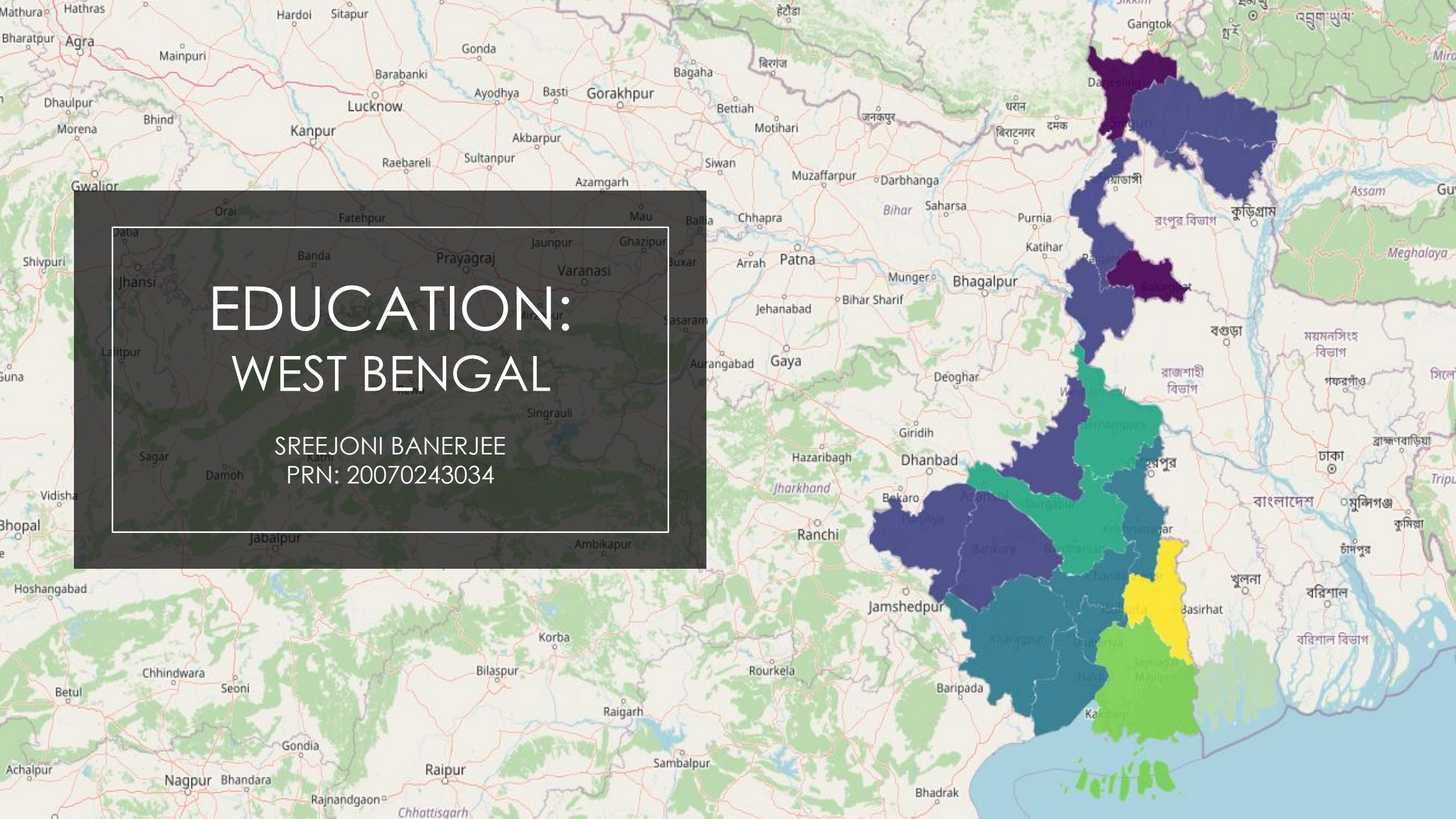# EDUCATION:
WEST BENGAL

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Introduction

Education plays an important role in the development of a nation. Education is a very important part of the economy. It is said to be an investment in a human being.

In this project, I have attempted to study the education scenario of West Bengal.

Study Area:

West Bengal is a state in the eastern region of India along the Bay of Bengal. With over 91 million inhabitants, it is the fourth-most populous state and the fourteenth-largest state by area in India, covering an area of 88,752 km^2. The state capital is Kolkata, the third-largest metropolis, and seventh largest city by population in India. West Bengal includes the Darjeeling Himalayan hill region, the Ganges delta, the Rarh region and the coastal Sundarbans.

Choropleth map showing the total population of each district:

1 Total Population.html

Objective

◦ To study the various aspects of primary education in West Bengal district-wise

◦ To study the various levels of education as per sex in the state

Datasets

The following datasets have been used for the study:

◦ Dataset 1 (Education by sex) contains the various education levels of the population divided into Male and Female district-wise.

◦ Dataset 2 (Education_West_Bengal) contains the data about Primary and Upper Primary Schools district-wise.

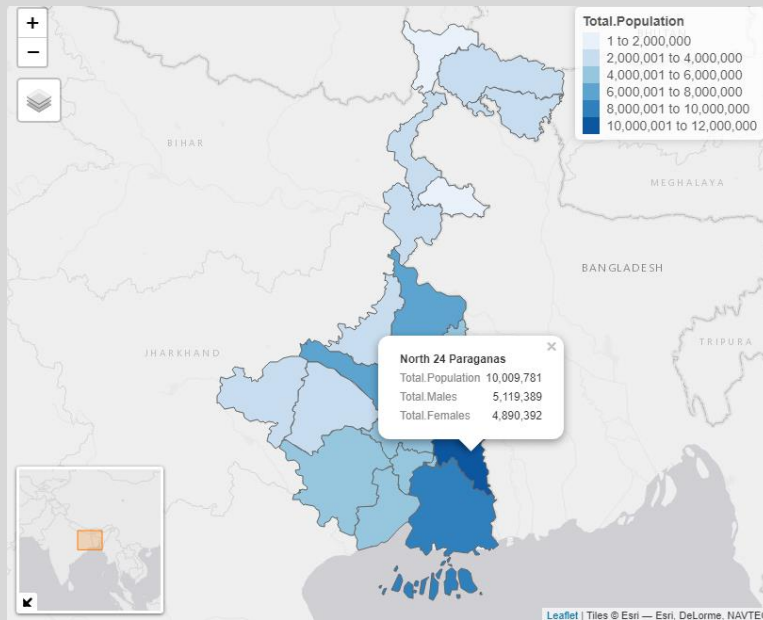◦ District-wise shapefile of West Bengal.

Methodology

◦ The data is secondary in nature, collected from the online database on education of West Bengal at https://censusindia.gov.in/2011census/population_enumeration.html and ArcGIS Hub.

◦ The shape-file has been obtained from ArcGIS Hub.

◦ Further I have merged the .csv files to the shape-file using the "District Code" columns in each file.

◦ I have used the R platform, it's various tools, and libraries to facilitate the study process and get a better statistical and visual clarity.
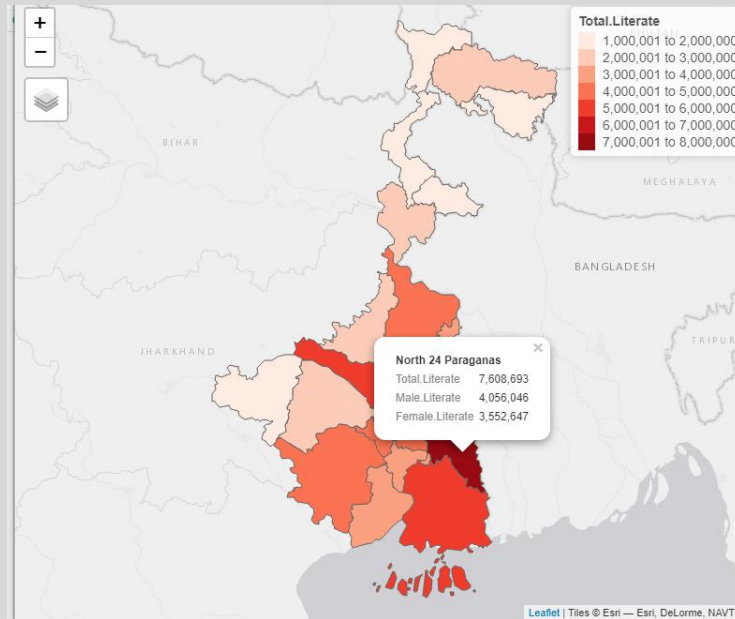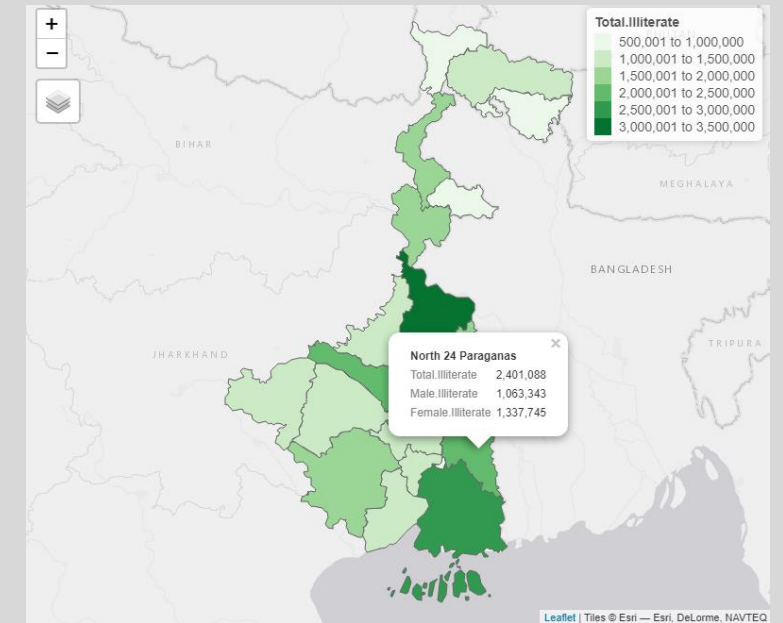
Flowchart

Finding the topic → Data Collection → Selection of variables for the study → Pre-processing the data → Creating graphs → Creating maps → Analyzing the graphs and maps → Final Report

Maps showing Total Population (Fig:1), Literates (Fig:2) and Illiterates(Fig:3) (Total, Male, Female)

Total.Population
- 1 to 2,000,000
- 2,000,001 to 4,000,000
- 4,000,001 to 6,000,000
- 6,000,001 to 8,000,000
- 8,000,001 to 10,000,000
- 10,000,001 to 12,000,000

North 24 Paraganas
Total.Population	10,009,781
Total.Males	5,119,389
Total.Females	4,890,392

(1)

Total.Literate
- 1,000,001 to 2,000,000
- 2,000,001 to 3,000,000
- 3,000,001 to 4,000,000
- 4,000,001 to 5,000,000
- 5,000,001 to 6,000,000
- 6,000,001 to 7,000,000
- 7,000,001 to 8,000,000

North 24 Paraganas
Total.Literate	7,608,693
Male.Literate	4,056,046
Female.Literate	3,552,647

(2)

Total.Illiterate
- 500,001 to 1,000,000
- 1,000,001 to 1,500,000
- 1,500,001 to 2,000,000
- 2,000,001 to 2,500,000
- 2,500,001 to 3,000,000
- 3,000,001 to 3,500,000

North 24 Paraganas
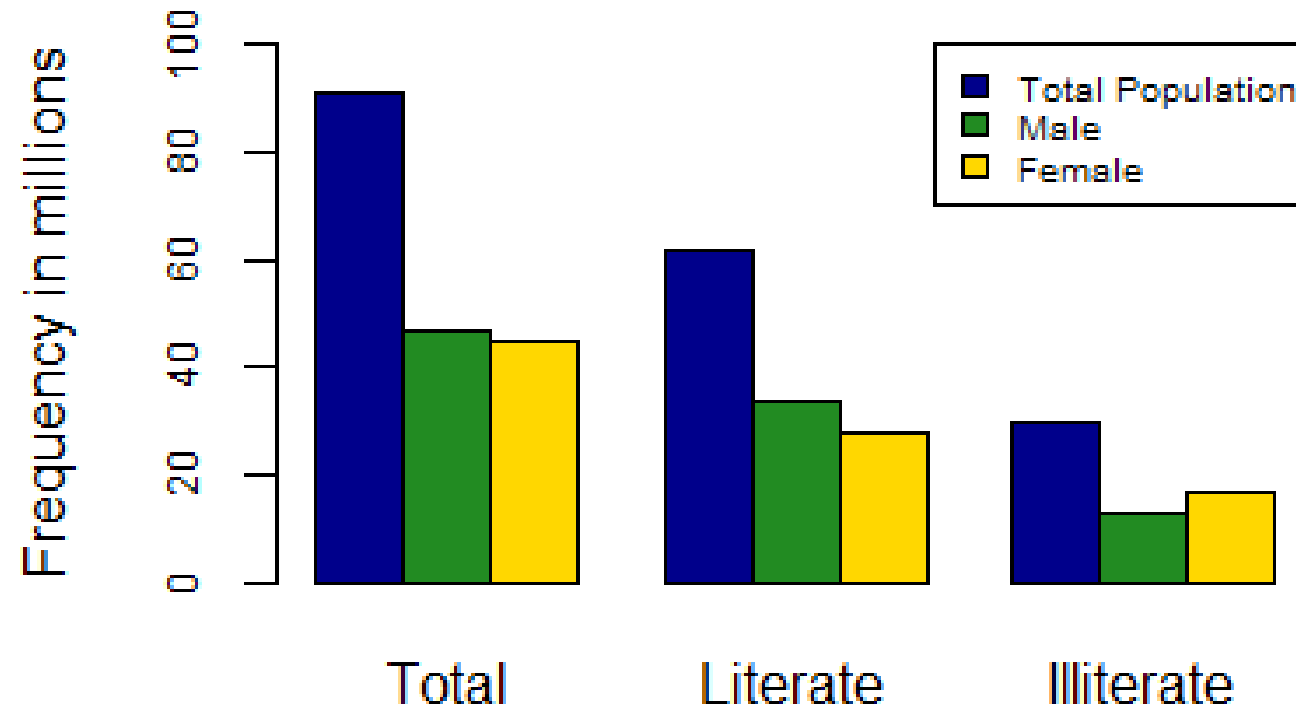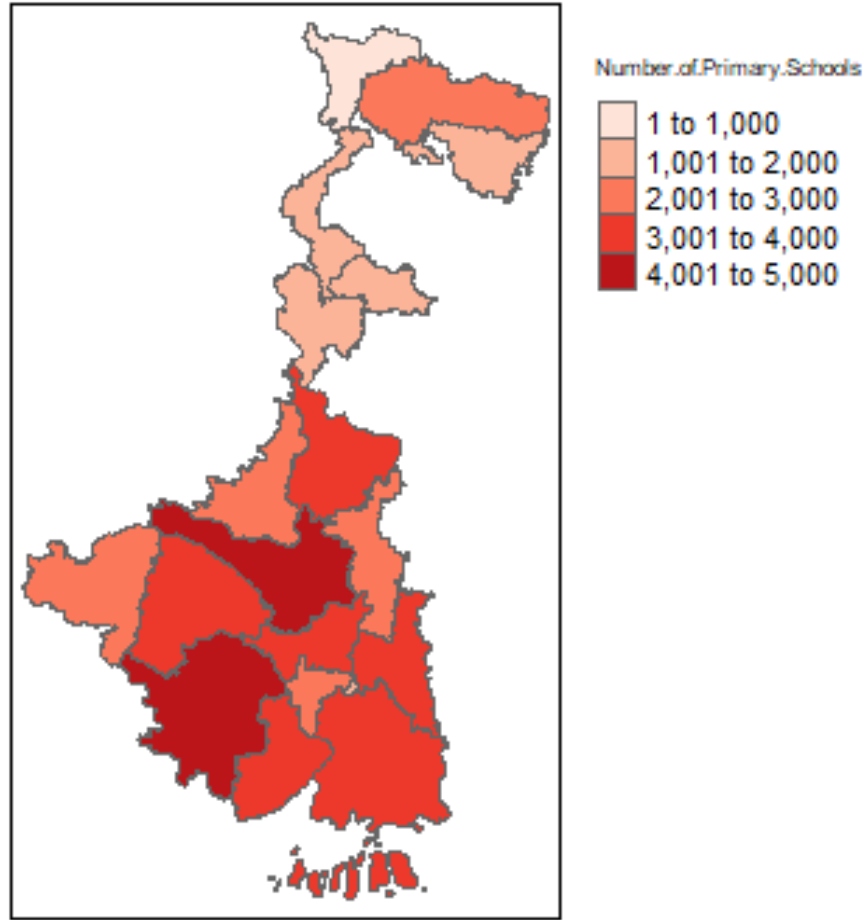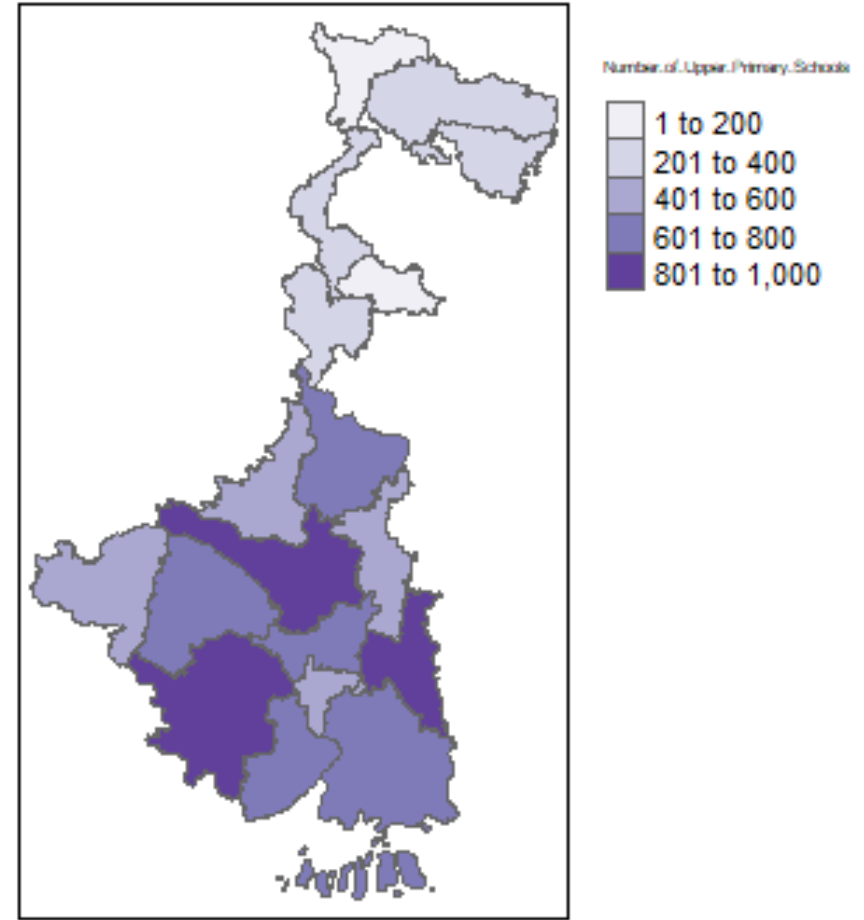|	
Total.Illiterate	2,401,088
Male.Illiterate	1,063,343
Female.Illiterate	1,337,745

(3)

From the above graph, we see that female illiteracy is much higher than in males.
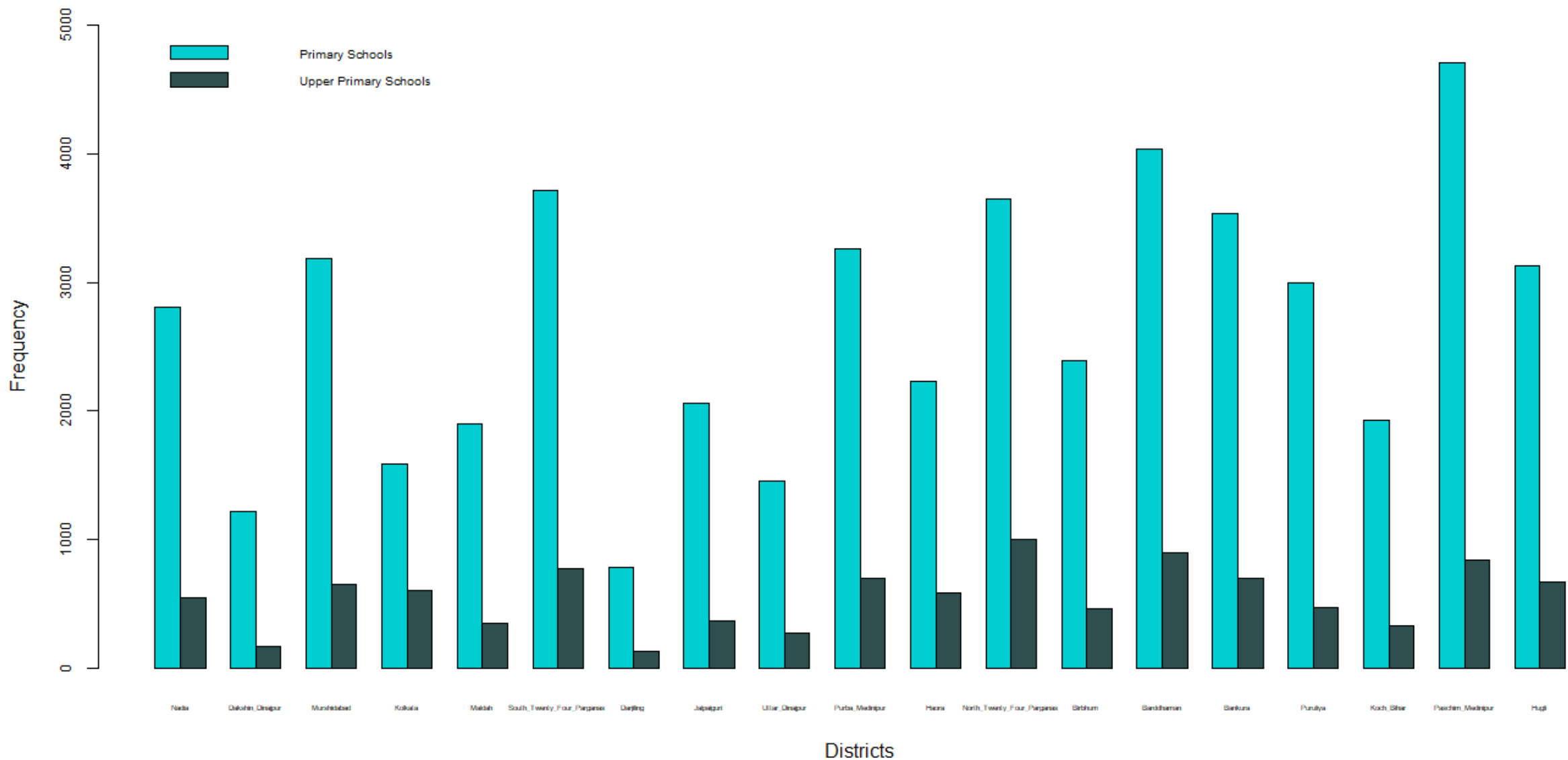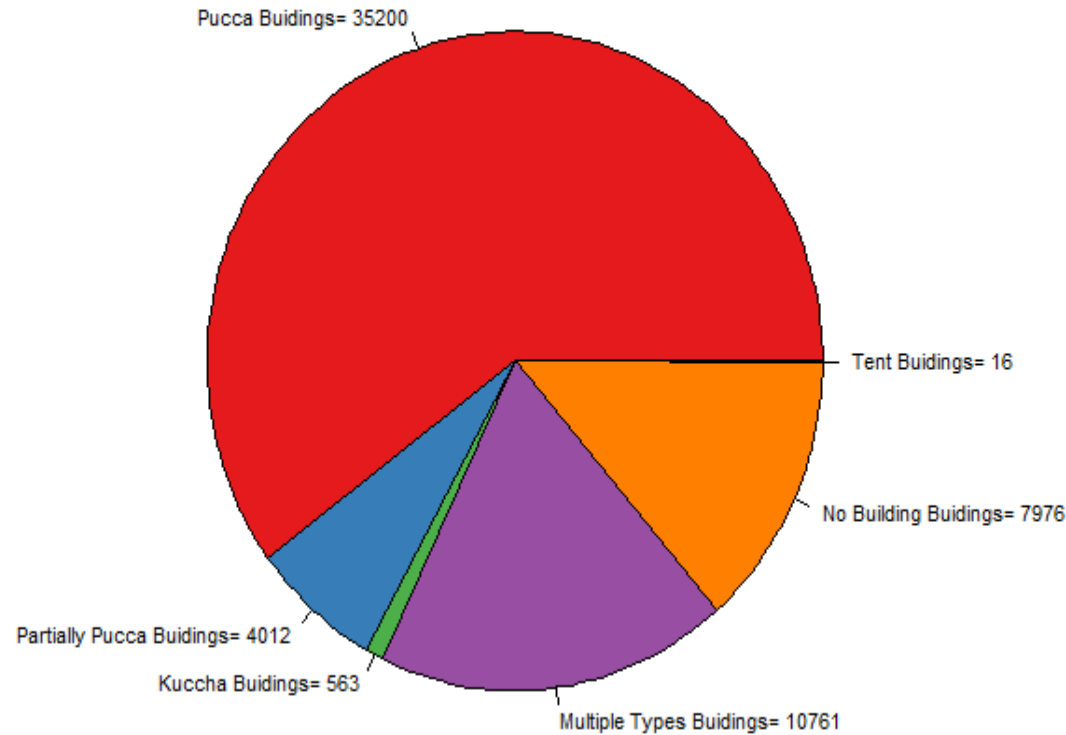
(1)

(2)

The above graphs show the number of Primary Schools(Fig:1) and the number of Upper Primary Schools(Fig:2) in each district.

Total number of upper-primary schools comapred to total number of primary schools district-wise
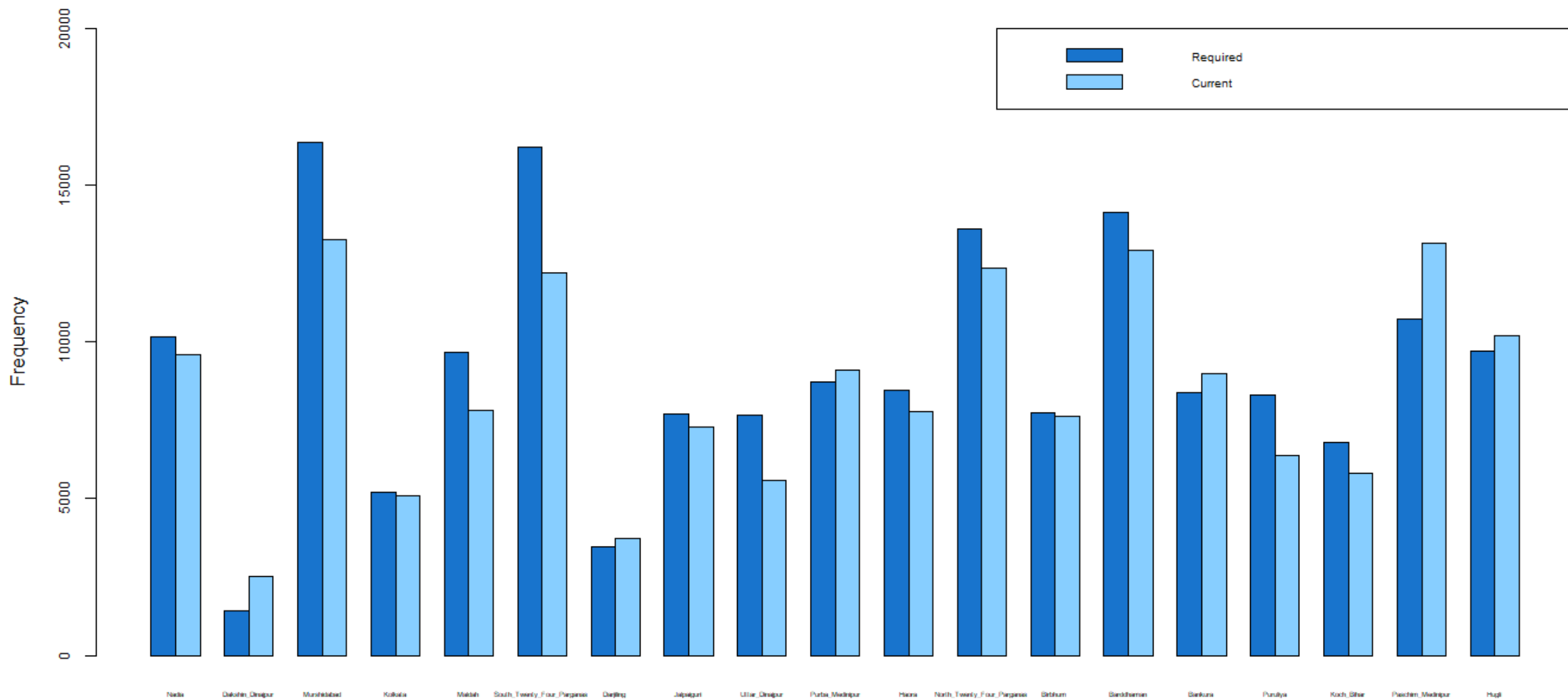
From this graph, we can see that the number of Upper Primary Schools are significantly less than the Primary Schools across all districts.

Pie Chart showing Types of School Buildings in West Bengal

Pucca Buidings= 35200

Tent Buidings= 16

No Building Buidings= 7976

Multiple Types Buidings= 10761

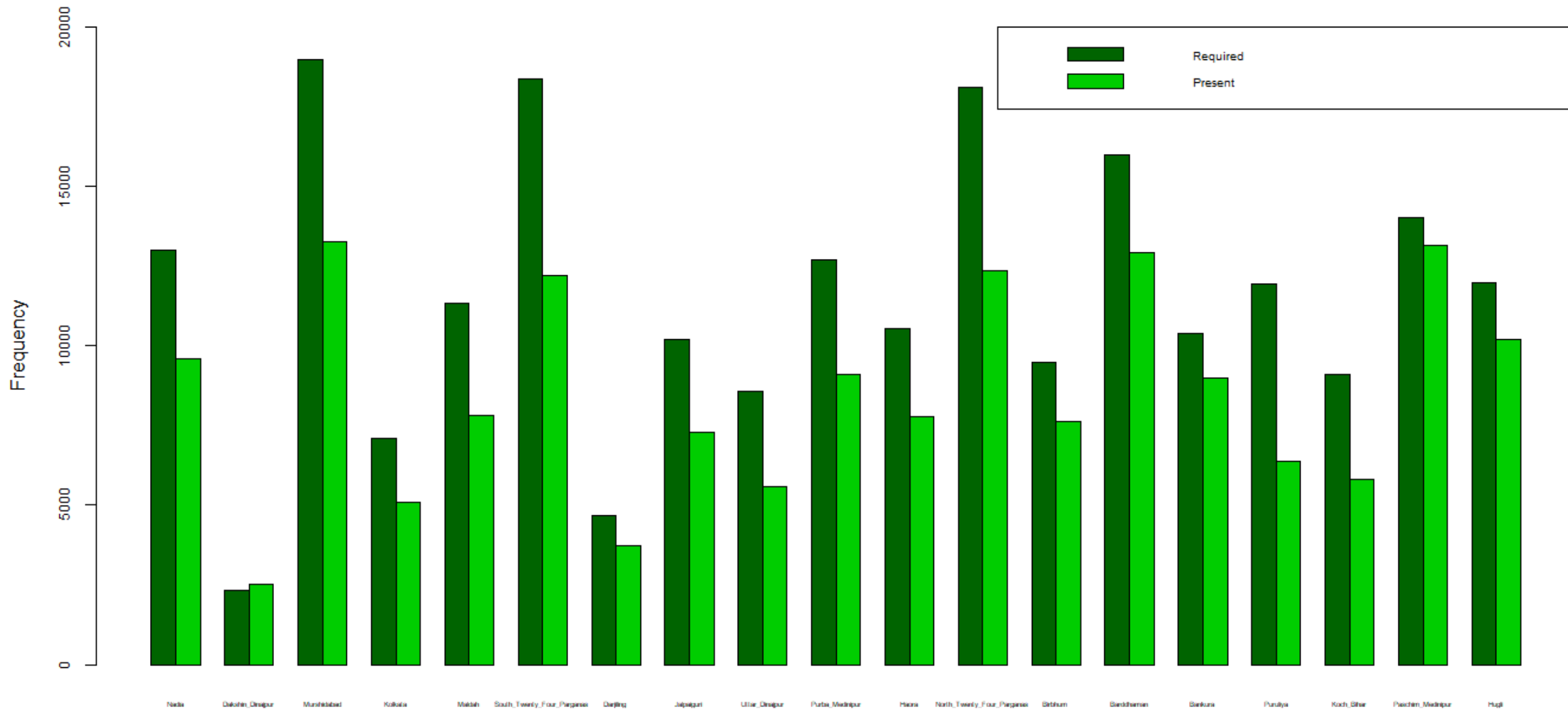Kuccha Buidings= 563

Partially Pucca Buidings= 4012

From the above graph we see that although maximum number of schools have proper building infrastructure, i.e. Pucca Building, a significant number of schools does not have a proper building for students to go study. Almost 8000 schools have no buildings.

Total number of teachers required as per DISE PTR=34 compared to current number of teachers present district-wise
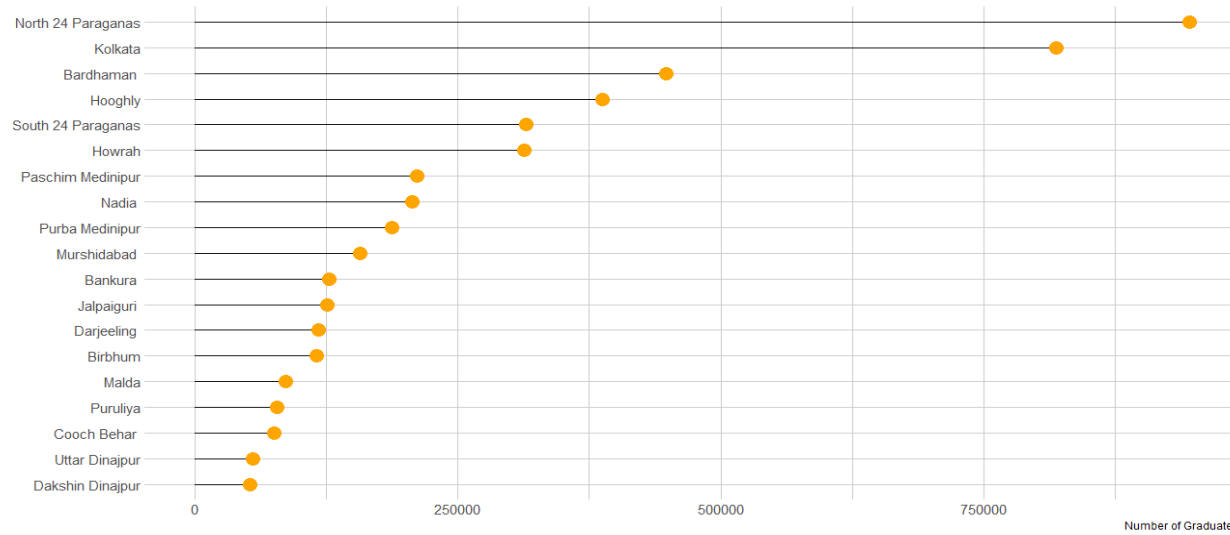
From the above graph, we see that most districts do not meet the required number of teachers as mentioned by the District Information System for Education (DISE) Pupil Teacher Ratio (PTR), but it is close.

Total number of teachers as per RTE as comapared to the numbers present district-wise
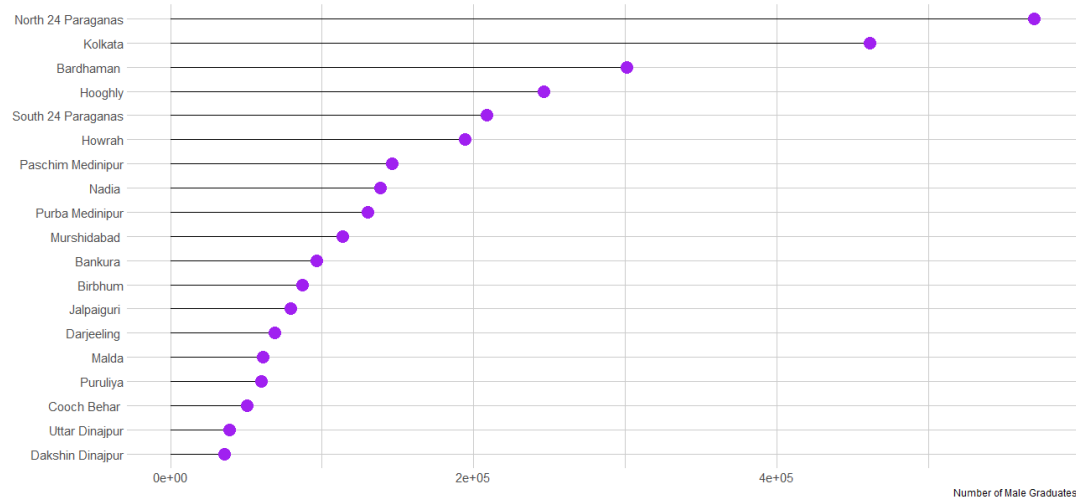
From the above graph, we see that most districts do not meet the required number of teachers as mentioned by the Right To Education (RTE) by a significant amount.

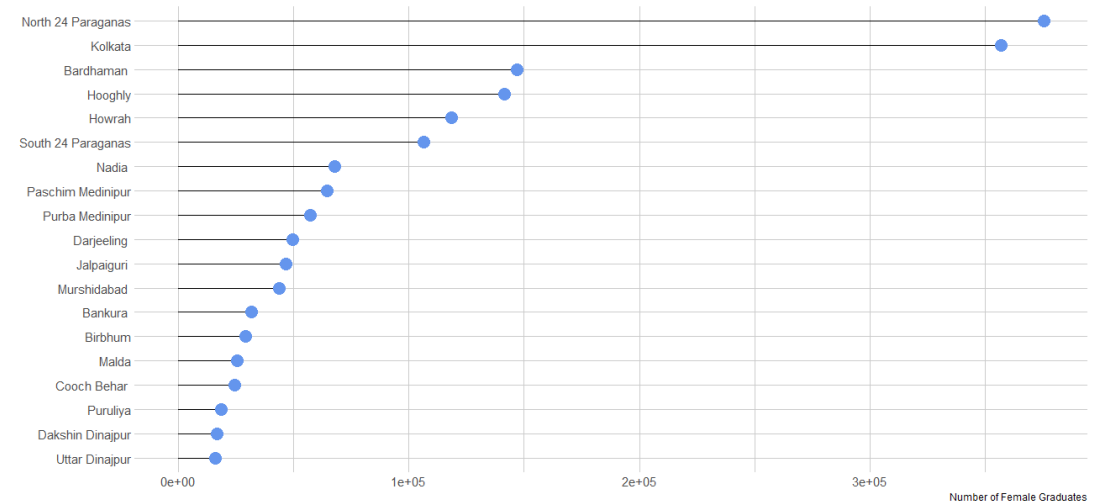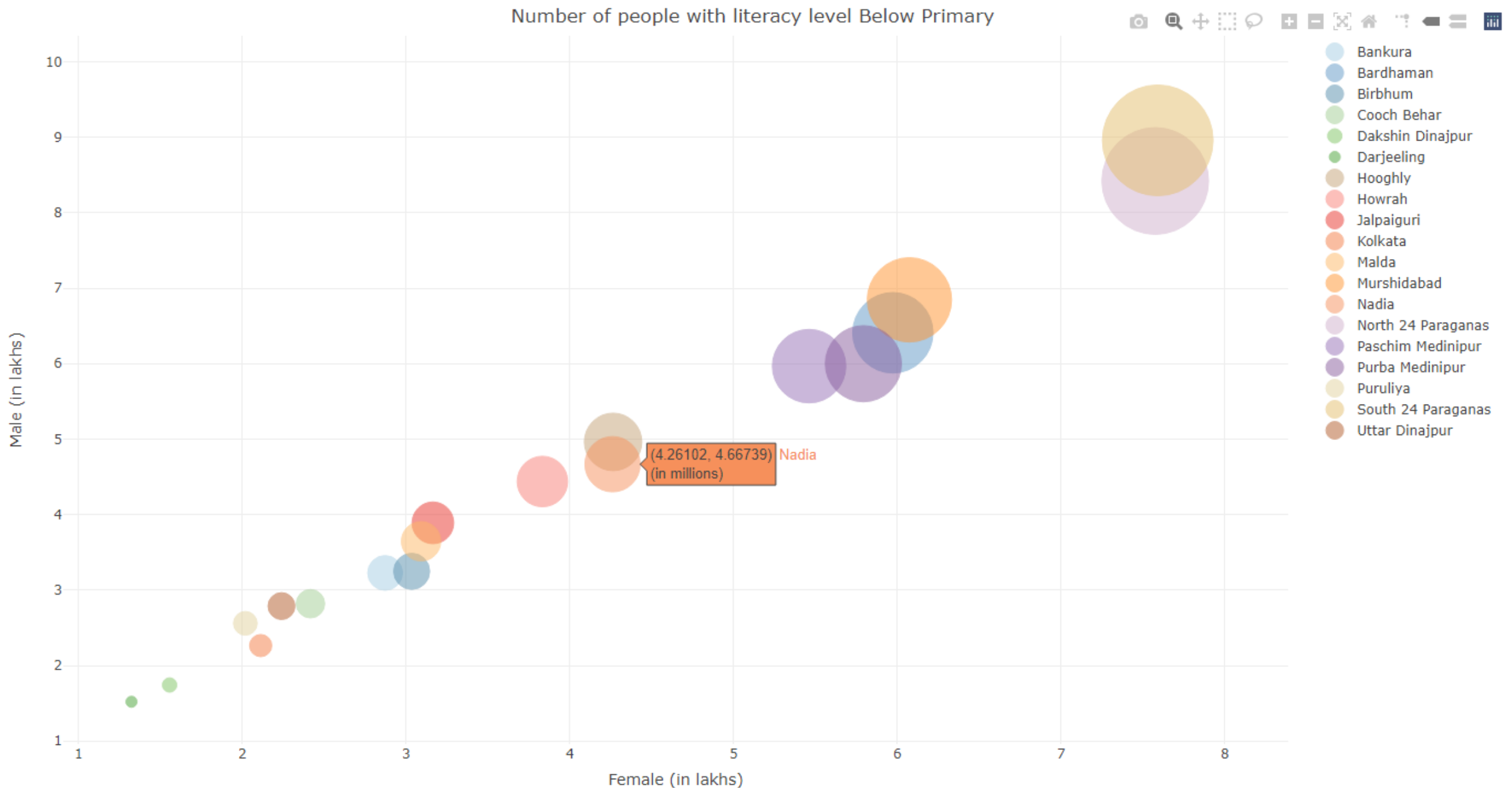**Number of Graduates in each District in descending order**

We see that North 24 Paraganas and Kolkata have the most number of graduates (male and female), whereas districts such as Dakshin Dinajpur, Uttar Dinajpur, Cooch Behar, Puruliya, Malda and so on have to significantly improve the infrastructure for higher education.

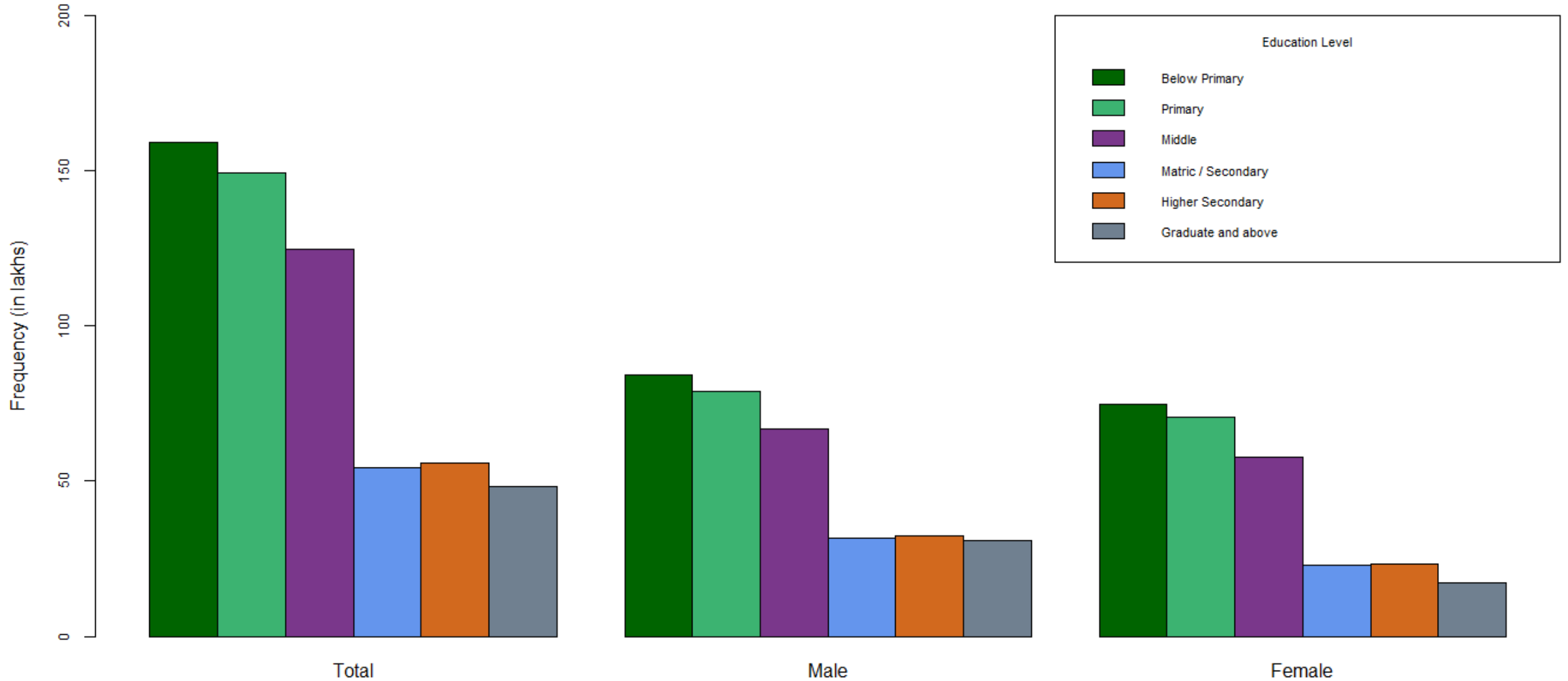**Number of Male Graduates in each District in descending order**

Number of Female Graduates in each District in descending order

Number of people with literacy level Below Primary

Legend:
- Bankura
- Bardhaman
- Birbhum
- Cooch Behar
- Dakshin Dinajpur
- Darjeeling
- Hooghly
- Howrah
- Jalpaiguri
- Kolkata
- Malda
- Murshidabad
- Nadia
- North 24 Paraganas
- Paschim Medinipur
- Purba Medinipur
- Puruliya
- South 24 Paraganas
- Uttar Dinajpur

(4.26102, 4.66739) Nadia
(in millions)

Male (in lakhs)

Female (in lakhs)

The above graph shows number of males and females with education qualification below primary in each district. The colors represent the districts and the size of each bubble shows us the total population.

Different education levels as per sex

The above diagram shows us the number of people (total, male and female) having various education qualifications. We that the size of the bars reduce significantly as we reach higher education levels. Also, here too females are worse off than males.

Conclusion

◦ From the above data, we can conclude that the education infrastructure in West Bengal needs to better itself significantly.

◦ The gender gap has to be reduced in order to achieve equality and stability in society.

◦ The minimum level of education for most people is below primary, we have to strive to improve that and make sure majority of our society gets at least secondary level education.

◦ The urban areas, such as Kolkata and North 24 Paraganas are comparatively doing far better than the rural areas. There is a pressing need for improvement in such areas especially since a large part of the education institutions do not even have a building in some parts.

◦ We need to make sure that the guidelines given by DISE PTR and RTE are met, and such a large gap is not present between the specified number and the actual number of teachers.