**Indian Schools System in India**

India, being the 2nd most populous country in the world has large number of schools as well and the quality of these schools are determined by various factors in each state of India.

**Goal**

We have tried to visualize various attributes of Indian schools in different states of India. This visualization will help to create awareness and assist in decision making in the area of Schooling around whole India.

The expected number of students in each state refers to the group of people having people of age between 3 and 20. The three attributes, namely students per 100 people, teachers per 100 people and schools per 100 people are normalized per 100 expected values and this number can be increased for a better representation and understanding if needed.

All the attributes taken into consideration are:

1. Students pass percentage
2. Drinking water schools percentage
3. Teachers per 100 people
4. Literacy rate
5. Students per 100 people
6. Full time teachers percentage
7. Pucca building type schools percentage
8. Toilet facility schools percentage
9. Trained teacher percentage
10. Playground school percentage
11. Schools per 100 people
12. Hand wash facility percentage
13. Govt schools percentage
14. Mid day meal school percentage
15. Computer availability schools percentage
16. Boundary wall schools percentage
17. Schools drop out percentage
18. Electricity Connection School percentage
19. Text books received schools percentage
20. Private schools percentage

And all the above attributes selected can be grouped into four main categories as follows:

1. Faculty strength
   1. Schools per 100 people: Number of schools present on a scale of 0 to 100 per meter square. It helps to measure the schools availability in a state.
   2. Teachers per 100 people: Number of teachers present on a scale of 0 to 100 per meter square. It measure the availability of teachers in a state. The more the number of teachers, more is the scope of getting education.
   3. Trained teacher percentage: Trained teachers refers to the teachers with minimum required qualification like Msc (Master of Science), Med (Master of Education), Mphil (Master of Philosophy), Phd (Doctor of Philosophy) etc. Sometimes, schools are even deprived of the teacher with such qualifications. Trained teachers in turn affect the quality of education provided (like how good they are teaching stuff to the students).
   4. Full time teachers percentage: Full time teachers refer to the teachers who have no time constrained contracts and will continue to teach until their retirement. Sometimes, the teachers hired are on contract basis ( like guest teachers). So, this measure helps in determining the stability of the teachers in a particular state.
2. Registered students
   1. Students pass percentage: Students who actually successfully passed their grades out of the total number of students enrolled in school. It actually contributes to the literacy rate in a particular state. It gives an overview of the states which have a scope of improvement on quality of education like providing good trained teachers, enough stuff to study (like books) etc.
   2. Schools drop out percentage: Students who discontinue their studies due to some reasons. It does not include students who actually fail in their grades. It may connect to the quality of life in that region.
   3. Students per 100 people: Number of students present on a scale of 0 to 100 per meter square. This measure gives us an insight of the students who are actually enrolled and studying in different states of India.
3. School indicators
   1. Toilet facility schools percentage: Toilet facility availability in schools.
   2. Drinking water schools percentage: Drinking water facility in schools.
   3. Pucca building type schools percentage: Pucca (in Hindi) refers to the concrete buildings. So, this attribute refers to the schools percentage which are made of concrete.
   4. Playground school percentage: Schools having playgrounds.
   5. Hand wash facility percentage: Schools having hand wash facility.
   6. Mid day meal school percentage: Mid day meal refers to the facility started long back by Indian Govt to provide cooked meals (usually lunch) to children in schools (Govt). It was an initiative taken to promote literacy based on free lunches for schoolchildren. This initiative was taken to overcome the fact that many children were just sent to work because the Parents did not have enough money to buy food for them.
   7. Computer availability schools percentage: Schools having enough computer facility for students.
   8. Boundary wall schools percentage: Presence of the proper boundary around the school’s area
   9. Literacy rate: It is the key for socio- economic progress in a State. Literacy in India is defined as the ability of a person who is above the age of seven and is able to read and write.
   10. Electricity Connection School percentage: Presence of electricity facility

So, the facilities like toilet facility, drinking water facility, hand wash facility, electricity connection and boundary wall are all basic facilities which are ideally expected to be present

in a school.

1. Government role
   1. Govt schools percentage: Schools run by Indian Govt which have less fees as compared to the private one, no English medium and have much more Govt involvement.
   2. Private schools percentage: Private schools on the other hand are usually in English medium, higher fees and very less Government involvement.
   3. Text books received schools percentage: Text books provided to students in schools. It encompasses Govt role in the sense that Govt ensures to take care of the funds to ensure that all students get study material.

It completely depends on the people themselves how do the define good education and what they actually want, like some may prefer paying low fees in Govt schools rather than studying in private schools.

**Gini coefficient,** the statistical dispersion measure of inequality, here, in our case, measure the inequality among values of different attributes. So, in our story Gini coefficient can therefore be used to compare different States within India. A Gini index value of 0.2 or above is considered high, expressing higher inequality among different states; attributes like school drop out percentage, electricity connection, hand wash facility, availability of schools and teachers per 100 values, boundary walls presence and private schools percentage can be found in this category. Likewise, we consider a Gini value of 0.1 or above to be medium; attributes like playground school, trained teachers, full time teachers, Govt schools and compute availability schools fall under this category. Attributes such as toilet facility schools, students per 100 people, literacy rate, pucca building facility, mid-day meal schools, drinking water schools, text books received schools and student pass percentage have lower Gini value below 0.1, indicating the higher equality, where this equality can be measured as the condition where all the states do equally well or they are equally bad at that attribute. School drop ot percentage and student pass percentage have the highest and the lowest Gini index value repectively.

This interactive visualization will be useful for:

* The Government: to know the states where the states lack and so, a scope of improvement for better education system is possible.
* The youth to take decisions regarding their choice of place to pursue their further education based on the facilities provided. And so, same as for parents when they take decision to move to a new city which might not be the same as their current state.
* The teachers to decide to move to the states for their future career scope using the faculty strength indicators.

**Data**

The data used in this interactive visualization is taken from the Indian Government’s open data website [http://data.gov.in](http://data.gov.in/)

Tools

All this is built using leaflet and Tableau.