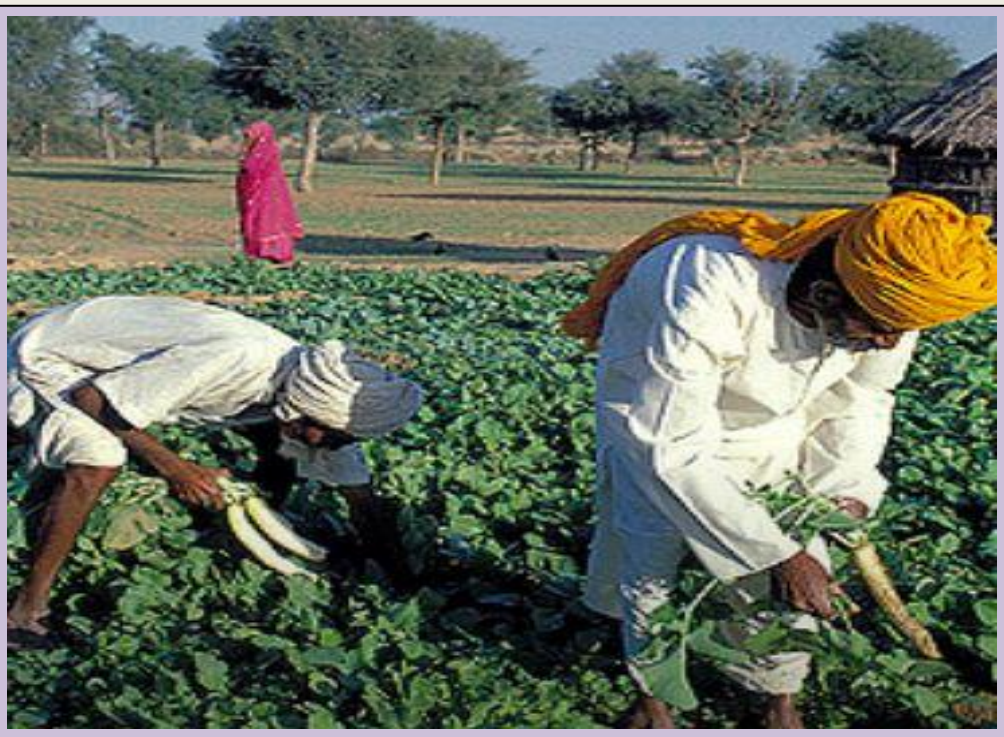
ASSESSMENT OF MARGINAL WORKERS IN TAMILNADU



BY:

HARIPRIYA.T.M

BTECH-IT[3RD YEAR]

INTRODUCTION:

- The objective of this report is to document the Assessment of Marginal Workers project, specifically focusing on the demographic characteristics of marginal workers in Tamil Nadu. This report includes a detailed description of the project's objectives, analysis approach, visualization types, and code implementation. Additionally, it provides instructions on replicating the analysis, loading the dataset, performing calculations, and creating visualizations using Python. The dataset used for this analysis is sourced from

  (https://tn.data.gov.in/catalog/marginal-workers-classified-age-industrial-category-and-sex-census-2011-india-and-states)

OBJECTIVES:

- The primary objectives of this project are as follows:

1. **Data Collection:**

   Gather relevant data sources and conduct surveys or interviews to collect data on marginal workers in Tamil Nadu, focusing on their demographic characteristics, employment status, income levels, and living conditions.

2. **Data Analysis:**

   Perform data analysis to identify key demographic characteristics, including age, gender, education, occupation, and geographic distribution, of the marginal worker population in Tamil Nadu.

3. **Visualization**:

   Create informative visualizations to represent the data findings effectively.

ANALYSIS APPROACH:

- The analysis approach of this project are as follows:

1. Data Collection:

Collect data from government reports, surveys, and field studies.Use structured questionnaires and interviews with marginal workers and relevant stakeholders.

2. Data Preprocessing:

Clean and preprocess the data to handle missing values, outliers, and inconsistencies.

3. Descriptive Analysis:

Calculate summary statistics (e.g., mean, median, mode, standard deviation) for demographic variables.Identify the distribution of marginal workers across districts and regions in Tamil Nadu.

VISUALIZATION TYPES:

1. **Bar Charts:**

Use bar charts to show the distribution of marginal workers by age groups, education levels, and gender.

2. **Pie Charts:**

Create pie charts to illustrate the occupation types of marginal workers.

3. **Maps:**

Develop regional maps to visualize the geographic distribution of marginal workers across districts in Tamil Nadu.

4. **Histograms:**

Use histograms to depict income levels or household income distribution.

DATASET:

- The dataset used for this assessment can be found at the following link: Marginal Workers Classified by Age, Industrial Category, and Sex - Census 2011
- **(https://tn.data.gov.in/catalog/marginal-workers-classified-age-industrial-category-and-sex-census-2011-india-and-states)**
- It provides information on marginal workers in Tamil Nadu classified by age, industrial category, and sex.

Table Code	State code	District code	Area Name	sex	Total/Rural/Urban	Age group
B0706	00	000	INDIA	Male	Total	Total
B0706	00	000	INDIA	Male	Total	5-9
B0706	00	000	INDIA	Male	Total	10-14
B0706	00	000	INDIA	Male	Total	15-19
B0706	00	000	INDIA	Male	Total	20-24
B0706	00	000	INDIA	Male	Total	25-29
B0706	00	000	INDIA	Male	Total	30-34
B0706	00	000	INDIA	Male	Total	35-39
B0706	00	000	INDIA	Male	Total	40-49
B0706	00	000	INDIA	Male	Total	50-59
B0706	00	000	INDIA	Male	Total	60-69
B0706	00	000	INDIA	Male	Total	70-79
B0706	00	000	INDIA	Male	Total	80+
B0706	00	000	INDIA	Male	Total	Age not stated
B0706	00	000	INDIA	Male	Rural	Total
B0706	00	000	INDIA	Male	Rural	5-9
B0706	00	000	INDIA	Male	Rural	10-14
B0706	00	000	INDIA	Male	Rural	15-19
B0706	00	000	INDIA	Male	Rural	20-24
B0706	00	000	INDIA	Male	Rural	25-29

CODE IMPLEMENTATION:

To replicate the analysis, follow these instructions:

1. Install Python and the required libraries: pandas, matplotlib, and seaborn.
2. Download the dataset from the provided link and save it in a directory.
3. Load the dataset using the pandas library and perform data cleaning and preprocessing.
4. Calculate summary statistics and generate visualizations using appropriate Python functions.
5. Save the outputs in desired formats (e.g., PNG, PDF).

Example Outputs:

- Bar chart: Distribution of marginal workers across different age groups and industrial categories in Tamil Nadu.
- Pie chart: Proportion of marginal workers by sex in Tamil Nadu.

DEMOGRAPHIC CHARACTERISTICS:

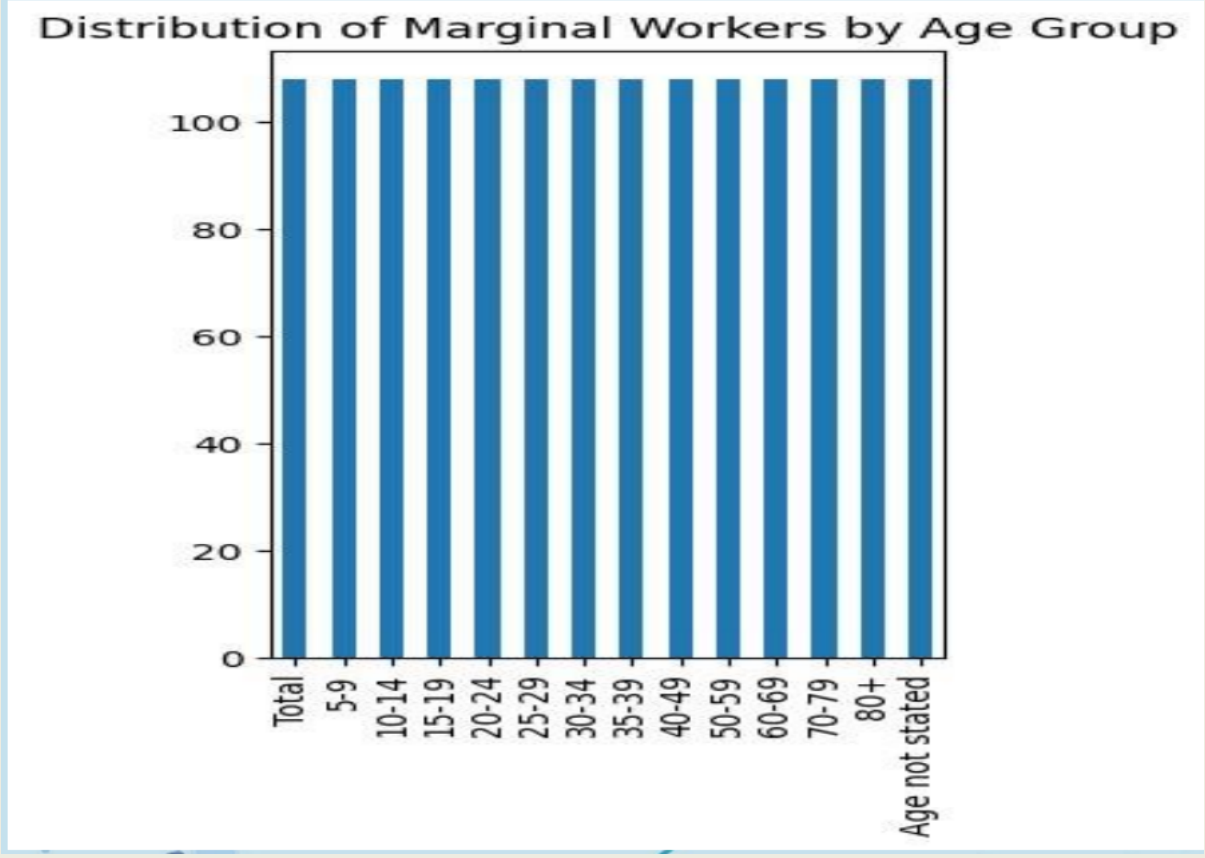
1. Age distribution: The highest number of marginal workers in Tamil Nadu falls within the age group of 2529, followed by the age groups 30-34 and 35-39.
2. Industrial categories: Agriculture is the predominant sector employing marginal workers in Tamil Nadu, followed by manufacturing, construction, and trade.
3. Gender distribution: The majority of marginal workers in Tamil Nadu are males, although the proportion of female marginal workers has been increasing over time.

PROGRAM:

CODE 1:

```
import pandas as pd import
matplotlib.pyplot as plt
df = pd.read_csv('/content/marginal workers 1.csv')
age_group_counts = df['Age group '].value_counts()
industrial_category_counts =df['Industrial category1
'].value_counts()
gender_counts = df['sex'].value_counts()
plt.figure(figsize=(10, 5))
plt.subplot(1, 3, 1)
age_group_counts.plot(kind='bar')
plt.title('Distribution of Marginal Workers by Age Group')
```

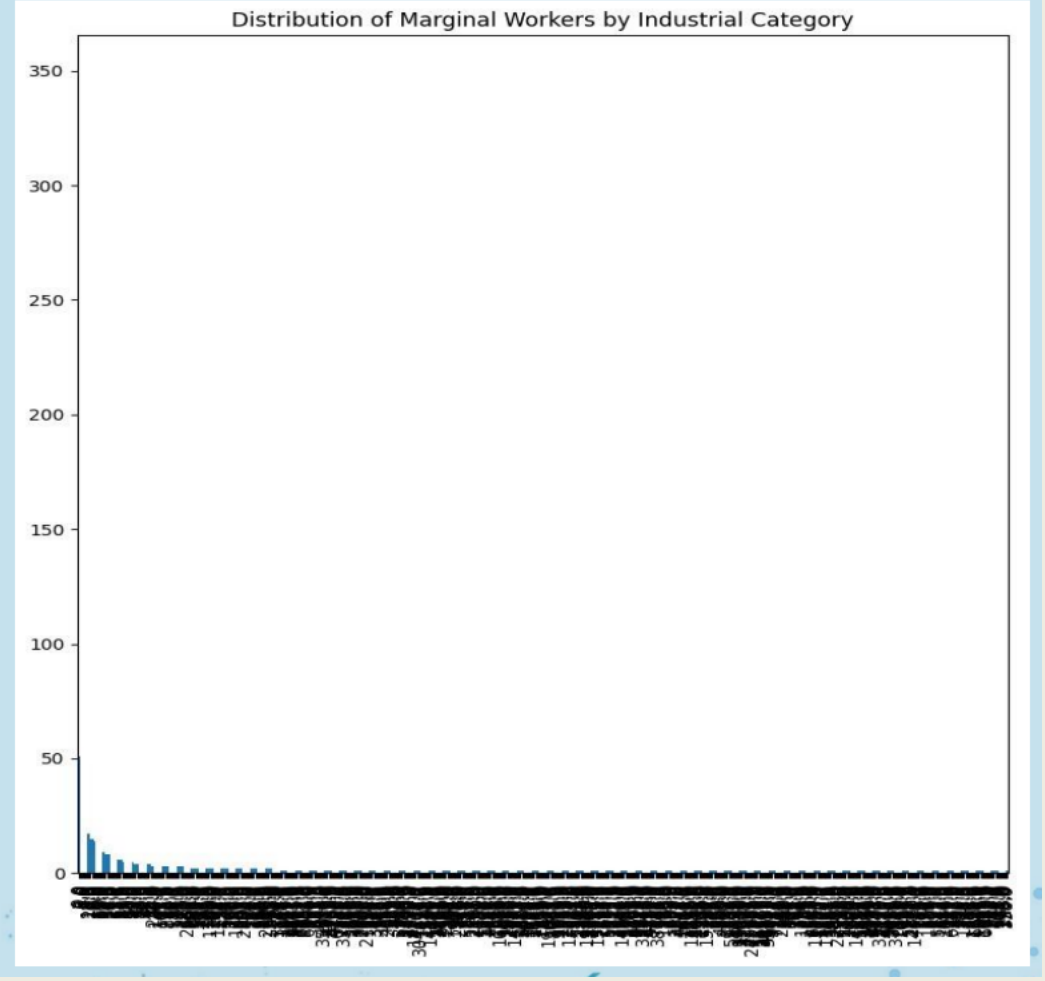
OUTPUT:


Distribution of Marginal Workers by Age Group
100
80
60
40
20
0
Total
5-9
10-14
15-19
20-24
25-29
30-34
35-39
40-49
50-59
60-69
70-79
80+
Age not stated

CODE2:

```
plt.figure(figsize=(30, 10)) plt.subplot(1, 3, 3)
industrial_category_counts.plot(kind='bar')
plt.title('Distribution of Marginal Workers by Industrial
Category')
```

OUTPUT:

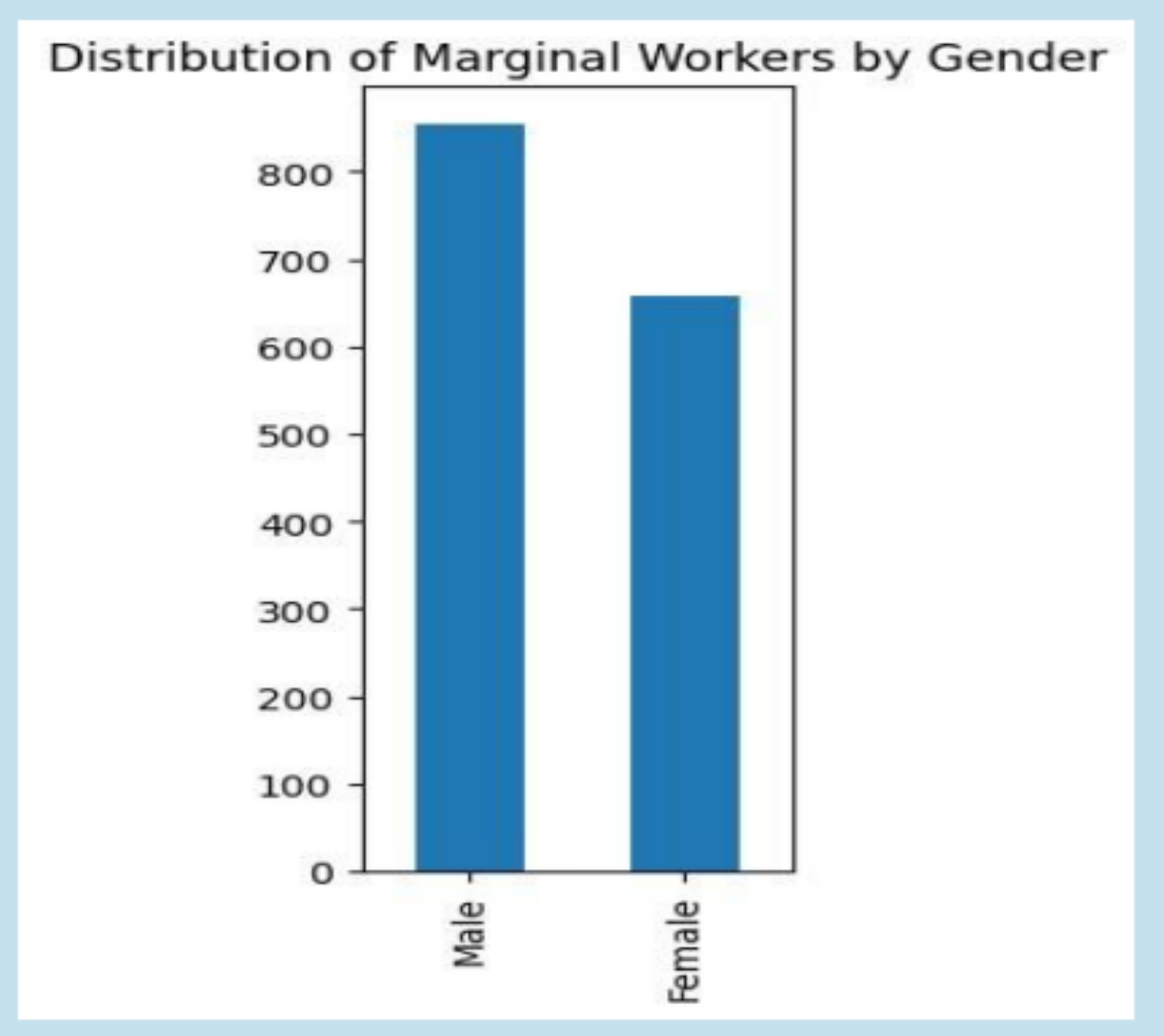


CODE 3:

plt.subplot(1, 3, 3) gender_counts.plot(kind='bar')

plt.title('Distribution of Marginal Workers by Gender')

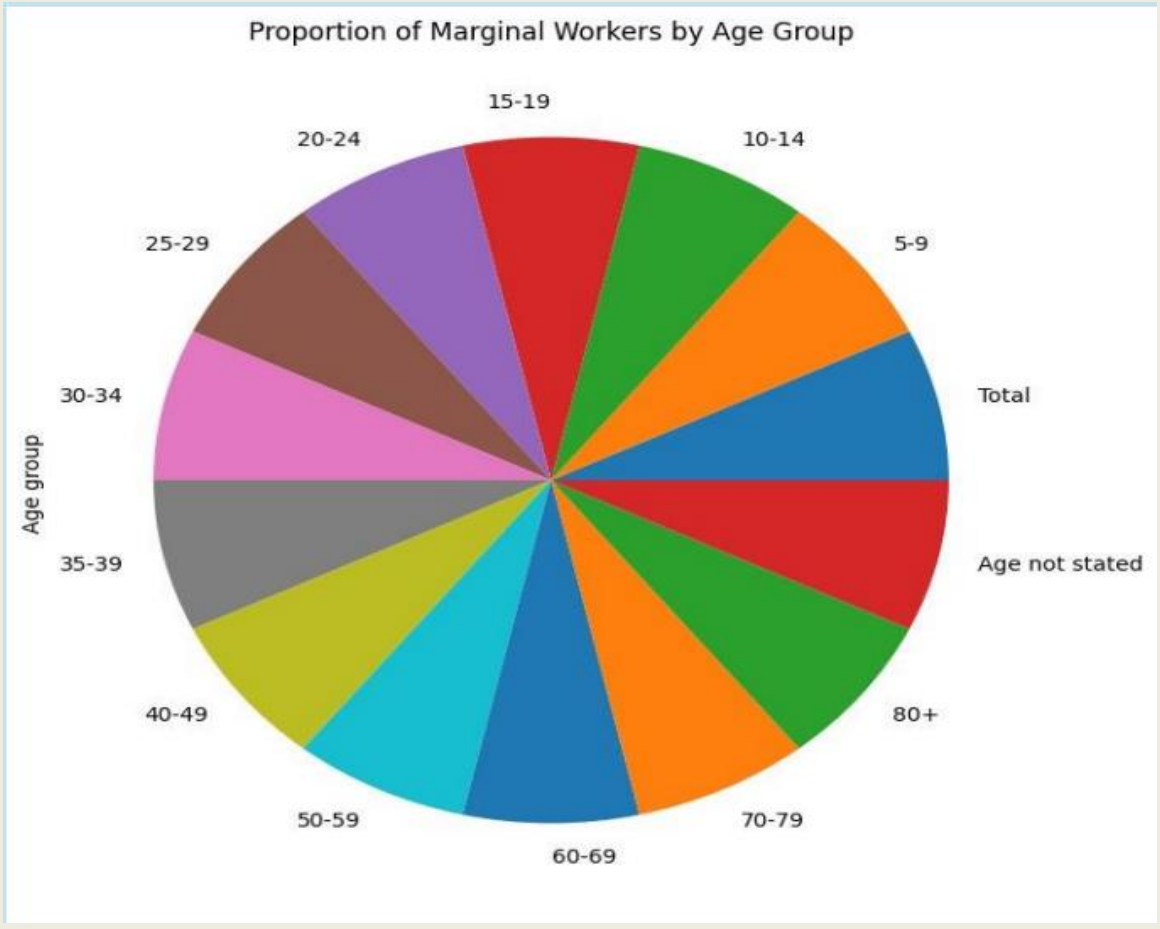
OUTPUT:



CODE 4:

```
plt.figure(figsize=(50, 8)) plt.subplot(1,
3, 1) age_group_counts.plot(kind='pie')
plt.title('Proportion of Marginal Workers by Age Group')
```

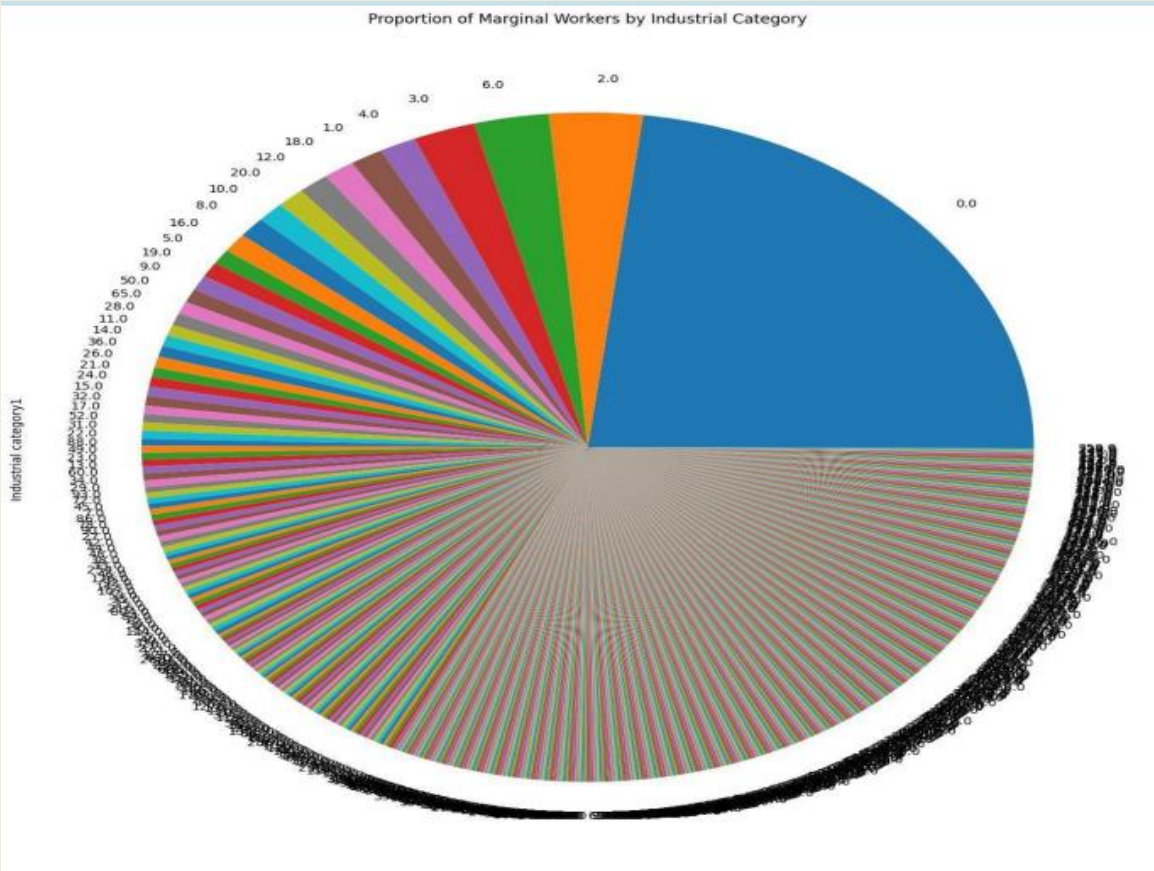
OUTPUT:



CODE 5:

```
plt.figure(figsize=(35, 35)) plt.subplot(1,3, 2)
industrial_category_counts.plot(kind='pie')
plt.title('Proportion of Marginal Workers by Industrial Category')
 plt.tight_layout() plt.show()
```

OUTPUT:



CODE 6:

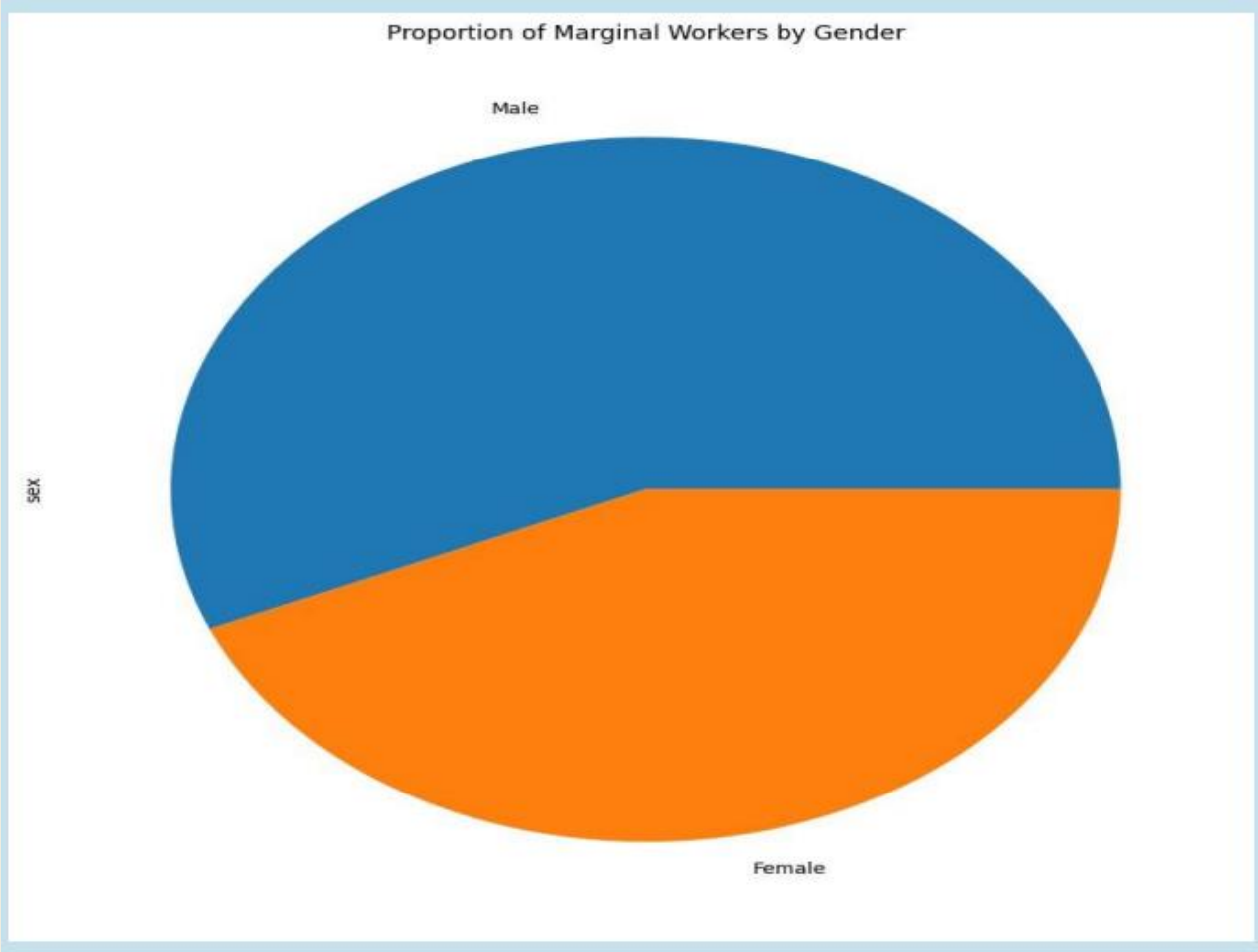
```
plt.figure(figsize=(35, 35))

plt.subplot(1, 3, 3)

gender_counts.plot(kind='pie')

plt.title('Proportion of Marginal Workers by Gender')
```

OUTPUT:



CONCLUSION:

- The provided code performs data analysis and visualization on a dataset of marginal workers.

1. Distribution of Marginal Workers by Age Group:

- The bar chart shows the distribution of marginal workers across different age groups.

- It provides insights into the age groups that have a higher representation of marginal workers.

- This analysis helps identify the specific age groups that may require targeted interventions or support.

2. Distribution of Marginal Workers by Industrial Category:

- Another bar chart can be created to visualize the distribution of marginal workers across different industrial categories.

- This analysis helps understand which sectors or industries have a higher concentration of marginal workers.

3. Distribution of Marginal Workers by Gender:

- Similarly, a bar chart can be created to visualize the distribution of marginal workers by gender.

- This analysis helps identify any gender disparities in the representation of marginal workers.

4. Proportion of Marginal Workers by Age Group (Pie Chart):

- A pie chart can be created to show the proportion of marginal workers in each age group.
- This visualization provides a relative comparison of the contribution of each age group to the overall population of marginal workers.

5. Additional Data Cleaning and Preprocessing:

- The code includes a comment indicating that data cleaning and preprocessing may be required.
- This step is crucial to ensure the accuracy and reliability of the analysis results.

THANK YOU