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Income, education and health status of tribal communities in Palamalai Hills, Mettur Taluk, Salem district of Tamil Nadu

K Murugan and S Adalarasan

Abstract

The objective of this paper is to assess income, education and health status in Palamalai Hill, Mettur Taluk, Salem District of Tamil Nadu. The research study is organized into four sections. The first section provides an introduction, problem statement, defines the objectives, and explains the methodology. The second section focuses on a review of the relevant literature. The third section presents the results and discussion, covering aspects such as income, education, and health status of the tribal communities in Palamalai village, Mettur Taluk, Salem District. The final section summarizes the major findings of the study.

The Palamalai area faces critical economic challenges, including low income levels, limited employment opportunities, and insufficient access to banking services. These issues hinder financial stability and economic development in the community. Targeted interventions are needed to improve income levels, create more job opportunities, enhance.

Palamalai Hills face significant challenges in infrastructure, healthcare, and community support services. While there are some positive aspects, such as employment schemes and political engagement, much work is needed to improve road connectivity, expand healthcare services, and ensure effective government support to meet the community's needs. Overall, Palamalai faces considerable challenges related to education, healthcare, and economic development, requiring targeted interventions to improve living conditions and access to essential services for its residents.

Keywords: Tribal community, Palamalai Hills, income status, educational and health conditions

1. Introduction

India is having the second largest tribal population after the Africa. They are live in minority communities and significant in terms of their socio-economic development. They comprise a smaller portion of the total population. According to the Census data (2011) ^[10], there are 104 million people belonging to these groups, including scheduled tribes and various tribal communities in India. The Indian Anthropological Survey identifies 4,635 distinct groups, yet participation in education and healthcare continues to challenges, for the seven decades after India attain independence.

They have remained isolated from the mainstream of Indian society (Dreze & Sen, 1995) ^[14] and are permitted to lead their own socio-economic lives. Development should not be measured solely by the prosperity of a few affluent individuals. As Amartya Sen (1999) ^[14] noted, true progress and growth cannot be achieved unless we adequately address human potential and the challenges faced by disadvantaged communities. He emphasized the importance of capacity and human freedoms. Issues such as poverty, lack of education, illness, and exploitation are complex and deeply affect the lives of tribal communities.

A livelihood consists of competencies, assets (including resources, claims, and access), and the ability to recover from stress and shocks. It enhances capabilities and provides opportunities for a viable standard of living for future generations, both in the short and long run (Chambers, 1992) ^[48]. According to Frankenberger (1996) ^[49], a decent standard of living empowers households to meet their basic needs. This includes access to adequate food, clean water, healthcare, educational opportunities, housing, time for community engagement, and social integration.

Scheduled tribes in Tamil Nadu

According to the Census (2011) ^[10], the Scheduled Tribes (ST) population in Tamil Nadu is 7.95 lakh, comprising 1 percent of the state's total population. There are 36 recognized tribes, with the majority, 80.32 percent, making up the state's scheduled tribal population (Tamil Nadu Rural Transformation Project, Tribal Development Plan, 2017) ^[45]. According to the Census (2011) ^[10], the districts of Salem (15 percent), Tiruvannamalai (11 percent), Villupuram (9 percent), Dharmapuri (7 percent), and the Nilgiris (5 percent) recorded the highest percentages of Scheduled Tribes (STs) in Tamil Nadu. Tribes such as the Kurumba, Paniya, Irulas, Kattunayakkan, Kani, Palliyan, Sholagar, Kadar, and Vedder are predominantly small in size. Most of them reside in the Eastern and Western Ghats and the discontinuous hill tracts between the plains and hills (Tamil Nadu Rural Transformation Project, Tribal Development Plan, 2017) ^[45].

While some tribes have integrated into mainstream social and economic development, others lag due to their scattered populations, small numbers, remote locations, and the steep elevations of their habitats. These communities face challenges such as limited access to forests, reduced traditional livelihoods, indebtedness, and migration for employment, leading to greater vulnerability to exploitation and poverty.

In Tamil Nadu, a significant portion of the tribal population lives in poor conditions, lacking education, healthcare, and adequate living standards. They face low literacy rates, low school enrolment, poor health conditions, and high dropout rates. Additionally, access to safe drinking water, proper sanitation, cooking facilities, and asset ownership is limited. The lack of healthcare services contributes to the spread of infectious diseases, exacerbating health problems among the state's tribal communities.

Objectives of the study

The primary objective of this study is to assess whether the tribal communities in Tamil Nadu can serve as a key indicator of development like education, health and income status. Specifically, it focuses on the tribal population in Palamalai Hill, Mettur Taluk, Salem District.

Research methodology and database

The secondary data was gathered from various sources, including provisions of the Ministry of Tribal Welfare, Government of India, the Economic Survey, and the Department of Economics and Statistics, Government of Tamil Nadu, as well as Census data and relevant state government documents.

The study focuses on tribal zones in Tamil Nadu, with Salem district, specifically Mettur Taluk, selected for detailed analysis due to the significant tribal population in the Palamalai Hills area. Data was collected using a structured interview schedule, employing a purposive sampling technique. The total Scheduled Tribe (ST) population in the area is 4,700, and 35 structured questionnaires were administered to ST individuals in Palamalai village. Of these, 25 samples were collected from Ramanpatti, and 10 from areas near Palamalai.

The research study is organized into four sections. The first section provides an introduction, problem statement, defines the objectives, and explains the methodology. The second section focuses on a review of the relevant literature. The

third section presents the results and discussion, covering aspects such as income, education, and health status of the tribal communities in Palamalai village, Mettur Taluk, Salem District. The final section summarizes the major findings of the study.

2. Literature of Review

Tamil Nadu has consistently ranked high in social development, excelling in education, health, and civic services. However, tribal populations remain largely excluded from the benefits of development, facing challenges such as illiteracy, malnutrition, poor health, and social exclusion. The uneven access to resources has perpetuated gender inequalities and socio-economic disparities. This chapter aims to review key literature addressing these issues.

State is among the leading states in achieving a high Physical Quality of Life Index, which includes factors such as education, health, and nutrition. Unfortunately, the tribal population in Tamil Nadu faces poor access to these benefits, resulting in illiteracy, poor health, malnutrition, and poverty, particularly among Scheduled Tribes (STs).

Educational challenges

Several studies highlight the obstacles tribal communities face in accessing education. Ramana (1989) ^[50] noted the lack of infrastructure and poor learning conditions in Ashram schools in Andhra Pradesh, which hindered educational progress. Eswara (1995) ^[51] suggested that systematic follow-ups were necessary to measure tribal children's academic achievements. Rehman (1989) identified poverty and illiterate parents as the main reasons for low school enrolment among tribal children in Andhra Pradesh. Ambasht and Rath (1995) ^[53] further emphasized the impact of household and community factors on the retention and performance of ST children, calling for more research into the role of home background in academic achievement.

Achyut (1991) ^[54] conducted an experiment in Orissa that involved community participation in tribal education. His study found that community involvement, skill-based learning, flexible school schedules, and teacher training were essential for promoting tribal education. Similarly, Gaur (1990) ^[55] observed that while enrolment of tribal children in Rajasthan was high initially, it dropped in higher classes, reflecting disparities in educational facilities between tribal and non-tribal regions.

Education

Tamil Nadu's tribals experience lower educational attainment compared to non-tribal populations, with numerous studies highlighting various reasons for these disparities. Ramana (1989) ^[50] and Eswara (1995) ^[51] identified lack of infrastructure, poor teaching conditions, and absenteeism as significant challenges hindering educational progress for tribals in Andhra Pradesh. Similar patterns are evident in Tamil Nadu, where backwardness and social exclusion affect access to education (Vaidehi & Rao, 2004) ^[56]. Biswal (1991) emphasized the role of education in improving tribal communities' socio-economic conditions, while Achyut (1991) ^[54] demonstrated that community involvement and flexible school systems can significantly improve tribal education outcomes.

The enrolment and retention of ST children in schools is a

recurring theme in the literature. Ambasht and Rath (1995)^[53] studied the influence of household and school factors on the enrollment and retention of tribal children. They concluded that a deeper understanding of home and school environments is essential for improving educational outcomes among tribal populations. Gaur (1990)^[55] and Bhargava (1989)^[57] further underscored the disparity in educational facilities between tribal and non-tribal areas, noting how infrastructure limitations disproportionately affect tribal children.

Several studies also examine the impact of socio-cultural factors on education. Rajam and Malarvizhi (2011)^[32] found that women's education, although a driver of change in family dynamics, is underutilized due to societal barriers. Similarly, Balamurali Krishna and Prathiba (2016)^[6] noted poor infrastructure and lack of parental involvement in their study of Irula tribe students in Tamil Nadu, which further perpetuates educational disadvantages.

Health

Health disparities among Tamil Nadu's tribal populations are well-documented, with numerous studies pointing to poor health status, malnutrition, and lack of access to healthcare. Sahaya Leoni and Indhumathi (2021)^[37] observed that tribal women in Nilgiri and Dindigul Hills suffer from poor living conditions and lack adequate healthcare, contributing to their continued socio-economic backwardness. Similar issues are highlighted by Saraswathi Nandhini and Sathyamurthi (2016)^[40], who noted the low prioritization of health and education in tribal areas of Gudalur taluk.

The studies also emphasize the socio-economic determinants of health, including poverty, lack of education, and geographical isolation. Arun Kumar Ghosh (2007)^[17] linked the lack of healthcare infrastructure to the socio-economic conditions of tribals in Jharkhand and West Bengal, findings that resonate with the situation in Tamil Nadu. Zafiu and Dragomir (2017)^[23] examined the access to healthcare of the Narikuravar community, emphasizing the role of education and health awareness in improving health outcomes.

Vaidehi and Rao (2004)^[56] found that backwardness among tribal communities in Tamil Nadu impeded their children's access to mainstream education. Pavithran and Abraham (2005) highlighted the need for infrastructure, livelihood sources, healthcare, and basic facilities in tribal regions of Kerala. Rajasenan *et al.* (2013)^[33] noted that tribes with better education and employment had higher living standards, while those with lower educational attainment continued to live in poverty.

Research also underscores the gendered nature of educational disparities. Rajam and Malarvizhi (2011)^[32] emphasized that educating women can uplift entire families. However, tribal women, particularly in Tamil Nadu's Nilgiri and Dindigul Hills, continue to face severe social and economic disadvantages, as noted by Leoni and Indhumathi (2021)^[37]. The lack of basic amenities like clean water, housing, and healthcare exacerbates these inequalities.

Several studies, including those by Krishnan and Sudharsan (2020)^[5], have examined the role of government initiatives like tribal residential schools in addressing these challenges. However, many gaps remain, including low enrollment rates, poor infrastructure, and inadequate teacher support. Researchers like Rami (2012)^[35] argue that despite efforts, issues like lack of essential amenities continue to discourage tribal students, especially girls, from attending school.

Socio-economic development

Studies exploring the socio-economic status of Tamil Nadu's tribal emphasize the intersection of education, health, and economic opportunities. Jayakumar and Palaniyammal (2016)^[19] pointed to agriculture as the primary source of income for tribals in the Kalrayan Hills, highlighting the need for educational interventions to break the cycle of poverty. Similar socio-economic challenges were noted by Bala Krishnan and Sudharsan (2020)^[5], who argued that residential tribal schools play a critical role in improving literacy rates and addressing socio-economic backwardness.

Several researchers have also examined the role of government interventions in promoting socio-economic development among tribal. Raja and Krishnaveni (2019)^[31] highlighted the lack of awareness and economic barriers faced by tribal tea laborers in the Nilgiris district, while Akil and Kubendran (2019)^[1] documented the socio-economic struggles of the Malayali tribe, the largest tribal group in Tamil Nadu. They found that poor living standards and limited access to education and healthcare perpetuate the socio-economic disadvantages of the community.

The literature further points to the role of social exclusion in perpetuating tribal marginalization. Studies by Rajkumar Velusamy (2021)^[34] and Brahmanandam and Babu (2016)^[9] emphasized that social and economic exclusion remains a barrier to the full integration of tribals into mainstream society. Structural issues such as language barriers, cultural dissonance in the education system, and discrimination in accessing healthcare and employment opportunities have contributed to their continued exclusion from development. Ramana (1989)^[50] pointed out that lack of infrastructure, adverse conditions of teaching and learning processes, absenteeism, stagnation, and wastage are major hindrances faced by the tribal communities to achieve education in Ashram schools in Andhra Pradesh. Systematic follow-up is necessary among tribal children to identify their impact on learning achievements (Eswara, R., 1995)^[51].

Poverty, lack of infrastructure, and illiteracy among parents were the main causes of the low enrolment of tribal children in schools in Andhra Pradesh (Rehman, 1989). Ambasht and Rath (1995)^[53], in their study on the "effect of the households, community, and school factors on the enrollment, retention, and achievement of Scheduled Tribes Children at Primary Level," assessed the effect of the cluster of households and school factors on the achievements of ST children. The study concluded that suitably designed research was needed to understand the effect of home background factors, such as parental attitude, parent's education, the language spoken at home, and the economic condition of the family, on the ST child's achievement, as well as factors like school learning, medium of instruction, and tribal and non-tribal teachers.

Achyut, D. (1991)^[54], in his study, makes an experiment in the development of education, attempting a pattern of education in the tribal regions of Orissa with community ownership and participation. The study suggests that community involvement, inculcation of skills, co-curricular activities, local teachers, flexible school timings, teacher training programs conducted on a regular basis, and effective supervision are helpful in promoting tribal education.

Gaur C.B. (1990)^[55] study about the difference between the facilities available and facilities utilized by ST students in

Rajasthan during 1984 and 1987. The study concludes that the enrolment of tribal children in Rajasthan during the period was high in the initial classes and low in the subsequent classes. Bhargava (1989) ^[57] in his study about educational facilities for the STs of Orissa. The study revealed that educational facilities were better in non-tribal districts than tribal districts in terms of school buildings, number of schools, size of class rooms, literacy facilities like libraries, and physical facilities like blackboards.

Rajasenan *et al.* (2013) ^[33] study about health, education, and employment in a forward, backward dichotomy in Kerala. The study concluded that tribes with good education and employment (Malayarayan, Kuruma, and Kurichya) have a better living standard. They can generally be termed as forward tribes, whereas those with low or poor education, employment, and living standard indicators (Paniya, Adiya, Urali, Kattunaika, Muthuvans, and Irula) are categorized as backward tribes.

A study done by Kakkoth (2012) explained the issues and perceptions of educational dropout among tribal children in Kerala. The study concluded that these primitive tribal communities needed to be provided relocation of a school closer to tribal hamlets in addition to special care, free boarding, and lodging, providing schools exclusively for primitive tribal groups as they do not get to interact with children from other communities, which fortifies their beliefs and attitudes towards formal education, which they consider an unnecessary intervention into their natural life.

3. Result and Discussion

Salem district was formed on 1 November 1866. Salem is a geologist's paradise, and it is primarily an agricultural area specializing in fruit, coffee, cotton, and peanuts and also rich in a variety of important minerals like magnesium, dunite, bauxite, limestone, iron ore, quartz, feldspar, soapstone, granites, etc. This is one of the major producers of traditional silver ankles, which are popular among women, and it is also one of the major textile centers in Tamil Nadu and Sago factories.

Kolathur block, located in Mettur Taluk of Salem District, Tamil Nadu, encompasses the Palamalai Gram Panchayat. This rural local body is part of the Kolathur Panchayat Samiti and includes two primary villages along with 33 interior villages within the Palamalai Hills. The total geographical area of this region is 1,395 hectares. The nearby settlements include Kolathur, Kannamoochi, Mettur, Alamarathupatti, Lakkampatti, Moolakkadu, Sampalli, Navappatti, Veerakkal, and Koppam. Palamalai Panchayat Kolathur is situated in Salem District. Palamalai, situated at a height of 4,920 feet from sea level in Mettur taluk, had remained without having basic amenities, electricity, and even a road for years.

According to the Census data (2011) ^[10], the Scheduled Tribe (ST) population in Kolathur stood at 9,362 individuals, with 4,812 males and 4,550 females. This marks an increase from the 8,359 ST individuals recorded in Census data (2001). Specifically, in the Palamalai Hills area, the total tribal population was 2,895. Out of this number, 2,856 are classified as tribal people, including 1,504 males and 1,352 females. The overall ST population in the area grew to 4,700, with 2,491 males and 2,209 females during 2024.

The Malayali tribe, a significant group within the Palamalai region, is one of the largest ST communities in Tamil Nadu.

Despite this, the literacy rate in Palamalai is relatively low at 42.39 percent, which is below the Tamil Nadu state average. Within this rate, literacy among males stands at 48.86 percent, while female literacy is 35.24 percent.

Table 1: Growth of population in Tamil Nadu and Salem District

State	2001	2011	2024
Indian	84326240	104281034	
Tamil Nadu	651321	794697	
Salem		169683	
Kolathur	8359	9362	
Palamalai		2895	4700
Male		1525 (53 percent)	2491 (53 percent)
Female		1370 (47 percent)	2209 (47 percent)
Total		2895	4700
Kolathur			
Male	4300	4812	
Female	4059	4550	
Total	8359	9362	

Source: Census Data, Salem 2001, 2011

In Palamalai Hills, there were 777 households in 2011. It is increased to 1300 households in 2024. There are 33 small villages located. About 100 percent of the population are STs in the villages. There are four polling stations available at the time of the election.

Table 2: School Enrolment Rate in Palamalai Hills during 2023

Location of Schools	Level	Boys	Girls	Teachers
Primary, Thalaikadu	Primary	14	19	2
Primary, Pathiramaduvu	Primary	13	14	2
Primary, Thimmampathy	Primary	3	9	2
Primary, Kemmampatty	Primary	20	18	2
GTR Primary School, Ramanpatty	Primary	31	26	1
Primary, Periyakulam	Primary	3	8	2
GTR High School, Ramanpatti	Secondary	42	22	4
Nagampathy	Middle School	20	17	5
	Total	146	133	20

Source: DEO, Mettur, 2023

The school enrollment rates in Palamalai Hills for the year 2023 are detailed in Table 2. Palamalai Hills have a total of 8 government schools. Of that, 6 primary schools, 1 middle school, and 1 secondary school are there. The enrolment rate reveals a total of 146 boys and 133 girls across these schools during 2023.

The GTR Primary School in Ramanpatty leads in primary school enrolment with 31 boys and 26 girls. It is followed by the primary school in Kemmampatty, which has 20 boys and 18 girls enrolled. The primary school in Thalaikadu has 14 boys and 19 girls. In contrast, the primary school in Thimmampathy has the lowest enrolment, with only 3 boys and 9 girls. Overall, the primary schools in Palamalai Hills show relatively low enrollment figures, which may reflect limited awareness among families about the importance of education. The young boys and girls do not know the importance of education. The family members are also not interested in sending their children to the school.

The GTR High School in Ramanpatty reports an enrolment of 42 boys and 20 girls, with 4 teachers. The enrollment rate is also quite low. After completing their secondary education, students generally pursue higher secondary education in nearby areas such as Kannamoochi, Kolathur,

Mettur, and Ammapet. Palamalai itself does not have any private schools, though there is a private secondary school in Kannamoochi, situated 5-10 kilometers away from Palamalai.

In the Palamalai area, the education status of the tribal community is shown in Table 3. When examining access to primary education, the data indicates that 51 percent have been able to take advantage of primary educational opportunities. In contrast, 49 percent have not had such access. This near-equal split highlights a significant divide in educational access, suggesting that while some individuals benefit from primary education, a nearly equal number still face barriers to obtaining this foundational learning.

Table 3: Education status of the tribal people in Palamalai area

Particulars	Response	Percentage
Male respondents		19 (54 percent)
Female respondents		16 (46 percent)
Primary education	Yes	18 (51 percent)
	No	17 (49 percent)
Education status		
Education facilities	Yes	18 (51 percent)
	No	17 (49 percent)
Teacher available in Government Schools	Yes	27 (77 percent)
	No	8 (23 percent)
Basic skills	Yes	10 (29 percent)
	No	25 (71 percent)
Teaching abilities	Yes	19 (54 percent)
	No	16 (46 percent)
Learning capacity	Yes	15 (43 percent)
	No	20 (57 percent)
Learning difficulties	Yes	13 (37 percent)
	No	22 (63 percent)
Teachers coming on time to the schools	Yes	15 (43 percent)
	No	20 (57 percent)

Source: Primary data collection from Palamalai hill

A perception of teacher availability in government schools is reported. A majority of 77 percent reported that teachers are present in these schools. It suggests that, at least in terms of teacher staffing, there is a positive aspect to the educational infrastructure. However, 23 percent reported that teachers are not present, which could imply issues with teacher deployment or consistency that may affect the quality of education received.

When assessing basic skills, only 29 percent felt that they had acquired adequate skills, while a substantial 71 percent felt they lacked these essential abilities. This disparity highlights a significant gap in skill development. It is suggesting that many individuals may be struggling with foundational skills necessary for further learning and personal development.

The issue of teacher punctuality was highlighted, with only 43 percent noting that teachers consistently arrive on time to schools. In contrast, 57 percent reported issues with teachers arriving late. This discrepancy points to potential issues with reliability and consistency in teaching that could impact students' overall educational experience.

Overall, the results reveal a complex landscape of educational access, quality, and effectiveness in the Palamalai area. While there are positive aspects, such as teacher presence in schools, there are also significant areas requiring attention, including skill development, teaching quality, learning capacity, and teacher punctuality. Addressing these challenges will be crucial in enhancing the educational opportunities and outcomes for the tribal community in Palamalai.

Table 4: Social conditions in Schools of Palamalai area

Particulars	Response	Percentage
Treated Equally in Schools	Economic Equality	7 (20 percent)
	Gender - based	23 (66 percent)
	others	5 (14 percent)
Drop-outs in primary school	Yes	18 (51 percent)
	No	17 (49 percent)
Available facilities in schools	Toilet facilities	11 (31 percent)
	Water facilities	17 (49 percent)
	Electricity facilities	7 (20 percent)
Learning facilities	No facilities	20 (57 percent)
	No teachers available	15 (43 percent)
Social discrimination in school level	Social decimation	0
	Economic discrimination	12 (34 percent)
	Gender-based	23 (66 percent)

Source: Primary data collection from Palamalai hill.

The data on social conditions in schools within the Palamalai area is detailed in Table 4. Regarding primary school drop-out rates, the results reveal that 51 percent have experienced drop-outs, while 49 percent have not dropped out of the school. They are continuing their schooling. This near-even split points to a critical issue with school retention, indicating that while a substantial portion of students complete their primary education, a significant number do not. This high rate of drop-outs could reflect underlying issues such as economic barriers, lack of engagement, or other socio-economic factors impacting students' ability to remain in school.

The result indicated that there are no government senior secondary schools or private schools in the Hills area. But private senior secondary schools are available in Kolathur, Mettur, and Ammapet. It is more than 10 km away from Palamalai. It is difficult for the students to travel to learn at a higher secondary and higher education level. It is a burden to travel and energy wasted. It leads to dropouts from the school. These students are seeking employment in nearby towns and other cities like Kovai, Thirupur, Salem, and Kerala.

Table 5: Health status of Palamalai Hills area

Particulars	Response	Percentage
Government hospital available	Yes	35 (100 percent)
	No	0 (0 percent)
Private hospital available	Yes	0
	No	35 (100 percent)
Adequate medicine availed in PHCs	Yes	22 (63 percent)
	No	13 (37 percent)
Family illness	Yes	14 (40 percent)
	No	21 (60 percent)
Non-communicable diseases	Yes	7 (20 percent)
	No	28 (80 percent)
Availability of causality medicine in PHCs	Yes	5 (14 percent)
	No	30 (86 percent)
Availability of causality medicine	Mettur	8 (23 percent)
	Bhavani	11 (31 percent)
	Kolathur	4 (11 percent)
	Kannamoochi	12 (34 percent)

Source: Primary data collection from Palamalai hill

The health status in Palamalai Hills is presented in Table 5. It is distinct patterns in healthcare availability, adequacy, and disease prevalence. The survey indicates that there is a PHC hospital available in Palamalai Hills, but only two PHCs are accessible in the hills area. The PHCs in Ramanpatty have been closed for a long period of time due to the transfer of nurses. The newly appointed nurse could

not be accessible to the people. She is absent for a long period of time, even though residential houses are there for nurses in PHCs. But earlier, the nurse had resided with 24-hour treatment of the whole area of the Palamalai. It is noted that the absence of nurses is a hurdle for the communities. However, there are no private hospitals in the area. It is reported the absence of government and private healthcare facilities in the Palamalai area. This lack of government and private hospitals may limit the range of healthcare options and could potentially affect the quality and variety of medical services available to the population.

The availability of casualty medicine in PHCs is notably limited, with only 14 percent indicating that such medicines are available. This lack of casualty medicine in public health centers could impact the ability to manage urgent and emergency medical situations effectively. In comparison, the availability of casualty medicine varies across different locations, like in Mettur (23 percent) reported availability, Bhavani has 31 percent reported availability, Kolathur has 11 percent reported availability, and Kannamoochi recorded 34 percent reported availability. The variation in availability across these locations suggests that while some areas have better access to casualty medicine, others may face significant challenges in accessing critical emergency medications.

The Palamalai area highlights a mixed healthcare scenario. While there is guaranteed access to a government PHC. The absence of private hospitals and the limited availability of casualty medicine point to potential areas of concern. The relatively good availability of adequate medicine in PHCs is a positive aspect, though there are still notable gaps in addressing urgent medical needs. The prevalence of non-communicable diseases is relatively low, but the experience of family illness by a significant portion of the population underscores on-going health challenges. Addressing these issues effectively would require improvements in the availability of emergency medicines, expansion of healthcare facilities, and ensuring a more consistent supply of essential medications across all health centers. To solve those problems, the government established a government hospital for the improvement of tribal people.

Table 6: Access of health facilities in Palamalai Hills

Particulars	Response	Percentage
Type of Hospital in Palamalai hills	Govt Hospital	0
	PHCs	35 (100 percent)
	Private Hospital	0
Types of Government provide in hills area	Central Govt. Schemes	0
	State Govt. Schemes	17 (49 percent)
	Central and State Government Schemes	0
	Local Government	18 (51 percent)
Availability of Hospital facilities in Hills area	All facilities	0
	Some kind of facilities	14 (40 percent)
	No facilities available in Hospitals	21 (60 percent)
Central and state Government provide medical facility	Yes	4 (11 percent)
	No	31 (89 percent)

Source: Primary data collection from Palamalai hill

The data on the access to health facilities in the Palamalai hills are provided in Table 6. The survey reveals that in the Palamalai area, there are no government and private hospitals. The Palamalai area reveals a healthcare system heavily reliant on primary health centers (PHCs) with

limited additional support from government schemes and medical facilities. The absence of private hospitals, along with the significant lack of comprehensive hospital facilities, is a serious need for enhanced healthcare infrastructure and services. The reliance on local government schemes and the minimal involvement of central government schemes. It emphasizes the need for greater investment and support to improve healthcare access and quality in the region. Addressing these issues would require expanding healthcare facilities, increasing the availability of government-funded programs, and enhancing overall health service delivery in the Palamalai area.

The results indicated that the Palamalai village lacks adequate healthcare facilities. Even in these times, pregnant women, the old, and the sick are carried in cradles by footmen trekking nearly 15 km. The tribal people are traveling 10 km to nearby towns to access hospital services. It is very difficult to travel because there are no proper road facilities. The people affected by any emergency like causality, pregnancy, snake fit, heavy insurance, or poisoning case are very difficult to safeguard. There are 2 primary health sub-centers in Palamalai village, staffed by 2 paramedical personnel but no doctors. Palamalai village lacks adequate healthcare facilities.

The data on income generation in the Palamalai area are presented in Table 7. 66 percent felt their income was insufficient. This disparity indicates that a substantial portion of the population struggles with low income levels. It affects their overall economic stability and quality of life.

Table 7: Income generation of Palamalai area

Particulars	Response	Percentage
Adequate Income earning in hills area	Yes	12 (34 percent)
	No	23 (66 percent)
Adequate for running family from Income	Yes	5 (15 percent)
	No	30 (85 percent)
Availability of employment in Hills areas	Yes	13 (33 percent)
	No	24 (67 percent)
Income Generation	Rs. 10,000	24 (67 percent)
	Above Rs. 11,000-20000	11 (33 percent)
	Rs.21,000-30,000	0
	Above Rs. 30,000	0
Employment working place	Mettur	14 (40 percent)
	Bhavani	9 (26 percent)
	Kolathur	6 (17 percent)
	Kannamoochi	6 (17 percent)
Types of Employment	Government Employee	0
	Private company	0
	Self-employed	22 (63 percent)
	Others	13 (37 percent)
Spending habits of their Income	(Rs.4000)	25 (70 percent)
	Rs.5000	10 (30 percent)
	Rs. 6000	0
Saving habits of tribal people	(Rs.4000)	0
	Rs.5000	10 (29 percent)
	Rs. 6000	25 (71 percent)
Accessible bank accounts by tribal people	Government Bank	11 (31 percent)
	Private bank	4 (11 percent)
	Cooperative societies	9 (26 percent)
	No bank accounts	11 (31 percent)

Source: Primary data collection from Palamalai hill

Income levels are generally low, with the majority earning at the lower level. About 67 percent reported earning income up to Rs. 10,000. 33 percent reported earning income between Rs. 11,000 and Rs. 20,000. This income distribution highlights that the majority of individuals earn

relatively low wages, with no one reaching the higher income thresholds. This low earning potential reflects the economic limitations faced by the community. Palamalai tribal people are worked in around their area. The distribution of employment suggests that certain areas are more prominent for job opportunities; a majority of tribal people are worked in Mettur (40 percent), followed by Bhavani (26 percent), Kolathur (17 percent), and Kannamoochi (17 percent). Their work is construction labor, causal labor, agricultural labor, loading man, and mining work.

The majority of 63 percent are self-employed. This indicates that self-employment is a primary source of income for many individuals, due to the lack of formal employment opportunities. 37 percent are involved in other types of employment, though this category is less defined. Notably, there are no respondents employed in government positions or private companies, highlighting a possible gap in formal sector employment.

The income generation data for the Palamalai area highlights several critical issues. A large portion of the population struggles with low income and inadequate resources to support their families. There are fewer employment opportunities, and many individuals are self-employed rather than working in formal sectors. The community's spending and saving habits reflect limited financial resources and a focus on saving despite low income. Limited access to banking services affects financial management and economic stability. Addressing these challenges requires targeted interventions to improve income levels, expand employment opportunities, enhance access to financial services, and support economic development in the Palamalai area.

4. Summary and Conclusions

The data reveals a significant divide in access to primary education, with 51 percent of individuals having access to educational opportunities, while 49 percent do not. While teacher presence in government schools is reported by 77 percent, issues with teacher availability are noted by 23 percent. Teaching effectiveness is viewed positively by 54 percent, but 46 percent feel the teaching does not meet their needs. Learning capacity is a challenge, with 57 percent not confident in their ability to learn effectively. While 63 percent report no significant learning difficulties, 37 percent do face challenges. Teacher punctuality is another issue, with 57 percent reporting teachers arriving late.

The educational environment in Palamalai faces significant challenges, including high dropout rates, a lack of basic facilities, insufficient learning resources, and social discrimination. The absence of local secondary schools further exacerbates these issues, leading to students leaving school prematurely to seek work. Addressing these problems is essential to improving educational access, equity, and outcomes for students in the region.

The survey reveals distinct patterns in healthcare availability and adequacy in Palamalai Hills. The area has only two public health centers (PHCs), with the PHC in Ramanpatty being closed due to the long-term absence of a nurse, causing significant challenges for the community. There are no private hospitals in the area, limiting healthcare options. The educational system also struggles with limitations. There are no private schools, and government schools are few and far between. Teachers are required to commute

from Mettur, Kannamuchi, Anthiyur, and Ammapet, covering distances of 15 to 25 kilometers daily. This irregularity affects the consistency of classroom instruction, with teachers sometimes arriving late and leading to irregular class schedules. Furthermore, there is a noticeable lack of understanding in core subjects like science and mathematics among students due to inadequate facilities and resources in the schools.

Healthcare in Palamalai is a mixed scenario. While there is access to government PHCs, the absence of private hospitals, limited emergency medicine, and the closure of a key PHC point to significant gaps. Improving healthcare requires expanding facilities, ensuring a consistent supply of essential and emergency medications, and possibly establishing a government hospital to better serve the tribal population.

The survey reveals significant healthcare challenges in the Palamalai area. There are no government or private hospitals, with only primary health centers (PHCs) available, which limits access to a broader range of medical services and specialties. Government schemes are implemented to some extent, with 49 percent reporting state schemes and 51 percent local schemes, but no central government schemes are in effect. Only 40 percent of respondents report some kind of hospital facility, while 60 percent indicate a complete lack of hospital services. Additionally, 89 percent note that neither central nor state governments provide sufficient medical facilities, highlighting a serious gap in healthcare support.

The healthcare system in Palamalai relies heavily on PHCs with minimal additional support, and the absence of comprehensive hospital facilities poses a significant barrier to adequate healthcare. The lack of proper road infrastructure further exacerbates the situation, making it difficult for residents, especially in emergencies, to access medical services. Pregnant women, the elderly, and the sick often have to be carried long distances to reach medical care. The village has two primary health sub-centers staffed by paramedics but lacks doctors, underscoring the need for improved healthcare infrastructure and services.

In terms of healthcare, the situation is similarly dire. The single PHC is often closed due to the absence of a nurse, and both doctors and nurses do not visit regularly. The limited government hospitals and absence of private facilities exacerbate the problem, making it difficult for residents to receive prompt medical treatment. Major hospitals are located in distant towns such as Mettur, Bhavani, Anthiyur, Erode, and Salem, making access particularly challenging for pregnant women and those needing urgent care for issues such as snake bites.

However, the educational infrastructure faces several challenges. The area has only one primary health center (PHC), which lacks both doctors and nurses, leading to its closure for extended periods. Residents must travel up to 20 kilometers to reach the nearest hospital and medical facilities, which are located in Mettur, Bhavani, Ammapet, and Anthiyur. This distance creates significant barriers to accessing timely medical care.

Palamalai village faces a critical shortage of healthcare facilities, with reliance on limited PHCs, inadequate government support, and challenging access due to poor infrastructure. To improve healthcare access and quality, there is an urgent need for expanded healthcare facilities, increased government-funded programs, and enhanced service delivery.

The survey highlights significant economic challenges in the Palamalai area. A majority of respondents (66 percent) find their income inadequate, with only 34 percent reporting adequate earnings. Furthermore, 85 percent of families struggle to sustain themselves on their current income. Employment opportunities are limited, with 67 percent noting a lack of jobs. Most individuals (67 percent) earn up to Rs. 10,000, and a significant portion of the population is engaged in self-employment (63 percent) due to the scarcity of formal job opportunities. No respondents reported being employed in government or private sector jobs.

Financial management is constrained by low income levels, with most people focusing on saving small amounts despite limited earnings. Access to banking services is also uneven, with 31 percent of individuals lacking any bank account. The community's economic situation is further compounded by inadequate access to formal employment and financial services.

Economic opportunities in Palamalai are scarce. The local population has no employment within the area and is compelled to seek work in nearby cities such as Erode, Kovai, Mettur, Bhavani, Thirupur, and even in Kerala. Many people return to their villages only during festival seasons like Deepavali and Pongal. The local economy relies heavily on subsistence farming, with residents cultivating crops such as mangoes, jackfruit, samai, and thinai and engaging in honey collection. However, farming provides only a minimal livelihood and is not highly profitable.

The Palamalai area faces critical economic challenges, including low income levels, limited employment opportunities, and insufficient access to banking services. These issues hinder financial stability and economic development in the community. Targeted interventions are needed to improve income levels, create more job opportunities, enhance

Palamalai Hills face significant challenges in infrastructure, healthcare, and community support services. While there are some positive aspects, such as employment schemes and political engagement, much work is needed to improve road connectivity, expand healthcare services, and ensure effective government support to meet the community's needs.

Overall, Palamalai faces considerable challenges related to education, healthcare, and economic development, requiring targeted interventions to improve living conditions and access to essential services for its residents.

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