

# Village-Wise Survey Analysis of Goa - Mission Antyodaya 2020

This presentation analyzes the "Village-wise Survey Data of Goa for Mission Antyodaya 2020" dataset, which contains 402 rows and 160 columns. The dataset provides detailed information on various aspects of villages in Goa, surveyed under the Mission Antyodaya initiative in 2020. It focuses on key areas such as infrastructure, governance, agriculture, and economic development, helping assess the living conditions and progress of rural areas.



# Key Socio-Economic Indicators

The Mission Antyodaya 2020 dataset provides key socio-economic indicators for villages in Goa. It includes geographical details, such as the state, district, and village names, along with their latitude and longitude. The dataset also captures vital demographic and infrastructure data, including the number of households with piped water connections, total elected representatives, and the extent of land covered under irrigation.

## Infrastructure

Piped water connections, irrigation facilities.

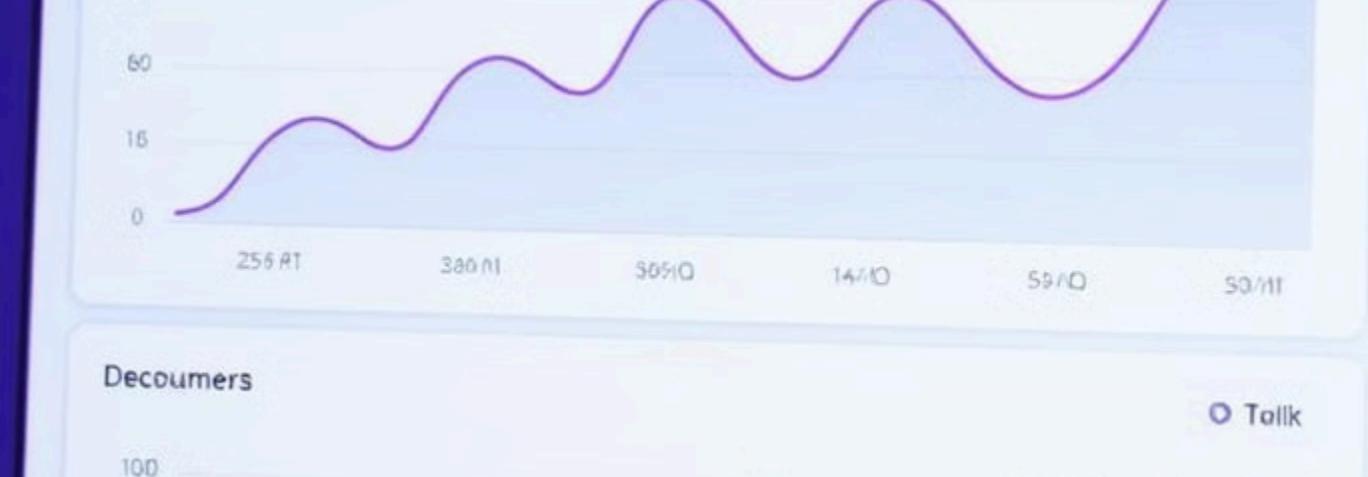
## Governance

Elected representatives, training programs.

## Demographics

Population, gender distribution.





# Data Overview

The dataset contains 402 rows and 160 columns, covering various aspects of village-level data for Goa under the Mission Antyodaya 2020 survey. The dataset was cleaned to deal with missing values, categorical values, and numerical transformations to proper analysis. The major analysis on critical infrastructure indicators like piped water connections, labor budget allocation, and irrigation facilities.

**Rows**

402

**Columns**

160

**Focus**

Infrastructure, governance,  
demographics.



# Distribution of Farmers Receiving Soil Testing Reports

The distribution of farmers receiving soil testing reports was analyzed. Villages with low farmer participation might benefit from education and outreach programs about the importance of soil testing. The highest bars represent the most frequent number of farmers receiving reports in different villages. This helps in identifying where most villages fall in terms of farmer participation in soil testing programs.



## Identify

Villages with low participation.



## Educate

Promote importance of soil testing.



## Improve

Increase farmer participation.



# Piped Water Connection Analysis

The average number of households with piped water is 639 per village. Some villages have zero piped water, while the highest is 10,500 households. This suggests an uneven distribution of water infrastructure across Goa's villages. Some villages have substantially more households with piped water connections compared to others. Many villages outside this top 10 list may still rely on wells, borewells, or tankers for water.

 Average

639 households

 Distribution

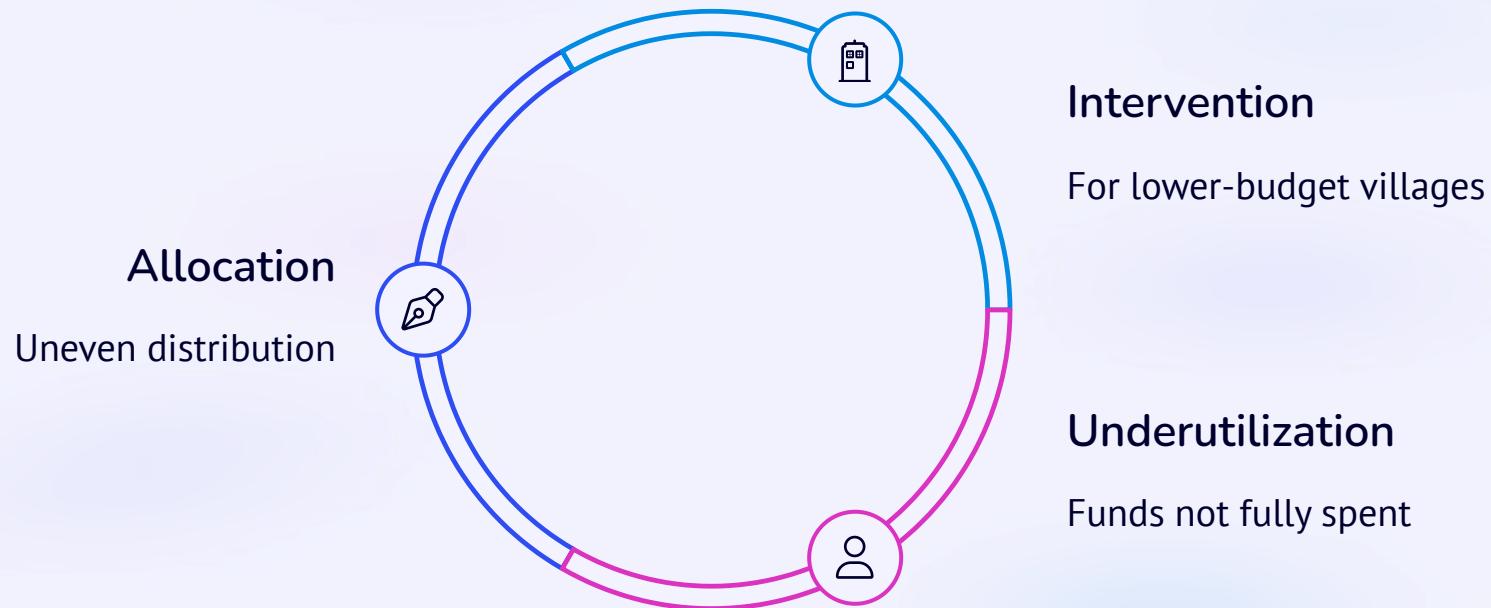
Uneven across villages

 Alternatives

Wells, borewells, tankers

# Labour Budget Allocation Distribution (2018-19)

The plot indicates whether the budget allocation is evenly distributed or concentrated among certain villages. Villages receiving lower-than-average budgets may require policy intervention for better resource allocation. Some villages received a high budget but spent very little. The actual expenditure data from the dataset indicates underutilization of allocated funds in many villages.



# Model Accuracy for Classification

I used Random forest classifier() for the classification of the dataset. And the accuracy of the analysis model is 85.1852 %. The machine learning model was added to above-median piped water connections , infrastructurerelated features. The data was intially analysis using simple statistical summaries,more precise insights developed from different correlation patterns and machine learning predictions.

**85.18%**

Accuracy

Model performance





# Key Observations and Analysis

The dataset was cleaned to deal with missing values, categorical values, and numerical transformations to proper analysis. The major analysis on critical infrastructure indicators like piped water connections, labor budget allocation, and irrigation facilities. simple visualizations like bar plots and scatter plots were created to examine the distribution of important features. As the analysis continued more colorful visualizations were added to enhance readability and presentation.

## Data Cleaning

Handling missing values

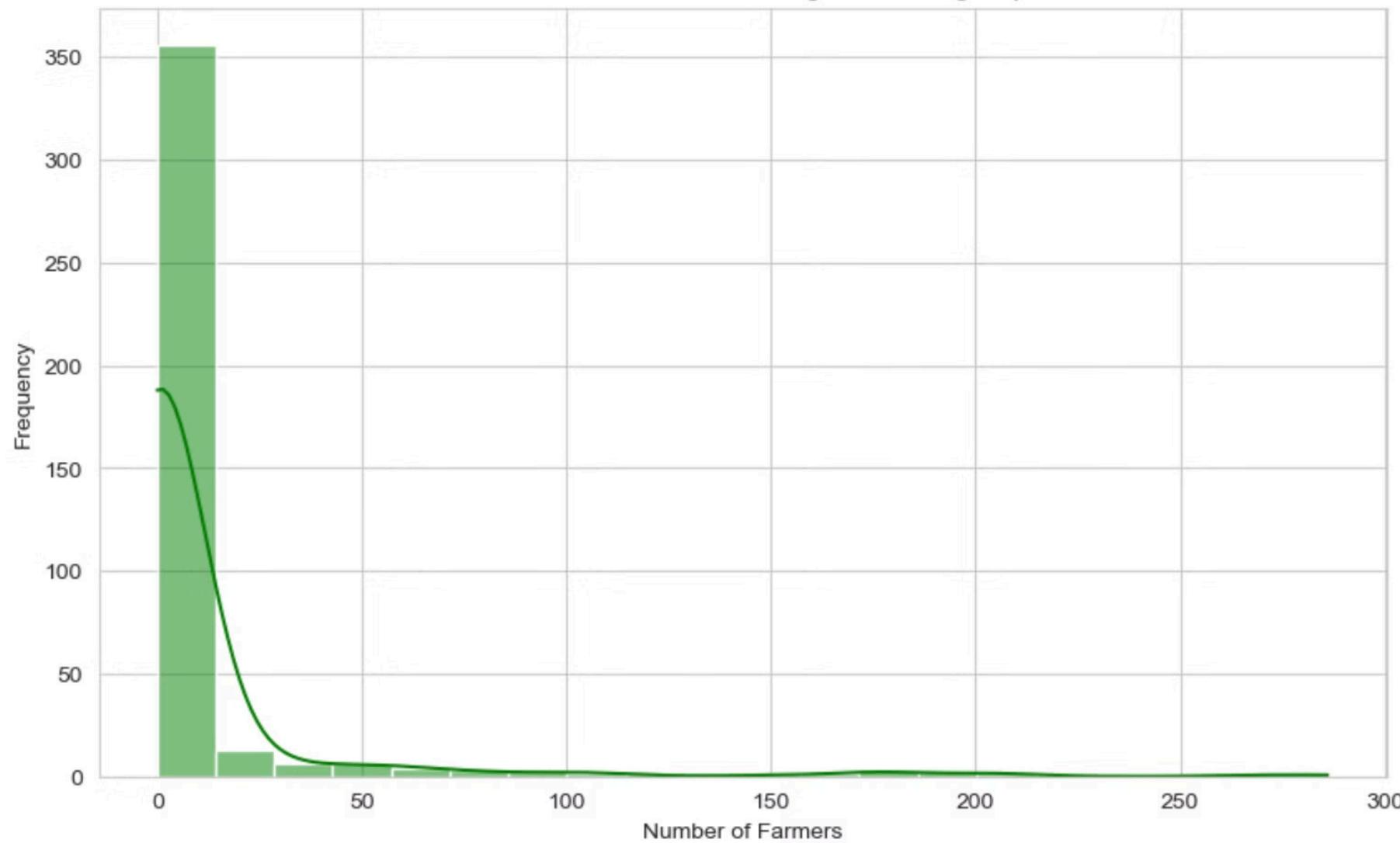
## Visualizations

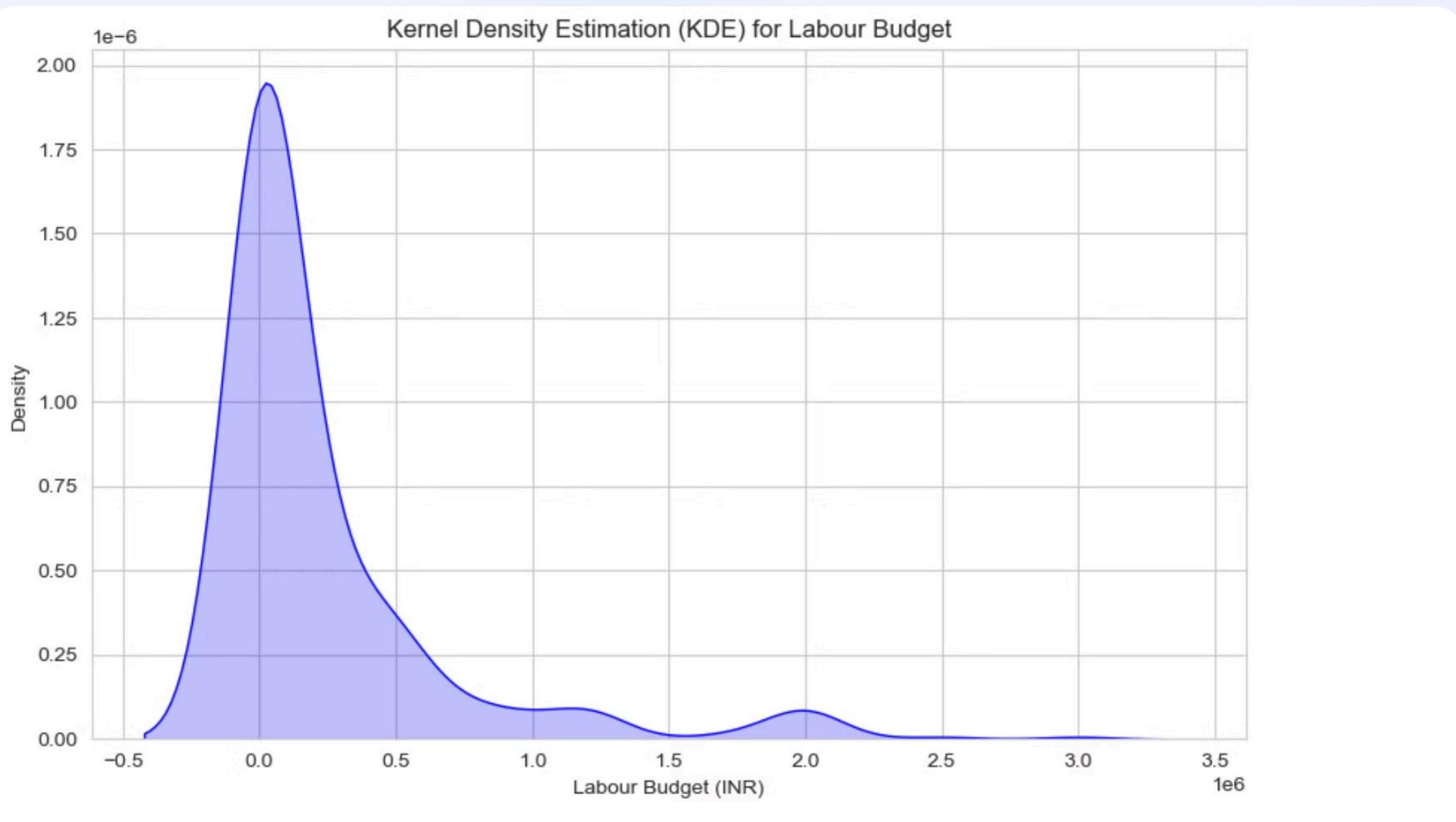
Examining distributions

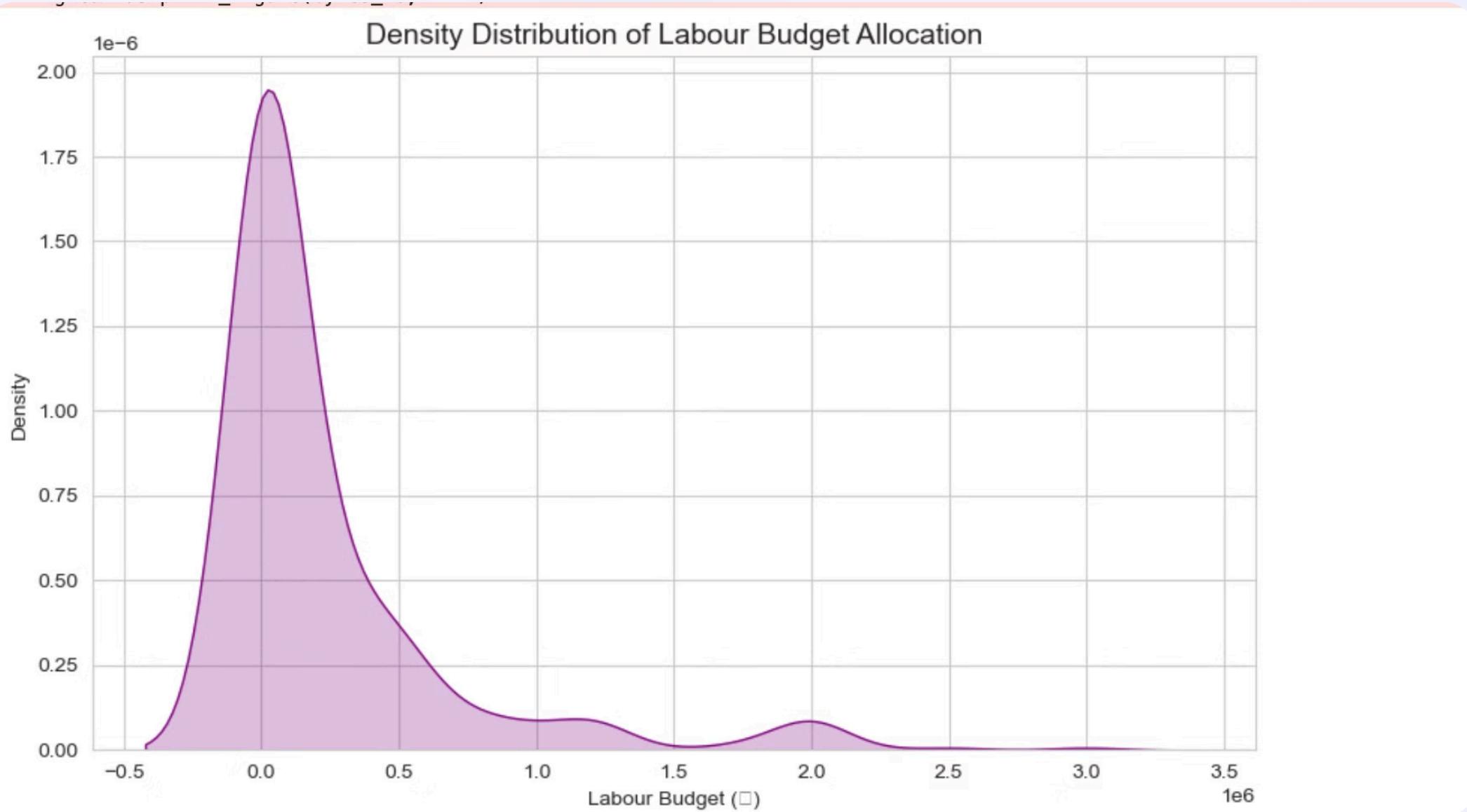
## Insights

Correlation patterns

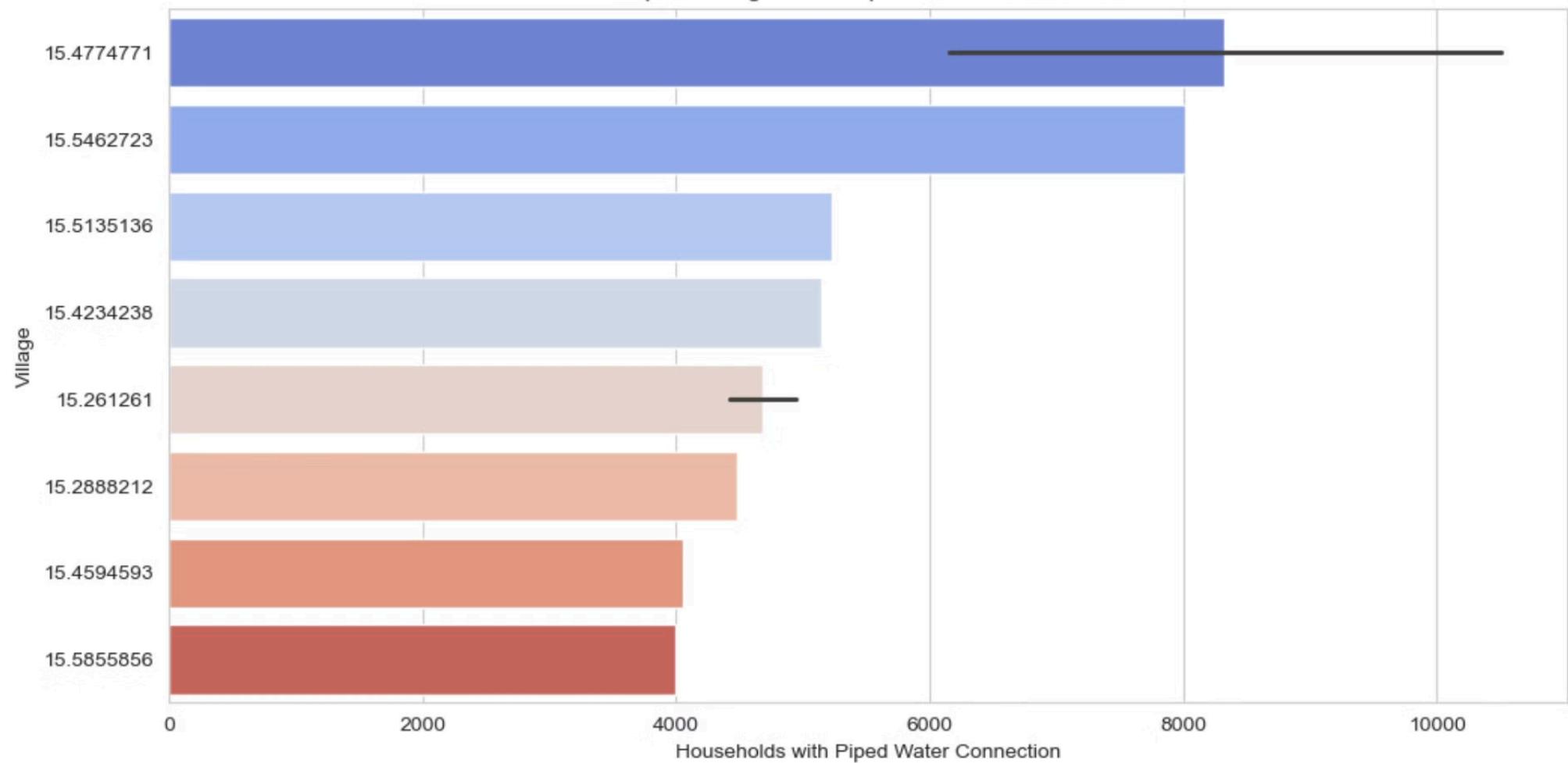
### Distribution of Farmers Receiving Soil Testing Reports







### Top 10 Villages with Piped Water Connection



### Distribution of Farmers Receiving Soil Testing Reports

