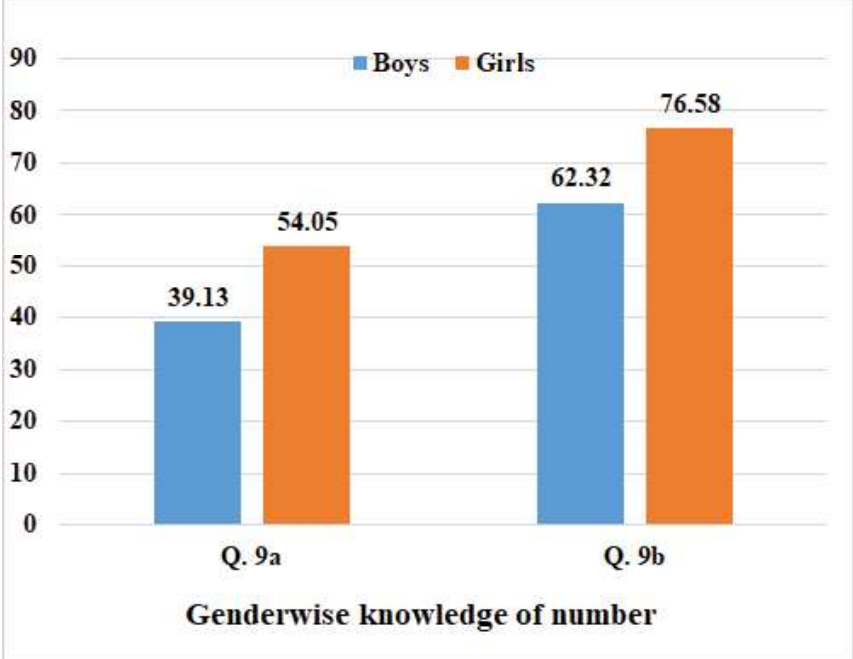
Maths pen and paper assessment also had two samples. All maths papers were also graded by the CERP Jaipur.

Do all children have number knowledge?

Table 5.45: Student performance in questions related to place value

Competency	Q9a: Finding the place value of a given digit in a 4-digit number.				Q9b: Which digit is in hundredth place in a 4-digit number?			
	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect Answer	Correct	% Correct
Boys	15	69	54	39.13%	17	35	86	62.32%
Girls	14	37	60	54.05%	12	14	85	76.58%
Total	29	106	114	45.78%	29	49	171	68.67%

In understanding the place value questions, the performance of girls was better that the boys (see Table 5.45). The score has relation with the earlier table (Table 5.44), where we have observed that 77% if the children are familiar with 999-1000 number.



Student score in question 9a is less than in question 9b. Question 9a is based on place value and identification of number in the question. In question 9b, the answer is related to identification of figure at fixed place i.e. hundredth level.

Do all children have number knowledge?

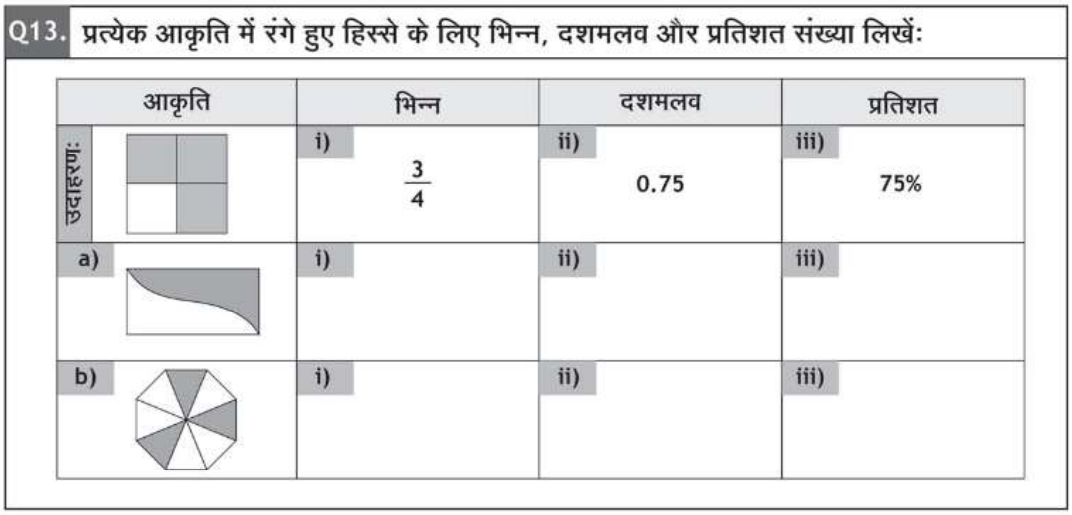


Table 5.46: Performance of children in questions of fractions

Competency	Q13ia - Forming fractions from figures				Q13ib - Forming fractions from figures			
	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct
Boys	20	10	108	78.26%	23	28	87	63.04%
Girls	10	7	94	84.68%	11	15	85	76.58%
Total	30	17	202	81.12%	34	43	172	69.08%

As evident in Table 5.46, 30 students did not attempt the answer and 17 gave incorrect answers. More girls (84.68%) than boys (78.26%) were able to give the right answer in question 13ia and 76.58% girls and 63.04% boys gave the correct answer in question 13ib.

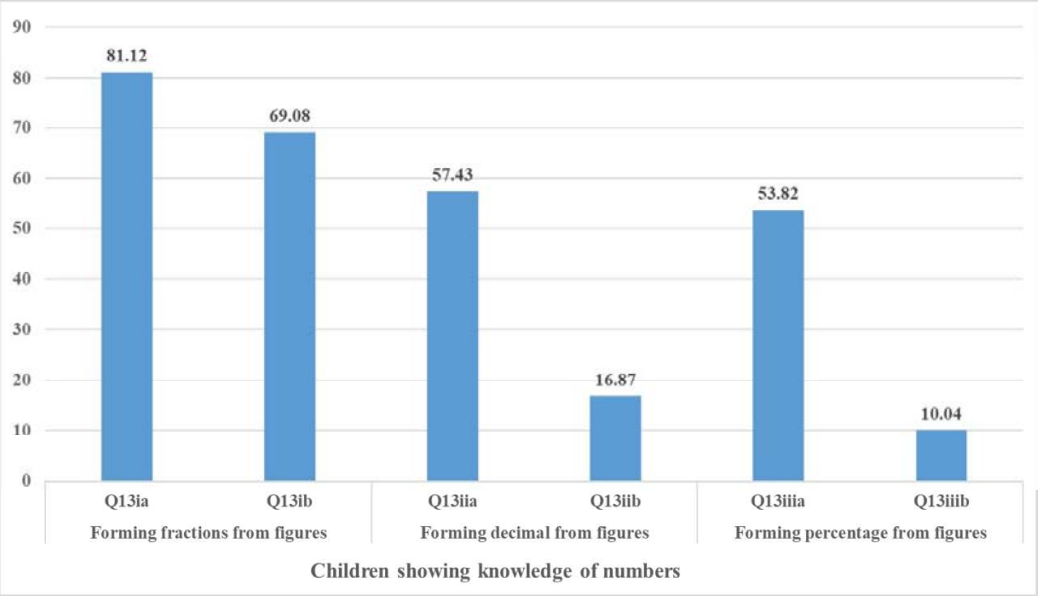
Table 5.47: Performance of children in questions of decimal

Competency	Q13iia: Forming decimal from figures				Q13iib: Forming decimal from figures			
	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct
Boys	24	24	90	65.22%	34	84	20	14.49%
Girls	23	35	53	47.75%	24	65	22	19.82%
Total	47	59	143	57.43%	58	149	42	16.87%

The total proportion of students who answered correctly the questions related to decimals is less than those who answered correctly the question on fractions; a larger number of students did not attempt the question (47) and got an incorrect answer (59); see Table 5.47. This is indeed interesting because when fractions are depicted in decimal points, the comprehension of the concept seem to be poorer. When the students were asked to solve questions related to percentages, the performance was similar to decimals (Table 5.48).

Table 5.48: Performance of children in questions of percentages

Competency	Q13iiia: Forming percentage from figures				Q13iiib: Forming percentage from figures			
	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct
Boys	27	28	83	60.14%	39	87	12	8.70%
Girls	21	39	51	45.95%	24	74	13	11.71%
Total	48	67	134	53.82%	63	161	25	10.04%

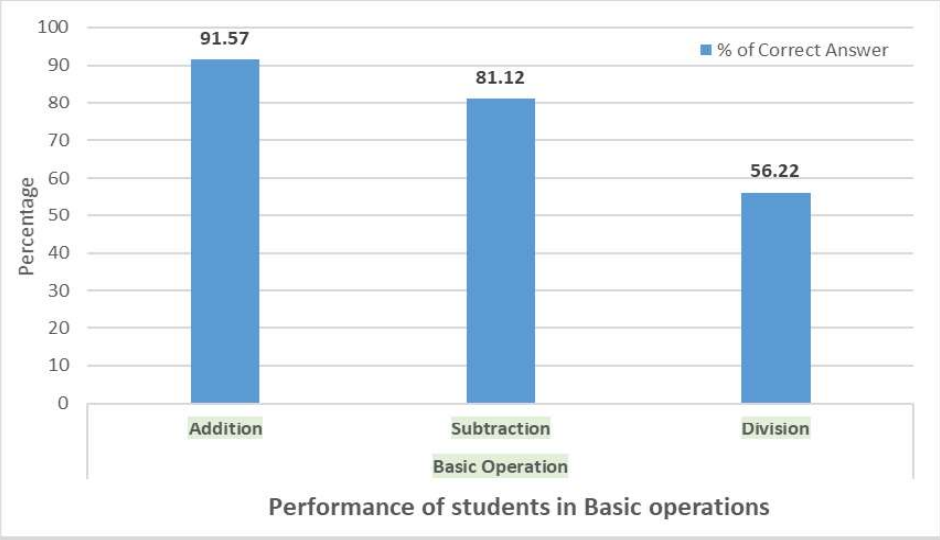


It may be noted that in the fraction section (question 13ib), the complexity level is higher than in question 13ia—this is also reflected in the percentage of children getting the answers right. In decimal, the percentage of correct answers have reduced drastically indicating their poor understanding. In the question that required converting figures into percentages, the achievement level further decreased thus indicating children's poor understanding of the concept. Number knowledge is one of the foundational pillars of maths. Children need more conceptual clarity on the number system, be it natural numbers, fractions, decimals, or percentages.

When it comes to basic operations like simple addition and subtraction, we found that there was a noticeable decrease in student achievement. Further decrease is evident in division question. The pattern is same across both genders.

Table 5.49: Basic operations

Competency	Q8a: Addition (numerical) (3 digits by 3 digits)				Q8b: Subtraction (numerical) (3 digits by 3 digits)				Q8c: Division (numerical) (3 digits by 1 digit)			
	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% correct
Boys	3	9	126	91.30	3	27	108	78.26	10	47	81	58.70
Girls	2	7	102	91.89	1	16	94	84.68	9	43	59	53.15
Total	5	16	228	91.57	4	43	202	81.12	19	90	140	56.22



Question 14 (addition of fraction) was based on class 4 competency. It was indeed significant that almost half of the students could not answer the question correctly. This clearly shows that children reach higher classes without understanding basic concepts as evident in Table 5.50.

Table 5.50: Student performance in addition of fraction sum

Competency	Q14: Addition of fraction			
	Not Attempted	Incorrect Answer	Correct Answer	% of Correct Answer
Boys	15	62	61	44.20%
Girls	14	36	61	54.95%
Total	29	98	122	49.00%

Does basic reading and comprehension affect performance in Math

It is well known that there is a close relationship between the ability to read with comprehension and performance in mathematics and science. When students are not able to understand the question because of poor comprehension, they end up performing poorly.

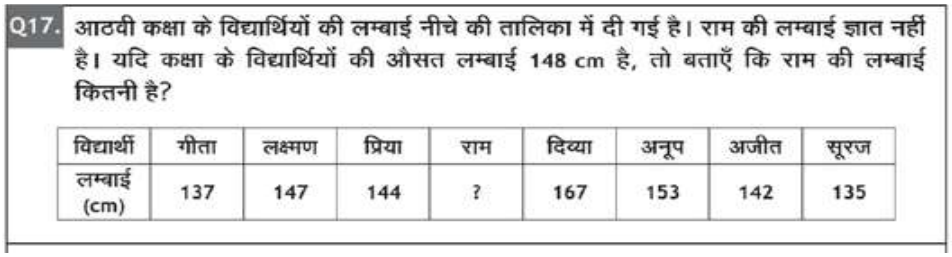
As evident in Table 5.49, the ability of children to answer question 8b (subtraction) was 81.12% and question 10, was 63.86%. The one possible explanation for the difference is that the student may have faced difficulty in question 10 as it was in word problem. The same explanation is not applicable for division part, student achievement in question 8c was 56.2%, while in question 11, it was 63.05%. However, question 11 was in word problem. On further analysis, it was found that in question 8c, the expectation from the student was to describe steps in solving the question. While in question 11, only the answer was required. In question 12, the last section had two problems which were integrated (division followed by multiplication) together, and, hence, the difficulty level for the students was higher—only 38.15% could answer it correctly.

Table 5.51: Percentage of children answering specific questions correctly by reading level.

Competency	Q10: Subtraction word problem (three digits by single digit)				Q11: Division word problem (three digits by single digit)				Q12: Combined (division followed by multiplication) in word problem (three digits by single digit)			
	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct
Boys	14	41	83	60.14	18	35	85	61.59	21	56	61	44.20
Girls	6	29	76	68.47	16	23	72	64.86	20	57	34	30.63
Total	20	70	159	63.86	34	58	157	63.05	41	113	95	38.15

What about other questions?

Performance against curriculum expectation


Q17. आठवी कक्षा के विद्यार्थियों की लम्बाई नीचे की तालिका में दी गई है। राम की लम्बाई ज्ञात नहीं है। यदि कक्षा के विद्यार्थियों की औसत लम्बाई 148 cm है, तो बताएँ कि राम की लम्बाई कितनी है?

विद्यार्थी	गीता	लक्ष्मण	प्रिया	राम	दिव्या	अनूप	अजीत	सूरज
लम्बाई (cm)	137	147	144	?	167	153	142	135

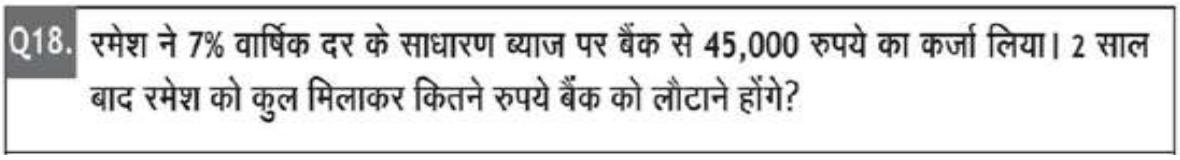

Q18. रमेश ने 7% वार्षिक दर के साधारण ब्याज पर बैंक से 45,000 रुपये का कर्जा लिया। 2 साल बाद रमेश को कुल मिलाकर कितने रुपये बैंक को लौटाने होंगे?

Table 5.52: Student performance in Averages and Simple Interest.

Competency	Q17: Average Performance against curriculum expectation				Q18: Simple Interest Performance against curriculum expectation			
	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct
Boys	47	81	10	7.25%	46	69	23	16.67%
Girls	36	57	18	16.22%	32	64	15	13.51%
Total	83	138	28	11.24%	78	133	38	15.26%

Questions 17 and 18 were based on class 6 competencies. Most of the students of classes 8 and 9 could not answer these questions, and overall, the outcome was 15% or in some cases even less than 15%.

What about basic geometry?

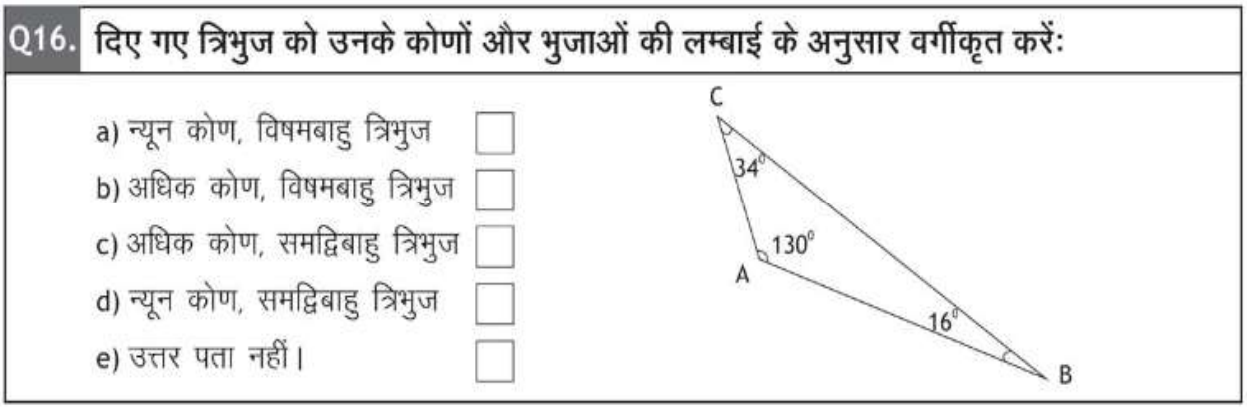


Table 5.53: Percentage of children answering Class 8 curriculum questions correctly

Competency	Q16: Basic geometry			
	Did not Attempt	Incorrect	Correct	% Correct
Boys	23	65	50	36.23%
Girls	17	50	44	39.64%
Total	40	115	94	37.75%

As compared to other competencies in maths, students scored better (competency level of question was of class 8). The question was an MCQ.

Children competence in solving measurement questions and applied tasks.

The children were asked to look at the data and answer questions based on it. These kinds of questions appear in class 5 textbooks

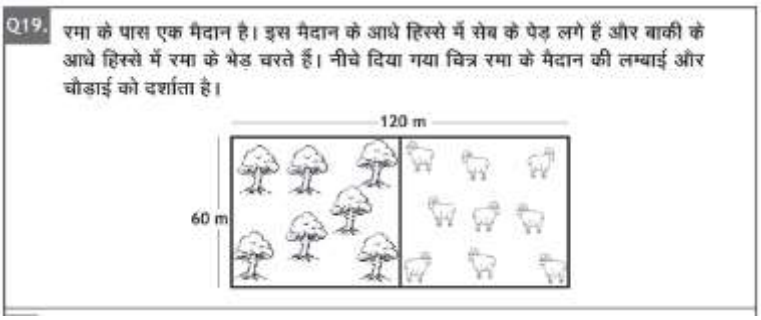


Table 5.54: Student performance in measurement questions

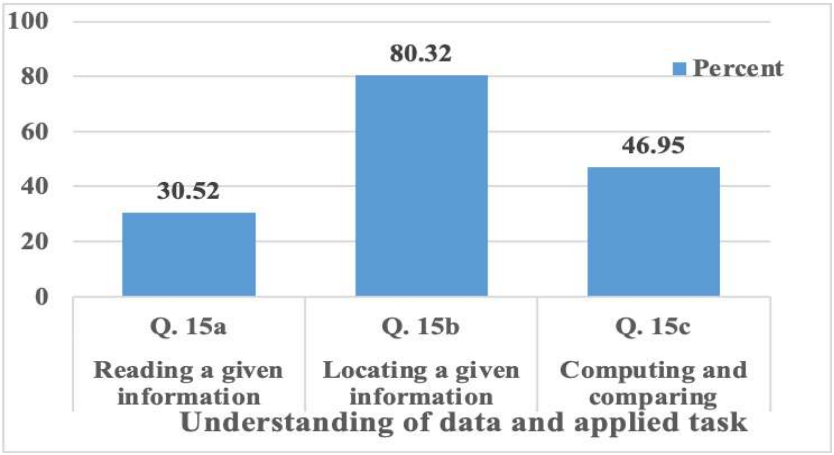
Competency	**Q19a:** Measurement of area				**Q19b:** Measurement of perimeter				**Q19c:** Measurement and applied task			
	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct
Boys	18	75	45	32.6	33	54	51	36.9	41	79	18	13.0
Girls	13	57	41	36.9	25	45	41	36.9	29	66	16	14.4
Total	31	132	86	34.5	58	99	92	36.9	70	145	34	13.6

Around 65% of the students could not answer simple question (class 5) related to measurement and perimeter. In question 19c, the difficulty level was certainly high because as compared to question 19a and 19b, only 13.65% of the students could answer question 19c.

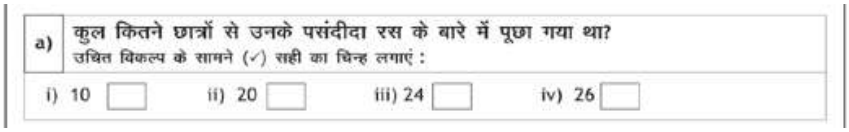
Table 5.55: Students' understanding of data and answering simple applied tasks

Competency	**Q15a:** Reading a given information				**Q15b:** Locating a given information				**Q15c:** Computing and comparing			
	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct
Boys	11	86	41	29.71	11	22	105	76.09	15	63	60	43.48
Girls	5	71	35	31.53	3	13	95	85.59	3	51	57	51.35
Total	16	157	76	30.52	14	35	200	80.32	18	114	117	46.95

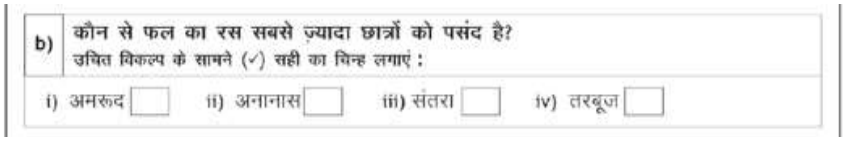
In question 15b, students were asked to read the graph and give answers. In other two questions, 15a &15c, in addition to reading, some interpretations were also required. Students scored comparatively better in 15b as compared to other two related questions.



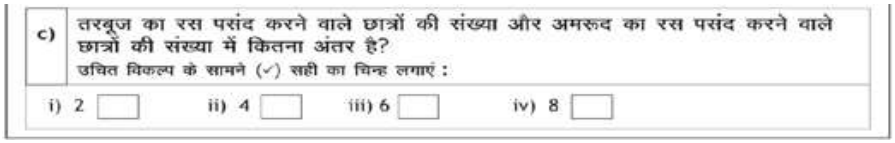
Easy (Q 15a)


a) कुल कितने छात्रों से उनके पसंदीदा रस के बारे में पूछा गया था?
उचित विकल्प के सामने (✓) सही का चिन्ह लगाएं :
i) 10 ☐ ii) 20 ☐ iii) 24 ☐ iv) 26 ☐

Easy (Q 15b)


b) कौन से फल का रस सबसे ज़्यादा छात्रों को पसंद है?
उचित विकल्प के सामने (✓) सही का चिन्ह लगाएं :
i) अमरूद ☐ ii) अनानास ☐ iii) संतरा ☐ iv) तरबूज ☐

Hard (Q 15c)


c) तरबूज का रस पसंद करने वाले छात्रों की संख्या और अमरूद का रस पसंद करने वाले छात्रों की संख्या में कितना अंतर है?
उचित विकल्प के सामने (✓) सही का चिन्ह लगाएं :
i) 2 ☐ ii) 4 ☐ iii) 6 ☐ iv) 8 ☐

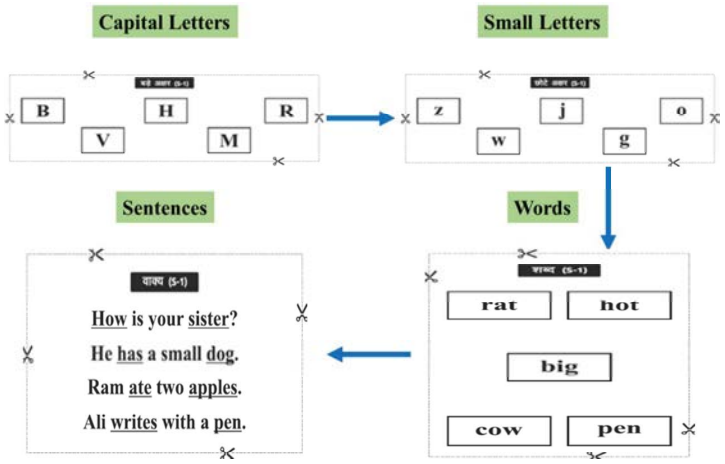
It can be seen that wherever a child has to apply arithmetic skills (understanding mathematical representation or computation) in the task, their ability to answer goes down.

Summary: Mathematics
Oral, Number Operations and Word Problems:

In oral tests related to number knowledge (1-9999), students performed well indicating that they could recognise number up to four digits. Approximately 50% of the students could not do division with single digits. In operations of addition and subtraction, over 80% of the students performed well. However, in the subtraction question given with word problems, their achievement levels decrease slightly. In geometry section, students performed competitively better. In questions related to application of fundamental concepts, student could not perform well.

English Assessment
Basic Reading Tasks

A set of progressive basic reading tasks were given to all children, starting with capital letters, followed by small letters, words and sentences, as depicted below:



The competency in English was fairly good; 56.07% of boys and 62.79% of girls could read simple sentences. Given that English language is alien to the community, this is quite an achievement; however, we must hasten to add that the competency the children were tested for was basic class 5 competency.

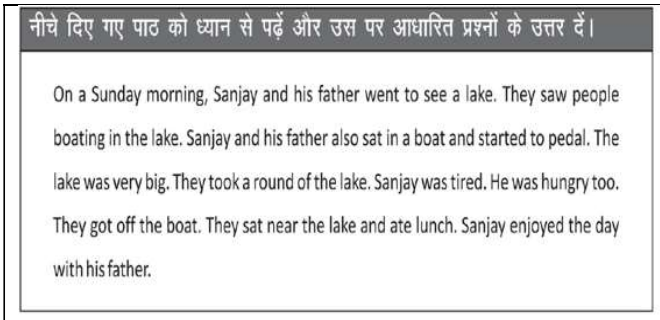
Table 5.56: Percentage of children reading at different reading levels

Reading level	Centre for Education, Research & Practice (CERP) Assessment - CERP Government Schools (**107 Boys, and 86 girls; a total of 193 students**)					
	Boys	**Boys in %**	**Girls**	**Girls in %**	**Total**	**Total in%**
Beginner **(not even capital letter)**	2	1.87	6	6.98	8	4.15
Can read capital letters but not small letters or higher	7	6.54	4	4.65	11	5.70
Can read small letters but not words or higher	14	13.08	10	11.63	24	12.44
Can read words but not sentences	24	22.43	12	13.95	36	18.65
Can read sentences	60	56.07	54	62.79	114	59.06

Table 5.57: Contents of English pen and paper Assessment

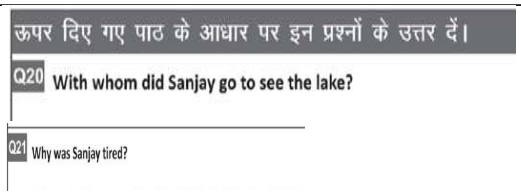
Reading comprehension tasks: Questions based on a given passage (Informative passage) Retrieve fact directly from text (Open ended) Integrate information (Open ended) Writing task: Writing meaningful sentences of words.	There were two samples of the pen and paper assessment. Children sitting next to each other were given different samples. Questions were a combination of short constructed response and long constructed response. All papers were graded by Annual Status of Education Report (ASER) team in Delhi.
English reading comprehension text has the following structure: Number of words: 72.00 Number of sentences: 10.00 Average number of characters per word: 3.78 Average number of syllables per word: 1.40 Average number of words per sentence: 7.20	

What was asked in reading comprehension?


नीचे दिए गए पाठ को ध्यान से पढ़ें और उस पर आधारित प्रश्नों के उत्तर दें।

On a Sunday morning, Sanjay and his father went to see a lake. They saw people boating in the lake. Sanjay and his father also sat in a boat and started to pedal. The lake was very big. They took a round of the lake. Sanjay was tired. He was hungry too. They got off the boat. They sat near the lake and ate lunch. Sanjay enjoyed the day with his father.

Note: The open-ended questions were constructed response questions. The answers were penalised for spelling and grammar errors and were graded either incorrect, partially correct, or completely correct.


ऊपर दिए गए पाठ के आधार पर इन प्रश्नों के उत्तर दें।

Q20 With whom did Sanjay go to see the lake?

Q21 Why was Sanjay tired?

Retrieve question: Locating a single piece of explicitly stated information given in the text.
Interpret question: Understanding the entire text and synthesis for overall meaning.
Open ended: Short constructed/Long constructed type response.
Out of 120 children, 25% did not attempt any comprehension questions.
Of all the children, 40% could not even answer a direct fact retrieval question.

Table 5.58: Percentage of children answering specific questions correctly

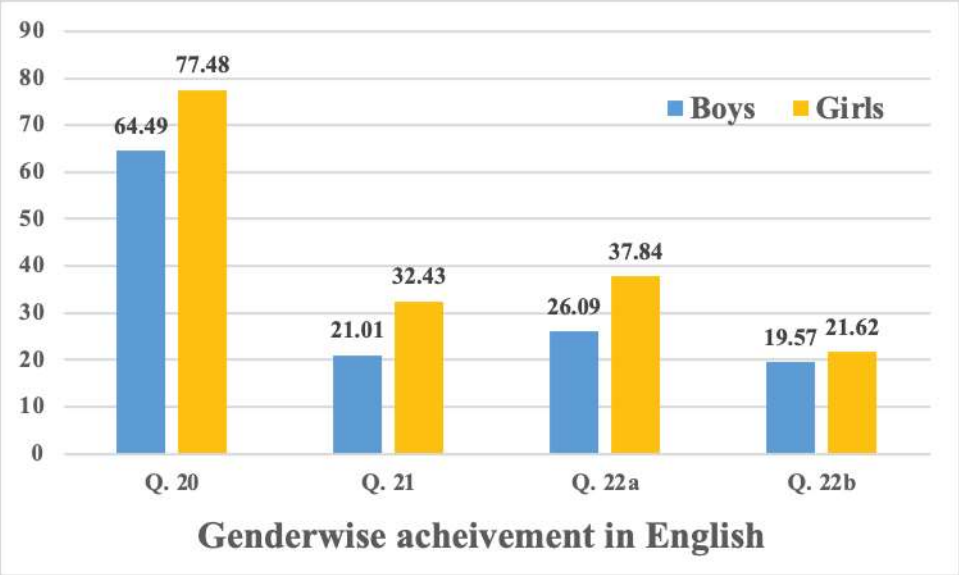
Competency	**Q20.** Percentage of children answering specific questions correctly				**Q21.** Percentage of children answering specific questions correctly				
	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Incomplete	Correct	% Correct
Boys	27	22	89	64.49	38	48	23	29	21.01
Girls	9	16	86	77.48	10	37	28	36	32.43
Total	36	38	175	70.28	48	85	51	65	26.10

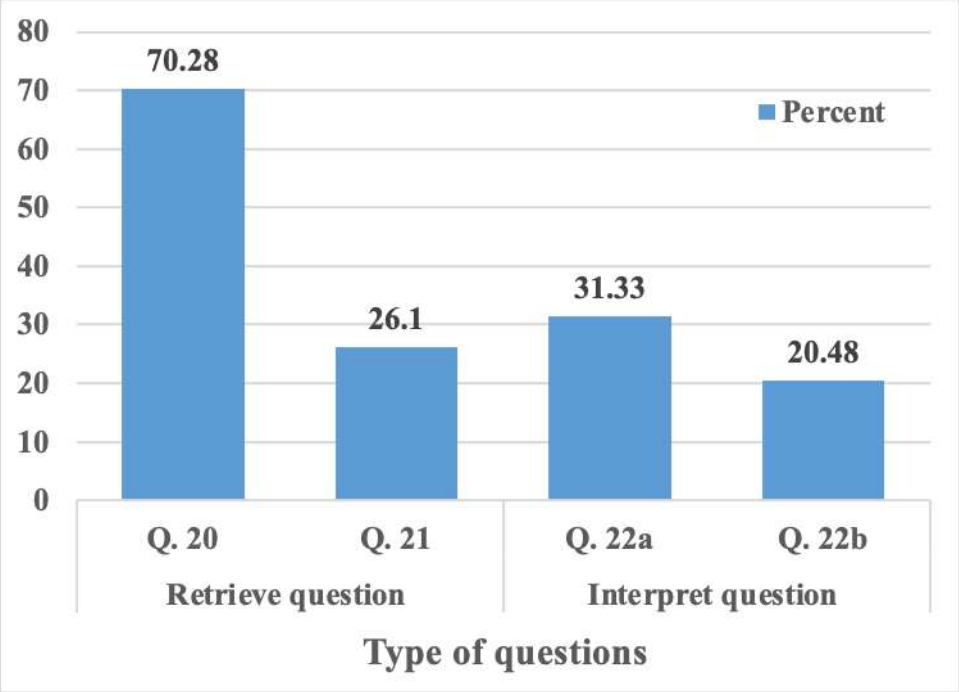
In question 20, the students were expected to retrieve the information from the given text and 70% of them were able to do it correctly. However, in question 21, the students had to pick information from the text and frame an answer. Here only 26% children were able to do it correctly, with girls doing slightly better than boys.

Table 5.59: Exploring link between reading comprehension and writing

Competency	**Q22a.** Understanding the entire text and synthesis for overall meaning				**Q22b.** Understanding the entire text and synthesis for overall meaning			
	Not Attempted	Incorrect	Correct	% Correct	Not Attempted	Incorrect	Correct	% Correct
Boys	51	51	36	26.09%	59	52	27	19.57%
Girls	29	40	42	37.84%	36	51	24	21.62%
Total	80	91	78	31.33%	95	103	51	20.48%

Students faced difficulty in answering questions 22a and 22b as they were expected to construct meaningful sentences. Their score is comparatively better in question 22a as perhaps, in that question, students got some clue for the word with which sentence were to be framed. In question 22b student did not get any clues as the given word “come” was not in the text.





Summary: English (Reading and Writing)

Overall performance level in English is low; girls have performed slightly better. In retrieval question, students performed better as compared to the question for which formation of new sentences was required.

Learning assessment: Summary

Test papers for the learning assessment were graded—i.e., containing competency from classes 2 to 8 in all three subjects. Students' performance across three subjects was found much below the satisfaction level. There were significant number of students in classes 8 and 9 who could not read and write simple sentences and solve class 4 and 5 level mathematics operations. In most cases, no significant major difference was observed in the performance of boys and girls.

In Hindi, language student achievement is comparatively higher in MCQs. In questions that required

descriptive answers, students either left the question unanswered or tried to skip them with very short answers. This reflects their weakness in writing skills.

In maths, students performed comparatively better in geometry. Their competence to deal with simple mathematic operations like addition, subtraction, multiplication, and division was found below satisfaction level. More than 50% of the students faced difficulty in multiplication and division sums of classes 4 and/or 5. In topics of area, interest, and average calculation, their performance was just around 10% to 20%, especially when questions were asked in word problems.

In English language, some students in classes 8 and 9 were unable to identify capital letters. Around 50% of the students had difficulty in reading simple sentences. The results of ASER 2018 were also analysed in context with the test conducted in the state. Overall, the achievement of children was observed better in tests conducted by CERP. One of its explanations could be that ASER conducted test in the community, in the age group 5-16 years, while the test conducted by CERP of students were in the age group of 14-16 years, and they were studying in class 8 or 9.

Teaching-learning processes as observed in sample schools:

- Most of the schools are coeducation schools. Within schools, boys and girls do not mix; within classes too, boys and girls sit separately in two groups.
- In class, the general practice observed was that in the beginning of any class, the first teacher writes few sums/sentences on the black board (this takes about seven to ten minutes). This was followed by explaining what they have written. The next step could be asking students to take out the textbooks from the bags and open the chapter related to the text /sums written on the board.
- Teachers follow the lecture method and at the end, they ask students to solve the questions that were given at the end of the chapter. Invariably, students take help from guidebooks and copy the answers. In the state across all schools and classes student and teacher use guidebooks in teaching-learning processes. Teachers get specimen copies of the guidebook free from the publishers and, in turn, they promote their guide. In the school bags, children generally carry guidebooks in lieu of textbooks.
- In the schools, there are no practices related to use of any Teaching-Learning Materials (TLM) other than textbooks or guidebooks. Information and communication technology (ICT) lab does exist in the schools, especially meant for classes 9 and 10 but there was no instance where teachers were using these labs in teaching/learning processes. Throughout the study period, the team did not come across any instance in which teacher was using any TLM, charts, study materials or any other kind of materials.
- In the classrooms, teachers' attention was found limited to few students who were sitting in the front rows. In most of cases, they were not at all bothered what other children were doing in the class.
- In maths, teachers followed the practice of writing a few sums on the board with solutions and student copy them on their notebooks.
- In other subjects (English and science), most of the time when teacher asked questions in the class, they were addressed to all students collectively. Teachers did not try to find out who and how many have not understood what was taught in the class.

Chapter 6

Dullards, Drop-outs, and Daughters: Examining Quality of Secondary Education in Andhra Pradesh

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6 Introduction

Andhra Pradesh (AP) is a relatively newly formed state; it was carved out of an erstwhile state with the same name that was divided AP and Telangana in 2014. One of the southern Indian states, AP or Andhra, fares better in terms of educational indicators at secondary stage of education in terms of enrolment, transition, and retention as compared to Rajasthan, the other state studied through this research. This is despite the fact that AP has always been at the lowest end amongst the southern states where Kerala, Tamil Nadu and Karnataka usually fare better in educational indicators. However, like all other southern states, AP too, as discussed in Chapter 2, has a negative population growth, which means a declining school-age population; therefore, this reduces the challenge of providing education to all to that extent.

Andhra Pradesh has a favourable sex ratio both at childbirth, and, for the population as a whole, it also reports higher gender parity at all stages of school education. The participation of educationally disadvantaged communities such as Scheduled Castes (SCs), Scheduled Tribes (STs), and Other Backward Classes (OBCs), has been increasing over the years at all stages except senior secondary, which could be attributed to several factors. The senior secondary level is not a part of the school education structure per se—a separate standalone Department of Intermediate Education controls these institutions known as inter-college or pre-university colleges, and these are far fewer in numbers as compared to secondary schools. Although at higher stages, it is not the proximity of schools or educational institutions but the accessibility to the institution that matters more, it is clear that it acts as barrier for students from disadvantaged communities—perhaps also because these are highly privatised or even "corporatized", as discussed earlier in Chapter 4. This stage of education is highly privatised, with 62% of institutions being in the unaided private sector and with chains of "corporate schools" playing a dominant role. Privatisation is high even at secondary stage (42% schools are unaided private) and has implications for the poor as they might find it unaffordable, and also for girls as parents may not like to spend money on their schooling. Also important is the fact that these private schools largely act as "integrated" institutions that combine school education and coaching for the engineering entrance examination at the post intermediate stage, but start coaching-focused education right since the secondary stage, if not the upper-primary stage. As discussed earlier, these institutions command political patronage and charge high fees, and focus only on entrance-centred academics with no place for physical activity, rest, or extracurricular activities. There have been several suicide cases by students, but it has hardly had any impact on their functioning and power.

As discussed in Chapter 2, the male-female differences in Gross Attendance Ratios (GAR) have either reduced or have changed in favour of females over the period of 2007-08 to 2017-18 in both rural and urban areas, and at both secondary and senior secondary stages. As a result, the signs of emerging reverse gender disparity are visible. However, a perusal of the Gender Parity Index (GPI) of the GAR by social groups and economic quintiles (or economic groups divided into five levels of consumption expenditure) does not show any clear pattern indicating that girls' participation in secondary schooling may not have a linear relationship with economic status of the household. At the senior secondary level, the GARs are low for both males and females in almost all social and economic groups except the General category and the highest quintile.

What is striking is that the incidence of child marriage has remained high despite higher levels of secondary schooling participation rates among girls. It is also interesting to note that child marriage does not emerge as a major reason in self-reported reasons for dropping out from schools. Given that marriage before 18 years is illegal, there is a possibility of under-reporting this as a reason, while partially using engagement in household chores or economic activities as a proxy for that. Nevertheless, what emerges is that social norms are sticky problems, and schooling, although important, alone is unable to change these. This is perhaps also a comment on the quality and

content of the education being delivered in the schools as education per se can either reinforce or change the existing practices, depending on the content and the approach.

The issue of quality and learning are other major issues as the attendance ratios are low as compared to enrolment ratios, and merely high enrolments do not necessarily ensure learning. The institutional ethos as well as the state policies pay a major role in determining how and what kinds of learnings are valued and promoted. The discussions in Chapter 4 make it clear that the state or government schools are part of a large-scale, complex, and fragmented system controlled by a powerful bureaucracy and guided by a deep vested, interests-driven political economy. While on the one hand, students from all strata and communities are entering schools with aspirations and hope for high-quality and relevant education, the teachers, on the other hand, are themselves merely the lowest level employees fighting for their rights and entitlements, struggling to keep up their salaries, positions, and promotions while belonging to an almost unthinking, non-reflexive and indifferent yet highly centralised institutional system. A vast web of institutions exists at state, district, and sub-district (mandals in AP) levels for recruitment, control, and training of teachers; the schools merely become a tool for the implementation of various education related policies and production of datasets for the system rather than being independent and creative learning institutions.

One of the most important education related policies with implications for quality of education relates to language and the medium of instruction. Given that, on the one hand, most research in education establishes the importance of using mother tongue, especially in early years, for better learning, and on the other, English has established itself as a language of power and aspiration, India has been facing a tension between using the state language (Telugu in case of AP) or English as a medium of instruction. Andhra Pradesh (AP) follows a policy where a child has the freedom to choose one of the three languages—English, Telugu, or Urdu—as their medium of instruction starting from class 1 up to class 10. This is challenging, and till we undertook our fieldwork, it remained unclear different children choosing different medium would unfold in a classroom or a school. Students in government schools in AP receive free midday meal (classes 1 to 10), three sets of uniforms every year (classes 1 to 8), bicycles for girls (classes 8-9), various kind of scholarships (girls, minorities, SCs and STs with varying eligibility and entitlements), and free edutain (no tuition fee for classes 1 to 10). The government of AP also has an elaborate hostel system for students of varying age and classes coming from disadvantaged communities. Again, we need to know how these work, and influence an individual student and their family, and their education-related performances or decisions.

In this chapter we present our findings and analysis of data from our field work in Chittoor, a district in AP. The chapter is divided into six sections. The next section presents the methodology of our field work followed by two sections that present the analysis of the household survey results and the learning achievement survey results, respectively. The following section attempts to go deeper into these by using the data from the Focus Group Discussions (FGDs) held with diverse stakeholders and connecting the dots emerging from surveys. Finally, we present a brief section of conclusions. Our fieldwork based analysis is an attempt to see and gauge what all these policies and institutions mean for an individual child or an individual family, who is trying to negotiate these to access some meaningful learning and complete a stage of schooling that could enable a change in their lives.

6.1 Methodology

The primary goal of the study was to understand the status of secondary education (classes 9 to 12) in Rajasthan and AP. There is some agreement among scholars that while there is high enrolment at the primary level of education, the enrolment, access, and quality of education in the secondary level is still suspect. If education is seen as a vehicle for social and economic mobility, the quality of access and participation at the secondary level is perhaps most crucial and an important phase in the transition to higher education (Jha, Ghatak, Minni, Rajagopal & Mahendiran., 2020). It is clear that access to secondary education and higher education is important to break the inter-generational transmission of poverty and women who are unable to access higher levels of education are often forced into low-income jobs, and have limited means for social and economic mobility (Sharma, Sharma,& Nagar, 2007). Additionally, it is not a coincidence that this is a critical time for young people, who are at the right age to start expanding their knowledge base and understanding their role as citizens within the larger socio-economic and political structures.

Previous research has already established that the state of secondary education is dismal, and there is a systematic dropping out of the most marginalised groups, including girls, SCs, and STs from secondary school (Joshi 2010; Kingdon, 2007; Reddy & Rao, 2003;Venkatanarayana, 2009;). While we do understand the mechanisms of schools with respect to primary education, the perspective on secondary education and the engagement of children within these institutions is not complete. While issues such as inadequate funds, inadequate teacher training, children's work within the home and in the labour markets, and other issues have been documented within the secondary schooling system, a deeper analysis is necessary to suggest pathways that can lead to an equitable educational system.

6.1.1 Objectives of the study

The broad objectives of the study were to undertake a comprehensive analysis of the secondary schooling system, compare the access to education and the performance of children from different social groups, and identify key ways in which children from marginalised groups, especially girls, are able to participate more fruitfully in secondary education. In order to do so, we felt that the following factors would help to understand the macro and micro influences on secondary education:

1. Government policies and programmes

   a) The pattern of financing in terms of adequacy across teacher salaries, infrastructure, and academic activities.

   b) Policies and programmes for secondary education for teachers, school infrastructure, incentives etc.

   c) Policies and programmes related to early marriage and the impact of these on the ground.

   d) Comparison of policies and programmes for elementary and secondary education, and access to secondary and higher secondary schools.

2. School characteristics

   a) Location, distance, availability of schools, especially for boys and girls from socially and economically disadvantaged communities and regions.

   b) Enrolment, drop-out and school completion rates across caste, class, and gender.

c) Academic preparedness at the end of elementary school cycle of girls and boys.

d) School related factors that impact access: attitudes of teachers regarding caste and gender, gender-based violence/sexual abuse and mechanisms to address these, availability of women teachers, etc.

e) Impact and potential of Kasturba Gandhi Balika Vidyalaya (KGBVs) and National Institute of Open Schooling (NIOs) on access to secondary schools.

3. Quality of schools

a) Availability of teachers including subject teachers.

b) The knowledge, skill, and motivation of all teachers.

c) Infrastructure such as buildings, libraries, laboratories, toilets, common room for girls, etc.

d) Curriculum, content, and pedagogic practices such as textbooks and teaching methods.

e) School functioning in terms of regularity, punctuality, grievance redressal, etc.

f) The learning levels achieved by girls and boys from different social categories.

g) Social and economic factors including poverty, early marriage, parental perceptions, with a special focus on gender-specific reasons that either facilitate or impede children, especially girls from various social groups, from accessing secondary/higher secondary education.

4. Management of the school system and academic support structure

a) Management practices regarding teachers: recruitment, posting, and incentive structures.

b) Academic support practices such as teacher training and professional growth and development.

c) Monitoring mechanisms, type of information/data collected, and feedback mechanism.

d) Community outreach and involvement.

e) Quality of management personnel.

f) Quality of training institutes and administrative structures.

5. Gender issues that frame secondary education

a) Primary gender issues, especially those related to post-puberty practices, early marriage, sexual harassment, and safety issues;and parental and schools' expectations from girls as individuals/towards autonomous action.

b) The social barriers to girls travelling to school, family/societal perception of safety, sexual harassment, and opportunities for girls to interact with the opposite sex.

c) Parental perceptions on the importance of educating girls beyond elementary school and their willingness to invest in girls' education (especially for additional support like tuitions).

d) Differences in enrolment of girls and boys in private and government schools.

6. Strategy formulation

a) Analysis of current policies and programmes for secondary education against the emerging picture on the above.

b) Formulation of key strategies and learning from the experience of strategies used to universalise elementary education.

While we understand that all of these factors are important to provide a comprehensive picture of secondary schooling, we were able to cover three primary themes: (1) quality of education, (2) the relationship between the schools and the students, and (3) the role that structural inequalities (such as gender, caste, and religion) play with respect to the quality of schooling and experiences of children within school[1].

6.1.2 Research Methodology

The study in AP as well as in Rajasthan was designed to combine an analysis of existing data at the macro-level, especially in terms of enrolment, drop-out and school completion rates across social categories, financing of secondary education, and availability of teachers and school infrastructure. Chapter 2 of this report presents that analysis for AP in comparison to Rajasthan. This was combined with micro-level field-based studies supplementing some of the information at the macro-level (expenditure incurred, reasons for dropping out, access to schools, etc.) as well as exploring social perceptions and practices, teacher attitudes, school quality, pedagogic practices, management practices, and the quality of supporting institutions.

As Table 6.1 below indicates, in order to select the districts and the blocks in which to conduct the study, two factors were considered to ensure representativeness and inclusion of the socially and economically disadvantaged segments of the population. These were i) the proportion of SC and ST population, and (ii) the average literacy rate. The district averages were evaluated against the state averages for each of these two parameters. Chittoor was closest to AP's value of SC/ST population, while Guntur was closest in terms of literacy rate. However, both the districts' averages for both parameters were within five percentage points from the state average and we selected Chittoor as the sample district considering operational feasibility.

Table 6.1: Identifying a district that is closer to Andhra in terms of measures of Scheduled Castes (SCs), Scheduled Tribes (STs) population (%) and Literacy rate (%)

Level	Name	Total, Rural, Urban	SC, ST population (%)	Literacy rate (%)
On the basis of Total				
STATE	**Andhra**	**Total**	**22.65**	**67.42**
DISTRICT	Chittoor	Total	22.64	71.53
DISTRICT	Guntur	Total	24.64	67.40
DISTRICT	East Godavari	Total	22.48	70.99
On the basis of Rural				
STATE	**Andhra**	**Rural**	**26.25**	**62.38**
DISTRICT	Chittoor	Rural	26.38	67.01
DISTRICT	Guntur	Rural	28.78	61.95
DISTRICT	East Godavari	Rural	25.64	67.62
On the basis of Urban				
STATE	**Andhra**	**Urban**	**13.98**	**79.45**

1 A macro-understanding of policies and administrative issues have already been covered in the previous chapters.

Level	Name	Total, Rural, Urban	SC, ST population (%)	Literacy rate (%)
DISTRICT	Chittoor	Urban	13.70	82.26
DISTRICT	Guntur	Urban	16.55	78.03
DISTRICT	East Goda-vari	Urban	13.23	80.78

Source: Census of India, 2011

- Chittoor is closer to the state's value of SC, ST population (%) relative to literacy rate (%)
- Guntur is closer to state's value of literary rate(%) relative to SC, ST population (%)
- Both Chittoor and Guntur are within five percentage points from the state average.

As Tables 2.2 and 2.3 below indicate, the same process was followed for selection of blocks for the study and the block averages were compared with the district averages for the study. This was conducted for both Chittoor and Guntur districts and based on the analysis of parameters and operational efficiency, we selected Chittoor and three blocks within it.

Table 6.2: Identification of Three Blocks (Kasturba Gandhi Balika Vidyalaya – KGBV/Non-KGBV) in Chittoor district

District/Block	Total, Rural, Urban	Scheduled Castes (SCs), Scheduled Tribes (STs) population (%)	Literacy rate (%)	Distance of SC, ST (%) from District	Distance of Lit (%) from District	Average Distance
Chittoor	Total	22.64	71.53			
Chittoor	Rural	26.38	67.01			
Chittoor	Urban	13.70	82.26			
KGBV						
THM	Total	23.33	65.83	0.70	5.71	3.20
THM	Rural	23.33	65.83	3.04	1.18	2.11
THM	Urban					
Gangavaram	Total	19.67	67.42	2.96	4.12	3.54
Gangavaram	Rural	20.44	66.64	5.93	0.36	3.15
Gangavaram	Urban	3.68	83.44	10.03	1.18	5.60
Punganur	Total	16.95	71.46	5.68	0.08	2.88
Punganur	Rural	23.96	64.27	2.41	2.74	2.57
Punganur	Urban	9.92	78.68	3.79	3.58	3.68
Non KGBV						
Chinnagotti-gallu	Total	21.44	66.67	1.20	4.87	3.03
Chinnagotti-gallu	Rural	21.44	66.67	4.93	0.34	2.64
Chinnagotti-gallu	Urban					
Ramachan-drapuram	Total	27.42	68.55	4.78	2.98	3.88

District/Block	Total, Rural, Urban	Scheduled Castes (SCs), Scheduled Tribes (STs) population (%)	Literacy rate (%)	Distance of SC, ST (%) from District	Distance of Lit (%) from District	Average Distance
Ramachan-drapuram	Rural	27.42	68.55	1.04	1.55	1.29
Ramachan-drapuram	Urban					
PLM	Total	17.52	76.89	5.12	5.36	5.24
PLM	Rural	26.81	67.99	0.43	0.99	0.71
PLM	Urban	12.10	82.05	1.61	0.22	0.91

Source: (i) Census of India, 2011; (ii) District Information System for Education (DISE) School directory 2011-2012 for identification of KGBV and Non-KGBV blocks:http://dise.in/Downloads/School%20Directory/AndhraPradesh/2823.pdf (last visited on05 September 2018).

Table 6.3: Identification of Three Blocks (Kasturba Gandhi Balika Vidyalaya – KGBV/Non-KGBV) in Guntur district

District/ Block	Total, Rural, Urban	Scheduled Castes (SCs), Scheduled Tribes (STs) population (%)	Literacy Rate (%)	Distance of SC, ST (%) from District	Distance of Lit (%) from District	Average Distance
Guntur	Total	24.64	67.40			
Guntur	Rural	28.78	61.95			
Guntur	Urban	16.55	78.03			
KGBV						
ChilakaluripetH/O. Purushotha Patnam	Total	21.00	68.37	3.64	0.97	2.30
ChilakaluripetH/O. Purushotha Patnam	Rural	27.98	62.21	0.80	0.26	0.53
ChilakaluripetH/O. Purushotha Patnam	Urban	17.41	71.54	0.86	6.49	3.68
Nadendla	Total	27.36	61.75	2.72	5.66	4.19
Nadendla	Rural	27.36	61.75	1.42	0.20	0.81
Nadendla	Urban					
Narasarao-pet	Total	18.69	72.09	5.95	4.69	5.32
Narasarao-pet	Rural	27.47	62.79	1.31	0.84	1.08
Narasarao-pet	Urban	11.64	79.46	4.90	1.42	3.16
Non KGBV						
Bapatla	Total	25.93	71.79	1.29	4.39	2.84

District/ Block	Total, Rural, Urban	Scheduled Castes (SCs), Scheduled Tribes (STs) population (%)	Literacy Rate (%)	Distance of SC, ST (%) from District	Distance of Lit (%) from District	Average Distance
Bapatla	Rural	29.37	63.08	0.59	1.14	0.86
Bapatla	Urban	22.39	80.67	5.84	2.63	4.24
Nagaram	Total	25.39	64.62	0.75	2.78	1.76
Nagaram	Rural	25.39	64.62	3.39	2.67	3.03
Nagaram	Urban					
Pedakura-padu	Total	27.35	62.82	2.71	4.58	3.65
Pedakura-padu	Rural	27.35	62.82	1.43	0.87	1.15
Pedakura-padu	Urban					

Source: (i) Census of India, 2011; (ii) District Information System for Education (DISE) School directory 2011-2012 for identification of KGBV and Non-KGBV blocks: http://dise.in/Downloads/School%20Directory/AndhraPradesh/2817.pdf (last visited on 05 September 2018).

The following methods were employed to collect the relevant data from the field:

1. Analysis of existing documents and data, including textbooks and curricula available online.
2. Survey of households where there were children eligible to go to secondary school.
3. Village, school, and classroom observations.
4. Interviews with school managers and teachers.
5. Interviews with community elders, panchayat representatives.
6. FGDs with parents, with boys and girls (both in-school and out-of-school) in addition to school management committees (where functional).
7. Assessment tests within schools

The sampling strategy was to select the eligible schools first and then the feeder villages to these schools. Geographical accessibility was a major factor that was considered when we looked at the schools. The selection of schools was decided on the basis of data obtained from Unified District Information System for Education (UDISE), data collected from preliminary field visits to all the potential sites of schools, and data obtained from the local government schools. The villages were then chosen on the basis of the presence of the schools. Preliminary visits to the schools were also conducted to ensure that there were two villages that were in the same community as the school, and four that were feeder villages. To ensure that the four villages were indeed feeder villages to the schools we had selected, we also conducted preliminary visits to the villages, and based on accessibility and favourable social networks, the final selection of the villages was made.

Once the villages were identified, the research strategy was to first engage with the schools, and after a sense of familiarity was developed with the area, to expand it to the village. At the village level, a social and physical mapping was planned to ensure that the listing process was able to identify households with children aged 14-20 years to be surveyed. During this listing process, only those villages that had an average of 300 eligible households (with children who were eligible to go to secondary schools) were selected, so as to ensure surveys could yield required information.

In order to carry out these processes as well as the collection of qualitative and quantitative data, Centre for Budget and Policy Studies (CBPS) worked with Centre for Action Research and People's Development (CARPED), Hyderabad. Through a collaborative and iterative process, CARPED was able to identify the schools, meet with the headmasters (HMs), make visits to the villages identified as feeder and location-specific, and then engage with the Panchayats to obtain the necessary permissions. Based on the macro-level data available, the information accessed through visits, and data obtained from schools and Panchayat, the study focused on six villages from two blocks: PLM and THM located in the Chittoor district. We were, therefore, able to identify six high schools, one primary school, one junior college, and one KGBV, as per our research design, so as to cover a range of schooling environments:

- Schools from block headquarters
  - Zilla Parishad High School (ZPHS) Girls, PLM village and block
  - ZPHS Boys, THM village and block
- Schools located between 2 km to 6 km from the block headquarters
  - ZPHS DDP, PLM block
  - ZPHS KDA, THM block
- Schools located more than 8 km from the Block Headquarters
  - ZPHS KMP, PLM block
  - ZPHS THM, THM block
- Other Schools
  - Primary School, KMP, PLM block
  - TKS Govt Junior College, PLM Village and Block
  - KGBV, THM village and block

All of the selected schools are government-run schools, and they have both English and Telugu divisions within the school based on the medium of instruction.

While these nine schools and six villages were being identified, a parallel process yielded the final qualitative and quantitative research tools:

- Quantitative Tools
  - Assessment tests held within schools to document learning levels.
  - Survey of households with children in the appropriate age group.
- Qualitative Tools
  - School and classroom observations.
  - Interviews with school authorities.
  - FGDs with teachers, students in school and out-of-school (with boys and girls).
  - FGDS with parents of school-going and out-of-school children (boys and girls, separately).
  - Village observations.
  - Interviews with village heads, influential persons, and Panchayat representatives.
  - Analysis of existing documents and data from schools and block level education office.

In order to ensure that the fieldwork could be done concurrently, one team concentrated the processes related to the survey (quantitative team), while another team concentrated on collecting qualitative information from the schools and the villages (qualitative team). The qualitative team also implemented the assessment tests within the schools as they were located in the schools primarily to collect information from students, teachers, and the school authorities.

Table 6.4: Description of research and sample design

S No	Description	Quantity
1	Selection of sample villages from two blocks	6
2	Selection of sample schools from two blocks (six secondary, one senior secondary/PU [pre-university], one elementary, oneof Kasturba Gandhi Balika Vidyalaya [KGBV])	9
3	Village-based Focus Group Discussions (FGDs) (with parents [in-school and out-of-school],with out-of-school boys,with out-of-school girls)	12
4	School-based FGDs (with boys in classes 8 and 9, with girls in classes 8 and 9)	15
5	FGDs with teachers (of classes 8 and 9, per school)	9
6	School profiles through headmaster interviews	8
7	FGDs with School Management Committees (SMCs)	5
8	Children's in-depth interviews	24
9	Testing of children for classes 8 and 9	334
10	Village profiles through key informant interviews with Panchayat leaders, community members, women's groups, etc.	3
11	Household surveys	1365
12	Classroom observations	18
13	Management committee interviews	9
14	Collection of documents from cluster & block offices	As available
15	Study of block level offices/ institutions	As available
16	Interviews with Cluster & Block Resource Persons (one school administration official, and one Block/Mandal Panchayat member)	As available

6.1.3 Process of data collection

While the research design was carefully planned out, the process of collecting data was fraught with difficulties. The timing of the data collection coincided not only with the anticipated national and state elections, but also local and municipal elections, which were not anticipated. Given that survey as well as other data collection is strictly prohibited during the election period, both the quantitative and qualitative data collection teams had to pull out several times because of the election code that

was being followed within the individual villages that were holding elections. At the same time, the class 10 and class 12 exams were scheduled, and several teachers were not available to meet as they were on exam supervision duty and posted to other schools and colleges. As teachers and HMs were still accessible during the election period, priority was given to engagement with the students as well as the survey, so that they could be uninterrupted. There were also three breaks in the survey process due to local elections. Once elections started, access was intermittent at best. This had the unintended consequence that a number of school-based interviews and FGDs with children in the village were done several months apart, which had some impact on continuity of conversations. With all of these challenges, the CARPED and CBPS teams decided that this unpredictability had to be dealt in two ways: (1) maximising the time in the village and the school when access was provided, and (2) using the time away from the field to start working on the documentation and analysis of the data.

Training

The process of data collection started with two days of in-depth training regarding the study, including the rationale of the study, the objectives, as well as the research questions. Each of the individual instruments were carefully explained and role-plays were conducted to ensure that each team member understood this process. This was undertaken both for the qualitative and the quantitative teams.

The training for the qualitative team specifically focused on the ways in which to engage with the children, the teachers, and the administrative staff. Ethical guidelines and protocols to engage with children were also discussed extensively. The purpose of the training for the qualitative team was to emphasise the importance of documenting field dynamics, cultural norms, sensibilities of the local contexts, and children's voices (where possible). The training for the quantitative team followed similar lines. The training covered four major topics: (1) identifying eligible respondents, (2) following ethical guidelines in obtaining consent, (3) understanding the questionnaire, and (4) understanding the concepts behind the codes. A process document was also prepared to ensure proper data cleaning and to orient the backend team to ensure that the parallel processes of data cleaning and compiling and verification was being carried out systematically.

Field Research

After the training, approvals for the study were taken from all the institutions and we were able to enter the field in the second week of February 2019. Unfortunately, this coincided with the timing of preparatory sessions for the class 10exams. Therefore, it was decided that school-based activities would be completed before the examinations, so that access to teachers and children would be uninterrupted. As this process of engagement with the students was unfolding, listing within the villages and the survey was being simultaneously conducted in the villages. The qualitative team moved to village-based data collection tools after the school interviews, assessments, and observations were completed. As mentioned earlier, during the elections (state, local and municipal), the teams took breaks from conducting the survey and village-based activities to prevent any adverse events, threat or violence to any respondent or the team members. After all elections were conducted and the election code was lifted, the village-based FGDs and the survey were completed.

The process of data collection was such that all the team members (from CARPED and CBPS) were updated with the information on the field visits, challenges to the project, and were working to create alternate plans in case of disruptions in the field. The CBPS team went weekly to participate and observe the qualitative and the quantitative teams. Additionally, supervisors within the team (both qualitative and quantitative) reviewed the day's progress and were in touch with updates via WhatsApp and phone to the manager and project head of CARPED, who then passed the

information along to CBPS. Contact information of key individuals were shared with surveyors so as to ensure the smooth data collection process with minimal disruptions and threats to the safety of the field investigators.

As it turned out the selection of the first school (ZPHS KMP) was instrumental in the collection of the data. The team from CARPED first contacted the HM of ZPHS KMP through their informal social networks, and this proved fortuitous. Although the HM of the school was not present on the first day of our visit (he was in attendance in the block-level teachers meeting with the Mandal Education Officer [MEO]), he instructed his staff as well as a few prominent leaders about our visit to the school and village, and these few days spent in the field opened up other social networks through which entry into other schools and villages became much easier.

Challenges encountered

For each of the instruments employed in the field, the selection of the respondents was fraught with certain challenges, and, therefore, protocols were developed in continuous consultation between CARPED and CBPS to ensure the best possible research outcome in the field.

For the field survey, the identification of eligible respondents by caste proved to be a major challenge because of lack of documentation in the Panchayat, and the information of eligible respondents was gathered by visiting the anganwadis in the Panchayat. But because anganwadis only carry information of girls and children and not adolescent boys, there was a second sweep of information that was gathered through official and informal sources from Panchayats and village heads. The data was shared with CBPS for segmentation. We first completed the survey of households from small villages and then moved to larger villages so as to ensure the target sample population of 1,300 were met. Other challenges with respect to the survey was that it was very hot during the data collection process, and at certain times of the day, it was impossible to venture out; this affected the pace of the data collection.

With respect to the assessment of the children in the school, we were able to complete 334 assessments. There were a few children who could not complete it or did not want to answer. We were able to exclude those. The written assessments were done before the oral assessments. Some of the sentences in Telugu had to be cut short as it was taking children a lot of time to comprehend and they started getting very uncomfortable. So, wherever the field investigator felt that the child was no longer willing to participate, the assessment was cut short to avoid undue duress to the child.

While we tried to select teachers from all the subjects, they were often deputed elsewhere for the day or for the month either on election duty or for examination duty. However, as much as possible, we tried to include all the teachers willing and able to participate. In fact, in one of the schools, all of them requested to be a part of the FGD (ZPHS KMP) and were made so.

While most of the classroom observations were very smooth with all the teachers willing and in some cases, enthusiastic about having their teaching observed, in some schools, because of the absence of teachers, it was not always possible to observe the class as it would in the normal course of things. However, in almost all of the observations, we were able to document the classroom facilities, seating arrangements, classroom atmosphere, uniforms, behaviour of the teachers and the students as well as the teaching methods employed by the teacher. The FGDs with in-school children were also seamless as the children were enthusiastic and most of the schools were very cooperative in allowing us to take 45 minutes out of the day to conduct the FGDs. It also helped that we had gone to the school during ‘revision week’ where classes were being conducted only as preparatory for the exams, so children and teachers were comfortable missing a class period to participate in the FGDs.

The school profiles were prepared on the basis of interviews with the HMs and even information regarding the financial state of the school were obtained from the HM, as no accountant was employed in any of the schools. All HMs were very patient with the process as it took more than two days to gather all the school information that was required.

The biggest challenge was in conducting the School Management Committees (SMC) FGDs. For one of the schools (ZPHS KMP), no SMC member responded to our multiple requests. We tried meeting them at their working place and took the help of influential persons in the village to meet at least one member, but none of the members responded to us. For the junior college, we found out that there was no management committee instituted at all. For the others as well, it was slightly challenging as the members did not want to meet together at a particular time. In such cases, individual interviews were undertaken. For example, in one of the schools (ZPHS BRD), information was collected separately from two members: one in a meeting at their house, and another in a meeting on the road. We were unable to contact the SMC of KGBV as they come to the school only when funds are withdrawn from the bank, and it appeared that this meeting only happens on paper.

We also encountered a few challenges with conducting FGDs with out-of-school children and their parents. The first problem was the identification of said children. Many of the children who were out-of-school were still "officially" in school, and there was no formal way of tracing how many children in the attendance register were in fact regular to school. The lack of data and the resistance from school administrators and teachers to divulge details of these out-of-school children meant that we spent a lot of time looking for the children in the villages. Through informal relationships built during the survey process and village observations, we were able to use the help of the Cluster Resource person (CRP) and the anganwadis to identify individual children and their families. We also took the help of school-going children (with whom we had already conducted the interviews) to point us to their classmates who no longer come to school. Even when we found these children, it was very difficult to conduct the FGDs; therefore, individual interviews were conducted to compile a composite picture.

The last data collection point—the village profiles—was relatively easy as the time spent in the village during the survey process as well as the process of finding the out-of-school children provided local knowledge of the main social actors within the village; hence, organising meetings with the panchayat leaders and elders about the village was not very challenging.

At each point of the data collection, the data was shared with CBPS, and where gaps were identified, subsequent visits were made to the field to fill these gaps, where possible.

Ethics protocol

During this entire process of data collection and analysis, the ethics of conducting research was reinforced again and again by the teams at CARPED and CBPS. This attention to ensuring values of transparency, accountability, and consent was reinforced throughout the entire research process. Therefore, apart from taking oral or written consent from the respondents, the field team took care to ensure that the respondents (whether institutions or individuals) understood the right to refusal, the purpose of the study, and its implications. They also made efforts not to disturb the routine of the respondents and attempted to create spaces where the respondents could freely share their opinions, views, and experiences. Respondents were also consistently and explicitly made aware of the confidential nature of the data, the freedom to be silent, skip or stop the data process collection at any time. Both teams at CARPED and CBPS also tried to ensure that the field investigators were safe from any harm. Therefore, values of transparency were employed in the field. An example of this was that we provided strict instructions that anyone who was asked questions was to be

provided the contact details of supervisors in CARPED and CBPS. This critical step, we have learned, ensured both transparency (that all queries and concerns were addressed) and safety (potential harm to respondents and field investigators were minimised).

6.2 Status of Secondary Education: Insights from a household survey

In Chapter 2, we discussed the trends in enrolment, retention, and discontinuation of secondary education as well as the various factors operational in causing these trends using secondary data in AP and Rajasthan. As part of our research design, we also explored these factors for a sample of 1,365 households in select villages of two blocks in AP by undertaking a household survey. In the household survey, we explored various factors influencing the continuation of secondary education including physical access to education, the quality of infrastructure prevalent in schools, the expenditure incurred by families on secondary education, the challenges faced in going to school or while in school, and the reasons for children dropping out from schools. The primary respondents in these surveys were either the parents or other elder members of the household. We discuss the findings from the household survey in this chapter. We first briefly discuss the village profile and socio-economic profile of the sample households to understand the context. Then, we discuss the issues of accessibility to education, expenses incurred by parents for the child's education, reasons for discontinuation of education, and challenges faced in continuing education in following sections.

6.2.1 Village Profiles and Socio-economic context of the sample households

The survey was conducted in two blocks, Palamner and Baireddipalli, of Chittoor district in AP. The district and the blocks were chosen on the basis of their average socio-economic and literacy indicators that were representative of the state averages. Details on the selection of the district and the blocks and the value for indicators used to select these districts and blocks can be found in the previous chapter on methodology. Six villages were then chosen from these two blocks/taluks according to the method described in the previous chapter on methodology. Out of these six villages, two villages had both government and private schools, two villages had only government schools and two villages had no educational facilities for secondary education. Table 6.5 below presents a brief profile of these villages.

Table 6.5: Profiles of sample villages

Village Name	Distance from the Mandal[2] headquarter	Distance from nearest town	No. of house-holds	Population
DDP	6	6	275	1,042
THM	13	40	423	2,308
PLM	0	0	12,000	51,450
KMP	11	11	1,422	6,341
KDA	6	6	444	2,020
BRD	0	22	1,582	7,225

Source: Village profiles constructed as part of the study

2 *Mandal is the sub-district administrative unit in Andhra Pradesh, which is generally smaller than usual block or taluk in other Indian states.*

Sample households were selected based on a listing from these villages so as to ensure the presence of at least one member from the target age group (14-17 years) in each family and adequate representation across various socio-economic categories of religion, caste, and economic status proxied by the type of ration card and type of housing.

The total number of children from different age groups in the sample households were as below. Children from the target age group of 14-17 years constituted almost 51% the total number of children in the sample as this was a purposive sampling. Boys and girls were almost equally represented (48% and 52%, respectively). About 14% boys and 12.5% girls were out-of-school while the rest were in school.

Table 6.6: Representation of children from various age groups

Age Group	Number in Sample		In school		Out-of-School		Total
	Boys	Girls	Boys	Girls	Boys	Girls	
3-5 years	36	37	15	16	21	21	73
6-13 years	379	406	365	396	14	10	785
14-17 years	730	784	627	686	103	98	1,514
18-21 years	322	286	172	180	150	106	608
Total	**1,467**	**1.513**	**1,179**	**1278**	**288**	**235**	**2,980**

Source: Author's calculations from the household survey

When we look at the representation of various socio-economic categories in AP, we find that the proportion of SCs and STs population in AP was 17.08% and 5.53% respectively, as per 2011 census. We find that the proportions in our sample are fairly representative of the population characteristics, as can be seen below in Table 6.7.

Table 6.7: Socio-economic Profile of sample households

Religion	**Hindu**	**Islam**	**Christian**	**Sikh**	**Total**
No. of Households	1,110	240	13	2	1,365
Proportion	81.32	17.58	0.95	0.15	100
Caste	**ST**	**SC**	**OBC**	**General**	**Total**
No. of Households	44	256	726	339	1,365
Proportion	3.22	18.75	53.19	24.84	100
Type of ration card	**Antyodaya**	**BPL**	**APL**	**Others**	**Total**
No. of Households	57	1,269	19	20	1,365
Proportion	4.17	92.97	1.39	1.47	100
Type of Housing	**Pucca**	**Semi-pucca**	**Kutcha**	**Others**	**Total**
No. of Households	1,151	136	38	40	1,365
Proportion	84.32	9.96	2.78	2.93	100

Source: Author's calculations from the household survey.

Note: SC stands for Scheduled Castes, ST stands for Scheduled Tribes, OBC stands for Other Backward Classes, BPL stands for Below Poverty Line, and APL stands for Above Poverty Line.

Even when we look at the average number of household members in our sample, we find that around 67% the households in our sample had a size of four-five members and the average number of members in the households in our sample was 4.5. This is also fairly representative of the average household size of four in AP as per census 2011[3].

Table 6.8: Average size of households

Household Size	Number	Proportion
<=3	193	14.14
4 -5	911	66.74
6 - 7	230	16.85
>+8	31	2.27
Average Household Size	**4.56**	

Source: Author's calculations from household survey

Occupations of the parents in the household is likely to have major impact regarding schooling-related decisions of their children. Apart from the economic status and their ability to afford expenses related to education, this is also important as many children are known to participate in or contribute to household occupations such as farming, livestock rearing, or shop keeping. Table 6.9 below presents the major occupations that the adults in our sample households were typically engaged in. As can be expected in rural Indian households, the largest proportion works in agriculture. Approximately 11% of males are farmers with own land holding and close to 7% are landless agricultural labourers. Around 11% are daily wage labourers who work in sectors other than agriculture. In case of female members of the households, close to 20% are engaged in unpaid care work. Of those who work, the largest proportion, almost 9% are landless agricultural labourers. As can be expected, we see that the proportion of women farmers with own land holding is significantly less than the male farmers with own landholding. Similarly, the proportion of women labourers working in non-agricultural sectors is also low.

Table 6.9: Major occupations

Occupations[4]	Male		Female	
	Number	Proportion	Number	Proportion
Domestic Work / Care duties	12	0.40	636	19.67
Agricultural Labourer	199	6.68	278	8.60
Farmer (own land)	332	11.14	110	3.40
Casual labour (Non- Agri)	233	7.82	75	2.32
Self Employed	131	4.40	56	1.73
Daily wage work	112	3.76	85	2.63
Driver	99	3.32	3	0.09
Others	1861	62.47	1991	61.56
Total	2979	100.00	3234	100.00

Source: Author's calculations from household survey

3 https://core.ap.gov.in/CMDashBoard/Download/Publications/Statistical%20Abstract%202018.pdf

4 While we have information on almost 45 occupation categories, only the major occupational categories that emerged from the household survey are presented here. The rest are covered under the "others" category in the table.

Presence of educated members in the family/household is likely to have a significant effect on the decisions regarding provision of or continuation of higher education of school-going children. Presence of such elders in the household might have a motivating effect on the younger ones in addition to providing them with access to someone who understands the structures and practices of schooling and can help them in case of any challenges faced during higher education. Thus, we enquired about the highest educational qualification that members of the household had. A little over 17% the household elders were illiterate. Also, there was a significant difference among the male and female members of the households. Around 21% the female members were illiterate compared to around 13% the male members. The difference between the educated male and female members of the households, however, was noticeable only at the upper primary and, to some extent, at the graduation levels. Almost 40% the family members had studied only up to primary or upper primary levels. Nearly 23% had completed secondary education. Only 4.41% had completed their graduation and the proportion of those who had completed post-graduation was minuscule at 0.82%. It can be surmised that many children in these villages would find it difficult to access someone with similar experience if they faced any academic or other problems in pursuing higher education.

Table 6.10: Highest educational qualifications of family members

Highest Educational Qualification	Male		Female	
	Number	Proportion	Number	Proportion
Illiterate	380	12.76	687	21.24
Literate without schooling	107	3.59	146	4.51
Literate without formal schooling	1	0.03	3	0.09
Literate through ALC / TEC		0.00	2	0.06
Below primary	47	1.58	39	1.21
Primary	531	17.82	555	17.16
Upper primary	730	24.50	638	19.73
Secondary	710	23.83	712	22.02
Higher Secondary	242	8.12	279	8.63
Diploma equivalent to secondary	7	0.23	5	0.15
Diploma equivalent to higher secondary	14	0.47	13	0.40
Diploma equivalent to graduation	22	0.74	12	0.37
Graduate	155	5.20	119	3.68
Postgraduate	32	1.07	19	0.59
Others	1	0.03	5	0.15
Total	2,979	100.00	3234	100.00

Source: Author's calculations from the household survey.

Note: ALC/TEC stands for Adult Literacy Campaign/Total Literacy Campaign.

6.2.2 Access to Educational Facilities

Accessibility of schools is a major area of concern for continuing secondary and higher education. Lack of development of physical infrastructure for secondary education continues to be one of the reasons of low access to schools. Distance to be travelled to reach the school and the time required to do so often proves to be a hindrance for children wanting to continue education. Safety of the students who need to travel to the schools is also often cited as a challenge, especially for girls, causing them to drop out (Muralidharan & Prakash, 2017; Singh, 2007).

Access to schools at different levels of education in our sample villages is presented below in Table 6.11. It can be seen that at the primary level, almost 97% of the respondents had a government school within 1 km of their residence. Further, more than 99% were able to access a primary government school within 2 km of their residence. However, as we move up the levels of school education, this access starts declining, fairly alarmingly. From primary to upper primary level, there is a big jump in the reduction in access. Only 59% of upper primary students had a government school within 1 km of their residence as compared to 97% at primary level. This holds true at the secondary school level as well. However, when we consider the distance within 3 km of the residences, which is the norm for upper primary, more than 90% had access to a government school at upper primary and secondary levels. As per the norms of access to schools at the secondary level, children should be able to access a government secondary school within 5 km of their residence. According to the respondents in our sample, 93.7% have access to a government secondary school within 5 km of their residence.

However, the access goes down drastically at the senior secondary level. Compared to 97% at the primary and 59% at the secondary levels, only 5% the students can access a government school at senior secondary level within a distance of 1 km. Moreover, almost 66% the students have to travel more than 5 km to access a school. The situation is not much different for private schools either. While government schools are better than private schools in terms of accessibility at the primary, upper primary and secondary levels, at the senior secondary level, there is not much difference.

Table 6.11: Accessibility of educational facilities

School level/Distance	<1 km	1–2 km	2–3 km	3–5 km	≥ 5 km	Others
Primary						
Distance to govt school	96.5	2.9	0.2	0	0.3	0
Distance to private school	34	13.8	4.4	5.2	42.2	0.4
Upper Primary						
Distance to govt school	59.2	21.8	9.1	3.7	5.6	0.4
Distance to private school	32.7	14.5	4.5	5.2	42.5	0.5
Secondary						
Distance to govt school	58.9	21.9	9.2	3.7	5.7	0.4
Distance to private school	32.6	14.6	4.3	5.1	42.7	0.5
Senior secondary						
Distance to govt school	4.4	13.7	9.8	4.6	65.5	1.7
Distance to private school	7.9	20	9.5	4	56.6	1.7

Source: Author's calculations from the household survey

While in the above table we talk about the physical accessibility of schools, we also explored the actual distance travelled by students. Around 40% the respondents mentioned that the children in their household attend a school within 1 km of their residence. Around 26% mentioned that children in their household travel to a school more than 5 km away.

Table 6.12: Actual distance travelled to access school

Distance travelled to reach school	Proportion (%)
<1 km	39.57
1-2 km	15.47
2-3 km	7.64
3-5 km	3.01
>= 5 km	25.58
Do not know	0.40

Source: Author's calculations

Thus, we see that accessibility of schools continues to be an area of concern at the secondary and senior secondary levels. The information on distance moreover does not include concerns related to topography, remoteness, access to public transportation, affordability of private transportation, and road safety. Coupled with the distance, these concerns can be a major challenge for children's continuing education at the secondary and senior secondary levels. While public expenditure concerns make it necessary to optimise the number of schools depending on pupil density, this lack of access might be making it difficult for many students to continue school education at secondary and senior secondary levels.

Expenditure on education

In Chapter 2, we saw the average household expenditure per student of those aged 3-35 years and the division of that expenditure between the different quintiles according to the household income. The average household expenditure for general courses for a person of any gender was Rs 7,285 for the year 2017-18[5]. Since it was not possible to separate the expenses specifically for secondary education, we decided to collect this information in our household survey. The average expenditures presented here contains information for both government and private school-going children. The average household expenditure is a sum total of expenditures on various components including amount spent on course fees, books, uniforms, transport, etc.

According to the survey, 54.86% of those in our sample received free education; 43% accessed education from aided private schools; and only 0.01% go to unaided private schools. The average expenditure per household was Rs 13,057 per annum and the median expenditure on education was around Rs 6,300. The average expenditure is thus influenced by higher spending by some households, noticeably those going to private schools and in some cases spending heavily on private coaching.

We already know that even though government schooling is ostensibly free, there are significant expenses due to the purchase of books, uniform, or transport. Therefore, we also enquired about the expenditure on specific components of education. Many families also incur additional expenses due to the appeal or felt need for private coaching so as to boost students' chances of doing better in school, especially when they do not have assistance at home. Table 6.13 below presents

5 Source: Calculations based on the National Sample Survey Office (NSSO) 75th Education Round conducted in 2017-18.

the results. As we can see, the highest proportion incurred is on the course fees. Since education in government schools is heavily subsidised, private school fees will largely be responsible for driving this. The expenses on books and uniforms is a significant 20% the average expenditure. Though in government schools, books and uniforms are also supposed to be provided free, through our qualitative interview, we were able to ascertain that school uniforms were not always provided in the proper sizes, especially in secondary schools where children often outgrew them within the year. Hence, parents have to incur additional expenses on uniforms. The other significant component adding to the costs is transport, which contributes almost to 13% the average annual expense on secondary education.

Table 6.13: Expenses incurred by household on education

Component	Average Expenditure (Rs)	Proportion Spent
Course Fee	6,499.94	49.77
Books, uniforms, etc.	2,630.43	20.14
Transport	1,631.79	12.49
Private coaching	1,20.14	0.92
Others	2,175.57	16.66

Source: Author's calculations from household survey

As per the policy, textbooks and stationery including notebooks are supposed to be provided free of cost at government schools. Table 6.14 below shows that while most of the students (~ 85%) acknowledged receiving free textbooks, it was not true for stationery. Almost 87% students mentioned that they did not receive any free stationery from school.

Table 6.14: Access to Facilities at Government Schools

Facilities at Government Schools	Textbooks	Stationery
All free	84.41	6.07
Some Free	7.55	7.05
Not free	7.79	86.46

Source: Author's calculations from household survey

There appears to be some semblance of food security for children as 94% of the respondents whose children were enrolled in government schools said that they were receiving free meals at school, provided by the government.

In order for socially and financially disadvantaged students to be able to bear the expenses of education, scholarship is also supposed to be provided to these students. From our household sample, 414 students mentioned receiving scholarships from the government. The average amount of scholarship received was around Rs 3,000 per annum. The proportion of students receiving scholarships under various categories were as follows:

Table 6.15: Provision of Scholarships

Type of Scholarship	Proportion
Scheduled Tribe (ST)	5.56
Scheduled Caste (SC)	21.01
Other Backward Classes (OBC)	58.45
Physically disabled	1.93
Merit	3.62
Financially weak	1.21
Others	8.21

Source: Author's calculations from household survey

6.2.3 Access to education at private schools and other institutions

The presence of private schools in secondary education and higher education is significant. Many private schools charge exorbitant fees and the quality of education provided by these schools cannot be definitively argued to be superior (Wadhwa, 2009; Goyal and Pandey, 2009). As a point of fact, in our own survey, as stated earlier, these schools are not much better in terms of physical accessibility. We also saw that in government schools, there are various other concessions for economically weaker students—these are traditionally and conspicuously absent within the private school systems.

Yet, a substantial number of students and their parents prefer private schools over government schools. In our sample, a significant 43% the students access education from aided private schools. We explored the reasons for which parents and students preferred private schools over government schools.

Table 6.16: Reason for preferring private institutions

Reason for preferring private institution	Proportion
Govt. institution not available nearby	2.16
Better environment of learning	13.98
English is the medium of instruction	4.77
Quality not satisfactory in Govt. schools	1.35
Could not get admission in govt schools	0.04
Cannot say	56.52
Others	21.18

Source: Author's calculations

The most often cited reason for preferring a private institution was a better environment of learning as compared to government schools. There was also a preference because of English being the

medium of instruction. This signifies that aspirations for social mobility and the perceived better quality of education in private schools and their ability to provide that leap plays a role in students and their families choosing to attend private schools.

Students attending government schools also sometimes opt for private coaching. In our sample, 67 (0.04%) students were opting for private coaching in addition to their school education. Of these, 55% mentioned that they were opting for private coaching to augment their basic education; 18%mentioned that they were opting for private coaching to help in examinations for entrance to professional courses and 12% for admissions to colleges.

6.2.4 Reasons for discontinuity

As mentioned in Chapter 2, the most cited reason for discontinuity in secondary education across India for boys is 'engaged in economic activity' or 'not interested in studies'; for girls, it is 'engaged in economic activity', 'engaged in domestic chores' or 'not interested in studies'. Analysis of secondary data in Chapter 2 indicated that one-third of girls in AP seem to discontinue education for engaging themselves in economic activity, followed by about one-fifth who drop out for engaging in domestic chores. For boys on the other hand, engagement in economic activities was the reason cited for one-third to a half of the total students dropping out. Non-accessibility of schools was a significant reason only for ST students where 38% the students cited lack of access as a reason for dropping out.

For our sample, however, engagement in domestic activities or in economic activities did not emerge as major reasons for dropping out from school. In fact, the major reasons that emerged were lack of interest in education and failure in studies. This finding, however, has to take into account the fact that the parents and not the children themselves were the respondents in our survey. So, the difference in perception of the reasons for the children dropping out could be one of the reasons for this discrepancy. Financial constraints emerged as the third biggest reason for dropouts.

Table 6.17: Reasons for dropping out

Reason for dropping out	Proportion of dropouts
Lack of interest in education	20.50
Failure in studies	16.85
Financial Constraints	15.03
Language/medium of instruction	1.82
Engagement in domestic activities	1.36
Engagement in economic activities	0.91

Source: Household Survey

6.2.5 Challenges faced

Children who do continue to go to school also face challenges that could potentially lead to poor academic performance, future chances of dropping out, and discontinuity of education. Hence, we enquired about the challenges that students going to school typically face in continuing their education such as challenges faced in school, the distance they needed to travel, or the perceived safety within and on the way to school. Since the conditions at home and their ability to study at home is likely to impact their academic performance, we asked them about the challenges they faced in studying at home.

Seventy-two percent of our respondents reported that their children faced no problems in going to school. Out of the rest who reported some kind of problem, 8% cited distance from the school as a challenge. This was the major problem that emerged as a result of the inquiry. The second biggest challenge was financial constraints as parents were unable to afford the expenses associated with continuing education at school and thus were unable to send their children to school. Lack of or unreliable transport and unsafe route to school were some of the other challenges that students faced in going to school.

Table 6.18: Challenges faced in going to school

Challenges Faced in going to school	Proportion
Distance from school	8.06
Financial Constraints	7.33
No transport	4.78
Unsafe route to school	2.48
unreliable transport	2.00
None	72.38

Source: Household survey

Sixty-three percent responded that their children faced no challenges while in school. The biggest challenge that emerged was lack of toilet facilities in schools. Lack of sanitation infrastructure, in fact, is well recognised as a challenge in schools, especially for girls of secondary school-going age. Almost 17% of our respondents stated that lack of toilet facilities at school was a challenge for their children. A significant number also mentioned that lack of adequate library facilities is a major challenge. Many schools do not have a separate library room and the library is often just a collection of books that were not relevant or age-appropriate. Even when a library was present, the number of books was limited, and access was intermittent. Other challenges that emerged were the absence of computer/science labs in the school and inadequate number of teachers in the school.

Table 6.19: Challenges faced inside the school

Challenges Faced inside the school	Proportion
Lack of toilet facilities	16.87
No library	8.68
No computer / science labs	2.40
Inadequate no. of teachers	1.57
None	63.32

Source: Household survey

The challenges as perceived by the respondents were also somehow confirmed by the observations on school infrastructure. As we can see in Table6.20 below, no school in the sample had a separate library. KDA school did not have separate toilet for boys.

Table 6.20: Physical infrastructure at school

School Name[6]	Facilities				
	Toilets for Boys	Toilets for Girls	Playground	Library	Labs
DDP School	5	5	No	Yes, but no sperate room	Computer lab
THM School	13	6	Yes, but waterlogged	Yes, but no sperate room	Computer lab
KMP School	NA	NA	Yes.	Yes but no separate room	NA
KDA School	No	Yes	Yes	Yes, but no sperate room	Computer lab
KVG School	No	10	Yes	Yes, but no separate room	Yes, but no separate room

Source: Institutional mapping

When we explored the presence of sufficient number of teachers, the observed pupil-teacher ratio was between 15 to 22 in all the schools. This is satisfactory when compared against the recommended pupil-teacher ratio of 30:1 as per the Rashtriya Madhyamik Shiksha Abhiyan (RMSA) framework[7]. The number of vacancies at the school were also small as compared to the number of sanctioned teachers except at THM school.

Table 6.21: Pupil-Teacher ratio in schools

School Name	Total number of Students			Number of teachers		Pupil-Teacher Ratio
	Boys	Girls	Total	Sanctioned	Vacant	
DDP School	159	138	297	15	Nil	19.80
THM School	143	107	250	15	3	16.67
KMP School	46	38	84	5	1	16.80
KDA School	128	114	242	16	1	15.13
KVG School	0	196	196	9	Nil	21.78

Source: Institutional mapping

Sixty-two percent of the respondents mentioned that their children faced no challenges in studying at home. The major response that came up here was that children were not able to concentrate or were getting too tired to focus on studies. Engagement in domestic activity or paid work, although cited by some, did not emerge as major challenges. However, here again, we have to consider the fact that the respondents were household elders or parents and not the students themselves.

6 Though six schools were covered in the study, this information was not available for PLM School.

7 https://www.ummid.com/news/2017/February/09.02.2017/govt-on-teacher-deployment.html

Table 6.22: Challenges faced in studying at home

Challenges Faced in studying at home	Proportion
Does not concentrate	12.71
Gets too tired	10.11
Employment or work	0.15
Domestic activity	1.12
No electricity	0.51
None	62.07
Others	13.32

Source: Household Survey

6.2.6 Conclusion

Lack of schooling infrastructure, parents' inability to afford expenses related to education, and the necessity to start earning income or contributing to the household through taking up domestic responsibilities are some of the challenges that continue to hinder access to secondary education. All of these are further influenced by many other factors such as household characteristics, presence of educated members within the household, the perceived quality of education provided in the schools, and the perceived value of education received in the schools as well as the prevalent social and religious norms.

Some of the findings from our household survey in AP were encouraging in nature. Access to government schools seems to have improved as almost 97% children have a primary school within 1 km of their residence. At the secondary level also, 93% have a government school within 5 km of their residence. The observed pupil-teacher ratio in the schools in our sample were well within the prescribed norms. Also, most of the respondents whose children study in government schools (more than 84%) acknowledged receiving free textbooks, uniforms, and meals. Majority of the respondents also mentioned that their children faced no challenges in either going to school, while at school or in studying at home.

Despite these encouraging signs, however, more than 13% the children in the relevant age group are out of school. And the findings from the household survey show that children and their parents continue to face many challenges for secondary education. These challenges range from lack of physical infrastructure resulting in accessibility concerns and challenges within the schools in form of academic constraints as well as safety concerns to lack of affordability on part of many parents due to the course fees and associated expenses involved. We also saw that there is a lack of trust with regard to the quality of education provided at government schools and many parents choose private schools because of the association with a better learning environment and aspirations for a better life even though they might have to incur higher expenses in doing so. The major reasons for discontinuity emerged to be lack of interest or ability in studies and, to some extent, lack of ability to afford the expenses involved. While engagement in paid work and unpaid care work are not emerging as major challenges from the household survey, findings from our qualitative study will provide deeper insights into these results.

6.3 Examining the quality of schooling through assessment of learning

Our survey of households and our understanding of the school resources indicates that our sample is placed better in terms of distance to school, school infrastructure and teacher-pupil ratios, when compared to data emanating from large databases such as National Sample Survey Office (NSSO) for the same state. The school enrolment ratios at secondary education level also seem higher than what is reported in these sources, and so was the average expenditure on secondary education. This was despite the presence of several schemes including free textbook distribution. Although challenges were reported, a significant majority did not appear to face any major problems either in studying in school or at home. Although this perception of the situation on the ground changes a bit when we move to understanding the qualitative data in the next section, it does signify three things: (1) schools were largely available and accessible, (2) basic infrastructure was mostly available and the schools had adequate number of teachers, and (3) more than four-fifths of the children aged 14-18 years were attending secondary schools.

The next question is what does it mean for the quality of education? This is a central issue that this study tries to explore by examining the ecosystem of secondary education with reference to the issue of quality of learning. This also takes us to the bigger questions of what signifies quality, what are its indicators, and how can one understand and assess these indicators? There has been a lot of debate around the issue of quality of education, especially in the context of "poor learning outcomes" in government schools. Although a lot of the literature has concentrated on the primary level, it has relevance for secondary stage as well (Kundu, 2019). In this chapter, therefore, we examine quality of education through an assessment of learning.

Learning assessments examined through tests are a common practice for understanding both the progress of an individual learner and the efficacy of an education system. With increasing concerns on quality of learning and the drive for assessments in pushing education policy, the last two decades have seen an explosion of national and international learning achievement surveys. These are census- or sample-based large-scale surveys conducted throughout the country (national) and countries (international) to assess subject or learning-area specific learning outcomes at different classes/age levels. International assessments like Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) have been celebrated and used for understanding the gaps and relative positioning in the international frames including inequalities and pedagogical issues[8] while also having been critiqued for their orientalist approach to testing methodologies suitable mainly for the developed world (Gannicott K, 2012). Although heavily dependent on factors like who is assessed, what is assessed, at what stage is the assessment done , how has the assessment been done and the frequency of assessment, Greaney and Kellaghan (2008) suggest that when done right, national assessments can provide critical insights on six aspects: (1) status of learning in the education system vis a vis general expectation of stakeholders, aims of the curriculum in terms of further learning and preparation for life, (2) evidence of strengths and weaknesses in the knowledge base and skills of learners in that particular system, (3) whether particular groups of learners are performing poorly and, in many cases, the reasons for poor performance if the context of learning is explored in the survey (4) the context in which learning takes place—factors that contribute to performance of learners, (5) insights into the resource distribution and allocation by governments, and, lastly, (6) time sensitive and comparative analysis of the performance of learners.

Taking this cue, large scale learning achievement surveys were conducted in several Indian states as part of the accountability mechanism for the centrally funded District Primary Education Programme (DPEP) starting in 1994 wherein baseline, midline, and endline assessments were used to gauge the impact of the project on the quality of education. Taking that forward, the National Council

8 https://en.unesco.org/events/real-progress-being-made-equitable-provision-education-what-do-2015-pisa-results-tell-us

for Educational Research and Training (NCERT) with funding from Ministry of Human Resource Development (MHRD) started conducting what is now known as the National Achievement Survey (NAS) in the entire country using a large sample of students in classes 3, 5 and 7 (now class 8) and more recently, also in class 10 in both rural and urban India. Apart from that, other surveys such as Annual Status of Educational Research (ASER) by Pratham (a non-governmental organisation), Student Learning Study (SLS) by Educational Initiatives and state level surveys by state governments are also conducted regularly. The ASER surveys have received the highest media attention despite having been questioned widely and repeatedly for their lack of rigour and reliability on various counts[9].

We have also relied upon Learning Achievements Tests in this study and conducted our own survey in the schools that we covered for class 8 (terminal year for elementary level) and class 9 (first year of the secondary). This study, being part of a two-state study, has used the same tools used in Rajasthan for the sake of comparability (except that new ones were developed for Telugu, the state language in AP)[10]. However, the tools were adapted from a similar study conducted earlier in 2018 for the states of Jharkhand and Uttar Pradesh.

However, before presenting the analysis of our own survey data on quality of education, we first discuss the findings of the NAS 2017 survey where Chittoor was one of the 13 districts in AP that was included in the survey. We analyse the results from cycle 4 of NAS, which pertains to assessment of students in class 8 from 51 government and aided private schools in Chittoor. The class 8 students from these schools were tested on four subjects: language, mathematics (or maths), science, and social science. We also looked at the results from the NAS cycle 2, which tested class 10 students from about 80 schools from all categories of management in five subjects: mathematics, science, social science, English, and modern Indian languages (MIL). In addition to NAS, in order to gain an understanding of the overall performance of students in public examinations, we also look at the data from class 10 state board exams from 2019, where more than six lakh students had registered for the exam.

6.3.1 The existing knowledge: Learning Achievements and Examination results in Chittoor

National Achievement Survey (NAS) 2017

The analysis of the NAS 2017 results for Chittoor indicated that students in class 8 in all four subjects attained marks in the range of 40% to 55%. While the proportion of students who could answer questions correctly was the least for science (40%), it was the highest for language (53%).

The gender-wise analysis shows that boys did slightly better than girls in most subjects with variation of only one-two percentage points. A five-percentage point difference was seen between the performance of boys (46%) and girls (41%) in mathematics (see Figure 6.1).

In terms of learning outcomes, the students from Chittoor struggled the most with reading textual/ non-textual materials with comprehension, while being able to identify the details, characters, main

9 For instance, see Krishna Kumar(2015)(https://www.hindustantimes.com/ht-view/we-need-a-real-learning-grid-for-india-s-elementary-schools/story-qCMaOfeJhps1vXssHzhiGP.html), and Jha J. Review: ASER. Contemporary Education Dialogue. 2010;7(1):134-139. doi:10.1177/0973184913411205

10 These tools were prepared by Vimala Ramachandran in consultation with Annual Status of Educational Research (ASER) Centre, Delhi. Vimala is the lead for the Rajasthan part of the report. Since she had developed and executed a similar study in Jharkhand and Uttar Pradesh, it was decided that we use the same tools for the sake of comparison and reliability. Upendra Reddy adapted the tools for Telugu assessment in Andhra Pradesh from Hindi tools used elsewhere.

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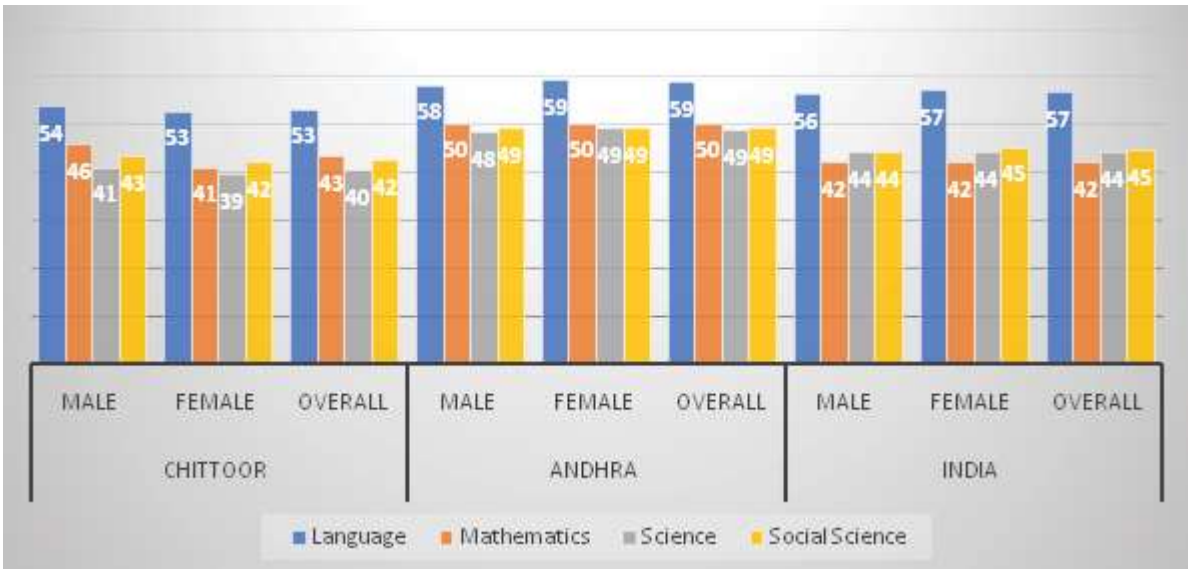
idea, and sequence of ideas in the test for language. In mathematics, the students performed the least in conceptual questions related to recognising patterns in basic arithmetic, percentages, fractions, and decimals. They also found it particularly hard to solve problems based on finding the area and volume of objects. In science again, concept- and application-based questions such as simple investigation to seek answers to queries, measurement of angles, reflection, etc. were difficult for students. Another noticeable aspect in the student's performance in science was that although many could perform satisfactorily in questions based on categorisation and classification, they mostly struggled with questions that needed calculation or using of formulae to calculate.
In the learning outcomes for social science, most students (65%) could answer questions based on crops, farming, and agricultural practices, probably because it was more context specific and relatable. They struggled most with questions related to fundamental rights, history, and urban local bodies—this is extremely concerning since these topics are critical not just for academic purposes but also for shaping one's choices as responsible and aware citizens.

Figure 6.1:Subject wise performance of class 8 students in percentage (%)

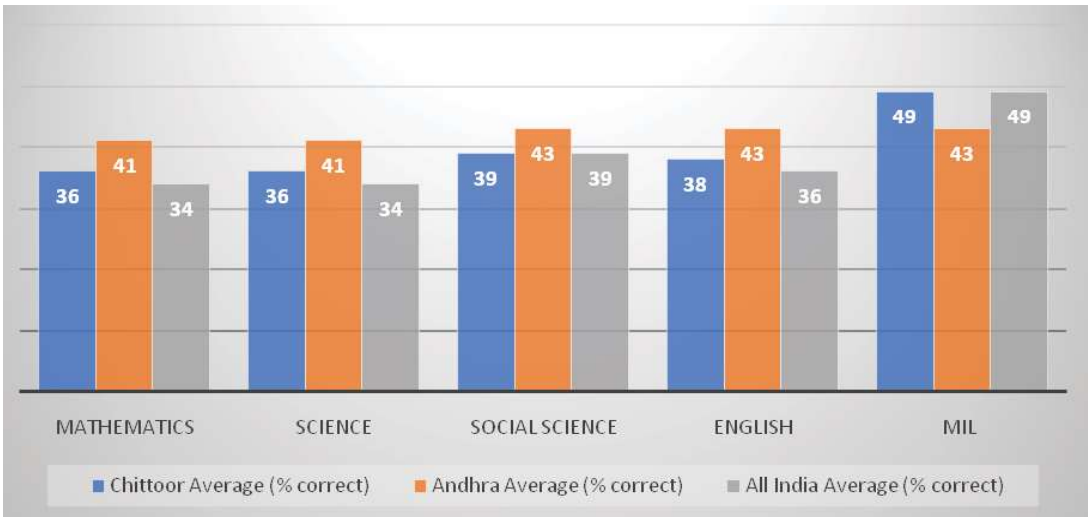


Source: National Achievement Survey (NAS) 2017 District Report card for data on Chittoor, and NAS 2017 State Learning Report for data on Andhra Pradesh and India.

Figure 6.1 also indicates that Chittoor has lower overall performance in all subjects in comparison to the state performance. Andhra Pradesh (AP) is one of the better performing states in NAS 2017, with most students doing better in comparison to the all-India Average. More worrying is the trend that girls in Chittoor fall behind boys in terms of performance in NAS 2017, while the same is not the case for AP or all-India.

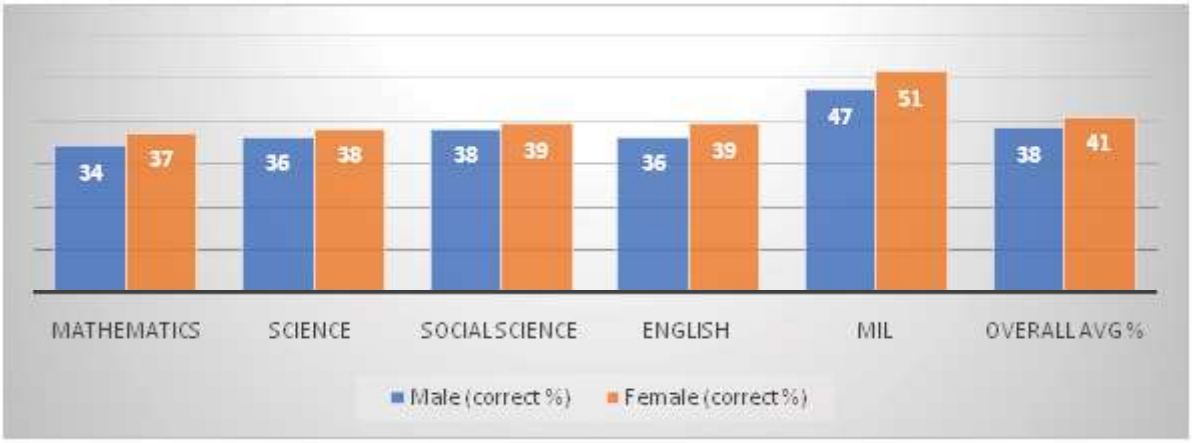
A similar trend is visible from the NAS data for class 10, where Chittoor is far behind the state average in all subjects. Chittoor is five percentage points behind in maths, science, English, and MIL, and four percentage points behind in social science. The range of performance by students in class 10 falls between 35% to 49% which again is lower than the performance of students in class 8 (see Figure 6.2)

Figure 6.2: Subject wise performance of class 10 students in percentage (%)



Source: National Achievement Survey (NAS) 2017 District Report card for data on Chittoor, and NAS 2017 State Learning Report for data on Andhra Pradesh and India.

Figure 6.3: Subject wise performance of class 10 students by gender



Source: National Achievement Survey (NAS) 2017 District Report card for data on Chittoor

The girls have performed slightly better than the boys in all subjects by two to five percentage points. The overall average performance of girls is better by three percentage points. This shows that though the overall performance has worsened from class 8 to class 10, within the cohorts, the gender trends have reversed.

A deeper analysis of the subject wise performance of class 10 students in NAS 2017 indicates that in mathematics, the students found questions on coordinate geometry to be the most difficult with only 30% students answering those correctly, while scores in trigonometry was slightly better with 39% students being able to answer them correctly. In science, while food and the world of living had a greater percentage of students answering questions correctly (43% in both), there was a significant drop in students who could answer questions based on natural phenomenon (28%). Social science, on an average, had better scores than mathematics and science, but students struggled with questions on history with only 33% being able to answer them correctly. In English, students performed better in reading comprehension (40%) than the language element (35%) that had questions based on grammar. In MIL, about 49% students could answer questions based on reading comprehension.

Board Exams 2019

Andhra Pradesh (AP) has done consistently well in the class 10 board exams with a 94% pass percentage in 2019. A quick perusal of newspaper reports [11] from the last five years suggests that girls have a slightly better pass percentage than boys and the pass percentage has improved over the five years, especially for girls.

It is important to note that this is not necessarily a comparative perspective (as we lack the data to do so). Instead, it is to provide a contextual background onto which to examine our findings from the tests we conducted. Before we do so, a brief overview of the syllabus for maths, English, and Telugu in AP is necessary in order to understand the normative standards and the topics covered under each subject.

6.3.2 Brief overview of the syllabus and curriculum in Andhra Pradesh

The state's vision for education mentions words like quality education for all, critical thinking, skills like fearless speaking, and friendly classroom and school environment. Teachers are seen as collaborators and reflective practitioners in the process of learning; therefore, students are advised to freely ask questions, and this is central to teaching learning processes. Teachers have been advised to stay away from rote learning methods and lecture mode. The role of parents and communities also finds mention in terms of the school ownership and participation (State Council of Educational Research and Training [SCERT], AP 2014). However, this does not seem to be adopted in practice as SCERT is critical of AP's exam-centric approach that schools follow. But it appears to leave untouched the critique of the entire socio-cultural schooling system that drives the culture of exams in the state and its schools. But it does briefly mention that assessments are often based on memorisation and test papers are developed by external agencies from outside which leads to "fear" of exams (SCERT, AP 2014)

The curriculum for primary, upper primary and secondary stage in AP allows for choice of mother tongue (Telugu, Hindi, or Urdu) as a subject. The study of a third language is also allowed as a part of the curriculum for secondary classes, apart from English, science, and social science as subjects. At the senior secondary or intermediate stage, students had to opt for one of the three following streams: science, commerce, or humanities. Although, English appears as a compulsory subject from elementary to senior secondary, the medium of instruction varied between English, Telugu, and Urdu in government schools. In 2019, the government of AP launched the ***Nadu Nedu*** programme—it was hailed as a revolutionary step in to transform the educational landscape of AP, especially in schools. While one aspect of the programme dealt with introduction and use of technology-facilitated education in schools, the other aspect was focussed on English as a medium of instruction in government schools. The target as it stands is to make English as the primary medium of instruction in all government schools for all grade (class) levels by 2022 (Dey 2019).

A perusal of the syllabus for English, maths and Telugu as described by the SCERT in AP reveals the congruence between National Curriculum Framework (NCF) 5 and the way the syllabus in AP has been designed, and the factors of execution that have been considered. The syllabus for these subjects is designed in such a way that continuity of topics is seen along with progression from a simple to a more complex engagement within the topic. The syllabus for English and Telugu is thematically arranged with themes ranging from grammar to discursive exercises. The textbook activities have a clear focus on individual as well as group work along with reflection and

11 https://www.firstpost.com/india/ap-ssc-results-2019-pass-percentage-94-88-percent-students-clear-class-10-exams-andhra-pradesh-board-declares-result-on-bseap-org-6609301.html

https://www.hindustantimes.com/education/ap-ssc-10th-result-2019-declared-94-88-pass-check-details-of-andhra-pradesh-class-10-results-here/story-wfi5WNKQbFSsQN9yAcPGhP.html

https://www.hindustantimes.com/education/ap-ssc-results-2018-declared-94-students-clear-exam/story-VH954ELhy3op9oXWlq7OTJ.html

https://www.hindustantimes.com/education/andhra-pradesh-ssc-or-class-10-exam-results-2017-nearly-92-students-pass/story-EyUrwsP7SzjSgaceDlhcOK.html

presentation. The syllabus for mathematics is dense to say the least, but by including visual and representative concepts of the subject like 3D/2D, data analytics, the syllabus does seem to engage with current movements in the subject making it contemporarily relevant and modern.

6.3.3 Learning Assessment of Sample Schools in Chittoor

A total sample of 334 students were tested from classes 8 and class 9 in all seven sample schools. For the sample to be representative, two things were kept in mind: firstly, an equal distribution of students from Telugu and English medium were taken and secondly, care was taken to include an equal number of girls and boys from co-ed schools. But since two schools in our sample were all-girls schools, the number of girls who were tested was slightly more than the boys. In all, we tested a total of 201 girls:122 girls from English medium and 79 girls from Telugu medium. Similarly, we tested 133 boys:51 boys from English medium and 82 boys from Telugu medium. There was greater parity seen in terms of samples for students representing the medium of instruction as 173 students from English medium and 161 students from Telugu medium were tested in total. This was done by taking about 25 students each from each medium from schools that had both mediums, which was the case for all schools expect KGBV which had only English medium. Students were randomly selected from all classes.

Each student was tested in maths, English, and Telugu, and the mode of testing consisted of written and oral tests. No in-school teachers were present during the time of testing. The field personnel were suitably trained before the assessment with clear instructions on how to administer the tests so that the students did not feel overwhelmed in the presence of external people and the chances of biased evaluation, especially for oral tests, could be avoided. For the purpose of making the students comfortable with the pattern of testing and the tests, they were given clear instruction on how to take the test—like use of pens and pencils, time line of the test, the kind of questions that would be asked, and so on. They were also told that they could ask the field personnel any question they wanted if they had doubts regarding the test and, most importantly, that there was no reason to fear or be worried since the assessment did not have any impact on their final results or personal report cards. The written tests preceded the oral tests. All students who took the written test were asked to stay for oral assessment too.

The oral tests took place on a one-on-one basis, and the location of the test was either the corner of the classroom or the corridor to avoid discussion and peer pressure. It took about four to six minutes (about two minutes per subject) per student to administer the test. For questions on maths, the students were given a choice to answer either in Telugu or English, whichever they were most comfortable in.

The written test comprised of a consolidated question paper on all three subjects. The total time given to answer the written test was 1 hour, 30 minutes. Since the test was to assess individual capacities of students, the chances of students discussing and writing the answers was minimised by creating four sets of question papers. Each set had the same questions but in different orders, and these were distributed alternately. Additionally, while administering the test, the seating arrangement of students were altered. Sufficient gap between rows of students was ensured, again, to minimise interactions and discussions during the test. The FGDs with teachers and classroom observations had revealed that in some classrooms, children were seated as per performance; in other words, better performing students were seated in the front benches while the ones who did not perform well were seated at the back. Therefore, in order to take a mix of students based on their previous academic performances and opinions of teachers, we decided to select students from all parts of the classroom on a random basis while administering the test.

Composition of the tests

The assessment, both written and oral, was designed to be in congruence with the syllabus for the particular subjects and also the objectives of teaching that particular subject as prescribed by SCERT. There was a progression in difficulty of the questions where the relatively easy sections required competencies equal to classes 2, 3 and 4. The medium level difficulty represented competencies of classes 5 and 6, and the relatively difficult questions had more convergence age/class level competencies expected from students in classes 7 and 8.

The oral assessment for language (English and Telugu) included reading of alphabets, words, and sentences. To test application, meanings of words and sentences were also asked. Similarly, for maths, the students were asked to read single digit numbers to four-digit numbers.

The written assessment in language (English and Telugu) comprised of multiple-choice questions (MCQs), short constructed responses, and long constructed responses in the following three core areas.

1. Reading comprehension tasks: questions based on a given passage (informative passage), retrieving fact directly from text (open-ended), retrieving fact directly from text (MCQ), integrating information (MCQ), and integrating information (open-ended).
2. Vocabulary tasks: writing synonyms (MCQ) and word meanings (open-ended).
3. Creative writing tasks: writing meaningful sentences on a given statement.

The written assessment for maths was similarly designed to assess the following five core areas.

1. Number system: recognising place value of 4-digit in numbers and words, and representing numbers in fractions, decimals, and percentages.
2. Number operations: addition, subtraction, division, and addition of fractions.
3. Word Problems: subtraction, division, multistep word problems (Unitary Method), averages, and simple interest.
4. Shapes and Geometry: triangles, area, and perimeter.
5. Data handling: mean and median.

We now present the analysis of the test results, first subject-wise and then school-wise. This helps us in identifying common issues across the schools while also allowing us to see these in the context of specific schools.

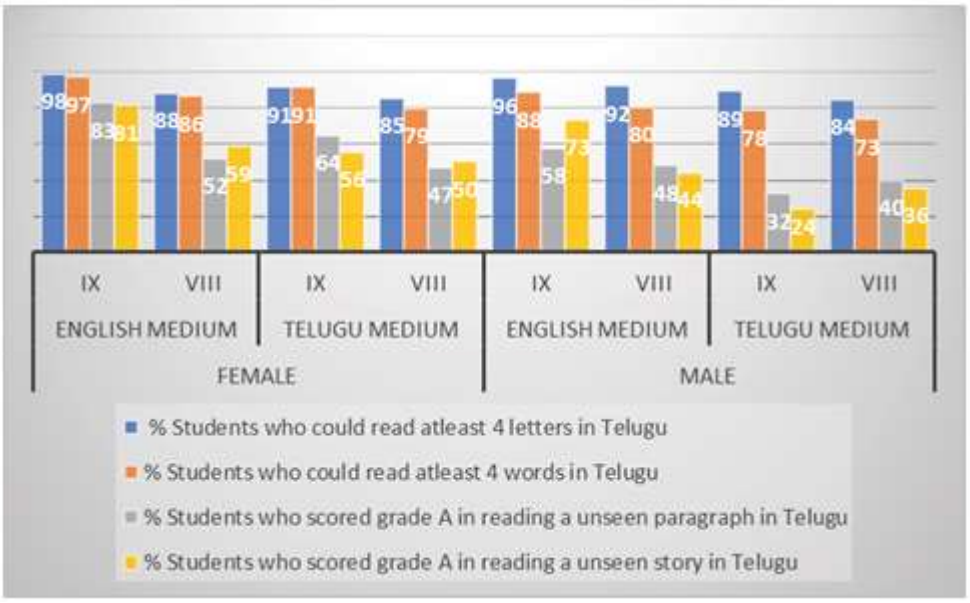
Telegu Language Assessment Results

The overall performance of students in Telugu oral was good. About 90% of the students could read alphabets, words, and sentences in Telugu. Only 9%% students expressed difficulty in reading sentences. The scores show that the girls performed better than boys by 10 percentage points. The disparities in scores between students in English medium in comparison to those in Telugu medium in their performance in Telugu was even more notable. The students in English medium did better in Telugu word reading by 12 percentage points, paragraph reading by 38 percentage points and story reading by 44 percentage points. Therefore, as the complexity of the questions grew, the difference in scores between Telugu-medium and English-medium students widened.

In general, the performance was fairly good when it came to Telugu writing. About 74% students could retrieve explicitly stated information from an unseen passage, while 77% students could answer questions based on vocabulary. The students, however, struggled greatly in

application-based questions: open-ended and creative writing questions. Only 11% students could answer the open-ended questions on word meanings and 31% students did well in creative writing. About 68% students copied the same sentence as given in the question to answer the open-ended question based on creative writing. This showed that while they did understand the meaning of the question correctly, they could not express themselves by writing in their own words. Creative writing involves a complex engagement with a particular language, and it is possible that the classroom practices do not allow for these relationships to develop. In the classroom, writing practices largely revolve around demonstration of knowledge like taking notes, writing summaries, worksheets, and so on—these seldom train students in expression through writing. This issue is particularly relevant for disadvantaged groups as writing based on experience or knowledge does not help in overcoming barriers of prior knowledge, fluency, attention, or motivation (Deane, 2018). This has been observed in government schools, where, similar to the situation in our sample, resources are limited, and children come from varied marginalised sections.

Figure 6.4: Performance of students in Telugu Oral Assessment



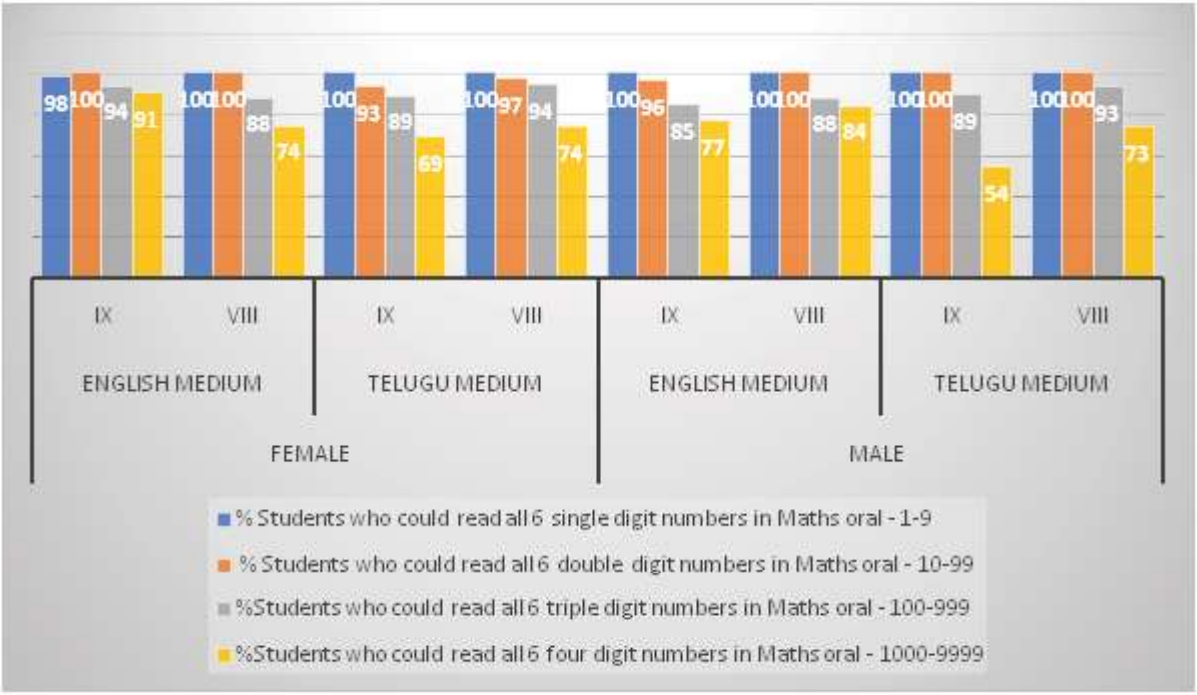
Source: Data collected by CBPS in the field

Further analysis of the written assessments of students revealed that only 30% of the students did not make any mistakes in spelling while answering the descriptive sections, and 70% did not make any grammatical mistakes while writing. The girls did perform slightly better than the boys by two to four percentage points even in writing.

Mathematics Assessment Results

In the oral test for maths, almost all students could recognise single-digit, double-digit and triple-digit numbers irrespective of gender and medium of instruction. About 90% students could recognise four-digit numbers. In this, girls did slightly better than the boys by 3 percentage points and there was a huge variation of 27 percentage points between English-medium and Telugu-medium students. Only 54% boys in Telugu medium could recognise all 6 four-digit numbers shown to them during the oral test, while 77% of boys in English-medium class 9 could easily recognise the same (see Figure 6.5). The interesting pattern that emerges here is that while boys in Telegu-medium and English-medium class 8 did better than girls, this changed in class 9 where girls did notably better than boys in both English-medium and Telugu-medium groups. This needs further exploration in examining whether the global phenomenon of boys' underachievement emerges at this stage in AP.

Figure 6.5: Performance of students in Mathematics Oral Assessment



Source: Data collected by CBPS in the field

As seen in Figure 6.6, the students performed better in number operations, where average scores ranged from 70% (class 8 English-medium girls) to 50% (class 8 Telugu-medium girls) in comparison to the questions on shapes and geometry where scores ranged from 30% (class 9 English-medium boys) to lowest being 17% (class 9 Telugu-medium girls). The students also struggled considerably with word problems in maths.

Number systems

The questions on number systems revealed that students could answer simple questions like place value of four-digit numbers (68% could solve it), but when the same question was asked in a little twisted manner, they started struggling (scores dropped to 38%), thus showing the lack of adequate application of skill. Here again, there was a slight variation in performance by gender as girls did better than boys by three to nine percentage points. Wide variations in scores were seen between Telugu-medium and English-medium students by 9 to 21 percentage points.

The students demonstrated ease in working with fractions where they could solve a simple and a slightly complex question on fractions satisfactorily well with 78% to 75% students being able to solve these questions. But the same was not the case with percentages and decimals. While 48% students could solve a simple question on decimals, only 17% could do so when it came to a relatively complex question based on the same principle. Similarly, 41% students could calculate a simple percentage, but only 14% could solve a problem that was more advanced. This clearly showed that when most students had clarity on a certain topic, like fractions in our case, they could also solve a more complex question based on the same topic. But when more than half of the cohort struggled with a simple problem, the performance further dipped when it came to a more complex problem. Here, boys did slightly better than girls, and English-medium students did much better than Telugu-medium students.

Number operations

Students performed well in number operations when it came to addition with 89% students being able to solve it. The performance deteriorated with subtraction with only 65% students providing correct answer, and it further deteriorated with division with only 38% students solving the problem correctly. For English-medium students, scores were higher by 5 to 14 percentage points while girls did better than boys by 9 percentage points.

Only 44% students could perform addition of simple fractions. Girls did better, while students in English medium scored far higher (21 percentage points).

Word problems

In order to test the application skills of the students, similar (with slight difference, same concept) number operation problems were given as word problems in the test. The results showed that students struggled with word problems even when they could solve the same problem as number operations given earlier. Only 59% students could solve the word problems based on subtraction, 40% could solve the problem based on division, and only 17% could correctly answer the multiplication-based word problem.

A word problem based on class 6 competency saw students struggle the most—only 2.39% students could solve it. Since the number of students who could solve it was so low, there is no variation in terms of gender, class or medium of instruction. Likewise, only 3 students in the total sample of 334 students could solve a word problem based on simple interest.

This not just points towards lack of application skills, but also shows that language skills in terms of reading and understanding the question were lacking. In fact, there has been a lot of research done in the past couple of decades which shows that learners find word problems to be one of the most difficult problems to solve in mathematics because it not only involves application of mathematical concepts, but also language skills in terms of text comprehension (Pongsakdi, N., Kajamies, A., Veermans, K. et al 2019).

Shapes and Geometry

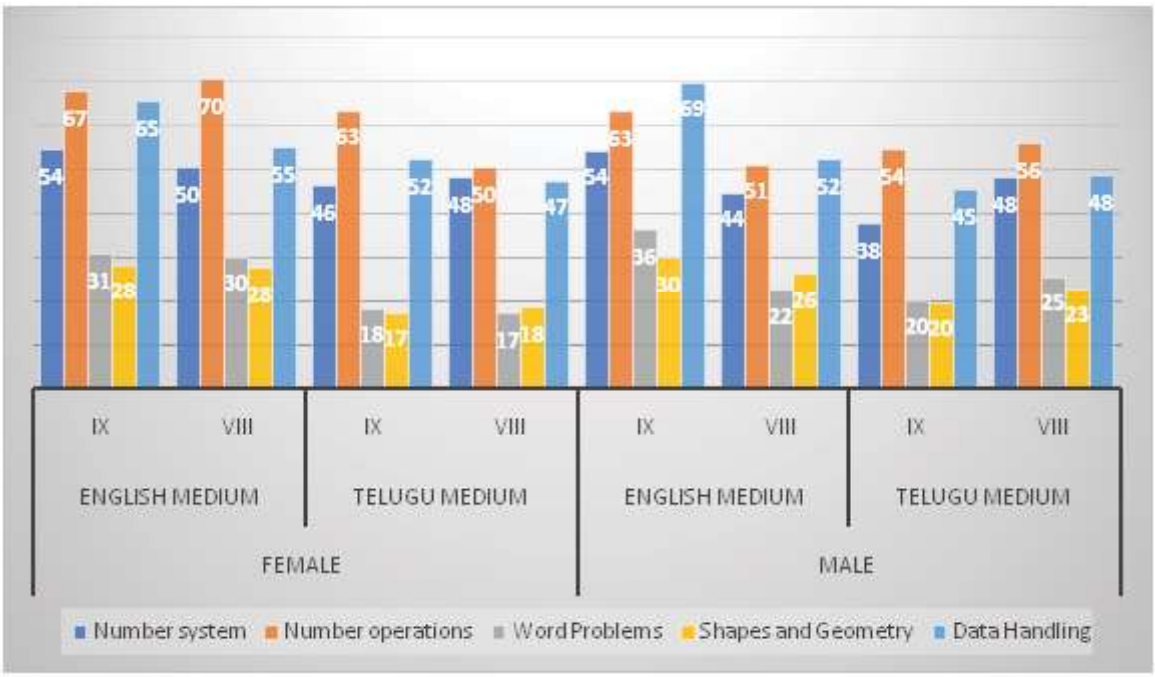
Less than half of the students (46%) could calculate the area of a field correctly, while only 19%could calculate the perimeter. A similar question based on class 8 competency was given, this question also involved applied calculation in terms of application of basic arithmetic—only 7% of the students could solve this question. Here again, students from English medium did slightly better by 7 to 18 percentage points.

Data Handling

Under this section, students were asked to analyse a simple bar diagram. Demonstrating that most of them understood the basic principle of data being represented in a bar diagram, about 81% could locate information from the diagram and more than half of the students (51%) could compute and compare the information provided in the bar diagram. They understood what the frequencies were and what they represented showing clarity of concept. In this, class 9 students did slightly better than class 8 by 3 to 9 percentage points, while students in English medium continued to do better by 7 to 17 percentage points.

The overall performance of students in mathematics was lower than expected outcomes at respective levels. While the students did show clarity in some basic concepts, the application of these basic concepts were found to be lacking, especially among the students pursuing their education in Telugu medium.

Figure 6.6:Performance of students in Mathematics written Assessment



Source: Data collected by CBPS in the field

English Language Assessment Results

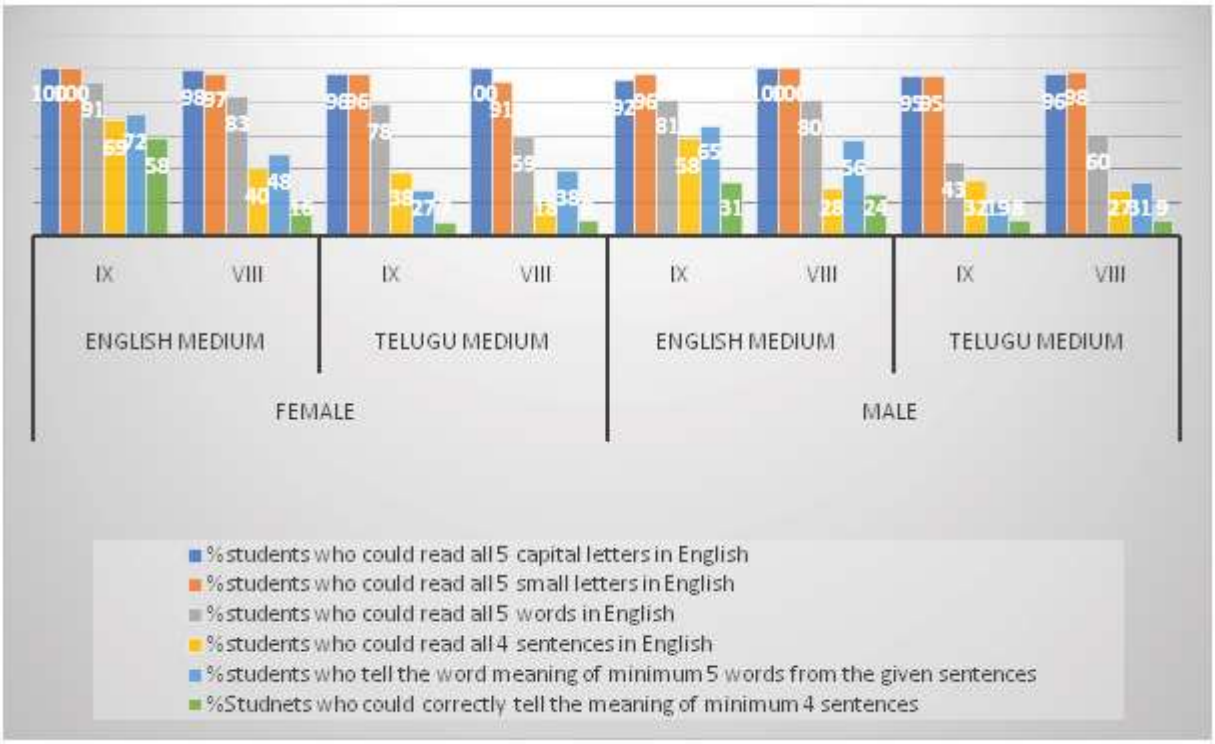
Almost all students could read capital and small letters in English without any difficulty (97% to 99%). But the competency started reducing with the complexity of the oral test as demonstrated by the results. While 85% students could read words, only 41% could read sentences and only 22% could read with understanding. Girls performed better than boys by ten percentage points. There was a big difference seen in the performance of English-medium and Telugu-medium students with a difference of about 20 to 28 percentage points in sentence reading and of 31 percentage points in stating word meanings (see Figure 6.7).

As seen in Figure 6.8, students performed well (77%) in retrieving explicitly stated information from the given unseen passage under the reading comprehension section. But the performance fell substantially when it came to answering questions that needed more expression and creative writing, like answering open-ended question based on the unseen passage and making sentences with given words (36% and 33%). So, even when basics were clear, students found it difficult when it came to more complex engagement with the language.

Class 9 students did better by seven to eight percentage points. As has been the trend observed from the results of all subjects and topics, English-medium students did better than their counterparts in Telugu medium (by 26 percentage points). This is surprising, as one would expect Telugu-medium students to solve word and other related problems with greater ease because of the command over mother tongue. But as we discussed earlier, students from Telugu-medium groups performed worse even in Telugu language tests. We needed to understand this better and when we probed for reasons for this pattern, we found that most of the students in our sample except for KGBV did not have a choice to opt for Telugu or English medium. While talking to head teachers, subject teachers, and students, it was apparent that most students who perform “well” are pushed towards English medium, irrespective of whether the children or their parents want it. Even though English-medium education is one of the aspirations for many families, some parents do not consider

vying for it as within their capacities due to lack of the supporting home environment to sustain English-medium education. This has a flip side as well. Those who do want to study in English medium but are deemed as slow learners are pushed to taking up Telugu medium. This practice is not just discriminatory towards the students, parents, and the language medium itself, but it also has a huge role to play in the learning ability of children and their self-concept. An environment of discrimination, especially in schools and classrooms where children spend substantial amount of time, adversely affects their confidence level, self-image, support networks, creativity, and academic performance.

Figure 6.7: Performance of students in English oral Assessment

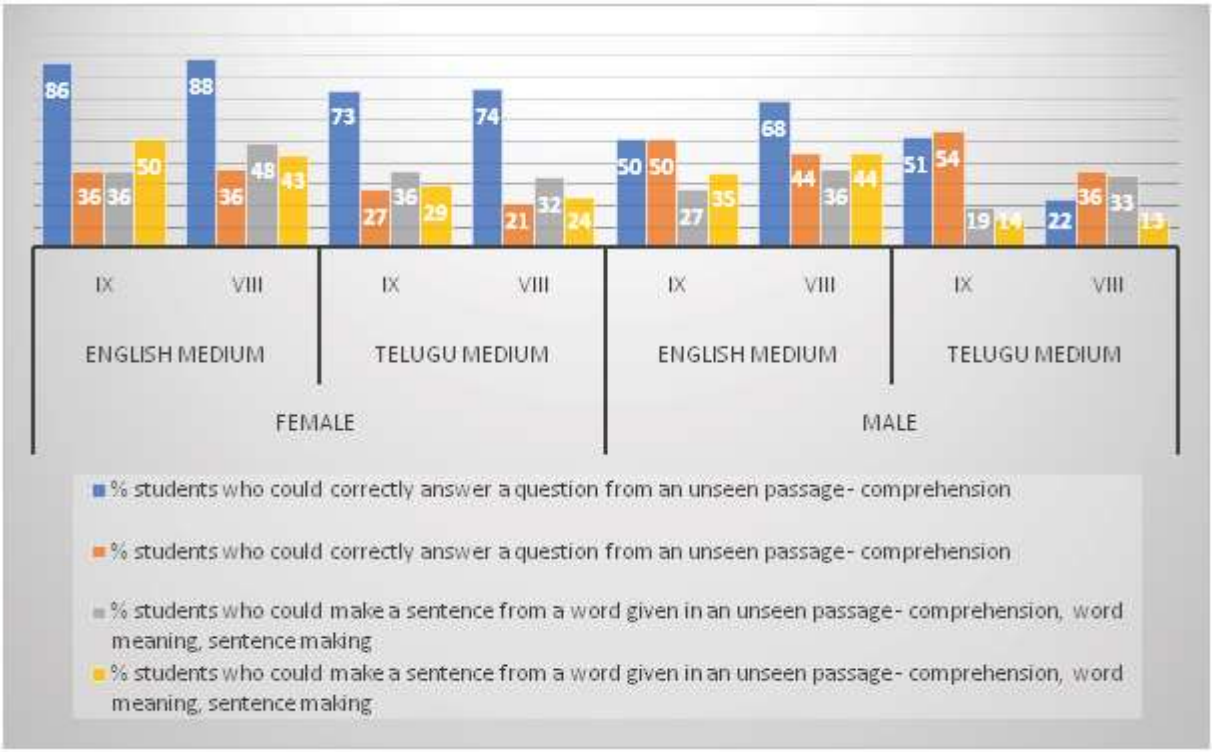


Source: Data collected by CBPS in the field

Moreover, language competencies are critical not only for proficiency in a particular language, but also for enabling learners to understand and engage with other subjects like mathematics, social sciences, and sciences better. The students in our sample did not perform well in some of the core language competencies like creative writing and vocabulary both in English and Telugu. This could be one of the reasons for their poor performance in word problems and other application-based topics in mathematics.

Having said that, one always needs to bear in mind that learning is not a linear phenomenon and does not follow the expected normal pattern; learners learn at their own pace, and there are multiple factors that affect learning. But it also becomes critical to look at teacher inputs, classroom interactions and processes in order to better understand these results. The following section presents an analysis of the results and their congruence with school and classroom practices as observed in the classrooms of all seven sample schools and during FGDs with students and teachers.

Figure 6.8: Performance of students in English Written Assessment



Source: Data collected by CBPS in the field

6.3.4 School wise results

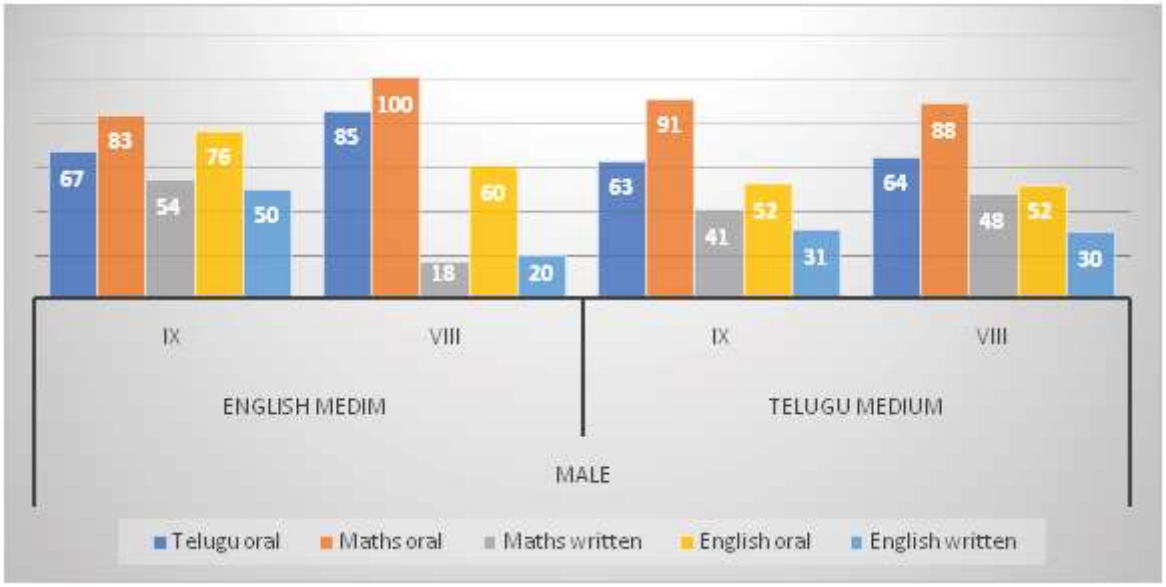
BRD School (all-boys, classes 6 to 10)

This school is the only all-boys school in our sample. The students from BRD school did well in oral sections for all subjects, especially in maths where about 80% to 100% students answered questions correctly in maths oral test, 60% to 85% in Telugu oral and 50% to 76% in English oral. But when it came to the written sections in English, the boys from BRD school struggled. The data shows that students who had Telugu medium as the choice of instruction particularly found the questions in English written sections difficult with only about 30% of them being able to answer it correctly. However, the English-medium students in class 8 exhibited similar level of difficulty with only 20% of the class being able to answer this section correctly. English-medium students in class 9 did better with half the class answering this section correctly. This group also showed consistency in their performance in maths written section, where 54% of the boys answered the questions correctly. But their counterparts in class 8 found this section very difficult and only 18% provided correct answers (see Figure 6.9)

The observations from the school suggest that the school is decently provided for. In terms of infrastructural facilities, since it holds board exams every year, there is no apparent shortage of chair and tables. Within the classroom, there is space to move around and it has sufficient natural light. During our classroom observations of science and maths class, we found that the teachers use various forms of Teaching Learning Materials (TLMs) to demonstrate and use examples to illustrate a particular concept. Teachers used examples of daily objects like wood or plastic to show how conduction takes place. Likewise, the maths teacher used different shapes like ice cream cones, cricket ball to explain the calculation of area when it came to different geometric shapes. This helped students stay engaged in class and it did seem that they understood the concepts.

But certain practices within the classroom seemed to be extremely demotivating and could have played a role in the low performance of the students. The teaching learning processes were such that students were quick to be branded as slow learners, mainly on the basis of their academic performance and were, therefore, forced to be seated at the front row. Even though, one might say that the intention in doing so was probably to make sure that the teachers could focus their attention on these students, the stigma attached to such a setup and the resultant peer-shaming that might happen cannot be dismissed.

Figure 6.9:Performance of students in BRD School



Source: Data collected by CBPS in the field

DDP school (co-educational, classes6 to 10)

The performance of students in this school has been mixed: while girls from both English and Telugu medium did very well in oral assessments in Telugu and maths, almost all students struggled with written maths. Boys in class 9, enrolled in the English medium were the only exceptions with 63% of them being able to tackle the section of maths written without any difficulty. Compared to this, only 11% Telugu-medium boys in class 8 could answer questions in the maths written section correctly. Girls from the same class and group struggled as well with only 19% being able to answer the questions correctly (see Figure 6.10).

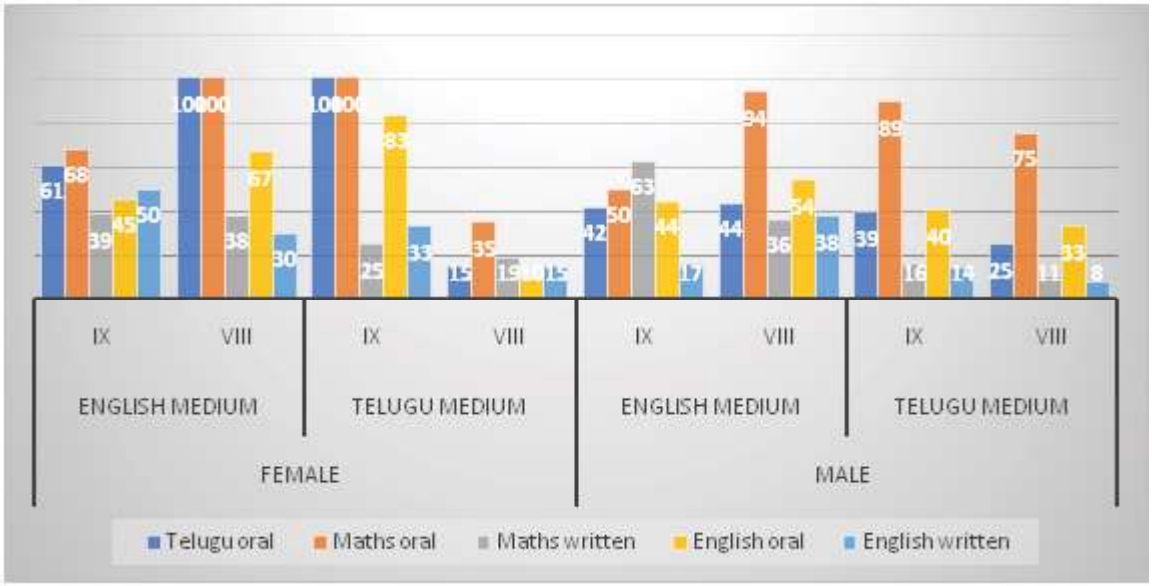
Classroom observations from the school revealed that there was gendered seating in classrooms, which in turn might have affected the gender dynamics of the class. Even in an observation period of a short duration (one or two classes, ranging from 30 to 40 minutes each) one could see that even though the girls were more focussed in classroom, it was the boys who were giving the correct answers. Therefore, the boys were visibly more vocal in the class.

No evidence of the use of TLM emerged from our observations although teachers claimed that they use it often. There was the provision of virtual/digital classroom in the school, but as often reported in many reports from various parts of the world (Kelly, 2015; Goswami, 2014; Singhavi et al., 2019; Kundu, 2018), here too, it was hardly used since the projector was not in order.

Here, the teachers focussed a lot on making sure that all students paid attention—the classroom was arranged in a way that a teacher could see all students. Teachers also used techniques like randomly picking up a student to answer, so that attention was guaranteed. Although, contradictory to this, it was also observed that some teachers (especially in the maths class) did not correct the

student when wrong answers were given; instead, they wrote the correct answer on the board. This could serve two purposes—one positive and the other possibly negative. By not pointing out that the child was writing wrong answers and by simply writing the correct answer on the board, the teacher did not make the mistakes of the child apparent in front of the entire class, but expected the child to correct themselves. But this could have backfired if the child were not paying attention to what the teacher was teaching and, in that case, a mixed approach would have worked better.

Figure 6.10: Performance of students in DDP School



Source: Data collected by CBPS in the field

KMP School (co-educational, classes 1 to 5)

The students from KMP school did well in maths oral section as most of them, 80 to 100%, could answer all questions in this section. But their performance dipped substantially in maths written section irrespective of gender, class, or medium of instruction. The highest number of students who could answer this section correctly were the Telugu-medium boys in class 9, but their performance was also not commendable with only 32% of the class answering questions correctly. KMP school was the school with the lowest performance in maths in comparison to all other schools in the sample. The students also struggled with oral Telugu, including those in Telugu medium, especially the boys.

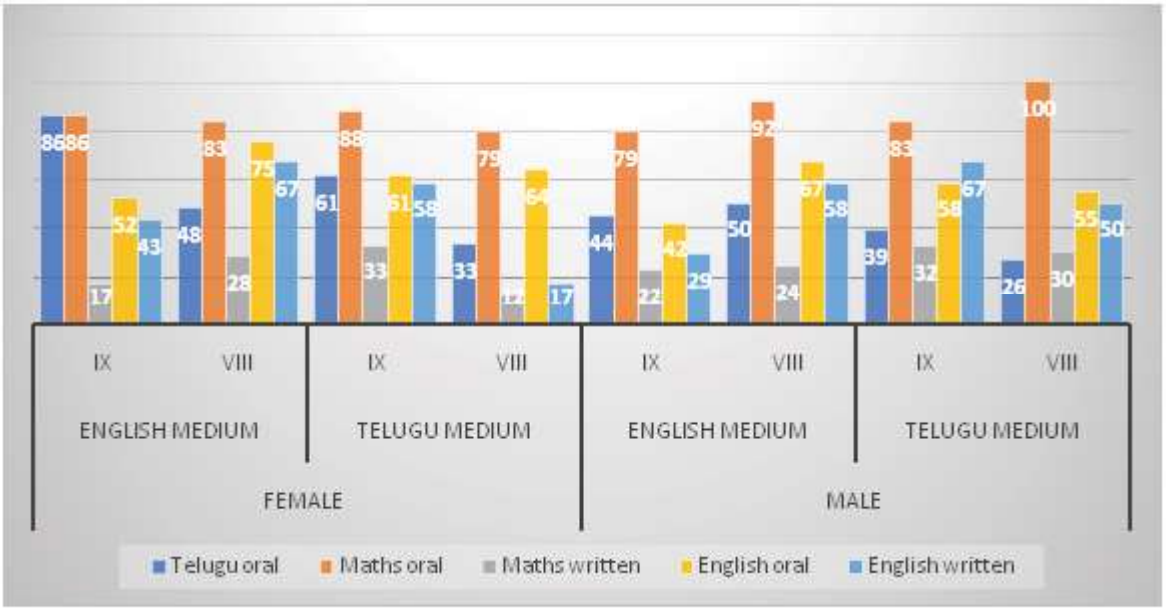
This school presented two interesting cases of how teachers' inputs are critical for learning. The English class observed in KMP school was conducted exceptionally well. Two factors are critical to note here: (1) since English education is aspirational, the students were very invested in learning the language, and (2) the teacher was also motivated and had a good rapport with the students. She paid attention to them and used the board extensively for all to see. She also tailored her teaching according to the pace of the students rather than trying to finish the syllabus/plan for that session.

Contradictory to the English class were the maths and biology classes. The attendance in both these classes was very thin and students mentioned that because exams were round the corner, many students opted to self-study rather than attend classes. Teachers used guidebooks, did not focus on students, and were in a rush to finish the syllabus irrespective of the understanding of students. Students were silent in these two classes—only one-way communication from teacher was observed unlike the English class where students were active and talkative. In these classes, teachers were also underprepared and used only guidebooks. Although it seems intuitive to interpret the performance of the students in maths with the observed teaching learning processes, one

must acknowledge the fact that even though teacher inputs are critical, there are multiple factors that could have affected the performance of the children; the apparent lack of freedom to choose particular medium of instruction and any structural issues could have also played a huge role.

Technology again was not used even though the devices were present in the school, which demonstrates how teachers' ease with technology is critical for use and the presence of technological aids does not guarantee its use in the school.

Figure 6.11: Performance of students in KMP School



Source: Data collected by CBPS in the field

THM School (co-educational, classes 6 to 10)

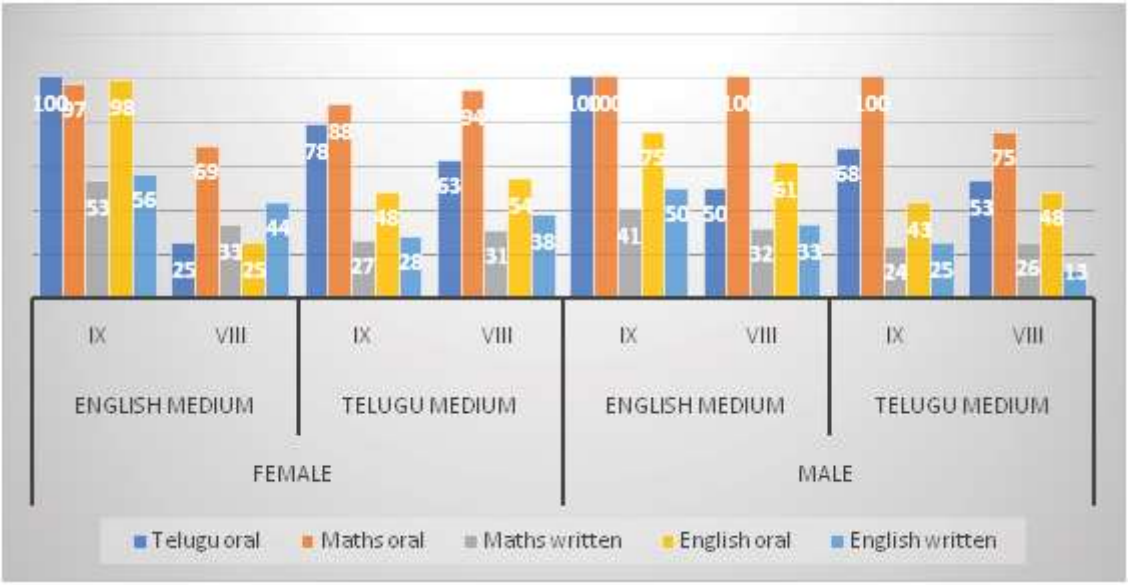
The results (see Figure 6.12) from THM school again shows that while students did better in Maths oral, the reverse was true for the written section. Although no significant gender wise difference is seen, there is difference in the scores between the students in English and Telugu mediums. As mentioned, even though almost all of the students fared poorly in written maths, the performance of the students in Telugu medium was worse with only 20% to 30% of students being able to answer this section correctly. Their classmates in English medium did better with the range of performance being between 30% and 50%.

As observed in the classrooms, one of the biggest challenges for THM is that English-medium and Telugu-medium classes are taken together. This is due to the shortage of classrooms. As a result, some teachers resort to teaching in Telugu only, others manage a bilingual mode of teaching; nevertheless, this is challenging for both teachers and students.

Similar to the case of KMP school, we found that students who did not perform well in exams were forced to take Telugu medium. The situation in THM was made worse for the Telugu-medium students as they were then forced to sit at the back and received little attention from the teachers. However, some teachers find solutions to counter such arrangements. For instance, observations from the science class show that by altering the mode of teaching—by making it question/answer-based—they were able to ensure that all students were paying attention irrespective of the seating arrangement. But we also witnessed contrary practices like in the maths class where the teacher was unable to manage the volume of students and focussed only on those who wrote down

answers in their copies to show. The board was not used, and full classroom participation was not encouraged. Those who did not pay attention were simply left out.

Figure 6.12: Performance of students in THM School



Source: Data collected by CBPS in the field

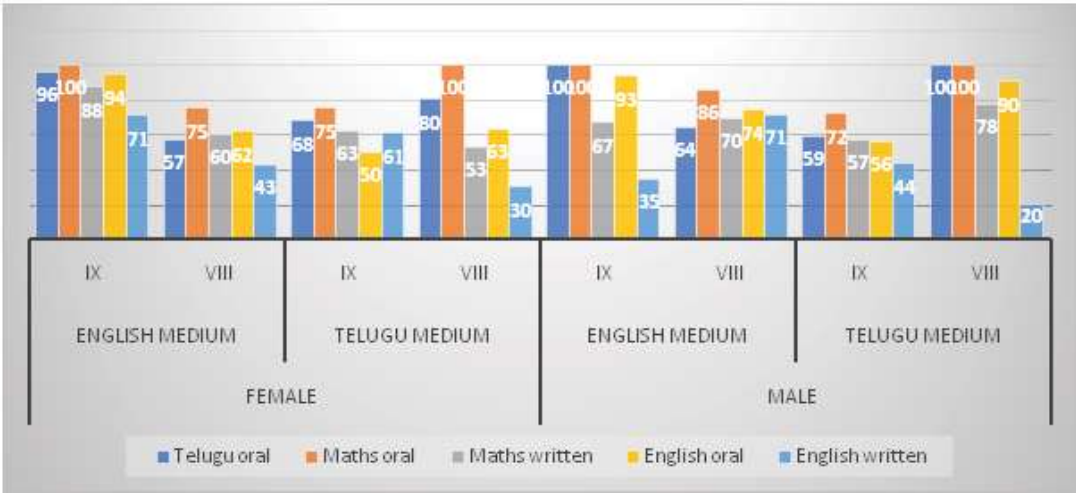
KDA School (co-educational, classes 6 to 10)

This school is clearly one of the better performing schools in terms of test results from our sample. As seen in Figure 6.13, the students performed well in all three oral subjects where more than half of the students, irrespective of gender, medium of instruction or class could answer the questions correctly. Nevertheless, the students did struggle a little with English written sections, especially the Telugu-medium boys in class 8where only 20% of them could tackle this section correctly. The performance in written maths for students in this school was high with the scores being in the range of 50% to 90%, especially considering the fact that almost all students in the sample schools did not perform well in this section. The observations from the classroom and some school-based practices do point towards processes that might have contributed to these results.

It was observed that teachers paid individual attention to the students, used the black board, and in some cases, they also spent extra time with students to solve their doubts. In an FGD with students, some of them said they wanted to be like their maths teachers—this showed that not only did the students do well in the subject but they wanted to emulate the teachers as individuals also. Role models serve a very special role in the lives of adolescents, and teachers as role models represent a strong bond between teachers and students which in turn also positively affects the quality of education/learning. Another critical thing about this school was the science exhibition which was fondly spoken of by the students. They mentioned how the teachings in the class translated to experiments in the exhibition. The practical use of concepts not only makes students understand the concepts better academically but also holds significance for life skills such as presentation, confidence, group work, and so on. These are parameters for assessment also mentioned in the NCF and SCERT guidelines of AP.

Although our observations did witness a class where the teacher struggled with the class and teaching learning processes were not so reciprocal, in general, the school seemed to be adopting better pedagogical practices.

Figure 6.13: Performance of students in KDA School



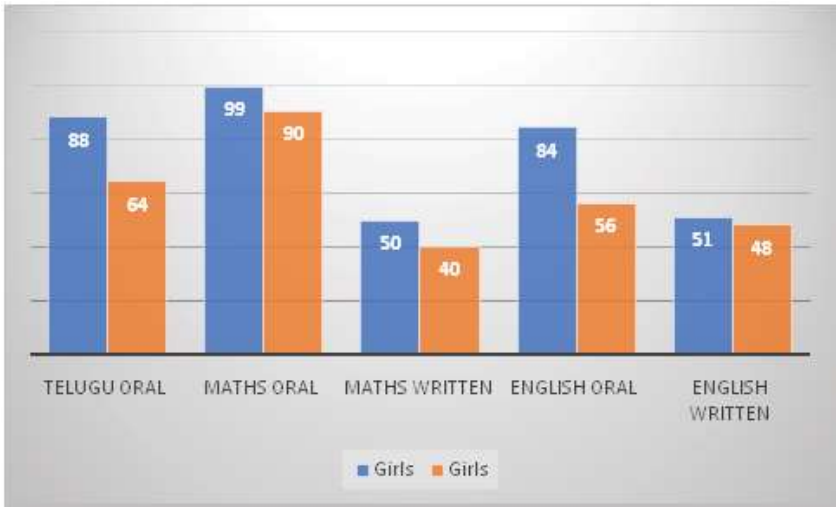
Source: Data collected by CBPS in the field

KVG School (all-girls school, classes 6 to 10)

This was the only school in our sample that did not have bilingual medium of instruction and was only English medium. The girls from this school did relatively well in all subjects, especially in the oral segments. As seen in Figure 6.14, even though 50% of the girls in class 9 answered questions on maths written section correctly, the girls in class 8 did not find it as easy, with only 40% of them being able to answer this section. The performance was consistent in written English, with nearly half of them being able to successfully tackle the section.

The classroom observations from KVG reveal that even though the classes were big, the arrangement was rigid, leaving little room for flexibility. The classrooms operated in a very traditional manner and so did the mode of teaching, which was mainly through lectures. Sometimes, the teacher asked the students to solve problems on the board—this had both positive and negative implications. Teachers seemed to follow a pattern/routine and did not teach as per the pace of the child. The ones who could follow were able to maintain the pace, some tried to catch up, and others just did not engage. Overall, however, there was no apparent discrimination or shortages seen in the school.

Figure 6.14: Performance of students in KVG School



Source: Data collected by CBPS in the field

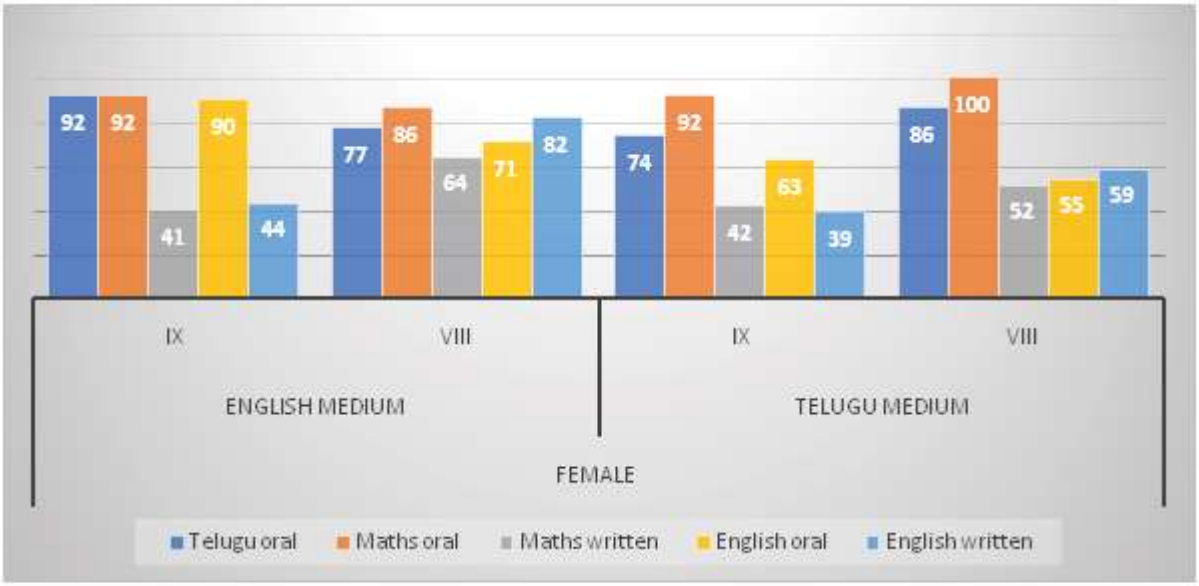
PLM School (all-girls, classes 6 to 10)

PLM is one of the better performing schools in terms of results (see Figure 6.15). The girls from this school did exceedingly well in all oral segments, especially in mathematics. Their performance in written mathematics was average, except for the fact that less than half of the girls in class 9 could solve the sections correctly. Same was not the case with girls in class 8, pointing towards a deeper issue related to continuity of learning pace in that particular subject. The results also showed that the girls in Telugu medium struggled with written English. But, overall, the students did well.

This is despite the difficult classroom arrangements that children had to study in. We observed that one of the classrooms was divided into two using a plywood partition. Because the plywood was temporary and did not reach the roof, voices of the students and the teachers travelled from one part of the classroom to another, making it difficult for children to follow what their teachers were saying and vice versa. Additionally, the classroom arrangement made the space hot and cramped, making it doubly difficult for the teacher.

Nevertheless, the teachers in PLM seemed motivated; they used the space well to move around the class and provided individual attention to all students. They also used the board extensively so that all students could see what is being taught. In one of the classes, it was also observed that the teacher extensively used real life situations to explain a difficult concept in English. The students were also allowed to freely express themselves and ask questions to the teachers. This reflects in the performance of the students as well.

Figure 6.15: Performance of students in PLM School



Source: Data collected by CBPS in the field

6.3.5 Conclusion

The analysis of learning assessment results revealed three important points: (i) English-medium students in general fared better, (ii) girls in general, though not always, did better than boys not only in language but also in mathematics, and (iii) both girls and boys performed at a level lower than expected for the relevant classes they had completed—they were particularly weak in application or language based problems in mathematics and open-ended or creative writing based questions in language. These results were also on similar lines as NAS results and reinforced some of the findings discussed there.

The issue of language is the most complex one as although apparently it is based on the choice of the student/parents, in reality it seemed to be pre-decided: all students perceived to be "better" or coming from higher socio-economic backgrounds are pushed to go for English medium, while others are pushed towards Telugu medium. The classrooms are common, and teachers mostly teach in both the languages with a tilt towards Telugu. So, as these are largely post-primary schools, there is a pre-disposition towards "English-medium" students performing better because of the selection bias right at the beginning. What is worse for the Telugu-medium students is that they are perceived as "slow learners" and teachers anyway have very low expectations from them. The issue of gender needs further probing, as the classroom observations pointed towards them receiving lesser attention in co-educational settings. There could be the issues of masculinity at play where boys view academic performance as "feminine", but we did into delve deep into this aspect.

When we matched learning assessment scores with school infrastructure, we did not find any clear relationship. Almost all schools, except one, had similar level of infrastructure present in terms of playground, library, and toilets, with just one exception and this did not emerge as having any relationship with learning scores. It also emerged that mere presence of technology does not guarantee its effective use. Even though smart classroom facility was present in classrooms, none of our observations captured its use. The reasons varied from the lack of proper functioning equipment to lack of support for the teachers use of such technology.

This brings us to the point that the central figure of teachers as one of the most critical facilitators of learning has been reinforced once again by the analyses of scores and classroom processes. The classroom observations clearly pointed toward the critical role of teacher engagement in the classroom—how the use of TLM, teacher attitude, preparedness and pedagogical practices that are interaction-based could to some extent mitigate difficult situations like double-medium class, lack of space, and high number of students, and lead to better performance of students. The school-wise analysis of results of the learning assessment survey juxtaposed with the school and classroom processes showed that simple practices contribute heavily to the performance of students; for example, giving greater attention to those who would otherwise remain silent, involving all students in the conversation, pro-actively preparing for the classroom, and developing an active engagement with the students, and, therefore, also leading to a friendly school-ethos and identity. We further analyse the social factors as well as the experiences of children with schools and teachers that may affect the quality of learning and education in the next section.

6.4 Understanding quality through structural contexts

Education has been at the forefront of various struggles in the erstwhile AP. There has been a history of marginalised populations and women being systematically excluded from institutions of education. Perhaps because of this, access to basic rights and services have been universally and consistently featured in peoples' movements, whether in the women's movements or the Naxalite movements (Gudavarthy & Vijay, 2004).

In 1986, the government of the unified AP constituted a committee to evaluate higher education and it observed that the system of higher education in the state was dismal. In their report, they concluded that the children graduating out of schools and colleges did not have necessarily skills and knowledge to be gainfully employed (Hargopal, 1986). Additionally, the quality of teachers was considered to be poor, and there were no accountability systems to ensure that the teachers were teaching the children what they needed to be taught. Overall, the report concluded that the educational institutions that are supposed to create responsible citizens and gainfully employed youth have not done so (Hargopal, 1986). Although there have been some changes since 1986 (Majumdar, 2010; Biswal, 2011; Tilak, 2012; Sharma, 2020), we can see from the two prior chapters that AP is still struggling with the same concerns that plagued it over 30 years ago.

To understand this a little better, we are going to delineate the social contexts and examine the social structures that determine school performance. As we already know, school performance is never a function of students themselves—instead, it is fundamentally tied to learning environments, infrastructural facilities, teacher engagement, and the larger socio-cultural contexts in which the students are located. This section will examine the larger social structural factors such as structures of schooling and the dynamics of gender and caste to better understand the state of education in AP.

We will first cover the school-related factors such as the manner in which teaching takes place within the classroom, the impact that the politics of language has on learning, and the manner in which schools themselves can be sites of violence and fear that can exacerbate the problem of drop-outs. Next, we move to understanding more contextual factors in the larger educational landscape such as the popularisation of private education and the influence that poverty has on the future of schooling for many children. Finally, we attempt to connect these ideas to the larger structure of education so as to create some policy pathways to better inclusion within secondary educational institutions in AP.

6.4.1 Structures of schooling

The school is the primary unit of education. Within the brick and mortar of the school, knowledge production is influenced by resource-constraints that teachers and students face, the political implications of the medium of learning, and the manner in which "disciplining" takes place. Moreover, these social structures that support the schooling of children can determine their employability, their social and economic mobility, and to a large extent, the trajectory of their life (Reddy & Rao, 2003; Joshi, 2010; Tilak 2012). Both teachers and parents function out of a high degree of pressure and anxiety around schooling outcomes. When the self-worth of children is determined only by good academic performance, and little else, it can create a system wherein we see large numbers of school-related distress including symptoms of depression, high anxiety, irritability, and in some cases, death by suicide (Deb, Strodl & Sun, 2015). This focus on high performance enables conditions wherein the teaching-learning environment is more about managing and disciplining students rather than creating an enabling learning environment. Often, classes are geared towards the completion of the syllabus rather than comprehension of the material. The focus of both teachers and parents on rote memorisation and long hours of studying, functions out of the primary assumption that students are learning ***only*** when they are able to recollect and regurgitate factoids instead of understanding concepts or ideas.

What this often translates to in the day-to-day learning environment of a child is that they have to constantly keep up with the pace of teaching without missing a beat. For children who learn in non-traditional ways, missing a single step can have significant consequences in comprehension. More often than not, these approaches often lead to a majority of the children not being interested in learning (Deb, Strodl & Sun, 2015)—we have documented this during our class observations, and also it emerges as a major factor for discontinuation of schooling in large-scale surveys. For students who are interested in learning, there is an added pressure that if one does not score well in particular subjects (such as science), then one cannot practice a profession of their own choosing. While learning environments at home, the cultural capital accumulated through class and caste, and the role of the State in education plays a very critical role (as will be described later), the schooling environment, therefore, creates the foundational framework for not just children's education, but also their trajectory outside of school.

To explore these specific dynamics, we first look at the interaction between students and teachers in the classroom.

Pedagogical concerns

In an ideal schooling environment, we are encouraged to think of knowledge not as a transactional experience that moves information from the teacher to the student, but as an emergent understanding that comes from the interaction between the teacher and the student. Instead, what we found in the schools that we observed was that the classroom is a site of violence and power (covered in detail in subsequent sections), but more critically, it functioned as a site of apathy and stigma.

In general, we observed that most teachers were apathetic to the needs of the students and did not have a good comprehension of the abilities of the students. When we spoke to the students in FGDs, they told us that the primary reason that they do not speak in class is because they are fearful of being ridiculed by the teacher for being stupid. They also do not want to invite negative attention from the teacher. So, instead of an accepting environment, students are learning in an environment where mistakes are attached fairly permanently to the identity (and supposed intelligence) of the child (as will be discussed in section 5.2.3). In these kinds of environments, children are able to learn very little (Iyengar, 2004).

However, as with the diversity of the students, there is also diversity among teachers. Some of the teachers we spoke to understood the constraints under which the students were learning and were attempting to redress the inadequacies within the class through various measures. One of the ways in which they did this was to create spaces of learning through means that were available to them. One of the prominent means was through remedial classes being held before and after school hours for those students who were struggling to understand within a classroom environment. Some of the teachers told us that this individual attention helped many of the children who did not have supportive environments at home to learn.

The other ways in which some of the teachers engaged was to be very proactive in ensuring that they created relationships within the communities from which the children came from, and were in constant touch with the parents to discuss the progress of their children. This was also reciprocated by parents who were also invested in the education of their children. In one of the schools, at the time of our visit, the teachers and the students were making arrangements for a science fair, which seemed to be an initiative of the science teachers from that school. We observed several students testing out their experiments, while other students helped in setting up the space required for the science fair.

When we spoke to one of the boys who was participating in the science fair (interview, KDA School, 28 February 2019), he told us that he did not have anyone particularly guiding him, but when his physics teacher explained the wonders of science, he felt inspired and tried to engage with the problem himself. He felt that if he encounters a problem, he tries to search for some answers to it. One of the teachers also mentioned to us that this same boy was also able to fix a mike for the school that was not working. He created a different kind of a charger for the mike that bypassed any kind of battery usage, and was able to save money for the school, to the amount of Rs15 per week. When asked about this, the boy told us that because he was able to understand the principles of direct current, he was able to construct something out of waste materials which would work in the same way as a battery would. He tried it out and it worked, much to the delight of the school. What this example illustrates is that the exposure to an engaging teacher and a school that provides children the space to experiment with potential failures can do wonders for the overall learning environment of the school itself. But as teachers themselves admit, this is not always easy to do because of the structural constraints that they face, the first among which are crowded classrooms.

All the schools we went to were functioning under capacity. In some of the schools, there were only three to four teachers who were taking the entire load of the school because of the absence of

teachers who were either on leave or deputed elsewhere. In all of the schools we visited, teachers had to combine and teach two to three classes together. This often leads to chaotic, noisy, and unruly classrooms where it is difficult to create conducive learning environments. Given that fear is an easy way to control chaos, many teachers employ it to create a sense of discipline and order within the classroom. In fact, fear is often the primary way in which teachers attract the children's attention, and it is clear that much of learning happens under this shadow. This instilling of discipline and order is also highly socially valued within the schooling environment. For example, a quiet classroom is seen as the ideal site for learning, instead of a noisy classroom where students and teachers are engaged in discussions.

For teachers, apart from having to "discipline" the children to some semblance of order, there is the ever-present pressure to complete the syllabus (Nawani, 2013). Teachers are not rewarded for how much the children have understood, but whether the syllabus has been completed or whether the children have been able to "pass" the exams. The pressure for ensuring that children pass the exams is so high that cheating through teachers is not uncommon in the schools that we visited. Some of the children told us quite openly that the teachers often provide clues to the answers, and even tell them the most likely questions that will come in the question papers, so that they can "mug" up the answers.

For teachers who are invested in ensuring that their students learn, the social and infrastructural difficulties that they face (along with their students) is quite high. For example, many teachers feel burdened under the weight of the sheer diversity and number of students. One of them vehemently told us, 'I alone cannot do everything like ***Taare Zameen Par*** (referring to a film)'(FGD with teachers in PLS Intermediate, 16 February 2019).What this illustrates is that teachers ***do*** have a reference point for inclusive teaching but are unable to practice it because of constrained environments. The best that they are able to manage in these crowded classrooms is to be more attentive to the children who are engaged with them, but not necessarily engaging with those who are not listening or paying attention in class.

Another structural constraint that teachers face is the irregularity of attendance. Because students come from very impoverished backgrounds, they often have to work (more on this later in the section) and are highly irregular in classes. For girls, care work responsibilities can be very high, especially when a family member is sick. In general, however, sowing and reaping times in these agricultural communities often implies that there are fewer students in the classrooms. This means students often miss class, and it is very hard for the teachers to address these gaps of knowledge. Some of the teachers told us that when they approach the parents to ensure more regularity of attendance, the parents often respond by saying that they need the child to earn money for sustaining the household, 'If he doesn't earn, will you give me food?'(FGD with teachers at PLS Intermediate, 16 February 2019).Given the very real constraints that they are up against, many of the well-intentioned and dedicated teachers feel very disheartened. At the same time, it is also clear that the teacher and the pedagogical environments in the school do have an impact on children's lives (Porter, 1967; Kabir, 1955; Kingdon, 2007).This is best illustrated by an example from one of the schools that we studied.

While talking to the girls, boys, teachers, and the SMC of the school, we found out that a maths teacher (he was deputed elsewhere for a short period of time during our visit), was the primary reason for the revitalisation of their school. From the conversations, we found out that as soon as this teacher was transferred to this school, he started playing an active role in the functioning of the school and that has led to a sea-change in their attitudes towards the school (FGD with SMC KMP School, 16 February 2019).

First, he started with motivating children in his class to learn, experiment, and break the fear around mathematics. Simultaneously, he, along with two other teachers, started to mobilise the community

to support the 80-year old institution to ensure that it had basic infrastructure. By appealing to the alumni of the school living within and outside the village, he was able to fund the building of toilets, compound walls, and waste management systems. He, along with the other teachers, started getting the children interested in the process of dry and wet waste management systems, so that the school environments remained clean.

Scaffolded by the changes that he was able to influence within the school, he was also able to mobilise the SMC to create a canvasing programme for the enrolment of children, and due to their combined efforts, 12 children shifted from private school to the government school. Meanwhile, he started regularly holding Parent-Teacher meetings (PTMs) and started involving parents more directly in the education of their children. The improved cleanliness in the school, the better quality of mid-day meal, and the motivation of other teachers taking interest in their children appears to have brought an attitudinal change not just in the children, but also in the parents (FGD with SMC KMP School, 16 February 2019). From a paltry single-digit attendance, now 30 parents regularly attend the PTMs and according to one SMC member, this number is only growing.

It is clear that the confidence and initiative shown by this one teacher has created favourable outcomes not only for children but also for the overall community as well. This is not to say, of course, that the entire ecology of the schooling environment was only the result of a teacher. What this illustrates is the potential of a teacher to be a positive change agent for the schooling environments of children. By the same coin, a teacher can also have detrimental consequences for children, especially if we examine the language in which they are taught, the violence exercised within the classroom, and the consequences thereof, including dropping out of schools.

We will first examine the relationship between the classroom, the teacher, and the language in which children are learning. This is not only because language of learning is centrally tied to the learning abilities of a child, but also to the self-concepts attached to language this is perpetuated within classrooms.

Language of learning

In the previous chapter, we have examined the impact that the medium of education can have on the performance. We already know that because of the paucity of teachers in the school, both English-medium and Telugu-medium students are taught together. In fact, because many of the students are not able to speak or understand English, it is primarily Telugu that is spoken in the classrooms. Even when the teachers know the subject in English, they have to teach in Telugu because everyone in the class understands Telugu. Because of this, students do not have a lot of practice in English, thereby, creating a cycle in which students who are not adept at English are not really taught it, and because they are not taught the language, they are not fluent in it.

This has consequences for students when they start to come to institutions of higher education. The teachers in the intermediate school told us that often there is a lot of gap in students' education when they come to school, which is exacerbated because of their lack of understanding of English. As many subjects at the higher levels are taught in English, even when children know the basic concepts, they are unfamiliar with the terminology. Therefore, teachers find themselves having to bridge these gaps, and not having enough time or space to do so.

Another problem that this mismatch in language creates is a lack of confidence. Because there is an overwhelming social value attached to the knowledge and comprehension of English as a language, children who graduate out of secondary school and enrol in higher education often get scared and do not participate when the language employed in class is only English. Teachers in the intermediate levels, therefore, have to use Telugu to ensure that children are participating and learning in the classrooms. This, then, creates another cycle wherein children are not immersed in the language

and do not learn to navigate it by the time they graduate intermediate school. This repetition of pattern is not unknown to the teachers, who are quite aware that it was unfair to blame the secondary schools. One of the higher secondary level teachers told us, 'If you ask us, we will say that education in high school is not up to the mark. If you ask high school teachers, they will complain of the poor quality in primary schools. It is an endless chain'. (FGD with teachers PLS Intermediate, 16 February 2019).

Parents, teachers, and students themselves see English as a necessary tool for social and economic mobility, and this high social and economic value attached to the medium of learning starts quite young. In fact, the choice of medium of education starts in class 6. Parents are often strong-armed to choose one way or another by the teachers. According to our interviews, it appears that in some of the schools, the children sit in one class for two months, and based on the child's "educational standards", the teacher decides whether the child will continue with the English or the Telugu medium (FGD with teachers, PLM School, 19 February 2019).

In fact, many teachers were very honest in letting us know that the medium is solely decided on the basis of the marks that students get. If students get bad marks, their parents are convinced to shift the child to Telugu medium. Even when the parents think that their children are bright and want to shift them to the English medium, the teachers resist this. Teachers told us that parents often do not have a good understanding of children's abilities, and when children are unable to cope with the English medium, this just creates future problems for them. Consequently, they often force children to move to the Telugu medium unless they think a child is exceptionally good and can learn (FGD with teachers, PLM School, 19 February 2019).

Although teachers posit that the reason for the shift is because it is easier for them to teach students who are better equipped in English, the reality of the situation is (as has been mentioned before) that students of both English and Telugu medium are taught together. More often than not, the teachers are teaching only in Telugu with some English. This division of students of Telugu and English, therefore, creates fertile grounds for stereotyping and discrimination within the classroom, which is not unnoticed by the students in the classroom; in addition, this hardly leads to any real English-medium teaching for even those who are made to opt for that.

As has been described before, in one of the schools, the teachers would divide the classroom in such a manner that English-medium students would sit in the front, and the Telugu-medium students in the back. The students told us that this meant that they would not be able to hear the teacher properly and for some students who were sitting behind their tall classmates, they could not even see the classroom board. Apart from the physical divisions in class, students also felt that there was active discrimination against Telugu-medium students. In one of the schools, the teachers would take only English-medium students to the technology classes, but not Telugu-medium students. When asked what reason was given for this, the students told us that they were told that the Telugu-medium students would not understand anything said in these classes. In fact, a student who dropped out told us that in retrospect, they should have asked to go to the computer classes, but did not feel that they were "smart" enough to do so (FGD out-of-school boys, PLM School, 17 July 2019).

The way in which these outward forms of discrimination is internalised to a point where children drop out is most visible in the physical forms of violence that is meted out to children by teachers and administrators in the school. This will be covered in greater depth in the next section.

Fear and violence

One of the most common ways of disciplining a child is through violence, or the fear of violence. Broadly classified as corporal punishment, this form of violence can mean hitting with a variety of objects including sticks and straps on hands, arms, head, or buttocks (Gershoff, 2017). Children all over the world also experience pinching, pulling of ears or hair, or slapping. The more severe forms including having to sit in on an invisible chair for long periods of time, to carry heavy objects, to kneel on hard floors etc. The reasons can also be quite diverse. However, the most common reasons that children are punished for are not doing their homework, arriving late to class, making noise in the class, or in some form or fashion, "testing the patience" of the teacher (Gershoff, 2017).

While the fear of these punishments can be quite debilitating, it is also important to remember that children are at a significant risk of physical injury including contusions, wounds, and factures, and in rare cases, death. Because of the mental and emotional trauma, children also experience a long-ranging list of mental and behavioural problems far beyond the secondary school years (Gershoff, 2017).

Spurred by these concerns, Article 19 of the United Nations Convention on the Rights of the Child states that children must be free from all form of physical and mental violence, which includes any neglect or negligent treatment, maltreatment or exploitation (Ogando & Pells, 2015). Even though this has been ratified by India, it is clear that in the case of corporal punishment in schools, there is a lot to be desired. In India, the Right to Education Act in 2009 has explicitly prohibited the use of corporal punishment in schools. In AP specifically, the government of AP has banned corporal punishment in all educational institutions by amending Rule 122 of the AP Integrated Educational Rules of 1966 to ensure that no violence takes place in schools. Even though this was passed in 2002, there has been little to no heed being given to this important directive (Ogando & Pells, 2015).

In fact, in the state of AP, where the Young Lives project has documented the experiences of children in school, they reported that about 65% of the children have been beaten in schools (Morrow & Singh, 2014). Typically, poorer children and boys are more likely to experience corporal punishment and nine out of ten children have witnessed their classmate being hit. They also reported that children are more vulnerable at age 8 than at age 15 (Ogando & Pells, 2015).

Even in our study, we found collaborative evidence of corporal punishment. Children told us that teachers often carry sticks to class, and that the gender of the teacher does not matter. Women teachers are just as likely to hit as men teachers. Children also report being called caste names and being asked to go "hunting", a derogatory term for their caste profession, instead of coming to class. Many children also reported that they were often called "dullards" if they scored between 55% to 70% and they were constantly targeted by teachers for not doing their work and for not comprehending anything in the class. Many children reported that if they did not get above 85%, the teachers would focus constantly on their lack of marks in the classroom. Children also reported that for minor infractions as not bringing their homework, they were asked to carry bricks from the ground floor to the third floor (one at a time) to punish them (FGDs with boys, KMP Primary).

When teachers were asked about the continued use of violence, most of them told us that they strongly felt that it promotes discipline and better learning outcomes. Teachers feel that they no longer hit students as they fear retaliation from the parents, but they feel that fear does help to produce good results (FGD with teachers, DDP School, 26 February 2019). Most of the teachers justified the verbal abuse by saying that without the fear, they will not be respected (FGD with teachers, DDP School, 26 February 2019). In fact, teachers also feel very upset that corporal punishments are no longer allowed, because 'if there is no fear, then children do not learn' (FGD with teachers, PLM School, 19 February 2019).

But we already know that corporal punishment does not lead to good behaviour. In fact, they are detrimental to one's learning outcomes. There is no evidence to suggest that corporal punishment enhances any form of learning. On the contrary, studies have indicated that when children are hit or slapped or pinched, they are likely to have lower receptive abilities and lower incentives or motivation to learn (Gershoff, 2017).

Even the Young Lives data indicates that the more frequent and severe corporal punishment children receive by age 8, the more likely it is that they scoreless in mathematics. Most of these changes are also because children start to avoid and dislike school as they are constantly in fear of being beaten. In fact, 25% of the children in the Young Lives study reported that they do not like school because they are beaten by teachers. Apart from poor academic results, corporal punishment leads to lower classroom participation, drop-outs, and very low sense of self-worth and self-esteem (Ogando & Pells, 2015; Gershoff, 2010). For example, in our study, a student told us that because he was the tallest in the class, one of the teachers would often target him for punishment. As he grew older, he started to fight back. By this time, his teacher started to use other ways of punishing him. He told us that after a while, he was fed up with the "mental torture" and decided to stop going to school.

This method is sometimes encouraged by parents who also feel that without the disciplining of their children by their teachers, their children will become "spoilt", as indicated by interviews with parents in our study. However, this endorsement is ambivalent at best. There is a distinction that parents appear to be making between "general" beating and the targeted beating, and they do step up when they feel that the beating is "unfair" (Morrow & Singh, 2014). For example, some parents are extremely uncomfortable with the teachers beating their children, but also feel that they cannot speak up because they fear the teachers will unfairly target their children if any complaints are made against them. In fact, one of the parents told us, 'When my child got very less marks in maths in class 10, I asked her for the reason and she said that she never understood what the teacher taught them. I went to the HM to talk to him about the issue'. The teacher at the time didn't say anything, but the next day, her daughter was beaten with the teacher telling her, 'Your father has complained against me. Who does he think he is to do that? Am I not teaching? If you do not get good marks, how can I be responsible for that? You are responsible for that'. (FGD with mothers,PLM School, 17 July 2019).

We already know that this reporting of violence to parents in and of itself is quite rare. Studies have indicated that many children do not report the violence to their parents as they feel that there will be retaliation against them if they do report (Ghosh & Pasupathi, 2016). Often, children accept the violence at school as they are clearly aware that the teachers are more powerful than their parents in the class, and often they hide the violence from the parents unless it is unbearable (Ghosh & Pasupathi, 2016).

Part of the reason for this power dynamic are class, caste, and gender dynamics. We found in our study that children who do not have school uniforms, who are unable to finish homework (as they do not have educational support at home), or do not have necessary books or equipment to work in the classrooms are often targeted. Other studies have also indicated that in rural areas, poorer children are more likely to report corporal punishment than others (Ogando & Pell, 2015).While boys are more likely to experience physical forms of violence, girls tend to be targeted with less visible forms of violence like sexual harassment.

It must be iterated here that the attitudes of the teachers are not always to be blamed. As a culture, we are open to the idea of violence being used to discipline—whether it is a woman, a child, or a member of a marginalised group. When teachers are disempowered in a classroom setting, the use of physical punishment is useful for them to control active children. So, when hitting a child is a normative experience, it is hard to condone ***only*** teachers for something that is prevalent in every other aspect of social relationships within our society. When authority is exerted through violence

in other contexts, it is hard to fault only teachers in exercising it within the classrooms. At the same time, it is clear that these maladaptive attitudes and behaviour have consequences. As evidenced by an example above, one of the most cited reasons for girls or boys dropping out of school (apart from sickness) in our study is corporal punishment. The consequences of this and dropping out will be discussed in the next section.

Opting out

It has been a matter of debate whether children are opting out of school or whether they are instead being pushed out because of the various social and economic factors that plague the social institution of education (Reddy & Sinha, 2010). Another point of contention is whether children have any choice in the matter, and whether the decision is often framed by circumstances beyond the control of the child. What is clear is that even ten years ago, one in every ten children between the ages of 6 and 10 were not regularly attending school (Biswal, 2011). This represents a huge human cost to children themselves as employment and social mobility options are severely curtailed when children are not able to pursue basic forms of education (Gouda & Sekher, 2014).

In our study, we found dropouts from our schools as well as from the intermediate college in our sample. When we tried to find out the exact dimensions of this issue of dropouts, we found that precise data is difficult to find. Because of the size, the complexity, and lack of uniformity in maintaining detailed records as well as the schools' reluctance to admit that children have been dropping out, it is very difficult to estimate the number of children who are being systematically excluded from schooling. Attendance records are not reliable or accurate. Therefore, our analysis of the dropping out of children is primarily based on interviews with the children who have dropped out and to some extent, their parents. Although we do not have specific numbers from the schools, the girls in the intermediate school revealed that their class of 120 has reduced to 78, most of who dropped out appear to be boys. The girls stated that they dropped out because of lack of interest or they have found jobs such as a mechanic, tea-shop employee, a driver etc.(FGD girls, PLS Intermediate, 25 February 2019).

We already know that there is a lot of regional, gender and caste variation with respect to drop-outs and the reasons have mostly been centred around migration, low-socioeconomic status, requirement for children to work at home or outside, and school-related reasons such as distance, safety, corporal punishment and lack of interest in schooling (Govindaraju & Venkatesan, 2010; Gouda & Sekher, 2014).We will first examine school-related reasons.

School-related reasons

Some of the major reasons for dropping out in our study have been the physical non-availability of schools due to lack of transportation or distance to the school, the quality of learning environments, and poverty. When we look at the data, we can easily see that when the school is located in the village itself, the retention of the school improves substantially. For example, one of the hamlets close to one of our sites had no transportation facilities to the nearest schools, and 24 children from that hamlet had dropped out over the past year. It is also a ST community, and did not have a long history of positive educational experiences. However, as a pro-active measure, when the HM of the school arranged for transportation facilities with financial help from the teachers, and organised for an auto, attendance improved immediately and the drop-out rates decreased (FGD out-of-school boys, DDP School, 25 March 2019).

Many children reported that they did not go to school because they were not interested in further studies or were fearful of corporal punishment. Children also told us that when they were irregular to class because of various constraints, and they were not able to cope with the increased workload in the school. They were also hesitant and ashamed to be in the class when they knew so little. For

some, they were able to join after their classmates had already moved to the next class, and the children didn't want to go back to the same class because they felt stigmatised and also didn't have friends in their classes. For many children, once they stopped going to school regularly, it became a vicious cycle of exclusion.

Children also expressed a lack of interest in the school because they felt uncomfortable in the learning environment. They felt that teachers often engaged only with children whom they deemed clever, and they were not able to understand or comprehend the lessons taught in the classrooms. When these problems were compounded with specific learning abilities, health problems, or structural issues like poverty, children were even more vulnerable to be permanently excluded from the schooling system (Poffenberger, 1971; Venkatanarayana, 2009; Sikdar & Mukherjee, 2012; Jha, 2014).

Re-joining the classes after dropping out was also technically harder for many children. When children drop out of school and want to seek readmission, the education department requires a lot of certifications that are often beyond the means of the parents to produce, and it entails a systematic follow up through the department which often means forgoing several days of labour and associated daily wages (Reddy & Sinha, 2010).When it is time to re-enter the school, parents going through the process simply give up after a point in time. A more poignant example of this was a girl who transferred to the KVG School for class 8 but could not handle the food or the living environment. When she sought re-admission back into her own school, the transfer certificate took so much time (and at the time of the interview, had not arrived yet) that the girl lost an entire year of schooling.

Another major problem appears to be examination. Although the purpose of examinations is to evaluate the strengths and weaknesses of the children, for children in the schools that we examined, the pass percentage defined not just the body of knowledge the child holds, but also who the child essentially is. If the child could not be good or pass a particular percentage (like 85%), then they were not necessarily worthy of attention and were ridiculed as "dullard". Given that one's identity and status within the classroom was defined by this percentage, many children were heavily stressed around examination time, and were more concerned about maintaining a particular status quo than to really understand or comprehend the material. Those who were unable to break the threshold started to get disheartened, and many stopped trying altogether.

Children who were first generation learners had particular problems as they had no help at home. Unless they had older siblings who were able to complete class 8, first-generation learners were often the most likely to drop-out. Teachers themselves agreed that they were the hardest to support. Even in the rural areas, the curriculum appears to be taught with the premise that parents will help children out during "homework". But the teachers themselves admitted that given parents often were illiterate, this was a fruitless hope. Therefore, some teachers did set up remedial classes (as mentioned earlier), but for others, the only hope was a sibling who might have graduated higher classes than them.

Another major problem is the purported apathy of both teachers and families. Both families and parents perceive each other as being inherently apathetic towards education of the children. For instance, many of the teachers and the HMs told us that the primary reason that children drop out is because of the carelessness and apathy of the parents. Some of them insinuated that because parents have bad habits like drinking alcohol, and they do not really care about their families. They also blamed the cultural attitudes of the parents who do not send their girls to school as they are from a conservative minority group. Parents, in turn, blamed teachers for being negligent and irresponsible and blamed the lack of interest in education on teachers. To understand whether this is part of a larger structural narrative, we will examine the structural ways in which families might influence children dropping out of school.

Family-related reasons

One of the primary family-related reasons for dropping out is migration of parents to the nearest major metropolitan city. Migration has two implications: one, the child migrates with the parents, and therefore is irregular to school and eventually drops out; or two, the child has very little supervision if they are left behind and then becomes irregular in school and drops out. Many parents do attempt to enrol their child in hostels in the main town, and because of the quality of the living arrangements and food, many children too do not want to stay in the hostels and eventually dropout (FGD with out-of-school girls, DDP School, 25 March 2019). After dropping out, most of the children either stay at home where they are supervised by their grandparents or migrate with their parents to the city.

Another major reason for children dropping-out is the particular dynamics of each household as they weigh the current sustenance of the family and the future social and economic mobility of the next generation. Each family might arrive at different decisions, but it is clear to us that when the family is in desperate need of money or has dependents in need of care, it becomes very difficult for the family to decide whether they can afford to forego the paid or unpaid work performed by a family member. When a young child is employed to take care of family members, either old, sick, or young, the rest of the family is able to devote themselves to wage employment. In our study, we found a few girls who had dropped out because one of their family members became sick and care giving was urgently required for the sustenance of the families. So, the question is not about whether the school is free and whether the family can afford school. Instead, it is the lack of adequate social support or security and the opportunity cost of sending the child to school that drives many families to forgo future mobility for present sustenance. For families with girls, care giving becomes an easy choice to make, especially if aspirations for the girl child are limited to her marrying well.

It is important to highlight this critical conflict in the midst of debates that we often encounter within school and policy contexts which propose the following reasons for drop-outs: (1) parents are not interested in children's welfare, (2) child labour is the reason for drop-outs, or (3) education is free and therefore, there is no burden on families etc. All of these are made irrelevant if the families find it hard to provide for themselves. If we do have to blame anything, we do have to blame the larger economic and social structure that creates debilitating poverty and the apathetic schooling institutions that create a perfect storm of conditions that push children out into early care giving or labour markets (Reddy & Rao, 2003; Kingdon, 2007; Venkatanarayana, 2009; Joshi, 2010).

Labour and care work

In rural economies, it is understood that most children will have to work in some capacity or form, in agricultural work. In fact, a few scholars insist that there has to be a distinction made between child work and child labour. The distinction that they see is that children can and often work in non-coercive conditions and this can help improve their understanding of the world around them and builds important social and intellectual skills (Tripathi, 2010). It is when this works moves to a point when it is beyond their physical capacity, interferes with education, recreation, and rest, and when the quantum of work is not commensurate with the wages paid – ***only*** then does it create problems of health and safety, and ***only*** then does it venture into the territory of exploitative child labour.

But it is clear from our understanding and observations from this study, this happy medium is easier to define off the field. For example, for many children in our study, especially girls, the care work burden is so high that they get very tired and are fatigued during schooling hours. Both the work at home and the work at school becomes harder to balance as they grow older, as each takes up a lot of time and effort.

Often, teachers who are located in the rural spaces do understand that children who are part of the

agrarian economy will not be as regular to school during the sowing and reaping periods as it is necessary to create a sustainable livelihood. What is hard to understand and to delineate is whether children are not coming to school because they are working, or children are working because they are not going to school or do not want to go to school. For example, in one of our schools, we have a student who has to work regularly to support his family. But the school and the teachers have created a structure around him so that he is coached regularly by teachers and can share notes with his classmates to catch up to the teaching within the classrooms. What this indicates is the issues of child labour cannot always be seen as easy answers to the questions of dropouts.

Instead, we have to focus on the systemic structures of poverty, gender and work that extract and demand certain kinds of labour from family members so as to create negative educational outcomes for both boys and girls. While children are clear that managing work in the fields and regular attendance in the field is very difficult, we must also question the structures of poverty and work that demand a child's work or labour to sustain rural families, both in terms of income and care responsibilities. Moreover, when supposedly supportive structures such as the educational institutions create avenues of humiliation and hindrances for children who are unable to fit narrow moulds of a 'good student', then it is harder for children to engage with education in the long term. To fully capture the impact of these structural forces on individual lives, we will carefully examine a few cases of boys and girls dropping out of school.

The case of boys

Most of the boys in the schools reported that there are at least three to five boys who drop out while transitioning from their primary school to the secondary school. A few of them are working for daily wages and one of them is working in their family business (FGD Boys, BRD School, 26 February 2019).When we tried to find boys who had dropped out from school or were out-of-schooling the sample villages, they were very difficult to access. Some had gone to work in another city or town, and others were not at home. Parents were not always able to tell us when they would be home either. So, we were only able to talk to the boys who were not working and were not going to school.

One of the boys that we spoke with, mentioned in Section 5.2.3, dropped out because of systematic corporal punishment meted out to him. But the others we were able to talk to did not really have very specific reasons for dropping out. In one case, a 13-year old boy dropped out suddenly after being very regular to school. When we asked him, he was not very clear about the reason. When we asked his parents about the patterns, they told us that he did not want to attend school anymore. He would go regularly, then he stopped going for a few days because he was ill, and then his absences from school started getting longer and longer till he stopped going entirely (interview, out-of-school boy, THM School, date unknown).

His parents tried to get him into a local Urdu-medium school, but he grew uninterested and left the school as well. Now, he only plays and roams around in the village, and his parents are never certain when or where he is at any given point in time. Upon further probing, his mother mentioned that the only thing that she can think of is that he once mentioned that one of his teachers was bullying him and the children were not friendly towards him. When his parents tried to talk to the teacher about him, the teacher took his anger out on the boy, after which it appeared that the absences to school appear to have increased. However, his parents agree that this is speculation on their part, and they really do not know the reasons for their son to drop out of the school.

Another boy whom we interviewed from the school transferred out of this school for two months (the reasons for which are not clear to us). After two months, when he transferred back, he appears to have completely lost interest in his studies and started to only concentrate on grazing his cows (interview, School Boy, KDA School, 28 February 2019). When asked about the reason for his dropping out he told us that his family grazes cows for a living and he wanted to spend more time

with the cows whom he loves. When we probed a little further and asked that he could always graze the cows after he came home after 3:00pm, he reluctantly admitted that the reason he didn't want to go to school was that he didn't have any friends in school and that his teacher beat him quite severely. After a few months, when we revisited the village, when we spoke to him, he told us that his friends from the village had also jointed the school, so he started attending it for company, and from then on, he has 100% attendance and doesn't skip school at all.

It is clear from these narratives that a supportive schooling environment can provide the necessary social resources for a young child, and in fact, can help children to cope with the grim realities of their family. A good case in point is the story of a boy from another school. The father of this boy is reportedly an alcoholic and the boy told us that his father beats his mother every day. He was earlier studying in a hostel, but he felt that if he stayed any longer, his mother would be in serious danger. The boy felt that given he himself cannot stop his father from drinking or hitting his mother, he can at least help his mother do the household work.

For a time, he left school to help his mother. But the local school encouraged him to continue his studies (interview, boy, KMP School, 16 February 2019). So, now he feels that he has to accept the reality that he is living in and do what is required to minimise his problems. He feels that by going to the local school, he can help his family get out of a difficult situation and help his mother in the short and the long term. He is not able to go regularly to school, but his teachers are very supportive as they are aware of his home situation. So, they have helped him out with remedial tutorials. He feels that he is doing well in school and has won medals in sports in the inter-school competitions and is also considered to be one of the best students in Maths.

Barring these few success stories which indicate a highly supportive environment, most of the parents with whom we were able to speak were very distraught over their sons' dropping out of school. They feel that they had wanted their children to lead a better life than theirs, but now that they have dropped out, it is likely to be labour in the hot sun (FGD with out-of-school children's mothers, KDA School, 15 February 2019).

The case of girls

For girls, the issues are much more complicated. For girls who do drop out, they are engaged both in paid work outside of the home as well as care work within the household. In our study, we found that many of the girls who dropped out worked in paid occupation either as agricultural farm labour or in the local garment factories. Additionally, they took care of family animals, grazing responsibilities, fetching wood or water, and taking care of siblings and elderly in the family (FGD with out-of-school girls, DDP School, 25 March 2019).

The girls whom we were able to meet also told us that they no longer had any interest in their studies and that the strain of continuous care work at home and the demands of their schoolwork was very difficult. For many families whose girls had dropped out, they cited financial reasons for the drop-out, although some told us that the girls themselves had expressed no interest in going to school and they were terrified of exams. But when we spoke to some of the school-going peers of the girls, they told us that for many of the families, going to school beyond a particular age was a taboo, and many were unwilling to go against social convention and preferred to stay at home till they got married.

Health

A precipitating reason for girls to drop out was sickness. We found at least two to three cases where a girl child suffering from a health ailment stopped going to school. After her recovery, she was still engaged in care work and because of the long absence from the school was reluctant to, and was

not compelled to join back to school (FGD with out-of-school girls, THM School, 23 March 2019). An illustrative case was a 13-year old girl who got fever and did not go to school for two months (interview, Drop Out Girl, KMP School, 17 February 2019). During this time, she got addicted to the TV and refused to go to school even after getting well. Even after a lot of coaxing, she refused to go to school and at the time of the interview, was staying at home to watch TV serials and help her mother with some chores whenever she can.

Honour

In fact, parents often blame technology, especially cell-phones and TV, for spoiling the nature of these girls. While the previous case dealt specifically with addiction, parents are more concerned about the supposed safety and honour of the girls. Many parents strongly felt that girls can study till class 10 but ***allowing the girls to study further is inviting trouble*** (FGD with out-of-school girls, DDP School, 25 March 2019).

They often cite examples of girls from other villages who have eloped and often use these examples to restrict the movement and educational prospects of girls. We did speak to one of the girls who had eloped and married her uncle. She was studying in the village ZPHS and assumed that after marriage, she would be able to continue. However, after marriage, she was unable to go to the school, even though it was right next door to her house, because of the domestic responsibilities and the social roles that prohibit her from going back to school (FGD with out-of-school girls, DDP School,25 March 2019). In fact, in examining this case, it was very clear that for girls who have transgressed certain kinds of boundaries, a return to education was virtually impossible (FGD with out-of-school girls, DDP School,25 March 2019).

These cases of elopement also have ripple effect on the lives of other girls. Even though this elopement case happened in one village, we heard of this case from parents of girls in other villages who cited this example as a way to justify pulling their children from school and getting them married early (to avoid shame to the family). Even if the girls had no marriage prospects, the parents of other girls made the girls drop out and they were asked to sit at home and start making preparations of a marriage yet to happen (FGD with out-of-school girls, THM School, 23 March 2019). In some cases, they were sent to stay in relatives' homes to ensure that the circle of marriage prospects widened.

The skewed gendered composition of the school also did not help the girls' cause. Many out-of-school girls told us that the absence of women teachers and the harassment by the male teacher (more on this in the next section) were also reasons for not sending the girls to the schools.

Care work

Other reasons that the girls were unable to go to school was that unlike the boys, a disproportionate amount of care work was placed on girls' shoulders. In one of the more poignant examples, the sister of one of the drop-out girls told us that the girl had originally dropped out because of violent family conditions. Their father was an alcoholic and every day, he would beat their mother and them. Two years ago, unable to take the beatings, their mother walked out of the family. During that time, the older sister dropped out of intermediate and tried to take care of her family. Her father, being an alcoholic, could not find work for more than two months and the family survived by selling the milk from their cows. Soon, her father found work and the older sister also started working as an agricultural labourer in the local farms.

Because there was no one else to take care of the animals or the house, the girl also dropped out and started taking care of things in the household. For a few months, things were very difficult. Then, her mother came back, and her father started taking better care of them. Now that things have

stabilised, the older sister is urging the girl to go back to school, but the girl is refusing and being very adamant about her decision. Her sister told us that the girls was a good student, but now she doesn't want to go to school, and insists on only being at home (interview, out-of-school girl, KMP School, 17 February 2019).

Independence

For other girls who have dropped out, they are struggling with ensuring care for their families as well as earning an income. For example, we spoke to one of the girls who had dropped out about her reasons for dropping out. She evaded our question for a long time till she trusted us enough to let us know that her parents are the reason that she cannot go back to school. Both of them are alcoholics and they spend almost all of their money on alcohol every night. Even though her parents feel bad for her situation and her mother weeps that she is not able to do anything for her, the girl said that she realises that she is only viable earning member of the family and if she has to run the household, she has to earn herself (interview, out-of-school girl, PLM School, 17 February 2019).

So, she does whatever will earn her money—she goes to the garment factories to work, she does construction work, and whenever she can, she also does agricultural labour. She used to get Rs 4,000 a month, but now she is earning about Rs 5,000 a month. She also supplements this by doing household work in other people's houses. Her brother is in the same condition. He has dropped out of school and now, he is also working (interview, out-of-school girl, PLM School, 17 February 2019). She encouraged him to go to school given that she was earning, but he refused and has dropped out to ensure that their family is able to survive. When we asked her about her aspirations, she told us that her aim now is to construct her own house.

She told us that she will get married only after she has constructed her own house as she does not want to depend on her husband. Even if her parents start looking for a match, she will do it only once the constructed house is ready. She is now gearing to learn tailoring. She says that she would have liked to pursue her degree, but she does not even dare to think of it and feels that her schooling period is over. She feels creating a steady means of livelihood is her priority at the moment. She is positive that she can make something of her life even though her home circumstances are bad now (interview, out-of-school girl, PLM School, 17 February 2019).

Support systems

When we examined our narratives from the girls, we also found that parental support or the lack thereof, is quite critical to girls' completion of schooling and their aspirations for future employable. While the previous case illustrated one way in which the lack of parental support can influence an educational trajectory, there is a more common way in which lack of parental support derails educational aspirations.

One of the girls who is currently school-going told us that she enjoys school but finds it really hard to improve her knowledge because there are no books or newspapers that are accessible to her. Even though her father owns a mobile, she is not allowed to use it. Even though the family has access to internet, she is not allowed to use that either. She told us that she is very frustrated that the only kind of training that she has received is the one that improves her domestic and caregiving skills. She pointedly told us that during vacations, she is sent to her grandparents' residence in Tamil Nadu and is trained to be a good woman in the areas of cooking, domestic work, or traditional rituals (interview, school girl , THM School, 21 March 2019). She says that all her family members including her older brothers have argued against her higher education, stating "safety" reasons. Even her uncle who visited their home has clearly stated that she cannot pursue her studies after class 10, and efforts should be made to make a good housewife in the next few years. The girl told us that she has argued against all of her family members when they state this, and she feels that no one, including

her parents, supports her education beyond class 10. Her father evades the question by stating, 'Let us see if you pass the tenth class'. The girl told us that she gets very frustrated because she has better grades than her brothers even though she works at domestic chores after coming back from the school. She also feels that it is unfair that the family is devoting resources for private school for her brothers but are not even thinking of government school for her after class 10 (interview, school girl ,THM School, 21 March 2019).

This attitude is quite universal. In fact, one of the fathers in another village told us quite frankly that his daughter studies really well, but his son is a wastrel who does not know how to properly read and write. Even though he gave us examples of the way in which his daughter immediately picks up books and studies, he was not planning to finance her education (FGD with mothers, DDP School, 23 March 2019).

The kind of restrictions, therefore, for girls are not just arising out of systems of deprivation or family circumstance, but from fundamental systems of gender that create differential outcomes for girls, despite capabilities and interest. Another key gendered characteristic that is prominent for girls is the degree of sexual harassment that girls face within and outside of school, which is also a determining factor for their educational prospects.

Sexual violence

In general, we found that sexual harassment of girls was reported both by boys (through observation) and girls (through experience). Both girls and boys reported that they had seen or experienced it primarily from outsiders who are not from the school. For example, one of the schools is located in an isolated part of the village where there are no houses near the school. The compound wall is also very short, and therefore, many outsiders, primarily men and boys enter the school and loiter around, often damaging school property. When these boys and men enter during school time, they tease the class 10girls. The girls are forced to go into the staffrooms of the teachers to escape the sexual harassment. Despite the fact that the teachers know about this, the girls told us that they never officially reported this harassment to their teachers or to their parents because they fear reprisal in the form of withdrawal from school (FGD with girls, DDP School, 25 February 2019). The girls are not wrong in their estimation as 'safety concerns' were the primary reason stated by parents to withdraw their girls from the schools.

Girls are also reluctant to talk about sexual harassment as they are often blamed for the violence. A young 13-year old girl told us angrily that even when they complain about sexual harassment, both parents and teachers blame them. After a lot of coaxing, the girl told us that for some time, two boys started following her on the bike and would continuously pass lewd comments at her. When she informed her parents, her father shouted at her and blamed her saying that it was her fault that they were following her, 'Why are they following you and making comments? You must have said something and that is the reason they are commenting on you'. Her mother then advised her to ignore them and to keep calm (interview, schoolgirl, KMP School, 16 February 2019). She now feels that the only result that came from telling her parents were greater restrictions on her movement. This culture of silence also extends to sexual assault. In our interviews with the girls, we found out that one of their classmates who had dropped out was absent from schools because she was raped by a neighbour. To hush up the matter, the girl was sent away to a relative's house, and the girls had no way of knowing or finding out how she is or what she is doing. So, the girls feel that it is better to be silent about such things.

Much to our dismay, the teachers also reported that the girls are very safe. When probed further regarding the girls' reports of sexual harassment, some of the teachers told us that they do know of the sexual harassment, but they feel that they cannot do anything about it because of ***political pressure*** (FGD with teachers, PLM School, 19 February 2019). When pressed on this, the teachers

provided no further details. In this situation, the manner in which the girls cope is to keep silent about the harassment is to try and employ mitigating strategies such as traveling in groups or with their teachers. In our conversations with the mothers, they also appeared to be aware that there is a lot of sexual harassment that happens outside of the school. Mothers also admitted to knowing that a bunch of men hoot at the girls as they come out of school, but they feel that they cannot do anything about it (FGD with mothers, PLM School, 17 July 2019). Often the usual response is to withdraw the girls and get them married as quickly as possible.

It is clear that the school-related factors are not necessarily confined to the school, and are intrinsically tied to the social structures of labour, gender, education and caste, and to really understand their influences, we now examine the contextual factors that influence education in AP.

6.4.2 Structures of Education

To understand the role of contextual factors, it is important to remember that the role of education is not to skill individuals so that they become employable. The social purpose of education is to create an environment that can train children to be engaged, responsible, and active citizens (Jha et al., 2020). This is the primary reason that education has been conceptualised as a fundamental right.

While elementary education is critical in building the foundation, secondary education is also the critical time wherein children are formulating their own aspirations, trying to explore new opportunities, and trying to find their own voice within the social milieu (Jha et al., 2020). Thus, universal access to education and quality of education are the foundation stones to economic and social mobility as well as responsible citizenship. Precisely because of this, it is important that the children are exposed to the cultural and ethical values that are enshrined in our constitution—values of equality, for example. In fact, education is often seen as the primary ways in which citizens can contribute to the growth of a nation (Gouda & Sekher, 2014).

From the literature review (Biswal, 2011) and our study, it is clear that secondary education, at the moment, falls short of these ideals. As we have illustrated in the previous sections, there are systemic problems within the educational system, and hence, both girls and boys are not able to access university-level education because of issues related to pedagogy, language of learning, fear, and violence. Moreover, it is also clear that these are not necessarily uniform across the groups. Girls are more affected than boys, and people from lower income brackets or from certain caste groups are systematically excluded from the process of education. To understand the manner in which larger societal forces act to create detrimental educational outcomes for certain groups, we will examine the following factors: private and public education, discrimination, deprivation and lastly, the constraints of pedagogy.

Private and public education

One of the major factors that influence education is the role of private players in the field of education (Kingdon, 1996; Kingdon, 2007; Tilak, 2012; Jha etal., 2020). The question of private education in Andhra has always been contentious with scholars claiming that the government has been overtly lenient towards private players entering the education system and systematically neglecting the public schooling system (Shatrugna, 1993). The larger narrative, perception, and practice is that government schools are only useful for first-generational learners or for members of the most marginalised communities. When individuals are able to move up the class ladder, they gravitate towards private schools because of the perceived benefits it provides including social and cultural capital (Majumdar, 2010). Accordingly, we find that even when parents understand that the private schools are not necessarily of a great quality, the presence of “proper uniforms”, the insistence on English-medium and the unrelenting pressure of homework will prepare the child to move towards white collar jobs (Karopady, 2014). So, even when the fees for private schools are not

economically viable for them, parents tend to put their children, mostly boys, in private schools.

The efficacy of these private schools is debateable. While there might be a perception that the quality of teaching and infrastructure is better in private schools, it is not clear whether this is actually the case (Karopady, 2014). A review of the literature reveals that the results have been largely inconclusive in terms of the efficacy of private schools as compared to public schools. Moreover, because of the sheer diversity of private players and the differential standards in which they operate, it is difficult to assess the quality of private education as a whole. Additionally, it is important to remember that when private education, as it functions within Kerala, promotes and supports the state's ideals of inclusive and expansive education (Majumdar, 2005), it can be an important player in ensuring the state's objectives of ensuring education for all.

As private education currently stands in AP, even parents are not always certain whether the high school fees translate necessarily to well-trained staff. In fact, in the rural areas, it is clear that government schools have better infrastructural facilities and the training for teachers is much more systematic and regular as compared to teachers in private schools. The conflict between the benefits of public education and the social aspirations of private education is clearly seen in our study where some of our parents clearly articulate that the public school education system in their villages are much better, but still continue to send their sons to private schools, to ensure their preparedness for a better life.

The major appeal of private schools is the following: (1) subjects are taught only in English, (2) quality of teaching is perceived to be better, (3) transportation facilities are provided, (4) private schools are a status symbol, and (5) the persistent perception that private school will provide social and cultural capital necessarily for children to get into white collar jobs. In our study, we found that while some schools have no problems with admissions to their schools (primarily because there are no other alternatives), others appear to suffer low admission rates because of the availably of private schools and the prevailing perception that they are better, as reported by school authorities and community members (FGD with SMC, KMP School, 16 February 2019). Even in situations where there are no private schools in the vicinity, the private schools often send buses to their villages to pick children. It is clear that sending their children to private school is considered a status symbol by parents (FGD boys, DDP School, 25 February 2019). For some parents, the fees can be quite steep, anywhere between Rs 20,000 to Rs 50,000 per annum, but the prestige factor weighs in quite heavily. Even when parents freely admit that the teachers' quality is better in government schools, and there is no space for differently-abled learners in the private school, both parents and children feel that children's future is only secure if children attend private schools (FGD boys, DDP School, 25 February 2019; FGD with SMC, DDP School, 25 February 2019).

For villages where the schools are poorly resourced, such as not having any toilets, compound walls, or regular teachers (FGD with SMC,KMP School 16 February 2019), private education can be even more appealing. For teachers who are struggling with this dynamic, they sometimes feel pressured to imitate the private schools. Even though teachers strongly feel that the government schools focus on overall development and that private schools only focus on the next pass percentage, they feel that a stricter environment will create better results in the school. They also feel that the punishments in the private school are harsh and therefore, they can ensure that the students are alert, prompt and on time. They feel that these lessons will help in creating a modicum of respect around the government schools as well (FGD with teachers, DDP School, 26 February 2019).

In many of our interviews with children and parents, we found that private schools are not always perceived in the most positive light. Parents and children complained about the high fees, the unreasonable amount of homework as well as the high levels of corporal punishment employed in the schools. Parents also felt that the schools were not always dependable or safe for their girls, and that the government teachers in their school were dedicated and honest. Some parents also referred

to the incentives (even when infrequent and irregular) as one of the reasons that they preferred the government schools.

Parents who had moved their children from private schools to government schools told us that they had done so because (1) the fees were not affordable, (2) there was very poor quality of teaching and high absenteeism of teachers, (3) no space or time for recreation activities, (4) high corporal punishment, and (5) fees being charged arbitrarily for breaking assorted rules.

Many parents and students we spoke prefer public schools because the focus is on extracurricular activities as well, and there are incentives that are useful for parents such as uniforms, bicycles, or the provision of mid-day meals and textbooks (FGD with girls, KMP School, 14 February 2019). Many parents also felt that the teachers in private schools are often very rude to parents and their children and treat certain sections of the class very badly.

Some parents also felt that in the private schools, students get punished for almost everything. Often, students are not aware of all the rules that they have to follow. The children are constantly in fear that they may attract punishment for things that are ostensibly against the rules. Some of the children that we spoke to said that the students are often fined daily if they fail to wear hair bands, belts, socks, or some other violation of the norms of the school (FGD with girls, KMP School, 16 February 2019). Teachers are also not friendly, and it appears to the students that they are constantly looking for excuses to punish them (FGD with girls, KMP School, 16 February 2019).

Some mothers did tell us that some of their children talk about going to the private school, but they feel that the children are sold on the gimmick of vans picking them up and the shoes that the schools provide, but they are confident in the education given in the government school (FGD with mothers, BRD School 16 February 2019), and therefore dissuade their children from thinking along those lines.

It is clear from our study that as long as parents perceive a value in public education, they are able to see the traps of private education. But this also means that the quality of education and the treatment meted out to children within our public schools have to be fair and equitable. From the narratives we have gathered from parents and children, we find this not to be the case.

Discrimination and entitlements

We have already covered in sections 5.2.4 and 5.2.5 the manner in which the current schooling and familial social systems discriminates against gender. But this is not the only line of discrimination. Many children, both boys and girls, have told us that they often are discriminated on the basis of caste, primarily through derogatory comments using their caste names. For example, teachers often use caste names such as "***Mangalodu"*** (barber) or"Sugali – Lambada" to scold and berate children. As mentioned earlier in section 5.2.3, some teachers also insult and humiliate children by asking them to go hunting instead of coming to schools. When we asked the children whether they ever told their parents about this, the children said that it was almost always said in jest and that it was not really insulting as everyone in the village knew their caste. But it should be noted that the children who reported that it was said in jest were upper-caste and other children around them were primarily quiet.

To us, this interaction points to a deeper malaise in the education system where teachers often use these caste names to attribute certain kinds of qualities and behaviours onto the children that often becomes part of their identity. The reason that we are stating this strongly is because other interviews done with children enabled us to understand that many children are very aware that the label of "dullardness" automatically means that the teacher does not have to pay attention to them, and is, in effect, not teaching them (FGD with boys, KMP School, 16 February 2019). So, when children come from a particular class, and are not doing well, they are influenced and affected by

the permanence of this identity, and for some children, this has had negative consequences in the classroom (FGD with boys, KMP School, 16 February 2019).

Other ways in which deprivation is captured within the educational system is the perceived understanding that government schools are "free". For a number of parent that we interviewed, even sending their children to government schools came at a cost. While scholarships and incentives are provided, they are unevenly distributed. Following up on the regularity of these incentives cost them a day's labour or sometimes, several days' labour. In our study, many parents told us that they weigh the benefits of pursuing the school incentives to the earning potential of the time spent and decide to forego these incentives. Even when sanctioned, no guarantee is given that payment will be made, and no explanation provided if there are no payments forthcoming.

Costs are also attached even when incentives are provided. For example, stitched uniforms are provided, but often they do not fit. Parents, therefore, have to pay to get it altered or use the uniforms for something else entirely and invest in new uniforms. There is also money that parents are often obligated to pay for annual day or republic day celebrations, for identity cards, for guides (recommended by the teacher). In one school, even the expenses of cleaning the bathrooms fell on the parents. Sanitary pads (an incentive in Andhra) had not been provided for the past three months at the time of the interview (FGD with mothers, PLM School, 17 July 2019). All of this creates an unreasonable burden for many families who are living wage-to-wage.

For children who are staying in remote parts of the village (as often dictated by caste rules in the village), the transportation expenses can be quite high. For example, one of the children had to go by bus to a particular bus stop and then take an auto which would charge them Rs 10. Daily costs of these amounted to a lot for a family of agricultural labourers. Another child that we spoke to was physically very weak, so he was unable to walk or take the bus or cycle. The parents had to pay Rs 20 every day for the transportation by auto and it proved to be very expensive for the family. Consequently, the child dropped out (FGD with out-of-school children's mothers, PLM School, 17 July 2019).

The issues, therefore, of discrimination and deprivation are quite severe and it is necessary to address the influence of class, gender, and caste in order to improve educational outcomes in secondary education in AP. It also showed that large-scale incentives or transfers (such as uniform) need to be designed in a manner that local modifications are possible to tailor those to suit local and even individual needs if it really has to compensate these private costs attached to education.

Constraints of pedagogy

One of the prominent critiques of the state of education in India is that often the quality of education is quite poor. For example, although the enrolment rates of schools in India are quite high, we know that more than 60% of the children in class 3 are unable to read at class 1 level, and many children having gone through primary school are unable to do simple subtraction (Karopady, 2014). In order to remedy this, as part of the policy reforms, teachers often have to undergo the Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Sarva Shiksha Abhiyan (SSA) trainings in order to update their teaching methods and pedagogy. But for most of the teachers who have gone through these trainings, they attest that these have very little relevance in the classroom as the lessons learnt during the trainings are far removed from the realities that they face within the classroom (FGD with teachers, DDP School, 26 February 2019).

Teachers told us that although they want to learn new methodologies, the framework that they are expected to teach in—allowing students to ask questions—is not allowed within the training sessions themselves. During the training session, the teachers are not encouraged to ask questions and the particular difficulties that they encounter in class, whether it is related to low-resource environments,

first-generation learners, classroom management or even subject knowledge, is often unheard and if heard, quickly dismissed.

While many teachers are resistant to the new methodologies, even the ones who believe that these pedagogies are the way in which children should learn find it very hard to incorporate into the classrooms. The primary reason is time—the time that it takes to really engage with the material, and the time that it takes to execute it (FGD with teachers , DDP School, 26 February 2019). When schools are short-staffed and teachers are running multiple classes at once, operationalising a classroom within 45 minutes is not possible. Moreover, as their schedules are unpredictable, a planned session is not always possible. While many believe that the new methods do not have insights nor are they effective (FGD with teachers, DDP School, 26 February 2019), even those who don't believe so do feel the constraints of the schooling structure weigh heavily on them, and therefore, find it challenging to incorporate it into their class plan.

Teachers also feel resentful that these new methodologies are often taught to them without taking into consideration their own experiences and knowledge of the children, and often dismiss the pressures that are not just on teachers, but also on students. They also feel that many of the teacher trainers have no idea about poorly resourced environments and often assume that rural schools are uniformly well-equipped as the urban schools. For example, one of the teachers told us that while he tried to use whatever resources were available to him, going on field trip to understand biology, as was recommended in their training, was simply not possible given the social and political situation in the village (FGD with teachers, DDP School, 26 February 2019).

Teachers also strongly feel that the new training methodologies also put a lot of burden on the students, which they do not have space or time for, given many of the children also work at home or in the fields along with attending school. Teachers feel that they have to walk a tight rope between ensuring children are learning without burdening them too much.

In general, it appears that while education might be a vehicle of social and economic mobility, in its current state, it is not able to deliver some of the basic goals for which it aspires for, and we do need to recognise and address the structures that limit the potential and power of education. Teacher training rarely goes into the issues of structure and language or discusses the aspects of caste, class, and gender.

6.4.3 Policies of education

The institution of education is influenced by the power exerted by various social structures such as caste, religion, gender, political systems, and poverty. A simple example of this (as illustrated earlier) is that the teachers are not often in charge of their own schedules or the manner in which they would like to create learning environments for their students. In fact, devolution of power within education beyond the district level has still not happened (for more on this, refer to Sharma 2020), and power still tends to be concentrated at the higher levels than the lower levels. Additionally, there is also the failure of specific local mechanisms (such as the SMCs) that have not been empowered to become institutions of accountability and responsibility within the schooling systems (Majumdar, 2010). It should, therefore, come as no surprise that there is a strong caste, class, and gender bias in education wherein only 1% of ST rural women have finished high school in AP (Reddy & Rao, 2003; Majumdar, 2010).

Other factors such as the low literacy of parents, apathetic teachers, lack of access to school, poor transportation networks, poor infrastructure, and presence of violence and fear within the schools also influence educational outcomes in the state. It is important to note that these have already been established 17 years ago (Reddy & Rao, 2003), and yet the situation remains fairly stable and unchanged. Hence, it is imperative that now more than ever we start to seriously tackle the

structural inequalities of education rather than engaging in any short-term mechanisms.

In order to do this, we have to first examine the structural problems that stem from the schooling environments and those that influence them. For example, while parents are often blamed for taking children out of school, it is clear from our study that parents are very knowledgeable about the costs of such actions to economic and social mobility. But they have to deal with the immediacy of their survival needs, and without proper social security mechanisms that help marginalised families survive a bad crop or a health crisis, we will continue to see these negotiations and bargains that impact the future of children's education. It is also clear from our study that schools can be responsive to these changing circumstances just as we have seen with teachers engaging in remedial classes for children who are irregular to classes. When schooling systems are responsive to the resource poverty around them, they are also likely to succeed in their goals of inclusive education. But the big question is whether the policies of education allow schools to be empowered to function in ways that allow them to remedy structural inequalities.

Two major issues that schooling systems have to take into consideration are disparity and diversity. While the structure of schooling currently boxes children into particular categories such as smart/dull or learners/hunters, it is vital that both disparity and diversity, and the discrimination that comes from these two concepts are strictly dealt with. Because of the existing unequal systems of caste, class, gender, or even region, we know that secondary education and higher education is still the realm of the elite. Especially in AP, we know from our work and from studies that marginalised groups of communities have been systematically excluded from education (Joshi, 2010). Although schools are quick to blame their physical and social isolation, it is clear from our study that there is also a high level of justifiable distrust that these communities have against school as they are not confident that their children will be treated well within these institutions. We also have to acknowledge the realities that while education is often seen as the pathway to social and economic mobility, with the rampant discrimination in the labour markets because of caste, religion, and gender, the wage returns to education are not always favourable to the children of marginalised groups. For example, Muslims, Christians, and STs still have significantly lower returns to education as compared to Hindus (Kingdon, 2007).

The disparity is clearer to see when we examine gender dynamics. While the proliferation of higher secondary and graduate schools has made higher education a viable option for many marginalised groups, the restriction on girls being sent to institutions of higher learning, even the ones in block headquarters, persists. Even now, when a choice has to be made, girls are not sent to school as it is thought that boys are 'deemed more fit to go away on their own…' (Chitnis, 1969, p. 1235). The fact that these attitudes have been prevalent even over the last fifty years is a clear indication of the stability of certain social structures, and the need to address the root of these forms of discrimination instead of incentivising gender-sensitive behaviour. Moreover, we already know that while enrolment rates in secondary schools are at part with the boys, they are also more likely to be also performing carework duties in addition to any other additional farm labour that the family has to work on (Joshi, 2010), creating a specific sense of time poverty for education.

The rationale for understanding the social structures of schooling, education and state policies is important so that the methodologies or pedagogies that stem from certain belief systems can be addressed directly. For example, corporal punishment exists even though it has been considered to be neither useful nor productive. In fact, research has indicated for years that it is counterproductive. The reason we are still seeing high degrees of violence being carried out in the classroom has to do with our societal notions of discipline, our eagerness to use violence to ensure discipline, and the definitions of what a good child/student is. If we are to banish corporal punishment as a bad behavioural pattern but not address the attitudinal framework that depicts a good child to be disciplined, quiet, and compliant, then we are not addressing the root of the problem. If children are

constantly disciplined for exuberance or asking questions, or for being wrong, then it should not be surprising that children are stressed, anxious, and fearful of schools.

While schools are constrained by low-resources and assailed by structures of poverty, gender, caste, and class, the central problem is also that schooling systems are not geared towards learning. If we are to believe that learning is essentially about being allowed to fail and critically examine one's own mistakes and knowledge bases, then our schools are not necessarily the sites for such experimentation. In order to truly influence any kind of change, we need to create schooling environments that enable support and provide safe spaces for children—not only from fear of failing, but from fear itself. It is important that we address the wider culture of violence that is perpetuated within the schools, and this includes gender-based violence that students face outside schools.

It is also important to create training programmes that are not far away from the realities of their existence (Ogando & Pells, 2015). Teachers are taught classroom management techniques that work in ideal classroom environments, but these are rarely present in the field. It is important that the training techniques being taught are specific to the kind of classrooms that the teachers teach in. This fundamentally means that the educational systems have to confront diversities of circumstance, and also of students. Although this study did not engage centrally with the issue of disability, we found that for many children with physical, mental, and learning disabilities, the school is an inhospitable space. Therefore, we do need to consider diversity as a key characteristic while engaging with any policy that addresses secondary education within schools.

Essentially, we are advocating for an inclusive space within schools so that educational systems are responsive to the needs of all children (Gulyani, 2017). Although the issues that we have engaged with—teacher quality and involvement, lack of infrastructure, and stability of social norms and attitudes—are not new, it is important to document that the status quo within schools is not changing, and they must change. It is vital that children must learn to critically engage with the world, understand and produce knowledge, and learn skills that can be useful for them to navigate the world. In order to aid this process, teachers and the schooling systems should provide these meaningful processes that will enable students to be co-collaborators in the journey of education. Additionally, our vision is to also ensure that parents and the community participate actively in the school as it is a major social institution that affects children. Without this vision and aspiration, we will not be able to transform schools to be spaces where children can learn to become ethical, responsible citizens.

6.5 Conclusions

The most important conclusion that emanates from this study is that despite progress in terms of laws, entitlements, provisions, and awareness regarding the importance of quality in education, the schooling system in Andhra Pradesh (AP) functions in complete isolation of the understanding of the socio-economic background of an individual child, their aspirations and insecurities. Policies, including those that are seemingly progressive in terms of their conceptual underpinnings and responsive to people's aspirations, appear to have led to institutional practices that are either aloof or discriminatory towards children. This incongruence is proving to be damaging for students' growth and educational performances. The system is further guided by multiple, and often contrasting interests on one hand and by the half-hearted and ill-understood educational principles on the other—both remain almost entirely indifferent to the life-situation of students.

Let us take the medium of instruction and language policy of the state. The state allows for students to choose either English or Telugu (or Urdu, which is not figured in our sample) medium instruction, and all schools barring a few exceptions are supposed to provide this "choice". This is supposedly in

response to people's aspirations for English medium education while also paying heed to the body of evidence that suggests that mother-tongue education is important and the fact that majority of students coming to government schools may not have any exposure to English in their homes or immediate environment. However, in practice, all "good" students are pushed towards opting for English medium and all "bad" students towards Telugu medium, leading to a clear demarcation and labelling of these groups who are almost universally taught together in the same classroom. Our classroom observations made it clear that Telugu-medium students face hidden, if not open, discrimination, and the results of the learning assessment survey also clearly indicate that they were the lowest performers in most places. So, rather than receiving greater attention because of their weaker foundation at primary level, they faced further marginalisation, and obviously performed poorly. This was made worse by the experiences of violence and subjugation, as reported by many during the FGDs that we had with children in the secondary age-group—both in and out of school. The high presence of private schools coupled with engineering-college-"coaching"-centeredness of the secondary stage in AP, means there are high stakes and vested interests involved, making it much difficult for the school system to intervene.

This is not to say that there are no exceptions. But it appears that the exceptions are more a result of individual motivation and efforts of teachers, whereas the "rules" or the most commonly seen phenomena seemed to be a result of the systemic functioning caused mainly by a lack of a comprehensive and sound policy framework and absence of a detailed institutional-proces s-guidelines. The incongruence between (1)what is expected of a teacher in the classroom and what they experience in their own training programmes,(2)how teachers are treated by the school system, (3) the difference between what facilities "exist" in the school, and what is "used", and (4) the difference between what the policies intend to do and what they end up doing, impacts quality adversely for all and much more so for those who are coming from poorer and marginalised backgrounds.

Our conclusions are based on three major strands of field-based enquiry in the field (Chittoor district) and supported by policy/institutional as well as secondary data analyses, presented in earlier chapters. The three strands included (i) household survey of 1,365 households (with more than 1,500 children in secondary school age group) who were purposely identified for the presence of at least one family member in the age group of 14-17 years, (ii) school profiles and headmas- ter interviews in 7 schools, 18 classroom observations and learning achievement survey of 334 students in classes 8 and 9 in these same schools, and (iii) FGDs with teachers, SMC members and students, and in-depth interviews of 24 children. These were also supported by interactions with village elders, panchayat and mandal members, and desk review of documents collected from schools, panchayats, and education department offices.

The demographic and socio-economic profile of the sample households in terms of the family-size, caste, livelihoods, and education was fairly representative of the distribution for the sample district, Chittoor, which was selected on the basis of the fact that in terms of secondary education related indictors it represented an "average" district of AP. The data showed that there is an improvement in terms of retention rates at secondary level as compared to large scale datasets from recent years, analysed in Chapter 2—86% of those in the age-group of 14-17 years in our sample reported to be in school. However, interesting and somewhat worrying patterns emerge with respect to age, gender, and caste. With each level of schooling, the proportion of in-school children increases somewhat significantly: only 3% children were reported to be out-of-school for the elementary-school-stage age-group (6-13 years), while it became 14% for the secondary-school-stage age-group (14-17 years) and then as high as 42% for those aged 18-21 years old. Gender disparity in favour of girls becomes apparent at the elementary stage age-group itself with 2.4% girls as against 3.7% boys being out-of- school. It remains roughly the same at secondary-stage age-group but widens significantly for those aged 18-21 years with nearly 47% boys reporting to be out-of-school as

against 37% girls reporting the same.

Caste emerges as another dimension that determines the schooling status. While 89% of the General caste group children/young people in 3-21 years age-group reported being in school, the proportion was as low as 70% for the STs, and 81% for both SCs and OBCs. Age/stage of schooling intersects with caste when we see that roughly the same proportion of SC/OBC and General group children attend schools at the elementary stage, but it changes for the secondary stage age-group. At this stage, the proportion of school-going children declines for all groups, but the decline is much sharper for the SCs and OBCs, as compared to the General category groups. The disparities grow further and become much wider at the post-secondary stage. What it tells us is that despite having similar schooling participation rates at elementary stage, the drop-out incidences are much higher for SCs and OBCs at secondary stage and later stages. The STs remain at the bottom of the ladder for all the age groups.

Table 6.23: Proportion of children of different groups in school (%)

Age Group	Scheduled Tribe (ST)	Scheduled Caste (SC)	Other Backward Classes (OBC)	General
3 to 5	50%	53%	38%	42%
6 to 13	82%	98%	97%	98%
14 to 17	74%	84%	86%	92%
18 to 21	44%	51%	53%	74%
Total	**70**	**81**	**81**	**89**

We assessed learning levels by conducting learning outcome surveys for mathematics, Telugu, and English for students in classes 8 and 9. These tests were administered on randomly identified children present in these classes on the day of the visit. Gender disparity continues even in terms of performance for those who continue to attend school, girls (in general, though not always) did better than boys, but both girls and boys performed at a level lower than expected for the relevant grades that they had completed. An equally or perhaps more important trend was that English-medium students in general fared better as compared to Telugu medium, and students did not perform well in language-based question in Maths and in open-ended or creative writing-based questions in language.

There were outliers and we tried to understand what makes some schools better than others. Most schools in our sample had similar infrastructure and pupil-teacher ratio, including unused "smart classroom" facilities—so, this was not the distinguishing factor. Finally, it came down to teachers and the school ethos that they succeed in creating. This emerged both from our classroom observations and even more deeply, from our FGDs with children, both in and out of school, and communities. Giving greater attention to those who would otherwise remain silent, involving all students in the conversation, pro-actively preparing for the classroom, and developing an active engagement with the students seemed to have contributed to students' better performances by creating an inclusive school ethos.

These seemingly simple processes are not really as easy to practice in schools that act as rigid structures with disproportionate focus on performance, as assessed through examinations, rather than on learning through diverse means at paces set by differential abilities of the students. This completely legitimises and even glorifies the acts of "completing the syllabus"" on teachers' part

and “high performance” on students’ part as the most desirable outcomes of schooling, leading to high pressures and causing fear, anxiety and even violence and eventual disinterest, dropouts and “failures”—something that does not get captured easily in the surveys such as NSS that report “children not interested” as the main cause of dropouts. Additionally, students commonly face violence in diverse forms, especially in the form of corporal punishment as well as calling out names or titles that signify that they are incapable of learning.

Most children we spoke to cited fear of being wrong and getting stigmatised as a slow learner as the main reason for them not participating in classrooms and consequently, this prevented them from learning. What made a difference was the teachers’ attitude such as one who would conduct separate remedial classes and pay individual attention, one who went to the communities and established a relationship that also made children coming from there more comfortable, or one who pushed children to solve problems creatively and in this process not only succeeded in them performing better but also have greater belief in themselves and interest in learning. But, as mentioned earlier, this was not the rule, and this often clashed with the “rule” of having “disciplined” classrooms, that is to say classrooms with no noise and chaos are far more valued and desired. Teachers, barring a few exceptions, view these acts of violence in form of corporal punishment as necessary for maintaining discipline and punish under-performance. There is a clear link with caste, class, and gender. For example, those in Telugu medium (more often poor and lower caste), unable to bring home-work or a book, or remaining irregular due to pressures of work at home – either domestic or agricultural, are (more often than not) singled out for punishments or even exclusion from the classroom activities. It is also important to remember that teachers themselves are at the lowest rung of the governance system with no real autonomy, and perhaps have no other tool in their knowledge or power to act differently, given the external pressures.

Irregular attendance of students in schools is a reality that adversely affects both continuation and performance. Irregularity occurs due to a variety of reasons and even changes for the same child from one period to another: distance and lack of transport, need to work at home, need to join agricultural activities during particular seasons, parental livelihood choices such as migration and related constraints, illness of self or others in the family, fear or experiences of humiliation and violence in school, lack of interest in textbook-based teaching—the list is long and, in reality, is much longer. What remains clear is that the irregularity adversely affects learning and poses a challenge for teachers, especially as these are not uniform for all children. What remains unclear is that the way or manner in which these different factors act and interact among each other for individual child, family, or community, and consequently, the strategies required to address these challenges. Context-specific solutions, play a role in addressing it to some extent (we saw a few such examples in our study), but it depends on the initiative of the school or teachers, and also the autonomy that they may or may not enjoy. Since a number of these issues are largely and deeply linked with structural issues of varied kinds, it is also unfair to expect the school or teachers, or even the Department of Education to have all the solutions. Nevertheless, what emerged clearly is that the typical middle-class model of schooling that is heavily dependent on the presence of a literate environment at home and regular attendance in school makes it difficult for students coming from poorer backgrounds, who face livelihood insecurity, poverty and lack of educated parents, to continue and learn in school, especially at secondary stage. Such system of schooling tends to negate or undermine individual circumstances and the need for creating a supportive environment so that children can continue their education.

The presence of these support systems is important for both boys and girls. High burden of domestic chores and fear of elopement (or rather the fear of the loss of family honour) needs to be added to this list that causes irregularity and eventual dropping-out of girls. Despite the fact that a higher number of girls are participating at secondary stage in AP, and they are also generally performing better, they are not necessarily “freer”. While many of them work hard to perform better

as education is viewed as tool for change, this often comes at a price of high double burden of care-work and school-work, coupled with a culture of silence where experiences of sexual violence both inside and outside the school go unreported. The silence around these fears and experiences stem from other fears: fears of being stigmatised and fears of being pulled away from education, lest the parents find out. Boys, on the other hand, do not necessarily view education as a tool for change in their lives. Even without an acute pressure to earn or withdraw from schools, boys are often targeted for corporal punishment and tend to withdraw and can enjoy the "independence" and save themselves from being shamed for non-performance. But they also end up in low-paying jobs or remain jobless. Therefore, both need support, albeit of varied kinds and nature.

The feedback on how these communities perceive private education in a scenario where their presence is visible and strong has been very interesting. While most parents feel that the quality in these private schools is poorer, they opt for private school education as it is seen to generate the social capital needed for upward social mobility. It is also important to note that free education in public schools is not really free and the expenditure on a number of items, especially transport, can be high. Most private schools provided transportation and that was one of the attractions as it saved the hassle of arranging one's own transport. Others, however, are clear that private schools charge exorbitantly high fees, have high levels of demands for other resources, and also punish their children more for minor lapses. Some parents had even withdrawn their children from private school and admitted them to public schools for the sake of receiving incentives such as cash, bicycles, and uniforms. However, the unreliability regarding when a particular incentive would be distributed in the public schools also affected its desired outcome; if sanitary pads are not available regularly, it forces girls to either buy those or use something else.

Going back to our primary research question of understanding the issue of quality of education at secondary stage in AP in its entirety, several key gaps emerge in various realms of the state policy and approach including the following: (i) in the understanding of quality as a neutral concept and the invisibility of caste, class, and gender in this construct (ii) in understanding the inter linkages between quality and equality, and these two as an integrated concept, (iii) in translating the student-centric and participatory pedagogy in the classroom, (iv) in granting autonomy to the teachers and schools to look for and implement contextual solutions in collaboration with local institutions, and (v) finally in providing highly centralised solutions without much attention to conceptual underpinnings, contextual diversity, structural inequalities, and absence of institutional preparedness. For instance, while responding to the desire for English-medium education, the introduction of English right since primary stage alongside Telugu medium has become a highly discriminatory practice in reality. The recent move by the Government of AP to make English medium instruction compulsory for all schools (all management and from class 1 to 12) by 2021 can be further damaging if it manages to go ahead with this[12].

In the absence of a transformative or critical pedagogy-based training for teachers, the teaching has remained not only teacher-centred but also highly disempowering for students coming from so-called lower castes and poorer economic backgrounds. While teachers are trained, it is clear that these trainings do not prepare them to understand the role of caste, class, and gender in learning with empathy and commitment, a few exceptions notwithstanding. The incentive or transfer schemes have played a role in continuation of students in secondary schools, and the presence of a decentralised and autonomous institutional system could make these far more responsive to the contextual needs and, therefore, more effective. The issue of gender needs to be understood more comprehensively from the perspective of how it disadvantages both boys and girls, and accordingly be addressed.

12 *This decision has been challenged in the Supreme Court and the legal case was ongoing at the time of writing this report.*

Andhra Pradesh, therefore, is in definite need of reconsidering its conceptual frames, policies, and institutional mechanisms for delivery of secondary education to make the public education system stronger and equitable. Andhra Pradesh currently provides an example of a state where the government is spending fairly high (second only to Kerala among larger states and third if it includes Himachal Pradesh)[13] on school education, but its ranking in E&E Index is still low (7th among 16 and 8th among 17 states), thereby pointing to mismatches and inefficiencies that prevent it from reaping the full benefits of its high public spending. The role and significance of private schools and coaching institutions who not only control the education market but also play a major role in setting the markers of quality—often in a manner that is detrimental for the progress of an inclusive public education system—needs to be questioned.

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13 *Please refer to Chapter 2 of this report.*

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Annexure 1

Research Team Roles and Contributions

S. No	Role	Credit/Acknowledgement
1	Conceptualisation, initial research design and concept note with budget.	Vimala Ramachandran and Rashmi Sharma.
2	Final proposal, budget, and Centre for Budget and Policy Studies (CBPS) institutional profile.	Jyotsna Jha and Neha Ghatak.
3	Final study design (in August 2018 workshop in Bangalore)	Vimala Ramachandran, Rashmi Sharma, Jyotsna Jha, Kameshwari Jandhyala, Niveditha Menon, Neha Ghatak, and Shreekanth Mahendiran.
4	Tools (existing from another study): village profile, educational facilities and access, profile of children in and out of school, household listing document, school profile, headmaster interview, Focus Group Discussions (FGDs) with children in school and out of school, FGDs with teachers, FGDs with parents of in school children.	Vimala Ramachandran, Rashmi Sharma, and Kameshwari Jandhyala.
5	Tools (new): Household survey, FGDs with parents of out-of-school children, classroom observation tool, school finances tool, FGDs with School Management Committee and Parents Teacher Association	Jyotsna Jha, Niveditha Menon, Neha Ghatak and Shreekanth Mahendiran.
6	Learning Assessment tools—language, mathematics (oral and written); data entry sheet—assessment, tool administrative guidelines, and answer key for assessment.	Vimala Ramachandran in consultation with Pratham. Telugu assessment tool and translation: Upender Reddy
7	Interview tools at district, block, and state level, administrative and institutional mapping tools, and document collection matrix.	Rashmi Sharma.
8	Ethics protocol for field entry and exit.	Niveditha Menon.
9	Sampling strategy for survey	Shreekanth Mahendiran and Jyotsna Jha
10	Management of project and partners including contracts, logistics for joint activities and reporting responsibilities to AJWS—financial and technical reports	Niveditha Menon, Neha Ghatak, and Jyotsna Jha.
11	Rajasthan data collection and entry.	Centre for Education, Research & Practice (CERP)—monitored by Vimala Ramachandran
12	Andhra data collection and entry.	Centre for Action Research and People's Development (CARPED)—monitored by Niveditha Menon, Shreekanth Mahendiran, and Thyagarajan R.

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