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OUTLINE

- This project is aimed to use the educational data available in public domain and analyze it statistically for insights on the correlation between different factors which may have an effect on elementary education in Gujarat like geography and enrollment ratio, geography and ¹gender parity index(¹GPI), ²retention rate and type of school(govt. or private) etc.
- We are also trying to see the spatial trends through spatial analysis in the no. of enrollments, enrollment ratio, gender parity index, girls enrollments, ³net enrollment ratio(³NER), ⁴gross enrollment ratio(⁴GER), ⁵transition rate, retention rate etc. over the course of 10 years from 2005-06 to 2014-15 in all the districts of the Gujarat.

METHOD

DATA COLLECTION:

- From different govt. & non govt. organizations and their websites like **DISE**, **ASER**, **GUNOTSAV**, **CENSUS** etc.

SOFTWARE:

- R**(open source statistical prog. software) for all the purposes from data formatting, data manipulation to data visualization.

DATA CLEANING:

- Formatting and cleaning data properly for the ease of access of extensive amount of data and generalizing operations like calculation of GPI etc. for all the years of data.

DATA MANIPULATION:

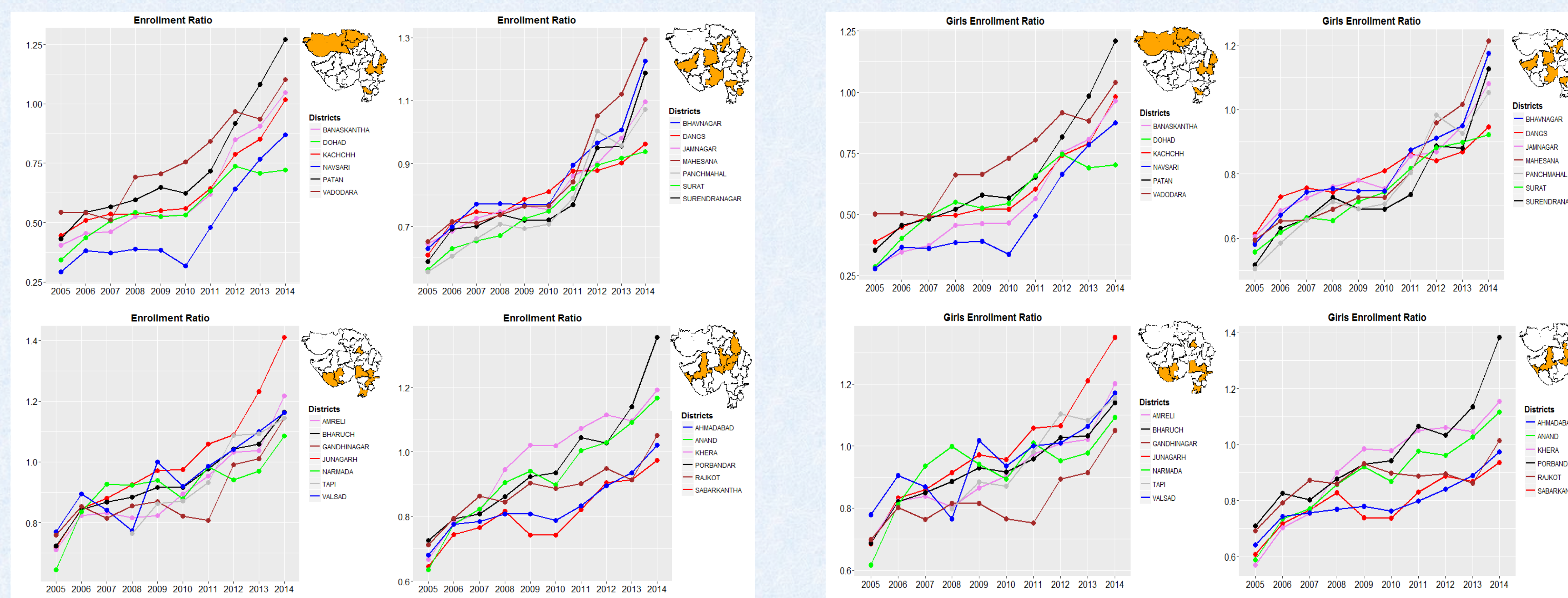
- Calculating different ratios and indicators of educational development like Girls Enrollment ratios, etc. up to district level and tabulating it.

EXPLORATORY ANALYSIS AND DATA VISUALISATION:

- Plotting indicators on graphs & maps to see the trend over the years.
- Continuing analysis in the direction of shown trends and looking for pattern & relationships.

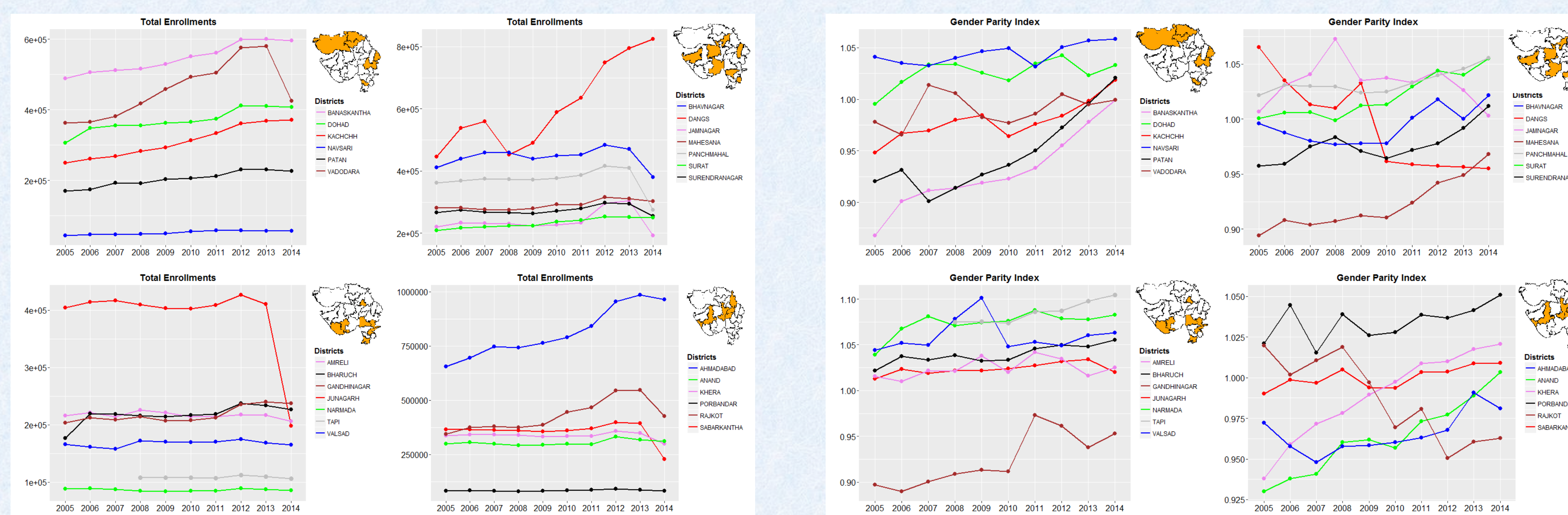
IMPORTANT RESULTS

- All the districts are divided into four groups as per their enrolment ratio values in 2005, starting from very low, low, mid to high values(clockwise).



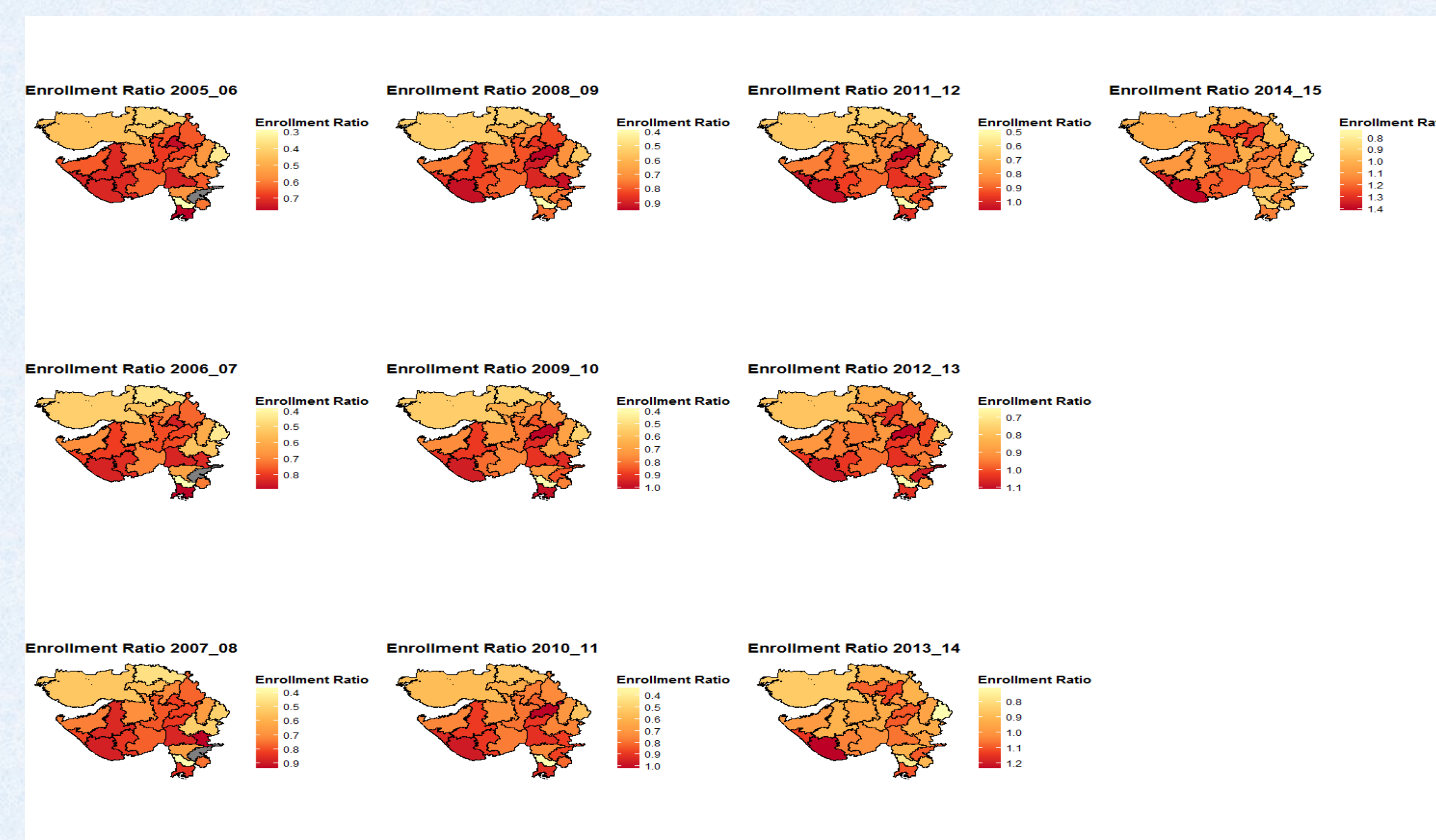
Class 7 to 1 Enrollment Ratio

Class 7 to 1 Girls Enrollment Ratio



Total Enrollment Trend

Gender Parity Index



Choropleth Map of Gujarat showing Enrollment Ratios

CONCLUSIONS

- All the educational Indicators has shown improvement for all the districts over the 10 years interval.
- Enrollment Ratio has increased smoothly from 2005-2013 but suddenly in year 2014 few districts have shown significant increase. This happened due to creation of many new districts in the year 2013.
- Trends shown by Enrollment Ratio and Girls Enrollment Ratio are almost same because of the nature of ratio.
- Trends shown by Gender Parity Index have been a bit haphazard for different districts. Except for few districts like Rajkot and The Dangs all other districts have shown an increase or constancy in GPI over the 10 years.
- Scale with which Total Enrollments and Enrollment Ratio have increased are almost same for all the districts. No district from Group I has shown any significant change in enrollment numbers and achieved ratios comparable to Group IV.

BIBLIOGRAPHY

- R Graphics cookbook – Wiston Chang
- Stackoverflow - website
- R bloggers - website
- Stackexchange – website
- Gis.stackexchange – website
- SchoolReportcards and DISE - website
- ASER and Gunotsav - website

- Gender Parity Index(GPI) = (Total no. of enrolled girls in class 1 to class7)/ (Total no of boys enrolled in class 1 to class 7) or Total GER girls/ Total GER boys
- Retention Rate = Ratio of no of total enrollments in class 5 to the total no of enrollments in class 1 four years back
- NER = Ratio of no students attend school from a particular age group to total no of students enrolled in those classes
- GER = Ratio of the no of enrollments regardless of age to the no of eligible enrollments
- Transition Rate = Ratio of total no of students in class 6 to total no of students in class 5 one year back