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Fault lines in the secondary education system in two Indian states

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Fault Lines in the Secondary

Education System in Two Indian States

RASHMI SHARMA

September 2020

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Abstract

This paper, situated against the growing body of work that argues that adequate state capacity and robust public institutions are key for socio-economic development, examines the leading and supporting institutions of secondary education in two Indian states, Andhra Pradesh (AP) and Rajasthan. The paper is based on a field-based study of policies and 20 organizations, i.e., their structure, human resources and working style.

Both states had organizations for school administration, programme implementation, academic support, conduct of examinations and education of drop-outs. However, activities related to academic support to schools such as curriculum design, textbook writing and teacher training, were split across several organizations, including those where these were not the core mandate. Moreover, there was excessive role splitting across organizations and inadequate organizational penetration in the field. The organizations lacked expertise in core areas, i.e. academic areas, educationally marginalized children and management issues. Employees had a perverse incentive structure, as promotions and slow and seniority-based, while good postings are obtained by pleasing political patrons. The working style was based on centralization and hierarchy, with limited emphasis on knowledge generation and analysis. There was continuous political interference and rent-seeking.

The result was, fault lines in the system that constrained it in achieving goals. Deficient analysis and hierarchy-based functioning led to drifting rather than reasoned policies. Inadequate academic expertise meant that learning issues were marginalized, and the needs of under-privileged children were addressed only partially. Extreme centralization and hierarchy reduced the scope for substantive work and individuals, rather than systems became important. Patronage and rent-seeking led to the dominance of commercial interests.

Keywords: *State Capacity, Public Institutions, Secondary Education, Organizational Structure, Human Resources, Working Style, Fault Lines*

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Fault Lines in the Secondary Education System in Two Indian States

Rashmi Sharma

INTRODUCTION

Background

This paper is situated in the context of a growing body of work that argues that ‘state capacity’ is critical for economic and social development (Amsden 1989, Evans 1995, Fukuyama 2014, 2012), and a heightened focus on public institutions. Though as a concept ‘state capacity’ is used in many ways, several studies point to the importance of effective state institutions for issues that range from overall economic growth to specific matters such as child mortality. In parallel, in the study of public administration, there has been considerable criticism (Hood 1990, Pepinsky, Pierskalla and Sacks 2017) of the focus on increased privatization and private sector style management in the form of ‘New Public Management’ (NPM)¹, adopted in many countries since the 1980s. Though not equally powerful, a new counter approach, i.e., ‘new public service’, argues that ‘with citizens at the forefront, the emphasis should not be placed on either steering or rowing the government boat, but rather on building public institutions marked by integrity and responsiveness’ (Denhardt and Denhardt 2000: 549).

However, there is limited understanding of how state capacity can be developed and state organizations made effective, especially in developing countries. Studies focus on a range of issues, such as meritocracy and autonomy of the bureaucracy (Evans and Rauch 1999², Cingolani et. al 2015³, Dahlstrom et. al. 2012⁴, Rasul and Roger 2016⁵), ‘embeddedness’ in the community (Evans 1995), effective utilization of human resources (Grindle and Hilderbrand 1995), conflict and social inequality (Cardenas 2010), and so on. While several factors that contribute to state capacity in general may emerge from more studies, from a policy perspective, a detailed scrutiny of specific sectors and organizations is more useful, as any attempts to enhance capacity would have to be situated in the particular context.

¹ NPM was associated with the ‘New Right’ of the 1980s, but was subsequently also adopted by several more left-leaning governments. It comprised a set of administrative measures encompassing greater managerial autonomy and private sector style management in public organizations, performance measurement and linked rewards for personnel, contracting services on the basis of public tendering and discipline and parsimony in use of resources.

² Evans and James (1999) found that the ‘Weberian-ness’, characterized by meritocratic recruitment and predictable, rewarding career ladders of state bureaucracies in core economic agencies was associated with higher rates of economic growth.

³ Cingolani et. al (2015), in a cross-country study over the 1990-2010 period, found that higher bureaucratic autonomy is strongly associated with reductions in child mortality and tuberculosis prevalence levels.

⁴ Dahlstrom et. al. (2012) showed that a meritocratic recruitment separates the interests of elected officials and bureaucrats, and in such cases, bureaucrats are more likely to oppose patronage and corruption/

⁵ Rasul and Roger (2016), in a study of middle level bureaucrats in 63 organizations in the Federal Civil Service in Nigeria, found that greater autonomy led to higher project completion rates, while practices related to incentives and monitoring led to lower completion rates.

In this paper, the attempt is to analyse the governing and supporting organizations related to a specific subject, i.e., secondary education, in two Indian states, Andhra Pradesh (AP) and Rajasthan. Given the limited understanding of the ingredients of effective public organizations, the attempt is to examine a range of issues: organizational structure, human resources, infrastructure and working methods. Secondary education provides a good opportunity for this scrutiny, because, as argued below, it is vital in the current Indian context. There is a policy to provide universal, good quality secondary education, but the present status is disappointing. Examining the capacity of two states to deliver high quality universal secondary education can lead to appropriate policy interventions, as well as a better understanding of what constitutes institutional effectiveness.

Importance of Secondary Education

In the contemporary Indian context, secondary education, i.e., classes 9 to 12, for children of 14-18 years of age as well as older adults who have dropped out of school, is a critical issue. The sustained high economic growth of more than two and a half decades (short-term setbacks notwithstanding) has been led by high-skill sectors, i.e., information technology, tourism, telecommunications, retail etc. While work opportunities in sectors that require a low level of education, such as agriculture and textiles, are declining, those in sectors that require at least secondary level education, such as retail and tourism, are increasing. However, employer surveys indicate a shortage of skilled workers. Further, there are crucial implications for equity, as studies show that secondary education can break the inter-generational transmission of poverty (Bandura and Sword 2018, Majumdar 2005, World Bank 2009). Equally, a higher level of education has the potential to deepen democratic participation and political empowerment.

At the same time, the enhanced allocation of financial resources for elementary education since the mid-1990s and the creation of legal entitlements through the Right of Children to Free and Compulsory Education 2009 Act or Right to Education (RTE) Act, have resulted in significantly increased enrolment and reduced drop-outs at the elementary school stage (class 1 to 8). Moreover, the enrolment of girls and children from several marginalized groups has kept pace with this trend (World Bank 2009, Siddhu 2011). Consequently, the number of children who are ready to access secondary education has increased substantially.

The importance of secondary education has been recognized in Indian policy (GoI 1992, CAGE Committee 2005), and the Indian government aims to make it universal⁶. Moreover, the Report of the Committee for the Evolution of the New National Policy has recommended special academic support for children from rural areas and marginalized communities (GoI 2016). The Government of India (GoI) launched a new programme for secondary education in 2009, i.e., the Rashtriya Madhyamik Shiksha Abhiyan (RMSA), to improve access, equity and quality (GoI 2009). RMSA was subsequently merged in the Samagra Shiksha Abhiyan

⁶ Source: Draft document, Samagra Shiksha Abhiyan, An Integrated Scheme for School Education, Framework of Implementation 2019 (pp 18-19).

(SMSA), along with the Sarva Shiksha Abhiyan (SSA) for elementary education and the Teacher Education Scheme (GoI 2019).

Status of Secondary Education

Available data and studies show that in India, while elementary education (class 1 is near-universal for children of all categories, secondary education is selective. It is characterized by high drop-out rates, and on various measures of enrolment, drop out and passing examinations, girls begin to trail boys, while the performance of Scheduled Caste (SC) and Scheduled Tribe (ST) students is below the average. Girls from these categories are doubly disadvantaged.

The Gross Enrolment Ratio (GER), i.e., the ratio of the number of children enrolled in school in relevant grades against the total number of children in the relevant age group, for the primary stage (class 1 to 5), was 99.2 in 2014-15 as per Ministry of Human Resource Development (MHRD) statistics (GoI 2018), and 95.1 in 2016-17 as per the Unified District Information System for Education (U-DISE) data (NIEPA 2018). The drop-out rate was 4.1% and 6.4% as per MHRD and U-DISE statistics respectively. As per U-DISE data, 88.6% children transited from the primary to upper primary stage (class 6 to 8). At the upper primary stage, MHRD and U-DISE statistics showed a GER of 92.8 and 90.7, and drop-out rate of 4.0% and 5.7%, respectively. As per U-DISE data, the retention rates for classes 1 to 8 was 70.6 (Tables 1, 2 and 3 in Annex). Thus, while a vast majority of children attend elementary school, some drop out at this stage.

At the secondary stage, i.e., classes 9 and 10, the GER dropped, and was 80.0 and 79.4 as per MHRD and U-DISE statistics respectively. Moreover, U-DISE data showed that 90.3% children transited from the upper primary to the secondary stage. The Net Enrolment Ratio (NER), i.e., the ratio of the number of children of the relevant age group enrolled in school in relevant grades against the total number of children in the relevant age group, was only 51.8, but 3.6% of children enrolled were under-age and 17.1%, over-age. Significantly, the drop-out rate increased sharply. As per MHRD data, 17.1% and as per U-DISE data, 19.9% children dropped out. The U-DISE data showed a retention rate of 55.5% from classes 1 to 10 (Tables 1, 2 and 3 in Annex). Thus, a significant attrition in enrolment took place during class 9 and 10, a large portion of which was because of drop-outs.

Consequently, enrolment dipped significantly at the higher secondary stage, i.e., classes 11 and 12. As per U-DISE data, only 66.4% children transitioned to from the high school stage to the higher secondary stage. The MHRD and U-DISE data showed a GER of 56.2 and 55.4 respectively. Moreover, the U-DISE data showed an NER of 31.0, while 3.9% of children enrolled were under-age and 14.9% children over-age (Tables 1, 2 and 3 in Annex). The

combined Adjusted Net Enrolment Ratio, which takes into account under-age and over-age students⁷, was 62.4 for the secondary and higher secondary stage combined.

The findings of the National Sample Survey (NSS) 75th round, conducted in 2017-18, were similar. The Net Attendance Ratio (NAR), i.e., the ratio of the number of children in the relevant age group attending a particular level of education to the total number of persons in that age group, was 57.6 for the secondary level (57.9 for males and 57.3 for females) and 43.4 at the higher secondary level (43.9 for males and 42.7 for females) (GoI 2019a). Looking at the data from all sources, it can be said that 40% to 45% children do not attend high school, and 55% to 60% children do not attend higher secondary school.

The picture is bleaker still for learning achievement levels. As per MHRD data, 79% and 77.9% students passed in the class 10 and 12 board examinations respectively (Table 4 in Annex). However, a survey that measured students' learning achievements in various curricular areas in class 10, conducted by the National Council for Educational Research and Training (NCERT) from November 2014 to February 2015, depicted an abysmal scenario (Table 6 in Annex). In four out of five subjects, i.e., English, Mathematics, Science and Social Science, 71% to 85% students gave less than 50% correct answers, and 0-2% students gave more than 75% correct answers. Only in the 'Modern Indian Language', or mother tongue, did 69% students give more than 50% correct answers (NCERT 2015a). In other words, even students who are in secondary schools learn little.

Secondary education is an important marker of inequality in India. Notably, the GER and NER for girls at the secondary and higher secondary stage were similar to or slightly higher than for boys as per MHRD and U-DISE data, and drop-out rates lower (Tables 1 and 2 in Annex). However, as per MHRD data, girls comprised around 46% and 45% of the students who appeared in the class 10 and 12 board examinations respectively. From among children who sat for these examinations, girls were more likely to pass than boys (Table 4 in Annex).

For SC students, the GERs at the high school and higher secondary stages were actually higher than the average, but so were the drop-out rates (Tables 1 and 2 in Annex). However, 5.5% and 14.2% fewer students than average passed class 10 and 12 examinations respectively. Girls comprised 46.4% of SC students who took the examination in class 10, and 52.8% in class 12. The pass percentage of girls at the class 10 stage was comparable to that of SC boys, but in class 12, at 57.6%, it was much lower than that of boys at 70.8% (Table 4 in Annex).

Among ST students, at the secondary stage, the GER was 6.3 and 5.9 points lower than the average as per MHRD and U-DISE statistics respectively. The drop-out rate increased sharply, and was nearly 8% and 7% higher than the average as per MHRD and U-DISE statistics respectively. At the higher secondary stage, the GER for STs was 13.1 and 12.8 points lower than average as per MHRD and U-DISE statistics respectively, while U-DISE

⁷ Adjusted Net Enrolment Ratio is the ratio of the number of students of the age group of a particular stage of education, enrolled at any stage of education, to the total number of children of the age group of a particular stage of education.

data showed a drop-out rate of 8.4% for ST students against 6.0% on average. The pass percentage was 13.7% and 9.7% lower than the average in class 10 and 12 examinations respectively. Among ST students, girls accounted for 48.3% of students who sat for the examination in class 10, but only 39.1% for class 12, though the pass percentage for girls was higher than for boys (Tables 1 to 4 in Annex). Clearly, ST students are the most disadvantaged, and by class 12, ST girls are least likely to be in school.

Studies show that wealthy children are more than twice as likely to be enrolled in secondary schools as poor children, and in northern states, the gap in enrolment between boys and girls is more than 20 per cent. Secondary education attendance of the general population is 80% higher than that of SCs, STs and Muslims (Rajagopal 2006, World Bank 2009). Rural children are less likely to attend secondary school than urban children, SC and ST children are less likely to attend than general category children, and girls are under-represented in comparison to boys (Bhog et. al. 2011, ERU 2014).

The Challenge

While there is a paucity of studies to fully understand all the factors that contribute to the above outcomes, available literature points to the lack of schools within a reasonable distance, the cost of education, social perceptions, as well as the quality of schools as deterrents.

In some habitations, children do not enrol in secondary schools because these are not available within a reasonable distance. As per the 71st National Sample Survey, conducted in 2014, 8.5% of all households and 12.2% rural households reported not having a secondary school with 5 kilometres⁸ (GoI 2016a). As per the Eighth All India Education Survey, conducted in 2009, 79.9% and 74.9% rural habitations had secondary and higher secondary schools respectively within a distance of 5 kilometres (NCERT 2015). Studies show that while the growth in the number of secondary schools has been steady, the spread is uneven (World Bank 2009). Further, a study in Rajasthan showed that the distance of the school was an important factor in girls accessing secondary schools (ERU 2014).

Notably, at the secondary education stage, the growth of schools has occurred primarily in private fee-charging schools (World Bank 2009). As per the U-DISE data of 2016-17, 29.9% secondary schools and 57.6% higher secondary schools were private fee charging schools (Table 5 at Annex). Consequently, the cost of education can be significant, and an impediment for children from low income families, and for girls, as families may choose to spend on boys' education over theirs. A wider network of government secondary schools, is, therefore, vital. This issue is being addressed in government programmes. The Samagra Shiksha Abhiyan provides funds to states to upgrade existing schools and establish new secondary schools, and for children from vulnerable groups, it funds residential schools and hostels, as well as uniforms, books, scholarships, etc.

⁸ As per the survey, 48.4% households reported a secondary schooling facility within one kilometer, 22.0% between one and two kilometres, 13.2% between two and five kilometres, and 7.9% between three and five kilometres.

In addition, social perceptions play an important role, especially for girls. A study in Rajasthan found that secondary schools were referred to as ‘boys’ schools, as few girls attended, and concluded that devaluing girls’ education, concerns about safety, early marriage and discomfort with boys and girls studying together, were roadblocks in girls’ education (ERU 2014). Another study found a close connection between early marriage and girls not accessing secondary education (Jha et. al. 2016). A study in two blocks of Uttar Pradesh showed that important reasons for not attending secondary school included the cost of schooling, employment opportunities and social attitudes regarding girls’ education (Siddhu 2011).

Finally, the quality of education provided is critical. While lack of access to schools, cost of schooling and social perceptions can explain poor enrolment, these are not adequate explanations for the high drop-out rates and poor academic outcomes. Moreover, in the case of primary education, studies showed that dropping out was a consequence of poor-quality schools, rather than unwillingness to attend school (PROBE Report, 1999). One cluster of quality-related issues is basic, where quality is compromised as a consequence of under-financing, i.e., inadequate number of teachers and infrastructure. As per the U-DISE data, in 2016-17, 10% to 28% of various types of government high schools had a pupil-teacher ratio (PTR) above 40:1 and 31% to 46% had a student-classroom ratio over 40:1. Typically, teacher vacancies are more in tribal areas and far-off villages (GoI 2016a). Moreover, the U-DISE data showed that there were schools without electricity and functional drinking water facilities. There was no library in 4% to 20% high schools and higher secondary schools of various types. High schools had no laboratories, and 62% to 85% higher secondary schools of various types lacked laboratories (Table 7 in Annex). Notably, government programmes recognize these needs, and SMSA provides funds to states to upgrade buildings and equipment.

While matters related to access to school, economic incentives to children from marginalized groups, school buildings and equipment are unsatisfactory at present, they are at least addressed in policy. However, a wide range of less tangible issues, vital for creating a high performing school system, do not receive adequate attention. The experience of elementary education has been that while adequate financial resources are a necessary condition for good quality education, they are not a sufficient one. Over more than last two decades, there has been a focus on basic quality issues, i.e., provision of teachers and school infrastructure in elementary education. But though enrolment has improved substantially, learning levels remain poor (NCERT 2015b, 2014).

More attention needs to be paid to issues related to pedagogic and management practices. In a study of the elementary education system in India (Sharma and Ramachandran 2009), inadequate funding, unequal access to schools for children of different social categories, children’s involvement in household and farm labour, along with shortage of teachers and poor school infrastructure emerged as important barriers to education. However, equally important were pedagogic and management practices, such as the type of training and academic support provided to teachers, the incentive structure for personnel, how schools

were supervised etc. These were rudimentary and deficient, so that even when children did attend school, the learning outcomes were poor.

In other words, while availability of schools, teachers and infrastructure, and consequently funds for these, is a necessary condition for inclusive, good quality education, it is not a sufficient one. How goals are approached and executed is a critical factor. For example, one study, comparing the outcomes of similar programmes in primary education in Himachal Pradesh (HP) and Uttarakhand, found that the outcomes in HP were superior. In HP, officials engaged in collective problem solving, through deliberation and community consultation, while officials in Uttarakhand worked in a legalistic manner, focusing on rule enforcement (Mangla 2015). While there is little research on the practices followed in secondary schools, available studies find that the quality of learning materials is low and textbooks do not place adequate emphasis on conceptual understanding (ERU 2014, World Bank 2009).

About the Paper

This paper focuses on pedagogic and management practices that frame the context in which secondary schools function. Specifically, it scrutinizes the school governance and support structure for secondary education. It is based on the premise that the quality of schools is dependent to a large degree on the cues and support provided by leading organizations, as they play an important role in policy formulation, frame curricula, prescribe textbooks, conduct public examinations, train teachers, supervise schools, and so on. On the one hand, the policies that emerge, as well as the quality of curricula, learning materials and training, reflect the perceptions and skills within these organizations. On the other hand, schools function as per the directions of these organizations. The importance of the school governance structure is evident in the debates and attempts in developed countries to improve these systems (Ladd 2010, OECD 2008). Moreover, the study of the elementary education system in India quoted above showed that leading academic and management institutions themselves lacked adequate expertise, which in turn impacted how the schools functioned (Sharma and Ramachandran 2009).

In the above context, this paper analyzes the school governance and support system for secondary education in AP and Rajasthan. It explores how the governing and supporting organizations function, and the extent to which they are capable of an appropriate policy response, and stimulating schools to provide high quality, inclusive education. The paper analyzes the organizational structure, human resources and modes of functioning (such as control and autonomy), and the play of patronage and rent-seeking in the secondary education system in these two states.

The analysis is based on a study conducted in AP and Rajasthan in 2018-19. The study included a scrutiny of state policy and organizations concerned with management, academic support, examinations, and education of out of school children at various levels, i.e. state, district and sub-district, in these states. As neither state had a comprehensive written out policy, the analysis of state policy was based on a study of various documents, especially plans and government orders, as well as interviews with key actors. The analysis of

organizations was based on a study of documents of the organization such as plans and annual reports, data obtained from officials, and interviews. A total of 20 organizations were analyzed and 57 officials and teacher educators from these organizations, as well as teacher union leaders and non-government organization (NGO) representatives were interviewed (Table A). In addition, two focus group discussions or interviews were conducted with secondary school teachers in each state.

Table A: Number of Organizations Studied and Interviews Conducted

	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

SALIENT CONTEXTUAL FEATURES

The picture of the organizational structure, human resources and processes of working delineated below is not specific to secondary education, but is in consonance with the public administration system across sectors and states in India. State governments are structured into several ministries, with one or more departments, that are responsible for policy formulation. Ministries are headed by ministers, with principal secretaries or secretaries as administrative heads. Most ministries function through a set of organizations at the state level, that provide policy inputs and oversee programme implementation.

Geographically, states are divided into districts, that are key units of administration. Nearly all departments that provide services at the grassroots have offices at the district level. Below the district, there are state and department specific variations in administrative units. As a rule, districts are divided into sub-divisions, which are further divided into blocks, an important unit for most departments concerned with socio-economic development. Among the two states under study, while Rajasthan follows this common pattern, in AP, there are no blocks, but a much smaller unit, ‘mandal’ has been created. In addition to this structure, there are local elected governments, at three levels, i.e. district referred to as Zilla Panchayat, block or mandal, called Block or Man dal Panchayat⁹, and for one or more villages in rural areas called Gram Panchayat (GP), and municipalities in urban areas.

Across state government departments, personnel are recruited to various ‘services’. Recruitment to a service is on the basis of merit through public examinations or other open selection criteria, provided candidates have specified minimum qualification. Personnel recruited to a service have permanent tenures till a fixed retirement age, and share a common salary and promotion structure. However, since the mid-1990s, state governments have

⁹ There are often state-specific names for Panchayats, especially for block level Panchayats.

increasingly hired personnel on contract, without security of tenure. In many states, a large number of teachers have been hired on contract.

Government organizations function in the framework of laws, rules, and written or explicitly stated government orders. The authority to be exercised by various officials is clearly identified. In addition, there is a high degree of centralization, emphasis on hierarchy, and limited analysis or strategy formulation, across government departments, as a study on field administration (Sharma 2019) shows.

Another important context for understanding the functioning of public organizations in India, as in many developing countries, is the wide prevalence of patronage-based functioning and rent-seeking in government. This is not confined to a few junior officials, but includes the most highly placed politicians and officials too, who can give directions to government organizations. Consequently, government organizations function in two contexts, i.e., the formal context, as articulated in laws, rules, written or explicitly stated government orders on the one hand, and an informal context based on patronage and rent seeking, practiced through oral orders by powerful actors in government, on the other. As this paper shows, these informal and unstated practices penetrate deep into government organizations, and impact organizational capacity and actions in a fundamental way.

While the commonalities described above are important, the same elements of structure, human resources and working style can play out in different ways in different sectors. For example, the impact of centralization and hierarchy may be very different for policing and education. The opportunity for rent-seeking too varies across sectors. Consequently, it is important to understand these dynamics specifically for secondary education.

ROLE AND STRUCTURE

National and State Governments

School education is a concurrent subject in the Constitution, i.e., is the domain of the Government of India as well as state governments. Notably, GoI provides substantial funds for school education through centrally sponsored schemes. Consequently, state government policies are invariably framed by GoI funding. In particular, the Samagra Shiksha Abhiyan provides funds for a range of activities to states. Some institutions are funded fully or partially by GoI too, so there is considerable GoI influence on the institutional structure as well. However, there are many areas, i.e., school administration, curriculum and pedagogy, examinations etc., that are funded by states. In these areas, states are influenced by national guidelines and discourse, but are not dependent on GoI for funds. Consequently, a pattern of broad similarities but some differences in the institutional structure and functioning was visible in AP and Rajasthan.

Overview of Organizations

Background

In both the states, the governing and supporting organizations for school education performed five broad roles, i.e., administration and management of schools, programme implementation, academic and other professional support, conduct of examinations, and education of out of school children. Apex level organizations were also part of the policy formulation process. The organizational structure in the two states reflected a common GoI influence, such as availability of funds to establish District Institutes of Education and Training (DIETs), as well as the wide variation in their school structures and specific decisions taken by the state.

While both states had had primary schools of classes 1 to 5 and elementary schools of classes 1 to 8, their school structure differed for secondary education. In Rajasthan, since 2014, administrative reforms had been undertaken to create schools from class 1 to 10 or 12, while in AP, the school structure was fragmented. 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-college’. In AP, among educational institutions that offered higher secondary education, 73.5% government and 97.8% private institutions were for classes 11 and 12 only. In contrast, in Rajasthan, 95.7% government schools and 93.6% private schools offered classes 1 to 12. In AP, among educational institutions that offered secondary education, 91.2% government schools and 76.6% private schools were for classes 6 to 10. In Rajasthan, 98.3% government schools and 98.2% high schools offered classes 1 to 10 (Table B).

Table B: Types of Schools in AP and Rajasthan in 2017-18¹⁰

Schools up to Class 12					Schools up to Class 10				
Schools with Classes	AP		Rajasthan		Schools with Classes	AP		Rajasthan	
	Government	Private	Government	Private		Government	Private	Government	Private
Total Number									
	1399	1945	10186	8230		6109	5991	4064	7121
Percentage									
1 to12	13.44	1.95	95.70	93.58	1-10	8.81	23.40	98.30	98.19
6 to12	13.08	0.26	3.60	4.69	6-10	91.19	76.60	1.70	1.81
9 to12	0	0	0.70	1.72					
11 to12	73.48	97.79	0	0					

In keeping with the school structure, in Rajasthan, a single government department was responsible for classes 1 to 12, but in AP, separate departments governed classes 1 to 10 and 11 and 12. As a consequence, in AP, there were separate governing organizations for school and intercollege education¹¹, while in Rajasthan, as part of the administrative reforms, organizations had been merged so that they addressed the whole school cycle. Box 1 lists the organizations and their roles.

¹⁰ Source: Educational Statistics, Andhra Pradesh, 2017-18; State Report Card, Rajasthan, DISE 2017-18.

¹¹ Source: Functionary Manual 2002, Commissioner and Director, Intermediate Education, Government of Andhra Pradesh.

Box 1: Organizational Structure in School Education

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
Board of Intermediate Education	Board examinations for classes 11 and 12		
AP State Open School Society	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	Rajasthan State Open School Society	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	Administrative and academic	District Education	Administrative support

AP		Rajasthan	
Institution	Main Role	Institution	Main Role
Office	support to intermediate colleges for classes 11 and 12	Office Elementary	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
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.

Administrative and Programme Support Organizations

In AP, for classes 1 to 10, the office of the Commissioner School Education, Joint Director (JD) Schools and the District Education Office (DEO) were responsible for administrative matters at the state, regional and district level, respectively. These organizations handled developmental programmes for classes 9 and 10 too, but for classes 1 to 8, there were separate organizations. For classes 11 and 12, at the state and regional level, administrative matters were the domain of the Commissioner Intermediate Education and JD Intermediate, respectively. At the district level, there was a Vocation Officer (VO) for government intermediate colleges and a Regional Inspection Officer (RIO) to regulate private institutions. Further, various departments, such as the Tribal Welfare Department, Backward Classes Welfare Department etc., had set up residential schools and hostels for specific communities, for which there were separate management structures. Given the departmental structure in AP, the DEO administered the majority of schools, i.e., an average of 3412 government schools and 1283 private schools per district, while for the VO and RIO, the average was 79 government and 146 private intermediate colleges respectively (Table C).

Table C: Average Number of Schools Administered by District Officials

AP					Rajasthan				
Official	Average Number of Schools Administered				Official				
	Class	Govern-ment	Private	Total		Class	Govern-ment	Private	Total
VO	11 to 12	79.1	0	79.1	DEO (S)	Up to 12	305.8	249.4	585.2
RIO	11 to 12	0	146.3	146.3		Up to 10	122.9	215.8	335.7
DEO	Up to 12	26	3.3	29.3	DEO (E)	Total	428.7	465.2	893.9
	Up to 10	468.2	460.84	929.0		Up to 8	619.8	501.1	1120.9
	Up to 8	329.8	385.2	715		Up to 5	1054.7	124.3	1179
	Up to 5	2588.3	433.6	3021.9		Total	1674.5	625.4	2299.9
	Total	3412.3	1282.9	4695.2					

In Rajasthan, the newly set up Rajasthan Council for School Education (RCSCE)¹² was responsible for developmental programmes for classes one to twelve. The most important organization for school education, RCSCE had been formed by merging separate programme implementation organizations for classes 1 to 8 and 9 to 12. In addition, 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 organizations was under consideration as well. A Commissioner School Education was the controlling authority for all institutions of school education.

At the district level in Rajasthan, the Chief District Education Officer (CDEO) oversaw all organizations concerned with school education. The Additional District Project Coordination (ADPC) was responsible for developmental programmes. The District Education Office (DEO), (Elementary) and District Education Office (DEO), (Secondary) were responsible for administrative issues related to classes 1 to 8 and 9 to 12 respectively. In Rajasthan, the DEO (Secondary) administered 429 government and 465 private schools on average, while the DEO (Elementary) administered 1675 government and 625 private schools on average (Table C).

Academic Support Organizations

For academic support, i.e., preparing the curriculum and textbooks, guiding teacher training etc., both states had established State Councils for Educational Research and Training (SCERTs) at the state level, and District Institutes of Education and Training at the district level, as per GoI guidelines (GoI 1989). There were 13 DIETs in AP and 33 in Rajasthan. In addition, in Rajasthan, a State Institute of Education Management and Training (SIEMAT) had been set up to provide administrative and management support, but there was no such organization in AP. However, in AP, there was a State Institute of Vocational Education (SIVE) to provide academic support for vocational courses for intermediate education.

In both states, a two-year course for pre-service teacher education for elementary education teachers, i.e., Diploma in Elementary Education (D.El.Ed.) was conducted by DIETs. Pre-service education for secondary education, i.e. Bachelor of Education (B.Ed.), was conducted by teacher education colleges. Of these, some were upgraded to Colleges of Teacher Education (CTEs) and Institutes of Advanced Studies in Education (IASEs), with financial support from Government of India. Notably, funds were provided by GoI for setting up and running DIETs, and partial support was provided for SCERTs, SIEMAT, CTEs and IASEs too.

Examination Boards

State boards conducted examinations for classes 10 and 12 in both states. In AP, there were separate boards for class 10 and class 12, i.e., Board of Secondary Education and Board of Intermediate Education respectively, while in Rajasthan, there was a single board, i.e. the

¹² Source: Order No. P 21(32)/ Prashikshan/ Ayojana/2017 dated 24.5.2018, School Education Department, Government of Rajasthan.

Board of Secondary Education. In both states, in addition to class 10 and 12 examinations, the boards performed numerous other roles, i.e., conducting other types of examinations for students and teachers, preparing textbooks, affiliating private schools and colleges and giving awards and prizes (Box 2). At the district level, these boards worked through the administrative offices.

Box 2: Activities of Examination Boards in AP and Rajasthan

	AP		Rajasthan
	Board of Secondary Education	Board of Intermediate Education	Board of Secondary Education
Examinations for students	Senior secondary school (including regular 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 D.El.Ed. 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

Open Schools

To facilitate learners over the age of 14 who had dropped out of school to study and sit for class 10 and 12 board examinations, the two states had established ‘state open schools’, i.e., Andhra Pradesh State Open School (APSOS) Society¹³ in AP and the Rajasthan State Open School (RSOS) Society in Rajasthan. APSOS provided support to persons who wanted to complete elementary education too, 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. 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, i.e., 472 resource centres.

¹³ Source: G.O. Ms. No. 50, Education (SSE.2) Department dated 08.2.1991, Government of Andhra Pradesh.

Sub-district Organizations

Below the district, the two states had educational organizations at different geographical units, in keeping with their general administrative units. In AP, organizations 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) level¹⁴. In AP, there were Deputy Education Officers (Dy EOs) at the sub-division to supervise high schools up to class 10 and Mandal Education Officers (MEOs) to supervise elementary schools. 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 12¹⁵. Moreover, a higher secondary school in every Gram Panchayat was declared as a 'Panchayat Resource Centre', and principals of higher secondary schools had been declared Panchayat Education Officers (PEOs). The PEO was mandated to supervise and support all the schools within the GP¹⁶, as well as perform other administrative functions, such as maintaining teachers' service records and disbursing salaries.

Problems of Organizational Structure

For secondary education, the organizational structure itself was problematic. The core mandate of organizations was ignored in some cases, so that organizations were not structured for optimal performance. At the grassroots, there was an absence of leading and supporting organizations.

Lack of Academic Support Organizations

A key structural problem in both states was the lack of academic organizations to support schools for secondary education. For this stage of education, the role of providing academic support was split across several organizations, including organizations for which it was not a core mandate.

In AP, for classes 1 to 10, SCERT was the leading organization for preparing curriculum and textbooks as well as teacher training. But for classes 11 and 12, there was no clear academic support structure. The curriculum and textbooks were prepared by the Board of Intermediate Education, while the State Institute of Vocational Education was responsible for teacher training, not just for vocational education, but all intermediate college teachers. Not surprisingly, since 2015, there had been no training of intermediate college teachers. In contrast, for teachers of classes 1 to 10, SCERT prepared training modules, materials etc., and class 9 and 10 teachers were trained frequently and regularly. However, DIETs trained teachers of classes 1 to 8 only. For secondary school teachers, the DEO organized training through district resource groups of 20-30 persons, trained by SCERT. Though several DIET

¹⁴ Source: Educational Statistics Andhra Pradesh 2017-18, Commissioner of School Education, Andhra Pradesh.

¹⁵ Source: Order No. P21(32)/ Prashikshan/ Ayojana/2017 dated 24.5.2018, School Education Department, Government of Rajasthan.

¹⁶ Source: Order No. P21(32)/ Prashikshan/ Ayojana/2017 dated 8.8.2017, School Education Department, Government of Rajasthan.

faculty were part of these district resource groups, the institution was not involved, and consequently, continuous support and interaction with teachers beyond specific training programmes was not possible.

In Rajasthan, though in policy the role of SCERT had been re-defined as a leading academic organization from pre-school to class 12, in practice, SCERT designed curricula, textbooks and teacher training modules for classes 1 to 8 only. The curriculum and textbooks for classes 9 to 12 were prepared by the Board of Secondary Education, while CTEs conducted teacher training. Consequently, while there was a well-established system of training elementary school teachers, for secondary school teachers, training initiatives were inadequate. Funds were provided to CTEs, but interviews revealed that teachers' attendance in training programmes was poor, and from some schools, the same teacher came for all programmes. As the quorum to run a programme was 10 trainees, the faculty was always in doubt if a training programme would take place. Further, during 2017-18, the CTE had received no funds for in-service training, for reasons not known to the institution.

For two areas, academic support was outsourced in both the states, as per GoI schemes. One, vocational education was provided by private agencies. The National Skill Development Council advertised and identified appropriate agencies for various trades, out of which the state could choose. Subsequently, the agencies provided certified teachers and materials to conduct vocational education classes. However, officials in AP reported that the trainers were changed often as the pay was inadequate and payments were delayed. Two, private agencies were contracted to impart computer education in high schools. These agencies provided computers and instructors for five years, after which they withdrew, and the schools were expected to carry out these activities. In Rajasthan, officials reported that as schools had no computer instructors after 5 years, even though existing teachers had been trained, they found it difficult to conduct classes. Moreover, as there were no funds for up-keep of the hardware, many machines were not in working order.

As there was no SIEMAT-like structure in AP, the training of educational administrators was sporadic. However, training in Rajasthan through SIEMAT was more comprehensive. In 2018-19, SIEMAT had trained head masters, PEOs, and managers at the block, district and regional level.

Inadequate Penetration in the Field

The second issue was of inadequate penetration not only of the academic structure, but also administrative, examination and open school structures for secondary education to the grassroots. In both states, administrative offices existed at the district¹⁷ level, and the examination boards and state open schools worked through them too. In AP, the Board of Secondary Education had placed an official, i.e., an Assistant Commissioner, at the DEO's office. There was also a District Common Examination Board for continuous and

¹⁷ The average population of a district was 38.13 lakh and 20.77 lakh in AP and Rajasthan respectively as per the 2011 census.

comprehensive evaluation (CCEE), of which the DEO was the chairperson. However, the Board of Intermediate Education worked through the VO, and had no separate manpower. In Rajasthan too, the Board of Secondary Education had no separate manpower at the district level. Similarly, while in AP, there was a district level representative of APSOS in the DEO's office, in Rajasthan, the RSOP had no district level officials. The RSOP 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.

Below the district, in AP, for classes 11 and 12, there was no administrative structure at all. For classes 9 and 10, organizations were sparse, though for elementary education the penetration was good. In contrast, in Rajasthan, an integrated office of the CBEO was responsible for the management of school education from classes 1 to 12¹⁸. Additionally, as noted above, PEOs were responsible for the supervision of all the schools in the GP.

In neither state did Panchayats play any significant role in secondary education. In both states, interviews with Panchayat representatives showed that they were either inadequately aware of core issues in school education, or not motivated to address them, or lacked the powers and financial resources to do so. Neither state had attempted to train and involve local governments in school education, and thus had missed out on initiatives and support that may have been available.

Excessive Splitting of Roles

A third structural problem was of excessive splitting of roles among organizations, which weakened the support structure. In AP, the problem was acute, as intermediate education was managed by a stand-alone department. As it comprised only two classes, few supportive administrative and academic structures could be set up. As noted above, there was no clear organization for academic support and no organizations below the district level at all. Moreover, officials concerned with intermediate education did not participate in national discourses in school education, or university education, which blocked cross-state learning.

There were also problems of coordination. For example, in vocational education, SIVE catered to classes 11 and 12 only, and not classes 9 and 10, which also offered vocational education. Further, the state had intended to provide students opportunity to study a particular job role in classes 9 to 12 at four levels. But the availability of the same job role across secondary schools and intermediate colleges could not be ensured, so in classes 11 and 12, students were allowed to change job roles. Moreover, several departments concerned with the welfare of tribals, minorities, etc. ran residential schools. In theory, the School Education Department had authority in academic matters in such schools, but officials admitted that they did not monitor schools of other departments. Consequently, such schools did not receive academic support.

¹⁸ Source: Order No. P21(32)/ Prashikshan/ Ayojana/2017 dated 24.5.2018, School Education Department, Government of Rajasthan.

In both states, programme implementation and administrative structures were split, a trend encouraged by GoI¹⁹. In Rajasthan, though the programme structures for elementary and secondary education had been combined, they remained separate from administrative structures. However, because many activities carried out in programmes, such as monitoring of schools, were also of an administrative nature, interviews with field officials showed role confusion between the ADPC and the 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., and there seemed little justification for a separate office. In AP, the logic was even less clear. For secondary education administrative structures handled programmes, though these were separate for the secondary and higher secondary stage, as the departments were separate. For elementary education, there was a separate programme structure.

PERSONNEL

Background

High quality human resources are central to achieving excellence for all organizations. In school education, they are key, because the quality of teaching is critical to the learning process. Therefore, policy makers and scholars in many countries, especially in the developed world, have focussed a great deal on personnel in government in general, and school education in particular (Burns and Xiaoqi 2010, Hays and Kearney 2001, Lipsky 2010, Odden 2011). However, the analysis below shows that human resources for secondary education in the two states were deficient even in terms of basic requirements, and personnel management was highly flawed.

Personnel Structure

Teachers

The vast majority of personnel in the school education departments were teachers, who also formed the largest proportion of state government employees. In both states, teachers were recruited to separate cadres for different levels of education. In AP, three main types of teachers, with specified minimum qualifications were recruited: ‘secondary teachers’ for elementary schools of classes 1 to 8, ‘school assistants’ for high schools of classes 6 to 10, and ‘junior lecturers’ for inter-colleges for classes 11 and 12. School assistants and junior lecturers were recruited for specific subjects, but secondary teachers were not. Consequently, in elementary schools, in classes 6 to 8, teachers were not specialists in specific subjects, though in high schools, they were. In addition, physical education teachers, music teachers,

¹⁹ This trend began with the externally funded District Primary Education Programme (DPEP) in the mid-1990s, when separate ‘project implementation structures’ which handled external funds exclusively, were set up. However, such structures were continued in the domestically funded programmes, SSA and RMSA subsequently.

craft teachers and art teachers were recruited²⁰. In Rajasthan, four main types of teachers were recruited, i.e., grade 1 teachers to teach classes 11 and 12, grade 2 teachers for classes 9 and 10, and grade 3 teachers, which included level two for classes 6 to 8 and level one for classes 1 to 5 (Box 3).

Box 3: Types of Teachers in AP and Rajasthan

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 B.Ed.
School Assistants	6-10	Graduate in the specific subject with B.Ed.	Senior teacher or Grade 2	9 and 10	Graduate in the specific subject with B.Ed.
Secondary grade teachers	1-5	Class 12 with D.El.Ed. or BA with B.Ed.	Teacher or Grade 3, Level 2	6 to 8	(i) Graduate and D.Ed. or Graduate with minimum 50% marks and B.Ed.
			Teacher of Grade 3, Level 1	1 to 5	Class 12 with minimum 45 % marks and D.El.Ed.

Personnel in Academic Organizations

Beyond teachers, the structure of human resources in the organizations studied was very inadequate (Box 4). To begin with, the structural weakness for academic support was magnified manifold by the personnel structure. Among academic institutions, for B.Ed. colleges, CTEs and IASEs, personnel with degrees in education were recruited. But neither state had a coherent policy regarding academic faculty in SCERTs, that framed curricula, textbooks, etc. and provided academic leadership in the state, or for faculty in DIETs to conduct D.El.Ed. programmes, train teachers and provide academic support to schools. For these organizations, states recruited no specialists in various pedagogic areas, such as language, math and science teaching, or curriculum and textbook formulation, achievement testing, or any researchers. Instead, lecturers from CTEs and IASEs and school teachers were posted to SCERTs and DIETs. Consequently, the capacity within the system in either state to analyze learning issues and make improvements in teaching methods, etc. was very limited. Moreover, in both states, the directors of SCERTs were administrators. In AP, the post was occupied at least by an educational administrator, but in Rajasthan, it was occupied by a general administrator, who held charge of another post too.

²⁰ Source: G.O. MS. No. 67, dated 26-10-2018, School Education (Exams) Department, Government of Andhra Pradesh.

The examination boards, with the responsibility of assessing several million students, lacked academic backbone, and were largely manned by clerks. The main personnel recruited in the Board of Secondary Examination in Rajasthan and Board of Secondary Education in AP were clerks, who were promoted to various administrative positions. There were no experts on pedagogy or achievement testing. Moreover, interviews revealed that there was no systematic training plan for the personnel who were promoted. In AP, the Board of Secondary Education relied on SCERT, but limitations of human resources in SCERT have been described above. In Rajasthan, the Board of Secondary Examination contracted experts, i.e., college and school teachers, for various activities. The secretary of the Board of Secondary Examination was a generalist administrator, and there was just one educationist.

Specialists for Marginalized Children

Specialists to analyze and strategize the needs for vulnerable children were generally not recruited. Neither state had any gender specialists. There were separate departments for Schedule Castes and Scheduled Tribes, which ran residential schools and hostels and provided scholarships, but there were no specialists to address the special difficulties vis-à-vis education that such children might face. Neither APSOS nor RSOS had any personnel who specialized in self-learning, or specialists to assist in community communication to motivate students to enrol and complete the course. In the case of children with special needs, some expertise was available. As per the national scheme, there was a team comprising a coordinator and 2 to 3 resource persons at the Mandal and block levels in AP and Rajasthan respectively, to support school teachers to include children with special needs in the regular classroom process. However, in AP, this team catered to the needs of classes 1 to 8, and not beyond, while Rajasthan, it dealt with all classes.

Managers

In the very top administrative posts, in both states, Indian Administrative Service (IAS) officers, generalist administrators who moved from department to department, though in AP, during the course of the study, the Commissioner School Education was from the Indian Postal Service. In both states, other than the top posts, there were four main levels of officials for educational administration: Assistant Director, Deputy Director, Joint Director and Additional Director. The personnel recruitment policies for these posts among the two states differed.

In AP, for classes 1 to 10, educational administrators were recruited specially and formed a 'state education service'. Members of this service occupied most of the administrative posts, though teachers and clerks with teacher training degrees were also promoted to some junior posts. The Director SCERT, Director Board of Secondary Education, and senior officials in the Commissioner School Education office were drawn from this service. But no educational administrators were recruited for inter-colleges of class 11 and 12, and lecturers and principals were promoted to administrative positions.

In contrast, in Rajasthan, no educational administrators were recruited. Mainly, teachers were promoted to administrative posts, and trained in SIEMAT or other institutions for 10 to 15 days. However, in SIEMAT there were no experts in management, finance, community relations, etc. The state attempted to introduce administrative skills by posting 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, in a few posts. For instance, in RCSE, several senior posts were manned by RAS officers. These officers had training and experience in administration, but none in school education.

Notably, though in both states, teachers formed the largest pool of government employees, there were no experts in personnel management in the education departments. Further, though both states attempted to reach out to the community extensively, and fostered community-based school management committees, neither hired any experts in community mobilization and communication. In both states, accounts and engineering personnel were taken on deputation from other departments, management information system (MIS) personnel were hired on contract and there were several posts of clerks and helpers.

Personnel in Field Organizations

In field level organizations, the above problems were magnified. Along with lack of experts, many field organizations had very scanty staff. In AP, among organizations for school administration at the district level, the DEO office was the best staffed. In addition to educational administrators, an Assistant Commissioner (Exams) from the secondary education board and Open School Coordinator from APSOS formed part of the DEO office. However, though the DEO was responsible for academic issues related to classes 9 and 10, the office had no academic personnel. There were also no personnel for community related issues, gender and marginalized groups. Further, though a 'DIET cadre' had been notified, no recruitment took place, and high school teachers were posted to DIETs, which dealt with elementary education.

Moreover, the management structure for intermediate education was very inadequate. The VO's office comprised merely of a VO, a deputy VO and clerks and helpers. There was no academic or other resource support. The RIO office comprised of an RIO and clerks and helpers. In the sample district, the RIO also functioned as principal of 2 inter-colleges. The RIO had no access to legal experts, in spite of the fact that the private schools in AP were a formidable force. No special training was provided to RIOs for their role.

In Rajasthan, at the district level, the ADPC's and DEO (Secondary)'s offices were manned mainly by school principals and lecturers. There were no special personnel to conduct board examinations and to coordinate open school activities, or for the needs of marginalized children. The administrative reforms had comprised mainly of the placement of a senior official, i.e. the CDEO, to coordinate various district level organizations. Personnel in the DIET were posted from among teachers and various organizations.

Below the district, in AP, 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. In Rajasthan, before the reforms, there had been no support structure for secondary schools at the block level. But subsequently, the Chief Block Education Officer (CBEO), and a team of officials and resource persons had been provided. Moreover, the post of CBEO had been upgraded, and made equivalent to the previous district level officer's post.

Box 4: Personnel in Sample Organizations

AP	Rajasthan
	State Level
<i>Commissioner School Education</i>	<i>Rajasthan Council for School Education (RCSE)</i>
The head of office is the Commissioner School Education, usually an 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.	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, GoI 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 RAS, 14 Deputy Directors promoted from among teachers, 1 Superintending Engineer, finance staff, clerks, and helpers.
	<i>Directorate of Secondary Education</i>
	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 DEOs promoted from among teachers, as well as legal, financial and MIS experts, clerks, and helpers.
<i>State Council for Educational Research and Training</i>	<i>State Council for Educational Research and Training</i>
The head of institution is the Director, from the AP Education Service. Posts include 9 professors and 20 lecturers posts, taken on deputation from CTEs and IASEs. However, there are only four lecturers, and on the remaining posts, high school teachers have been taken on deputation. There is one post of a psychologist/ IED coordinator, and one 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 Rajasthan Administrative Service, 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.
	<i>State Institute of Education Management and Administration</i>
	There is a Governing Council headed by the Chief Secretary and Executive Committee headed by Principal Secretary. Members include other officials, a representative of 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.

<i>Board of Secondary Education (Class 10)</i>	<i>Rajasthan Board of Secondary Education</i>
<p>There is no Board.</p> <p>The head of institution is a Director, a Joint Director level official from the AP Education Service.</p> <p>Posts include three Deputy Commissioners and ten Assistant Commissioners promoted from clerks, of whom, one Assistant Commissioner is declared secretary.</p>	<p>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.</p> <p>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.</p>
<i>AP State Open School</i>	<i>Rajasthan State Open School</i>
<p>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.</p> <p>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 as chairperson. The DEO is the member-secretary.</p>	<p>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.</p>
District Level	
<i>District Education Office</i>	<i>Chief District Education Office</i>
<p>The head is the District Education Officer from the AP Education Service.</p> <p>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.</p>	<p>The office is headed by a Chief District Education Officer of Deputy Director rank.</p> <p>Posts include an Assistant Director of Principal rank, two resource persons, accountants, clerks, and helpers.</p>
<i>District Vocation Officer</i>	<i>Additional District Programme Coordinator</i>
<p>The office head is VO, from the principal cadre.</p>	<p>The head of office is ADPC, who is DEO rank,</p> <p>Posts include two Assistant Programme Coordinators of</p>

Posts include a deputy VO from the lecturer cadre, clerks, and office support staff.	Principal rank, six Programme Officers of lecturer rank, one assistant engineer and two junior engineers, accounts personnel, clerks, and helpers.
<i>Regional Inspection Officer</i>	<i>District Education Officer (Secondary)</i>
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.
<i>District Institute of Education and Training</i>	<i>District Institute of Education and Training</i>
There is post of one 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 MA/MSc and M.Ed. 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	
<i>Deputy Education Officer</i>	<i>Chief Block Education Office</i>
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, equivalent to lecturers, and two RPs for Children with Special Needs (CSWN) equivalent to Grade 2 teachers, one junior engineer and clerks and helpers.

Vacancies

The problem in the structure of human resources was vitiated further in AP, as even the designated manpower was not available because of a court case that had been going on for 30 years. The case concerned two 'cadres' of teachers, i.e., government teachers and Panchayat teachers. The qualifications and roles of the two types of teachers were the same, but they had historically formed two separate cadres. Till 1998, only government teachers had been eligible for promotion to administrative posts. Subsequently, on demand from Panchayat teachers, the two cadres were merged and Panchayat teachers too began to be promoted to administrative posts. Government teachers then approached the court against such promotions and the court ruled in their favour. With several appeals, the court case was on-going. All promotions had come to a halt, and personnel were posted in an ad hoc fashion. For example, of the 66 posts of Deputy Education Officers, 9 were in place, and for the rest temporary persons had been put in charge. In DIETs, against 270 faculty posts, 45 faculty were actually available. In Rajasthan, while administrative posts had been filled up, there were a large number of vacancies in academic institutions. In the SCERT, 70% (14 out of 20) academic posts were vacant, while in DIETs, 56% academic posts were vacant.

Personnel Management

Regular and Contractual Employees

In both states, most teachers, managers and other personnel recruited to a cadre or service, and were assigned to various posts. They were ‘regular’ government employees, i.e., had comfortable salaries and benefits such as pensions, house rent allowances, medical facilities, etc., as well as permanent tenures and chances of promotion. However, in inter-colleges in AP, recruitment of regular teachers had been stopped, and the state hired contract and ‘guest’ teachers. Consequently, intermediate colleges had 3 types of junior lecturers: regular, contractual and guest lecturers. Most junior lecturers were contractual, 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 she approached retirement, Rs. 1.5 lakh per month. Since 2010, the recruitment of contract lecturers had stopped too. Instead, guest teachers were appointed by intermediate college principals, at a salary of 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. No teachers were recruited on contract in Rajasthan, as there had been a court ruling against such recruitment.

Slow Promotions

In both states, teachers were eligible for promotions as head masters and principals in schools, as educational administrators, and as teachers for higher level classes. Seniority was the main basis for promotions. In addition, the annual record written by supervisors was taken into account too, but its impact was small. Promotions were generally slow. For example, in AP, school assistants became eligible for promotion in 10 to 12 years, and most had one or two promotions over the whole career cycle. Moreover, because of the ongoing court case, promotions of teachers to administrative posts had come to a halt, and even promotions to posts of headmasters had been delayed. In Rajasthan, promotions had been sped up as part of administrative reforms. Several administrative posts had been upgraded, followed by the promotion of teachers and administrative personnel.

Ad-hocism in Postings

A great deal of ad-hocism was built into the systems for postings. As noted above, the two states did not hire experts in several crucial areas, posting teachers and lecturers instead. In such postings, talent, expertise or interest was not the basis. Instead, the postings were based on seniority, and provision of opportunities to various cadres. For instance, in AP, schools assistants, who were secondary school teachers, became MEOs, who dealt exclusively with elementary education. Similarly, APSOS was staffed with lecturers from CTEs and IASEs, who were teacher educators with no training or experience in educating school drop-outs. In the RSOS, RAS and education department officials manned various posts. All the staff were on deputation. Their deputation was extended on an annual basis, and the maximum tenure was four years. Consequently, there was continuous turnover of staff, and little institutional expertise or memory developed. In SCERTs and DIETs, personnel were posted on an ad hoc

basis. In the same vein, in SIEMAT in Rajasthan, education department officials were posted without an assessment of their interest or suitability for working in a training institution.

As they lacked institutional expertise, to prepare textbooks and teacher training modules, the two states identified experts from time to time, or constituted state and district resource groups comprising faculty from CTEs, IASEs, and DIETs, school teachers as well as resource persons from outside government. Some personnel of these groups became quite proficient in textbook writing, or language teaching, or some other pedagogic area. For example, one interviewee in the SCERT AP who was part of the state resource group, and a textbook writer and trainer, 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 recognized 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 various activities.

Lack of Professional Development

The lack of concern with expertise visible in the structure of human resources and the posting policy was visible in efforts for professional development. Neither state had any system for the professional development of its teacher educators and senior-most managers. For example, in Rajasthan, the SIEMAT faculty was given no training on joining. Similarly, staff deputed to RSOS was not trained on joining and learned on the job. RSOS sent teams to the National Institute of Open Schooling (NIOS) and other states to find out about new policies and innovations.

Patronage in Postings

In parallel, patronage played a critical role in postings, whereby teachers and officials curried favour with politicians to get a post that they wanted. In AP, at junior levels, i.e. teachers and MEOs, the play of patronage in postings had been cut out and a systematic and transparent system had been developed. But at senior levels, there were no criteria, and politics played a big role. In Rajasthan, during the reforms, though the department had proposed a transparent system for all transfers, government approval was not forthcoming, except for postings of teachers after appointment and promotion. During interviews, officials reported that teacher transfers were done to please political workers (Box 6).

Given the ad hoc posting policy, heavily influenced by patronage, the two states were unable to use the talents that they had within the system. For example, an interviewee in SCERT Rajasthan remarked that people came to SCERT to be in a large city, or for the prestige of working at the state level, and the institution lacked the type of people it needed. In the same vein, a DIET personnel interviewed reported that she had earlier been school inspection officer, and had joined the DIET as her husband thought it suitable since she was used to office work.

In the above scenario, there was little incentive for employees to work hard and perform well. As seniority was the main basis for promotion, it did not create an adequate incentive. The play of political patronage in postings added a perverse incentive. Employees who pleased political bosses got postings of choice, not those who worked the hardest.

INFRASTRUCTURE

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.

Below the state level, in Rajasthan, offices had adequate buildings, though the office of the DEO, Secondary was poorly maintained and the DIET lacked a vehicle. In AP, the VO functioned in the RIO's office and had inadequate space. The DyEO functioned in a school. The DIET faculty 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.

WORKING ETHOS AND STYLE

While the organizational structure, human resources and available infrastructure frame the systemic capacity to deliver on policy goals, the organizational ethos and processes followed within organizations can heighten or deplete this capacity. The discussion below illustrates that organizational processes were based on centralization and hierarchy, while there was little focus on analysis and knowledge generation. Additionally, patronage-based functioning and rent-seeking were widely prevalent.

Centralization and Hierarchy

As noted above, state policies were guided by national programmes, as substantial funds came from GoI schemes. Moreover, as a share of the money was provided by the state, state funds too were tied up in these activities. This left little scope for context-specific activities. Further, as the approach of the central government changed over time, states faced residual problems. For instance, GoI had funded 'Model Schools' on the pattern of its Kendriya Vidyalayas (Central Schools) in both states in educationally backward blocks (EBBs), but had subsequently withdrawn. 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. Additionally, the flow of funds was not smooth. For example, in Rajasthan, officials reported delays in fund flows for school construction, because of which construction stopped. It was tough to restart the work, and there was cost escalation. In the sample DIET, even salaries were sometimes delayed by 2 to 3 months. In AP, officials said that payments to third party agencies who provided vocational education often got delayed.

In turn, in both states, there was a high degree of centralization at the state level. At an institutional level, in both states, SCERT as well as various administrative and programme offices had little autonomy, and followed directions from the government. A degree of institutional autonomy was visible in examination boards. In the Board of Intermediate Education in AP and Board of Secondary Education in Rajasthan, key decisions were taken by boards comprising educationists and experts. However, in the Board of Secondary Education in AP, there was no 'board' at all, as it had been dismantled 30 years ago. Though the state open schools had been set up as independent societies, there was a high degree of administrative control. In APSOS, the state Chief Secretary was the chairperson and Principal Secretary Education was the vice chairperson of the society, while in Rajasthan, the Principal Secretary Education was the chairperson.

The state governments controlled human resources tightly, determining salaries, promotion channels and other service conditions, as well as posting of personnel. There was also financial centralization, and district or sub-district offices had little leeway in determining how funds were spent. In AP, the RIO and DyEO offices had no budget at all, while the budget of the VO office comprised only salaries and funds were provided for pre-defined activities two or three times a year.

In addition, in both states, pedagogic processes were centralized too. Not only were curricula, textbooks and teacher training modules developed at the state level, but there were several other prescriptions for the day to day functioning. For example, in AP, an academic calendar for schools and in Rajasthan, the school timetable was prescribed at the state level. Further, in AP, members of teachers' unions said that the government had prescribed digital and virtual classes for five hours. Teachers did not find these useful, as the content was not very good, and the classes did not match their teaching pace, but they had to use them as per government orders. Similar centralization was visible in management processes too. At the field level, during interviews, officials complained of a lack of autonomy and local planning, and said that they spent a great deal of time attending meetings and providing information to centralized agencies, which hampered their work.

In addition, there was a pronounced emphasis on hierarchy. An important aspect of the hierarchy was that academics and academic organizations were placed under the supervision of administrators. In AP, Director 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, not educators. Moreover, in both the states, state officials involved the District Collector (DC) and other officials concerned with regulatory administration in education activities. In Rajasthan, the DC was the head of the executive committee on education, and the Sub-Divisional Magistrate headed the block level executive committee. In AP, interviewees reported that the DCs held meetings every 2 months with school heads to discuss examination results and questioned those whose results were not good. Further, officials reported spending time attending ministers' visits, etc.

A corollary of centralized and hierarchy-based functioning was high emphasis on monitoring, assessment and discipline, rather than strengthening teachers, to bring about improvements.

For example, in AP, Quick Response (QR) code enabled textbooks, whereby relevant activities and knowledge for a subject could be accessed through a web-link, had been developed. However, the extent of use of this facility was not left to the teacher to decide. The state monitored teachers on its use through a digital application. In Rajasthan, a video conference was held from the state level with principals every two months. Further, every quarter, districts were assessed as per some parameters, and ranked. In AP, districts were monitored for board examination results, and there was a lot of pressure on the DEOs, teachers and school heads to get good results in the board examinations. During interviews, while discussing measures to improve schools and learning, officials emphasized the importance of supervision and discipline, which they believed led to higher learner achievement, quality of teaching, and better work ethos (Box 5).

Box 5: 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 class 3, class 5, and class 8, AP 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 of schools in 2014 in Rajasthan, 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.

Analysis and Strategy Formulation

Given the lack of appropriate academic and equity-related expertise, neither state conducted any formal analysis on academic issues such as how children learned, what teaching strategies worked best, why some schools performed 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 researches. 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 lamented the lack of a research and development wing in his office, and said that if mathematics learning was poor, he wanted the tools to address it.

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 database which combined Uniform District Information System for Education (UDISE), to provide information about student enrolment, teacher vacancies etc., had been created. However, this data provided information but few insights, and officials worked without fully understanding the situation. For example, a senior official in AP could not understand why the state had the lowest GER in the country. Considerable experiential knowledge, i.e., insights gained by teachers, teacher educators and managers existed. But there was no systematic building on these either. For instance, a state level official from Rajasthan reported that she got new ideas when she went to the field, but this was sporadic and random. Moreover, hierarchy limited the flow of information from the ground, and teachers' experience did not feed policy adequately.

To compensate for the lack of capacity to analyze and strategize 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 assessment²¹. 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 had several limitations. One, capacity within the system is needed to identify the key areas of work, and to access the right organizations. Moreover, these associations could shift over time, and for various reasons, such as a change of government or leader, and the whole work could take a different direction.

Use of Technology

A recent thrust in both states was the increasing use of technology. This had led to some positive outcomes. Both states had created online databases 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 base to go on, but could now access information readily. Technology had been used to streamline some management processes too. In AP, as per officials, many issues, such as medical cases, transfers etc. could be dealt with 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 online platform for

²¹ With the help of an NGO, a cell called the 'Centre for Scientific Understanding of Student Learning' had been established in the SCERT to develop a student assessment system. Sixteen teachers at the state level, and 39 at the district level were being trained in assessment. The NGO provided the resource person and the state government paid the salaries of teachers etc.

teachers, 'AP E-Knowledge Exchange' had been created, on which 1.4 lakh teachers were registered. They shared lesson plans, views etc. Online courses were offered to teachers.

However, there were problems too in the use of technology. One was that excessive enthusiasm about technology meant that it was sometimes rolled out hastily, and functioned poorly. For example, in AP, the maintenance of the biometrical attendance system was poor, and sometimes it failed. Two, the use of technology gave an appearance of modernization and efficiency, but did not, in fact, compensate for the lack of research and analysis. For example, in Rajasthan, RSOS collected data regarding student enrolment through an online portal, but 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 a cell phone-based application to analyse examination results. However, this analysis was limited to marks obtained by students in various schools, and did not address 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-centralized system, technology had been used to centralize even more. For example, the status of the use of digital technology in schools was shown on a dashboard at the state level. If any headmaster did not use digital technology, he got a memorandum.

Political Interference and Rent-Seeking

The patronage system in posting of personnel has been described above. In addition, officials reported political interference in day-to-day working too. In Rajasthan, officials and Panchayat representatives interviewed were of the view that teachers could help politicians during elections, and consequently, formed alliances with politicians for mutual benefit. One Panchayat representative claimed that as the previous chief minister was strict with teachers, they made sure that he lost in the elections. Moreover, Panchayat representatives reported that teachers approached them to get their duties changed. In several interviews, officials said that interference in matters of discipline and work allotment eroded the working ethos. Officials reported that when they took action against teachers there was political pressure. They quoted instances when principals were firm with teachers, and teachers got them transferred to remote areas (Box 6).

Box 6: 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. The 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.

Apart from day-to-day processes, an important play of politics in Rajasthan was visible in textbooks. With a change of government, several textbooks had been revised, and there had been intense media and public criticism. In another case, an official reported getting into many battles with politicians to protect the quality of textbooks.

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 politicized. But the most important manifestation of political patronage in the state was that chains of private schools owned by a single corporate entity, known as ‘corporate schools’, dominated the education scenario at the secondary stage. These schools focussed on preparing students for admission to the prestigious Indian Institute of Technology (IIT), and failing that, other engineering colleges.

Corporate schools flouted pedagogic principles. One principal of such a school, which had classes from pre-school to class 10, during an interview described a school focussed on the IIT exam from sixth grade onwards. In this school, social science and language teaching was ignored in favour of teaching Physics, Mathematics and Chemistry. Moreover, students were tested constantly and segregated into different 'levels' depending on their chances of clearing the IIT entrance examination and given differential treatment. In the end, 3% to 4% of the total students actually got admission in IITs, and the rest went to other engineering colleges (Box 7).

Box 7: Description by a Principal of a Corporate School In AP

This is an IIT based school. Our focus is on the IIT exam from class 6 onwards. We focus on physics, math, 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 pencil strokes 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:

- Math: 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.

Officials and teacher educators said that in corporate schools, education was very conservative and examination oriented (Box 8). Students did not get a general education, there was no physical activity, no rest, no extracurricular activities. There was a lot of stress on students and there were student suicides.

Teachers and officials reported that such schools canvassed aggressively to get students, flouted norms, and fleeced people. In a focus group discussion, high school teachers said that private school representatives came to the school in January, made lists of good students, contacted parents, and encouraged students to join. Interviewees reported that while officially, corporate schools said that they followed the government syllabus as per rules, they had different study materials. Further, in some schools the mandated minimum infrastructure, such as space, sanitation, playground, safety features, etc. were lacking. The corporate school fees structure was flexible, and matched the paying capacity of the area. Fees regulation was not possible. As per law, schools were allowed to charge a maximum fee of Rs. 4000 per year, but corporate schools charged much more as coaching fee, for air conditioners, etc.

Though officials and even local government representatives interviewed were aware of the questionable practices of corporate schools, they said that they could not do anything, as the school management exercised considerable influence at the very top levels of government. One official said that if he went to inspect a corporate school or inter-college, there were many phone calls from politicians and senior officials. In fact, at the time of the fieldwork, the promoter of one big chain was a minister in the state government.

Box 8: Statements of Officials and Panchayat Representatives Regarding Corporate Schools in 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. Children 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. Children 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 admit good students without 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 children 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 children from corporate schools attend sports competitions.

Additionally, non-official interviewees reported instances of rent-seeking in both states. Rent-seeking led to harassment of private individuals who wanted to run genuine schools. In AP, a representative of an association of small private schools (not corporate schools) reported that while the cost of registration was Rs. 5000, a bribe up to Rs. 2 to 5 lakh had to be paid. Further, many no objection certificates had to be obtained, for sanitation, traffic, building safety etc., for which bribes had to be paid at various desks. In Rajasthan, a Panchayat representative claimed that the contract to supply mid-day meals in schools had been given to a contractor through an underhand deal.

THE EMERGING FAULT-LINES

The above institutional structure, human resources and working style resulted in a governance and support system with poor capacity to lead and support schools. It was a severely constrained system, and the emerging fault-lines are described below.

Policy Drift

The institutional structure described above was the link between the top policy making levels and schools. In fact, state level officials of the organizations discussed above were part of many policy discussions. Consequently, this structure was potentially capable of providing important policy inputs based on contextual needs. Ideally, it should have undertaken rigorous analysis grounded in research, consultation with experts and the experience of practitioners, which should have been the basis of future policy.

However, the system lacked the appropriate personnel and practices for such analysis. The dearth of grounded analysis meant that states could be influenced easily by ideas that were not necessarily appropriate in the context. If an idea was floated by powerful actors, such as political or corporate interests, the system lacked the analytical capacity to assess it accurately. Even if there was a perception that the idea was not appropriate, hard evidence to prove the case was lacking. The emphasis on hierarchy eroded the capacity for logical decisions further. For instance, in Rajasthan, administrative reforms had been undertaken to integrate schools (Box 9), and as per officials, had influenced national policy²². But pedagogic reforms were missing. Instead, changes in curricula and textbooks were guided by politics, in the midst of public criticism. The outcome was somewhat hollow reforms, i.e., an improved structure without better teaching and learning styles.

²² 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 grades in its neighbourhood

Box 9: Process of School Integration in Rajasthan as Related by Officials Involved

When a new government was elected in 2014, the chief minister 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 children, or were without teachers. Some were located next to each other. Consequently, there was mismanagement of resources, and inadequate supervision.

The process of integrating schools began with the ‘Adarsh Vidyalaya Yojana’, whereby one integrated school, called Adarsh school, for classes 1 to 12, or, if that was not feasible, for classes 1 to 10, was set up at every Gram Panchayat¹. Moreover, Adarsh schools were supplemented with high quality ‘Utkrishth’ schools for classes 1 to 8¹, which were strengthened primary or elementary schools, set up in a village other than that with an Adarsh school in the Gram Panchayat. Elementary classes were added to schools with secondary education, and some elementary schools were merged into secondary schools. At the same time, 5000 schools were upgraded. The outcome was more schools with classes 1 to 10 and 1 to 12. Around 8000 schools closed, and 7000 secondary and senior secondary schools started.

There was a backlash. When primary schools were merged with secondary schools, primary teachers came under close supervision and began to resent it. Members of 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 because of promotions, teacher dissatisfaction abated.

In AP, interviewees reported that the possible merger of inter-colleges and high schools was under discussion in the state government. The school structure 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. However, a decision could not be made, and interviews with officials revealed several hurdles in the integration. The powerful corporate school lobby opposed the merger, as did inter-college teachers because they did not want to teach lower classes²³. Further, the cost of starting classes 11 and 12 in existing schools was very high. Notably, there were no studies or analyses of the pros and cons of integrating schools.

Along with powerful influences, ‘trends’ too could not be analyzed accurately, and exercised undue influence, as in the case of an emphasis on computer-enabled processes beyond their actual usefulness. The outcome was a drifting policy, rather than a logical and focussed one.

²³ 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 colonies where Scheduled Caste and Scheduled Tribe families lived. 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.

The dependence on GoI funds added to the policy drift. Notably, neither state had a comprehensive policy document. Policy was contained in government orders issued from time to time, regarding particular issues, such as enhancement of scholarships, or introduction of a new teaching method, and had to be discerned. This policy drift meant that goals were poorly defined, changed often, and strategies to achieve them were piece-meal.

Marginalization 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. For secondary education, the problem began with institutional roles. As noted above, activities such as making curricula and textbooks, training teachers, etc., were not located in SCERTs and DIETs, but spread across institutions for which these were not the core mandate. However, making SCERTs and DIETs responsible for academic support at the secondary stage was a necessary, but hardly sufficient, condition, as these institutions lacked appropriate expertise. Though GoI funds were available, the states had not used these to recruit appropriate personnel, and existing personnel were posted without considering suitability in terms of knowledge and experience. In fact, through the patronage system in postings, at times, highly unsuitable personnel were posted in academic institutions. In AP, a large number of resource persons had been developed, in collaboration with NGOs. In Rajasthan even this aspect was ad hoc. Moreover, there was no system of training the top-most administrators and resource persons in education.

Inadequate institutional capacity to support schools academically was manifest in a general absence of discourse on learning issues among school administrators and teacher educators. In both states, learning levels were understood through examinations and outcomes of national achievement surveys. In the latter, interviewees mentioned the rank obtained by the state, but none talked about areas where the state was strong or poor, and possible strategies to address these. Thus, in the very vision of the school system, ideas about education and learning were ill developed. 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 D), and appropriate infrastructure was identified most often.

Table D: Perceptions of Ideal School and Ideal Teacher of Officials and Teacher Educators

Characteristic	Number of Officials Reporting		
	AP	Rajasthan	Total
<i>Teachers and staff</i>	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
<i>Good enrolment</i>	1	1	2
<i>Infrastructure and equipment</i>	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
<i>Results and achievement</i>	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
<i>Regularity and discipline</i>	3	1	4
Teaching calendar is followed	1		1
Regular	1		1
Targets and supervision	1		1
Children's discipline should improve		1	1
<i>Pedagogy and child</i>	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 to describe the characteristics of a good teacher, they were more likely to talk of teaching styles (Table E). However, many responses were basic, such as 'knowing the subject well', and administrative matters, such as regularity and punctuality were mentioned often too.

Table E: Perceptions of Ideal Teacher of Officials and Teacher Educators

Characteristic	Number of Officials Reporting		
	AP	Rajasthan	Total
Number of Interviewees	7	7	14
<i>Subject Expertise</i>	4	3	7
Expert in subject, handles subjects well, imparts knowledge	3	3	6
Well-versed in teaching	1		1
<i>Personal qualities</i>	1	2	3
Honest, hard-working, sincere	1	2	3
<i>Fulfil formal obligations</i>	5	2	7
Regular and punctual	2	1	3
Undergoes training	1		1
Completes syllabus	2		2
Helps SC/ ST students to obtain certificates		1	1
<i>Motivation</i>	0	1	1
Passionate about teaching		1	1
<i>Teaching Style</i>	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
<i>Child-centric</i>	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
<i>Achievement</i>	1	0	1
Students' learning improves	1		1

This was specially the case in Rajasthan, where 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. (Box 10).

Box 10: Statements of Officials regarding Initiatives to Improve Quality of Education in Rajasthan

- There is no specific initiative in secondary education for quality.
- Under the ‘Shala Sambhalan’ programme, educational administrators in various organizations are given targets to visit schools and support them. We have increased these targets this year.
- There is a teacher appraisal format for elementary education, in which teachers do a self-assessment and give it to their higher authority, who examines 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.
- 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 was trained, including administrators. 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.

As academic organizations and personnel were placed under the control of administrative ones, 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, he identified these as ‘bicycle distribution, kriya awards, biometric attendance.’ In Rajasthan, a block level ‘academic’ resource person said that during school visits he examined children’s attendance, whether the teacher had made a plan, midday meals, whether school management committee (SMC) meetings were held and children’s progress. When asked about the main activities for secondary education, he reported these as camps for the physically handicapped, bicycle distribution, prize distribution, preparation for board examinations and provision of hostels. Further, some interviewees pointed out that the designation of school principals as PEOs was yet another diversion of academic resources to administrative tasks.

The lack of vibrancy in academic leadership was manifested in similar curriculum structures in the two states, as per the GoI pattern, with little independent initiative. In class 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, as is the case in many countries.

As noted above, in Rajasthan, textbooks had been changed for political, rather than educational reasons. In contrast, in AP, from 2010 to 2014, significant attention had been paid to revising textbooks and teaching methods of classes 1 to 10, in collaboration with NGOs. Textbooks were made interactive and activity based as well as gender and socially sensitive. But for classes 11 and 12, little academic leadership was visible. In science and mathematics, textbooks were the same as NCERT textbooks, while for other subjects they were adapted to the state context. As per officials, the purpose was to facilitate students in national eligibility tests.

Though AP had developed good textbooks up to class 10 with the help of resource persons, the lack of institutional capacity had resulted in parallel practices that were not educationally meaningful. Education in the English medium in government schools was promoted vigorously. As per officials, this was because of a demand from people for English medium education. Around 50% government high schools ran separate English and Telegu medium sections. However, not all educationists were comfortable with this development. One resource person remarked that some teachers themselves did not know English, and teaching in an unfamiliar language hampered learning. Notably, there was no attempt to systematically examine this issue.

The state also focussed on preparing students for the IITs, like private schools, and coaching began in class nine. Further, a strong element of technology had been introduced in the pedagogic process, though the extent to which it improved teaching and learning was not analyzed. Digital classrooms, equipped with screens, computers, projectors and fibre connectivity had been set up in high schools. Here, as per officials, lessons by the best teachers could be broadcast, and these could also be used if a teacher was absent. 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 SCERT. Through the QR code, activities and knowledge linked to a subject could be accessed. Yet, teachers and teacher union leaders reported that these were used very little. In other words, the state followed the general trend to use more technology, rather than identify its actual usefulness in the learning process.

Reduced Scope for Substantive Work

The skewed motivation structure, produced by a combination of slow, seniority-based promotions and patronage-based postings was a deterrent to good work. Moreover, there were frequent changes in leadership, which led to discontinuities in work. For example, in the ten years prior to the fieldwork of this study, there had been nine Commissioners of Education in AP, and eight Directors of Secondary Education in Rajasthan. Additionally, district and block officials interviewed complained that patronage-based transfers and postings made it impossible for them to discipline errant employees and impacted the working ethos adversely.

Centralization meant that officials could not respond to needs from the ground, or use resources optimally. As per a state level official dealing with children with special needs the

number of cases that could be covered depended on GoI approval. In Rajasthan, an official commented that in Sharde hostels for girls, every year funds were saved, but could not be used for needs such as water supply, water heaters, replacement of old mattresses, etc., as permission from higher authorities was not forthcoming.

In addition, inadequate staff, combined with excessive centralization and hierarchy meant that officials tended to focus on tasks that were urgent, or monitored closely from the top level, rather than those that were the most productive. Junior officials could not prioritize their substantive work over demands of senior officials for less important work. Supervisors complained that they spent their time attending meetings, video-conferencing, making reports and got little time to actually supervise schools. Many tasks were performed poorly. For example, in AP, a state level official said that DIETs ‘somehow did D. Ed’. A sub-district level official commented that he worked on a day-to-day basis, prioritizing important work every day, rather than working as per a long-term plan. In Rajasthan, interviewees commented that PEOs spent time drawing salaries, etc., instead of paying attention to the school. Some got salary bills, etc., made in shops, which was against official rules.

Individuals over Systems

The importance of hierarchy, inadequate mechanisms for analysis and the play of patronage meant that individuals, rather than systems, were important. Working methods were often highly personalized, and the whole environment of an institution, and even policies, could change dramatically with change of leadership. For example, a senior official in Rajasthan admitted that the state had no system for consultation, etc., to generate new ideas, but they occurred to individual officers from time to time. Officials reported that even if a particular leader did significant work, they could not be sure that it would be continued by the next, or whether they would even get an appropriate leader.

Dominance of Commercial Interests

Fee charging private schools were an important feature of the secondary education landscape in both states. As per U-DISE data, in 2016-17, at the secondary stage, 37.24% and 47.12% students were enrolled in private fee charging schools in AP and Rajasthan respectively. At the higher secondary stage, in AP, 69.4%, and in Rajasthan, 55.2% students were enrolled in private fee charging schools (NIEPA 2018). The high level of enrolment in fee charging private schools may be attributed to people’s perception of the superior quality of private schools, and social preferences, as indicated by the fact that more boys than girls were enrolled in such schools.

However, while in Rajasthan the percentage of students enrolled in private fee charging schools did not vary dramatically across the secondary and higher secondary stage, in AP, the percentage of students enrolled in private fee charging schools was lower than in Rajasthan at the secondary stage, but much higher at the higher secondary stage, shooting up to nearly 70 per cent. Notably, the two states differed widely in the policy for establishing government higher secondary schools. A government institution to provide education for classes 11 and

12 existed for an average population of around 35,000 in AP and 6,300 in Rajasthan. In Rajasthan, schools up to class 12 had been established in every Gram Panchayat. In AP, the policy was to provide an inter-college in every mandal. This did not translate into provision of higher secondary schools as envisioned in the Samagra Shiksha Abhiyan, i.e., at a distance of 7 to 10 kilometres, provided an adequate number of students are available, and the schools are cost-effective²⁴. On an average, a mandal had a population of around 74,000 and 26 villages. There were 670 mandals in AP, and 1028 government inter-colleges²⁵. Moreover, though on average there were 1.5 inter-colleges per mandal, officials reported that there were mandals without inter-colleges too.

In other words, in AP, the government did not provide adequate access to intermediate education and the private sector dominated. Moreover, as noted above, a large number of private schools were owned by corporate houses and followed questionable practices. The inadequacy of human resources, combined with patronage and rent-seeking, reduced that capacity to regulate commercial interests. The political importance of this lobby, and the constraints on officials' action to regulate them have been noted above. The study showed that examination-oriented corporate schools were so important that they had even reduced the space for smaller private schools run on sounder educational principles. Promoters of smaller private schools resented the corporate schools, and claimed that the government colluded with them. Thus, corporate schools blocked real education in AP, converting its education system into a massive coaching class.

The dominance of commercial interests was also visible in a large number of dubious private 'teacher training' colleges in both states. There were 357 private B.Ed. colleges in AP, and 795 in Rajasthan²⁶. The officials interviewed said that these colleges were not real educational establishments. Many were mere certification shops, had part-time faculty and students did not actually attend classes.

Community and Students seen as 'Problematic'

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 among students, many officials and teacher educators saw the community as problematic. They made comments such as parents' lack of education impacting students' learning adversely, ST parents not being serious about education, parents being uncaring of and too poor to support children's education, people wanting to send children to private schools, parents not being interested in the school management committee, and so on. 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.

²⁴ Source: Draft document, Samagra Shiksha Abhiyan, An Integrated Scheme for School Education, Framework of Implementation 2019 (pp 18-19).

²⁵ Source: Educational Statistics, Andhra Pradesh, 2017-18

²⁶ In addition, there were 547 and 330 D.Ed. and diploma private colleges in AP and Rajasthan respectively.

Partial Reach Out to Educationally Marginalized Children

Both states had strategies to include specific groups of educationally marginalized children, i.e., girls, SC and ST children, children with special needs, children from nomadic tribes, etc., in the educational process. These strategies relied heavily on GoI guidelines, but states had taken some measures of their own too. A scrutiny of the strategies shows them to be focussed on providing better physical access to school, and mitigating the cost of schooling. Learning and motivational issues faced by educationally marginalized children were not addressed.

Some needs of marginalized children were addressed through measures that applied to all children, but had special meaning for marginalized children who may have missed out on educational opportunities without them. One was access to schools at a reasonable distance. Rajasthan had ensured access to higher secondary education in each GP. However, during the process of school education, while the number of secondary schools had increased, not only the number of stand-alone primary and upper primary schools but the absolute number of schools offering these grades had declined too (Table 10 in Annex). The impact of this development is beyond the scope of this paper, but it is possible that this could be a demotivator for some children from marginalized communities to attend primary and upper primary schools regularly and thereby reduce their chances of transiting to the secondary stage²⁷. In AP, at the secondary stage, a mapping exercise was underway at the time of fieldwork to assess availability of secondary schools. As noted above, at the higher secondary stage, the number of government inter-colleges was inadequate.

Two, state open schools were especially important for children from marginalized groups, as such children were most likely to drop out. However, as has been noted, state open schools lacked expertise in social mobilization and education of drop-outs. In AP, officials reported that they undertook enrolment drives, sent posters and pamphlets to schools and coordinators visited schools to ask children to get siblings who had dropped out to enrol. But the results were not satisfactory. In Rajasthan, students filled forms on-line, and officials in RPOS saw getting these forms filled as an important activity. However, little effort was made for enrolment. Officials in RSOS said that though many people wanted to pass classes 10 and 12, an outreach programme to enable them was missing. Thus, though the states had set up structures to enable drop-outs to continue secondary education, the structures lacked the needed staff and expertise to maximize this opportunity.

In terms of specific measures to provide access to school to educationally marginalized children of different categories, both AP and Rajasthan had a history of setting up residential schools and hostels for children who had lacked access to education. In AP, residential schools and hostels for SC, ST, OBC and minority students had been set up since the 1970s by departments concerned with the welfare these communities. In Rajasthan, such facilities were

²⁷ A primary school was provided in a habitation with a population of at least 150, and at least 20 school going children, and an upper primary school in habitations 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. However, as per officials, with the change of government, there was some thinking about re-opening some elementary schools, where access was too difficult.

set up for girls, children living in the desert areas, from nomadic tribes, etc.²⁸. These state initiatives had converged over time with similar national initiatives, especially the 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 were not viable, and for urban children without adult support²⁹.

In both states, several measures mitigated the cost of education for all children. Free textbooks were provided to all children in government schools³⁰. 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. The Samagra Shiksha Abhiyan provides for two sets of free uniforms for girls, SC, ST and BPL children³¹. In AP, for children in grades 1 to 8, three sets of free uniforms were provided. For classes 9 to 12, principals and headmasters made efforts to get donors to provide children with free uniforms. However, in Rajasthan, children were not provided free school uniforms. In AP, there was no fees for classes 9 and 10, but in intermediate colleges a fee of Rs. 1150 and Rs. 950 per year was taken for science and commerce or arts streams respectively. The government reimbursed half this fee to students, including to students studying in private schools. In Rajasthan, at the secondary stage, a 'school development fees' could be charged as decided by the school management committee.

In addition, states provided benefits of various types to specific categories of children. In AP, bicycles were provided to girls studying in classes 8 and 9. In Rajasthan, girls studying in classes 9 to 12 could avail either free bicycles or transport vouchers if they had to travel more than five kilometres to access a secondary school. Further, in class 11 and 12, if the subjects that a girl wanted to opt for were not available in a school within 5 kilometres, she was eligible for a transport voucher to study in a school where the subject was available³². In AP, higher secondary students were provided subsidized bus passes. However, as per field officials, recently, the AP Transportation Corporation had withdrawn from interior villages as they had incurred many losses, so that commuting was an issue for inter-college students living in remote areas. Both states provided numerous scholarships or grants for SC, ST, OBC and minority students. Moreover, in AP, the government had announced that from 26th January 2020, Rs. 15000 per child per year would be provided to mothers of school-going children up to class 12³³ (Box 11).

²⁸ Source: Annual Report 2017-18, Rajasthan Council for Secondary Education.

²⁹ Source: Draft document, Samagra Shiksha Abhiyan, An Integrated Scheme for School Education, Framework of Implementation 2019 (pp 16)

³⁰ Sarva Shiksha Abhiyan Annual Work Plan and Budget 2018-19, Government of Andhra Pradesh.

³¹ Source: Draft document, Samagra Shiksha Abhiyan, An Integrated Scheme for School Education, Framework of Implementation 2019 (pp 29).

³² Source: GO Rajasthan School Education/ j/ Alternative Education/ 2018-19(undated), Government of Rajasthan.

³³ Source: Hans News Service, 31 May 2019 9:57 PM GMT.

Box 11: Student Benefits in AP and Rajasthan

	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	3 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 SC/ST students, in classes 5 to 10; Scholarships of Rs 500 per month for 10 months to SC/ ST/ OBC class 11 and 12 students from families with annual income below Rs 2 lakh.	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 classes 1 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.

To facilitate the education of children with special needs, SMSA supports needed equipment as well as transport and escort facilities³⁴. This was the broad policy followed in AP and Rajasthan. In both states, medical camps were held to identify children with special needs. In both states, facilities such as braille books, tricycles, wheel chairs were provided. A stipend was provided to girls, and for certain types of disabilities, escort and transport allowances were provided. In addition, teachers and administrators were trained to support such children. However, there were indications that the coverage of the programme was not adequate. For example, in AP, the number of children with special needs in classes 9 and 10 were 1.97% of enrolled students, which, as per officials, was much below the percentage of such children in the population. Officials reported that the identification process was not good enough. A low percentage of children with special needs transited from class 8 to 9 and 9 to 10. Headmasters did not encourage them, because the pass percentage went down.

Summing up, in both states, there were policies to address the education of children from marginalized groups, but these policies were focussed on provision of physical access to school and mitigation of costs of schooling. An important shortfall in AP was the lack of access to government schools at the higher secondary stage, and the dominance of commercial interests has been noted. The system lacked the capacity to address the more

³⁴ Source: Draft document, Samagra Shiksha Abhiyan, An Integrated Scheme for School Education, Framework of Implementation 2019 (pp 16).

complex issues of learning and discrimination against children of marginalized groups. Consequently, the enrolment rates followed the all-India pattern of lower school attendance among girls, SCs and STs at higher levels of school education (Table 11 in Annex), in spite of the numerous measures taken.

CONCLUDING REMARKS

In the coming decades, as the economy becomes more complex, an increasing number of children in India will want to, and need to, complete secondary education. High quality government secondary schools can be key in increasing opportunities for children from marginalized groups. Among the two states studied, Rajasthan had at least set up a large number of government higher secondary schools. In AP, the number of government institutions at the higher secondary stage remains limited. In addition, ‘corporate schools’ that focussed on coaching rather than education were dominant. They charged high fees, students lost out on a good general education, and only some students who attended them benefitted even in terms of admission to engineering colleges.

As the above discussion shows, neither state had leading and supporting institutions that could foster high quality secondary education for all. The organizations studied lacked basic expertise, capacity to analyze, create sound pedagogic processes, and address the needs of under-privileged children. In this context, even the benefits from the network of schools created in Rajasthan will be sub-optimal, as the curricula, textbooks, teaching methods, and school management remain inadequate. Children will drop out, and even if they stay, learn little.

Notably, as this paper is written, the New Education Policy 2020 has been announced. The policy articulates the welcome goal of changing the teaching and learning process to foster inquiry, discovery, analysis and critical thinking. Yet, it says little about strengthening the institutional structure in states that will bring about this transformation. As this paper has shown, along with increased investment in secondary schools, the capacity of the governing and supporting organizations needs to be enhanced, if meaningful secondary education is to be made universal.

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ANNEXURE

Table 1: Gross Enrolment Ratio, Net Enrolment Ratio and Adjusted Net Enrolment Ratio (All India)

	Primary			Upper Primary			Secondary			Higher Secondary		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Gross Enrolment Ratio in 2014-15 as per MHRD Data												
All	97.9	100.7	99.2	88.7	97.6	92.8	79.2	81.0	80.8	56.0	56.4	56.2
SC	109.5	112.47	110.9	97.8	107.7	102.4	83.9	86.9	85.3	55.8	58.0	56.8
ST	107.8	105.7	106.7	95.4	98.2	96.7	73.7	73.7	74.5	43.8	42.4	43.1
Gross Enrolment Ratio in 2016-17 as per U-DISE Data												
All	94.02	96.35	95.12	86.90	95.19	90.73	78.51	80.29	79.35	54.93	55.91	55.40
SC	103.38	106.24	104.75	93.78	103.40	98.24	82.49	86.12	84.19	54.48	57.59	55.93
ST	102.61	100.58	101.62	94.56	96.99	95.72	72.65	74.39	73.48	42.71	42.62	42.67
Net Enrolment Ratio in 2016-17 as per U-DISE Data												
All	82.43	84.93	83.62	69.49	76.41	72.69	51.05	52.57	51.77	30.53	31.2	30.95
Adjusted Net Enrolment Ratio in 2016-17 as per U-DISE Data												
							Combined for Secondary and Higher Secondary					
All	86.76	89.49	88.05	78.58	85.96	82.0	61.55	63.41	62.42			

Source: Education Statistics at a Glance, Government of India (2018), Ministry of Human Resource Development; School Education in India: U-DISE Flash Statistics 2016-17, National Institute of Educational Planning and Administration (2018).

Table 2: Level-wise Average Annual Drop Out Rate- All India

(NA=Not Available)

	Primary			Upper Primary			Secondary			Higher Secondary		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Drop-out rate in 2014-15 as per MHRD Data												
All	4.36	4.14	4.12	3.49	4.49	4.03	17.21	17.79	17.06	0.25	1.61	NA
SC	4.71	4.20	4.46	5.00	6.03	5.51	19.05	19.36	19.36	3.09	3.22	3.22
ST	7.02	6.84	6.93	8.48	8.71	8.59	24.94	24.40	24.68	NA	NA	NA
Drop-out Rate in 2016-17 as per U-DISE Data												
Gen	4.48	46.9	4.71	2.88	4.27	3.55	15.14	16.27	15.68	8.11	7.61	7.87
SC	8.30	7.86	8.09	7.48	8.29	7.87	23.06	21.99	22.55	8.83	7.37	8.13
ST	8.57	8.51	8.54	9.46	9.70	9.58	27.41	26.51	26.97	8.94	7.87	8.43
OBC	6.10	5.78	5.95	4.10	6.11	5.08	22.08	19.77	20.04	3.64	2.77	3.23
All schools	6.40	6.30	6.35	4.97	6.42	5.67	19.97	19.81	19.89	6.37	5.49	5.95
Govt schools	7.73	7.12	7.43	12.96	12.98	12.97	27.07	26.84	26.96	10.74	8.36	9.55

Source: Education Statistics at a Glance, Government of India (2018), Ministry of Human Resource Development; School Education in India: U-DISE Flash Statistics 2016-17, National Institute of Educational Planning and Administration (2018).

Table 3: Retention and Transition Rates in 2016-17

Retention Rate									
	Classes 1-5			Classes 1-8			Classes 1-10		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
All	83.62	84.62	84.10	69.91	71.39	70.62	55.94	55.09	55.53
Transition rate									
	Primary to Upper Primary			Upper Primary to Secondary			Secondary to Higher Secondary		
All	88.41	88.72	88.56	92.62	87.91	90.32	66.36	66.48	66.42

Source: *School Education in India: U-DISE Flash Statistics 2016-17, National Institute of Educational Planning and Administration*

Table 4: Percentage Female Students Appearing and Percentage Students Passing Board Examination in Classes 10 and 12 in 2016

	Class 10				Class 12			
	% Female of those who appeared in examination	Pass percentage			% Female of those who appeared in examination	Pass percentage		
		Male	Female	Total		Male	Female	Total
All	46.13	77.7	79.8	78.7	45.12	74.3	82.2	77.9
SC	46.36	72.0	74.6	73.2	52.82	70.8	57.6	63.7
ST	48.34	65.2	64.9	65.0	39.13	65.5	71.4	68.2

Source: *Constructed from Education Statistics at a Glance, Government of India (2018), Ministry of Human Resource Development*

Table 5: Number of Schools by Management in India in 2016-17

Management Type	Percentage Schools		
	All Levels	Secondary Level	Higher Secondary Level
Government	71.72	45.05	19.40
Government Aided Private	5.46	22.57	20.62
Unaided Private	19.78	29.90	57.55

Source: *School Education in India: U-DISE Flash Statistics 2016-17, National Institute of Educational Planning and Administration*

Table 6: Distribution of Students by Performance in National Achievement Survey 2015

Subjects	Percentage Correct Answers				
	0-35	36-50	Less than 50	51-75	Above 75
	Percentage Students Giving Correct Answers				
English	24	61	85	15	0
Mathematics	35	49	84	16	0
Science	33	45	78	20	2
Social Science	20	51	71	27	2
Modern Indian Language	11	20	31	64	5

Source: *What Students Know and Can Do, A Summary of National Achievement Survey, 2015, National Council for Educational Research and Training*

Table 7: Percentage Government High and Higher Secondary Schools with high Pupil-Teacher Ratios and Student-Classroom Ratios in 2016-17

	Percentage Government Schools with Classes			
	1-10	6-10	1-12	6-12
Pupil-Teacher Ratio 40-45	4.08	2.94	4.98	6.03
Pupil-Teacher Ratio 45-50	3.26	2.11	3.45	5.41
Pupil-Teacher Ratio >50	20.64	5.08	11.74	15.15
Sub-Total	27.98	10.13	20.17	26.59
Student classroom ratio 40-45	5.61	8.92	7.99	10.35
Student classroom ratio 45-50	5.29	6.01	7.14	7.92
Student classroom ratio >50	20.38	17.49	21.16	27.54
Sub-Total	31.28	32.42	36.39	45.81

Source: School Education in India: U-DISE Flash Statistics 2016-17, National Institute of Educational Planning and Administration

Table 8: Percentage Government High and Higher Secondary Schools without Basic Facilities in 2016-17

Facility Lacking	Percentage Government Schools with Classes						
	1-10	6-10	9-10	1-12	6-12	9-12	11-12
Electricity connection	19.78	4.72	25.97	6.72	2.77	13.43	10.95
Library	9.6	4.3	20.15	7.02	3.95	5.09	14.42
Functional drinking water facility	8.02	9.46	17.43	7.18	3.86	8.85	23.61
Physics laboratory	100.0	100.0	100.0	83.96	69.25	73.8	78.64
Chemistry laboratory	100.0	100.0	100.0	83.89	69.6	74.43	78.73
Biology laboratory	100.0	100.0	100.0	84.82	61.94	76.87	79.5

Source: School Education in India: U-DISE Flash Statistics 2016-17, National Institute of Educational Planning and Administration

Table 9: Percentage Distribution of Enrolment by Management in AP and Rajasthan in 2016-17

	Percentage Enrolment					
	AP			Rajasthan		
	Boys	Girls	Total	Boys	Girls	Total
Secondary School						
Government	54.82	63.00	58.77	46.99	60.34	52.77
Government Aided	3.19	3.90	3.53	0	0	0
Private Unaided	41.42	32.77	37.24	52.92	39.53	47.12
Others	0.58	0.33	0.46	0.09	0.13	0.11
Higher Secondary School						
Government	23.04	23.04	23.04	40.46	50.79	44.75
Government Aided	7.54	7.54	7.54	0	0	0
Private Unaided	69.38	69.38	69.38	59.51	49.15	55.20
Others	0.04	0.04	0.04	0.03	0.06	0.05

Source: School Education in India: U-DISE Flash Statistics 2016-17, National Institute of Educational Planning and Administration

Table 10: 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, National Institute of Educational Planning and Administration

Table 11: Gross Enrolment Ratio, Adjusted Net Enrolment Ratio and Transition Rate in AP and Rajasthan in 2016-17

	Primary			Upper Primary			Secondary			Higher Secondary		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
	Gross Enrolment Ratio Overall											
AP	84.76	80.69	82.79	82.21	82.06	82.14	75.72	76.93	76.31	58.50	63.87	60.56
Raj	98.43	97.09	97.80	91.72	92.32	91.99	80.76	71.82	76.63	66.21	53.60	60.31
All India	94.02	96.35	95.12	86.90	95.19	90.73	78.51	80.29	79.35	54.93	55.91	55.40
	Gross Enrolment Ratio Scheduled Castes											
AP	91.14	87.29	89.39	86.11	84.21	85.17	77.59	79.16	78.36	66.57	69.85	68.13
Raj	105.49	104.02	104.80	94.92	96.48	95.63	80.43	73.72	77.36	58.92	49.21	54.48
All India	103.38	106.24	104.75	93.78	103.40	98.24	82.49	86.12	84.19	54.48	57.59	55.93
	Gross Enrolment Ratio Scheduled Tribes											
AP	94.04	91.28	92.70	78.43	79.61	78.99	63.55	66.89	65.15	53.72	58.06	55.76
Raj	102.90	97.96	100.53	94.57	92.62	93.68	78.14	74.62	76.50	61.21	51.47	56.53
All India	102.61	100.58	101.62	94.56	96.99	95.78	72.65	74.39	73.48	42.71	42.62	42.67
	Adjusted Net Enrolment Ratio											
	Class 1-5			Class 6-8			Class 9-12					
AP	79.85	79.86	79.85	76.90	78.32	77.59	46.86	46.13	46.51			
Raj	83.30	82.25	82.81	80.11	79.49	79.83	49.35	40.12	45.06			
All India	86.76	89.49	88.05	78.58	85.96	82.00	61.55	63.42	62.42			
	Transition Rate											
	Primary to Upper Primary			Elementary to Secondary			Secondary to Higher Secondary					
AP	97.28	97.12	97.21	98.07	97.54	97.81	NA					
Raj	92.24	90.85	91.60	94.40	91.62	93.71	72.14	72.65	72.35			
All India	88.41	88.72	88.56	92.62	87.91	90.32	66.36	66.48	66.42			

Source: School Education in India: U-DISE Flash Statistics 2016-17, National Institute of Educational Planning and Administration

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