

Quality of School Education in Telangana

Background Paper

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I Introduction

Education is a human right especially of the children across the globe and critical for human development and it is instrumental in economic growth. In this regard, growing evidence has been indicating that it is not only the attendance rates of children and number of years of schooling but also learning outcome which are critical for the practical use of the education for an individual and the society/economy (see World Bank, 2018). Thus, the normative perspective of the global community and international organisations like UNESCO and UNICEF is that it is equal access to quality education. Three crucial aspects are important especially with respect to school education. One, it is the school attendance rate among children of 6-17 years-age. The global norm is that all the children below 18 years of age should be attending schools. Second, they must complete two levels of school education: elementary (incl. primary and middle) and secondary (incl. higher secondary; upto 12th class/grade) before they leave this school-age cohort. It is possible with their attendance in age-appropriate classes and minimising under-age and over-aged children in each class/grade or level. Third, it is the class/grade or level appropriate learning level, achievement and/or outcomes. First two aspects represent the quantitative achievement while the latter one indicates quality of education. In fact beyond schooling, all the above aspects especially quality related issue is applicable to higher education as well.

The quality of education represented by learning levels, achievements and outcomes is cause of concern in developing countries and in India, also across states within the country. The progress in quantitative expansion of school education in India is remarkable during the past three decades. It is now on the verge of universalising elementary and secondary education. But the quality of school education in the country and across states is below global average (see World Bank, 2018). Telangana is one among the Indian states that witnessed a remarkable progress in participation/attendance rates but the quality manifested in learning levels is not better than national average.

In this backdrop, the present note examines the status of school education focussing quality of education in Telangana state. In this regards it presents analysis of status of school education in quantitative perspective in terms of participation rates and equity and then proceed to examine the quality of school education in terms of learning achievement or outcomes. The school participation or attendance rates used are estimates based on the second Periodic Labour Force Survey (PLFS-2) of 2018-19. The learning levels/achievement/outcomes analysed in this note are based on ASER survey estimates of Pratham and NCERT's recent National Achievement Survey (NAS) in 2017.

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II Performance in Access to School Education: Participation Rates

It is the constitutional mandate in India that all the children of 6-14 years age in the country should be attending schools and achieving the goal of universalising primary and elementary schooling. Initiatives like OBB, DPEP and SSA following the NEP-1986 and PoA-1992 are instrumental in an effort to achieving such mandate and the goal. Further, while rolling out the Rashtriya Madhyamik Shiksha Abhiyan (RMSA) in 2008 the Government of India aimed at universalising the secondary education (including higher secondary) as well. Educational progress in British India was very slow despite the fact that foundations for modern and mass education laid during the colonial regime (of East India Company and British Crown) since mid-19th century for educational development in India. Certain progress was made during the 1920s when education was transferred to *Provincial Government under Diarchy* following the Government of India Act 1919. Subsequently the progress was affected by global factors such economic depression of 1930s and subsequent climate of world war. As result, less than one-fifth were enrolled among the children of 6-11 years prior to independence and the literacy rate in the population (5 years and above age) was less than 18.3% in 1951. Literacy rate in fact reflects the status of primary education at times. Although policy and efforts were made for expanding the primary education immediately after the independence, they were not sufficient to realise the promises such as universalising elementary education even after five decades. But a remarkable progress during the last decades with augmented policy efforts made and interventions (DPEP and SSA) since 1990s is closing the gaps in access and equity.

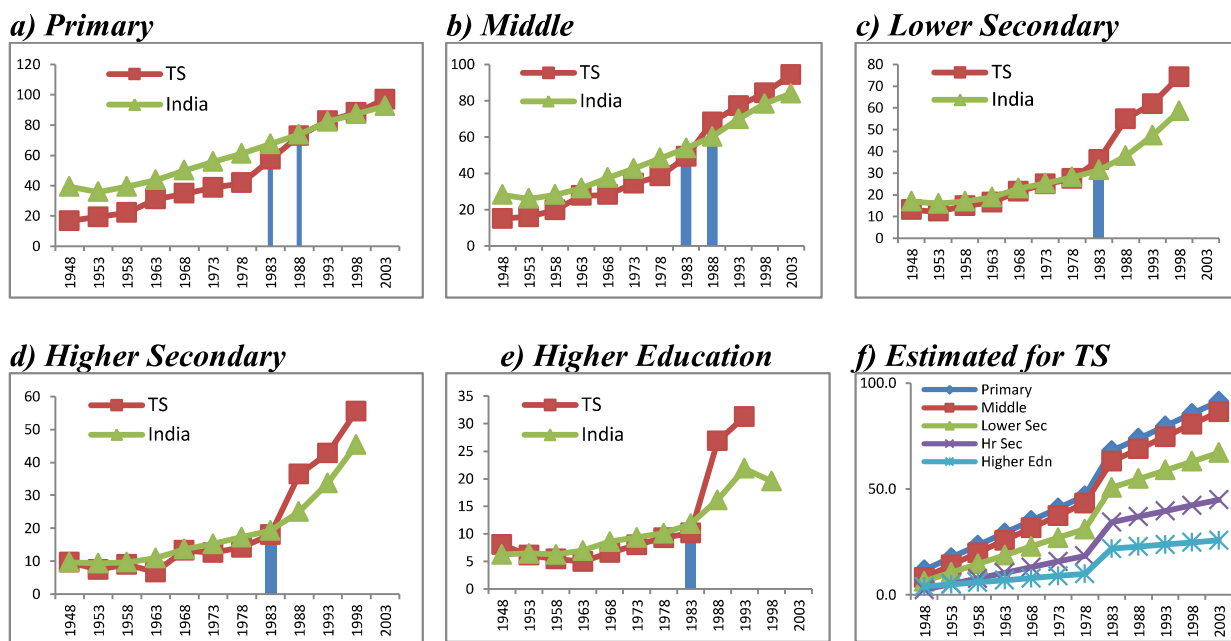
In the context of Telangana, it was part of the erstwhile Hyderabad state before it was integrated with Indian union and then as a region of united Andhra Pradesh before it was bifurcated to form as separate state in 2014. Although there were some efforts since mid-19th century in Hyderabad state for its educational development, the progress of the state in this respect was relatively slow when compared to rest of the India including Provinces and other Princely states (Motkuri, 2013). The literacy rate of Hyderabad state in 1951 was 9 per cent which was far below many of the then states of India: Travancore-Cochin (46.4%), Bombay (22%), Mysore (20.5%) and Madras (19.0%). Post-integration, primary education was expanded in Hyderabad state but that could not compensate historical slow progress. Again, post-reorganisation, priorities of state government in the united Andhra Pradesh (AP) were different from educational development. Till 1990s the relative performance of united AP among Indian states was in fact lagging behind (Motkuri, 2016). Education had a prioritised policy attention only since mid-1990s while implementing intervention programmes such as OBB, DPEP and SSA. Thenceforth, in fact the progress in expansion of school education thereby the current enrolment/attendance rate in the state (united AP) was remarkable during the last two decades and it continued in Telangana state after bifurcation.

The performance of different birth-cohorts (5-year cohort) of Telangana state in terms of their educational attainment or completion rate, indicate that the birth-cohort of 1980s in the state have witnessed a dramatic change and shift in educational attainment¹ (completion rate) in the state vis-à-vis national average. Remarkable performance of these birth-cohorts has raised state

¹ The above analysis is based on the unit record data of national level first Periodic Labour Force Survey (PLFS-1) of India in 2017-18. Based on the present age of the population covered in the survey their birth cohort (synthetic cohort) is derived. As the survey captured the educational level of each member of the households that were covered in the survey, estimates of school completion rates of birth-cohorts are derived accordingly. The years specified in Figure-1 indicate that the children born during the five-year interval period ending that year.

average above that of the national average across different levels of education (Figure 1). This birth-cohort of Telangana state has outperformed their counterparts (same cohort) in rest of the country. Figures 1a to 1e are based on estimates of the survey. Figure-1f is linear estimates for the state of Telangana, based on estimates of the survey. The figure-1f clearly displays the shift in completion rates across levels of education for the birth-cohort of 1980s in Telangana.

Figure-1: Completion Rates by Level of Education across different Birth-Cohorts in India and Telangana State



Notes: Year is to indicate the children born during five year interval period ending the year.

Source: Authors' Calculation based on PLFS-1 (2017-18) unit record data.

Table-1: Current Participation/Attendance Rates (%) of School-age Population (6-17 years age) in Telangana by Location, Gender and Socio-Religious Groups, PLFS-2 (2018-19)

Characteristics of Child Population	6-14 Years		15-17 Years		6-17 Years		
	Telangana	India	Telangana	India	Telangana	India	
<i>I</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	
Overall	98.6	96.5	88.3	82.5	95.7	92.7	
Location	Rural	98.5	96.5	87.3	80.9	95.4	92.3
	Urban	98.7	96.4	89.7	86.2	96.2	93.6
Gender	Male	98.8	96.9	85.4	84.0	95.1	93.3
	Female	98.3	96.0	91.5	80.6	96.4	91.9
Social Group	ST	99.8	95.6	61.9	75.5	83.1	90.7
	SC	99.6	95.5	93.5	78.2	98.1	90.8
	OBC	98.1	96.4	92.3	82.9	96.5	92.7
	Others	98.8	97.8	87.1	87.6	95.6	95.0
Religious Group	Hindu	98.6	96.9	88.3	83.9	95.7	93.4
	Islam	98.1	93.8	87.8	72.8	95.2	88.4
	Other Religions	100.0	97.5	100.0	87.6	100.0	94.6

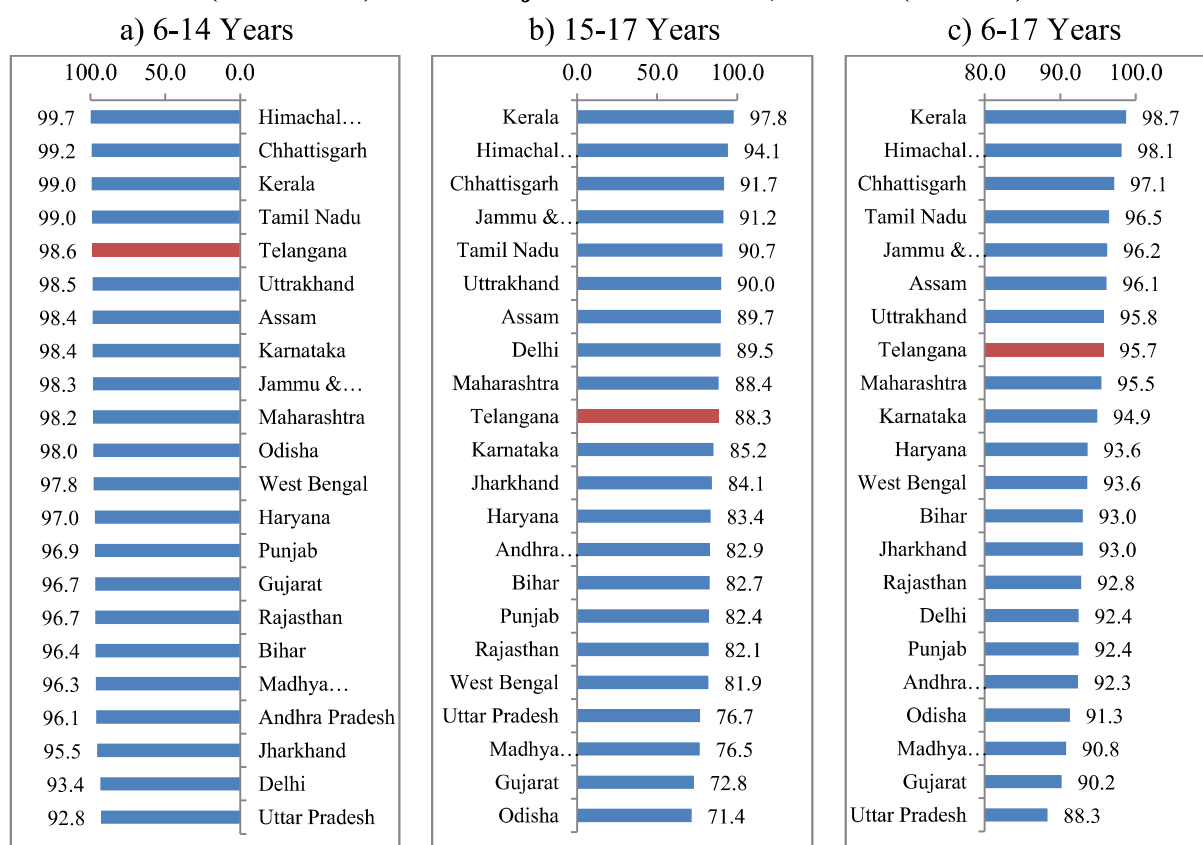
Notes: Percentage of children currently attending school in specified age-group.

Source: Authors' estimation based on PLFS-2 (2018-19) unit record data.

Telangana is almost close to goal of the universal school attendance which is a constitutional mandate among the school-age population especially those in 6-14 years age (Table-1). An estimate based on PLFS-2 (2018-19) indicates that nearly 98.8 per cent of children in the state

in this age-group are attending schools; performance of Telangana in this regard is better than national average and it is fifth best among major states in India (Table-1 and Figure-2a). Among the 15-17 years-age-group children, the attendance rate at 88.3% in Telangana is 12 percentage points shorter than the desired level (i.e. 100%); although the state performance is better than national average, it stands 10th position among the major states in India (Table-1 and Figure-2b). In the whole span of school-age covering 6-17 years of age, the attendance rates among these children in Telangana is 95.7 per cent which is also higher than national average and state stand 8th position (Table-1 and Figure-2c).

Figure-2: Participation/Attendance Rate (%) among School-Age Population (6-17 Years) across Major States in India, PLFS-2 (2018-19)



Notes: Overall attendance rate combining rural-urban and male-female.

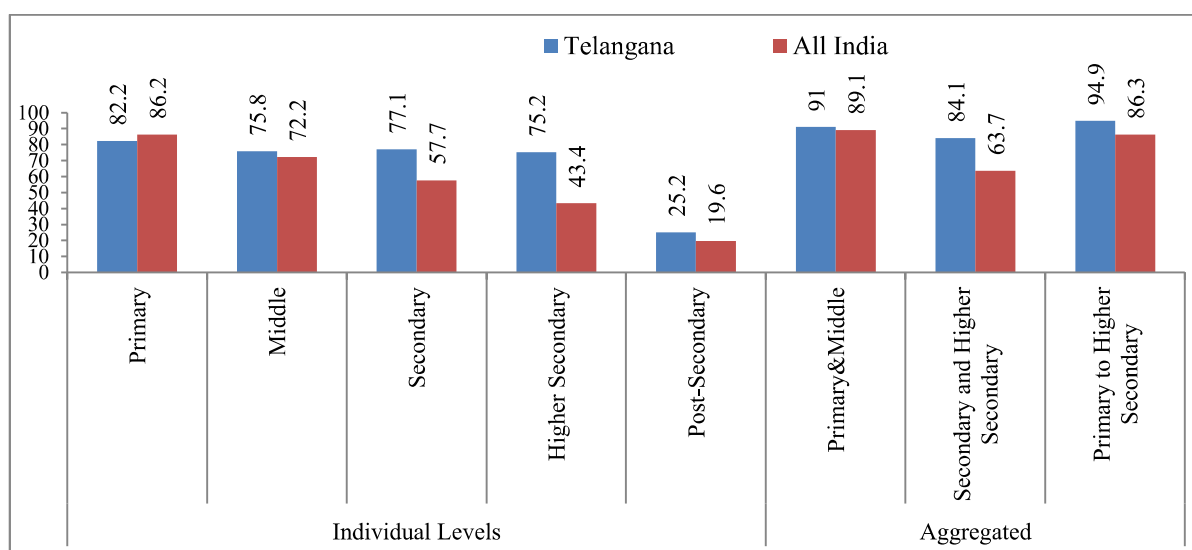
Source: Authors' estimation based on PLFS-2 (2018-19) unit record data.

In the equity point of view, attendance rate is almost similar across all these population groups (gender, rural-urban, socio-religious groups) in Telangana. Disparities in the dimensions of gender, rural-urban, socio-religious groups are observed to be almost eliminated except the case of children belonging to ST community that in the higher-school-age-cohort i.e. 15-17 year age (Table-1). The performance of the state is better than national average across all these sub-population groups.

However, despite the fact that state performance in respect of attendance rates of school-age children appears to be close to universalization and much better among Indian states, its performance with respect to net enrolment ratio (NER) appears to be far short of universalisation (Figure-3). One must not be distracted by noticing a seemingly contradictory performance of the state in respect of net enrolment rate (NER) by level of school education

that shows a considerable gap. Herein it is to be noted that, it is due to over-age and under-age children in different levels of education, as mentioned in the beginning. In fact it is reflected: NER by individual level is low but aggregated NER of two consecutive levels and/or all the levels of school education (primary to higher secondary) is observed to much better. It indicates that although most of the school-age children in the state are attending schools, they are not in the age-appropriate class/grade and/or level of school education hence the low NER by levels of education. In this regard, appropriate strategic action plan is required to streamlining the enrolment and attendance into age-appropriate class/grade and/or level of school education.

Figure-3: Net Enrolment Ratio (NER) by Level of Education in Telangana and India, 2017-18



Source: NSS Report No.585: Household Social Consumption on Education in India

The performance in current enrolment and attendance rate depends on the supply factors of school infrastructure. In this regard, Telangana state has a network of 42355 schools (primary to higher secondary: public and private) with around 2.6 lakh teachers and holding 65.6 lakh enrolment in 2018-19, providing educational services to eligible age-group population in the state. It includes nearly around 2500 higher secondary institutions (Junior Colleges) in the state. Also included are altogether 1849 state-run residential schools (known as Gurkulums) specially focused on serving children belonging to various marginalised sections and backward classes in the state. There are 475 Kasturiba Gandhi Balika Vidyalayas (KGBVs) for girl children, about 248 institutions² for scheduled castes' children, 146 institutions³ for tribal children (Non-Ashram), 259 institutions⁴ for backward classes' children and 204 institutions⁵ for minorities' children along with 176 model schools in educationally backward blocks /

² Under the Telangana Social Welfare Residential Educational Institutions Society (TSWREIS) providing quality education in English medium up to graduation for the children belonging to Scheduled Castes (SCs).

³ Functioning under the Telangana Tribal Welfare Residential Educational Institutions Society (TTWREIS which is known as Gurukulum) providing education to tribal children in the state.

⁴ Functioning under Mahatma Jyotiba Phule Telangana Backward Classes Welfare Residential Educational Institutions Society (MJPTBCWREIS) which was established in 2012-13 meant for the children of other backward classes (OBCs) in the state.

⁵ Residential schools and colleges functioning under the Telangana Minorities Residential Educational Institutions Society (TMREIS) It was established in 2014-15 for minority children in the state.

mandals in the state. Of the total institutions of school education 5% of schools in the state are residential type and 10% of total enrolment is in these residential schools (Table-2).

Table-2: Number of School by Type and Management in Telangana, 2018-19

Management and Residential Type		Number			Percentage			
		Schools	Enrolment	Teachers	Schools	Enrolment	Teachers	
<i>1</i>		<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	
Non-Residential	1	Local Body (NR)	24299	1800107	103887	57.4	27.5	40.4
	2	State Govt. (NR)	3576	440521	16760	8.4	6.7	6.5
	3	Central Govt. (NR)	84	35962	681	0.2	0.5	0.3
	4	Aided (NR)	698	104575	3177	1.6	1.6	1.2
	5	Private Unaided (NR)	11353	3518302	108705	26.8	53.7	42.2
	6	Others (NR)	178	11951	455	0.4	0.2	0.2
Total (non-Residential)		40188	5911418	233665	94.9	90.2	90.8	
Residential	7	Non-ashram (R)-Govt	831	264635	8415	2.0	4.0	3.3
	8	KGBV(R)	475	87106	4999	1.1	1.3	1.9
	9	Model (R)	176	113054	3151	0.4	1.7	1.2
	10	Private (R)	277	98006	3628	0.7	1.5	1.4
	11	Others (R)	408	82482	3509	1.0	1.3	1.4
Total (Residential)		2167	645283	23702	5.1	9.8	9.2	
Grand Total		42355	6556701	257367	100	100	100	

Notes: 1. NR – Non-Residential; R – Residential; 2. Most of the Non-Ashram Residential school except 10 are under the State government management including the various **welfare residential** institutions; 3. Most of the **Others Residential** schools are Ashram type (377) managed by Tribal Welfare Department; 4. KGBV – Kasturiba Gandhi Balika Vidyalayas.

Source: Authors' compilation using U-DISE, 2018-19

Private sector, by management type, holds major share in the enrolment. Of the total institutions of school education and enrolments, 27.5% of schools and 55% of enrolment in the state is under private management (Table-2). Government schools are large in number (nearly three-fourths of total) wherein a majority of them are under Local Bodies (57.4% of total). Most of them are small in size in terms of enrolment and serving rural and remote areas. Under schools rationalisation, the state government of Telangana has shut down few government including local bodies schools that had below a minimum enrolment.

Overall, the quantitative expansion of school education in Telangana state in terms of access (availability of school) and thereby the current enrolment and/or attendance rates along with equity are close to desirable level. But schooling (current attendance or number of years of attendance and transition from one class/level to next) is necessary but not sufficient for education development wherein quality of education representing learning levels/achievement and outcomes are critical. The following section examines performance of Telangana state in this regard.

III State Performance on Different Domains of School Education

NITI Ayog and Ministry of Education of Govt. of India has been assessing and bringing out status and performance based indices for states in the country in different domains of education. There are three such key reports of NITI Ayog and MOE in this regard: School Education Quality Index (SEQI), Performance Grade Index (PGI) and SDG. These assessment studies and reports have largely focussed on outcomes and governance aspects of the education systems across states. SEQI is a composite index based on a set of indicators (30) in outcome

(16) and governance (14) domains of school education that measured the overall effectiveness, quality and efficiency of the Indian school education system and performance of the states. The outcome domain consists of sub-domain level outcomes of learning achievement (indicators - 3), access (3), infrastructure (3) and equity (7).

Table-8: Telangana Score and Ranking on School Education Quality Index (SEQI) of NITI Ayog for the years 2015-16 and 2016-17

Domain	Telangana Score		Telangana Rank		
	2015-16	2016-17	2015-16	2016-17	
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
A Outcomes		55.9	43.9	19	28
1 Learning Outcomes		0.0	49.8	-	17
2 Access Outcomes		65.2	61.0	15	20
3 Infrastructure Outcomes		17.5	20.5	29	26
4 Equity Outcomes		56.4	30.0	24	34
B Governance Process Aiding Outcomes		19.2	35.4	30	30
Overall		34.7	39.0	27	30

Notes: Telangana Rank is with reference to scores of all the states and UTs in India; “-“ Not available because no values for the year 2015-16.

Source: SEQI, NITI Ayog, Govt. of India.

Similarly, the PGI is also based on the assessment in the two categorical domains of outcomes and governance of school education systems across states. The outcome domain consists of learning outcomes and quality, access, infrastructure and facilities, equity. It based on a total of 70 indicators in these two domains. The performance Telangana in this regard is far away from the best performing state in India as the rank of the state in overall score of PGI is 22 for year 2019-20. Except in the domain of learning outcomes and quality, the state performance in all other domain is far away from the best performing state. Telangana standing among states in India is 20 or above position in all the other four domains.

Table-9: Telangana Score and Ranking on Performance Grade Index (PGI) of NITI Ayog for the years 2017-18, 2018-19 and 2019-20

Domain	Maximum Attainable Score	Actual Score of the Telangana State			% of State Score in Maximum Score			Telangana Rank among the Indian States/UTs		
		2017-18	2018-19	2019-20	2017-18	2018-19	2019-20	2017-18	2018-19	2019-20
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>
Category 1 - Outcomes										
D1 – Learning Outcomes and Quality	180	142	142	142	78.9	78.9	78.9	12	12	12
D2 – Access	80	66	66	69	82.5	82.5	86.3	20	20	19
D3 – Infrastructure and Facilities	150	96	92	113	64.0	61.3	75.3	20	30	21
D4 – Equity	230	205	204	210	89.1	88.7	91.3	21	15	25
Category 2 - Governance										
D5 – Governance Process	360	167	253	238	46.4	70.3	66.1	23	9	25
Overall	1000	676	757	772	67.6	75.7	77.2	23	16	22

Notes: Telangana Rank is with reference to score of all the States and UTs in India.

Source: PGI, Min of Education, Govt. of India.

While aligning the educational development of the country and across states with the **SDG framework** of *global agenda 2030*, NITI Ayog has developed a national indicator framework (NIF) for assessment of the baseline and progress thenceforth since 2018 for all the SDGs. There are three annual reports with such state-level assessments since 2018. The performance of Telangana on SDG India Index with respect to SDG-4 concerned with quality education is also moderate (Table-10). Although Telangana was among the league of states categorised as *frontrunner* in the base line, the assessment in two subsequent years shows that the state slipped down to the category of *performer*. The index score of Telangana is considerably higher than national average. The score of the state is also found to be declining but its ranking among Indian states improved in the third year of assessment.

Table-10: SDG-4 Score and Ranking for Telangana in SDG India Index of NITI Ayog

Year	All India Average Score	Telangana		Grading Category	Remarks: States Standing above Telangana
		Score	Rank		
<i>1</i>		<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
2018-19	58	66	11	Frontrunner	Kerala, HP, AP, Karnataka, TN, Maharashtra, Rajasthan, Goa, Uttarakhand, Gujarat (10).
2019-20	58	64	11	Performer	HP, Kerala, Goa, Manipur, TN, Haryana, Karnataka, Punjab, Uttarakhand, Maharashtra (All Frontrunners)
2020-21	57	63	10	Performer	Frontrunner States: Kerala, HP, Goa, Uttarakhand, TN; Performers: Haryana, Karnataka, Maharashtra, Manipur.

Notes: Telangana Rank is among the states in India including smaller and north-east states (excluding UTs); Grading Category is as follows: Achievers, Frontrunner, Performers, and Aspirants.

Source: SDG India Index, NITI Ayog, Govt. of India.

Overall, the performance of the state is better in SDG-4 score index whereas its performance is lagging in SEQI and PGI. The SDG index consists of the few parameters and they are largely representing quantitative dimension of enrolment ratio and gender parity along with teachers' availability. The SEQI and PGI are based on broad dimensions of education system including infrastructure, quality and governance along with equity. The number of indicators engaged in SDG-4 index are less than 15 whereas SEQI consists of 30 and PGI has 70 indicators in all the five domains together (NITI Ayog, 2020; 2019; MoE, 2021; Mehta, 2021). They also include the indicators related to learning levels representing quality of education along with covering a dimension of school education that is related to its governance and management. It is very clear that although the quantitative expansion along with access and equity in school education are much better Telangana, the other dimensions which affect the learning process and the quality of education there is considerable gap to improve.

IV Quality of School Education

The trade-off between quantity and quality appears to be ubiquitous in education as well especially in the developing country context. Developed countries witnessed a quantitative progress in school education along with their industrial development during the second half 19th century and first-half of 20th century and thereafter they focussed on quality. Most of the developing countries have a colonial history and slow progress in education during the period. Post-independence most of these countries have been committed to improving child schooling

and educational development but while striving for the quantitative expansion, many of these countries have compromised on quality. Progress in quantitative expansion in these countries is remarkable especially during the last three decades. There is a growing policy concern and hence it required policy attention and initiatives in these countries towards improving the quality of education. As mentioned above, growing evidence of research studies has shown that the instrumental role of education for economic growth and individual well-being in the human perspective is realised with learning levels (quality of education) not alone with number of years of schooling (World Bank, 2018).

In India, the discussions on quantity and quality of education and policy measures reflecting on this came up in the colonial regime as early as at the turn of 20th Century in education policy of Lord Curzon, the then Governor General of India. Again, it was discussed in the *Hartog Committee* report in 1929 on educational progress under Diarchy since 1919 and it recommended consolidation for quality of school education. Also, Hyderabad state had such policy of consolidation in 1920s for improving quality that closed down some unrecognised private schools. The *Radhakrishnan Commission* immediately after independence, *Modaliar Committee* in the early-1950s and then the *Kothari Commission* in mid-1960s had laid their emphasis on quality of education along with quantitative expansion. The strained policy efforts however largely focussed on expansionary measures and compromised on the quality. Certain expansionary policy measures such as *no-detention* and *automatic-promotion* to contain wastage by reducing the dropout and stagnation might have been necessary but without any compensatory *remediation* measures had deleterious effect on quality of education. *Resource constraints* including both the *financial* and *human* resources (teachers) have had adverse impact on the expansion of school education as well as quality of it.

The *foundational literacy and numeracy* at primary level had become a very precarious. Pre-primary education critical for the cognitive, psychomotor and social development of children during their early childhood stage is neglected for a long time. When the ICDS implemented through *Anganwadi centres* focussed its service delivery more on nutritional aspects of children, not much attention is given to pre-primary education. Single classroom and multi-grade teaching schools is a common scene in Indian primary education system. The cumulative impact of the learning deficits in early childhood stage and primary levels along with the each of next level-specific learning deficit are having adverse impact on human capital base (knowledge, skills and competence embodied in an individual) of the economy. In fact recent report of the World Bank's *Human Capital Project* indicates that India is one among the countries with low score in human capital index (World Bank, 2020). Given such concerns of quality of school education, an amendment in 2017 to Right to Education (RTE) Act of 2009 especially the Rule 23(2) of it, made all the state governments to codify compulsorily the expected levels of learning in each subject for students of elementary levels i.e. Class/grade 1 to 8. It is to develop an assessment framework to assess the actual learning against the expected level.

In this context, if one examines the learning levels, achievement or outcomes of the children in school education in Telangana state, learning deficits appears to be very extensive. There are two major national learning achievement assessment surveys: ASER facilitated by *Pratham* and NAS organised by NCERT. ASER is a household-based large scale national assessment

survey covering 3-16 years age children in rural India. Along with schooling status of rural children ASER assesses ability of school-going children in reading the simple text and doing basic arithmetic. In other words the survey tests the rural children in elementary classes (Class 3 to 8) of their foundational literacy and numeracy skills. For a decade since inception in 2005 ASER has conducted annual assessment of status of schooling and basic learning of school-going children (till 2014) but since 2015 this subject of inquiry has been changed to alternate years.

As the latest ASER survey estimates for the year 2018 indicates that only one-fifth of the rural children in **class 3** are able to read the text of Standard II level (Table-3). One would expect as it is a desired outcome that majority of the children in any grade or class should be able to perform certain extent (if not perfectly) the knowledge, skills and competence attained in the previous class. Gap in such foundational literacy is also extensive among the children in other elementary classes; percentage of children who could read standard II level text is 34.2% among children in Class 4, 43.7% in Class 5, 50.9% in Class 5, 64.4% in Class 7 and 69% in Class 8. There is an improvement in foundational literacy (i.e. reading standard II level text) in each higher class/grade within the elementary level. But it indicates number years of schooling required to pick up such foundational literacy is alarming. Still after 7 years of schooling 30 per cent of children in Class 8 could not pick up such foundational literacy.

Table-3: Foundational Literacy (Reading) and Numeracy (Arithmetic) – Percentage of Children in Class 3 to 8 who could Read the Text of Standard II and perform Arithmetic: ASER 2018

State	Class / Grade					
	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
<i>Percentage of Children who could Read the Text of Standard II</i>						
Telangana	18.0	34.2	43.7	50.9	64.4	69.0
All India	27.2	40.7	50.3	59.8	67.7	72.8
<i>Percentage of Children who could perform simple arithmetic: At least Subtraction</i>						
Telangana	34.4	53.0	65.9	67.2	76.0	81.7
All India	28.1	42.2	52.3	58.7	63.0	66.0
<i>Percentage of Children who could perform simple arithmetic: Division</i>						
Telangana	3.2	16.8	27.1	34.6	42.6	48.3
All India	8.5	17.6	27.8	34.7	39.0	43.9

Notes: At least Subtraction includes Division.

Source: ASER 2018

In respect of foundational numeracy, performing simple arithmetic – at least subtraction - is one measure of learning level. In this respect, one can observe from ASER estimates for the year 2018 that only one-third of children in Class 3 in Telangana could perform at least basic arithmetic skill i.e. subtraction (Table-3). Percentage of children in Class 3 performing division is very low. As is the case of performance in reading, the percentage of children performing the arithmetic has increased in each of the subsequent classes/grades. But, as mentioned above it indicates *number years of schooling required to pick up such foundational skill of numeracy* for a majority of children is a cause of concern. Still after 7 years of schooling 18 per cent of children in Class 8 in Telangana could not pick up such basic arithmetic of subtraction, more than 50 per cent of them could not pick up arithmetic operation division. Telangana performance is however, better than national average in this regard.

Among the Indian states, the performance of the Telangana state in learning achievement is observed to be very low in terms of reading level. Telangana state ranking is 20 or above in this regard (Table-4). In cases of learning achievement in foundational numeracy indicated by percentage of children performed simple arithmetic (subtraction or division), Telangana stands among the middle performing states, and its ranking lies between 12 and 14.

Table-4: Telangana State Ranking in Indian States for ASER's Rural Children Learning Achievement Survey, 2018

Indicator	State Ranking	Remarks
1	2	3
<i>Percentage of Children who could Read the Text of Standard II</i>		
Class 3	29	Two States below Telangana: MP and TN.
Class 5	20	Eight States below Telangana: J&K, Sikkim, MP, Bihar, TN, Assam, Arunachal Pradesh, Jharkhand
Class 8	22	Six States below Telangana: Tripura, Jharkhand, J&K, MP, WB, Assam
<i>Percentage of Children who could perform simple arithmetic</i>		
Class 3	13	Twelve States above Telangana: Mizoram, Manipur, Haryana, HP, Punjab, Kerala, Sikkim, AP, Nagaland, J&K, Tripura
Class 5	14	Thirteen States above Telangana: HP, Punjab, Haryana, Manipur, Kerala, Mizoram, AP, Uttarakhand, Maharashtra, Bihar, WB, UP, Arunachal Pradesh
Class 8	12	Eleven States above Telangana: Manipur, Mizoram, Haryana, Punjab, HP, Bihar, Kerala, Nagaland, TN, Arunachal Pradesh, Uttarakhand

Notes: 1. Ranking out of 29 states; 2. Simple arithmetic is subtraction for Class 3 and Division for Class 5 and 8.

Source: Authors' compilation based on ASER 2018.

A cause of further concern is that percentage of the children who could perform on such foundational literacy and numeracy is declining over the period as indicated by estimates from same source, ASER survey of *Pratham* (Table-5). Such observation of declining trend is explicit in higher classes (Class 8) of elementary schooling; it is so in the Telangana state and all over India.

Table-5: Foundational Literacy and Numeracy among Children in Class 3, 5 and 8 in Telangana and India: ASER

Year	% could Read Standard II level Text			% Performed Arithmetic		
	Class 3	Class 5	Class 8	Class 3	Class 5	Class 8
1	2	3	4	5	6	7
Telangana						
2010	19.9	59.0	85.0	36.2	35.3	66.8
2012	21.6	53.3	85.6	44.6	34.7	61.6
2014	19.9	53.7	75.9	34.7	33.7	44.3
2016	18.6	40.0	76.1	42.2	30.4	54.9
2018	18.1	41.3	69.5	34.5	27.3	48.7
All India						
2010	19.6	53.7	87.5	36.3	36.2	68.4
2012	21.5	46.9	76.5	26.4	24.9	48.1
2014	23.6	48.0	74.7	25.4	26.1	44.2
2016	25.2	47.9	73.1	27.7	26.0	43.3
2018	27.3	50.5	73.0	28.2	27.9	44.1

Notes: 1. % of Children in Class 3, 5 and 8 who could read the Standard II level text; 2. % performed Arithmetic is children in Class 3 who could do subtraction and children in Class 5 and 8 who could do division.

Source: ASER.

While ASER focussed on foundation literacy and numeracy (reading and basic arithmetic), NAS has been focussing on the class/grade-level learning levels. The following analysis is based on the learning achievements of students assessed in the National Assessment Survey (NAS) conducted by the NCERT. As part of SSA initiatives of quality elementary education,

NAS was initiated in 2001 and it was conducted between 2001-16 in four cycles for three different classes/grades of elementary education (class 3, 5 and 8). Each year one of three classes/grades is focussed, it means three-year interval period for each cycle of a class/grade being assessed. Besides, two cycles of assessment was conducted for secondary level (Class 10) as well in 2015 and 2018. Unlike the ASER, NAS is school-based assessment of students and is based on *item-response theory* (IRT). The key objective of the NAS is to study the achievement level of students in different subjects at different grade levels (NCERT, 2017). The latest NAS 2017 covering Class/grade 3, 5 and 8 is although on the line of previous class-specific assessment for every three years in four cycles, it has certain differences. Unlike the previous scheme (four cycles of NAS till 2016), all the sample children for all the three classes (3, 5, 8) covered and tested on single day (13th November 2017). Second most fundamental difference is that the ***parameters of student testing*** in NAS 2017 is based on the ***subject-and class-specific expected learning levels or outcomes*** as developed by NCERT in 2017. Such an exercise of NCERT developing expected level of learning is in the lines of an amendment made to RTE Act and its Rule 23(2). Previous cycles assessments were made based on the state level core-curriculum. Third, the NAS 2017 has district level sample while previous cycles were having state level sample. Changes in NAS 2017 methodology are applied to NAS-Cycle-2 of Class 10 in 2018.

The class-subject-specific indicators value/score represent ***percentage of correct answers*** to total questions taking the responses of the sample children in each class and subject. It is different from the ASER indicator value that is about ***percentage of children who could perform*** the basic skills – foundational literacy and numeracy (reading and arithmetic). Further, in ASER assessment is performing skill in two dimension of learning – reading and arithmetic, NAS assessment is subject-specific and answering multiple questions in each subject. Unlike ASER, the ***coverage of NAS*** is schools in both the ***rural and urban*** areas but limited to ***government and aided schools***. This is to indicate that one needs to keep in mind comparing the NAS 2017 with its own previous cycles and/or NAS with ASER learning indicators.

One can observe from the Table-6 which present learning outcomes of children in class 3, 5, 8 and 10, is that there are learning gaps in children in these classes. Learning levels in lower classes are relatively better and hence the low learning gaps. The learning levels in each successive higher class is declining; in other words, increasing the learning gaps (Table-6). Such a learning gap in higher classes (Class 10) is very high as two-thirds of children could achieve basic learning outcomes. The indicator value presented in the Table-6 is average percent of correct answers by students in each class in each subject they are tested/assessed. For instance, the average percent of correct answers in mathematics of all the respondent children of class 3 in Telangana state was 64% in 2017 while the national average is 69%. The learning achievement in mathematics of children in Class 5 is that their average correct answer is 56% while the national average is 53%. For Class 8 children in the state their learning level in mathematics is 37%, national average is 42%.

Table-6: Learning Outcomes of Students in Telangana, NAS 2017/2018

Class and Subject	Overall		Telangana - by Location, Gender and Social Group							
	All India	Telangana	Rural	Urban	Male	Female	SC	ST	OBC	General
<i>I</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>
Class 10 (2018)										
Mathematics	34	34	33	37	34	39	31	31	34	41
Science	34	37	36	39	34	38	35	35	37	41
Social Science	39	39	38	40	37	38	37	36	39	42
English	36	38	35	45	37	48	35	32	38	50
MIL	49	47	46	49	39	46	46	43	48	51
Class 8										
Mathematics	42	37	37	37	37	37	36	35	39	39
Science	44	38	38	37	38	37	36	35	39	38
Social Science	44	40	40	40	40	40	39	38	41	40
Language	57	53	52	54	52	53	52	48	54	54
Class 5										
Mathematics	53	56	57	56	57	56	55	51	59	56
EVS	57	54	54	56	54	54	52	49	57	58
Language	58	57	57	58	56	57	55	50	59	60
Class 3										
Mathematics	69	64	69	69	69	69	70	64	69	69
EVS	67	67	66	68	66	67	68	61	68	68
Language	68	68	68	68	67	68	69	63	68	70

Notes: Average percent (%) of answers correct; MIL – Modern Indian Language

Source: NAS-NCERT 2017 a d 2018

Table-7: Telangana State Ranking in Indian States for NAS, 2017/2018

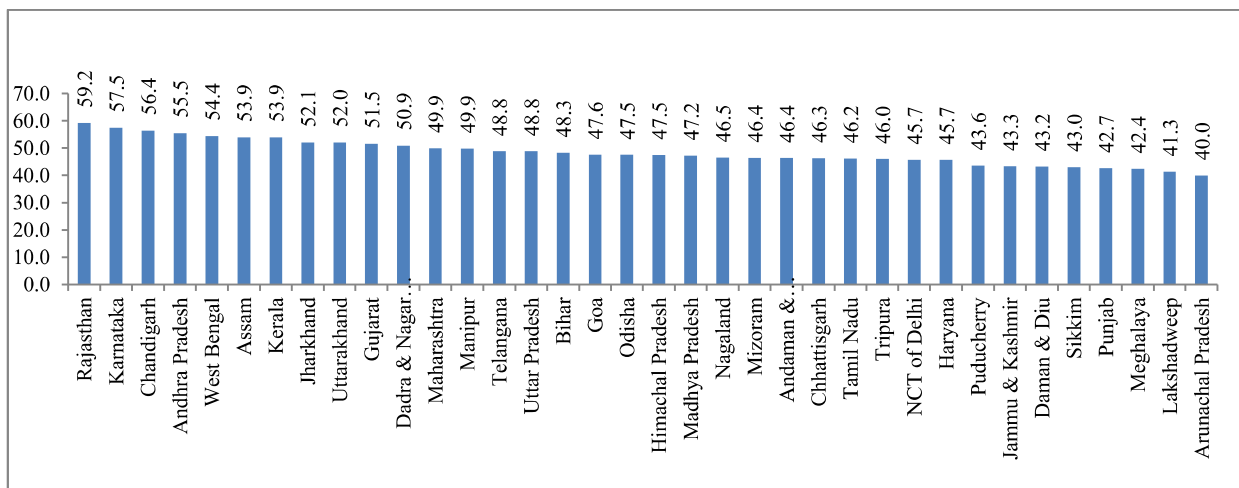
Class/Subject	State Ranking	Remarks: States standing above/below Telangana
<i>1</i>	<i>2</i>	<i>3</i>
Class 10 (2018)		
Mathematics	8	States above TS (7): AP, Assam, Odisha, Rajasthan, Bihar, Delhi, Karnataka, States above TS (18): Mizoram, Delhi, Rajasthan, Chandigarh, Karnataka, Kerala, Uttarakhand, Assam, HP, Chhattisgarh, Odisha, Haryana, Punjab, Maharashtra, MP, Gujarat, Goa, TN
MIL	19	
Class 8		
Mathematics	16	States above TS (15): Rajasthan, Karnataka, Jharkhand, Kerala, AP, Assam, Gujarat, Bihar, Odisha, Manipur, MP, Maharashtra, Uttarakhand, UP, Tripura States above TS (18): Rajasthan, Gujarat, Kerala, Karnataka, Maharashtra, Jharkhand, Goa, HP, Uttarakhand, AP, Bihar, Haryana, TN, Chhattisgarh, MP, Assam, Tripura, Punjab.
Language	19	
Class 5		
Mathematics	8	States above TS (7): Karnataka, Rajasthan, AP, Kerala, Assam, Uttarakhand, Gujarat.
Language	13	States above TS (14): Karnataka, Kerala, Rajasthan, AP, Uttarakhand, Maharashtra, HP, Jharkhand, Assam, Gujarat, Manipur, TN.
Class 3		
Mathematics	6	States above TS (5): Karnataka, AP, Kerala, Rajasthan, Assam.
Language	14	States above TS (13): AP, Karnataka, Rajasthan, Kerala, Uttarakhand, Assam, Manipur, Gujarat, Odisha, Maharashtra, Jharkhand, HP, Mijoram.

Notes: Average percent of answers correct; MIL – Modern Indian Language

Source: NAS-NCERT 2017 and 2018

The performance of Telangana state among the Indian states is observed to moderate (Table-7). Its standing is 8th position or below among top 10 states in respect of learning outcomes in mathematics while its ranking ranges between 13 and 19 for learning outcomes in language by class/grade. It indicates that although state performance is better in respect of learning outcomes in mathematics, it is lagging in language. The overall learning levels indicated by a simple average of scores in all subjects and in all classes, shows that Telangana stands at 14th position among states and UTs in India.

Figure-5: Overall Learning Levels in School Education Across States in India: Simple Average of average percent of Correct Answers in all Subjects and in All Classes, 2017



Note: Figures represent a simple average of average percent of correct answers in all subjects and in all classes in each state.

Source: Calculated based on NAS 2017/2018

On the whole, Telangana state's relative performance among Indian states in respect of learning achievement is moderate. But there are high levels of learning gaps when compared reference levels (a minimum to be achieved) especially in the higher classes persists in Telangana as well as in rest of the states in the country. Having better relative performance is necessary but not sufficient wherein it is necessary to achieve learning levels or outcomes that meet absolute reference levels. Herein the state education policy interventions must now focus on the quality of school education. Enhancing learning levels requires reforming the learning process in the state education system.

The World Bank's World Development Report 2018 has brought forth **key factors** in the **learning crisis** all across the globe and that pertinent in India (World Bank, 2018). First, **children's unpreparedness** i.e. children come to school unprepared to learn. Second contributing factor to learning crisis is frontline service delivery agents of school education i.e. **teachers**, they very often lack skills or motivation to teach effectively. Third is **classroom and learning material** wherein required inputs often fail to reach classrooms or to affect learning. Fourth, it is **management and governance**, i.e. poor management and governance often undermine schooling quality. In this the WDR recommended continuous assessment of learning levels of children and acting upon evidence of poor learning levels that makes the

schools work for learner (World Bank, 2018). It also requires aligning all the actors and stakeholder to make system work better for learning effectively.

V Concluding Remarks

The present note has made analysis of status of school education in quantitative perspective in terms of participation rates and equity and then examined the quality of school education in terms of learning achievement or outcomes. It is observed that although the state of Telangana is performing better in terms of participation/access and equity, its performance in terms of quality of school education is deficient. As ASER estimates have shown the performance in *foundational literacy and numeracy* is very low in lower classes/grades the number of years of schooling required to achieve that is more. Further, NAS estimates also such learning crisis in higher classes as well. It indicated that learning outcomes deteriorating when moving toward higher classes. As the World Bank (2018) report indicated *children's unpreparedness* is one of the reasons but the functioning of schools in delivering the quality education along with the system of education ensuring the same is main reason for such learning crisis. *Teachers* and their motivation, *classroom* transaction in learning and required inputs or learning material along with *management and governance* of schools have key role to play. The state policy needs its attention and required intervention streamlining school education system delivering the quality education with better learning outcomes.

* * *

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