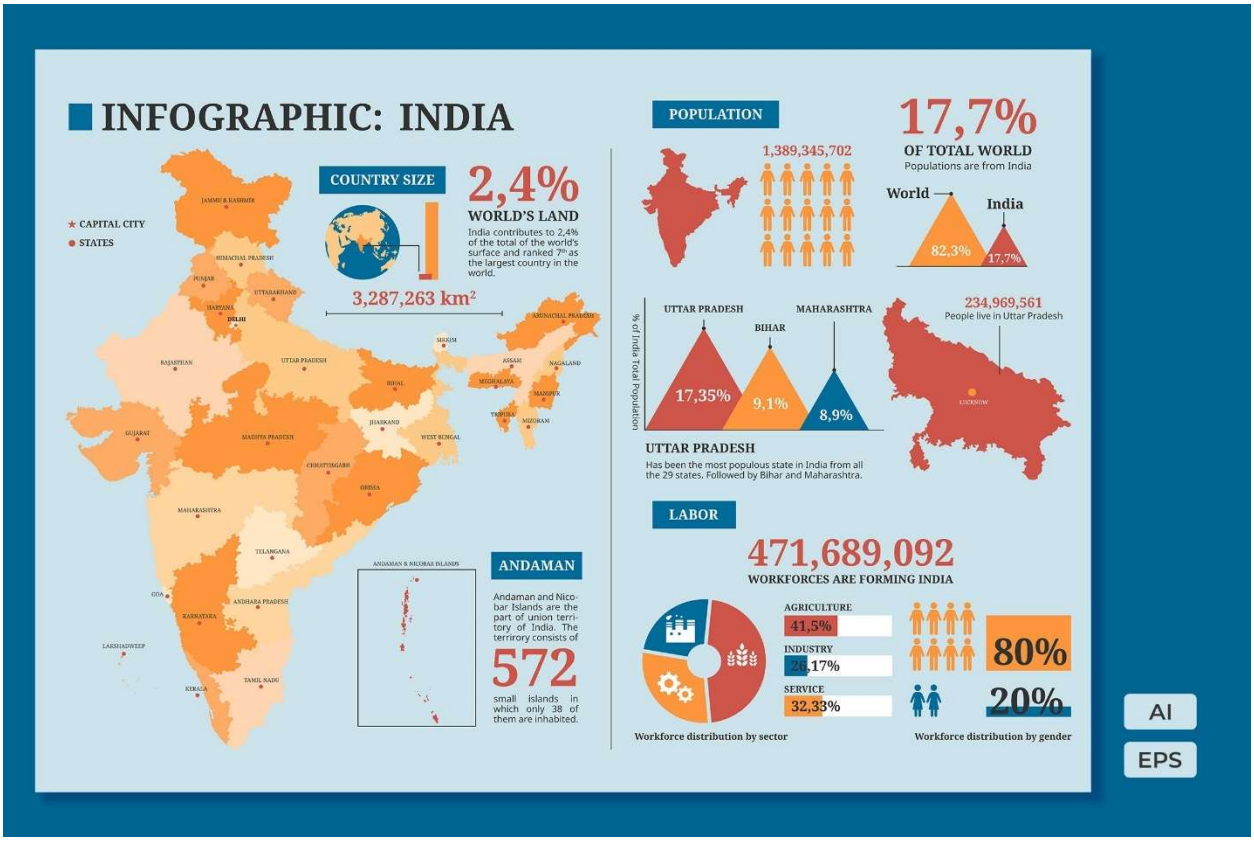
Report on Analytic Solution

Assignment-3C

Population Census of India- 2011



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1. Introduction

The Population of India Census 2011 is a comprehensive dataset distributed across the 641 districts of India. It can be further summarized into state-wise totals and clubbed to form country-wise totals of the general population. It also explores the male-to-female sex ratio, literacy ratio, demographics, and social and economic insights. The data also captures population size, distribution, population density, and religious distribution across the country.This India population Census 2011 was the 15th National Census Survey held in India. It was carried out in two phases house listing and population counting. Moreover, this survey covered 28 states, 7 union territories, 640 districts, 497 cities and over 600,000 villages.

1.1 Overview of the Open-Source Data

The Census of India 2011 data was extracted from GitHub and Worldometer.com where independent tables were used. The data set was a comma-separated file, csv extension with around 700 rows and 118 columns with around 76,000 data points. The second data extracted from the worldometer.com has around 300 data points. This data available on CSV file can be extracted transformed and loaded onto Power BI or Excel for advanced visualization of key metrics and performance indicators.

1.2 Purpose and Goals

The primary goal of the Power BI dashboard is to analyze and visualize the Census of India 2011 to gain vital insights into the socio-economic and demographic trends. The Power BI dashboard report can be utilized by Government agencies and policymakers to make calculated decisions based on the data depiction. Government agencies can promote educational policies to uplift the literacy percentage. They can launch campaigns to generate more jobs in the country and stimulate economic growth and power parity. It also shows areas of focus and points of view to improve the economic distribution and to improve the employment opportunities for the median population. The financial data collected can be used by policymakers to initiate annual budgets and housing data can be used for city planning and expansion projects.

2. Key Questions

2.1 What are the regional population of gender across different states in India?
2.2 What percentage of India's population in the age group 0-29, 30-49 & 50+?
2.3 Highest and Lowest population rankings state-wise?
2.4 Literacy rates in India state-wise distribution?

3. Metrics & KPI's

•Total Population Analysis – Different states' population sizes, growth rates, and demographics were analysed..

• Sex Ratio or Gender balance ratio – This analysis helps track gender balance and identify areas where gender inequality exists.

• Age Group Distribution – Population percentage in different age brackets (0-14, 15-64, 65+).

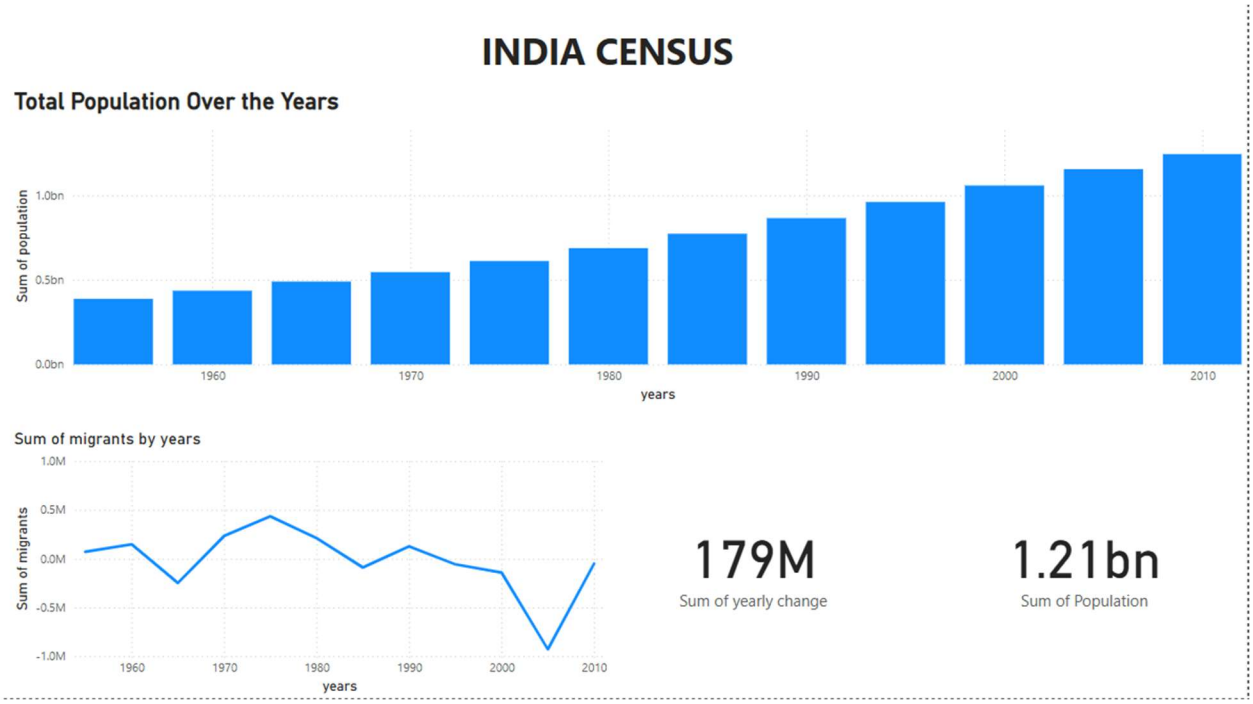
• State-wise Population Rate – Annual growth percentage of population per state.

• Literacy Rate – Percentage of literate individuals (aged 7 and above).

• Household Ownership Ratio – Percentage of owned vs. rented households.

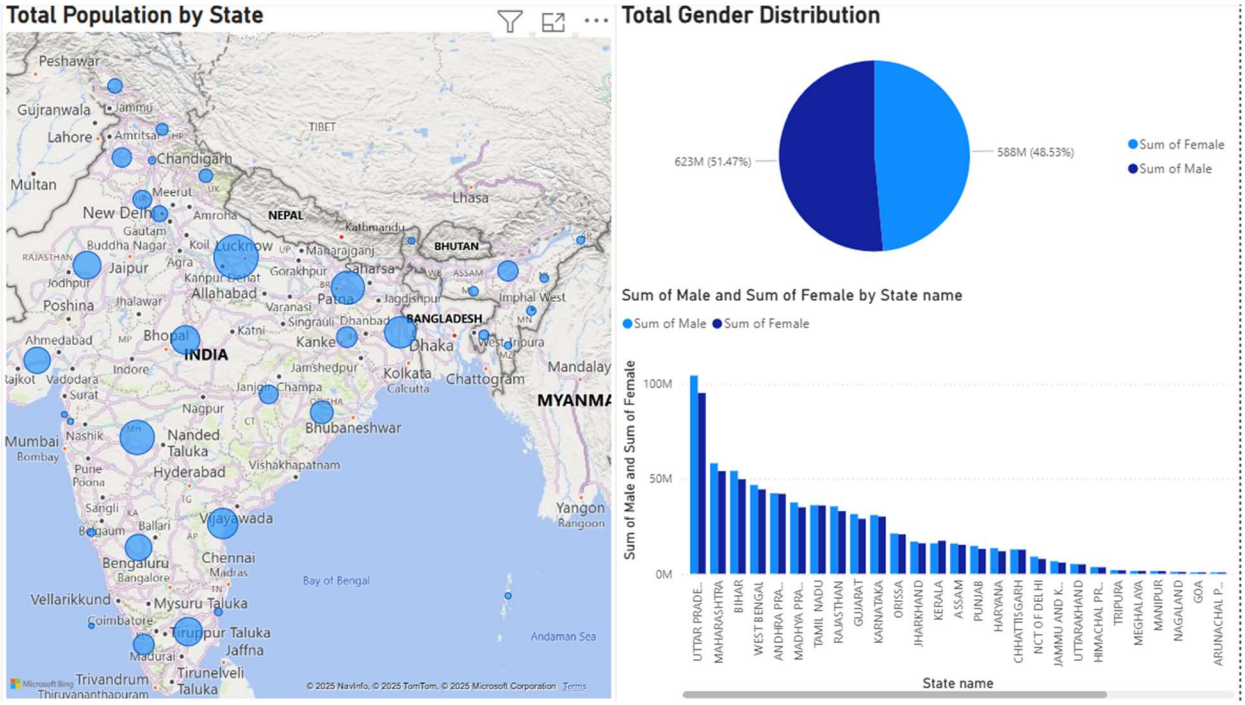
- Power Parity Rate: It analyses population those comes under low, medium and high power parity rate.

4. Results



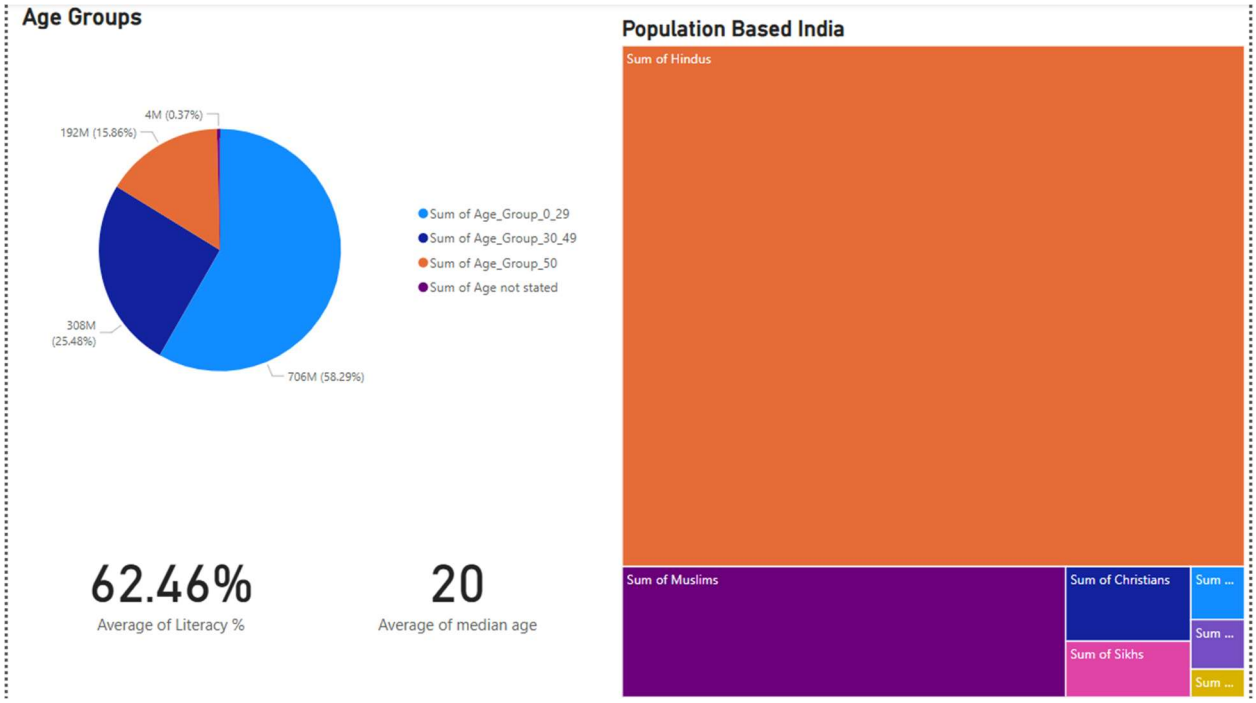
4.1 Analysis Results and Findings

The scorecard widget used in Power Bi is used to calculate the sum of all population for the year 2011. The histogram with bar charts shows the yearly distribution of population over a 10-year period. The line trend chart also shows the flow of migrants into the country which shows the influx of migrants dropped to below 1 million between 2000 and 2010 showing economic turmoil and political risk in the region due to skirmishes with neighboring countries. This also shows the factor of political stability.



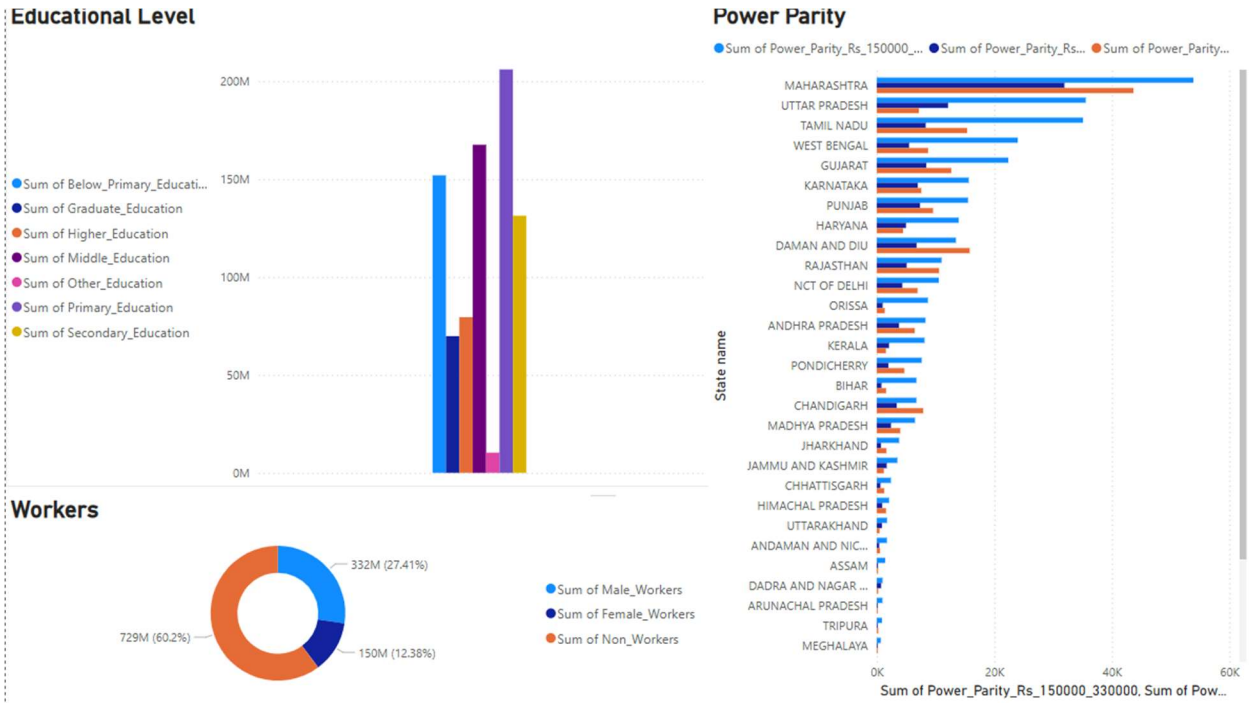
4.2 Analysis Results and Findings

The pie chart shows the sex or gender ratio which is the sum of male and female composition in the country. Nearly 51.47% of males dominate and the females are 3 points short of only 48.53%. The distribution clustered bar graph shows the composition of male-female ratio across the states, where a few southern states like Kerala have more females than males and some states like Karnataka, Chhattisgarh, Andhra Pradesh, and Tamil Nadu have almost equal male-female population strengths. The map shows the large bubbles where more population is recorded state-wise and we can deduce that Uttar Pradesh has the highest population followed by Maharashtra, whereas the union territories Lakshadweep has the lowest population followed by Dadar Nagar Haveli, Daman, and Diu recording the least populous states.



4.3 Analysis Results and Findings

The pie chart shows the demography of the population by age group, where we can deduce that the maximum percentage (59%) of the population are between 0-29 years of age, making the median age of the country 20 years. The Middle Ages between 30-49 constitute about 25% and the old age population above 50+ years of age is 15%. Hence the country can highlight campaigns focused on education and social welfare. This visualization depicts the country must focus on educating the young people to transform the workforce into skilled labor. The score card also shows 62% of the total population are literate and the literacy % needs to be improved by promoting, higher education programs. The tree map widgets deduce the socio-religious prevalence in the country with the Hindu religion being the majority followed by the Muslim and Christian segments.



4.4 Analysis Results and Findings

The clustered bar graphs show that above 200 million have atleast a primary education, whereas the graduate education is below 100 million from the total population sample, which indicates more focus on educational programs to promote the success of students to reach the graduation level. The doughnut chart depicts the composition of male and female workers, where it clearly visualizes an alarming fact that around 60% of the population are non-workers. Government agencies must focus on creating more employment opportunities the improve the workers ratio. The parity power clustered column graph shows the state wise purchasing power of the population showing more richer population in Maharashtra, Gujarat and Tamil Nadu.

5. Conclusions

This data set provides an overview on the India census 2011. It reveals population distribution by gender and literacy rates. It covers workforce participation and types of workers, shedding light on economic activities. Religious composition data shows diversity, while household amenities reflect quality of life. Education levels and age group distribution offer insights on the education level of the population based on districts and states. Household assets point to economic status and living standards. Overall, the data is valuable for identifying areas needing attention and developing the policies for district development to provide for citizens.