

Primary Education during Pre and Post Right to Education (RTE) Act 2009: An Empirical Analysis of Selected States in India

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Abstract: The present study analyzes primary education in terms of schools, teachers, enrolment, PTR, SCR and facilities with reference to Right to Education Act 2009. The study based on secondary data obtained from the annual report of National University of Educational Planning and Administration (NUEPA). The time period consider for this study is span of 12 years from 2004-05 to 2015-16 and divided into 2 sub-periods i.e., pre RTE Act (2004-05 to 2009-10) and post RTE Act (2010-11 to 2015-16). The study considers all states and union territories of India as population and 17 states are selected as sample states. Annual Average Growth Rates, Mean and Standard Deviation are calculated for fruitful results. Two statistical tests are employed to test the significance of variations of selected indicators between the sub periods. The result reveals that the primary education in terms of schools, teachers, enrolment, PTR, SCR and facilities during pre RTE Act is better than post RTE Act. Average growth of primary education during pre RTE Act significantly differs from that of post RTE Act and observed improved situation in post RTE period.

Keywords: Primary Education, Right to Education Act

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I. Introduction

The primary education provides base to the entire pyramid of education and comprised of the largest numbers of schools, teachers and students (Ather, 2012). Small primary schools are a significant feature of the educational landscape in the country. Many of these primary schools have been established since the 1990s, and represent a determined effort on the part of the central and state governments to increase access to primary education. Although the presence of so many schools in rural areas may therefore appear positive in terms of access and the quantity of available school places (Blum & Diwan, 2007). These schools have not been able to transform and cater for the needs and demands of its stakeholders who have largely remained excluded from the mainstream. Until recently, there seemed to be no hope of change in these schools, but with the recently introduced Right to Education Act 2009. This Act has brought some hope that will look seriously into the provision of minimum facilities as per the entitlements of each school and will ensure regularity of teacher attendance through specified norms (Diwan, 2015).

The Right of Children to Free and Compulsory Education Act or Right to Education Act (RTE), which was passed by the Indian parliament on 4 August 2009, made India one of 135 countries to make education a fundamental right of every child (Jha et al, 2013). There have been important Constitutional amendments as well that were intended to give a boost to elementary education. The 42nd Amendment to the Constitution in 1976 brought education, which was largely a state responsibility, into the Concurrent List and made universalizing elementary education the responsibility of both the central and state governments. In 2002, Government of India took another significant step by making elementary education a fundamental right through the 86th Constitutional Amendment. In 2009, India went further and passed the Right of Children to Free and Compulsory Education Act (Kumar & Rustagi, 2016). It is the primary responsibility of the Government to ensure implementation of the Act. Being part of the concurrent list, the Central and state governments are both responsible for ensuring effective implementation of the Act (Chandrappa, 2014).

Passing the Right to Education Act, 2009 for the children between the age group of six to fourteen is a landmark in the field of primary education. Now in India, all children between the age of 6 and 14 shall have the right to free and compulsory elementary education at a neighborhood school. There is no direct or indirect cost to be borne by the child or the parents to obtain elementary education. The government will provide schooling free-of-cost until a child's elementary education is completed. It was the historical moment to the children in India

(Rani, 2014). To compliance with Right To Free Education Act (RTE) came to effect from 1.04.2010. The Act provides some qualitative norms for all the schools like one room for every teacher, separate & functional toilets, clean and adequate drinking water, provision for playground, boundary wall, library and kitchen (Metia, 2016). The above indicators are used to measure the progress of primary education (Ather, 2012).

II. Review of Literature

Soni (2013) was taken up a study to find out the status of implementation of various provisions of RTE Act 2009 in states and UTs for children with disabilities and disadvantaged children, and also concerns and problems of states/UTs to implement the Act. The study has explored the steps taken by states/UTs for implementation of RTE Act, 2009 so far and their difficulties in proper implementation of the Act. The study found few cases of age appropriate admissions of disadvantage and children with disabilities. Majority of parents were not aware of various provisions of RTE Act.

Agrawal (2013) in his paper estimated educational attainment and educational inequality for educationally backward states in India after inception of the Right to Education Act. He estimated average years of schooling and the education Gini index and estimates show that educational attainment is very low and the extent of inequality is high in all the states. The study adds to the evidence on large gender inequalities in educational attainment in the states of Bihar and Rajasthan. The results are very distressed for disadvantaged social groups of the society. There is a need to give attention on education of females belonging to these social groups, particularly in rural areas, to make the Right to Education Act successful.

Woodhead (2013) examined growth in private schooling contribute to Education for All. The Right to Education Act 2009 guarantees 25 percent reservation of places in private schools is required for children from poor and marginalized backgrounds in the neighborhood, to be subsidized by government. Boys and girls have increasingly differentiated experiences of the private sector. For the older group in urban areas, little difference in enrolment is evident at primary level, with a gap opening up after primary, in contrast to the older group in rural areas for whom a gap is evident at all ages, also widening after primary.

According to RTE Form (2014) RTE Act 2009 provides specific time frames for implementation of its provisions, they are within three years for establishment of neighborhood schools with infrastructure, pupil teacher ratio and facilities mandated under the schedule to the Act and five years for recruitment and training of teachers. None of the states have met the RTE Act norms in totality. Only 8% schools across the country comply with the entire set of 10 RTE Act indicators. No state has emerged as a champion state for RTE having implemented the Act in its totality. 5 lakh sanctioned teacher posts remain vacant and 6.6 lakh in-service teachers are untrained. Around 37% primary schools have a pupil teacher ratio adverse to the national norm of 1:30 and around 10% schools remain single teacher schools.

Rai (2014) examined implementation of the Act on the fourth-year status report of the RTE Forum, which was presented in the 4th Stocktaking Convention held in Delhi in March 2014, reviewing the status of implementation of the Act one year post the first deadline. The report highlights the apathy and the casual approach of the State towards its commitment of ensuring the right to education for the children. Unfortunately, only 10 percent schools in the country are compliant with all the norms of the RTE Act.

Chaturvedi & Kuldeep (2015) were dealt with status of RTE Act 2009 Implementation in Rajasthan. Only 51.1 % of schools meet this RTE requirement and a more positive note, 80.1 % of schools meet the classroom-teacher ratio. Accessibility of drinking water has been steadily decreasing since 2010 and as of 2012 only 67.1 % of schools have available to its students. In 2010 only 65.4 % of schools had useable toilets and increased by 2012 72%. The percentage of schools that served a mid-day meal on the day of the visit has decreased. In 2012 only 93.4% of schools served a mid-day meal on the day of their visit opposed to the previous year when 97.1% served a mid-day meal.

Singh (2016) tried to explore the status of the implementation by analyzing some important indicators which are necessary for the implementation of the Act. Four years have already been passed since implementation of the RTE Act in Himachal Pradesh but still the state has to do more in the terms of enrolment, basic infrastructure, student learning, awareness and understanding among its stakeholders. The government has to take some necessary actions to improve the implementation status of the RTE Act in Himachal Pradesh.

Majumder (2016) studied consequences of student teacher ratio after implementation of Right to Education Act. 2009. According to our Right to Education Act 2009, it has been clear that the 30: 01 Student Teacher Ratio (STR) effect on the primary school in both rural and urban areas. In where, mainly two or three teachers primary school, situated in different parts of India as well as West Bengal. There are so many works which are very essential to do for a head teacher as well as teacher-in-charge to maintain the official works which are also effect on the class as well as the teaching learning process in a primary school.

Sarkar (2016) The GER at primary level is high at 118.6 percent and NER has improved significantly from 92.7 percent in 2006-07 to 99.8 percent in 2010-11. The GER at upper primary level has shown

considerable improvement of 11.8 percentage points in the four years between 2006 and 2009, and a further increase of 5.4 percentage points in 2010–11. With the RTE stipulations with regard to the entry level at age 6, no detention and expulsion, an eight-year elementary education cycle, and maintenance of record of children, it is expected that the GER at both primary and upper primary levels is going to improve in the years to come.

Mahajan (2016) aimed at examining the status of implementation of right to education act in context of drinking water and sanitation facilities in Himachal Pradesh. In 2011, 97.26 % of the primary schools of Himachal Pradesh were equipped with the drinking water facility which further increased to 99.88 % in the year 2015. In the year 2010 there has been only 60.06 % of the primary schools which had the separate toilet facility for the girl students which rapidly increased to 99.79 % of the primary schools in. The consistent rise in percentage of primary schools with separate boys' toilets has been observed from 90.12 % in 2012 increased to 99.65 % in 2015.

The Act received huge acclaim, and experts said it would change the education system in India. The mandates of RTE Act apply not only to publicly funded government schools, but also to all schools wishing to remain operational in India. After crossing six years of its implementation, it remains to be seen whether the Act has been implemented well enough to make a significant impact on progress of primary education. In this context it would be appropriate to conduct a study on progress of Primary Education with special reference to Right to Education Act, 2009. The present paper explores the trends of primary education in terms of number of schools, number of teachers, enrolment, physical facilities, PTR and SCR.

III. Methodology

The present study is descriptive-cum-analytical in nature. It analyzes key indicators of primary education in with special reference to Right to Education Act 2009. Data obtained from the annual report of National University of Educational Planning and Administration (NUEPA) on Elementary Education in India. The URL of the database is <http://udise.in/src.htm>. The time period we consider for this study is span of 12 years from 2004-05 to 2015-16. The time period divided into 2 sub-periods with reference to Right to Education Act 2009 i.e., Before RTE Act (2004-05 to 2009-10) and After RTE Act (2010-11 to 2015-16) for the purpose of our study. All states and union territories of India considered as population and 17 states are selected as sample states for the study. Sample states are selected based on zonal council of India. From each zone one high literacy state, one moderate literacy state and one low literacy state were selected. Together all 17 states were selected from 7 zones of India.

The study estimated Annual Average Growth Rates to analyze the trends in selected variables and made comparison during pre and post RTE Act 2009. The study calculated Mean and Standard Deviation (SD) of growth for selected states. It is the most common and widely used measure of central tendency or an average (Kothari, 2004). Standard Deviation of a set of scores is defined as the square root of the average of the squares of the deviation of each from the mean (Singh, 2006). The objective of the F-test is to find out whether the estimates of growth for selected parameters significantly differ across pre and post RTE Act (Gupta, 2007). The Kruskal-Wallis test is a nonparametric (distribution free) test, and is used when the assumptions of ANOVA are not met (Kanji, 2006). These two tests are employed in the study to test the statistical significance of variations between pre and post RTE Act.

IV. Results and Discussion

Growth in Primary Schools

The growth of the primary schools under government management of all the 17 states in during pre RTE Act is noticed mixed trend, it was positive in 13 States and negative in 4 states. Arunachal Pradesh has shown notable growth of primary schools under government sector, it has increased 18.2 percent of average annual growth followed by Maharashtra Madhya Pradesh, Mizoram and Uttar Pradesh. In the remaining states namely Uttarakhand, Andhra Pradesh, Kerala and Punjab the growth of government primary schools was observed to be less than 2.0 percent and Sikkim, Delhi, Odisha and Goa the growth was recorded less than 1.0 percent. The negative growth was highest in Gujarat, then by Tamil Nadu, Rajasthan and lowest in Manipur. During post RTE Act the trend was noticed mixed pattern that was positive in 6 States and negative in 10 States. The negative growth was the highest in Andhra Pradesh they by Arunachal Pradesh, Sikkim, Rajasthan and the lowest in Uttarakhand, the remaining states Kerala, Delhi, Odisha and Punjab the negative trend was witnessed less than 1.0 percent. The highest positive growth in Manipur (5.91%), then by Uttar Pradesh, Gujarat, Tamil Nadu, Maharashtra and the lowest in Madhya Pradesh (0.11%). In majority of states primary schools under government management is showing increasing during pre RTE Act and declining in the post RTE Act. But the growth rate low in after the implementation of RTE Act when compared to before the RTE Act (Table-1).

During the pre RTE Act, in all sample states the number of primary schools under private management has been increased excluding Punjab. As observed, during this period the growth was the highest in Arunachal Pradesh i.e., 27.03%, then by Delhi, Manipur, Goa, Uttar Pradesh and the lowest in Kerala. In Uttarakhand, Tamil

Nadu, Madhya Pradesh, Gujarat and Mizoram trend was recorded as positive more than 5.0 percent and in Andhra Pradesh, Odisha, Sikkim, Rajasthan and Maharashtra the growth primary schools under private management was recorded less than 5.0 percent. Post RTE Act period, the growth was noticed a diverse trend that was positive in 12 States and negative in 5 States. The highest positive growth rate was in Punjab (18.63%) followed by Mizoram, Goa, Maharashtra, Uttar Pradesh, Gujarat, Delhi and the lowest in Rajasthan (0.42%). The remaining states namely Andhra Pradesh, Odisha, Kerala and Sikkim were observed positive trend less than 5.0 percent. The results from above during, the pre and post RTE Act clearly indicated that the private primary schools have increased in majority of sample States. The primary education in terms of private schools is showing increasing trend during after implementation Right to Education Act. Further, it can be observed that the average annual growth rate is significantly differs between before and after RTE Act Periods in all sample States (Table-1).

**Table – 1: Average Annual Growth Rate of Schools during
Pre RTE Act (2004-05 to 2009-10) and Post RTE Act (2010-11 to 2015-16)**

Variable→ Sample States↓	Primary Schools – Government		Primary Schools – Private	
	Pre RTE	Post RTE	Pre RTE	Post RTE
Madhya Pradesh	3.48	0.11	6.69	-11.34
Uttar Pradesh	2.20	1.38	11.58	8.12
Uttarakhand	1.99	-0.04	8.58	-0.75
Odisha	0.28	-0.30	3.41	4.41
Sikkim	0.86	-3.13	3.36	3.36
Arunachal Pradesh	18.19	-3.75	27.03	4.61
Manipur	-1.64	5.91	15.35	-0.61
Mizoram	2.85	0.00	5.98	16.83
Delhi	0.48	-0.35	18.57	5.21
Punjab	1.30	-0.29	-1.16	18.63
Rajasthan	-2.11	-2.83	3.22	0.42
Andhra Pradesh	1.93	-9.96	4.92	-8.01
Kerala	1.59	-0.51	0.80	4.31
Tamil Nadu	-2.32	1.12	7.27	-0.27
Goa	0.21	-3.27	15.04	13.44
Gujarat	-2.68	1.27	6.63	7.87
Maharashtra	3.74	0.48	2.71	8.86

Source: State Report Cards on Elementary Education in India various issues from 2004-05 to 2015-16, National University of Educational Planning and Administration, New Delhi.

Growth in Primary Schools Teachers

Growth in teachers in primary schools under government management pre RTE Act period noticed mixed trend that was positive in 11 states and negative in 6 states. The positive growth per year in government teachers in primary schools Arunachal Pradesh (17.03%) was observed the highest subsequently Uttar Pradesh (9.83%), Mizoram (6.62%), Delhi (5.48%) and Punjab (5.25%) were shown remarkable improvement with more than 5.0 percent. For Goa, Madhya Pradesh, Uttarakhand, Maharashtra, Kerala and Sikkim the growth of the government teachers was observed less than 4.0 percent. The highest decline trend has been recorded in Manipur (-2.84%), then by Rajasthan, Tamil Nadu, Gujarat, Andhra Pradesh and the lowest in Odisha (-0.39%). During post RTE Act, growth in teachers was noticed diverse phenomenon that was positive in 7 States and negative in 10 States. The Positive trend was highest in Manipur (2.91%) followed by Uttarakhand, Punjab, Madhya Pradesh, Odisha, and Tamil Nadu and lowest in Gujarat (1.08%). The negative growth of the teachers was observed more than 5.0 percent in Andhra Pradesh and Arunachal Pradesh and More than 2.0 percent in Kerala and Rajasthan. In Mizoram Delhi, Uttar Pradesh, Goa, Sikkim and Maharashtra the negative trend was observed less than 1.0 percent. It is clear that the similar pattern has been observed during, before and after RTE Act Periods. In majority states, primary education in terms of the growth of number of teacher is showing increasing trend during before and declining trend after the RTE Act. But growth are low during the after the implementation RTE Act when compared to before the RTE Act (Table – 2).

Prior the RTE Act, all the states reported here showed positive growth per year in teachers in primary schools under private management. The first place occupied by Arunachal Pradesh (25.62%) followed by Goa and Delhi showed remarkable progress with more than 20.0 percent. In Uttar Pradesh, Manipur, Tamil Nadu and Gujarat, the growth of Private Teachers was observed more than 10.0 percent and more than 5.0 percent in Mizoram, Uttarakhand, Madhya Pradesh, Rajasthan, Punjab and Andhra Pradesh. The growth to be less than 5.0 percent was witnessed in Sikkim, Maharashtra, Odisha and Kerala. Post RTE Act, the number of private teachers increased in all the states excluding Andhra Pradesh and Madhya Pradesh. In four states, Punjab, Mizoram, Goa and Gujarat were shown considerable growth per year as more than 10.0 percent. In Uttar Pradesh, Odisha, Delhi, Maharashtra and Rajasthan the growth was recorded more than 4.0 percent. In Uttarakhand, Kerala, Tamil Nadu and Manipur the private teachers have shown insignificant growth per annum that is less than 2.0 percent. Teachers in private primary schools have increased in majority of sample states. The private schools teachers are showing increasing trend during after implementation Right to Education Act. Further, it can be observed that the Average Annual Growth Rate is significantly differs between before and after RTE Act Periods in all sample states (Table – 2).

**Table – 2: Average Annual Growth Rate of Teachers during
Pre RTE Act (2004-05 to 2009-10) and Post RTE Act (2010-11 to 2015-16)**

Variable→ Sample States↓	Primary Schools Teachers – Government		Primary Schools Teachers – Private	
	Pre RTE	Post RTE	Pre RTE	Post RTE
Madhya Pradesh	2.96	1.39	7.65	-11.46
Uttar Pradesh	9.83	-1.04	16.00	8.84
Uttarakhand	2.82	2.00	8.81	1.33
Odisha	-0.37	1.21	3.77	7.70
Sikkim	1.39	-0.20	4.69	7.54
Arunachal Pradesh	17.03	-4.59	25.62	7.00
Manipur	-2.84	2.91	14.33	1.12
Mizoram	6.62	-2.00	9.02	14.92
Delhi	5.48	-1.05	21.35	6.21
Punjab	5.25	1.67	5.92	20.30
Rajasthan	-2.53	-2.93	6.83	3.49
Andhra Pradesh	-0.86	-11.85	5.06	-12.94
Kerala	1.71	-3.71	0.93	1.30
Tamil Nadu	-2.15	1.09	11.09	1.16
Goa	4.05	-0.98	23.84	12.94
Gujarat	-1.06	1.08	10.34	10.91
Maharashtra	2.57	-0.17	3.90	5.97

Source: State Report Cards on Elementary Education in India various issues from 2004-05 to 2015-16, National University of Educational Planning and Administration, New Delhi.

Growth in Enrolment in Primary Schools

The estimated average annual growth of enrolment in government primary schools has observed positive trend during pre RTE Act in Arunachal Pradesh, Delhi, Madhya Pradesh and Mizoram. All the remaining states have been shown negative trend and ranged between -0.27 percent and -8.33 percent. In Andhra Pradesh, Uttar Pradesh, Sikkim, Uttarakhand, Kerala, Punjab, Goa and Maharashtra the decline trend of enrolment in was observed less than 3.0 percent and in Tamil Nadu, Rajasthan, Manipur, Gujarat and Odisha the negative growth was recorded more than 5.0 percent. After RTE Act, the enrolment has been decreased in all states excluding Tamil Nadu. The highest negative trend was in Sikkim, then by Andhra Pradesh, Rajasthan, Madhya Pradesh, Goa, Arunachal Pradesh and the lowest in Gujarat. In states like Kerala, Uttarakhand, Mizoram and Odisha the negative growth of enrolment was observed more than 5.0 percent and in Manipur, Uttar Pradesh, Punjab, Delhi and Gujarat was recorded less than 4.0 percent. From the above analysis, the similar pattern has been observed during, before and after RTE Act Periods. In majority states, the enrolment in government primary education is showing decline trend (Table – 3).

The growth of enrolment in primary schools under private management was observed a positive phenomenon before RTE Act, in all states enrolment has been increased excluding Kerala. As observed, during this period the remarkable growth in the state of Manipur was recorded 70.34 percent. In addition, Arunachal Pradesh and Goa the trend was recorded more than 20.0 percent and in Delhi, Madhya Pradesh, Gujarat and Uttar Pradesh the positive growth was recorded more than 10.0 percent. In Mizoram, Sikkim and Uttarakhand the positive growth of enrollment was observed more than 8.0 percent and in Maharashtra, Andhra Pradesh, Odisha, Tamil Nadu, Rajasthan and Punjab was recorded less than 5.0 percent. After the implementation of the RTE Act the growth of enrolment has been noticed mixed pattern that was increasing in 11 states and trend in 6 states. As observed during this period, the remarkable growth has observed in the state of Mizoram i.e., 16.27 percent. In addition Goa, Punjab, Gujarat, Tamil Nadu and Uttar Pradesh were recorded more 5.0 percent and Delhi, Arunachal Pradesh, Sikkim, Maharashtra and Odisha were achieved less than 4.0 percent. The negative growth has been recorded highest in Madhya Pradesh (-21.15%) then by Andhra Pradesh, Manipur, Rajasthan, Kerala and lowest in Uttarakhand. The results from estimated growth during before RTE Act clearly indicate that the enrolment in primary schools under private management was increasing and after RTE Act period declining trend in selected States (Table – 3).

Table – 3: Average Annual Growth Rate of Enrolment during Pre RTE Act (2004-05 to 2009-10) and Post RTE Act (2010-11 to 2015-16)

Variable→ Sample States↓	Enrolment in Primary Schools – Government		Enrolment in Primary Schools – Private	
	Pre RTE	Post RTE	Pre RTE	Post RTE
Madhya Pradesh	3.43	-8.20	17.05	-21.15
Uttar Pradesh	-2.76	-3.65	13.55	5.22
Uttarakhand	-2.41	-5.62	8.67	-1.85
Odisha	-4.71	-5.19	4.39	0.91
Sikkim	-2.74	-15.51	9.03	2.81
Arunachal Pradesh	9.09	-7.14	32.10	3.23
Manipur	-6.59	-3.68	70.34	-8.61
Mizoram	1.21	-5.62	9.22	16.27
Delhi	5.40	-1.56	18.88	4.03
Punjab	-1.45	-2.98	1.36	7.42
Rajasthan	-7.65	-8.52	3.82	-4.29
Andhra Pradesh	-2.80	-12.71	4.88	-11.06
Kerala	-2.12	-5.86	-2.47	-2.78
Tamil Nadu	-8.33	14.63	4.33	5.68
Goa	-0.50	-7.39	22.20	8.42
Gujarat	-5.33	-0.66	13.77	6.08
Maharashtra	-0.27	-3.34	4.92	1.54

Source: State Report Cards on Elementary Education in India various issues from 2004-05 to 2015-16, National University of Educational Planning and Administration, New Delhi.

Growth in Single Teacher Schools

The growth rates of single teacher primary schools of all the 17 States prior to RTE Act have recorded mixed trend that was increasing in 6 states and declining in 11 states. Only two States, Arunachal Pradesh (290.13%) was achieved relatively strong growth and Kerala was more than 60.0 percent. In addition Sikkim, Mizoram and Andhra Pradesh have grown at more than 20.0 percent. The declining trend was highest in Delhi, then by Punjab, Uttar Pradesh, Tamil Nadu, Gujarat, and the lowest in Manipur. In Uttarakhand, Madhya Pradesh, Rajasthan, Maharashtra and Goa the negative trend was observed less than 9.0 percent. After RTE Act, only two States Delhi (60.00%) and Uttar Pradesh (24.42%) were achieved relatively stronger growth. In addition Gujarat, Andhra Pradesh, Sikkim and Punjab have grown at more than 10.0 percent. The declining trend was highest in Odisha, then by Uttarakhand, Maharashtra, Arunachal Pradesh, and the lowest in Kerala. In Goa, Madhya Pradesh and Manipur the negative trend was observed less than 5.0 percent. It can be observed that in majority states, single teacher primary schools is showing declining trend during before RTE Act and increasing after implementation of the RTE Act. But growth rates are high after the implementation of the RTE Act when compared to before the RTE Act (Table-4).

Growth in Single Classroom schools

The estimated average annual growth of single classroom primary schools has been observed positive trend during before RTE Act. In Odisha, Arunachal Pradesh, Delhi and Sikkim have shown notable growth and Sikkim was achieved the growth of 67.44 percent followed by Delhi, Arunachal Pradesh and Odisha. The remaining 13 states have shown the negative trend and ranged between -0.19 percent in Andhra Pradesh and -26.31 percent in Tamil Nadu. In Uttarakhand, Maharashtra, Gujarat, Mizoram and Tamil Nadu the single classroom primary schools were declining more than 10.0 percent per year and in Andhra Pradesh, Rajasthan, Punjab, Kerala, Manipur, Madhya Pradesh and Uttar Pradesh the negative trend was recorded less than 9.0 percent. The positive trend has been observed in the growth during post RTE Act in Rajasthan and Manipur. All the remaining 15 States have shown negative growth and ranged between -0.35 percent in Punjab and -25.52 percent in Arunachal Pradesh. In Arunachal Pradesh, Delhi and Tamil Nadu single classroom primary schools were decreasing more than 20.0 percent and in Gujarat, Uttarakhand, Maharashtra and Andhra Pradesh were more than 10.0 percent. In the remaining states Uttar Pradesh, Mizoram, Goa, Odisha, Sikkim, Kerala, Madhya Pradesh and Punjab were observed negative trend less than 10.0 percent. The same pattern has been observed during before and after RTE Act Periods. In majority States, single classroom primary schools is showing declining trend during, before and after the RTE Act. But growth rate are low during the after the implementation of the RTE Act when compared to before the RTE Act (Table-4).

Variable→ Sample States↓	Percentage of Single Classroom Primary Schools		Percentage of Single Teacher Primary Schools	
	Pre RTE	Post RTE	Pre RTE	Post RTE
Madhya Pradesh	-8.95	-1.68	-7.47	-3.32
Uttar Pradesh	-8.97	-7.22	-18.58	24.42
Uttarakhand	-10.24	-12.18	-8.41	-12.52
Odisha	3.61	-4.51	3.05	-20.60
Sikkim	67.44	-4.11	38.14	9.92
Arunachal Pradesh	15.79	-25.52	290.13	-6.60
Manipur	-7.75	20.57	-0.62	-2.50
Mizoram	-15.44	-6.24	29.46	1.09
Delhi	20.00	-20.00	-24.00	60.00
Punjab	-2.84	-0.35	-20.44	9.82
Rajasthan	-0.47	5.64	-2.84	0.19
Andhra Pradesh	-0.19	-9.63	19.45	13.99
Kerala	-6.11	-2.89	60.67	-1.39
Tamil Nadu	-26.31	-20.00	-16.87	3.50
Goa	-4.20	-5.19	-0.80	-3.36
Gujarat	-13.58	-12.88	-15.15	18.61
Maharashtra	-10.90	-10.32	-1.99	-9.29

Source: State Report Cards on Elementary Education in India various issues from 2004-05 to 2015-16, National University of Educational Planning and Administration, New Delhi.

Growth in Pupil Teacher Ratio

The estimated average annual growth rates of pupil teacher ratio in primary schools have been shown decreasing trend during pre RTE Act excluding Delhi, Madhya Pradesh and Goa. As observed, during this period the teacher pupil ratio in primary schools was declining the highest in Uttar Pradesh (-8.85%) then by Arunachal Pradesh, Tamil Nadu, Rajasthan, Punjab, and the lowest in Andhra Pradesh (-0.62%). In Kerala, Odisha, Uttarakhand, Mizoram, Manipur and Gujarat the negative trend was observed more than 3.0 percent and in Maharashtra and Sikkim the negative trend was observed more than 1.0 percent. In post RTE Act, all states have been shown decreasing trend in growth of pupil teacher ratio excluding Andhra Pradesh. As observed, during this period the teacher pupil ratio was declining highest in Sikkim (-54.56%), then by Madhya Pradesh, Manipur, Uttarakhand, Odisha, Rajasthan, and lowest in Delhi. In Mizoram, Goa, Arunachal Pradesh, Punjab

and Maharashtra the negative trend was observed more than 15.0 percent and in Tamil Nadu, Gujarat, Uttar Pradesh and Kerala were recorded more than 10.0 percent. From the above analysis, it can be observed that in majority States, teacher pupil ratio in primary schools is showing decreasing trend during, before and after the RTE Act(Table-5).

Student-Classroom Ratio

Prior to RTE Act, growth in student classroom ratio has been shown decline excluding Delhi. As observed, during this period, the student classroom ratio in primary schools was declining the highest in Uttar Pradesh (-9.67%) then by Rajasthan, Madhya Pradesh, Manipur, Kerala, Andhra Pradesh, Uttarakhand, and the lowest in Goa (-0.53%). In Tamil Nadu, Gujarat and Arunachal Pradesh the negative trend was observed more than 4.0 percent and in Odisha, Punjab, Mizoram and Sikkim was observed more than 3.0 percent. The growth rates of post RTE Act have been shown decreasing trend. As observed during this period, the decreasing trend was recorded highest in Madhya Pradesh (-10.11%) then by Sikkim, Manipur, Arunachal Pradesh, Rajasthan, Gujarat, and lowest in Goa (-0.85%). In Odisha, Uttar Pradesh, Mizoram, Maharashtra, Uttarakhand, Andhra Pradesh and Kerala the negative growth of student classroom ratio was observed more than 4.0 percent and in Tamil Nadu, Punjab and Delhi the was more than 2.0 percent. The similar pattern has been observed during, before and after RTE Act Periods. In majority states, student classroom ratio in primary schools is showing decreasing trend during before and after the RTE Act (Table-5).

Variable→ Sample States↓	Pupil-Teacher Ratio (PTR) in Primary Schools		Student-Classroom Ratio (SCR) in Primary Schools	
	Pre RTE	Post RTE	Pre RTE	Post RTE
Madhya Pradesh	0.83	-45.16	-6.69	-10.11
Uttar Pradesh	-8.85	-11.76	-9.67	-5.21
Uttarakhand	-4.45	-29.26	-5.09	-4.53
Odisha	-4.53	-29.05	-3.56	-5.33
Sikkim	-1.28	-54.56	-3.15	-9.58
Arunachal Pradesh	-6.20	-17.36	-4.35	-6.32
Manipur	-3.69	-31.62	-5.81	-8.10
Mizoram	-3.83	-20.06	-3.34	-5.21
Delhi	1.48	-2.37	1.79	-2.08
Punjab	-5.13	-15.18	-3.55	-2.73
Rajasthan	-5.30	-28.70	-8.28	-6.29
Andhra Pradesh	-0.62	1.09	-5.20	-4.29
Kerala	-4.85	-10.53	-5.21	-4.18
Tamil Nadu	-5.88	-12.62	-4.37	-2.86
Goa	0.63	-19.31	-0.53	-0.85
Gujarat	-3.43	-12.51	-4.36	-6.05
Maharashtra	-1.29	-15.12	-1.55	-4.70

Source: State Report Cards on Elementary Education in India various issues from 2004-05 to 2015-16, National University of Educational Planning and Administration, New Delhi.

Growth in Primary Schools with Girls' Toilets

Before of the RTE Act, all the states reported here showed positive growth per year in primary schools with girls' toilets excluding Delhi. Mizoram (65.23%), Rajasthan (44.38%), Odisha (42.89%) and Arunachal Pradesh (35.53%) were showed remarkable growth more than 30.0 percent. In Sikkim, Maharashtra, Manipur, Kerala and Punjab growth of schools with girls' toilets primary schools was observed more than 10.0 percent and Gujarat, Tamil Nadu, Andhra Pradesh, Goa, Uttarakhand and Uttar Pradesh have shown more than 5.0 percent. After the implementation the RTE Act, all the sample states have showed positive growth per year in primary schools with girls' toilets. Arunachal Pradesh (41.29%), Odisha (22.85%) and Manipur (21.36%) showed remarkable improvement with more than 20 percent. In Andhra Pradesh, Madhya Pradesh, Mizoram and Delhi the trend was observed more than 5.0 percent and Maharashtra, Tamil Nadu, Goa, Sikkim, Uttar Pradesh, Kerala, Rajasthan, Uttarakhand, Gujarat and Punjab have shown less than 5.0 percent. The

estimated growth rates during, the before and after RTE Act clearly indicate that the primary schools with girls' toilets in have increased in majority of sample states (Table-6).

Growth in Primary Schools has Drinking Water Facility

Prior to RTE Act, all the states have shown positive growth per year in primary schools with drinking water facility excluding Uttar Pradesh. Only one state Arunachal Pradesh (11.96%) has shown remarkable growth as more than 10.0 percent. In addition Andhra Pradesh, Gujarat, Mizoram, Sikkim, Manipur, Rajasthan, Uttarakhand, Odisha and Madhya Pradesh were observed more than 3.0 percent and Delhi, Punjab, Goa, Kerala and Tamil Nadu have shown more than 1.0 percent average annual. After RTE Act, all the states reported here showed positive growth per year. As observed, this period the growth of schools with drinking water facility was highest in Manipur (3.39%), then by Odisha, Maharashtra, Gujarat and Mizoram, and the lowest in Punjab (0.04%). In Andhra Pradesh, Uttar Pradesh and Madhya Pradesh schools with drinking water facility were grown at 1.0 percent and in Goa, Uttarakhand, Kerala, Rajasthan, Arunachal Pradesh and Tamil Nadu the positive growth were registered less than 1.0 percent. In majority States, schools with drinking water facility in Primary Schools is showing increasing trend during before and after the RTE Act (Table-6).

Variable→ Sample States↓	Primary Schools with Girls Toilets		Primary Schools with Drinking water	
	Pre RTE	Post RTE	Pre RTE	Post RTE
Madhya Pradesh	22.43	7.67	3.21	1.21
Uttar Pradesh	5.10	2.84	-0.28	1.21
Uttarakhand	6.89	2.24	4.20	0.64
Odisha	42.89	22.85	3.87	3.13
Sikkim	15.24	3.46	5.64	-0.03
Arunachal Pradesh	35.53	41.29	11.96	0.13
Manipur	12.76	21.36	5.28	3.39
Mizoram	65.23	6.26	6.36	1.58
Delhi	-1.88	5.83	1.94	0.00
Punjab	10.53	0.75	1.61	0.04
Rajasthan	44.38	2.47	4.92	0.46
Andhra Pradesh	7.26	11.61	6.93	1.33
Kerala	11.03	2.81	1.31	0.53
Tamil Nadu	7.94	4.09	1.22	0.08
Goa	7.20	3.89	1.52	0.68
Gujarat	8.15	1.24	6.43	2.30
Maharashtra	14.18	4.32	4.16	2.58

Source: State Report Cards on Elementary Education in India various issues from 2004-05 to 2015-16, National University of Educational Planning and Administration, New Delhi.

Growth in Primary Education – Variance Analysis

The estimated average growth of selected indicators for selected 17 states is higher during pre RTE Act than post RTE Act. It shows that the average growth of primary education in terms of schools, teachers, enrolment, PTR, SCR and facilities during pre RTE Act is higher than post RTE Act. As per standard deviation the growth of PTR is stable in pre RTE Act period when compared to post RTE Act period contrary the growth of primary education is steady in during pre RTE Act than post RTE Act. From the Table it can be found that there is deference in growth of primary education between pre and post RTE periods (Table -7).

From F-test results, thus it shows that there are significant mean difference between pre RTE Act and post RTE Act regarding growth of schools, teachers, enrolment, PTR, SCR and facilities. Further, f-test indicates that the estimated average growth of primary education during pre RTE Act significantly differs from that of post RTE Act and observed better situation in post RTE period. The results of Kruskal-Wallis Test and discloses that the distribution of growth of primary schools education between pre RTE Act and post RTE Act is significantly differs. Kruskal-Wallis Test is significant in most of the instances, indicating that the distribution of growth of primary education during pre RTE Act differ significantly from that of post RTE Act (Table-7).

Table -7Average Growth Rate of Indicators for Selected States along with Variance Tests								
Variable	Before RTE Act			After RTE Act			F-test	Kruskal-Wallis Test
	N	Mean	SD	N	Mean	SD		
Government Primary Schools	17	1.79	4.67	17	-0.83	3.26	3.593* (0.067)	5.649** (0.017)
Private Primary Schools	17	8.23	7.23	17	4.42	7.82	2.185 (0.149)	1.292 (0.256)
Government Primary School Teachers	17	2.94	5.05	17	-1.01	3.49	7.033** (0.012)	5.487** (0.019)
Private Primary School Teachers	17	10.54	7.34	17	5.08	8.36	4.099* (0.051)	2.565 (0.109)
Enrolment in Primary Schools - Government	17	-1.68	4.57	17	-4.88	6.28	2.893* (0.099)	5.568** (0.018)
Enrolment in Primary Schools - Private	17	13.88	16.89	17	0.70	8.62	8.219*** (0.007)	8.877*** (0.003)
Single Classroom Primary Schools	17	-0.54	20.66	17	-6.85	10.57	1.260 (0.270)	0.451 (0.502)
Single Teacher Primary Schools	17	19.04	73.48	17	4.82	18.19	0.600 (0.444)	0.249 (0.617)
Pupil-Teacher Ratio (PTR) in Primary Schools	17	-3.32	2.85	17	-20.83	14.30	24.517*** (0.000)	16.379*** (0.000)
Student-Classroom Ratio (SCR) in Primary Schools	17	-4.29	2.71	17	-5.20	2.47	1.052 (0.313)	0.964 (0.326)
Primary Schools with Girls Toilets	17	18.52	17.92	17	8.53	10.62	3.912* (0.057)	7.126*** (0.008)
Primary Schools with Drinking Water	17	4.13	2.94	17	1.13	1.12	15.468*** (0.000)	12.224*** (0.000)

Note:*Significant at 10 per cent level, **Significant at 5 per cent level & *** Significant at 1 per cent level.
Figures in parenthesis are p-values

V. Conclusion

In majority of states primary schools under government management is showing increasing during pre RTE Act and declining in the post RTE Act. But the growth rate low in after the implementation of RTE Act when compared to before the RTE Act. The primary education in terms of private schools is showing increasing trend during after implementation Right to Education Act. Growth in government teachers is showing increasing trend during before and declining trend after the RTE Act while private schools teachers are showing increasing trend during after implementation Right to Education Act. The enrolment in government primary education is showing declining trend during pre and post RTE Act whereas enrolment in primary schools under private management was increasing and after RTE Act period declining trend in selected States. It can be observed that from the in majority States, teacher pupil ratio in primary schools is showing decreasing trend during before and after the RTE Act same as student classroom ratio in primary schools is showing decreasing trend. The study clearly indicate that the schools with girls toilets in primary schools have increased in majority of sample states similarly schools with drinking water facility in Primary Schools is showing increasing trend during before and after the RTE Act. Further, the primary education in terms of schools, teachers, enrolment, PTR, SCR and facilities during pre RTE Act is higher than post RTE Act. Average growth of primary education during pre RTE Act significantly differs from that of post RTE Act and observed better situation in post RTE period.

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