INDIAN SCHOOL EDUCATION STATISTICS (2013-2016)

(PROJECT)

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NAME: XEVIERS KONER

ROLL : 180312200179

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CONTENTS

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Introduction

Education in India is primarily provided by public school (controlled and funded by the government at three levels: central, state and local) and private schools . Under various articles of the Indian Constitution, free and compulsory education is provided as a fundamental right to children aged 6 to 14. The approximate ratio of public schools to private schools in India is 7:5. Major policy initiatives in Indian education are numerous. Up until 1976, education policies and implementation were determined legally by each of India's constitutional states. The 42nd amendment to the constitution in 1976 made education a 'concurrent subject'. From this point on the central and state governments shared formal responsibility for funding and administration of education. In a country as large as India, now with 28 states and eight union territories, this means that the potential for variations between states in the policies, plans, programs and initiatives for elementary education is vast. Periodically, national policy frameworks are created to guide states in their creation of state-level programs and policies. State governments and local government bodies manage the majority of primary and upper primary schools and the number of government-managed elementary schools is growing. Simultaneously the number and proportion managed by private bodies is growing. In 2005-6 83.13% of schools offering elementary education (Grades 1-8) were managed by government and 16.86% of schools were under private management (excluding children in unrecognised schools, schools established under the Education Guarantee Scheme and in alternative learning centers). Of those schools managed privately, one third are 'aided' and two thirds are 'unaided'. Enrolment in Grades 1-8 is shared between government and privately managed schools in the ratio 73:27.

However in rural areas this ratio is higher (80:20) and in urban areas much lower (36:66).

In the 2011 Census, about 73% of the population was literate, with 81% for males and 65% for females. National Statistical Commision surveyed literacy to be 77.7% in 2017–18, 84.7% for male and 70.3% for female. This compares to 1981 when the respective rates were 41%, 53% and 29%. In 1951 the rates were 18%, 27% and 9%. India's improved education system is often cited as one of the main contributors to its economic develop. Much of the progress, especially in higher education and scientific research, has been credited to various public institutions. While enrolment inhigher education has increased steadily over the past decade, reaching a Gross Enrolment Ratio (GER) of 26.3% in 2019, there still remains a significant distance to catch up with tertiary education enrolment levels of developed nations, a challenge that will be necessary to overcome in order to continue to reap a demographic dividend from India's comparatively young population.

Poorly resourced public schools which suffer from high rates of teacher absenteeism may have encouraged the rapid growth of private (unaided) schooling in India, particularly in urban areas. Private schools divide into two types: recognised and unrecognised schools. Government ‘recognition’ is an official stamp of approval and for this a private school is required to fulfil a number of conditions, though hardly any private schools that get ‘recognition’ actually fulfil all the conditions of recognition. The emergence of large numbers of unrecognised primary schools suggests that schools and parents do not take government recognition as a stamp of quality.

Objectives

We have collected here a data of GER(Gross Enrollment Ratio)of " Indain School Education" between 2013 – 2016 .

Our two objectives are –

1. *Analysis the data between boys and girls by drawing bar diagrams .*
2. *Dig some facts about the quality of Indian School Education from 2013 – 2016 and help people of India and Government of India to understood better about the state of Indian schools to take immediate actions if needed.*

EDA (Explaratory Data Analysis)

Although many of you might be familiar with what EDA is all about, I would like to take a minute and give a formal definition of EDA and set the tone for this notebook for beginners and experts as well.

In statistics, **exploratory data analysis** is an approach of analyzing data sets to summarize their main characteristics, often using statistical graphs and other data visualization methods. A statistical model can be used or not, but primarily EDA is for seeing what the data can tell us beyond the formal modeling or hypothesis testing task. Exploratory data analysis was promoted by John Tukey to encourage statisticians to explore the data, and possibly formulate hypotheses that could lead to new data collection and experiments. EDA is different from Initial Data Analysis (IDA) which focuses more narrowly on checking assumptions required for model fitting and hypothesis testing, and handling missing values and making transformations of variables as needed. EDA encompasses IDA.

What do you gain through EDA

Below are few among many points where EDA helps us:

- maximize insight into a data set;
- uncover underlying structure;
- extract important variables;
- detect outliers and anomalies;

- test underlying assumptions;
- develop parsimonious models; and
- determine optimal factor settings.

EDA Techniques

Most EDA techniques are graphical in nature with a few quantitative techniques. The reason for the heavy reliance on graphics is that by its very nature the main role of EDA is to open-mindedly explore, and graphics gives the analysts unparalleled power to do so, enticing the data to reveal its structural secrets, and being always ready to gain some new, often unsuspected, insight into the data.

The particular graphical techniques employed in EDA are often quite simple, consisting of various techniques of:

- Plotting the raw data (such as data traces, scatter plot , bar diagram)
- Positioning such plots so as to maximize our natural pattern-recognition abilities, such as using multiple plots per page.

GER(Gross Enrollment Ratio)

Gross Enrolment Ratio (**GER**) or **Gross Enrolment Index** (**GEI**) is a statistical used in the education sector, and formerly by the UN in its Education Index , to determine the number of students enrolled in school at several different grade levels (like elementary, middle school and high school), and use it to show the ratio of the number of students who live in that country to those who qualify for the particular grade level. The United Nations Educational , Scientific and Culteral

Organisation (UNESCO), describes "Gross Enrolment Ratio" as the total enrolment within a country "in a specific level of education, regardless of age, expressed as a percentage of the population in the official age group corresponding to this level of education".

The GER can be over 100% as it includes students who may be older or younger than the official age group. For instance, in India it improved from 25.8 to 26.3, the GER includes students who are repeating a grade, those who enrolled late and are older than their classmates, or those who have advanced quickly and are younger than their classmates. This allows the total enrolment to exceed the population that corresponds to that level of education.

Calculations

a = number of students enrolled in a given level

b = population of the age group corresponds to given level of education in India

$$\mathrm{GER} = (a/b) \times 100$$

All India GER between 2013- 2016 (Data)

State_UT	Year	Primary_B	Primary_G	Primary_T	Upper_Pri	Upper_Pri	Upper_Pri	Secondary	Secondary	Secondary	Higher_Se	Higher_Se	Higher_Secondary_To
Andaman (	2013-14	95.88	91.97	93.93	94.7	88.98	91.83	102.89	97.36	100.16	105.4	96.61	101.28
Andhra Pra	2013-14	96.62	96.87	96.74	82.81	84.38	83.57	73.76	76.77	75.2	59.83	60.83	60.3
Arunachal	2013-14	129.12	127.77	128.46	112.64	115.27	113.94	88.37	84.89	86.65	65.16	65.38	65.27
Assam	2013-14	111.77	115.16	113.43	87.85	98.69	93.13	65.6	77.2	71.21	31.78	34.27	32.94
Bihar	2013-14	95.03	101.15	97.96	80.6	94.92	87.24	57.66	62.96	60.08	23.33	24.17	23.7
Chandigarl	2013-14	88.42	96.09	91.85	99.93	103.02	101.27	92.08	92.16	92.11	90.5	92.88	91.49
Chhattisga	2013-14	104.06	103.93	103.99	100.35	101.1	100.72	96.68	99.32	97.99	58.27	56.16	57.23
Dadra & N	2013-14	89.5	81.89	85.78	100.76	91.43	96.22	87.79	79.08	83.66	37.77	41.99	39.64
Daman & I	2013-14	87.8	89.78	88.69	84.06	90.61	86.97	67.94	82.2	73.88	34.37	64.55	44.36
Delhi	2013-14	108.78	112.95	110.67	117.76	129.5	122.91	102.02	102.86	102.4	98.88	102.3	100.42
Goa	2013-14	104.97	105.32	105.14	106.29	105.16	105.76	110.77	102.14	106.66	68.32	72.36	70.24
Gujarat	2013-14	100.32	102.06	101.13	91.82	89.72	90.86	81.8	65.93	74.5	53.06	43.25	48.51
Haryana	2013-14	96.62	100.57	98.39	91.24	98.01	94.17	88.83	82.92	86.21	72.84	65.43	69.55
Himachal I	2013-14	99.8	101.27	100.49	101.57	102.04	101.79	122.77	117.53	120.31	96.15	96.11	96.13
Jammu An	2013-14	84.03	85.88	84.9	71.64	73.33	72.43	67.82	63.93	65.97	54.47	47.92	51.33
Jharkhand	2013-14	109.57	110.92	110.23	91.7	99.09	95.25	68.67	71.79	70.14	43.91	44.02	43.96
Karnataka	2013-14	101.18	100.73	100.96	91.72	91.91	91.81	76.9	78.15	77.49	16.89	20.03	18.39
Kerala	2013-14	95.68	95.15	95.42	98.35	98.32	98.34	103.83	101.12	102.51	85.96	89.27	87.58
Lakshadwe	2013-14	83.42	77.76	80.59	100.53	94.14	97.09	119.61	135.39	127.61	110.06	80.91	94.66
Madhya Pr	2013-14	111.85	111.09	111.49	96.04	105.88	100.67	84.15	82.45	83.35	47.27	41.91	44.76
Maharashi	2013-14	99.93	99.68	99.81	96.93	96.76	96.69	87.5	83.39	85.58	58.87	58.66	58.77
Manipur	2013-14	145.68	152.81	149.15	111.62	115.08	113.31	84.81	83.78	84.3	65.46	58.91	62.18
Meghalaya	2013-14	132.89	137.89	135.35	102.24	119.99	110.97	67.09	78.61	72.8	19.56	26.41	22.94
Mizoram	2013-14	127.88	123.89	125.96	119.38	118.03	118.72	105.92	107.34	106.62	57.97	61.85	59.88
Nagaland	2013-14	116.66	121.05	118.78	99.06	106.65	102.68	66.33	70.3	68.24	33.65	32.28	32.98
Odisha	2013-14	107.15	104.48	105.84	86.44	85.95	86.2	74.94	74.63	74.79	NR	NR	NR
Pondicher	2013-14	89.53	95.38	92.29	92.38	98.13	95.08	97.82	104.63	101.01	64.15	84.18	73.5
Punjab	2013-14	104.33	107.2	105.61	94.04	97.03	95.34	87.67	84.74	86.39	72.12	71.37	71.79
Rajasthan	2013-14	102.35	100.6	101.53	86.83	81.94	84.58	85.33	71.02	78.68	60.47	44.51	53.03
Sikkim	2013-14	128.15	120.58	124.42	132.96	114.98	138.84	90.21	106.65	98.37	54.81	70.6	62.62
Tamil Nad	2013-14	102.4	102.72	102.56	97.16	99.46	98.27	91.81	93.25	92.5	67.96	84.46	75.87
Tripura	2013-14	112.7	113.95	113.31	113.2	114.9	114.03	117.14	116.87	117.01	44.79	36.85	40.99
Uttar Prad	2013-14	93.34	99.88	96.41	67.32	80.11	73.17	66.52	65.79	66.18	62.54	59.91	61.27
Uttaranch	2013-14	99.98	101.3	100.6	85.23	87.5	86.52	89.26	87.01	88.18	76.29	76.34	76.31
West Beng	2013-14	103.16	104.88	104	92.84	106.87	99.64	68.62	81.34	74.82	47.38	48.96	48.13
All India	2013-14	100.2	102.65	101.36	86.31	92.75	89.33	76.8	76.47	76.64	52.77	51.58	52.21

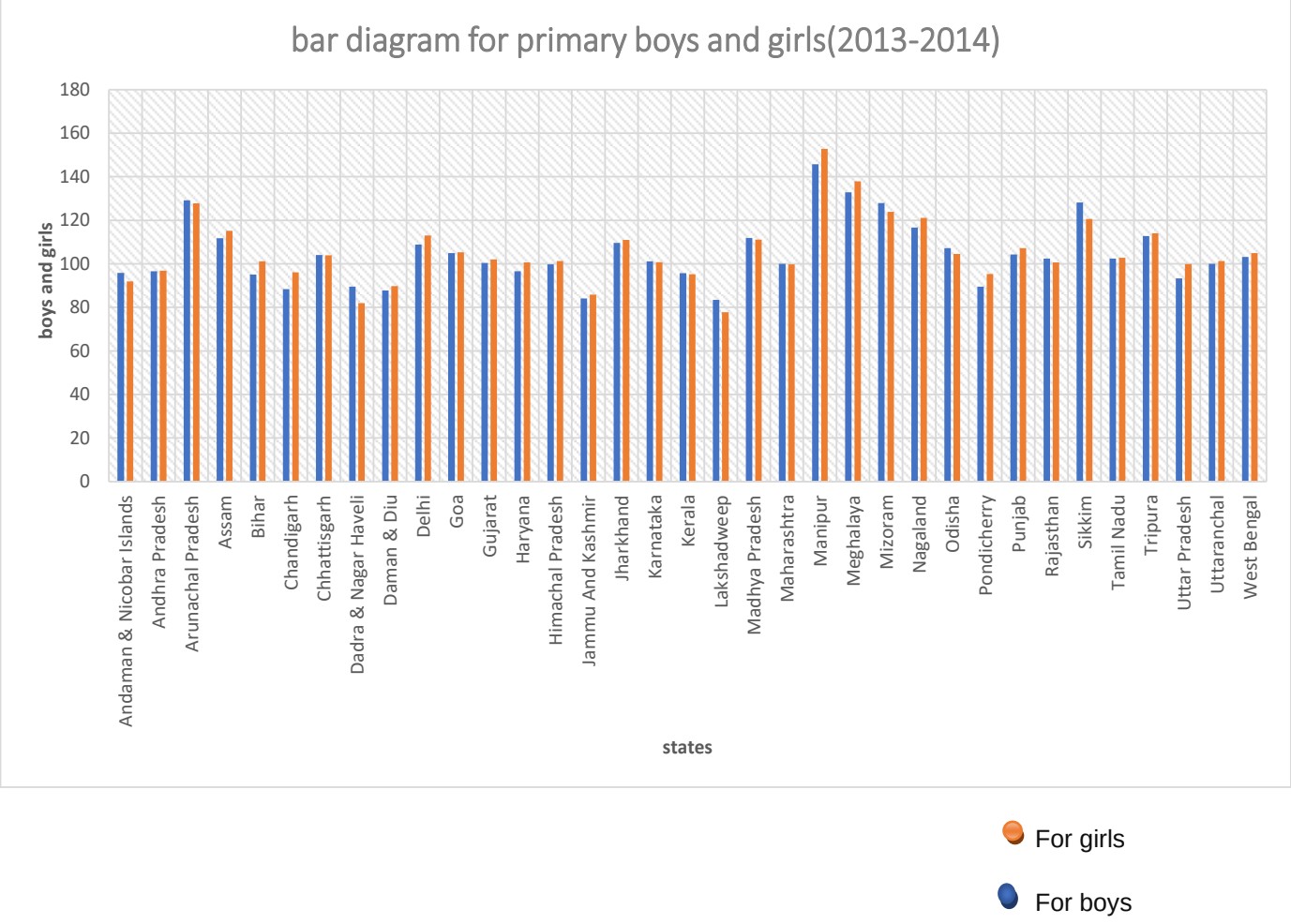
Andaman (	2014-15	92.91	88.94	90.92	90.57	84.71	87.62	95.59	90.13	92.88	98.65	92.51	95.65
Andhra Pra	2014-15	88.31	88.11	88.21	79.34	79.61	79.47	71.46	73.42	72.4	51.27	52.03	51.63
Arunachal	2014-15	128.78	127.45	128.13	120.11	125.01	122.53	93.11	90.1	91.62	68	69.44	68.71
Assam	2014-15	113.39	116.6	114.96	90.1	101.94	95.86	69.36	80.57	74.78	32.71	35.4	33.97
Bihar	2014-15	98.09	104.35	101.09	89.84	107.7	98.07	65.08	73.85	69.09	31.91	31.66	31.79
Chandigarh	2014-15	83.62	91.49	87.11	94.68	103.15	98.33	89.05	90.53	89.69	90.05	91.3	90.57
Chhattisga	2014-15	103.3	102.85	103.08	100.87	101.59	101.23	100.3	103.38	101.82	64.1	62.57	63.34
Dadra & N	2014-15	85.41	78.78	82.18	97.19	88.36	92.91	91.14	84.65	88.07	35.57	40.39	37.7
Daman & I	2014-15	83.93	87.37	85.47	80.28	88.11	83.72	68.69	83.61	74.85	28.45	55.97	37.48
Delhi	2014-15	109.38	114.61	111.75	118.08	134.62	125.24	101.57	106.03	103.56	89.51	94.23	91.63
Goa	2014-15	103.03	105.01	103.97	99.23	101.26	100.19	118.56	108.13	113.63	73.68	82.57	77.88
Gujarat	2014-15	97.57	100.07	98.72	93.63	93.47	93.56	80.82	66.67	74.34	47.44	42.02	44.93
Haryana	2014-15	95.92	99.61	97.57	91.96	101.5	96.03	85.66	82.47	84.25	67.76	63.29	65.78
Himachal I	2014-15	98.52	100.44	99.43	102.25	104.04	103.09	119.04	112.29	115.87	101.69	99.31	100.58
Jammu An	2014-15	85.06	87	85.97	69.82	72.11	70.89	67.66	64.77	66.29	62.31	56.08	59.33
Jharkhand	2014-15	107.77	109.08	108.4	95.81	104.5	99.97	69.35	74.64	71.86	48.37	49.06	48.69
Karnataka	2014-15	101.89	101.84	101.86	92.53	93.89	93.18	81.05	82.63	81.8	30.81	35.32	32.96
Kerala	2014-15	95.22	95	95.11	96.47	97.34	96.89	103.63	102.82	103.24	73.74	80.13	76.87
Lakshadwe	2014-15	78.76	74.21	76.45	96.2	84.74	89.96	117.88	127.89	123.01	91.54	81.15	85.99
Madhya Pr	2014-15	101.94	100.2	101.11	92.69	101.15	96.63	80.99	79.26	80.18	47.75	42.9	45.48
Maharashi	2014-15	99	98.88	98.95	97.94	99.85	98.82	91.08	87.27	89.31	62.85	61.46	62.2
Manipur	2014-15	132.47	136.38	134.37	115.39	122.33	118.77	91.43	89.78	90.62	68.35	62.45	65.39
Meghalaya	2014-15	136.19	140.69	138.4	113.28	131.11	122.03	75.12	87.1	81.05	31.95	40.21	36.03
Mizoram	2014-15	124.8	120.44	122.66	127.63	125.97	126.83	107.22	109.12	108.15	61.94	62.28	62.11
Nagaland	2014-15	99.32	101.91	100.57	94.3	101.38	97.67	62.33	66.91	64.53	34.13	33.08	33.61
Odisha	2014-15	106.88	104.12	105.53	90.47	89.77	90.13	77.34	76.78	77.06	@	@	@
Pondicher	2014-15	84.49	92.4	88.16	86.87	94.02	90.18	90.28	101.94	95.66	61.25	82.15	70.87
Punjab	2014-15	103.4	107.26	105.11	94.56	99.69	96.77	85.72	85.42	85.59	68.61	70.38	69.39
Rajasthan	2014-15	99.82	97.31	98.64	87.43	83.85	85.79	82.67	68.62	76.16	63.85	48.02	56.46
Sikkim	2014-15	116.95	108.05	112.57	133.96	147.67	140.66	104.11	118.51	111.26	60.61	76.66	68.55
Tamil Nad	2014-15	102.79	103.45	103.11	93.37	95.9	94.58	90.22	93.72	91.89	69.97	85.73	77.52
Telangana	2014-15	103.55	103.59	103.57	89.94	91.9	90.89	79.67	85.03	82.25	55.64	61.31	58.33
Tripura	2014-15	109.5	110.49	109.98	118.8	122.38	120.54	119.81	121.36	120.57	46.48	40.05	43.4
Uttar Prad	2014-15	91.54	98.93	95	68.14	82.28	74.54	67.85	67.73	67.79	65.36	62.01	63.75
Uttaranch	2014-15	100.11	101.02	100.54	84.2	87.03	85.53	90.99	89.65	90.35	79.82	80.95	80.36
West Beng	2014-15	101.78	102.91	102.33	96.16	110.67	103.17	70.67	86.05	78.17	48.27	51.82	49.95
All India	2014-15	98.85	101.43	100.08	87.71	95.29	91.24	78.13	78.94	78.51	54.57	53.81	54.21

Andaman (	2015-16	91.13	86.76	88.93	86.35	81.97	84.14	89.07	84.28	86.69	72.92	76.4	74.62
Andhra Pra	2015-16	84.88	84.05	84.48	81.12	81.56	81.33	74.63	76.48	75.51	58.28	62.27	60.16
Arunachal	2015-16	127.61	125.88	126.76	127.14	133.2	130.13	91.66	87.58	89.63	62.02	61.6	61.81
Assam	2015-16	104.7	107.59	106.11	87.65	98.75	93.05	72.48	83.04	77.59	38.22	39.47	38.81
Bihar	2015-16	104.35	111.3	107.67	98.21	119.39	107.89	72.42	85.43	78.37	34.76	36.66	35.62
Chandigarl	2015-16	77.42	86.57	81.44	90.42	102.4	95.53	85.23	89.84	87.19	80.86	86.75	83.28
Chhattisga	2015-16	100.17	99.87	100.02	101.62	103.08	102.33	89.44	94.48	91.93	53.89	54.11	54
Dadra & N	2015-16	84.69	80.21	82.53	93.71	87.97	90.96	91.56	85.17	88.57	45.29	52.6	48.49
Daman & I	2015-16	79.68	84.95	82.03	74.86	84.64	79.15	67.05	81.44	72.97	16.32	32.27	21.54
Delhi	2015-16	108.04	113.93	110.71	118.86	140.55	128.12	103.23	111.27	106.81	73.25	83.6	77.9
Goa	2015-16	100.89	104.45	102.57	96.83	100.93	98.74	103.03	105.44	104.16	70.79	81.59	75.84
Gujarat	2015-16	95.64	99.11	97.24	94.7	96.99	95.73	80.26	66.82	74.13	45.17	41.42	43.43
Haryana	2015-16	89.96	93.21	91.41	87.39	99.22	92.39	84.2	84.23	84.22	59.68	59.48	59.59
Himachal F	2015-16	97.97	99.73	98.8	103.37	105.47	104.36	108.44	105.53	107.08	94.58	96.6	95.53
Jammu An	2015-16	84.86	87.24	85.98	68.77	71.85	70.2	67.65	65.88	66.81	61.01	55.98	58.6
Jharkhand	2015-16	108.56	109.92	109.22	97.75	108.19	102.73	70.7	76.93	73.65	47.75	48.98	48.32
Karnataka	2015-16	102.93	103.04	102.98	92.43	94.39	93.37	82.35	84.19	83.22	37.12	42.87	39.86
Kerala	2015-16	95.45	95.44	95.44	94.55	96.28	95.39	102.31	102.58	102.44	72.88	82.44	77.56
Lakshadwe	2015-16	77.9	69.9	73.8	92.53	75.67	83.26	105.39	102.06	103.66	93.23	102.35	98.16
MADHYA F	2015-16	95.35	93.52	94.47	90.49	98.13	94.02	81.54	79.3	80.49	47.04	43.24	45.25
Maharasht	2015-16	97.86	97.6	97.74	97.44	101.38	99.24	91.97	87.62	89.95	68.74	66.74	67.81
Manipur	2015-16	128.91	132.9	130.85	127	132.94	129.89	93.61	92.52	93.07	71.1	64.81	67.95
Meghalaya	2015-16	138.75	143.12	140.9	126	146.2	135.89	80.73	93.94	87.27	39.77	47.03	43.35
Mizoram	2015-16	124.91	121	122.99	135.9	133.6	134.78	107.26	110.85	109.02	53.57	57.86	55.68
Nagaland	2015-16	98.14	100.96	99.5	98.55	106.4	102.28	68.9	74.57	71.62	36.42	36.44	36.43
Odisha	2015-16	104.91	102.5	103.73	94.86	93.63	94.26	79.4	79.83	79.61	36.99	36.07	36.54
Puducherr	2015-16	80.2	90.23	84.79	82.41	92.57	87.04	83.59	95.38	88.95	64.74	86.95	74.8
Punjab	2015-16	99.87	103.99	101.7	95.01	102.92	98.38	87.12	86.97	87.06	69.03	71.69	70.19
Rajasthan	2015-16	101.27	99.48	100.43	91.46	91.21	91.34	81.15	70.12	76.06	66.09	51.59	59.31
Sikkim	2015-16	107.27	98.32	102.87	143.72	157.85	150.61	113.52	126.14	119.78	60.72	75.88	68.23
Tamil Nadı	2015-16	103.39	104.43	103.89	92.55	95.65	94.03	91.86	96.18	93.92	74.14	90.6	82.03
Telangana	2015-16	103.13	102.9	103.02	88.61	90.27	89.41	80.73	84.44	82.53	57.99	64.88	61.32
Tripura	2015-16	107.58	108.36	107.96	125.75	130.33	127.97	116.17	120.91	118.49	45.24	41.53	43.46
Uttar Prad	2015-16	88.63	96.16	92.15	68.24	83.49	75.08	67.65	67.86	67.75	62.21	59.26	60.78
Uttarakhai	2015-16	98.87	99.76	99.29	85.84	88.07	86.89	85.71	85.73	85.72	73.36	78.54	75.83
West Beng	2015-16	103.13	104.26	103.68	97.9	112.64	105	74.92	92.65	83.56	48.98	54.36	51.54
All India	2015-16	97.87	100.69	99.21	88.72	97.57	92.81	79.16	80.97	80.01	55.95	56.41	56.16

Calculations and analysis of the data

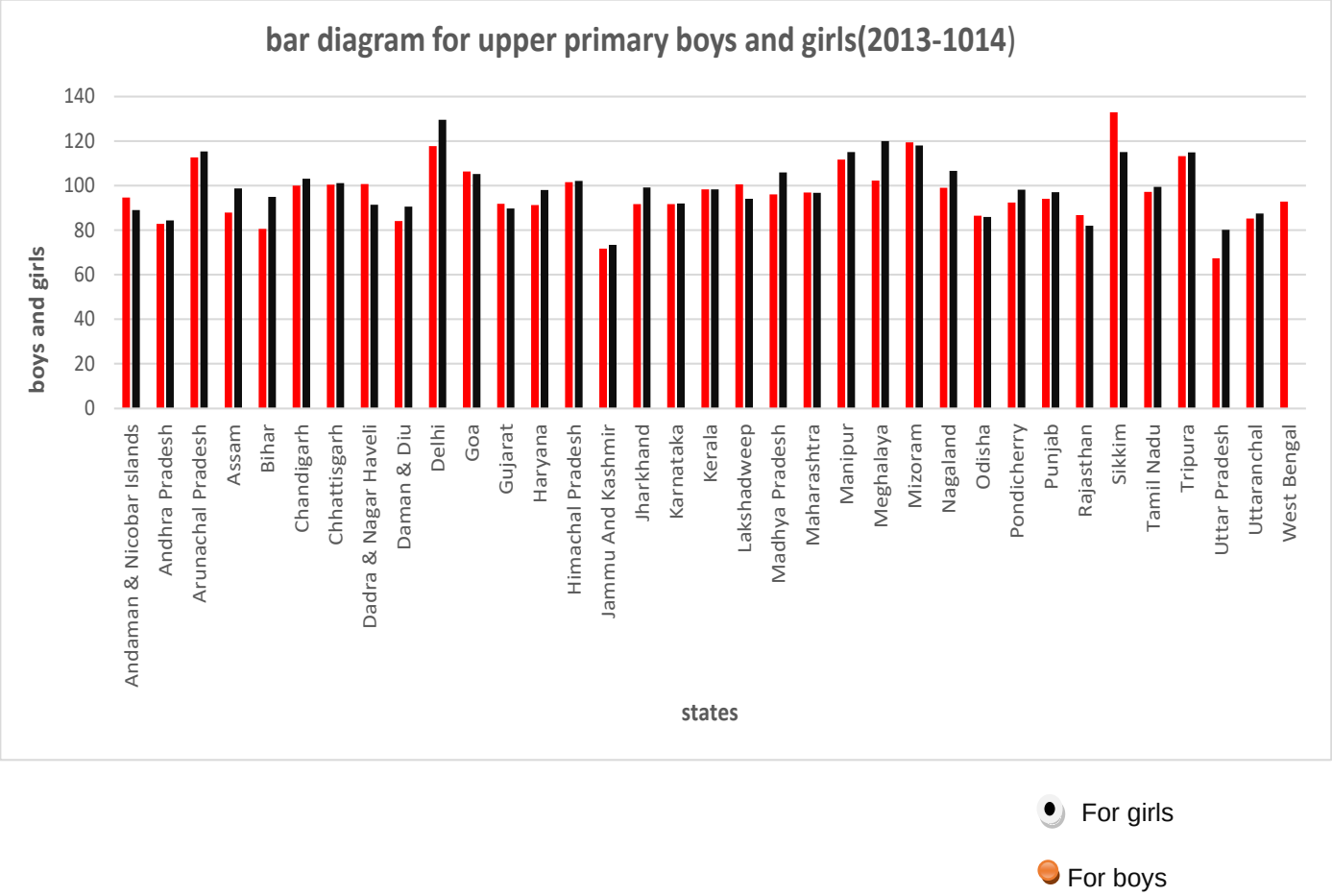
Now we will calculate the entire data and analysis the data between boys and girls by drawing bar diagram . First of all we will devide the data into 3 ranges of years such as – 2013-2014, 2014-2015, 2015-2016.

Bar diagrams between the year 2013-2014

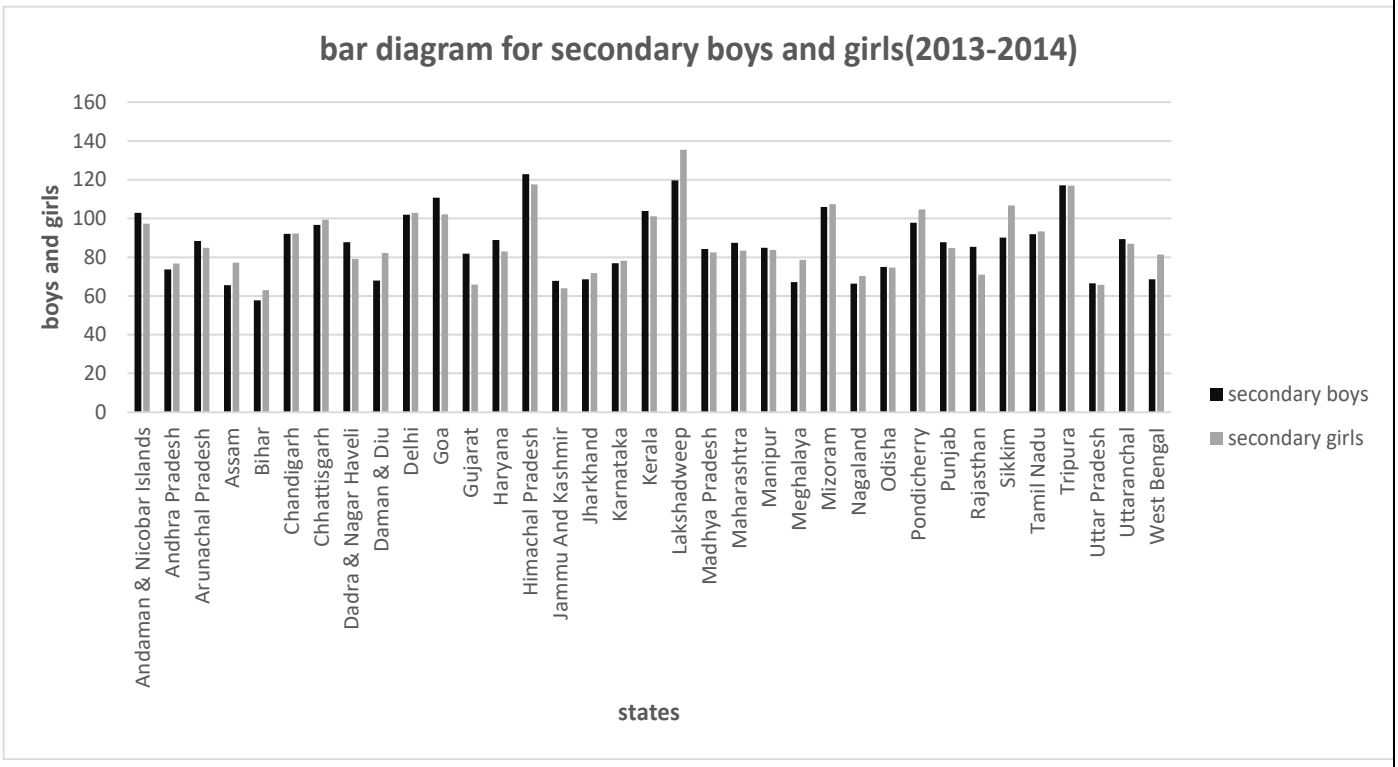


Here the bar diagram represents the difference and territory of primary boys and girls between the year 2013-2014. The X-axis denotes different states of India and the Y-axis denotes the data of primary boys and girls . We can see that the most territory belongs to these states: Arunachal-Pradesh ,Manipur , Meghalaya ,Mizoram ,Nagaland and Sikkim .And the lower

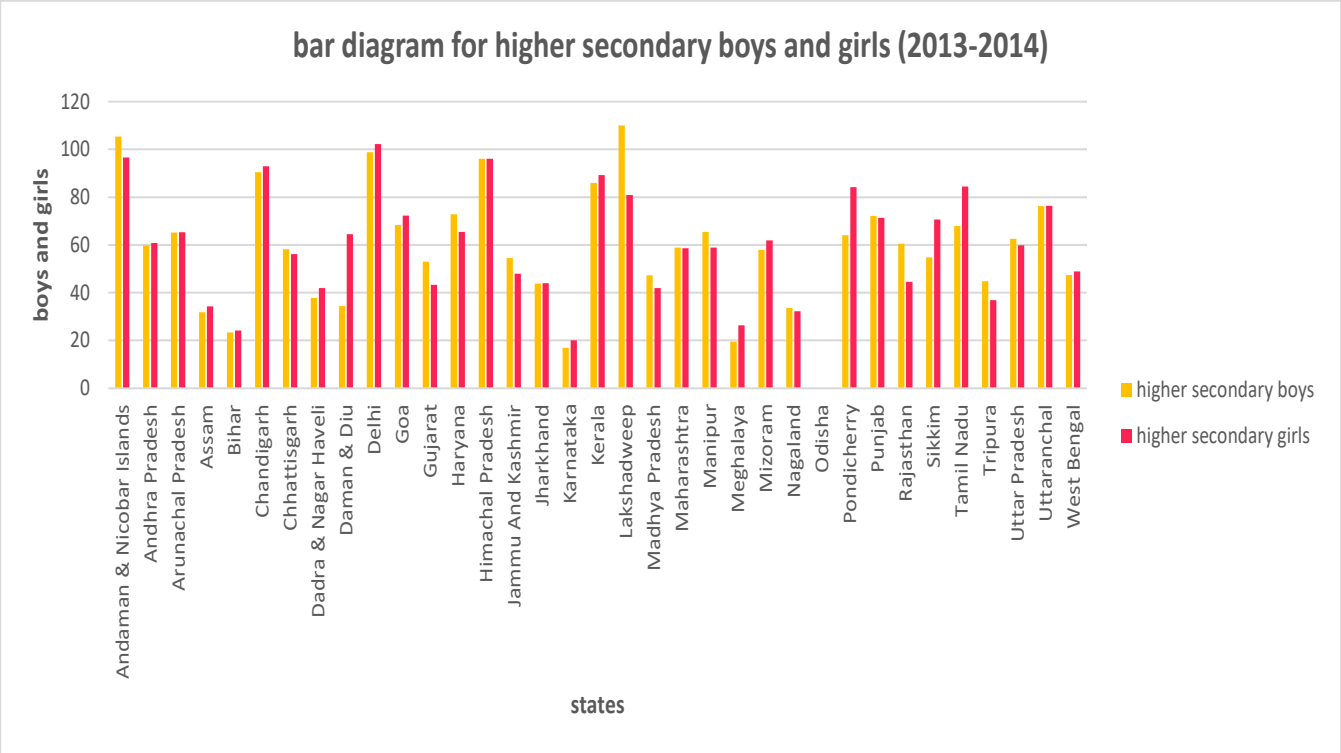
territory belongs to Jammu &Kashmir, Lakshadweep, Pondicherry, Daman &Diu. But others states have average territory.



Here the bar diagram represents the difference and territory of upper primary boys and girls between the year 2013-2014. The X-axis denotes different states of India and the Y-axis denotes the data of upper primary boys and girls. As we can see that the most territory exists among these states: Delhi, Arunachal-Pradesh, Manipur, Meghalaya, Sikkim, Tripura . And the lower territory belongs to Jammu &Kashmir, Rajasthan , Uttar Pradesh. But the rest of the states have average territory .

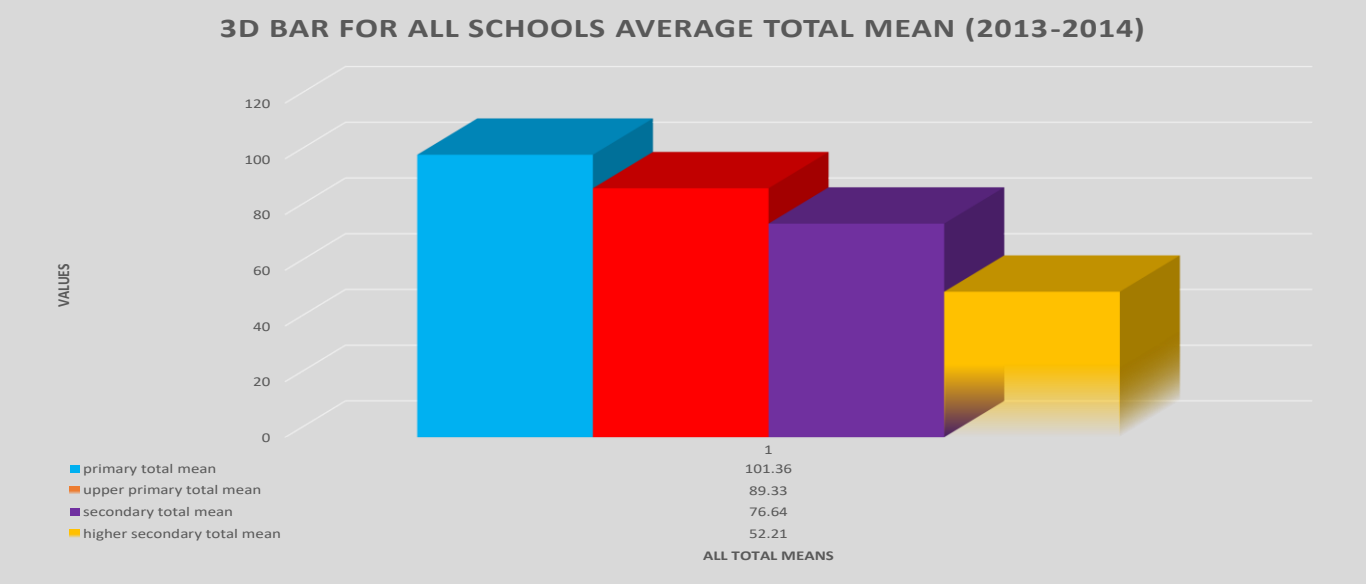


This bar diagram represents the difference and territory of secondary boys and girls between the year 2013-2014. The X-axis denotes different states of India and the Y-axis denotes the data of secondary boys and girls. As we can see that the most territory exists among these states: Lakshadweep, Himachal Pradesh , Tripura, Andaman & Nicobar , Goa , Kerala , Mizoram, Sikkim . The lower territory belongs to Bihar, Uttar-Pradesh, Nagaland . Rest of the states exists in average territory.



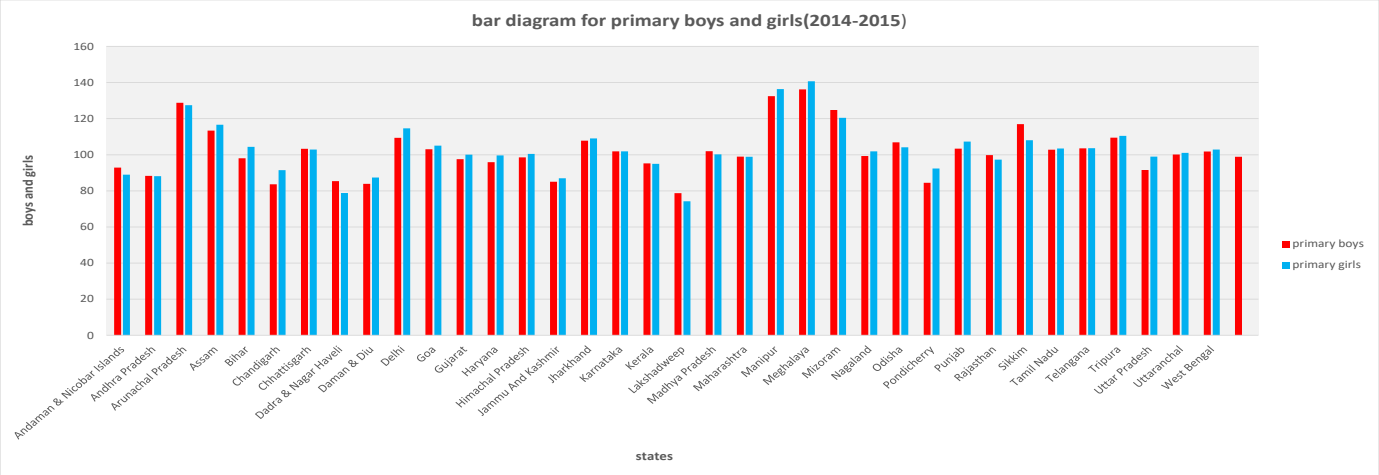
This bar diagram represents the difference and territory of higher secondary boys and girls between the year 2013-2014. The X-axis denotes different states of India and the Y-axis denotes the data of higher secondary boys and girls . Here the most territory exists Arunachal-Pradesh, Chandigarh, Delhi, Himachal-Pradesh, Kerala, Lakshadweep, Pondicherry, Tamil-Nadu. The lower territory exists in Bihar, Assam, Karnataka, Meghalaya, Nagaland. And the rest of the states belongs to average territory .

3d bar for all schools average total mean in India(2013-2014)



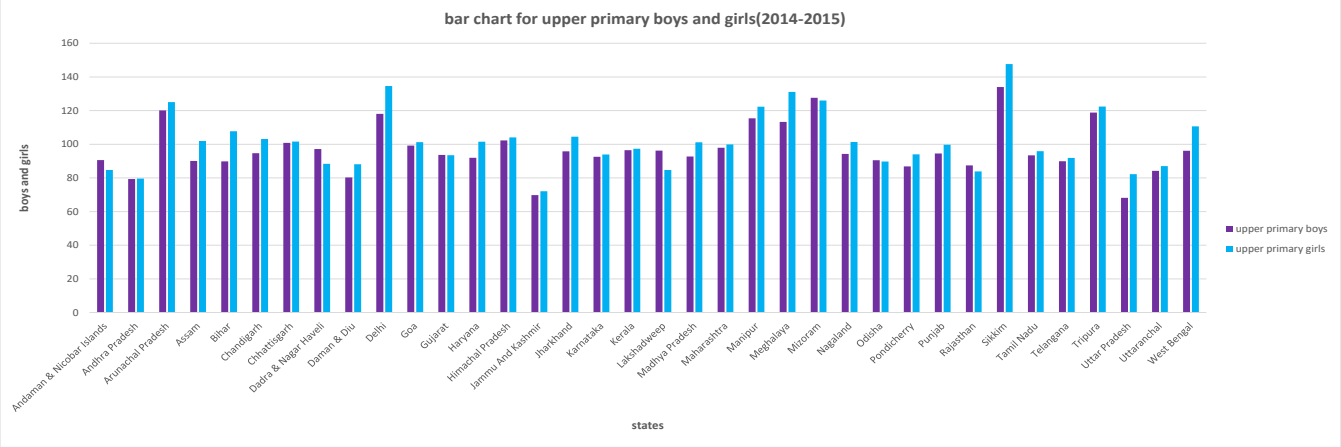
As we can see from the 3d bar for all schools average total mean(2013-2014),that the average total mean of primary schools, upper primary schools, secondary and higher secondary schools are respectively 101.36, 89.33, 76.64, 52.21. So the graph is decreasing .

Bar diagrams between the year 2014-2015

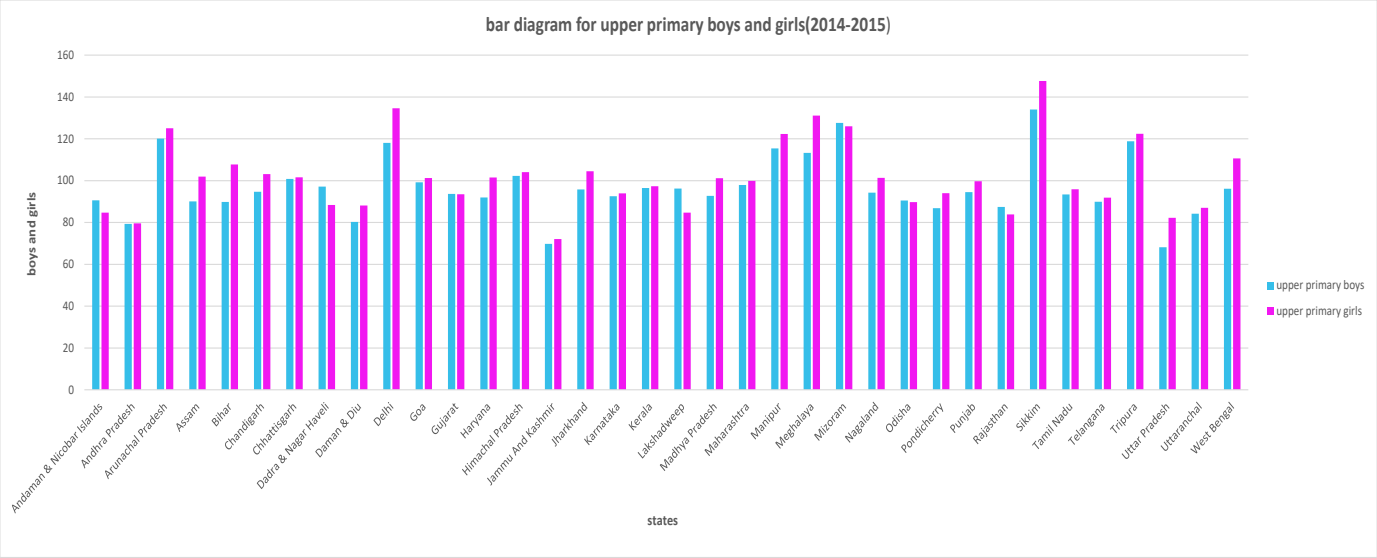


This bar diagram represents the difference and territory of primary boys and girls between the year 2014-2015. The X-

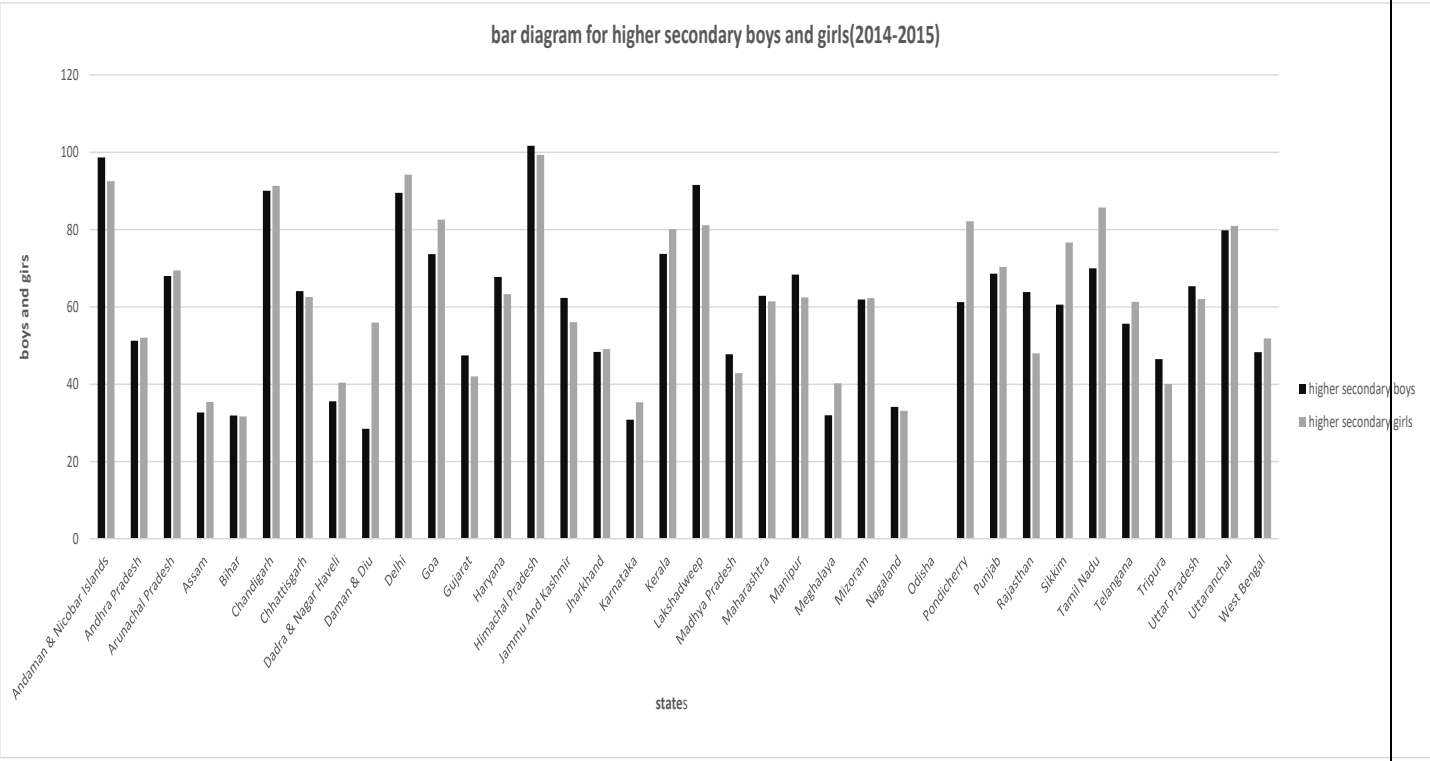
axis denotes different states of India and the Y-axis denotes the data of primary boys and girls . Here we can see that the most territory belongs to these states: Arunachal-Pradesh, Assam, Bihar, Dadra & Nagar Haveli, Delhi, Goa, Gujrat, Haryana, Himachal Pradesh, Jharkhand, Manipur, Meghalaya, Nagaland, Sikkim. The lower territory exists in Lakshadweep. And the rest of the states belongs to average territory.



This bar diagram represents the difference and territory of upper primary boys and girls between the year 2014-2015. The X-axis denotes different states of India and the Y-axis denotes the data of upper primary boys and girls. So here we can see that the most territory exists in Arunachal-Pradesh, Delhi, Manipur, Meghalaya, Mizoram, Sikkim, Tripura and West Bengal. Lower territory exists in Jammu &Kashmir, Uttar Pradesh. Lastly rest of the states belongs to average territory.

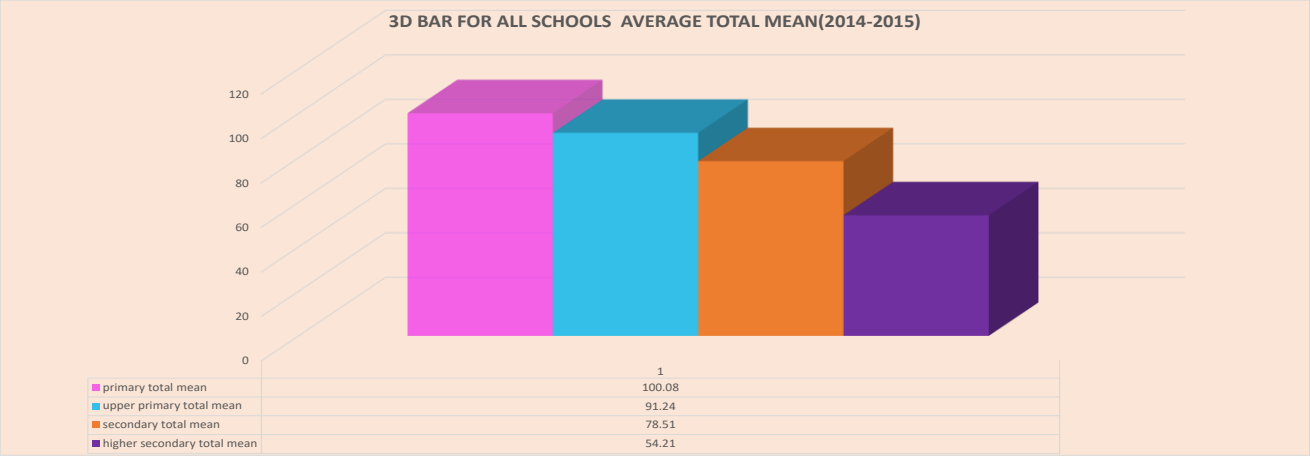


This bar diagram represents the difference and territory of secondary boys and girls between the year 2014-2015. The X-axis denotes different states of India and the Y-axis denotes the data of secondary boys and girls. In this bar diagram we can see that the most territory belongs to Goa, Himachal Pradesh, Lakshadweep, Mizoram, Sikkim, Tripura. Lower territory exists in Jammu &Kashmir, Nagaland, Uttar Pradesh. Rest of the states in India belongs to average territory.



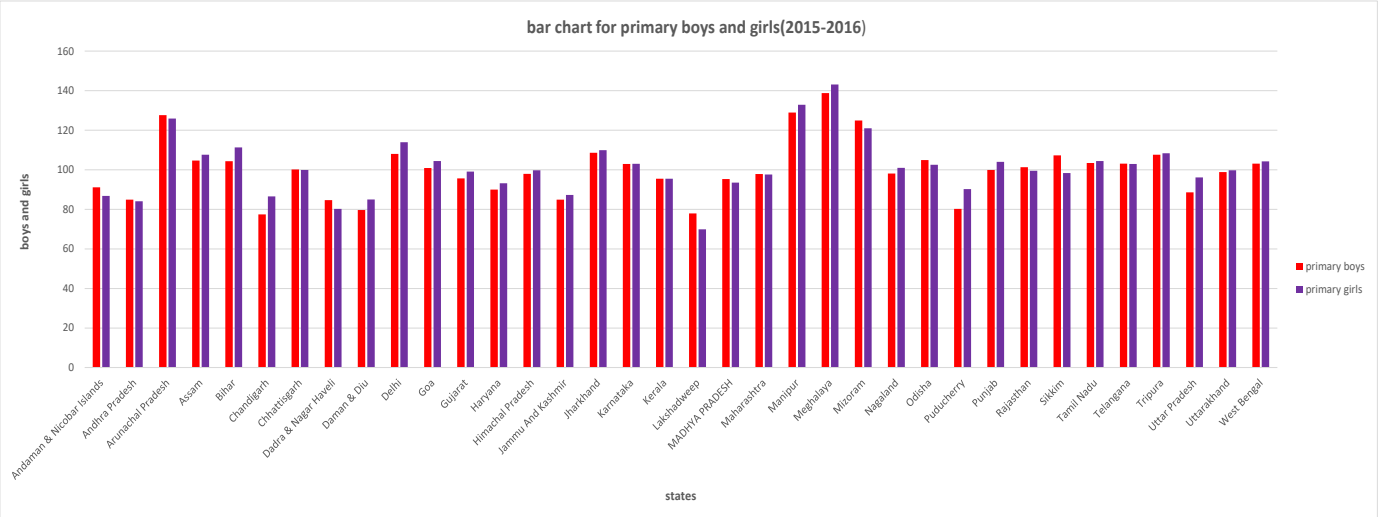
This bar diagram represents the difference and territory of higher secondary boys and girls between the year 2014-2015. The X-axis denotes different states of India and the Y-axis denotes the data of higher secondary boys and girls. So here we can see that the most territory exists in Andaman &Nicobar, Chandigarh, Delhi, Himachal Pradesh, Lakshadweep. The lower territory exists in Assam, Bihar, Karnataka, Nagaland. Rest of the states belongs to average territory.

3d bar for all schools average total mean in India(2014-2015)



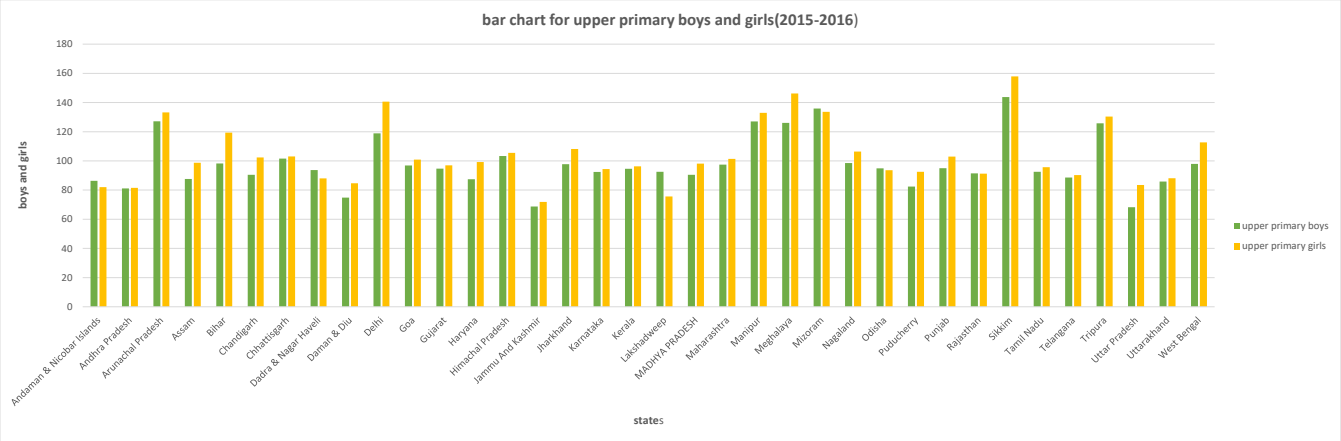
In this range of year we can see from the 3d bar for all schools average total mean(2014-2015),that the average total mean of primary schools, upper primary schools, secondary and higher secondary schools are respectively 100.08, 91.24, 78.51, 54.21. So the graph is decreasing here also.

Bar diagrams between the year 2015-2016

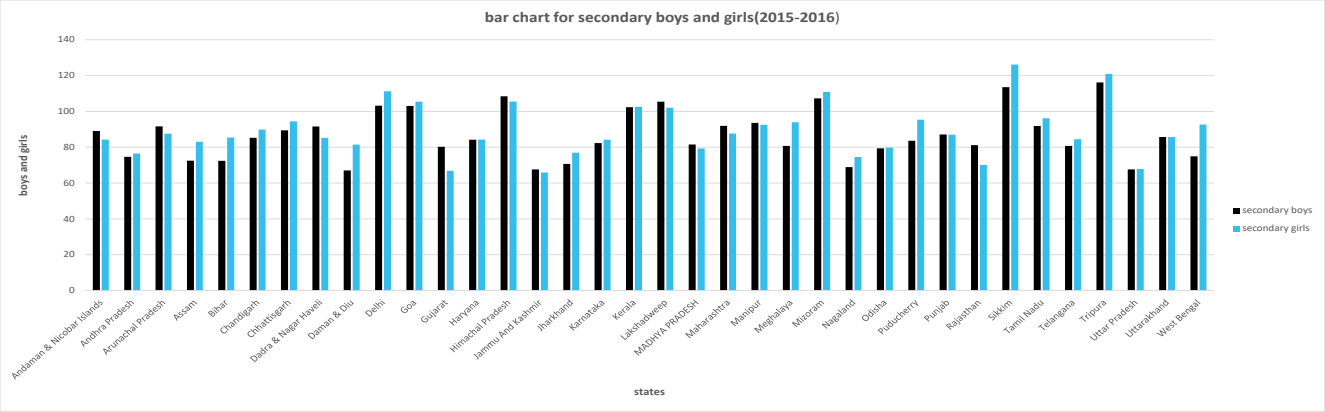


This bar diagram represents the difference and territory of primary boys and girls between the year 2015-2016. The X-axis denotes different states of India and the Y-axis denotes the data of primary boys and girls. We can see that the most territory belongs to Arunachal Pradesh, Delhi, Meghalaya,

Mizoram, Manipur. Lower territory belongs to only Lakshadweep. Rest of the states belongs to average territory.

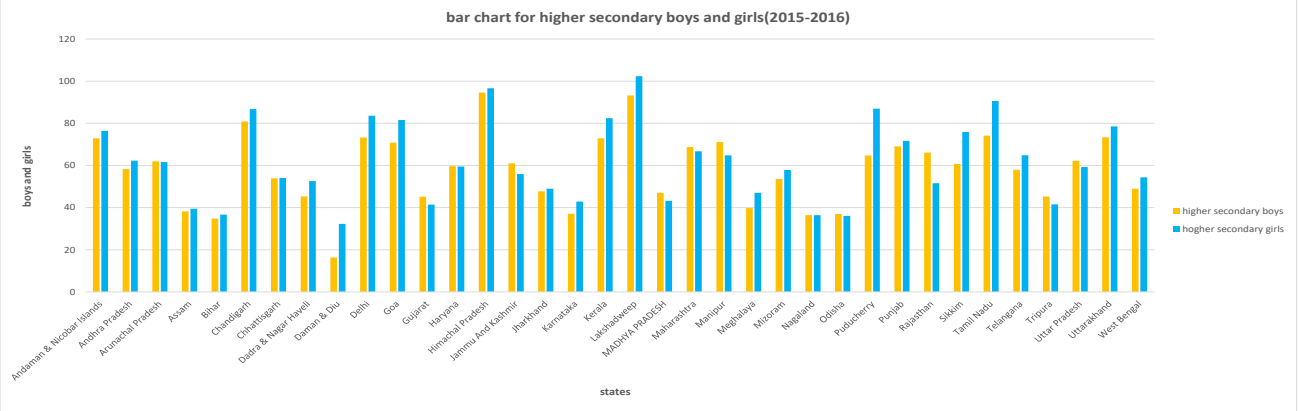


This bar diagram represents the difference and territory of upper primary boys and girls between the year 2015-2016. The X-axis denotes different states of India and the Y-axis denotes the data of upper primary boys and girls. Here we can see that most territory belongs to Arunachal Pradesh, Bihar, Delhi, Manipur, Mizoram, Meghalaya, Sikkim and Tripura. Lower territory belongs Jammu &Kashmir, Uttar Pradesh . Rest of the states belongs to average.



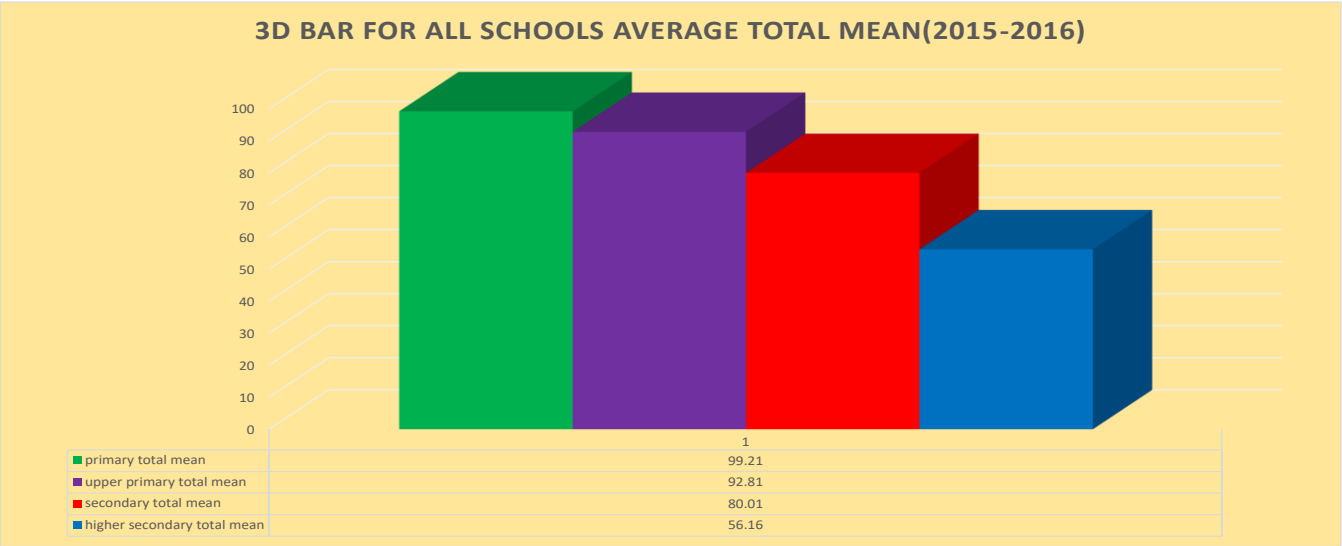
This bar diagram represents the difference and territory of secondary boys and girls between the year 2015-2016. The X-axis denotes different states of India and the Y-axis denotes the data of secondary boys and girls. Here most territory exists in Delhi, Goa, Himachal-Pradesh, Kerala, Lakshadweep, Mizoram, Sikkim, Tripura. Lower territory belongs to Jammu

&Kashmir, Uttar Pradesh. And rest of the states belongs to average territory.



This bar diagram represents the difference and territory of higher secondary boys and girls between the year 2015-2016. The X-axis denotes different states of India and the Y-axis denotes the data of higher secondary boys and girls. Here most territory belongs to Chandigarh, Delhi, Goa, Himachal Pradesh, Kerala, Lakshadweep, Pondicherry, Tamil Nadu. Lower territory belongs to Assam, Bihar, Daman &Diu, Nagaland &Odisha. Rest of the states have average territory.

3d bar for all schools average total mean in India(2015-2016)

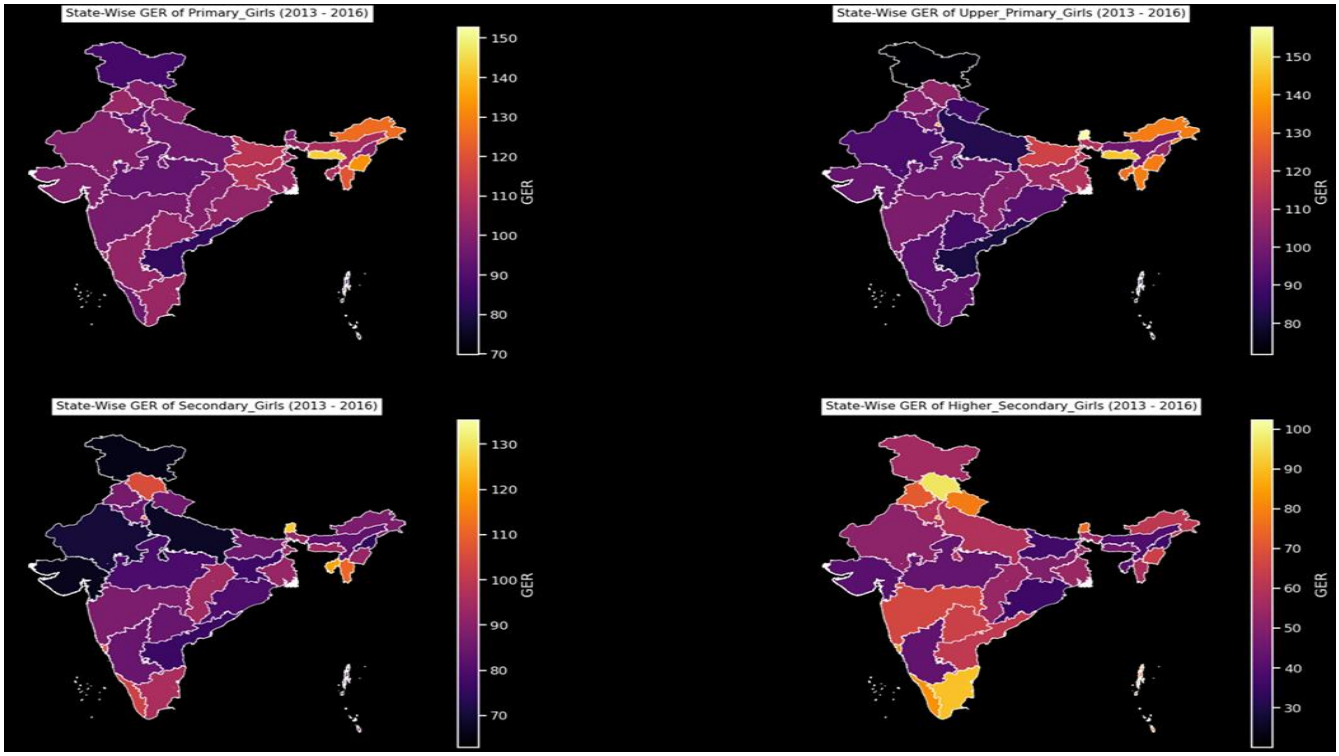


we can see from the 3d bar for all schools average total mean(2015-2016),that the average total mean of primary schools, upper primary schools, secondary and higher secondary schools are respectively 99.21, 92.81, 80.01, 56.16 . So the graph is decreasing here also.

Pictures of state wise GER of different years:

Let's visualize the Gross Enrollment Ratio of all the states in India using an India Map by different years

Girls:

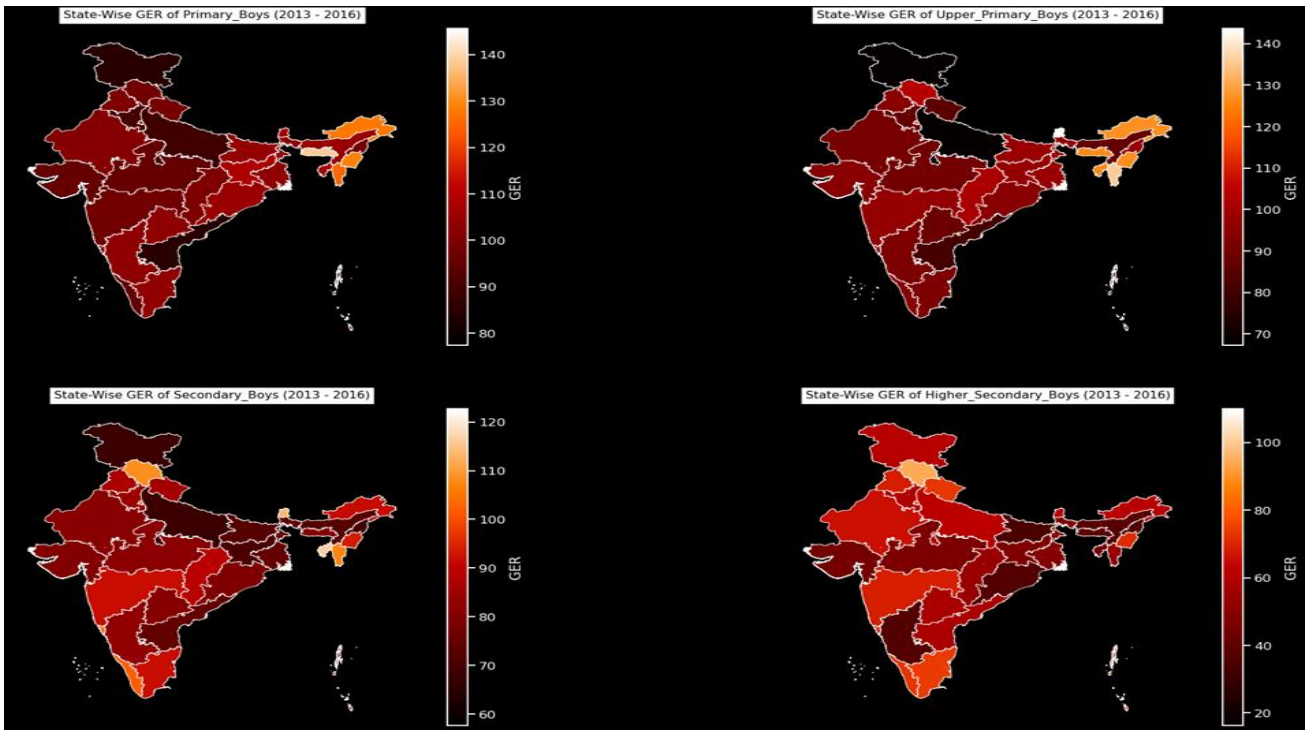


(source= Indian School Education statistics, Wikipedia, Google)

- It's clear from the graph that the Primary Girls GER is the highest for Eastern states like Assam, Mizoram, etc and it's the lowest for Andhra Pradesh and J & K.
- Upper Primary Girls GER is the lowest in J & K and that too at an alarming number! AP also has a lot of room for improvement in its GER.

- Secondary Girls GER top 3 lowest states are J & K, Uttar Pradesh, and Gujarat. This is really concerning.
- I see a lot of Yellow and Orange in different states for Higher Secondary Girls and that's a really good sign

Boys:

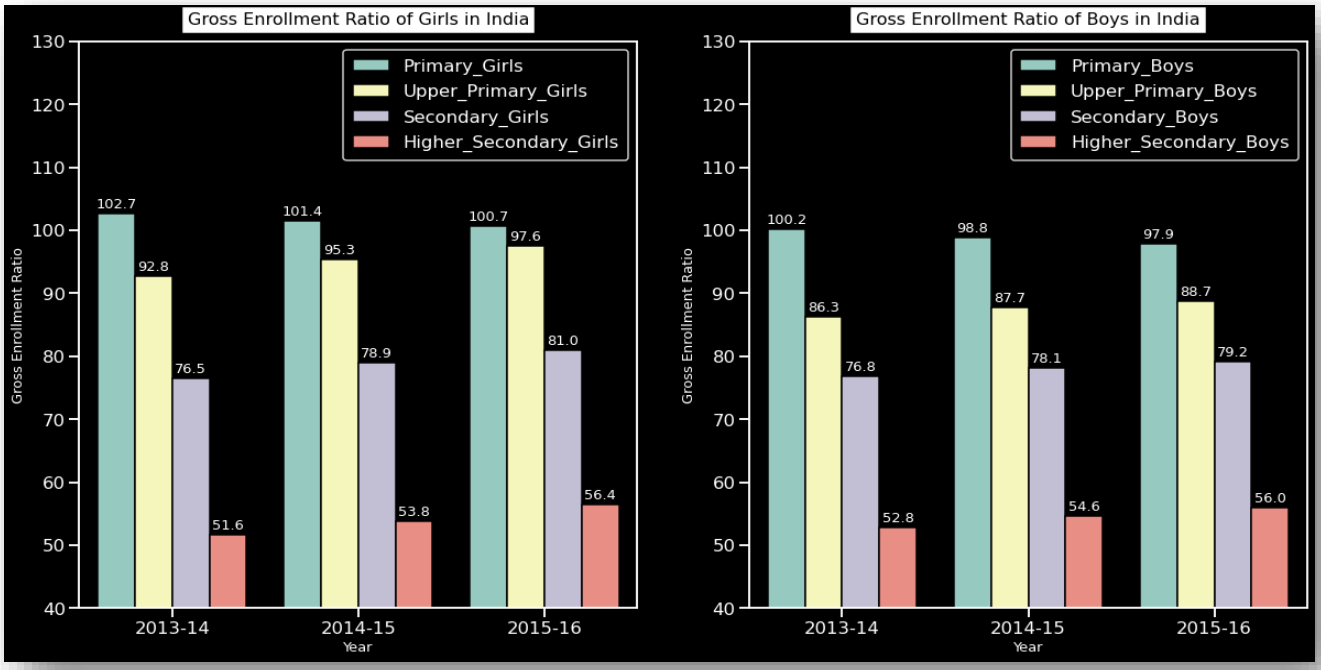


(source= Indian School Education statistics, Wikipedia,Google

. Like Girls, Primary Boys' GER also follows almost same pattern.

- Top 2 Lowest for Upper Primary Boys' GER are J & K and Uttar Pradesh.
- Compared to Girls, Boys' GER in Secondary Schools is not so alarming.
- The pattern for Higher Secondary Boys look similar to the Girls.

Comparison of All India Gross Enrollment Ratio between girls and boys from 2013-2016 :



Conclusion :

After calculating , plotting bar diagrams, visualizing state wise GER in Indian map and lastly comparing all India GER between girls and boys from 2013-2016, we have come to this conclusions :

Girls

Let's see how the trends have been in Gross Enrollment Ratio for Girls.

- Girls who join Primary School have exceeded 100 GER which means the students also include who are repeating a grade, or those who enrolled late and are older than their classmates, or those who have advanced quickly and

are younger than their classmates. This is a positive sign in a developing country like India.

- However, the ratio has been consistently decreasing over the years. There could be two reasons for this decrease:
    1. Either students who are repeating grades & those who have enrolled late are decreasing over time,
    2. Or, there's an actual decrease in enrollments for primary schools among girls.
- Indian Government has look into this to take a quick action if it's the second reason.
- There's a considerable increase in GER from 2013-2016 for girls who are joining Upper Primary, Secondary, and Higher Secondary Schools. This is again a very positive sign.

Boys

Let's see how the trends have been in Gross Enrollment Ratio for Boys.

- The trends for Primary Schools are the same as girls. Again, if we could look further into data about the GER, we could gather some important information as to why there's a decrease in GER for Girls and Boys.
- Compared to Girls, the GER of Boys in Upper Primary is very low. This is a negative sign because this might affect the enrollments of Secondary and Higher Secondary Schools among boys.

General

- We can also observe that there's a big difference between Secondary and Higher Secondary Enrollments. There could be many reasons like:

1. Students might migrate to better colleges in cities/towns.
2. They might enroll themselves in Coaching Centres such as IIT/AIEEE/etc.

The main findings on enrolment of children at different stages of school education are

summarised bellow.

◉Primary Stage

● According to the present Survey, at primary stage total enrolment is 12,29,15,301,

which includes 5,75,52,738 girls and 6,53,62,563 boys. These figures show that

46.82% are girls and 53.18% boys. In rural areas, percentage of girls enrolment is

46.73, whereas in urban area, the same is 47.10%. In rural area, Delhi has the

highest percentage of girls enrolment (50.70%) while it is the lowest 42.04% in

Bihar. In urban area, Sikkim with 51.98% is on the top and Himachal Pradesh

with 44.30% is at the bottom. Overall, Meghalaya has maximum girls enrolment

(50.48%) and minimum is in Bihar (42.46).

● In comparison to Sixth Survey, total enrolment has increased by 26.68%. In the

Sixth Survey, percentage of girls enrolment was 43.16 while in the Seventh Survey

this percentage is 46.82, which is showing an increase of 3.66%. An increase of

4.77% in girls enrolment percentage in rural area is observed in Seventh Survey

(46.73%) against Sixth Survey (41.96%).

● At primary stage maximum enrolment (46.61%) is in government schools and

minimum (9.03%) in private aided schools. Local body and private unaided schools

have 29.40% and 14.96% of total enrolment respectively.

◉ Secondary Stage

● There are 2,18,88,898 children enrolled at secondary stage. Out of these 41.51%

are girls and 58.49% are boys. Percentage of enrolment in rural and urban areas

are 57.59 and 42.41 respectively. In rural area, the percentage of enrolment for

girls is 38.96 whereas in the urban area it is 44.98% which shows a difference of

6.02%. At secondary stage, Meghalaya has the highest percentage of girls enrolment

(51.47%) and Rajasthan has the lowest (29.33%).

8 Seventh All India School Education Survey

● In comparison to the Sixth Survey, the enrolment has increased by 43.82% and

the girls' enrolment by 63.71%. In the rural area, girls' enrolment has increased

by 80.97% while in the urban area it has increased by only 47.21%.

● The management-wise distribution of enrolment is 32.65% in government, 7.03%

in local body, 39.97% in private aided and 20.35% in private unaided schools.

● At secondary stage, 15.39% children are from the scheduled castes category while

the same was 13.72% in the Sixth Survey. In the rural area, percentage of scheduled

castes children is 16.55 whereas in the urban area it is 13.83%. Out of total

scheduled castes enrolment, the percentage of girls enrolled is 39.49. Girls'

percentage in rural and urban areas are 36.97% and 43.59%, respectively.

Enrolment of SC children has increased by 61.40% in comparison to the Sixth survey.

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THE END