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
OVIYA R

GUIDED BY MRS. B MOOHAMBIKAI

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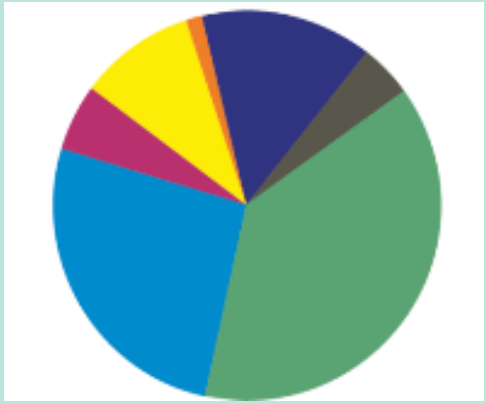
INTRODUCTION

- 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 laboures	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

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

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()
```

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```
# 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')
```

THANK YOU