Project Phase III

Topic : Tamil Nadu Marginal Workers Assessment

Project Definition:

Marginal Workers :

Marginal workers, often referred to as "marginal labourers," are a specific category of the labour force within a country's population. They represent a group of individuals who are engaged in irregular or low-income employment and often face economic and social vulnerability. The concept of marginal workers is commonly used in labour market and employment statistics to categorise a segment of the workforce that is distinct from regular wage/salary workers.

Marginal workers are increasing in tamilnadu as they form a part of the labour force and they work on very low wages which lead to their exploitation, the various industries where marginal workers perform include: Agriculture, Forestry and Fishing; Mining and Quarrying; Manufacturing; Electricity, Gas, steam and Air conditioning Supply; Water Supply; (Sewerage, Waste Management and remediation activities); Construction; Wholesale and Retail Trade (Repair of motor vehicles and motorcycles); Transportation and Storage; Accommodation and food service activities; Information and Communication; Financial and Insurance activities; Real Estate activities; Professional, Scientific and Technical activities; Administrative and support service activities; Public Administration and Defence, Compulsory Social Security; Education; Human Health and Social Work activities; Arts, Entertainment and recreation; Other Service Activities; Activities of Households as Employers: Undifferentiated Goods and Services; Activities of Extraterritorial Organisations and Bodies.

Marginal workers work on various types of jobs which include primary workers fields like Agriculture, Fishing, Mining and to white collar jobs like Public Administration and Defence, Scientific and Technical activities. The workers may also work in both urban or rural area, Their area of work and work type is dependent on their educational qualification which in turn determine their socio-economic status.

The age distribution of marginal workers can vary from one region or country to another, and it can change over time due to economic, social, and demographic factors. In the context of India, where the concept of marginal workers is commonly used, the age distribution of marginal workers may typically be characterised as follows:

Child Labour: Child labour involves the employment of children below the legal working age, which varies from country to country but typically includes those under the age of 14. Child labour is a critical issue among marginal workers in many parts of the world, including India. These children often work in hazardous and exploitative conditions, and their age distribution can encompass a range of ages, from very young children to teenagers.

Younger Age Groups: Marginal workers often include a significant proportion of younger individuals, particularly those in the age group of 15-34 years. This is due to several reasons, including entry-level employment opportunities in various sectors, limited access to formal education, and the need for income generation in lower-income households.

Prime Working-Age Population: The prime working-age group, which typically spans from 35 to 59 years, also contributes to the age distribution of marginal workers. People in this age group may become marginal workers due to underemployment, seasonal employment, or limited job opportunities, especially in the informal sector.

Older Workers: While the majority of marginal workers are relatively younger, there are older individuals, typically aged 60 and above, who engage in marginal employment. This may be due to factors like a lack of retirement benefits, limited pension options, or the need to support themselves and their families.

Gender distribution among marginal workers varies depending on cultural, societal, and economic factors, as well as the specific region and industry in question. Here are some general trends in the gender distribution of marginal workers:

Gender Disparities: Gender disparities are often observed among marginal workers. In many parts of the world, including India, you may find more men than women engaged in marginal employment.

Men as Predominant Marginal Workers: In certain sectors like agriculture, construction, and transportation, men tend to make up a significant portion of the

marginal worker population. They often work as agricultural laborers, construction workers, rickshaw pullers, or in other physically demanding roles.

Women in Informal and Unpaid Work: Women are more likely to be engaged in informal, part-time, or unpaid work, such as household and care work. These roles may not be recognized as formal employment, but they are essential to the functioning of households and communities.

Let us look at the problems of marginal workers and solution to be offered

1. Lack of Access to Social Services: Many marginal workers struggle to access essential social services such as healthcare and clean water. Marginal workers often struggle to access healthcare services due to financial constraints or limited healthcare infrastructure in their areas. This can lead to unmet medical needs and poorer health outcomes.Adequate access to clean water and sanitation facilities is often lacking in their living conditions, posing health risks.

Marginal Work job duration depend on their age and duration of work, This criteria would determine the way to provide social security to the people
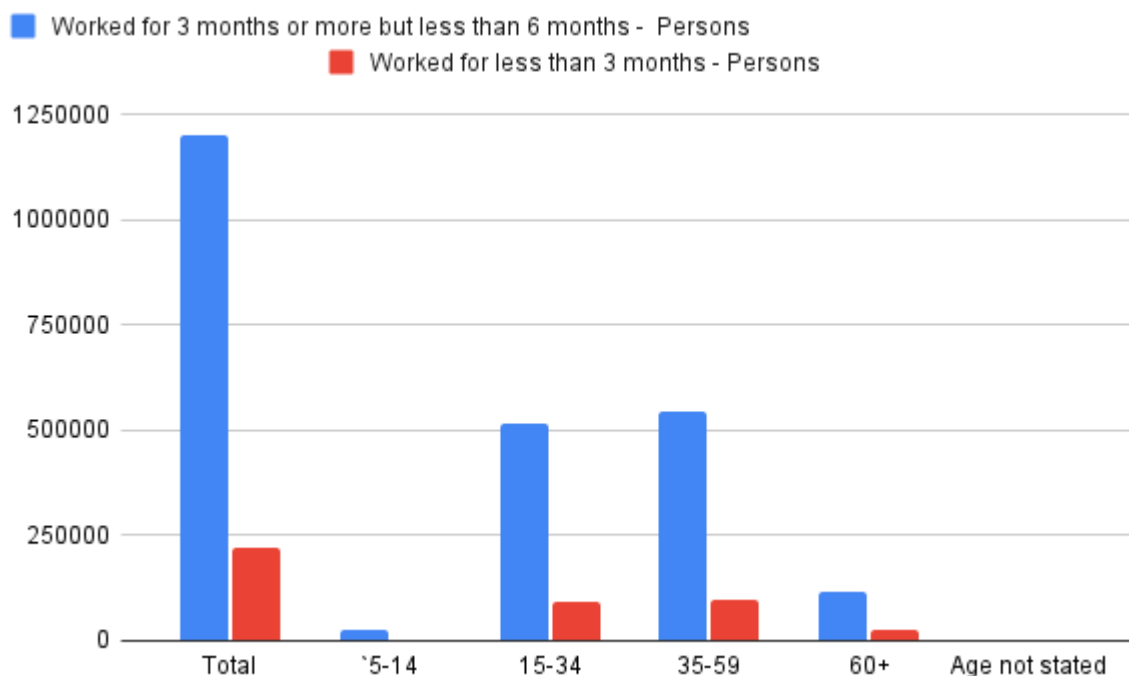
Solution: Establish mobile health clinics that reach remote areas where marginal workers live and work, providing basic healthcare services and health education.Implement sanitation programs that provide clean water sources for marginal worker living places, build toilets, and promote hygiene practices to improve living conditions and reduce health risks.

2. Gender Disparity: Gender disparity in the job market, particularly among marginal workers, refers to the unequal treatment and opportunities that women and men experience in their employment. This issue is characterised by differences in wages, job roles, and access to job opportunities.

Women who are marginal workers often earn less than their male counterparts for the same or similar work. This wage gap is a significant issue as it perpetuates economic inequality. Gender stereotypes often lead to occupational segregation, with women more likely to work in lower-paying, less-skilled jobs. Men, on the other hand, tend to dominate higher-paying positions.Women in marginalised communities may have fewer job opportunities available to them due to social and cultural norms that restrict their mobility and choices.

Let us look at the job opportunities offered to men and women in rural area

Male - Urban 10.9%
Male - Rural 37.5%
Female - Urban 8.9%
Female - Rural 42.7%
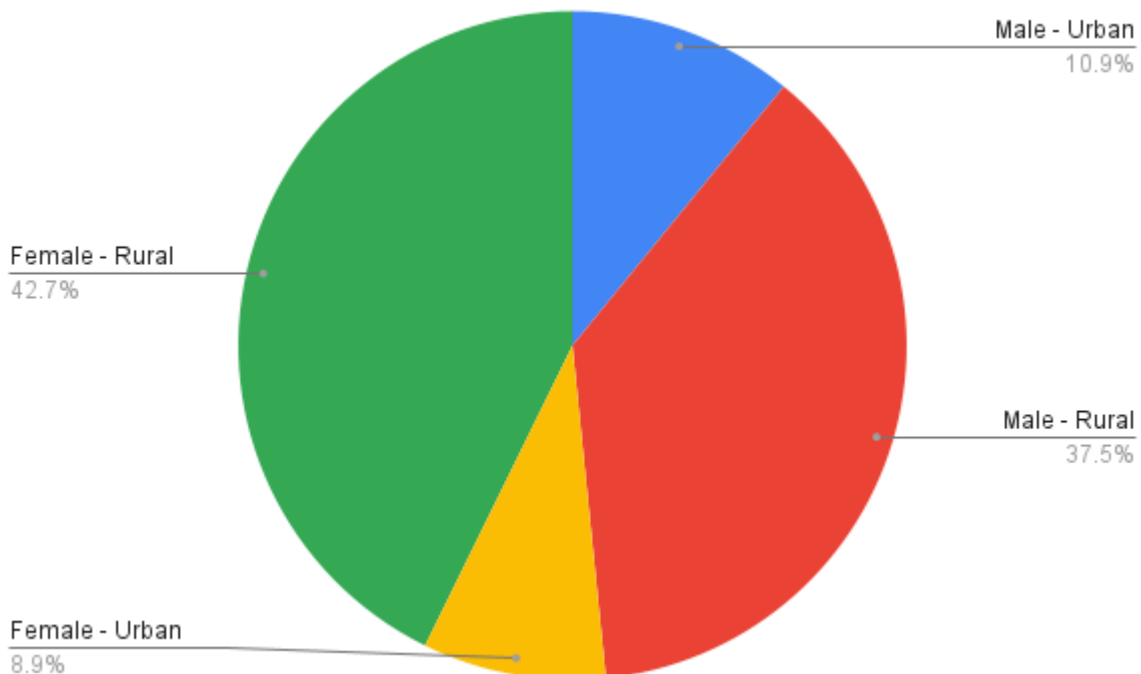
Women are offered more jobs in rural areas but it's often non technical and physical labour. They have huge pay differences as they work for a very low wage than men. Women job contribution is less in urban area than men.

Solution: Enforce laws and regulations that ensure equal pay for equal work. Encourage companies to perform regular pay audits to identify and rectify gender-based wage gaps. Conduct awareness and training programs to sensitise employers and communities to gender issues, fostering a more inclusive and equitable work environment. Implement affirmative action policies that encourage employers to hire and promote women in all job sectors. These policies may include quotas for female representation in leadership positions.

3. Educational Qualification: Marginal Worker is increasing every year due to lack of proper education which makes them work physically demanding jobs and illiterate jobs which are very daunting and give in return low wage. Marginal workers often lack the necessary skills and qualifications to access jobs that offer higher wages and job security. They may be stuck in low-paying, unskilled jobs. Many marginal workers have low levels of literacy and numeracy, which restrict their ability to perform even basic job tasks or access educational resources.

Solution: Establish adult education and literacy programs that cater to the specific needs of marginal workers, offering flexible schedules and community-based learning.Provide vocational training and skill development programs that equip marginal workers with practical skills in demand in the job market. Offer scholarships, grants, or low-interest loans to help marginal workers, particularly women, access education and training.

4. Child Labour: Child Labour include working of children from the age of 5-14. This age is the age of children to study in school but they are doing physically demanding jobs which may affect physical and mental development of children. Children from marginal worker families are often forced into work at a young age, sometimes engaging in hazardous or exploitative labour to contribute to their family's income. Child labour deprives these children of their right to education, which can have long-term consequences on their future employability and overall well-being. Child labour can perpetuate the cycle of poverty. When children are forced to work instead of attending school, they are more likely to continue in low-paying, unskilled jobs as adults.

Let us look at the various job distribution of young people from 5-14
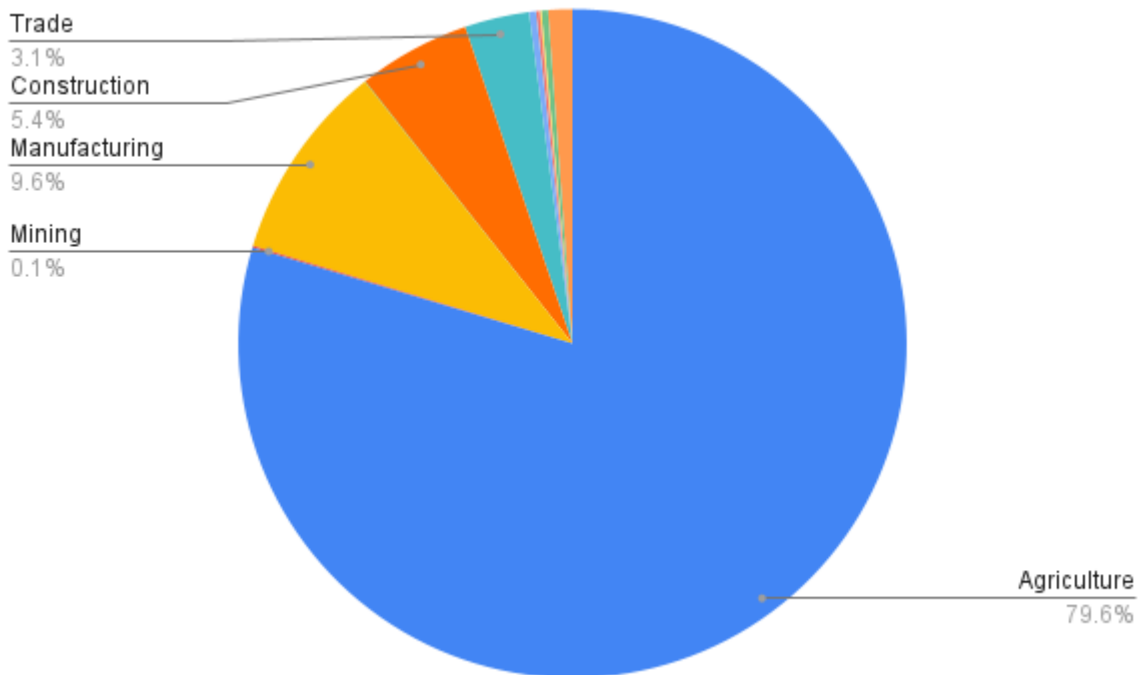
Children usually work in agriculture which is physical work which is demanding and does not require much intellect. It's very demanding and affects the overall development of children.

Solution: Child labour can be avoided by providing quality education to children which lead to increased economic status in future. Child labour can be avoided as follows, Improve access to quality education for children of marginal workers, ensuring schools are affordable, safe, and located within reasonable proximity. Enhance existing child labour laws and regulations and ensure their strict enforcement to prevent children from engaging in harmful work.

Working Code:

Library:

```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
from sklearn.preprocessing import LabelEncoder, StandardScaler
from sklearn.model_selection import train_test_split, GridSearchCV
from sklearn.metrics import accuracy_score, classification_report, confusion_matrix
import warnings
warnings.filterwarnings('ignore')
```
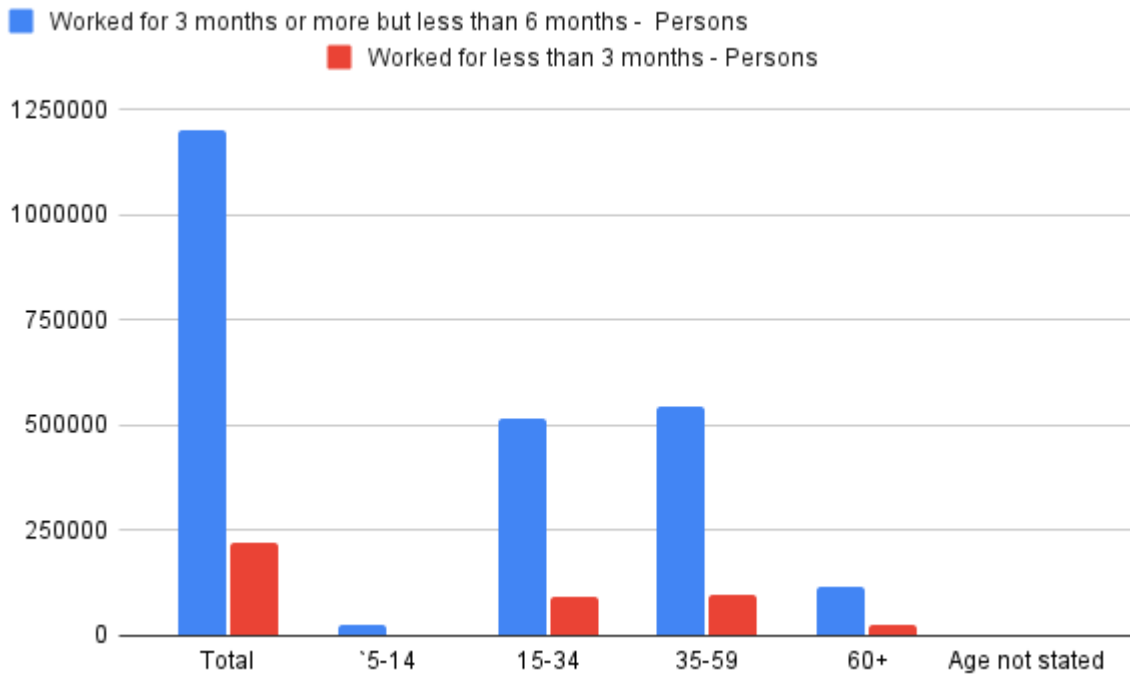
Work_data = pd.read_csv('C:\Users\hp\OneDrive\Desktop\Data.csv')

Analysis:

```
Data.shape
Data.columns
data.head()
data.info()
data.corr()
```

Graph Plot:

```
department = pd.get_dummies(dept_per['EmpDepartment'])
performance = pd.DataFrame(dept_per['PerformanceRating'])
dept_rating = pd.concat([department,performance],axis=1)
# Plotting a separate bar graph for performance of each department using seaborn
plt.figure(figsize=(15,10))
plt.subplot(2,3,1)
sns.barplot(work_less_3['Male'],work_less_3['Rural'])
plt.subplot(2,3,2)
sns.barplot(work_less_3['Female'],work_less_3['Urban'])
plt.subplot(2,3,3)
sns.barplot(work_less_6['Male'],work_less_6['Rural'])
plt.subplot(2,3,4)
sns.barplot(work_less_6['Female'],work_less_6['Urban'])
plt.subplot(2,3,5)
plt.show()
```

Legend:
- Worked for 3 months or more but less than 6 months - Persons
- Worked for less than 3 months - Persons

X-axis categories: Total, `5-14, 15-34, 35-59, 60+, Age not stated

Conclusion:

Thus basic valuable insights have been studied with demographics of marginal workers in Tamilnadu. Thus the problem of marginal workers is studied and a solution is provided to them. The dataset is loaded preprocessed in python data science using pandas, matplotlib and we obtain our understanding.The application of technological solutions, such as advanced data analytics, skill development platforms, and blockchain for labor rights, is essential to accurately assess the needs of marginalized workers, ultimately paving the way for more empathetic and effective solutions to improve their well-being and foster social inclusion in Tamil Nadu.

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