

DATA ANALYTICS WITH COGNOS

ASSESSMENT OF MARGINAL WORKERS IN TAMILNADU USING A DATA ANALYSIS

PHASE 1 PROJECT

GROUP 8

GROUP MEMBERS

LEKHASRI S

KEERTHIKA S

PAVITHRA S

OVVYA R

GUIDED BY MRS B MOOHAMBIRAI

Agenda

INTRODUCTION

OBJECTIVE

PROBLEM STATEMENT

METHODOLOGY

SOLUTIONS

LINE OF CODE

REFERENCES





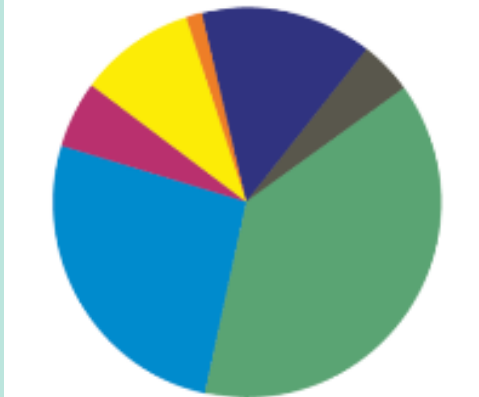
Introduction

- *Tamil Nadu, a culturally rich and economically diverse state in southern India, is home to a dynamic and multifaceted workforce.*
- *Within this vibrant demographic landscape, a substantial portion of the population consists of marginal workers.*
- *These individuals, often referred to as "marginalized" or "informal" laborers, play a crucial but often overlooked role in the state's economic ecosystem.*

Importance of Studying Marginal Workers in Tamil Nadu:



- *Understanding the living conditions, employment patterns, and access to resources of these marginalized workers is of paramount importance.*
- *Their well-being is not only a matter of social justice but also a key driver for sustainable development in the region.*
- *The challenges they face, including low income, limited access to essential services, and employment instability, require a comprehensive analysis to inform policy decisions and targeted interventions.*



Main workers	26.4%
Cultivators	05.7 %
Agricultural labourers	09.6%
Household Industry	01.7 %
Other workers	14 %
Marginal workers	04.5 %
Non-workers	38.2 %

objective:

- *The primary objective of this presentation is to provide an insightful exploration into the lives and conditions of marginal workers in Tamil Nadu.*
- *Through the lens of data analytics, we aim to shed light on their socio-economic realities, highlight disparities, and propose data-driven solutions to enhance their livelihoods.*
- *Our research endeavors to answer critical questions, identify key challenges, and offer actionable recommendations for the betterment of this vulnerable population segment*

Problem statement

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Marginal workers in Tamil Nadu face socio-economic disparities, employment vulnerabilities, and limited access to essential resources. This study aims to analyze these challenges and recommend data-driven solutions for their economic empowerment and social inclusion.

- 1. Economic Vulnerability:* What factors contribute to the economic vulnerability of marginal workers in Tamil Nadu, leading to inconsistent and often inadequate income streams?
- 2. Access to Education:* To what extent do marginal workers in the state have access to education, and how does this impact their socio-economic mobility and opportunities for better employment?
- 3. Healthcare Accessibility:* What are the healthcare access challenges faced by marginal workers, and how do these challenges affect their overall well-being?
- 4. Gender Disparities:* How do gender disparities manifest among marginal workers in terms of employment opportunities, wages, and access to social services?
- 5. Informal Labor Market Dynamics:* What are the primary sectors where marginal workers are employed in Tamil Nadu, and how does the informal nature of these jobs impact their socio-economic stability?
- 6. Government Policies and Impact:* What government policies and interventions have been implemented to support marginal workers in Tamil Nadu, and what is the effectiveness of these measures in addressing their socio-economic challenges?
- 7. Barriers to Socio-economic Inclusion:* What are the main barriers and challenges faced by marginal workers when trying to access education, healthcare, and stable employment?
- 8. Data-Driven Solutions:* How can data analytics be leveraged to provide evidence-based recommendations for improving the socio-economic conditions of marginal workers in Tamil Nadu?

METHODOLOGY

1. **Data Collection:**

1. *Gathered data from government surveys, census records, and socioeconomic datasets.*
2. *Conducted primary data collection through surveys, interviews, and fieldwork.*

2. **Data Preprocessing:**

1. *Cleaned and validated datasets to ensure accuracy.*
2. *Normalized data for consistency and comparability.*
3. *Addressed missing values using appropriate techniques.*

3. **Statistical Analysis:**

1. *Employed statistical methods, regression analysis, and GIS mapping.*
2. *Chose methods based on research questions and goals.*

4. **Ethical Considerations:**

1. *Ensured data privacy and confidentiality.*
2. *Obtained informed consent from participants.*

5. **Sample Selection:**

1. *Used random and stratified sampling for diversity.*

6. **Software and Tools:**

1. *Python for data analysis and visualization.*

solutions

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These proposed solutions aim to mitigate the socio-economic challenges faced by marginal workers in Tamil Nadu and pave the way for their economic empowerment and social inclusion.

1.Skill Development Programs:

1. *Implement skill development initiatives tailored to the needs of marginal workers to enhance their employability in diverse sectors.*

2.Microfinance and Savings Programs:

1. *Promote access to microfinance and savings programs to facilitate financial stability and entrepreneurship among marginal workers.*

3.Education Outreach:

1. *Enhance education outreach programs to improve literacy and vocational skills, enabling better employment opportunities.*

4.Healthcare Access Enhancement:

1. *Develop strategies to improve healthcare access and awareness, addressing the health disparities faced by marginal workers.*

5.Gender-Inclusive Policies:

1. *Enforce gender-inclusive policies and programs to address disparities and promote equal opportunities for all.*

6.Formalization of Informal Work:

1. *Explore pathways for formalizing informal work arrangements to provide job security and social protection.*

7.Policy Evaluation and Adaptation:

1. *Continuously evaluate existing government policies and adapt them to better serve the unique needs of marginal workers.*

8.Data-Driven Decision Making:

1. *Promote data analytics to inform policy decisions and assess the impact of interventions effectively.*

LINE OF CODE

```
# Import necessary libraries  
import pandas as pd  
import matplotlib.pyplot as plt
```

```
# Load your dataset  
data = pd.read_csv('marginal_workers_data.csv')
```

```
# Data preprocessing and cleaning  
# You might need to clean and preprocess your data, handling missing values, outliers, etc.
```

```
# Descriptive statistics  
# Explore the data to understand the characteristics of marginal workers  
summary_stats = data.describe()
```

```
# Categorization of marginal workers  
# You can create categories based on occupation, income, location, etc.  
data['Category'] = pd.cut(data['Income'], bins=[0, 10000, 20000, 30000, float('inf')],  
                           labels=['Low Income', 'Moderate Income', 'High Income', 'Very High Income'])
```

```
# Gender disparities analysis  
gender_stats = data.groupby('Gender')['Income'].mean()
```

LINE OF CODE

```
# Employment patterns analysis
employment_sectors = data[Sector].value_counts()
income_by_sector = data.groupby(Sector)[Income].mean()

# Government policies and interventions evaluation
# Analyze the effectiveness of government programs
program_effectiveness = data.groupby(Program)[Impact].mean()

# Challenges and barriers identification
# Analyze the main challenges and barriers faced by marginal workers

# Visualization
# Create plots and graphs to visualize the data and analysis results
plt.bar(employment_sectors.index, employment_sectors.values)
plt.xlabel('Employment Sector')
plt.ylabel('Number of Workers')
plt.title('Employment Sectors of Marginal Workers')
plt.show()

# Save the analysis results to a report or data file
summary_stats.to_csv('summary_stats.csv')
gender_stats.to_csv('gender_stats.csv')
income_by_sector.to_csv('income_by_sector.csv')
program_effectiveness.to_csv('program_effectiveness.csv')
```

