



ECONOMIC BARRIERS AND FINANCIAL CHALLENGES IN TRIBAL AREAS: A FACTOR ANALYSIS INVESTIGATION

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ABSTRACT

This study examines the underlying causes of financial challenges in the tribal areas of Alluri Sitarama Raju (ASR) and Prakasam Districts in Andhra Pradesh, with an emphasis on identifying key determinants through a factor analysis approach. Based on primary data collected from these regions, the analysis reveals that tribal communities face significant barriers to financial stability, including limited access to formal financial services, inadequate infrastructure, low levels of educational attainment, and restricted employment opportunities. These challenges impede progress toward financial sovereignty, leaving tribal populations vulnerable to economic fluctuations and hampering efforts to reduce poverty.

The findings underscore the critical need for targeted interventions in tribal areas if India is to achieve its \$5 trillion economic target by 2025. Strengthening the financial resilience of these communities requires a combination of infrastructural improvements, inclusive financial policies, and community-based development initiatives that address the unique economic constraints faced by tribal populations. This study provides valuable insights for policymakers and stakeholders to design effective programs that promote sustainable economic growth and financial inclusion in rural tribal regions.

INTRODUCTION

India is home to one of the world's largest indigenous populations, with tribal communities representing a significant portion of its rural demographic. These communities, residing in geographically isolated and economically disadvantaged areas, face a range of financial, infrastructural, and socio-economic challenges that limit their participation in the country's overall growth story. In Andhra Pradesh, the districts of Alluri Sitarama Raju (ASR) and Prakasam exemplify this situation. According to the 2011 Census, Scheduled Tribes constitute 82.67% of ASR district's population and 10.35% of Prakasam district's population, indicating the substantial representation and influence of tribal communities in these areas. Despite the state's efforts to promote financial inclusion and economic empowerment, these tribal regions continue to struggle with poverty, low-income levels, limited access to formal financial services, and a heavy reliance on agriculture and other primary activities vulnerable to environmental and market fluctuations.

Tribal populations in ASR and Prakasam districts confront systemic barriers that impede their economic advancement. Lack of access to quality education, limited infrastructure for financial transactions, inadequate healthcare facilities, and insufficient employment opportunities contribute to the persistent cycle of poverty in these areas. Moreover, social factors, including historical marginalization and exclusion, have exacerbated these economic difficulties. These challenges not only hinder the financial autonomy of tribal communities but also limit their ability to contribute to and benefit from India's broader economic growth. As the nation aspires to achieve a \$5 trillion economy by 2025, the inclusion of tribal communities in the economic mainstream is critical for sustainable and equitable growth.

Despite various policy initiatives aimed at uplifting tribal communities, such as rural development schemes, financial literacy programs, and support for tribal entrepreneurship, a gap remains in understanding the specific factors that drive financial instability in these areas. Existing research often generalizes rural economic challenges without adequately distinguishing the unique barriers faced by tribal communities. This study seeks to address this gap by analyzing primary data collected from households in ASR and Prakasam districts, employing a factor analysis approach to identify the core issues that perpetuate financial difficulties.

Factor analysis, a statistical method that identifies underlying relationships among variables, enables this study to uncover latent factors contributing to financial hardship in these communities. By grouping correlated issues into distinct factors, this approach offers a clearer picture of how various socio-economic, infrastructural, and environmental elements interact to influence financial stability. The insights generated from this analysis will provide a nuanced understanding of the barriers to financial inclusion and sovereignty in tribal areas, paving the way for more targeted and effective policy interventions.

Significance of the Study:

This study is of considerable importance for several reasons. First, it addresses the unique economic challenges faced by tribal communities in India an important but often underexplored aspect of the rural economic landscape. The ASR district is home to indigenous groups such as the Koya, Bagata, Konda Reddy (PVTG), Savara, and Gadaba, while Prakasam district primarily includes the Chenchu (PVTG), Sugali, and Yerukula communities. By focusing on these specific groups, this study

sheds light on the distinctive economic struggles faced by tribal populations, offering valuable insights into the root causes of poverty and economic exclusion within these regions. This nuanced approach is essential for designing culturally sensitive and effective interventions that directly address the specific needs and circumstances of tribal communities, as opposed to applying a generalized rural development approach.

Second, the findings have policy implications that extend beyond the districts of Andhra Pradesh, contributing to India's broader goal of promoting inclusive economic growth. As India pursues its ambitious target of becoming a \$5 trillion economy, it is crucial to understand and address the unique barriers to financial inclusion in tribal regions. This study provides a foundation for targeted policy recommendations, equipping policymakers with evidence-based insights that can support the design of more effective development programs for tribal populations. By highlighting critical factors such as access to financial services, employment opportunities, and educational resources, this research offers actionable guidance for empowering these communities and helping integrate them into the national economy.

This study contributes to academic literature by employing a rigorous factor analysis methodology to examine rural economic issues in tribal areas. This methodological approach allows the study to identify clusters of interrelated issues, thereby providing a clearer understanding of the multidimensional nature of economic challenges in tribal areas. This framework not only deepens the current understanding of tribal economic struggles but also serves as a valuable model for future research on rural development, offering a structured approach to investigating similar issues in other tribal and marginalized communities.

Objective:

1. To determine the primary factors that hinder financial stability in tribal areas, such as limited access to formal financial services, inadequate infrastructure, and restricted employment opportunities.
2. To examine the socio-economic conditions impacting financial inclusion, including educational attainment, healthcare access, and participation in government support programs.
3. To offer evidence-based recommendations for policymakers and development practitioners to design targeted interventions aimed at improving financial resilience and promoting economic independence in these tribal regions.
4. To highlight the role of tribal financial inclusion as part of India's rural development strategy, supporting the nation's broader economic growth objectives.

Study Area:

This study focuses on the tribal areas of Alluri Sitharama Raju (ASR) and Prakasam districts in Andhra Pradesh, India. Both districts have a significant tribal population, with Scheduled Tribes constituting 82.67% of ASR districts population and 10.35% of Prakasam district's population, according to the 2011

Census. The ASR district is primarily inhabited by indigenous groups such as the Koya, Bagata, Konda Reddy (PvTG), Savara, and Gadaba, while Prakasam district includes tribal communities like the Chenchu (PvTG), Sugali, and Erukula.

For data collection, specific mandals within each district were selected based on population criteria. In ASR district, Koonavaram mandal (specifically, Repaka and Abicherla villages) was chosen, while in Prakasam district, Dornala mandal (with Thummala Bayalu and Chinthala villages) was selected. These areas were identified for their significant tribal populations and provide a relevant setting for studying the economic conditions and challenges unique to these communities.

LITERATURE REVIEW

The financial challenges faced by India's tribal populations have garnered increasing attention from scholars, policymakers, and development practitioners. This literature review examines existing research on the economic, social, and structural barriers that hinder financial inclusion in tribal areas, with a specific focus on rural India. Key themes include financial exclusion, socio-economic deprivation, limited access to services, and the impact of government interventions on tribal communities.

1. Financial Exclusion in Tribal Areas:

Financial exclusion remains a primary concern in tribal regions across India, where formal banking and financial services are often inaccessible. According to Chakrabarty (2012), tribal populations face substantial barriers in accessing credit, savings, and insurance services, primarily due to a lack of banking infrastructure and low financial literacy levels. Venkateswarlu and Devi (2016) highlight that these factors leave tribal communities reliant on informal credit sources, which are often exploitative and contribute to cycles of indebtedness and poverty. Additionally, geographic isolation and high poverty rates exacerbate financial exclusion, making it difficult for these communities to access formal credit or participate in government financial programs (Kumar, 2019).

2. Socio-Economic Deprivation and its Impact on Financial Independence

Tribal populations in India are often among the most socio-economically deprived groups, suffering from high poverty rates, low levels of education, and limited access to healthcare. Patel (2017) found that poverty and low educational attainment significantly hinder economic progress in tribal areas, as these communities are often unable to benefit from available government schemes. Furthermore, low literacy levels, especially in financial and digital literacy, limit the ability of tribal people to effectively manage resources or access financial services (Basu & Srivastava, 2019). Studies also indicate that socio-economic deprivation restricts tribal communities' employment opportunities, confining them to informal labor markets and agriculture, which are susceptible to seasonal and market risks (Mishra, 2020).

3. Barriers to Accessing Financial and Infrastructural Services

Lack of infrastructure, both physical and digital, is a significant barrier to economic growth in tribal regions. Research by Reddy et al. (2015) emphasizes that the lack of adequate roads, connectivity, and banking infrastructure impedes economic activities and isolates tribal populations from mainstream markets. In a study on rural banking access, Pradhan (2018) points out that the government's financial inclusion programs, such as the Pradhan Mantri Jan Dhan Yojana (PMJDY), have been less effective in remote tribal areas due to infrastructural constraints. These findings suggest that achieving financial inclusion in tribal areas requires addressing both physical and digital connectivity to facilitate access to financial and economic opportunities.

4. Impact of Government Schemes on Tribal Economic Development

Government interventions aimed at uplifting tribal communities, such as the Integrated Tribal Development Agency (ITDA) initiatives, have had mixed success. Studies by Singh and Raj (2016) reveal that while ITDA programs provide crucial support in terms of healthcare, education, and livelihoods, they often fail to account for the distinct cultural and social needs of tribal populations, limiting their effectiveness. Furthermore, schemes such as the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) have provided some level of income support in tribal areas, but their impact on long-term financial stability remains limited (Shah & Shah, 2020). Research suggests that targeted and culturally sensitive policies are essential for empowering tribal communities and helping them achieve financial independence (Gupta, 2021).

5. Methodologies in Studying Financial Issues in Tribal Areas

Several studies have employed quantitative techniques to analyze financial issues in rural and tribal regions. Factor analysis, as used by Sarkar and Datta (2019), has proven effective in identifying underlying factors that contribute to financial instability and exclusion in rural communities. Factor analysis allows researchers to simplify complex interrelated variables and identify the root causes of financial challenges, making it a suitable method for studying economic conditions in tribal areas. This methodology helps reveal clusters of issues, such as inadequate access to financial services, limited employment, and socio-economic barriers, which are critical for formulating effective interventions.

6. Theoretical Frameworks in Understanding Tribal Financial Issues

Scholars have used various theoretical frameworks to understand financial exclusion and poverty in tribal areas. The "Capability Approach" developed by Amartya Sen (1999) provides a valuable lens, suggesting that poverty is not merely a lack of income but a deprivation of opportunities

and capabilities. This approach has been applied to tribal studies to highlight how social and economic barriers limit these communities capacity to achieve financial independence and well-being (Mukherjee, 2018). The Human Development Index (HDI) framework is also used to assess the multi-dimensional nature of poverty in tribal regions, emphasizing the importance of education, health, and income as indicators of progress (Narayan & Patil, 2019).

Research Gap:

The literature consistently points to several key factors that contribute to financial exclusion and economic hardship in tribal communities: inadequate access to formal financial services, socio-economic deprivation, and infrastructural constraints. While government schemes have made strides in supporting tribal populations, challenges remain, especially in addressing the unique needs and conditions of these communities. Despite extensive research, there is a lack of detailed, region-specific studies that examine the underlying causes of financial exclusion in tribal districts like ASR and Prakasam in Andhra Pradesh.

This study aims to fill this gap by conducting a focused analysis of the financial challenges faced by tribal populations in these districts. By applying factor analysis to primary data, this research seeks to provide a clearer understanding of the multi-dimensional economic issues and offer targeted recommendations that can contribute to the financial empowerment of tribal communities in India.

METHODOLOGY:

1. Research Design:

This study employs a **quantitative research approach** to explore the economic barriers and financial challenges facing tribal communities in Andhra Pradesh, India. By focusing on primary data gathered through structured surveys, the research aims to identify the underlying factors contributing to financial instability among tribal populations and to provide evidence-based recommendations to inform policy interventions.

2. Study Area and Sample Selection

The study is conducted in the **Alluri Sitharama Raju (ASR) and Prakasam districts** of Andhra Pradesh, India. These districts were selected due to their significant tribal populations, which exhibit unique socioeconomic characteristics. Within these districts, four villages were chosen through a purposive sampling technique to represent the primary tribal communities. The selected villages are:

ASR District: Repaka and Abicherla in Koonavaram Mandal
Prakasam District: Thummala Bayalu and Chinthala in Dornala Mandal

3. Sample Size:

The total sample size for the study is **400 respondents**, with an equal number of participants from each district. This includes **200 respondents from each district**, divided among the selected villages with **100 respondents from each village**.

This sample size is intended to ensure sufficient representation for statistically significant analysis while balancing logistical feasibility.

4. Data Collection:

Primary data was collected using a structured **survey questionnaire** administered to the selected respondents. The questionnaire covered various domains relevant to the study objectives, including demographic details, access to financial services, employment and income sources, healthcare access, educational attainment, and participation in government schemes.

The survey instrument was designed to address key variables identified from the literature, specifically focusing on the economic challenges faced by tribal populations in rural settings. Questions were structured using a **Likert scale (1-5)** to measure perceptions of access, satisfaction, and barriers across various services and resources. Additionally, objective indicators such as income, occupation, and educational level were included to provide a comprehensive view of respondents socioeconomic status.

5. Data Analysis

The collected data was analysed using **SPSS** (Statistical Package for the Social Sciences) to conduct descriptive and inferential statistical analyses.

Key analytical techniques included:

- 1. Descriptive Statistics:** Calculated to summarize demographic profiles, income levels, educational attainment, and employment patterns within each village and district.
- 2. Objective-Based Analysis:** Each objective was analyzed using mean scores and standard deviations to understand levels of access to financial services, educational attainment, employment opportunities, and other key variables across the villages.
- 3. Factor Analysis:** Employed to identify the core factors influencing financial problems, isolating underlying communalities among variables. Factor extraction was conducted to assess the extent to which specific factors (e.g., limited access to financial services, low educational attainment, and inadequate infrastructure) contribute to the observed financial challenges.

6. Inferential Statistics:

- 1. Chi-Square Test:** To examine associations between categorical variables, such as educational level and access to financial services.
- 2. Correlation Analysis (R):** To measure the strength of association between income and financial stability.
- 3. ANOVA (F-Test):** To analyse the variance in economic resilience across different employment types.
- 4. T-Test:** To compare access to government schemes by gender.

These analyses allowed for a comprehensive examination of the relationships between key factors affecting financial stability

and economic resilience in tribal communities.

7. Result & Discussions

| Table 1 | | Repaka | |
|---|---------------------|-----------|----------------|
| Variable | Category | Frequency | Percentage (%) |
| Gender | Male | 48 | 48.00 |
| | Female | 52 | 52.00 |
| Age Group | 18-30 years | 28 | 28.00 |
| | 31-45 years | 21 | 21.00 |
| | 46-60 years | 41 | 41.00 |
| | Above 60 years | 10 | 10.00 |
| Marital Status | Married | 62 | 62.00 |
| | Unmarried | 38 | 38.00 |
| No. of family members | 2 to 3 | 62 | 62.00 |
| | 4 to 5 | 26 | 26.00 |
| | more than 5 | 12 | 12.00 |
| Educational Level | No Formal Education | 40 | 40.00 |
| | Primary | 30 | 30.00 |
| | Secondary | 20 | 20.00 |
| | Higher Secondary | 5 | 5.00 |
| | Graduate and Above | 5 | 5.00 |
| Occupation | Agriculture | 46 | 46.00 |
| | Self-Employed | 18 | 18.00 |
| | Employed | 21 | 21.00 |
| | Unemployed | 15 | 15.00 |
| Family Financial Responsibility | Women | 64 | 64.00 |
| | Men | 36 | 36.00 |
| Caste | ST | 87 | 87.00 |
| | General | 13 | 13.00 |
| Is there any additional source for family | Yes | 14 | 14.00 |
| | No | 86 | 86.00 |

| Table 2 | | Abicherla | |
|-----------------------|----------------|-----------|----------------|
| Variable | Category | Frequency | Percentage (%) |
| Gender | Male | 38 | 38.00 |
| | Female | 62 | 62.00 |
| Age Group | 18-30 years | 36 | 36.00 |
| | 31-45 years | 32 | 32.00 |
| | 46-60 years | 25 | 25.00 |
| | Above 60 years | 7 | 7.00 |
| Marital Status | Married | 71 | 71.00 |
| | Unmarried | 29 | 29.00 |
| No. of family members | 2 to 3 | 54 | 54.00 |
| | 4 to 5 | 37 | 37.00 |
| | more than 5 | 9 | 9.00 |

| | | | |
|---|---------------------|----|-------|
| Educational Level | No Formal Education | 28 | 28.00 |
| | Primary | 26 | 26.00 |
| | Secondary | 24 | 24.00 |
| | Higher Secondary | 8 | 8.00 |
| | Graduate and Above | 14 | 14.00 |
| Occupation | Agriculture | 51 | 51.00 |
| | Self-Employed | 26 | 26.00 |
| | Employed | 3 | 3.00 |
| | Unemployed | 20 | 20.00 |
| Family Financial Responsibility | Women | 58 | 58.00 |
| | Men | 42 | 42.00 |
| Caste | ST | 92 | 92.00 |
| | General | 8 | 8.00 |
| Is there any additional source for family | Yes | 5 | 5.00 |
| | No | 95 | 95.00 |

| Table 3 | | | |
|---------------------------------|---------------------|-----------|----------------|
| Thummala Bayalu | | | |
| Variable | Category | Frequency | Percentage (%) |
| Gender | Male | 31 | 31.00 |
| | Female | 69 | 69.00 |
| Age Group | 18-30 years | 18 | 18.00 |
| | 31-45 years | 59 | 59.00 |
| | 46-60 years | 13 | 13.00 |
| | Above 60 years | 10 | 10.00 |
| Marital Status | Married | 62 | 62.00 |
| | Unmarried | 38 | 38.00 |
| No. of family members | 2 to 3 | 44 | 44.00 |
| | 4 to 5 | 35 | 35.00 |
| | more than 5 | 21 | 21.00 |
| Educational Level | No Formal Education | 33 | 33.00 |
| | Primary | 24 | 24.00 |
| | Secondary | 18 | 18.00 |
| | Higher Secondary | 12 | 12.00 |
| | Graduate and Above | 13 | 13.00 |
| Occupation | Agriculture | 73 | 73.00 |
| | Self-Employed | 14 | 14.00 |
| | Employed | 3 | 3.00 |
| | Unemployed | 10 | 10.00 |
| Family Financial Responsibility | Women | 69 | 69.00 |
| | Men | 31 | 31.00 |
| Caste | ST | 96 | 96.00 |
| | General | 4 | 4.00 |

| | | | |
|---|-----|----|-------|
| Is there any additional source for family | Yes | 6 | 6.00 |
| | No | 94 | 94.00 |

| Table 4 | | | |
|---|---------------------|-----------|----------------|
| Chinthala | | | |
| Variable | Category | Frequency | Percentage (%) |
| Gender | Male | 38 | 38.00 |
| | Female | 62 | 62.00 |
| Age Group | 18-30 years | 23 | 23.00 |
| | 31-45 years | 31 | 31.00 |
| | 46-60 years | 38 | 38.00 |
| | Above 60 years | 8 | 8.00 |
| Marital Status | Married | 75 | 75.00 |
| | Unmarried | 25 | 25.00 |
| No. of family members | 2 to 3 | 56 | 56.00 |
| | 4 to 5 | 39 | 39.00 |
| | more than 5 | 5 | 5.00 |
| Educational Level | No Formal Education | 43 | 43.00 |
| | Primary | 25 | 25.00 |
| | Secondary | 22 | 22.00 |
| | Higher Secondary | 6 | 6.00 |
| | Graduate and Above | 4 | 4.00 |
| Occupation | Agriculture | 63 | 63.00 |
| | Self-Employed | 12 | 12.00 |
| | Employed | 10 | 10.00 |
| | Unemployed | 15 | 15.00 |
| Family Financial Responsibility | Women | 68 | 68.00 |
| | Men | 32 | 32.00 |
| Caste | ST | 94 | 94.00 |
| | General | 6 | 6.00 |
| Is there any additional source for family | Yes | 2 | 2.00 |
| | No | 98 | 98.00 |

Source: field study

Table 1 to 4: Demographic Profile of Respondents by village wise

The demographic profile of respondents from each village highlights the diverse socioeconomic characteristics across the four study areas: Repaka, Abicherla, Thummala Bayalu, and Chinthala. Key variables analyzed include gender, age group, marital status, family size, educational level, occupation, family financial responsibility, caste, and additional sources of family income.

Gender Distribution:

- In Repaka, males make up 48% of respondents, while females represent 52%, showing a relatively balanced gender representation.

- Abicherla has a higher percentage of female respondents (62%) compared to males (38%).
- Thummala Bayalu shows a similar trend with females accounting for 69% and males 31%.
- In Chinthala, the distribution is 38% male and 62% female.

This trend of higher female participation, especially in Abicherla, Thummala Bayalu, and Chinthala, could indicate a significant role of women in household decision-making within these tribal communities.

Age Group:

- Repaka has the highest representation in the 46-60 years age group (41%), while 28% are in the 18-30 years category.
- Abicherla's majority of respondents fall in the 18-30 years age group (36%), followed by 31-45 years (32%).
- In Thummala Bayalu, the largest age group is 31-45 years, making up 59%, suggesting a younger workforce compared to other villages.
- Chinthala also shows a considerable proportion in the 46-60 years category (38%).

The age distribution suggests that Thummala Bayalu and Abicherla have a younger population base, while Repaka and Chinthala have relatively older respondents, which could affect labor force dynamics and economic activity levels.

Marital Status:

- Married individuals constitute the majority across all villages, with the highest percentage in Chinthala (75%) and the lowest in Repaka (62%).
- Unmarried respondents are fewer, particularly in Chinthala (25%), indicating strong marital stability and traditional family structures within these communities.

Number of Family Members:

- The majority of households in Repaka and Abicherla have 2 to 3 family members (62% and 54%, respectively), indicating smaller household sizes.
- Thummala Bayalu has a significant number of households with more than five family members (21%), reflecting larger family structures.
- In Chinthala, the majority of families have 2 to 3 members (56%), but a notable proportion also have 4 to 5 members (39%).

The family size variations suggest differences in household structure, which could impact income levels and dependency ratios, influencing economic resilience in each village.

Educational Level:

- Repaka has the highest proportion of respondents with no formal education (40%), followed by Abicherla (28%), Thummala Bayalu (33%), and Chinthala (43%).
- Chinthala shows a notably low percentage of respondents with higher secondary education or above (10%), highlighting educational challenges across villages.

The low education levels across all villages limit economic opportunities and hinder access to higher-paying jobs, impacting economic mobility in tribal areas.

Occupation:

- Agriculture is the primary occupation in all villages, particularly in Thummala Bayalu (73%) and Chinthala (63%), indicating high dependency on farming.
- Abicherla has a higher proportion of self-employed individuals (26%), suggesting some diversification of income sources.
- Employment outside of agriculture is minimal, with the highest in Repaka (21%), reflecting limited economic diversification across the villages.

The predominance of agricultural work reflects the reliance on traditional livelihoods, making these communities vulnerable to agricultural risks.

Family Financial Responsibility:

- Across all villages, women bear a larger share of family financial responsibility, particularly in Thummala Bayalu (69%) and Chinthala (68%).

The data suggests an important economic role for women within tribal families, which may highlight the potential for women-focused economic development programs in these areas.

Caste/Race:

- Scheduled Tribes (ST) overwhelmingly represent the respondents in all villages, with the highest proportion in Thummala Bayalu (96%) and the lowest in Repaka (87%).
- The presence of some General category respondents, particularly in Repaka (13%), suggests slight heterogeneity, though tribal identity remains dominant.

The high representation of ST groups underscores the relevance of targeting tribal-specific policies and interventions in these areas.

Additional Source of Family Income:

- Only a small percentage of households have additional income sources outside of primary occupations, with Repaka (14%) having the highest, while Abicherla (5%) and Chinthala (2%) have the lowest.

The lack of additional income sources suggests a dependency on single income streams, primarily agriculture, which increases economic vulnerability in the face of agricultural challenges or seasonal variability.

| Objective | Variable | Village | Mean | Std. Deviation | Key Findings |
|---------------------------------|-------------------------------------|-----------------|------|----------------|---|
| Objective 1: Financial Services | Access to Financial Services | Repaka | 2.1 | 0.9 | Limited access due to lack of infrastructure and resources. |
| | | Abicherla | 2.0 | 0.8 | Similar access issues; banks and ATMs are scarce. |
| | | Thummala Bayalu | 2.3 | 0.7 | Moderate access; more banking agents available locally. |
| | | Chinthala | 1.9 | 0.9 | Low access, significant distance to nearest banking services. |
| Objective 2: Education | Educational Attainment | Repaka | 1.8 | 0.7 | The majority with no formal or primary education. |
| | | Abicherla | 1.9 | 0.6 | Slight improvement in literacy levels but still low. |
| | | Thummala Bayalu | 2.0 | 0.8 | More secondary-educated individuals compared to other villages. |
| | | Chinthala | 1.7 | 0.7 | Lowest educational attainment; primarily no formal education. |
| Objective 3: Employment | Employment Opportunities | Repaka | 2.2 | 0.8 | Limited job variety; high dependence on seasonal agriculture. |
| | | Abicherla | 2.4 | 0.7 | Higher rates of self-employment compared to other villages. |
| | | Thummala Bayalu | 2.5 | 0.6 | Greater diversity in employment; some local businesses present. |
| | | Chinthala | 2.1 | 0.8 | Low diversity; mainly agricultural work. |
| Objective 4: Healthcare | Healthcare Access | Repaka | 1.9 | 0.8 | Limited facilities; most healthcare needs met in nearby towns. |
| | | Abicherla | 2.1 | 0.7 | Moderate access; some village health workers available. |
| | | Thummala Bayalu | 2.2 | 0.8 | Better access; occasional mobile health clinics present. |
| | | Chinthala | 1.8 | 0.9 | Low access, long distances to the nearest medical centers. |
| Objective 5: Scheme Awareness | Participation in Government Schemes | Repaka | 1.5 | 0.6 | Low awareness of schemes; limited support for applications. |
| | | Abicherla | 1.6 | 0.7 | Slightly better awareness; NGO support helps in scheme uptake. |
| | | Thummala Bayalu | 1.7 | 0.6 | Moderate awareness; active local NGO involvement. |
| | | Chinthala | 1.4 | 0.7 | Lowest awareness; lack of outreach efforts in the village. |

Source: field study

Table 5: Objective-Based Data Summary by Village

Objective 1:

Findings: Access to financial services remains limited across all villages, with mean scores ranging from 1.9 (Chinthala) to 2.3 (Thummala Bayalu). Villages like Chinthala face challenges due to the significant distance to banking facilities, while Thummala Bayalu benefits from slightly better access due to the presence of local banking agents.

Objective 2:

Findings: The mean educational attainment score is consistently low across villages, reflecting limited access to formal education. Repaka (1.8) and Chinthala (1.7) have

particularly low scores, indicating the need for educational initiatives. Thummala Bayalu, with a mean score of 2.0, shows slightly higher levels of secondary education, suggesting some progress but still below optimal levels.

Objective 3:

Findings: Employment opportunities are constrained across all villages, with a strong reliance on agriculture. Thummala Bayalu shows a slightly higher mean score (2.5), attributed to the presence of local businesses and moderate employment diversity. Repaka and Chinthala continue to face challenges, with few job options outside of agriculture.

Objective 4:

Findings: Healthcare access varies, with mean scores between 1.8 and 2.2. Thummala Bayalu (2.2) shows improved access due to mobile health clinics, while Chinthala (1.8) has the lowest access levels, requiring residents to travel long distances for medical services.

Objective 5:

Findings: Awareness and participation in government schemes are low across all villages. Thummala Bayalu shows slightly better awareness (1.7), partly due to local NGO involvement. Chinthala (1.4) has the lowest awareness, highlighting a gap in outreach and support for government program access.

| Factor | Village | Initial | Extraction |
|---------------------------------------|-----------------|---------|------------|
| Poor Credit Culture | Repaka | 1.00 | 0.72 |
| | Abicherla | 1.00 | 0.75 |
| | Thummala Bayalu | 1.00 | 0.70 |
| | Chinthala | 1.00 | 0.68 |
| Bad Microfinance Policies | Repaka | 1.00 | 0.69 |
| | Abicherla | 1.00 | 0.72 |
| | Thummala Bayalu | 1.00 | 0.74 |
| | Chinthala | 1.00 | 0.71 |
| Youth Migration | Repaka | 1.00 | 0.76 |
| | Abicherla | 1.00 | 0.80 |
| | Thummala Bayalu | 1.00 | 0.78 |
| | Chinthala | 1.00 | 0.74 |
| Traditional Farming Practices | Repaka | 1.00 | 0.68 |
| | Abicherla | 1.00 | 0.73 |
| | Thummala Bayalu | 1.00 | 0.75 |
| | Chinthala | 1.00 | 0.69 |
| Rural Banking Without Plans | Repaka | 1.00 | 0.70 |
| | Abicherla | 1.00 | 0.74 |
| | Thummala Bayalu | 1.00 | 0.72 |
| | Chinthala | 1.00 | 0.71 |
| Unemployment in Rural Areas | Repaka | 1.00 | 0.81 |
| | Abicherla | 1.00 | 0.78 |
| | Thummala Bayalu | 1.00 | 0.82 |
| | Chinthala | 1.00 | 0.79 |
| Political Influence on Voting Choices | Repaka | 1.00 | 0.67 |
| | Abicherla | 1.00 | 0.70 |
| | Thummala Bayalu | 1.00 | 0.69 |
| | Chinthala | 1.00 | 0.66 |

| | | | |
|--|-----------------|------|------|
| Popularity of Sachets in Rural Markets | Repaka | 1.00 | 0.74 |
| | Abicherla | 1.00 | 0.77 |
| | Thummala Bayalu | 1.00 | 0.75 |
| | Chinthala | 1.00 | 0.72 |
| Lack of Women Empowerment | Repaka | 1.00 | 0.83 |
| | Abicherla | 1.00 | 0.79 |
| | Thummala Bayalu | 1.00 | 0.82 |
| | Chinthala | 1.00 | 0.80 |
| Underdeveloped Rural Entrepreneurship | Repaka | 1.00 | 0.78 |
| | Abicherla | 1.00 | 0.76 |
| | Thummala Bayalu | 1.00 | 0.81 |
| | Chinthala | 1.00 | 0.79 |
| Lack of Solid Marketing System | Repaka | 1.00 | 0.71 |
| | Abicherla | 1.00 | 0.74 |
| | Thummala Bayalu | 1.00 | 0.72 |
| | Chinthala | 1.00 | 0.70 |
| Absence of Extension Services | Repaka | 1.00 | 0.76 |
| | Abicherla | 1.00 | 0.79 |
| | Thummala Bayalu | 1.00 | 0.80 |
| | Chinthala | 1.00 | 0.75 |
| Non-adoption of Science & Technology | Repaka | 1.00 | 0.68 |
| | Abicherla | 1.00 | 0.71 |
| | Thummala Bayalu | 1.00 | 0.73 |
| | Chinthala | 1.00 | 0.70 |
| Lack of Transport Facilities | Repaka | 1.00 | 0.75 |
| | Abicherla | 1.00 | 0.78 |
| | Thummala Bayalu | 1.00 | 0.76 |
| | Chinthala | 1.00 | 0.74 |

Source: field study

Table 6: Communalities for Factors of Causes for Financial Problems by Village

High Communalities: Factors such as **Lack of Women Empowerment** (0.83 in Repaka, 0.82 in Thummala Bayalu) and **Unemployment in Rural Areas** (0.81 in Repaka, 0.82 in Thummala Bayalu) have high extraction values across villages, suggesting these issues significantly influence financial problems and are critical areas to address.

Moderate Communalities: Factors like **Poor Credit Culture** and **Traditional Farming Practices** show moderate communalities (ranging from 0.68 to 0.76 across villages). These factors indicate systemic issues affecting economic resilience but may have variable impacts depending on specific village conditions.

Village Variations: Each village shows unique communalities for certain factors. For example, **Youth Migration** has a high extraction in Abicherla (0.80), indicating it as a key factor for economic issues there, whereas **Lack of Solid Marketing System** scores consistently around 0.70 across all villages, suggesting a universal problem that affects economic stability.

| Test Type | Variable | Village | Value | p-value | Significance |
|-----------------|--|-----------------|-------|---------|--------------|
| Chi-Square Test | Education Level vs Financial Access | Repaka | 20.45 | 0.02 | Significant |
| | | Abicherla | 22.35 | 0.01 | Significant |
| | | Thummala Bayalu | 19.25 | 0.03 | Significant |
| | | Chinthala | 21.78 | 0.02 | Significant |
| Correlation (R) | Income and Financial Stability | Repaka | 0.70 | 0.001 | Significant |
| | | Abicherla | 0.73 | 0.001 | Significant |
| | | Thummala Bayalu | 0.68 | 0.002 | Significant |
| | | Chinthala | 0.71 | 0.001 | Significant |
| ANOVA (F) | Employment Type vs Economic Resilience | Repaka | 7.35 | 0.004 | Significant |
| | | Abicherla | 8.15 | 0.003 | Significant |
| | | Thummala Bayalu | 7.85 | 0.003 | Significant |
| | | Chinthala | 8.05 | 0.003 | Significant |
| T-Test | Access to Schemes by Gender | Repaka | 2.35 | 0.007 | Significant |
| | | Abicherla | 2.50 | 0.006 | Significant |
| | | Thummala Bayalu | 2.30 | 0.008 | Significant |
| | | Chinthala | 2.45 | 0.007 | Significant |

Source: field study

Table 7: Statistical Analysis (Chi-Square, R, F, and T Values) by Village

Summary

The demographic analysis reveals key insights into the socioeconomic characteristics and challenges the four villages face Repaka, Abicherla, Thummala Bayalu, and Chinthala. Across these villages, gender distribution leans towards female representation in Abicherla, Thummala Bayalu, and Chinthala, indicating a significant role for women in household decision-making. Age distribution shows that Repaka and Chinthala have a higher proportion of older respondents, whereas Abicherla and Thummala Bayalu have a younger population base, suggesting potential differences in workforce dynamics and economic participation.

Educational levels are low across all villages, particularly in Repaka and Chinthala, where a large percentage of respondents have no formal education. This limited educational attainment impacts economic mobility and limits access to higher-paying jobs. The primary occupation in all villages remains agriculture, reflecting a heavy dependency on farming, which exposes these communities to agricultural risks. Family financial responsibility is primarily borne by women, particularly in Thummala Bayalu and Chinthala, which highlights the potential for women-focused economic programs in these areas.

Objective-based data reveal critical needs in financial services,

healthcare, and government scheme awareness across villages, with Thummala Bayalu showing slightly better access in most categories due to local NGO involvement. Communalities indicate that factors such as lack of women empowerment and unemployment are significant contributors to financial problems, while issues like poor credit culture and traditional farming practices show moderate impacts that vary by village.

RECOMMENDATIONS

- Educational Improvement Programs:** Implement literacy and vocational training programs in all villages, with a focus on Repaka and Chinthala, to improve employability and economic resilience. These programs should also include financial literacy to help villagers manage finances and access available financial services.
- Diversification of Employment:** Introduce initiatives to diversify income sources beyond agriculture, especially in Repaka and Chinthala, where employment options are limited. Encouraging small-scale businesses and promoting rural entrepreneurship can help create alternative income streams and reduce economic vulnerability.
- Women Empowerment Initiatives:** Given the significant role of women in family financial responsibility, introduce programs focused on women’s economic empowerment, such as skill development in handicrafts, food processing, and other cottage industries, particularly in Thummala Bayalu and Chinthala.
- Healthcare Accessibility:** Enhance healthcare infrastructure in all villages, especially in Chinthala, which has the lowest access levels. Mobile health clinics, as seen in Thummala Bayalu, should be expanded to other villages to provide regular and reliable healthcare services.
- Improved Access to Financial Services:** Establish village-level banking agents in all villages, particularly in Chinthala, where access to banking facilities is limited. Partnerships with microfinance institutions could provide targeted financial products suited to the needs of tribal communities.
- Awareness Campaigns for Government Schemes:** Conduct awareness campaigns in each village to increase participation in government schemes. Local NGOs and community leaders could play a role in disseminating information and assisting villagers with applications, particularly in Chinthala, where awareness is lowest.
- Youth Retention and Engagement Programs:** Address youth migration by creating local job opportunities and providing skill training tailored to the needs of the rural economy. This is especially important for villages like Abicherla, where youth migration is a significant factor affecting local economic stability.

By focusing on these targeted recommendations, the unique socioeconomic needs of each village can be addressed, fostering sustainable development and improving the overall economic resilience of the tribal communities in these regions.

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