(RESEARCH ARTICLE)

Development and disparity: Assessing the socio-economic conditions of Assam's tribal populations

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Abstract

The tribal communities of Assam mainly belong to the Kirata group, which is part of the Sino-Tibetan language family, specifically the Tieto-Burmese branch. Understanding the tribal population is important especially because many of these communities are considered economically and socially backward. Through this analysis, it is hoped to gain a better understanding of the tribal way of life and help improve their quality of living through more effective government programs and policies. To examine the socio-economic status of tribal, their population is investigated under the heads of demographic, education, employment and standard of living. Demographic status is investigated by population, fertility rate and child sex ratio. Education status is measured by literacy rate, population percentages at different educational levels of males and females. Employment status is measured by population percentages in different occupations, main and marginal workers by gender. Standard of living is measured in terms of asset holding, type of cooking fuel used, sanitation (type of toilet), and source of drinking water. This paper uses secondary data taken from the National Sample Survey Office (NSSO) and the Census of India. It has been found that the tribal communities of Assam continue to exhibit patterns of economic marginalization, educational underachievement, and limited access to assets, despite pockets of demographic strength and rising literacy. The socio-economic indicators collectively underscore the urgent need for targeted policy interventions, especially in education, employment generation, skill development and infrastructural support.

Keywords: 6th Schedule; Tribe; Assam; Socio-Economic

1. Introduction

The socio-economic status of a population serves as a key indicator of its level of material well-being and access to basic needs, such as education, healthcare, employment, and housing. Assessing socio-economic status is particularly important in the context of marginalized and disadvantaged groups who are often excluded from mainstream development processes. Among these groups, the Scheduled Tribes (STs) constitute a significant and vulnerable subset. As observed by Sagar and Pan (1994), STs are one of the most socio-economically backward sections of Indian society, suffering from persistent poverty, limited access to services, and various forms of vulnerability [1].

The Sixth Schedule of the Indian Constitution provides for the administration of tribal areas in the North-Eastern states of Assam, Meghalaya, Tripura, and Mizoram through Autonomous District Councils (ADCs). These provisions aim to protect the cultural identity, land rights, and traditional governance systems of tribal communities by granting them a degree of self-governance within the Indian federal structure. In the context of Assam, the Sixth Schedule plays a pivotal role in the political and administrative autonomy of its tribal populations.

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Assam is home to several Sixth Schedule areas, which are governed by three Autonomous Councils: Bodoland Territorial Region (BTR)- administered by the Bodoland Territorial Council (BTC); Karbi Anglong- governed by the Karbi Anglong Autonomous Council (KAAC) and Dima Hasao (formerly North Cachar Hills)- governed by the North Cachar Hills Autonomous Council (NCHAC). The autonomy granted under the Sixth Schedule is intended to preserve the distinct identity and customary institutions of tribal groups while enabling them to participate in decentralized governance. This model of governance reflects an attempt to reconcile tribal aspirations with national integration by recognizing ethnic diversity within the Indian democratic framework.

Given the state's significant share of the tribal population living in sixth schedule areas and its central role in the region, a detailed socio-economic analysis of tribal communities in Assam becomes indispensable. A comprehensive understanding of their living standards, development challenges, and socio-economic dynamics is essential to formulate effective welfare strategies and targeted policy interventions. Such an inquiry is not only necessary to address the immediate needs of these communities but also critical for achieving inclusive and balanced regional development. This paper, therefore, aims to examine the socio-economic status of the tribal communities in Assam, with a particular focus on indicators such as demography, education, employment, asset holding, cooking fuel, sanitation, and source of drinking water. The study seeks to provide an evidence-based assessment of the disparities faced by tribals in Assam and contribute to the broader discourse on tribal development in India's North-East.

2. Review of Literature

The socio-economic status of tribal communities in Assam is a complex and multifaceted issue, with existing research highlighting significant disparities and challenges. Studies focusing on specific tribal groups within Assam reveal a range of concerns, primarily revolving around nutritional deficiencies and limited access to healthcare and educational opportunities.

Several studies demonstrate the prevalence of undernutrition among Assamese tribal populations. [2] found higher rates of stunting, underweight, and thinness among boys compared to girls in the Mishing tribe and Kaibarta caste, suggesting chronic undernutrition due to insufficient nutrient intake and illness. This aligns with findings from [3], which showed a significant prevalence of nutritional deficiencies among Scheduled Tribe women in India, although the study encompasses a broader geographical area than just Assam. Further underscoring this issue, [4] revealed that pregnant women from low socio-economic backgrounds in Assam, a group likely overlapping with tribal populations, demonstrate concerning pre-pregnancy BMI (Body Mass Index) and weight gain indicators, suggesting inadequate nutritional intake. [5] identified barriers to accessing modern healthcare, emphasizing that these are not solely driven by socio-economic factors but also influenced by service quality and contextual factors. [6] investigated the socio-economic status of the Bodo tribe in Udalguri district, Assam, indicating a need for targeted interventions. Similarly, [7] analyzed the socio-economic status and expenditure patterns of tribal farmers in Sonitpur district. [8] assessed the impact of the Tribal Sub Plan (TSP) project on the socio-economic status of tribal communities in Tinsukia district, offering insight into the effectiveness of government initiatives. Furthermore, [9] examined the growth curve of socio-economic development in Northeast Indian tribes, providing a broader temporal perspective but lacking specific data on Assam. [10] showed a significant difference in cognitive impairment among elderly people in Upper Assam based on socio-economic status, further illustrating the impact of socio-economic factors on health outcomes. [11] investigating the socio-economic condition of dry fish retailers in Kokrajhar, Assam, provides a micro-level understanding of economic activities within a tribal-influenced area, highlighting the need for broader economic analyses within Assamese tribal communities. While studies focused on specific tribal groups and districts in Assam offer valuable insights, a comprehensive understanding of the socio-economic status requires further research integrating various factors, including access to resources, employment opportunities, etc.

3. Database and Methodology

To examine the socio-economic status of tribal, their population is investigated under the heads of demographic, education, employment and asset holdings. Demographic status is investigated by population, fertility rate and child sex ratio. Education status is measured by literacy rate, population percentages at different educational levels of males and females. Employment status is measured by population percentages in different occupations, main and marginal workers by gender. Standard of living is measured in terms of asset holding, type of cooking fuel used, sanitation, and source of water. For the study, secondary data have been used from various census records, the National Family Health Survey report and the statistical handbook of the government of Assam. Different graphs/ diagram is also taken as instruments to present and compare data. The operation involves the use of computer programs like MS-Excel and SPSS in order to extract and analyse the data.

4. Result and Discussion

This section of the paper tries to elaborate on the different areas considered critical to understand the socio-economic status of the tribal population living in the Sixth Schedule areas of Assam.
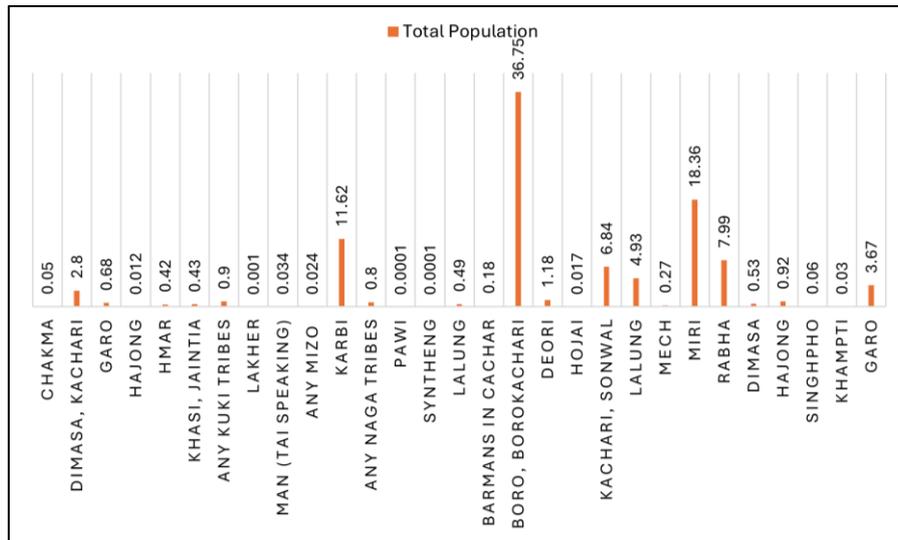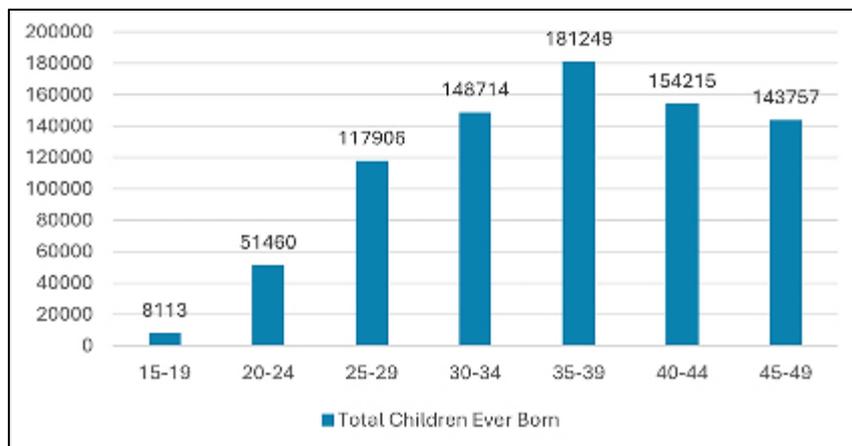

Source: Author's own calculation using census data

Figure 1 Total Population

Figure 1 provides a comprehensive overview of the demographic distribution of recognized tribal communities in Assam living in Sixth Schedule areas. The state is home to a rich mosaic of indigenous tribes, each with distinct linguistic, cultural, and historical identities. Understanding the population size of these communities is essential for assessing their socio-political representation, developmental needs, and cultural preservation status.

The Boro, Borokachari tribe emerges as the largest tribal group in Assam, with a population of 36.75%. This substantial demographic presence grants the Bodo people significant influence in socio-political and economic matters in Assam, particularly in areas such as the Bodoland Territorial Region (BTR). Other major tribes include the Miri (18.36%), Karbi (11.26%), and Rabha (7.99%). These groups form critical segments of the state's tribal population and are distributed across both hills and plains. Tribes such as the Deori (1.18%), Tiwa or Lalung (4.93%), and Rava (7.99%) occupy a middle ground in terms of population. While not as large as the Bodo or Mishing, their numbers are significant enough to necessitate focused developmental initiatives. Several tribes, such as the Pawi (0.0001%), Hmar (0.42%), Singpho (0.06%), and Khampat (0.03%) shows very low population figures. These groups are particularly vulnerable to socio-economic exclusion, language and cultural erosion, and administrative neglect.
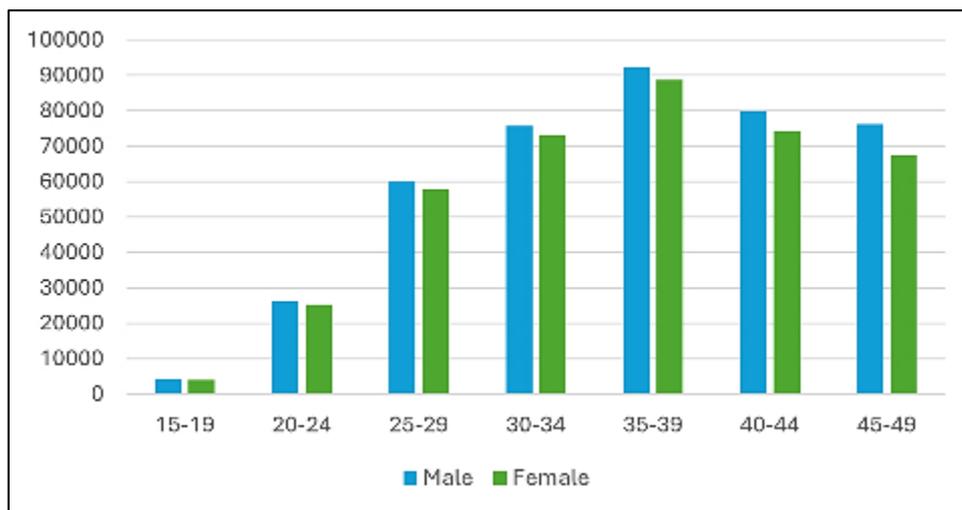

Source: Author's own calculation using census data

Figure 2 Total Children Ever-Born

Figure 2 shows total children ever born. It shows a progressive increase in the total number of children ever born with advancing age, peaking in the 35–39 age cohort, followed by a decline in the older age groups. This trend aligns with the expected reproductive lifecycle of women and suggests a concentration of fertility within the core reproductive years.

The number of children ever born is minimal in the age group 15–19 years, indicating a low incidence of early childbearing. This could reflect either cultural practices discouraging early marriage and childbearing or the impact of recent interventions aimed at delaying the age at first birth. There is a noticeable increase in the number of children born in the age group 20–24 years, signifying the onset of reproductive activity. The age groups 25–29, 30–34, and 35–39 collectively account for the highest number of children ever born, with the peak observed in the 35–39 age group. This pattern is consistent with established fertility norms, where women tend to have most of their children during these years. The peak at 35–39 suggests that childbearing continues actively into the late thirties among tribal women in Assam, possibly due to larger desired family sizes and limited access to or use of family planning services.

The reproductive pattern exhibited in the graph is characteristic of high-fertility populations. Several factors may contribute to these trends, including cultural norms favouring early marriage, limited access to reproductive health services, and a preference for larger families. It is often linked to economic and social roles children play in agrarian and forest-based livelihoods.
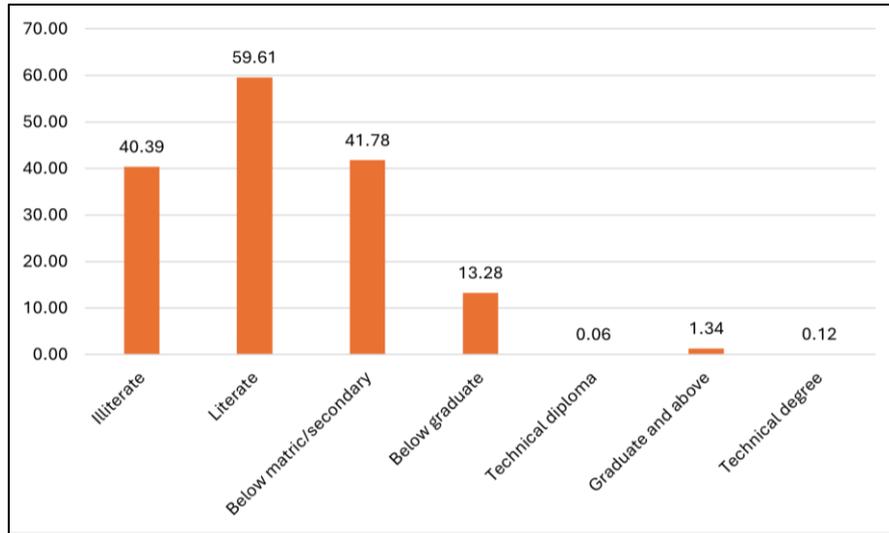

Source: Author's own calculation using census data

Figure 3 Sex at Birth

Figure 3 shows sex at birth and it can be seen that cross all age groups the number of male births slightly exceeds female births. This pattern persists consistently from the 20–24 age group through the 45–49 age group, though the difference is not dramatically skewed. This distribution suggests a generally balanced sex ratio at birth among tribal communities, with a marginal male advantage that is within natural biological variation.

The number of both male and female births is extremely low in the cohort of 15–19 years, reflecting minimal childbearing activity in early adolescence. The age groups 20–24 and 25–29 years exhibit a substantial rise in both male and female births, indicating the commencement of significant reproductive activity. Notably, male births slightly exceed female births, but the sex ratio remains within the expected natural range. The highest number of births, for both sexes, is observed in the age groups 30–34 and 35–39 years. The peak occurs in the 35–39 age group, with male births surpassing 90,000 and female births closely following at around 88,000. The minimal discrepancy suggests an absence of pronounced sex-selective practices in this population. The relatively balanced sex ratio across all age groups suggests that tribal communities in Assam may not exhibit strong preferences for male children at birth.
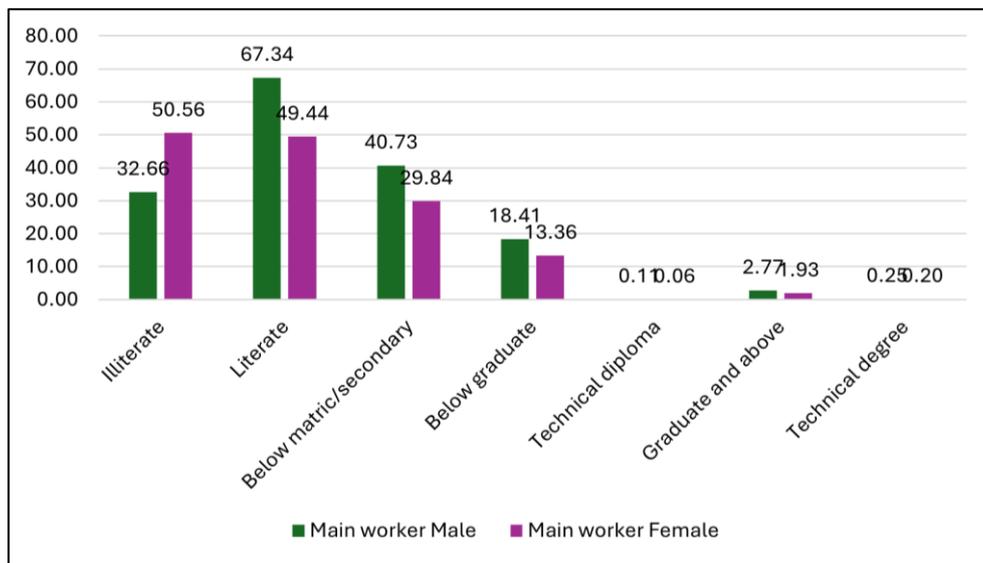
Source: Author's own calculation using census data

Figure 4 Literacy Rate

Figure 4 show literacy rate among the tribals. It categorizes individuals into various literacy and educational groups, ranging from illiteracy to technical degrees. This classification enables an understanding of the educational profile of tribal communities and offers insights into both progress and persistent challenges in achieving educational equity.

The largest segment represented in the graph is that of the literate population with 59.61%. This suggests that a majority of tribals in Assam possess basic reading and writing skills. However, the illiterate category still comprises a significant portion (40.39%), indicating that illiteracy remains a critical concern, particularly in remote and underserved tribal regions. A considerable number of individuals are classified as literate but below matriculation/secondary level, as well as matric/secondary but below higher secondary. These two groups form a substantial middle tier, reflecting an expansion of access to basic and secondary schooling over time. However, the drop-off beyond this stage highlights challenges in retaining students through higher levels of education. There is a sharp decline in numbers for individuals who have attained technical diplomas, graduate degrees, or technical degrees (0.06%). This indicates extremely low levels of higher and professional educational attainment among tribal populations. It shows a significant gap in access to tertiary and technical education, likely due to structural barriers such as geographic isolation, economic hardship, lack of institutional support, and cultural marginalization.
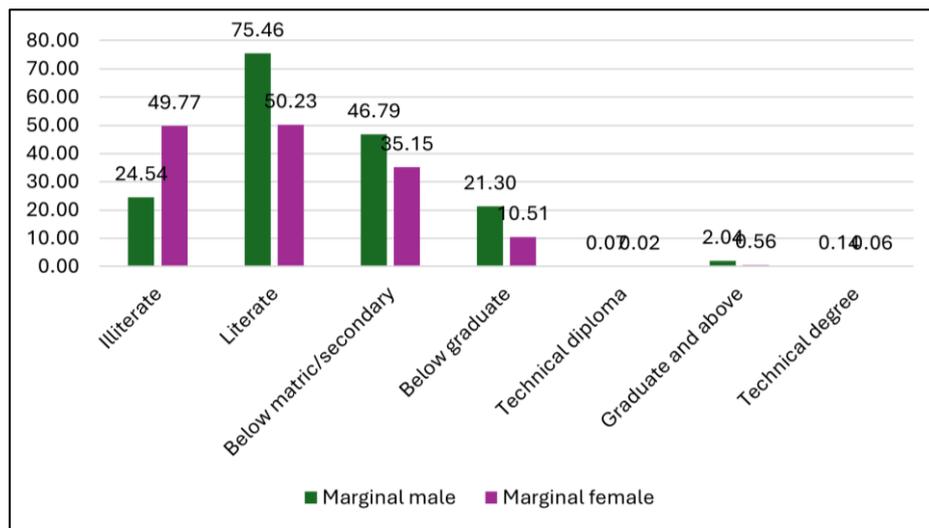

Source: Author's own calculation using census data

Figure 5 Main Worker

Figure 5 shows percentage of main worker population. The classification in the figure includes categories from illiterate to those holding technical degrees and distinguishes between male and female participation as the main worker (worked at least for 183 days in a year). It offers valuable insights into the intersection of education, gender, and employment within tribal communities living in sixth schedule areas.

Across all educational categories, male participation as main workers significantly exceed that of females. This pattern indicates a marked gender gap in formal economic engagement among tribals. Socio-cultural factors, traditional gender roles, and limited access to employment opportunities may be key drivers of lower female workforce participation. A substantial proportion of main workers are concentrated in the illiterate and literate categories. Among males, these two groups together account for a significant majority of the workforce. This suggests that a large share of tribal employment is driven by low-skilled, possibly manual or agricultural labour, where formal education is not a prerequisite. Male workers with a literate but below matriculation and matric/secondary but below higher secondary education also constitute a considerable share of the main workforce. This reflects some upward educational mobility and possibly better access to semi-skilled or formal sector employment for this group. Female representation in these categories, however, remains markedly lower. The number of main workers holding technical diplomas, graduate degrees, or technical degrees is extremely limited for both males and females. This indicates a low penetration of advanced and technical education among the working tribal population.
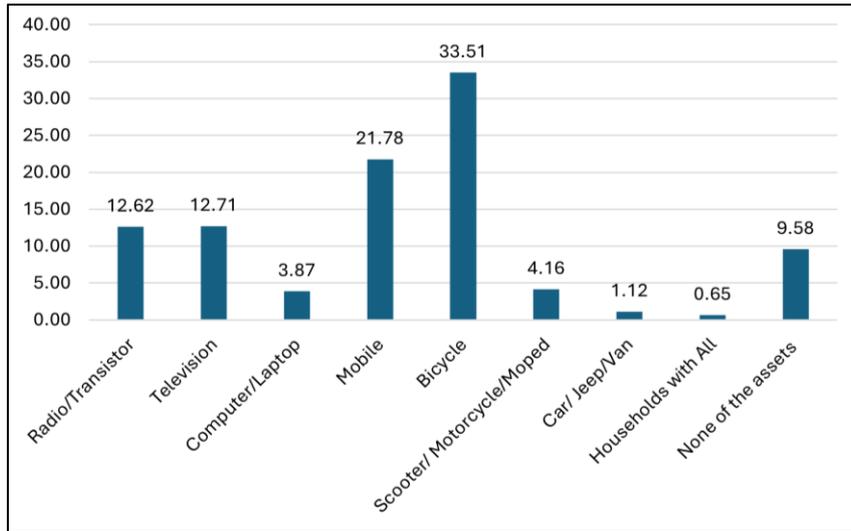

Source: Author's own calculation using census data

Figure 6 Marginal Worker

Figure 6 shows percentage of marginal worker population. Marginal workers are those engaged in economic activities for less than six months of the year typically due to seasonality of work or underemployment. The graph categorizes these workers by educational attainment, providing insights into how literacy and education intersect with marginal employment among tribal populations.

In contrast to the main worker category, females outnumber males across nearly all educational categories among marginal workers. This is particularly pronounced among the illiterate, literate, and literate but below matriculation groups. The data suggest that tribal women are more likely to be engaged in temporary, informal, or seasonal work, possibly due to household obligations or limited availability of stable employment. A significant number of marginal workers, both male and female, fall under the illiterate and literate but below matriculation categories. This reflects the strong link between low educational attainment and irregular employment. For tribal communities, low literacy and dropout rates likely restrict access to stable or skilled jobs, pushing individuals into marginal forms of labour. The number of marginal workers with matric/secondary but below higher secondary education is also notable, particularly among females. The data suggests a clear feminization of marginal work among Assam's tribal communities. Women's overrepresentation in low-paying, temporary work may reflect a combination of cultural expectations, educational disadvantage, and lack of formal sector opportunities in tribal regions.
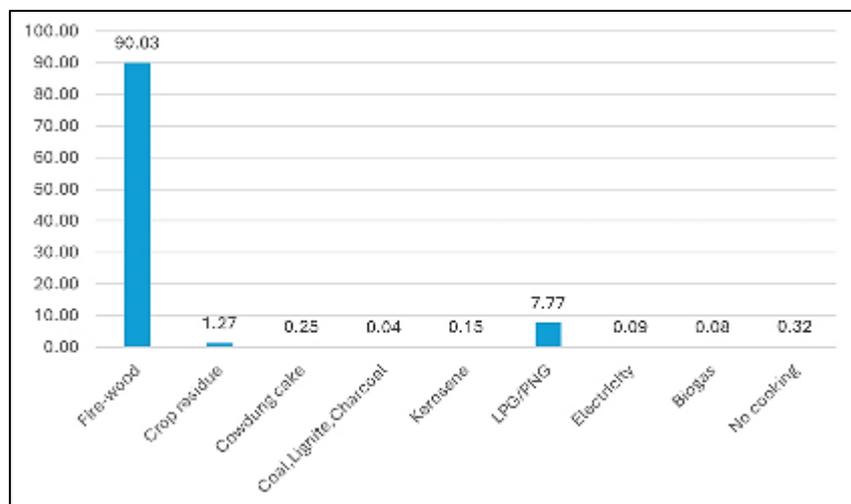
Source: Author's own calculation using census data

Figure 7 Assets

Figure 7 shows percentage of tribal population owning different assets. Asset ownership is a critical indicator of economic well-being and social status especially in rural and marginalized populations. The data provides insight into the material conditions, mobility, access to information, and digital inclusion of tribal households.

The most commonly owned asset among tribal households is the bicycle, with ownership of 33.51%. This indicates the importance of bicycles as a primary means of transport in tribal regions, where public transport is often limited or inaccessible. Bicycles are likely vital for commuting to work, schools, or markets, particularly in rural or forested areas of Assam. The second most prevalent asset is the mobile phone, owned by over 21.78% households. This reflects significant penetration of mobile technology, which plays an essential role in bridging the information and communication gap for tribal communities. Ownership of computers/laptops is markedly low, indicating a stark digital divide. This limits the potential for digital literacy and participation in a digitally driven economy. Both radio/transistor and television ownership stand at similar levels (around 12%), suggesting moderate access to traditional media. Ownership of scooters/motorcycles/mopeds and cars/jeeps/vans is relatively low. Vehicle ownership can also reflect household income and capacity for capital investment. Alarmingly, a significant number of households (9.58%) report having none of the listed assets. This underlines the extent of deprivation among sections of the tribal population and highlights their socio-economic vulnerability. The category representing households with all assets is also negligible. This confirms the limited accumulation of wealth and the relatively homogenous economic status of deprivation among most tribal households.
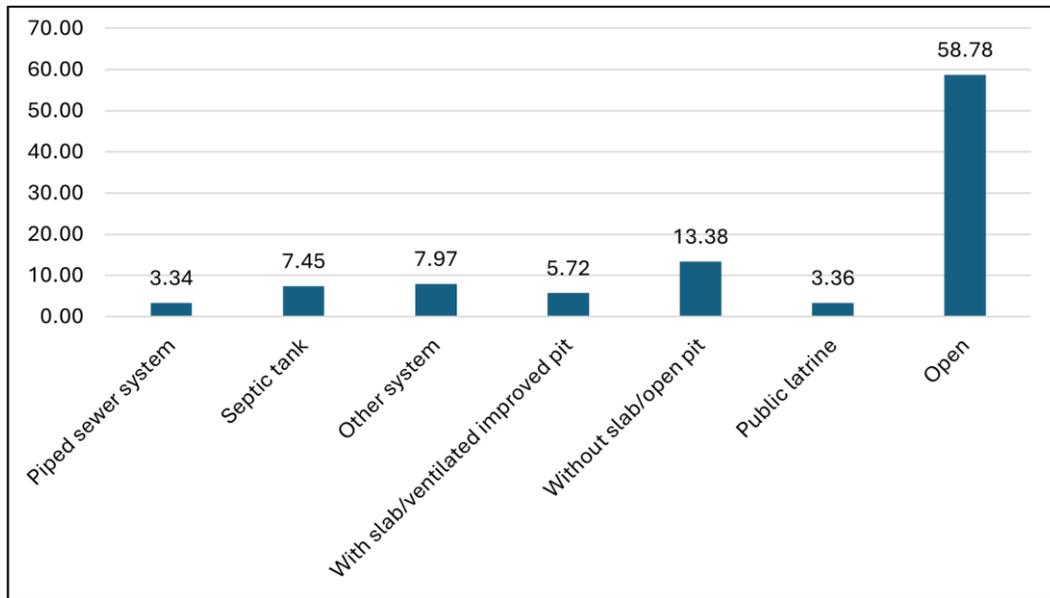

Source: Author's own calculation using census data

Figure 8 Cooking Fuel

Figure 8 shows percentage of tribal population using various sources of cooking fuel. Type of cooking fuel sheds light on the intersection of energy access, environmental sustainability, health risks, and development disparities.

A striking 90.03% of tribal households in Sixth Schedule areas rely on firewood as their primary cooking fuel. This dominant dependence on traditional biomass indicates deep-rooted structural barriers in accessing modern energy sources. Only 7.77% of the household report using LPG or PNG, underscoring the low penetration of cleaner and more efficient cooking fuels in these tribal regions. This figure signals both infrastructural gaps (like limited LPG distribution networks) and economic challenges (such as the cost of cylinders and refills). Other energy sources such as crop residue (1.27%), cow dung cakes (0.25%), charcoal (0.04%), kerosene (0.15%), electricity (0.09%) and biogas (0.08%) are barely used. These numbers reveal both a lack of diversified energy options and minimal exposure to or promotion of renewable and clean energy technologies in tribal-dominated Sixth Schedule regions. A small percentage (0.32%) of households report no cooking facility at all, possibly indicating extreme poverty.
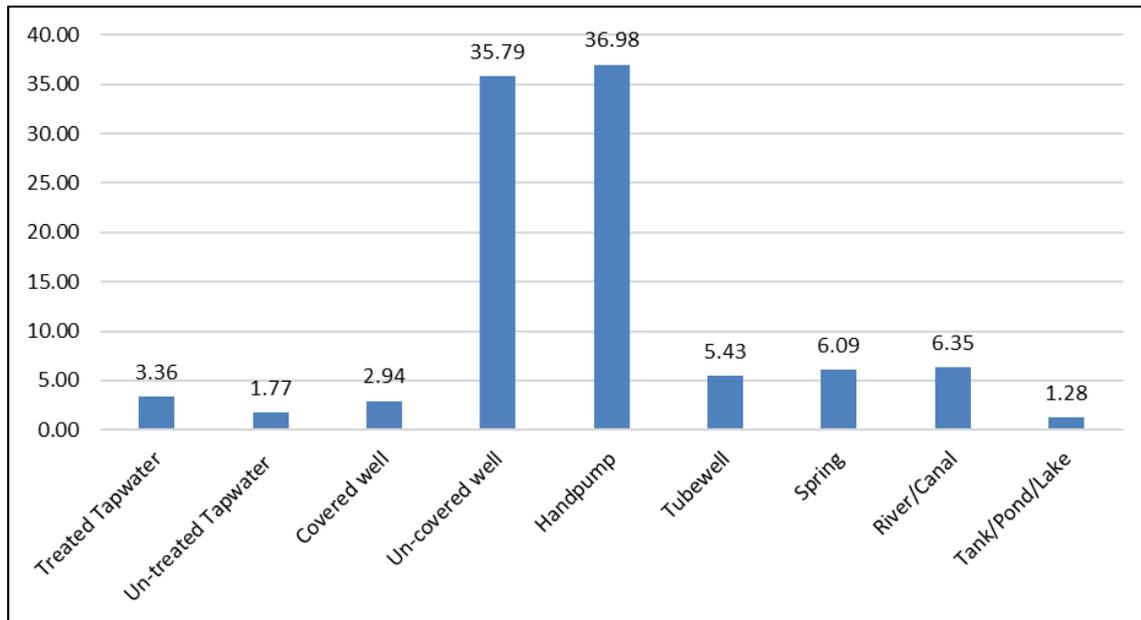

Source: Author's own calculation using census data

Figure 9 Type of Toilet

Figure 9 illustrates the distribution of toilet facilities among tribal households. Analysing sanitation infrastructure in tribal areas is critical for assessing public health standards, infrastructural reach, and the success of rural sanitation programs.

A staggering 58.78% of tribal households practice open defecation, making it the dominant form of sanitation in these areas. This alarming statistic reflects a significant gap in access to basic sanitation infrastructure, with major implications for public health, environmental hygiene, and human dignity. Only a small proportion of households have access to improved sanitation systems. 3.34% use a piped sewer system, 7.45% use septic tanks, and 7.97% use other improved systems. A small percentage of household report using toilets with slab/ventilated pits (5.72%), without slabs/open pits (13.38%), and public latrines (3.36%). The dependence on unimproved toilets also indicates poor awareness and insufficient financial or material support for better alternatives.

Figure 10 presents data on the types of water sources used by tribal communities. The two most commonly used sources of water are handpumps (36.98%) and uncovered wells (35.79%). This overwhelming dependence on traditional groundwater extraction methods suggests both limited piped water infrastructure and reliance on easily accessible water sources. Only 3.36% of households report using tap water from treated sources, and 1.77% access untreated tap water, indicating a severe shortfall in public water supply systems. These figures underscore infrastructural neglect and inadequate investment in water treatment and distribution mechanisms in tribal regions. Tubewells/Boreholes (5.43%), springs (6.09%), and rivers (6.35%) serve as secondary water sources, reflecting the reliance on naturally available sources. Use of covered wells is low (2.94%), and water tanks and other storage systems are used by only 1.28% of households.

Source: Author's own calculation using census data

Figure 10 Source of Water

5. Conclusion

The data presented offers a multidimensional understanding of the tribal communities of Assam, highlighting critical aspects of their demographic distribution, literacy levels, employment status, gender dynamics, asset ownership, type of cooking fuel, use of toilet and access to water. Together, these indicators provide a comprehensive picture of the socio-economic realities faced by these indigenous populations.

The population distribution among tribal groups reveals significant heterogeneity. This demographic variation has direct implications for political representation, resource access, and the targeting of welfare initiatives. The sex-at-birth data indicate a relatively balanced gender ratio across age cohorts. This balance reflects positively on gender dynamics but also calls for attention to any emerging gender-specific disparities in health or social outcomes.

The literacy profile of tribal populations shows that a significant proportion is literate, yet a substantial number remains illiterate or educated only up to primary and secondary levels. Higher education levels particularly technical diplomas and graduate degrees are markedly low, signaling systemic barriers in access to advanced education. This educational gap is further reflected in the main and marginal worker data, where employment is highly concentrated among those with basic education or none at all. Notably, women show higher representation among marginal workers, hinting at irregular or informal employment patterns.

Asset ownership data illustrates both progress and limitations in material well-being. A noteworthy number of households report having none of the surveyed assets, suggesting continued economic vulnerability and limited access to modern amenities. The analysis of cooking fuel, sanitation, and water sources among the tribal communities residing in the Sixth Schedule areas of Assam reveals a persistent state of infrastructural underdevelopment and multidimensional deprivation. An overwhelming dependence on firewood for cooking, limited access to improved sanitation facilities, and continued reliance on unsafe water sources collectively point to the deep-rooted structural marginalization faced by these regions.

Overall, the tribal communities of Assam continue to exhibit patterns of economic marginalization, educational underachievement, and limited access to assets. The socio-economic indicators collectively underscore the urgent need for targeted policy interventions, especially in education, employment generation, skill development and infrastructural support. An inclusive development framework that is culturally sensitive and demographically informed is essential to ensure that the tribal communities of Assam can participate fully and equally in the state's growth and development trajectory.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed

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