

Assessment of Marginal Workers in Tamil Nadu- A Socioeconomic Analysis (DAC)

ABSTRACT

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Project Aim:

The project involves analyzing the demographic characteristics of marginal workers in Tamil Nadu based on their age, industrial category, and sex. The objective is to perform a socioeconomic analysis and represent the distribution of marginal workers across different categories. This project includes defining objectives, designing the analysis approach, selecting appropriate visualization types, and performing the analysis using Python and data visualization libraries.

Project Objective:

- To assess and document the demographic characteristics of marginal workers in Tamil Nadu, including age, gender, education, and marital status.
- To evaluate the income levels and wage disparities among marginal workers, considering factors like skill level, experience, and location.
- To establish a robust data collection and analysis system to monitor and evaluate the progress of initiatives aimed at improving the conditions of marginal workers in the long term.
- To produce comprehensive reports and documentation of the assessment findings, which can serve as a valuable resource for policymakers, researchers, and NGOs working on the welfare of marginal workers.

Analysis Approach:

Data Collection:

To achieve these objectives, we will collect resources from reliable sources on the internet and Conduct in-depth case studies of select marginal workers to explore their individual experiences, including their journey, livelihood strategies, and challenges. Access historical data, government records, and employment registers to track changes in the status and conditions of marginal workers over time. We will also use the resources given to us by IBM in the for a clear data set via link:

<https://tn.data.gov.in/resource/marginal-workers-classified-age-industrial-category-and-sex-scheduled-caste-2011-tamil>

Data Cleaning:

- Identify and correct errors, inconsistencies, and missing values in the dataset.
 - Address outliers or data points that are not representative.
 - Standardize variable names and categories for consistency.
 - Check for duplicate records and remove them.
- Conduct data quality checks and validations to ensure data accuracy and reliability.
- Verify that data aligns with the research objectives and hypotheses.

Data Transformation:

- Normalize or standardize numerical variables to have a common scale.
- Create age groups from individual ages for demographic analysis.
- Calculate percentages or proportions for certain variables.

Data Documentation:

- Maintain detailed documentation of the dataset, including variable definitions, coding schemes, and any data transformations performed.
- Create a data dictionary to explain the meaning of each variable.

Visualization Strategy:

Effective data visualization is key to conveying insights. In this phase, we plan how to visualize the TN Marginal Workers Demographic Our visualization strategy includes:

- Selecting appropriate chart types (e.g., line charts, bar charts, box plots) to represent mean and standard deviation data. for example we can Use grouped bar charts to compare demographic categories within different groups or subpopulations.
- Population pyramids are excellent for showing the distribution of age and gender within a population. They consist of two vertical bars, one for each gender, with age categories displayed horizontally.

- Creating visualizations that allow for easy assessment of the different categories of marginal workers in Tamil Nadu.
- Ensuring visualizations are interactive and can be filtered by sex, age, industrial category, or other relevant factors.

Insights Generation:

The ultimate goal of this project is to derive insights from the assessment of TN Marginal Workers. Insights may include:

- Analyze demographic data to understand the composition of marginal workers in terms of age, gender, education, and marital status. Identify any demographic trends or disparities within this population.
- Explore employment-related data to gain insights into the sectors, types of jobs, and working conditions of marginal workers.
- Conduct spatial analysis to identify regional disparities and hotspots in the distribution and conditions of marginal workers.
- Compare data across different subgroups of marginal workers to identify variations and tailor interventions accordingly.