**Ideation Phase**

**Defining the Problem Statements**

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| **Team ID** |  |
| **Project Name** | **Assessment of Marginal Workers In**  **Tamil Nadu.** |

**Assessment of Marginal Workers in Tamil Nadu;**

# Problem Definition and Design Thinking

**Introduction**

Analysing the situation of marginal workers in Tamil Nadu through the lens of data analytics offers a powerful approach to gain valuable insights into their socio-economic conditions, employment patterns, and vulnerabilities. In recent years, data analytics has become an indispensable tool for policymakers, researchers, and organizations to make informed decisions and design targeted interventions to uplift marginalized communities. This assessment leverages data analytics to provide a comprehensive understanding of marginal workers in Tamil Nadu.

# Problem Statement

Tamil Nadu, one of the most populous states in India, has a significant population engaged in various forms of employment. Among these, a substantial proportion constitutes "marginal workers" who are often vulnerable and face challenges in accessing stable employment opportunities. The primary objective of this project is to leverage data analytics techniques to comprehensively assess the status, characteristics, and trends related to marginal workers in Tamil Nadu.

# Key Challenges:

1. Data Access and Security: Marginal workers may not have the same level of access to sensitive data and systems as full-time employees.
2. Data Quality: Contingent workers may not have the same understanding of data quality standards as permanent employees.
3. Integration with Existing Teams: Integrating contingent workers into existing data analytics.
4. Lack of Commitment: Marginal workers may not be as committed to the organization's long-term goals as full-time employees.
5. Training and Skill Levels: Assessing the skill levels of contingent workers and providing necessary training.

**Design Thinking Approach**

# Data Collection:

Gather relevant datasets from government sources, surveys, and other credible resources. The data should include information on employment, demographics, education, income levels, and geographical locations of marginal workers.

# Data Cleaning and Preparation:

Clean, pre process, and integrate the collected data to create a consolidated dataset ready for analysis. This step may also involve dealing with missing data and outliers.

# Exploratory Data Analysis:

Conduct EDA to gain initial insights into the data. Explore the distribution of marginal workers across different districts, industries, and time periods. Identify key trends and patterns.

# Segmentation:

Use clustering techniques to segment marginal workers based on relevant features such as age, education, and industry of employment. This can help identify distinct groups within the marginal worker population.

# Employment Dynamics:

Analyze the employment dynamics by examining factors that influence the duration and nature of employment among marginal workers. Identify the industries or sectors where marginal workers are most prevalent.

# Geospatial Analysis:

Utilize geospatial data and mapping techniques to visualize the distribution of marginal workers across different regions of Tamil Nadu. Identify areas with higher concentrations of marginal workers.

# Demographic Analysis:

Explore the demographic characteristics of marginal workers, such as age, gender, and education levels, and assess how these factors impact their employment prospects.

# Income Analysis:

Investigate the income levels of marginal workers and assess whether there are disparities among different subgroups. Examine the relationship between income and other variables.

# Policy Recommendations:

Based on the findings, propose policy recommendations and interventions to improve the employment situation of marginal workers in Tamil Nadu. These recommendations could involve targeted skill development programs, employment generation initiatives, or social safety nets.

# Visualization and Reporting:

Create data visualizations and a comprehensive report summarizing the project's findings and recommendations. Visualizations could include interactive dashboards, charts, and maps to make the results accessible to a wider audience.

**Tools and Technologies:**

* **Data collection and cleaning: Python (Pandas)**
* **Data analysis and modelling: Python (Scikit-Learn)**
* **Data visualization: Python (Marplot, Seaborn, or Plotly)**
* **Geospatial analysis: Geographic Information Systems (GIS) tools**
* **Report generation: Jupyter Notebooks or a dedicated reporting tool Conclusion**

A comprehensive analysis of the employment status of marginal workers in Tamil Nadu.

* Insights into the demographic and socio-economic factors affecting their employment.
* Policy recommendations to address the challenges faced by marginal workers and improve their livelihoods.

This project not only provides valuable insights into the employment status of marginal workers in Tamil Nadu but also offers actionable recommendations to policymakers and organizations working to uplift this vulnerable segment of the population. It can contribute to informed decision-making and the formulation of targeted interventions to improve the lives of marginal workers in the state.