Access To Housing Amenities Among Scheduled Tribes In Kerala: An Inter-Tribe Analysis

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Abstract

This study examines the disparities in access to housing amenities among Scheduled Tribes in Kerala, focusing on six tribal communities with differing socio-economic backgrounds. While Kanikkar, Malayaraya, and Kurichiya exhibit better infrastructure and living conditions, Paniya, Irular, and Muthuvan face significant challenges in housing, sanitation, drinking water, and healthcare. The findings reveal that socio-economic status influences access to essential services, with tribes that have better socio-economic conditions benefiting from improved facilities, while disadvantaged groups struggle with inadequate infrastructure. The study underscores the urgent need for targeted interventions, enhanced welfare programs, and effective implementation of policies to bridge these inequalities. Ensuring equitable access to sanitation, clean water, and safe housing is essential for the holistic development of Scheduled Tribe communities, fostering inclusive growth and social well-being. Government initiatives must prioritise infrastructure development to address these disparities effectively.

Key Words: Scheduled Tribe, Housing Amenities, disparity, inclusive growth

Introduction

Kerala, often celebrated for its high Human Development Index and progressive social indicators, presents a unique paradox when examining the accessibility of basic amenities among its Scheduled Tribes. Despite the state's overall advancements in healthcare, education, sanitation, and infrastructure, tribal communities continue to face significant disparities in accessing these fundamental services. The challenges are not uniform across all tribal groups- variations in geographical isolation, socio-economic status, traditional livelihoods, and historical marginalization create stark inter-tribe differences.

This study delves into the complex realities of tribal communities in Kerala, analysing how different Scheduled Tribes experience varying levels of access to essential amenities. While some tribes benefit from targeted development programs and better integration into the broader socio-economic framework, others remain on the fringes, struggling with inadequate healthcare, lack of educational opportunities, and poor living conditions. Limited access to essential amenities such as electricity, clean drinking water, sanitation, and housing has severe consequences for the living conditions of Scheduled Tribes, particularly those in remote areas. The absence of electricity restricts access to modern technology, communication, and education, thereby perpetuating economic and social exclusion. Without basic infrastructure, tribal populations struggle with lower productivity, reduced educational attainment, and diminished employment opportunities, trapping generations in a cycle of poverty. In this context, this research seeks to uncover the systemic barriers that hinder equitable progress and highlight potential policy interventions that can bridge these gaps.

According to the 2011 Census of India, the Scheduled Tribes population in Kerala stands at 4,84,839, which constitutes 1.45 per cent of the overall Kerala population. At the district level in Kerala, Wayanad has the highest Scheduled Tribe population, followed by Idukki, Palakkad and Kasaragod. Regarding the sex ratio

among the tribal people, Kerala leads the nation and boasts a sex ratio of 1035. It stands at 1031 in rural areas, whereas 1070 in urban centres among Scheduled Tribes. (Census Report 2011). As per the report on the socio-economic Status of Scheduled Tribes in Kerala (2013) by KIRTADS, there are 37 tribal communities residing in Kerala and are mainly distributed in districts Wayanad, Palakkad, Idukki and Kasaragod. Paniyas are numerically the most significant community among the Scheduled Tribes of Kerala. They are considered the most backward and poorest tribal groups in the State. Kurichiyas are the second largest community, concentrated mainly in Wayanad and Kannur Districts. They are the most progressive community among Scheduled Tribes and occupy high status. There are five primitive Scheduled Tribe communities in Kerala: Koragas, Kurambas, Kattunaikans, Kadars and Cholanaikans (Report on the Socio-Economic Status 2013, Scheduled tribe Department). Spatial and ethnic variations are observed in the socio-economic status of Scheduled Tribes in Kerala (Kunhaman1985).

Review of Literature

Everyone has the right to a standard of living for the health and well-being of himself and his family, which include the right to food, clothing, housing, medical care and adequate social services (Article 25(1) UDHR 1948). As a human right, housing and food security can be viewed as fundamental to human well-being, and affordable housing and food security are central to ensuring an adequate healthy lifestyle (Dunga & Grobler, 2017). Along with socio-economic dimensions, infrastructural dimensions like housing typology and water connection are strongly related to food security (Khan et al., 2012). In addition to availability and access to food, the absorption of food is affected by sanitation, clean drinking water and health care (M. S. Swaminathan 2002).

Housing and related amenities are associated with the socioeconomic condition of individuals or households. Households with housing instability experience a significantly greater risk of food insecurity (Yousefi-Rizi et al., 2021). Low-income households with poorly equipped kitchen facilities are more prone to food insecurity (Miewald and Ostry, 2014). Among those with rented accommodation, the increase in the median market price of rent would increase the risk of food insecurity (Kirkpatrick & Tarasuk, 2011). Poor access to water causes many illnesses and adversely affects households' food utilisation, and leads to food and nutrition insecurity (Sobsey and Bartram, 2003). The availability and access to a clean and regular water source is a critical issue among Scheduled Tribes. The water quality and hygiene practices are substantially poor in the tribal areas, which is often associated with low socioeconomic background and drinking water at the household level are infectious with the presence of coliform bacteria (Saha et al., 2020; Jana and Bhowmick, 2003). Due to the lack of access to drinking water on premises, household members, especially women and children, are compelled to spend considerable time fetching water from distant places, which adversely affects their health and productivity (Graham et al., 2016; Saha et al., 2020). Globally, 2.4 billion face the problem of a lack of improved sanitation facilities. (WHO, 2015.) Inadequate access to sanitation increases the incidence of morbidity and death (Pruss-Ustun et al., 2019) and creates psychosocial stress to people, especially among women and adolescent girls (Hulland et al., 2015). An adequate drainage system and its proper maintenance is a prerequisite for maintaining a healthy life and avoiding unpredictable threats to health (Blom, 2015). The lack of a proper closed drainage system will produce so many health hazards and contamination of water and soil on the premises. So proper disposal of sewage and wastewater is essential for maintaining the environmental quality and health of people (Ashraf et al. 2014).

Methodology of the Study

To study access to basic amenities among Scheduled Tribes in Kerala, a sample of 391 households was selected from six Scheduled Tribe communities: Paniya, Irular, Muthuvan, Kanikkar, Malayaraya, and Kurichiya. Among these, Kurichiya, Malayaraya, and Kanikkar represent socio-economically forward communities, while Paniya, Irular, and Muthuvan are classified as backward Scheduled Tribe communities. This study employs a quantitative research approach to analyze disparities in access to essential amenities among these communities. A structured questionnaire was used to collect primary data. To assess the significance of differences in access to housing amenities, a chi-square test was applied.

Housing and Related Infrastructure among Sample Households

1.Ownership of House

Due to geographical isolation and poor socioeconomic background, housing is the main issue among most of the Scheduled Tribes elsewhere in India. Table 1 deals with the ownership of housing among sample households in the study.

Table 1: Ownership of House

Community	Ownership of house			Total	
	Own	Rented	Others		
Kurichiya	57 (100)	0	0	57 (100)	χ2 = 18.88: p-value = 0.041
Irular	51 (94.4)	3 (5.6)	0	54 (100)	
Kanikkar	43 (100)	0	0	43 (100)	
Malayaraya	55 (94.8)	2 (3.4)	1 (1.7)	58 (100)	
Muthuvan	30 (96.8)	1 (3.2)	0	31 (100)	
Paniya	147 (99.3)	0	1 (.7)	148 (100)	
Total	383 (98)	6 (1.5)	2 (.5)	391 (100)	

Source: Primary Data

Table shows that respondents in the Kurichiya community and Kanikkar community have 100 per cent owned houses, followed by Paniya (99.3 %), Muthuvan (97%), Malayaraya (94.8 %) and Irular (94.4%). Very few per cent of sample respondents live in rented or other forms of accommodation. Overall, 98 per cent of sample households have owned a house. This is mainly due to government intervention to provide safe and affordable housing facilities to vulnerable people through various central and state government schemes. Also, the Scheduled Tribe Development Department of Kerala has introduced tribal-specific programmes for habitat and homestead development among Scheduled Tribes communities. The p-value (0.041) indicates that there is a significant difference in the ownership of houses among different communities.

2.Type of House

The types of houses are different because of changes in people's lifestyles. Several factors are responsible for this, such as the financial status, culture of people, aesthetic appearance, type of building, materials, location, geographical features, condition of climate, etc.

Table 2: Type of House

Community	Type of House				Total	
	Pucca	Semi pucca	Kutcha	Hut		
Kurichiya	34 (59.6)	21 (36.8)	2 (3.5)	0	57 (100)	
Irular	28 (51.9)	22 (40.7)	4 (7.4)	0	54 (100)	
Kanikkar	23 (53.5)	14 (32.6)	3 (7)	3 (7)	43 (100)	χ2 = 25.38 p-value = 0.046
Malayaraya	32 (55.2)	18 (31)	8 (13.8)	0	58 (100)	
Muthuvan	8 (25.8)	12 (38.7)	10 (32.2)	1 (3.2)	31 (100)	
Paniya	69 (46.6)	65 (43.9)	9 (6.1)	5 (3.4)	148 (100)	
Total	194 (49.6)	152 (38.9)	36 (9.2)	9 (2.3)	391 (100)	

Source: Primary Data

Table 2 shows that among Kurichiya (59.6%), Irular (51.9%), Malayaraya (55.2%), and Kanikkar (53.5%), more than half of the respondents live in pucca houses or good houses. Among Paniya, 46.6 per cent have pucca homes. But among the Muthuvan community, only 25.8 per cent have pucca houses. The percentage of households living in Kutcha houses is low among sample households except for Muthuvans (32.32%). No households from Kurichiya, Irula and Malayaraya communities live in huts in the study area, and among other communities, the percentage of households living in huts is meagre. Since the p-value (0.046) is less than the significance level (0.05), there is a significant difference in the type of houses among different communities. In conclusion, the Kurichiya community is better off in terms of housing status, while the Muthuvan community is relatively worse off.

3.Roofing Status

Roofing is one of the important aspects of a safe and strong house, as it primarily provides protection from climate and weather variations. The material used in roofing is very important from the point of view of health also. In addition to this, the roof of houses significantly affects housing costs.

Table 3: Roofing Status

Community	Type of Roof					Total	
	Thatched	Tiled	Asbestos	Concrete	Others		
Kurichiya	0	12 (21.1)	5 (8.8)	39 (68.4)	1 (1.8)	57 (100)	
Irular	1 (1.9)	7 (13)	1 (1.9)	39 (72.2)	6 (11.1)	54 (100)	
Kanikkar	2 (4.7)	1 (2.3)	8 (18.6)	30 (69.8)	2 (4.7)	43 (100)	χ2 = 80.00 p-value <0.001
Malayaraya	0	12 (20.7)	27 (46.6)	19 (32.8)	0	58 (100)	
Muthuvan	0	0	14 (45.2)	16 (51.6)	1 (3.2)	31 (100)	
Paniya	1 (.7)	15 (10.1)	13 (8.8)	109 (73.6)	10 (6.8)	148 (100)	
Total	4 (1)	47 (12)	68 (17.4)	252 (64.5)	20 (5.1)	391 (100)	

Source: Primary Data

Table 3 shows that households (64.5%) live under concrete roofs. The community-wise classification shows that it is 68.4 per cent in the case of the Kurichiya community, 72.2 per cent in Irular Community, 69.8 per cent in Kanikkar, 32.8 per cent in Malayaraya Community and 51.6 per cent in Muthuvan Community and 73.6 per cent among Paniya community. The overall data shows that 64.5 per cent have a concrete roof for their house. Among this category, most respondents are the beneficiaries of government housing schemes for the poor and vulnerable.17.4 per cent of respondents live in an asbestos-roofed house, and 12 per cent in a tiled house. Only very few have thatched or other forms of roofing for their house. Since the p-value is much less than the significance level (0.05), there is a significant difference in the types of roofs among different communities.

4.Source of Energy for Lighting

Making available the required quantity of power of acceptable quality at an affordable price is one of the prime responsibilities of the government. Therefore, any developing country's energy development strategy is an integral part of the overall economic strategy.

Table 4: Sources of Energy for Lighting

Community	Main Source of Energy for Lighting				Total	
	Electricity	Solar	Kerosene	Candle		
Kurichiya	55 (96.4)	0	1 (1.8)	1 (1.8)	57 (100)	
Irular	50 (92.6)	0	2 (3.7)	2 (3.7)	54 (100)	
Kanikkar	40 (93)	0	2 (4.6)	1 (2.4)	43 (100)	
Malayaraya	58 (100)	0	0	0	58 (100)	$\chi2 = 11.07$ p-value = 0.74
Muthuvan	28 (90.3)	0	3 (9.7)	0	31 (100)	
Paniya	142 (96)	0	6 (4)	0	148 (100)	
Total	373 (96)	0	12 (3.4)	4 (1.02)	391 (100)	

Source: Primary Data

The p-value (0.74) indicates that there is no significant difference in the main sources of energy for lighting among different communities. Malayaraya community is the best off among the given communities, with 100% of households using electricity as the main source of energy for lighting. Muthuvan community is relatively worse off, with the lowest percentage of electricity usage at 90.3% and a higher percentage of kerosene usage. There could be several factors influencing the differences in access to electricity for lighting among the different communities. Some communities might be located in more remote or inaccessible areas, making it challenging to provide consistent electricity infrastructure. Economic conditions can greatly influence access to electricity. Communities with higher income levels are generally more capable of affording electricity and related infrastructure.

5.Main Sources of Energy for Cooking

Statistical Profile of Scheduled Tribes in India (2013) reports that 87.7 per cent of Scheduled Tribe households in India depend mainly on smoke-emitting fuel for cooking inside the home. Table 5 shows the main source of energy for cooking among Scheduled Tribe households in the study area.

Table 5 Main Sources of Energy for Cooking

Community	Main Source Energy for Cooking						
	Electricity	LPG	Kerosene	Firewood	Others		
Kurichiya	0	23 (40.4)	0	34 (59.6)	0	57 (100)	
Irular	0	9 (16.7)	3 (5.6)	42 (77.7)	0	54 (100)	
Kanikkar	0	7 (16.3)	13 (30.2)	23 (53.5)	0	43 (100)	$\chi2 = 90.38$ p-value < 0.001
Malayaraya	2 (3.4)	15 (25.9)	7 (19)	34 (58.6)	0	58 (100)	
Muthuvan	0	2 (6.5)	0	28 (90.3)	1 (3.2)	31 (100)	

Paniya	0	9 (6.1)	0	120 (81.1)	19 (12.8)	148 (100)
Total	2 (0.5)	65 (16.6)	23 (5.9)	281 (71.9)	20 (5.1)	391 (100)

Source: Primary Data

Firewood is the primary cooking fuel among Scheduled Tribes, with the highest usage among Muthuvans (90.3%), followed by Paniyas (81.1%) and Irular (77.7%). The lowest dependence is seen in Kanikkar (53.5%), Malayaraya (58.6%), and Kurichiya (59.6%). LPG usage is most common among Kurichiya (40.4%), followed by Malayaraya (25.9%), Irular (16.7%), and Kanikkar (16.3%), while the lowest reliance is in Paniyas (6.1%) and Muthuvans (6.5%). Only Malayaraya (3.4%) use electricity for cooking. Alternative fuels like cow dung and crop remains are used by Paniya (12.8%) and Muthuvans (3.2%). Overall, 71.9 per cent of Scheduled Tribe communities in the study areas depend on firewood as the main source of cooking energy. 16.6 per cent of total respondents were using LPG, 5.9 per cent were using kerosene, and 5.1 per cent depended on other sources of energy for cooking. Only a very few (0.5%) uses electricity as the main source of cooking energy. The p-value ($p<0.001$), indicates that there is a significant difference in the main sources of energy for cooking among different communities.

6.Main Sources of Drinking Water

The availability and accessibility of quality water are essential for cooking and maintaining better health conditions for people. But the availability and accessibility of water depend on the sources, time and money spent on the water.

Table 6: Sources of Drinking water

Community	Sources of Drinking water						
	Own Well	Neighbours Well	Bore well	Public Water Sources	Pond, River Or Stream	Total	
Kurichiya	31 (54.4)	0 (0.0)	14 (24.6)	2 (3.5)	10 (17.5)	57 (100)	χ2 = 161.64 p-value = 0.000
Irular	28 (51.9)	1 (1.9)	6 (11.1)	5 (9.3)	14 (25.9)	54 (100)	
Kanikkar	29 (67.4)	1 (2.3)	3 (7.0)	3 (7.0)	7 (16.3)	43 (100)	
Malayaraya	48 (82.8)	0 (0.0)	6 (10.3)	1 (1.7)	3 (5.2)	58 (100)	
Muthuvan	21 (67.7)	4 (12.9)	2 (6.5)	3 (9.7)	1 (3.2)	31 (100)	
Paniya	50 (33.8)	0 (0.0)	15 (10.1)	67 (45.3)	16 (10.8)	148 (100)	
Total	207 (52.9)	6 (1.5)	46 (11.8)	81 (20.7)	51 (13.0)	391 (100)	
Source: Primary Data							

Among Scheduled Tribe communities, the Kurichiya and Irular households predominantly have their own wells (54.4% and 51.9%, respectively), though some rely on borewells or natural water bodies. The Kanikkar community has a high rate (67.4%) of well ownership, with smaller portions using neighbours' wells, borewells, or public sources. The Malayaraya community shows the highest dependence on private wells (82.8%), with minimal reliance on other sources. Muthuvan households also mainly have their own wells (67.7%), but 12.9% depend on neighbours' wells—higher than any other group. In contrast, the Paniya community has the lowest well ownership rate (33.8%), relying heavily on public water sources (45.3%) and borewells (10.1%). The analysis shows that there is significant difference in the sources of drinking water (P -value =0.000) among different communities. Malayaraya community appears to be the best off among the given communities, with the highest percentage of access to their own wells. Paniya community is relatively worse off, with the lowest percentage of access to their own wells and the highest reliance on public water sources.

7.Sanitation Details

In order to provide universal coverage for sanitation, the central government launched Swachh Bharat Mission on October 2nd, 2014. The programme aims to provide toilet facilities to all rural households in the country to end open defecation. Table 7 gives the details of sanitation facilities among Scheduled Tribes in the study area.

Table 7: Sanitation Details

Community	Sanitation Details			
	Home Toilet	Open Toilet	Total	
Kurichiya	49 (86.0)	8 (14.0)	57 (100)	
Irular	48 (88.9)	6 (11.1)	54 (100)	
Kanikkar	41 (95.3)	2 (4.7)	43 (100)	
Malayaraya	51 (87.9)	7 (12.1)	58 (100)	χ2=5.958 p-value(0.310)
Muthuvan	24 (77.4)	7 (22.6)	31 (100)	
Paniya	125 (84.5)	23 (15.5)	148 (100)	
Total	338 (86.4)	53 (13.6)	391 (100)	
Source: Primary Data				

The majority of respondents (86.4%) use home toilets, while 13.6% rely on open toilets. Among communities, Kanikkar has the highest home toilet usage (95.3%), while Muthuvan has the lowest (77.4%), with the highest reliance on open toilets (22.6%). Other groups show varying rates, with Kurichiya (86%), Irular (89%), Malayaraya (88%), and Paniya (84.5%) primarily using home toilets, though a small percentage in each still depend on open facilities. In the study area, most households have home toilet facilities because of the commitment of the government to provide closed home toilet facilities to prohibit open defecation. The home toilet facility is high among Kanikkar and low among Muthuvan. Based on the sanitation data provided, we can see that the communities have varying levels of access to home toilets and open toilets. Communities like Kanikkar and Malayaraya have high percentages of home toilet access (95.3% and 87.9%, respectively). However, communities like Paniya have a higher percentage of open toilet usage (15.5%). This indicates that there is still work to be done to achieve the open defecation free status and improve sanitation facilities in these areas.

8. System of Drainage

Table 8 shows the drainage facilities among Scheduled Tribes households in the study area.

Table 8: System of Drainage

Community	System of Drainage			
	Open	Closed	Total	
Kurichiya	10 (17.5)	47 (82.5)	57 (100)	χ2 = 11.26 p-value = 0.046
Irular	12 (22.2)	42 (77.8)	54 (100)	
Kanikkar	6 (14.0)	37 (86.0)	43 (100)	
Malayaraya	12 (20.7)	46 (79.3)	58 (100)	
Muthuvan	8 (25.8)	23 (74.2)	31 (100)	

Paniya	55 (37.2)	93 (62.8)	148 (100)	
Total	103 (26.3)	288 (73.7)	391 (100)	
Source : Primary Data				

In examining the sanitation and infrastructure data for various communities, it is clear that there are significant disparities (p-value = 0.046). The Kanikkar community fares better in terms of closed drainage systems (86%) and home toilets (95.3%). In contrast, the Paniya community is worse off with the lowest percentage of closed drainage systems (62.8%) and a reliance on public water sources (45.3%). Economic conditions, geographic location, government policies, and community engagement likely contribute to these differences. These findings highlight the need for targeted interventions to improve infrastructure and sanitation in the less advantaged communities, aligning with the goals of the Swachh Bharat Mission.

Conclusion

From the above analysis, it is understood that there were differences in socioeconomic and demographic profiles among Scheduled Tribe households in the study area. The study also reveals wide variations in housing and related infrastructure among Scheduled Tribes. These disparities in the socioeconomic background of Scheduled Tribe communities are reflected in their health outcomes, human development and deprivation and participation in mainstream activities. To bridge these inequalities, targeted interventions must be implemented to ensure equitable access to safe housing, sanitation, drinking water, and healthcare facilities. Government policies should focus on increasing financial assistance for infrastructure development, strengthening welfare schemes, and ensuring effective implementation of existing programs.

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