Classification of Educational Bottlenecks

- Arshia Sangwan
- Eshwar SK
- Malhaar Arora
- Niranjani

Team 11

Motivation and Problem Statement

- “Everyone has the right to education.”
- Data regarding education records is available but it is usually present in a discrete form.
- The **absence of well-organized, classified data** that could help provide deeper insights and hence help in the formulation of educational policies to combat educational exclusion and ensure better access to education is the problem we aim to solve.
- Thus, **we aim to create a visualization of data** as it tremendously helps in aiding policymaking.
- A district-wise analysis, instead of a nation-wide analysis would highlight local trends and aid in making customised policy decisions.

Motivation and Problem Statement

Considering the current constraints, we have restricted ourselves to analyzing the dataset for only Madhya Pradesh. We finalized Madhya Pradesh as it stands as the third-highest state in India in school dropout rate and also because valid and verifiable data for the same is available.

Thus, our aims are-

1. To analyze district wise data to spot trends.
2. To analyze the role of caste category in primary and secondary education enrolment.
3. To create a visualization form that can be scalable and used as tool to highlight trends

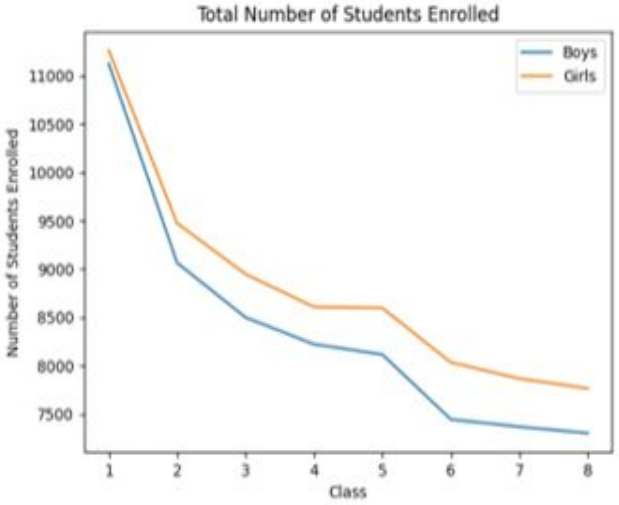
We intend to create a well-organized database of the existing condition of the education system at the district level and analyze the dropout rates through primary and middle school.

Dataset and Methodology

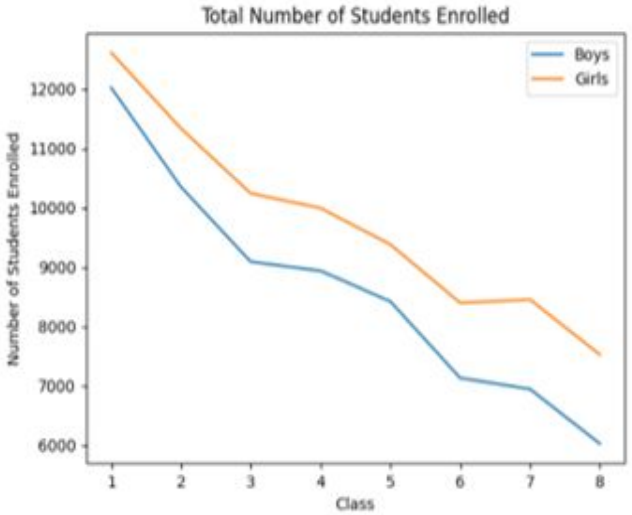
- Searched for district wise enrolment or dropout data for various districts in Madhya Pradesh
- Final database
  - Tracks district wise enrollment data for one batch from 1st to 8th grade (2009-10 to 2016-17)
  - 3 districts
    - Dindori (Tribal)
    - Chhatarpur (Semi-Rural)
    - Bhopal (Urban)
  - Data Source - Educational Portal of MP Government
- Data authenticity validation
  - Official Government Website
  - Cross-checked the enrolment data for a particular district with the block-wise enrolment data
- Methodology
  - Convert excel to CSV files
  - Use csv module to access data through code
  - Use for loops and list comprehension to get relevant data into lists
  - Plot the graphs using Matplotlib

Total Number of Students Enrolled

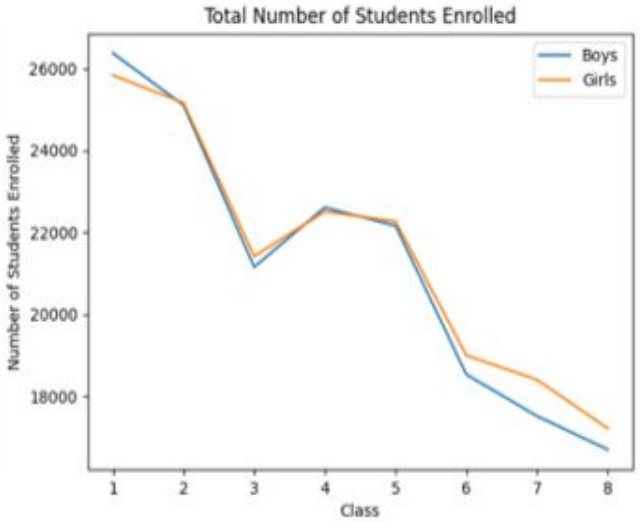
Dindori



Bhopal



Chhatarpur

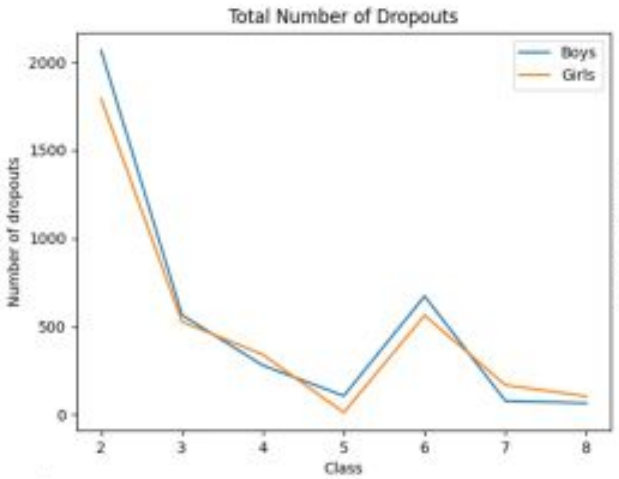


Observation:

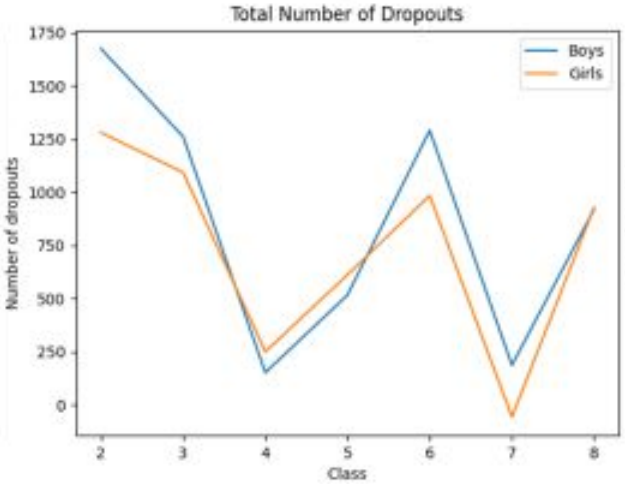
1. In all districts, the number of enrolled students come down to about 45% by the time they reach 8th grade.
2. In Chhatarpur there is a steep increase in the enrollment in 4th grade. This could be because Chhatarpur is a rural district with migrating population (Mistri, A, 24th January 2015)

Number of dropouts

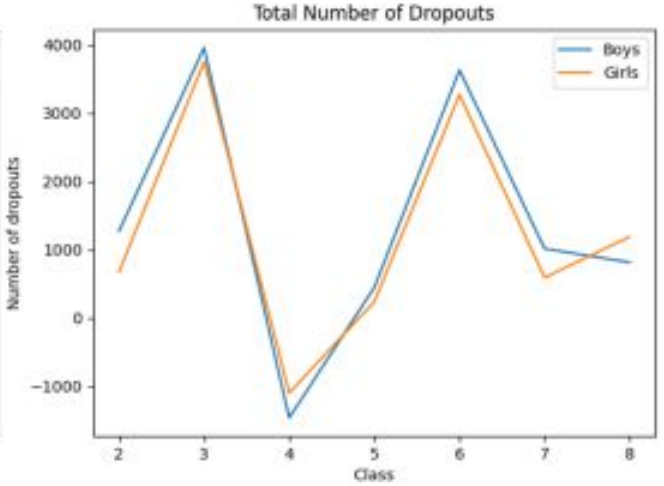
Dindori



Bhopal



Chhatarpur

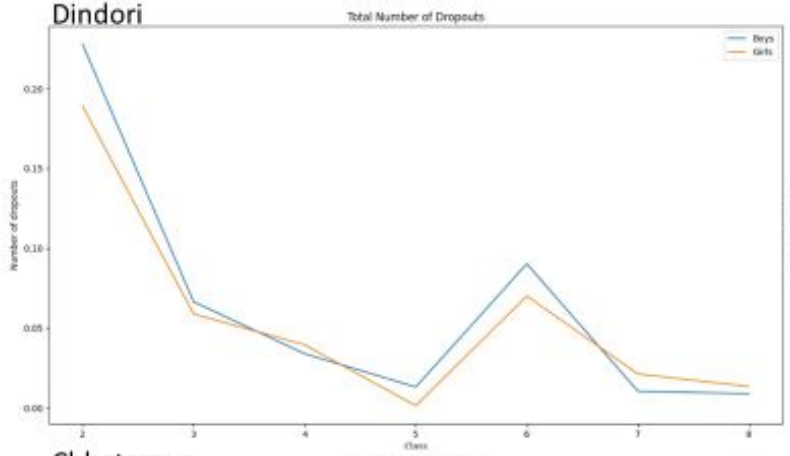


Observation:

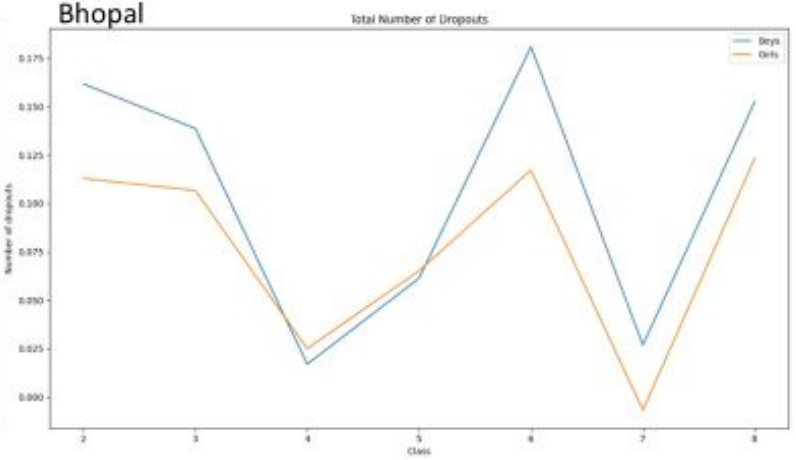
1. Invariably, there is a significant dropout in students after 5th grade.
2. The number of dropouts decrease after 6th grade i.e. from 6th to 7th grade.
3. In Chhatarpur, we observe high dropout rate from 2nd to 3rd.
4. The number of dropouts hits a plateau from 7th grade to 8th grade in Dindori. In Bhopal, there's a considerable spike in this number.

Relative dropouts

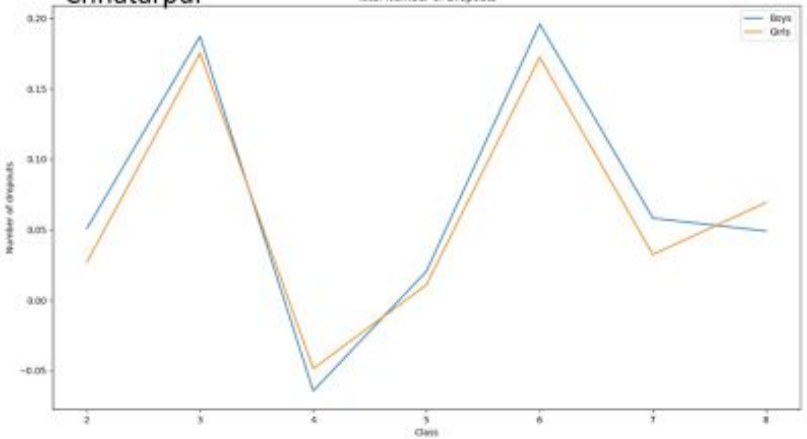
Dindori



Bhopal



Chhatarpur

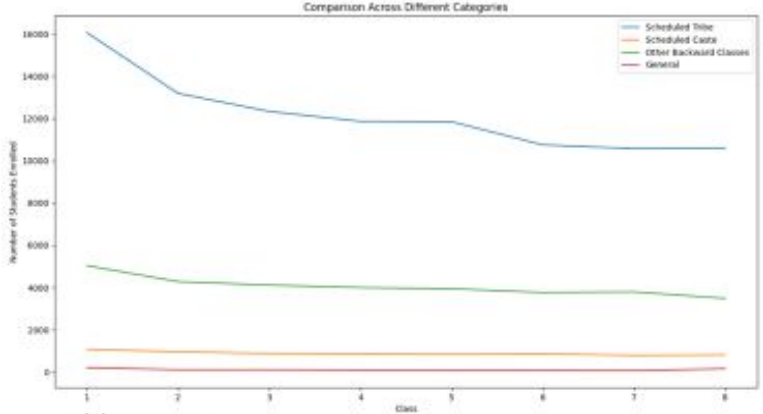


Observations:

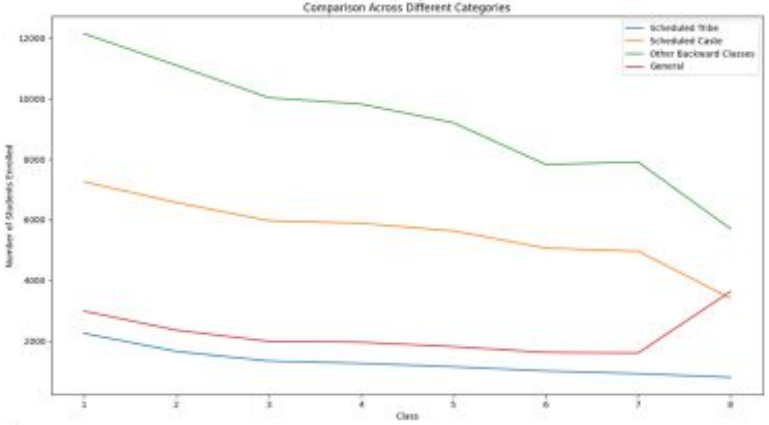
1. In Chhatarpur, there is a steep increase in the number of dropouts from 4^{th} to 5^{th} and 5^{th} to 6^{th}.
2. In Bhopal, an increase in dropouts occur from 4^{th} to 5^{th} and 5^{th} to 6^{th}.
3. In Chhatarpur, the dropout among girls of 7^{th} grade is increasing but the boy's dropout number continues to fall.
4. There is no dropout in Chhatarpur from 3^{rd} to 4^{th}, instead there is a considerable increase in the number of students enrolled.

Category-wise number of enrollments

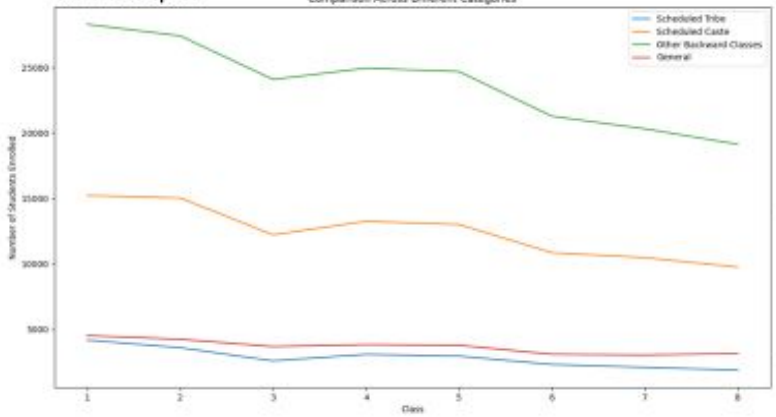
Dindori



Bhopal



Chhatarpur



Observations:

1. In Bhopal, enrollment falls, quite steeply, in 8th grade. This trend is not observed in the other two districts. This happens despite a sudden uptake in the number of students enrolled in the General Category.
2. A general category student in Bhopal, is 79% more likely to finish secondary school than an ST student and 74% more likely as compared to an SC or OBC student.
3. An ST student in Chhatarpur, is 20% less likely to finish secondary school as compared to SC and OBC students.

Thank you!