Topic: Assessment of Marginal Workers in TamilNadu

Phase 4

The Development Part 2, which includes demographic analysis and creating visualizations based on the distribution of marginal workers in Tamil Nadu. Here are the steps you can follow:

Demographic Analysis:

Data Preparation: Ensure you have clean and structured data containing information about marginal workers, age, industrial category, and sex.

Data Aggregation: Group the data based on age, industrial category, and sex. You can use Python libraries like Pandas to perform this aggregation.

Calculations: Calculate the counts or percentages of marginal workers within each age group, industrial category, and sex. You can use Pandas for these calculations.

Creating Visualizations:

4. Select Data Visualization Libraries: Choose a suitable data visualization library such as Matplotlib or Seaborn to create your visualizations.

Visualizations based on Age:

Create bar charts or pie charts to show the distribution of marginal workers across different age groups.

Use appropriate labels and colors to make the chart informative.

Visualizations based on Industrial Category:

Create bar charts or stacked bar charts to represent the distribution of marginal workers in various industrial categories.

You can color-code each category for clarity.

Visualizations based on Sex:

Create a pie chart or a bar chart to depict the distribution of marginal workers by gender (male and female).

Ensure the chart is easy to understand.

Combine Visualizations: You can also consider combining the visualizations into a dashboard for a comprehensive view of the demographic analysis.

Age Distribution Visualization:

Example: A bar chart showing the number of marginal workers in different age groups.

How to create it: You can use Matplotlib to create a bar chart with age groups on the x-axis and the count of marginal workers on the y-axis.

Industrial Category Distribution Visualization:

Example: A stacked bar chart illustrating the distribution of marginal workers by industrial categories, with different colors for each category.

How to create it: Matplotlib can be used to create a stacked bar chart. You'll have industrial categories on the x-axis and the count of workers on the y-axis, with different colors representing each category.

Gender Distribution Visualization:

Example: A pie chart showing the percentage of male and female marginal workers.

How to create it: You can use Matplotlib to create a pie chart where each slice represents the proportion of male and female workers.

Combined Dashboard Visualization:

Example: A dashboard with interactive elements that allows users to select age groups, industrial categories, or gender to explore the data dynamically.

How to create it: Tools like Plotly or Dash in Python are great for creating interactive dashboards. You can include multiple charts in one dashboard and add dropdowns or sliders for interactivity.

Heatmap of Demographics:

Example: A heatmap showing the correlation between different age groups, industrial categories, and the number of marginal workers.

How to create it: Seaborn is a great library for creating heatmaps. You can use it to visualize the relationships between various demographic factors.

Time Series Analysis:

Example: A line chart showing how the distribution of marginal workers in different age groups or industries has changed over time.

How to create it: Matplotlib or Seaborn can be used for creating time series line charts. This might require time-related data alongside demographics.