P-ISSN 2322 - 0678 & E-ISSN 3048 - 9946
https://doi.org/10.56572/gjoee.2024.38.1.0006 Gujarat Journal of Extension Education Vol. 38 : Issue 1 : December 24

# AGRICULTURAL LABOR DYNAMICS IN GUJARAT: A COMPARATIVE STUDY OF TRIBAL AND NON-TRIBAL DISTRICTS

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***ABSTRACT***

*This study investigates disparities in agricultural labor patterns between tribal and non-tribal districts of Gujarat. Agricultural workers, predominantly from marginalized communities, face systemic challenges such as low wages, irregular employment, and substandard living conditions, despite their critical role in the rural economy. This research examines income, employment, consumption, and migration characteristics through comprehensive field surveys conducted in two districts: Dahod (tribal) and Anand (non-tribal). Employing a multistage sampling technique, 120 agricultural laborers were interviewed to elucidate differences in labor density and socio-economic conditions. The results reveal that non-tribal areas exhibit higher average incomes, greater savings, and lower dependency ratios compared to their tribal counterparts. Non-tribal households primarily engage in a combination of agricultural labor and farming, whereas tribal households are more reliant on both agricultural and non-agricultural labor due to limited land ownership. Furthermore, the study highlighted a higher prevalence of migration in tribal areas, driven by a lack of local employment opportunities and the seasonal nature of agricultural work, with migrants seeking non-agricultural employment within the state. These disparities underscore significant socio-economic challenges for tribal labor households, necessitating the implementation of targeted policies aimed at enhancing income levels, employment opportunities, and living conditions in tribal regions.*

***Keywords:*** *disparities, employment, labor, migration, tribal*

## INTRODUCTION

India is a developing nation where the vast majority of people rely on agriculture as their primary source of income. The means by which people maintain, thrive, and survive is known as their livelihood (Chovatia *et al.,* 2024). Agricultural workers are among the most neglected and suppressed classes in India's rural structure. Predominantly landless, they often belong to backward classes, including Scheduled Castes, Scheduled Tribes, and Other Backward Classes (OBC). These workers face low wages, meager incomes, excessive work burdens, and irregular employment, leading to poor living conditions and heavy indebtedness. Despite these challenges, their contribution to the rural economy remains significant (Padhi, 2007). Since the planned development era beginning in 1950-51, the share of agriculture in India's aggregate economy has steadily declined. This decline has not only affected agriculture's share of total employment but has also led to a significant decrease in the absolute number of people employed in the agricultural sector (Grover, 2014).

According to the Census of India (2011), India's labor force, comprising individuals aged 15-59 years, totaled 481.7 million workers, representing 40% of the total population, with 332 million males and 150 million females. Of these workers, 75% (362.4 million) were main workers, and 25% (119.3 million) were marginal workers. Agriculture remains the backbone of the country, employing 54.6% (263 million) of the total workforce as cultivators (118.7 million) and laborers (144.3 million). This research paper explores the livelihoods of labor households at the micro level, focusing on whether tribal areas experience differential impacts on labor household incomes. Two divergent areas in Gujarat, a tribal district and a non-tribal district, were selected for field enquiry. Declining employment opportunities have led to low per capita consumption levels and increased migration among laborers.

## OBJECTIVE

To study the occupation, Income, Employment and migration characteristics of the agricultural labourers in both the districts

## METHODOLOGY

### Description of the study area

According to the 2011 census, Gujarat's population was 60.44 million, with 57.40% (34.69 million) residing in rural areas and 42.60% (25.75 million) in urban areas. Of the 24.77 million total workers, 45% (15.57 million) were rural-based. Agriculture was the primary occupation for the rural population, employing 49.61% (12.29 million) of the workforce, including 22% cultivators (5.45 million) and 27.61% agricultural laborers (6.84 million). The study focused on Gujarat due to its rapid sectoral transformation compared to other major Indian states (Anonymous, 2013).

### Sampling design

A multistage sampling technique was used. The study was conducted in the middle Gujarat region, which accounts for about 33% of the state's agricultural labor. To capture the potential differences in labor density between tribal and non-tribal areas, samples were drawn from both types. In the first stage, two districts, Dahod (tribal) and Anand (non-tribal), were selected based on the highest number of agricultural laborers. In the second stage, two talukas from each district were chosen for their high percentage of agricultural labor. In the third stage, one cluster of three villages was randomly selected from each taluka. In the fourth stage, 10 agricultural laborers (either landless or with marginal landholdings but working on others' fields for wages) were randomly selected from each village. Thus, 120 agricultural laborers from both tribal and non-tribal areas of middle Gujarat were interviewed using pre-tested structured schedules for the reference year 2022-23.

### Analytical framework

Simple comparisons based on percentages, ratios, and averages were made to examine occupations, income earners, dependents, employment, income, consumption, and savings of agricultural laborers in tribal and non-tribal areas. The Average Propensity to Consume (APC), the ratio of consumption to income, was calculated. To determine if differences in employment, income, consumption patterns, and savings between tribal and non-tribal agricultural laborers were significant, t-values were calculated using SPSS software.

## RESULTS AND DISCUSSION

### Occupation pattern of the agricultural labourers

Table 1 outlines the occupational structure of agricultural laborers in non-tribal and tribal areas of middle Gujarat. Among all selected households, 37 per cent of respondents were agricultural laborers also involved in non-agricultural labor. This was followed by 26.67 per cent who were both agricultural laborers and cultivators, and 22 per cent engaged in agricultural labor, cultivation, and non-agricultural labor.

**Table 1: Occupation structure of the respondents in the study area** (n=120)

| Sr. No. | Particulars | Non-tribal area | Tribal area | Overall |
|---|---|---|---|---|
| 1 | Agri. labour | 05 (08.33) | 07 (11.67) | 12 (10.00) |
| 2 | Agri. labour + Farming | 20 (33.33) | 12 (20.00) | 32 (26.67) |
| 3 | Agri. labour + Non-agri. labour | 19 (31.67) | 25 (41.67) | 44 (36.67) |
| 4 | Agri. labour + Farming + Non-agri. labour | 10 (16.67) | 16 (26.66) | 26 (21.66) |
| 5 | Others (Agri. labour + Job/Business) | 06 (10.00) | 00 (00.00) | 06 (05.00) |
| | Total | 60 (100.00) | 60 (100.00) | 120 (100.00) |

**Note:** Figures in parentheses indicate percentage to the total number of respondents
**Source:** Field Survey

In non-tribal areas, 33.33 per cent of respondents were agricultural laborers who cultivated land, 31.67 per cent were agricultural laborers involved in non-agricultural labor, and 16.67 per cent were engaged in all three activities. In tribal areas, 41.67 per cent were agricultural laborers engaged in non-agricultural labor, 26.66 per cent in all three activities, and 20 per cent were agricultural laborers and cultivators. The variation in occupational structure is attributed to land ownership, with non-tribal areas having more landowners leading to greater engagement in cultivation, while tribal areas had fewer cultivators and more respondents involved in both agricultural and non-agricultural labor. These findings were in confirmation with Patel *et al.,* 2022.

### Income earners and dependency ratio of agricultural labourer

The work participation ratio, or the ratio of earners to non-earning dependents, reflects the division between productive and non-productive members of society. The dependency ratio, which measures the proportion of dependents (under 17 and over 60 years old) to the working-age population (17-60 years), is calculated by dividing the number of dependents by the working-age population.

Table 2 details the distribution of income earners

**Table 2: Income earners and non-earning dependents of the respondents** (n=120)

| Sr. No. | Particulars | Non-tribal area | Tribal area | Overall |
|---|---|---|---|---|
| 1 | Total Family Members | 309 (100.00) | 379 (100.00) | 688 (100.00) |
| 2 | Total working age population/ Labour force population in the family | 118 (38.19) | 159 (41.95) | 277 (40.26) |
| 3 | Dependents (Below 16 & Above 60 years) in the household | 191 (61.81) | 220 (58.05) | 411 (59.74) |
| 4 | Dependency Ratio | 1.62 | 1.38 | 1.48 |
| 5 | Income Earners in the family | 98 (31.72) | 143 (37.73) | 241 (35.03) |
| 6 | Non earning members in the family | 211 | 236 | 447 |
| 7 | Ratio of earners to non-earning Members | 0.46 | 0.61 | 0.54 |
| 8 | Average no. of earners in the Household | 1.63 | 2.38 | 2.01 |

**Note:** Figures in parentheses indicate percentage to their respective total

**Source:** Field Survey

and non-earning dependents among agricultural laborers in non-tribal and tribal areas. In non-tribal areas, 98 out of 309 members (31.72%) were income earners, resulting in a ratio of 0.46 earners to non-earning dependents, an earning member per household of 1.63, and a dependency ratio of 1.62. In tribal areas, 143 out of 379 members (37.73%) were income earners, resulting in a ratio of 0.61, an earning member per household of 2.38, and a lower dependency ratio of 1.38. This indicates a higher work participation rate in tribal areas. Overall, in middle Gujarat, the average number of earning members per household was 2.01, with a dependency ratio of 1.48, and about 35% of family members were engaged in income-earning activities. Tribal households had a higher average number of earners compared to non-tribal households, leading to lower dependency and higher work participation rates.

The number of income earners in a household significantly impacts its income level. In rural areas, where income is typically low due to limited job availability and lower wages, having more earning members can boost the household's income and consequently affect its consumption pattern.

**Category-wise employment pattern**

Table 3 presents the category-wise average annual employment patterns in non-tribal and tribal districts of middle Gujarat. Across all sampled households, the category "agricultural labor + non-agricultural labor + farming" contributed the most to total employment, accounting for 60.09 per cent (253.07 man-days). This was followed by "agricultural labor + non-agricultural labor" at 14.11 per cent (59.45 man-days), "agricultural labor + non-agricultural labor + business" at 9.05 per cent (38.08 man-days), and "agricultural labor + cultivators" at 6.96 per cent (29.33 man-days).

**Table 3: Category-wise average annual employment pattern of households (man days)** (n=120)

| Sr. No. | Category of employment | Non-tribal area | Tribal area | Overall |
|---|---|---|---|---|
| 1 | Agri. labour + Farming | 49.33 (10.28) | 09.33 (02.57) | 29.33 (06.96) |
| 2 | Agri. labour + Non-agri. labour | 21.43 (04.47) | 97.46 (26.89) | 59.45 (14.11) |
| 3 | Agri. labour + Farming + Non-agri. labour | 287.53 (59.91) | 218.62 (60.33) | 253.07 (60.09) |
| 4 | Agri. labour + Business + Non-agri. labour | 61.32 (12.78) | 14.85 (04.10) | 38.08 (09.05) |
| 5 | Agri. labour + Farming + Non-agri. labour + Business | 22.58 (04.70) | 22.13 (06.11) | 22.36 (05.31) |
| 6 | Others | 37.75 (07.87) | 00.00 (00.00) | 18.88 (04.48) |
| | Total | 479.94 (100.00) | 362.39 (100.00) | 421.17 (100.00) |

**Note:** Figures in parentheses indicate percentage to their respective total

**Source:** Field Survey

In non-tribal areas, "agricultural labor + non-agricultural labor + farming" made up 59.91 per cent (287.53 man-days) of total employment, followed by "agricultural labor + non-agricultural labor + business" at 12.78 per cent (61.32 man-days) and "agricultural labor + cultivators" at 10.28 per cent (49.33 man-days). In tribal areas, "agricultural labor + non-agricultural labor + farming" was the largest contributor at 60.33 per cent (218.62 man-days), followed by "agricultural labor + non-agricultural labor" at 26.89 per cent (97.46 man-days) and "agricultural labor + non-agricultural labor + business" at 6.11 per cent (22.13 man-days). Overall,

the primary employment sources for landless individuals were agricultural and non-agricultural labor, while for marginal farmers, it included agricultural labor, cultivation, and non-agricultural labor. Engagement in multiple income-generating activities provides stability and motivation to the rural households and this is also confirmed by the findings of Patil *et al.,* 2024.

**Table 4: Average income and expenditure pattern of agricultural labourers in the study area** (n=120)

| Sr. No. | Particulars | Non-tribal area | Tribal area | Overall | t-value |
|---|---|---|---|---|---|
| 1 | Average income (₹/HH) | 61278.75 | 53339.47 | 57309.11 | 2.15** |
| 2 | Average consumption expenditure | | | | |
| (i) | Food items (₹/HH) | 30363.26 | 26337.36 | 28350.31 | 4.04** |
| (ii) | Non-food items (₹/HH) | 20240.38 | 19699.44 | 19969.91 | 1.53* |
| | **Sub-total (i+ii)** | 50603.64 | 46036.80 | 48320.22 | 3.53** |
| 3 | Average savings (₹/HH) | 10675.11 | 7302.67 | 8988.89 | 4.74** |
| 4 | Average propensity to consume (APC) / Consumption-Income Ratio | 0.83 | 0.86 | 0.85 | |
| 5 | Per capita income (₹/annum) | 11898.79 | 8439.79 | 10169.29 | 7.64** |
| 6 | Monthly per capita income | 991.57 | 703.32 | 847.45 | 7.12** |
| 7 | Per capita consumption expenditure (₹/annum) | 9825.95 | 7284.30 | 8555.13 | 10.64** |
| 8 | Monthly per capita consumption expenditure | | | | |
| (i) | Food items | 491.31 (60.00) | 347.28 (57.21) | 419.29 (58.67) | 9.77** |
| (ii) | Non-food items | 327.52 (40.00) | 259.75 (42.79) | 293.64 (41.33) | 8.68 |
| | **Total** | **818.83 (100.00)** | **607.03 (100.00)** | **712.93 (100.00)** | **6.58*** |
| 9 | Per capita saving (₹/annum) | 2072.84 | 1155.49 | 1614.16 | 5.82** |
| 10. | Monthly per capita saving | 172.74 | 96.29 | 134.51 | 9.12** |

**Note:** Figures in parentheses indicate percentage to their respective total
* and ** denotes significance at 5 per cent and 1 per cent levels, respectively
**Source:** Field Survey

The Table 4 provides a comprehensive comparison of income and expenditure patterns between agricultural laborers in non-tribal and tribal areas. It reveals that laborers in non-tribal areas have higher average incomes (₹61,278.75) compared to those in tribal areas (₹53,339.47), with an overall average income of ₹57,309.11. This higher income is associated with increased average consumption expenditures and savings in the non-tribal areas. Specifically, non-tribal laborers spend more on food items (₹30,363.26) compared to their tribal counterparts (₹26,337.36), and their total consumption expenditure is significantly higher, reflecting a greater overall spending capacity.

In addition to higher spending, non-tribal laborers also demonstrate greater savings, with an average of ₹10,675.11 compared to ₹7,302.67 in tribal areas. The propensity to consume, or the ratio of consumption to income, is higher in tribal areas, indicating that a larger proportion of income is allocated to consumption rather than savings. Monthly per capita savings were higher in non-tribal areas (₹172.74) compared to tribal areas (₹96.29). This trend is further illustrated by higher per capita consumption expenditures in non-tribal areas, where monthly expenditure on food items and total consumption are notably greater. The statistical significance of these differences, as indicated by the t-values, highlights that the variations in income, consumption, and savings between the two areas are robust and significant, with most differences being significant at the 1% level. This suggests that the economic conditions and spending behavior of agricultural laborers differ markedly between non-tribal and tribal regions, reflecting underlying disparities in income and expenditure capabilities. The results were supported by the findings of Doddamani (2014) and Yuvaraja (2019) on agricultural laborers in Karnataka.

**Migration pattern**

Migration, a shift from one place to another for a length of time or permanently, is influenced by structural changes and development patterns. Agricultural labor migration, a longstanding phenomenon, significantly impacts rural livelihoods.

In middle Gujarat, 118 members (68 male and 50 female) from 46 households (38.33%) migrated, with 86 (72.88%) being earning members. Most (72.09%) migrated for non-agricultural work, followed by 25.58% for agricultural work. The majority (90.70%) migrated within the state, with 40.70% migrating for over 3 months and 38.37% for 1 to 3 months. The primary reasons for migration were lack of alternative employment, seasonality of agriculture, and higher industrial wages. Migrant households gained 54.86 man-days per year and an annual income of ₹13,095.67.

**Table 5: Migration characteristics of the households** (n=120)

| Sr. No. | Particulars | Non-tribal area (n=60) | Tribal Area (n=60) | Overall (n=120) |
|---|---|---|---|---|
| **1** | **Migrant households out of the total number of households** | 7 (11.67) | 39 (65.00) | 46 (38.33) |
| **2** | **Total migrant members in the migrant households** | 15 (100.00) | 103 (100.00) | 118 (100.00) |
| (i) | Male members | 10 (66.67) | 58 (56.31) | 68 (57.63) |
| (ii) | Female members | 5 (33.33) | 45 (43.69) | 50 (42.37) |
| **3** | **Nature of work after migration** | | | |
| (i) | Non-agricultural work | 6 (75.00) | 56 (71.79) | 62 (72.09) |
| (ii) | Agricultural work | 0 (00.00) | 22 (28.21) | 22 (25.58) |
| (iii) | Self employed | 2 (25.00) | 0 (00.00) | 2 (02.33) |
| | **Total** | **8 (100.00)** | **78 (100.00)** | **86 (100.00)** |
| **4** | **Place of migration** | | | |
| (i) | Within district (Urban) | 8 (100.00) | 0 (00.00) | 8 (09.30) |
| (ii) | Within state | 0 (00.00) | 78 (100.00) | 78 (90.70) |
| (iii) | Outside state | 0 (00.00) | 0 (00.00) | 0 (00.00) |
| | **Total** | **8 (100.00)** | **78 (100.00)** | **86 (100.00)** |
| **5** | **Duration of migration** | | | |
| (i) | Less than 1 month | 0 (00.00) | 18 (23.08) | 18 (20.93) |
| (ii) | Between 1 to 3 month | 2 (25.00) | 31 (39.74) | 33 (38.37) |
| (iii) | More than 3 month | 6 (75.00) | 29 (37.18) | 35 (40.70) |
| | **Total** | **8 (100.00)** | **78 (100.00)** | **86 (100.00)** |
| **6** | **Reason of migration** | | | |
| (i) | More wages in industry/non-farm sector | 8 (78.26) | 29 (37.18) | 37 (43.02) |
| (ii) | No alternative work at their places | 2 (8.69) | 53 (67.95) | 55 (63.95) |
| (iii) | Seasonal pattern of agriculture | 5 (39.13) | 37 (47.44) | 42 (48.84) |
| (iv) | More economic growth/ development | 7 (56.52) | 15 (19.23) | 22 (25.58) |
| (v) | Low family income | 4 (21.74) | 7 (8.97) | 11 (12.79) |
| | **Total** | **8 (100.00)** | **78 (100.00)** | **86 (100.00)** |
| 7 | Average annual employment due to migration (man days/HH) | 21.33 | 88.38 | 54.86 |
| 8 | Average annual income due to migration (₹/HH) | 4493.33 | 21698.01 | 13095.67 |
| | **t-value** | | **3.98**** | |

**Note:** Figures in parentheses indicate percentage to their respective total
** denotes significance at 1 per cent level
**Source:** Field Survey

In non-tribal areas, 15 members (10 male and 5 female) from 7 households (11.67%) migrated, with 8 (53.33%) being earning members. Most (75%) migrated for non-agricultural work, followed by 25% for business, all within the district. Of these, 75% migrated for over 3 months and 25% for 1 to 3 months, mainly due to higher industrial wages and economic growth. Migrant households gained 21.33 man-days per year and an annual income of ₹4,493.33. In tribal areas, 103 members (58 male and 45 female) from 39 households (65%) migrated, with 78 (75.73%) being earning members. Most (71.79%) migrated for non-agricultural work, followed by 28.21% for agricultural work, all within the state. Of these, 39.74% migrated for 1 to 3 months, 37.18% for over 3 months, and 23.08% for less than 1 month, mainly due to lack

of alternative employment, seasonality of agriculture, and higher industrial wages. Migrant households gained 88.38 man-days per year and an annual income of ₹21,698.01.

In summary, migration is more prevalent in the tribal district (Dahod) compared to the non-tribal area (Anand). Similar findings were reported by Sidhu *et al.* (1997), Kaur *et al.* (2011), and Roy (2011) among migrant laborers in Punjab.

## CONCLUSION

The study reveals significant disparities in agricultural labor patterns between tribal and non-tribal districts of Gujarat, highlighting the socio-economic challenges faced by labor households. Tribal areas exhibit higher work participation rates but lower income levels, leading to greater dependency ratios and higher average propensities to consume. In tribal area, major source of occupation, income and employment was labour (agri + non-agri) in which more females and children were engaged as majority were landless as compared to non-tribal area in which major source of occupation, income and employment was agri. labour + farming. In non-tribal area, due to agriculture and livestock work, average annual employment days of households and average annual family income were more (117.55 man days and ₹ 7939.28) as compared to tribal area. The respondents of non-tribal area were better off in income as compared to tribal area. In non-tribal area, the total average annual family expenditure was higher *i.e.* ₹ 4566.84 as compared to tribal area. The monthly per capita savings were higher in non-tribal area (*i.e.* ₹ 172.74) as compared to tribal area in which it was only ₹ 96.29. Migration was more common in tribal area as migrant households were getting 67.05 man days per year more employment and ₹ 17204.68 per annum higher income as compared to non-tribal area. The findings underscore the need for targeted interventions to address the economic vulnerabilities of tribal agricultural laborers, focusing on enhancing local employment opportunities, improving wage structures, and providing social support to mitigate the adverse impacts of migration and economic disparity.

## CONFLICT OF INTEREST

The authors have no competing interests to declare that are relevant to the content of this article.

## SOURCES OF FUNDING

The authors did not receive support from any organization for the submitted work.

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*Received : August 2024 : Accepted : November 2024*