
Socio-Genetic and Structural Evolution of the Paniya Tribe: A Comprehensive Study on Marginalization, Health Vulnerability, and the Future of Kerala's Largest Tribal Community

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Abstract

The Paniya tribe, a community is inextricably bound up with the history of agrarian labor in South India, is a unique and deeply marginalized part of the social fabric of Kerala. They are residing in the Wayanad district, as well as the neighboring areas of Kannur, Kozhikode, and Malappuram. Paniya is also known as Paniyar or Paniyan, are the largest Scheduled Tribe in the state. Due to the lifestyle of the Paniya community the most pressing challenges for the future of the Paniya tribe is a significant genetic burden, specifically the high prevalence of sickle cell disease (SCD) and other hemoglobinopathies. Without regular access to folic acid, hydroxyurea, and prompt treatment for infections, Paniya children with SCD face reduced growth, bone pain, and shortened lifespans. Alcoholism is perhaps the most visible and destructive social problem currently affecting the Paniya tribe. The early usage of alcohol and its addictions and usage substance reduce the life span of the people and thereby the stability of the family is affected. Early marriage is directly correlated with maternal anemia; 93.8% of Paniya women married as minors are found to be anemic.⁷ The resultant early and frequent pregnancies lead to high risks of maternal morbidity and neonatal mortality. The future trajectory of the Paniya tribe in Kerala will be determined by the efficacy of interventions that address the structural roots of their marginalization. A singular focus on welfare is insufficient; there must be a move toward empowerment and autonomy.

Key Words

Paniya Community, Alcoholism, Poverty, Sickle Cell

Introduction

The Paniya tribe, a community is inextricably bound up with the history of agrarian labor in South India, is a unique and deeply marginalized part of the social fabric of Kerala. They are residing in the Wayanad district, as well as the neighboring areas of Kannur, Kozhikode, and Malappuram. Paniya is also known as Paniyar or Paniyan, are the largest Scheduled Tribe in the state.¹ The name of the tribe, whose etymological origins lie in the word "pani," meaning "work," immediately suggests their historical role as a community of workers², a position which has determined their social status for the past several centuries.³ Historically classified as "agrestic slaves," the Paniya were once sold along with the land they worked, a practice which continued until the mid-20th century.⁴ As the state of Kerala enters the 21st century, the Paniya community stands at a crossroads of historical suffering and modern developmental crises. This research is an attempt to investigate the complex problems facing the tribe, from their deep-rooted genetic predispositions such as sickle cell anemia to social pathologies such as alcoholism and child marriage.

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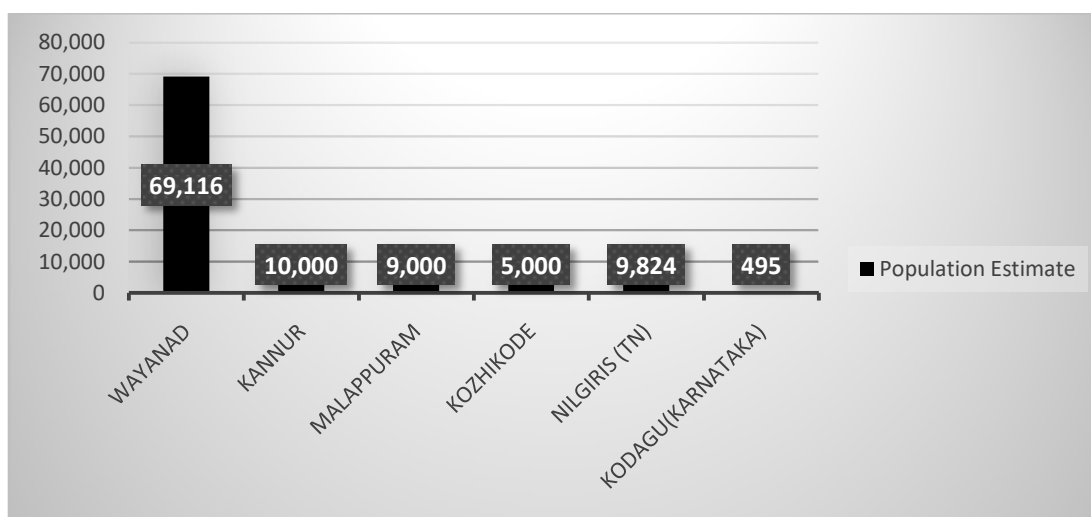
Socio-Historical Foundations and the Legacy of Bondage

The story of the Paniya tribe is one of historical transition from a forest-dwelling, autonomous lifestyle to a systemic agrarian servitude. Although the mythological traditions of the tribe speak of their origins from a hill called Ippimala, where a primeval brother and sister became the progenitors of the tribe, the reality, as revealed by ethnographic studies, is far more complex.⁴ The Paniya was defined by the feudal system of the Western Ghats.

The most important aspect of the Paniya experience was the institution of kundalpani or bonded labor. This was not only an economic tie but also a ritualized pattern of dependency. The temple at Valliyoorkkavu, near Mananthavady, was the main center where these labor bonds were formalized and renewed every year.¹ During the temple festival, the landlords (Janmis) belonging to the Nair, Gounder, and Chetty castes would hire Paniya laborers by advancing a nominal loan, which the laborer was then obliged to repay in kind.⁴ The goddess at Valliyoorkkavu was called upon as the ultimate surety for these contracts; the Paniya believed that failure to honor the agreement would invite the goddess's ire, thus utilizing religious fear to consolidate a system of serfdom.⁴

Demographic Profile and Regional Concentration

The Paniya are not a monolithic group but are distributed across several districts in Northern Kerala, with smaller populations in Tamil Nadu and Karnataka. Their concentration is more in Wayanad where they represent roughly 45% of the total tribal population of the district.⁷



The Paniya population is concentrated in Mananthavady and Panamaram blocks; nearly 67% largely landless.⁴ There is also significant presence in Muzhakkunnu and Aralam farm resettlement areas. There are 10% of population and they are facing the threat from the wild animal attacks. The community also includes the Kattupaniyar sub-group residing in the Nilambur forest region.¹ They also form 9% of the population. There are also settlements along the fringes of the Western Ghats.¹ They are employed as coolies in tea estates; designated as a PVTG in some contexts.⁶ Few

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Paniya community (0.5%) can be found out in the Kodagu district of Karnataka and they are the Minority population engaged in ginger cultivation and seasonal labor.¹

The abolition of bonded labor in 1975 by the Kerala state government marked a legal turning point, but the socio-economic shift was less definitive. The Paniya transitioned from "slaves" to "wage laborers," yet they remained largely landless, with 75% of households owning less than 10 cents of land.⁴ This persistent landlessness is the primary driver of their ongoing marginalization, as it prevents the community from moving toward subsistence farming or asset accumulation.

Genetic Vulnerabilities: The Sickle Cell Disease Crisis

Due to the lifestyle of the Paniya community the most pressing challenges for the future of the Paniya tribe is a significant genetic burden, specifically the high prevalence of sickle cell disease (SCD) and other hemoglobinopathies. SCD is a hereditary blood disorder where red blood cells take on a rigid, sickle-like shape, leading to vaso-occlusion, chronic anemia, and multi-organ damage.¹² In the Paniya community, the frequency of the sickle cell trait (HbAS) is among the highest in India, with studies indicating carrier frequencies between 30% and 47%.¹⁴ The future of the demography is largely affected by the community and it give really a future shock for existence of the community.

Evolutionary Origins and Epidemiological Impact

The prevalence of the sickle cell gene among the Paniya is an example of balanced polymorphism. Historically, the heterozygous state (HbAS) provided a selective survival advantage against *Plasmodium falciparum* malaria, which was endemic in the Western Ghats and Nilgiris during the early 20th century.¹⁴ While this protected the community from malaria-related mortality, the cost was the high incidence of sickle cell anemia (HbSS) in offspring when both parents were carriers.

| Genetic Marker/Condition | Paniya Prevalence Rate | Comparative Context |
|----------------------------|------------------------|--|
| Sickle Cell Trait (HbAS) | 30% - 49% | Global all-age prevalence in India is 89.6 per 100,000. ¹² |
| Thalassemia Co-inheritance | High | Contributes to a milder clinical presentation in some cases. ¹⁶ |
| G6PD Deficiency | Present | Complicates the management of malaria and other infections. ¹⁶ |
| Maternal Anemia | 93.8% | Compounded by early marriage and poor nutrition. ⁷ |

The clinical severity of SCD among the Paniya is highly variable. While some research suggests that Indian tribal SCD is generally milder than the African variant due to higher fetal hemoglobin (*HbF*) levels and the co-inheritance of α -thalassemia, the lack of modern medical facilities in tribal colonies often leads to severe outcomes.¹⁶ Without regular access to folic acid, hydroxyurea, and prompt treatment for infections, Paniya children with SCD face reduced growth, bone pain, and shortened lifespans.¹³

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Public Health Interventions and Government Missions

Kerala government has started specialized campaigns in partnership with the National Sickle Cell Anaemia Elimination Mission. The "Know and Eliminate Sickle Cell Disease" campaign, which frequently uses regional dialects to convey the disease's risks, focuses on early detection and awareness within tribal hamlets.¹³, Comprehensive treatment programs have been in place in Wayanad and Attappady since 2007, and they have recently expanded to Kasaragod and Kannur.¹³

Additionally, financial assistance is given, with the Scheduled Tribes Development Department providing ₹2,500 per month to impacted tribal patients to cover medical expenses.¹³ However, "vulnerability traps", a condition where community members exhibit high levels of resignation and underreport health conditions due to centuries of marginalization often impede the effectiveness of these programs.⁸ In order to eradicate SCD in the future, it will be necessary to rebuild community trust in the public health system in addition to screening.

Social Pathologies: Alcoholism and Substance Abuse

The uneducated and underprivileged groups are always the victims of the social evils like alcoholism and substance use. Alcoholism is perhaps the most visible and destructive social problem currently affecting the Paniya tribe. It is a multi-generational crisis that drains household resources, exacerbates poverty, and contributes to high rates of domestic violence and health deterioration.² The daily wage working groups are always addicted to the use of alcohol and tobacco.

The Trajectory of Addiction: From Ritual to Dependency

The Paniya have historical and cultural roots to their alcohol consumption. Alcohol was traditionally offered to gods and was an essential component of ceremonies such as marriage negotiations and funerals (*Pela chadangu*). One Alcohol was historically used as a tool of exploitation by landlords and employers; it was customary to pay Paniya laborers in part with alcohol to guarantee their return to work and to maintain a manageable level of dependency. In the modern setting, alcohol abuse frequently starts in childhood. Researchers have discovered a number of important drivers:

1. Parental Normalization: During festivals, parents frequently share small amounts of alcohol with their kids, creating an early impression that alcohol consumption is not problematic.²⁰
2. Early Financial Autonomy: Due to the fact that many Paniya children leave school early to perform manual labor (such as gathering areca nuts or forest products), they acquire control over money at an early age, which is often used for tobacco and alcohol.²⁰
3. Lack of Financial Literacy: The income from wage labor is frequently viewed as "disposable," with 17% of total household expenditures in Paniya families going toward alcohol and tobacco since basic food and amenities are supplied by government programs.⁸

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Health and Economic Consequences

The prevalence of alcohol use among Paniya men is estimated at 49%, significantly higher than the non-tribal population.²² This has led to an onset of lifestyle diseases, liver damage, and kidney failure within the community.²¹ Economically, alcoholism perpetuates the cycle of poverty; when a primary breadwinner is addicted, resources are diverted away from nutrition and education, leading to malnutrition among children and a continued reliance on high-interest loans from local moneylenders.²³ The early usage of alcohol and its addictions and usage substance reduce the life span of the people and thereby the stability of the family is affected.

| Substance Use | Paniya Population (%) | Non-Paniya Population (%) |
|-------------------------------|-----------------------|---------------------------|
| Current Alcohol Use (Male) | 49% | ~20% - 30% ²² |
| Current Smoking | 18.8% | 18% ²⁶ |
| Daily Betel Quid Chewing | 47.6% | 19% ²⁶ |
| Household Spend on Substances | 14.6% - 17% | 2.5% ¹¹ |

Marriage Customs and the Crisis of Child Marriage

The health of the parents directly affects the generations of the population. Child marriage and early motherhood are deeply entrenched social issues that severely impact the reproductive health of Paniya women and the socio-economic mobility of the tribe. The children from the early mothers are weak in health and many lose their life in the prenatal time. Despite the strict enforcement of the Prohibition of Child Marriage Act (PCMA) in Kerala, the tribal colonies of Wayanad and Kannur continue to report high incidences of teenage unions.²⁷

The Mechanism of Early Marriage

In the Paniya community, marriage is often a negotiated process, yet it lacks the rigid legal barriers found in mainstream society. A custom exists where a young boy may simply invite his fiancée to live with him after the exchange of a betel leaf, a ritual that is culturally recognized as a wedding ceremony.²⁹ This informal nature of marriage, combined with a lack of educational aspirations and extreme poverty, leads many families to marry off their daughters as young as 15 or 16.⁷ More than the emotional instinct the family responsibility and parenting is not considered in the marriage. The boy and girl are not aware of the future of the children who are going to come from them. Data from the Wayanad district reveals that over 40% of Paniya women marry before reaching the age of 18.⁷ This is not merely a social statistic but a health crisis. Early marriage is directly correlated with maternal anemia; 93.8% of Paniya women married as minors are found to be anemic.⁷ The resultant early and frequent pregnancies lead to high risks of maternal morbidity and neonatal mortality.⁷

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The "Unwed Mothers" Phenomenon

The overwhelming number of single mothers is a troubling aspect of the social system of the Paniya Tribe; this situation is most often seen in the resettlement communities in Aralam and other parts of the Wayanad. Tribal young women become targets of non-tribal men, who make false promises of marriage to them; these men come from outside the community, for example, settlers, migrant laborers, and truck drivers. Many of these women become pregnant due to their encounters with these men, but then find themselves deserted when they learn of their pregnancies. These women also experience "double marginalisation," being cast out by their communities due to the prejudice associated with their status as 'single mothers', and having no legal or economic support from their abusers. The vicious cycle of poverty, emotional trauma, and returning to a place of highly exploitative working environments continues for these mothers as they support their children.

Education: The Barrier of Linguistic and Cultural Hegemony

Education is the primary vehicle for the future empowerment of the Paniya, yet the existing formal system is often perceived as an alien institution. High dropout rates, particularly in the primary years, reflect a systemic failure to bridge the gap between tribal culture and the mainstream academic environment.³³ The uneducated parents are not promoting the education of the children as they are seeing any immediate return in education.

The Language Gap and "Truancy"

The Paniya speak their own Dravidian language, which is distinct from the formal Malayalam used as the medium of instruction in schools.¹ For a Paniya child entering the first grade, the classroom is an environment of linguistic confusion. This barrier, coupled with the shyness and introverted behavior characteristic of the community, leads many children to flee from school.³⁴ The extreme poverty and marginalized environment is another factor which affects the education of the tribal children.

| Educational Indicator | Paniya Tribe Status | Kerala State Average |
|-----------------------------|---------------------|--------------------------|
| Overall Literacy Rate | ~58.4% | 96.2% ³⁷ |
| No Formal Schooling (Women) | 57% | <5% ¹¹ |
| No Formal Schooling (Men) | 46% | <5% ¹¹ |
| Access to Higher Education | 4.4% | ~25% - 30% ³⁷ |

Beyond language, economic factors play a decisive role. Older children are often kept at home to baby-sit younger siblings or to prepare food while parents are away at work in the fields.³⁴ Truancy is sometimes encouraged by parents who view education as a distraction from the immediate need for labor and income.³³

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Innovative Educational Interventions

Recognizing these barriers, several NGOs and government agencies have pioneered more culturally sensitive approaches. The "Every Child A Scientist" program focuses on hands-on, nature-based learning to foster scientific curiosity.²³ The use of "talking pens" and textbooks in the Paniya language has been shown to improve engagement by allowing children to hear and learn words in their mother tongue.³⁸ Furthermore, the appointment of "Community Teachers"—individuals from within the Paniya community who understand the local culture and language—has been critical in reducing dropout rates and building self-confidence among students.²³

Economic Trajectories: From Bondage to Seasonal Migration

The economic future of the Paniya is currently defined by a slow transition from traditional agricultural labor toward more diversified but still precarious forms of employment. While they were historically tethered to the lands of Janmis, modern Paniyas are exploring new horizons, including construction work and seasonal migration.¹⁰ In Kannur district the Paniyas are involved in laterite stone mining and construction work.

The Shift to Sharecropping and Construction

In recent years, a shift has been observed from being pure wage laborers to becoming "cultivators" through sharecropping (*pankinedukkal*).¹⁰ Some Paniya families lease paddy fields from landlords, which allows them to retain a portion of the harvest, providing a degree of food security and economic agency that was previously impossible.¹⁰ Additionally, younger Paniya men are increasingly entering the construction sector in nearby towns, where wages are higher than in traditional agriculture.³⁶

Seasonal Migration and its Challenges

Migration has become a significant economic strategy for Paniya households. Laborers often travel to the Kodagu district in Karnataka for ginger cultivation or to textile factories in Tamil Nadu.¹⁰ While this provides much-needed cash, it also brings new vulnerabilities. Migrant workers often live in substandard conditions and are removed from the social support systems of their home colonies. This mobility also disrupts the education of their children, as families often take their children along to help with work.¹⁰

| Occupation Type | Prevalence/Trend | Economic Impact |
|-------------------------|--------------------------|---|
| Agricultural Wage Labor | Primary (85%) | Low-wage, seasonal, and insecure. ¹⁰ |
| Sharecropping | Emerging | Increases food security and partial autonomy. ¹⁰ |
| Construction/Maid Work | Increasing | Higher cash flow but requires moving to urban fringes. ³⁶ |
| Laterite Mining | Increasing | In Kannur District. High physical strength required. |
| Seasonal Migration | High (Kodagu/Tamil Nadu) | Exposure to exploitative conditions but higher seasonal income. ¹⁰ |

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Gendered Vulnerability and the "Double Marginalization" of Women

Sociologists refer to groups like the Paniyas, who are an oppressed tribe, as suffering from 'double marginality' because the Paniya Women are oppressed as members of a marginalized tribe and as women within a patriarchal society. The female Subaltern position of Paniya Women means they occupy the lowest socio-economic class in Kerala.⁸

Paniya Women have historically been integral to the bonded labor system, working as laborers in the fields from sunrise to sunset alongside male laborers. However, they continue to earn significantly lower wages than male workers who historically earned approximately ₹85 per day while Paniya Women earned approximately ₹55 per day; wage differentials continue to exist today and Paniya Women continue to be the primary targets of land grabs and settlers who exploit them for sexual gratification, contributing to the crisis of unwed motherhood.¹

Despite this, Paniya Women are becoming the primary engine of change within their community. Working through the Kudumbashree network, Self Help Groups (SHGs), and the Paniya Women's Community Kitchens, Paniya Women are assuming control over their finances and participating in local governance.⁴⁰ Through programmes such as the 100 Days Paniya Programme, Paniya Women have enhanced community identity and increased political participation.⁴⁰

Modernity, Urbanization, and the Threat to Cultural Identity

The future of the Paniya tribe is caught between the pull of mainstream urbanization and the deep roots of their traditional heritage. As the tribal people are more keen to the natural tendencies they are very slow to adapt the urbanization. This conflict is most visible among the youth, who are increasingly influenced by "Urban Culture".⁴¹

The Erosion of Traditional Values

Younger generations of Paniyas are moving away from traditional attire and ornaments—such as the red seeds (*choonthamani*) and aratti scarves—in favor of modern clothing like pants, t-shirts, and chudidars.³⁷ There is also a significant shift toward nuclear family structures. While traditional Paniya society lived in extended families in communal settlements (*padis*), the availability of separate government benefits like ration cards and housing grants has incentivized the fragmentation of these social units.⁶

The paniya culture and existence is vanishing as there is a conflict between the traditional practice and modern influence on the culture of the tribal people. The housing was the Thatched huts and it is changed into the concrete government houses. There is a transition in the language from Dravidian to corrupt Malayalam. The dressing style of Aratti scarves, mundu, choonthamani to the T-Shirts, pants, jeans and chudidars. The social unit was joint family for the existence. But is transformed to the nuclear family.

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The Resilience of Tribal Heritage

Although they have changed, the "Iceberg Model" of the Paniya culture implies that changes to surface elements (clothing, food, etc.) do not affect the strength of deep culture; the traditions and spiritual relationship with the forest are the same.³⁷ The preservation of folk songs and dance (Vattakali) is a major contributor to maintaining one's identity.⁴³ Additionally, even with the Paniya becoming more entrenched in a technologically advanced society, they still have traditional ecological knowledge and ability to utilize herbs as medicine, which is a tremendous intellectual resource.⁴²

Future Outlook and Policy Recommendations

The future trajectory of the Paniya tribe in Kerala will be determined by the efficacy of interventions that address the structural roots of their marginalization. A singular focus on welfare is insufficient; there must be a move toward empowerment and autonomy.

1. Strengthening Genetic Health Management

The elimination of sickle cell disease by 2047 requires an integrated approach. The government must:

- Ensure the universal availability of solubility tests and HPLC analysis at the primary health center level in tribal areas.¹⁶
- Provide robust genetic counseling that respects tribal languages and avoids the stigmatization of carriers.¹³
- Maintain the monthly pensions for SCD patients to offset the economic burden of chronic illness.¹³

2. Radical Land Redistribution and Financial Inclusion

The persistent landlessness of the Paniya is the core of their poverty. Future policies must prioritize:

- Allocating larger, cultivable plots of land rather than just small residential cents to enable subsistence farming and sharecropping.¹⁰
- Enhancing financial literacy programs through the "Oorukoottam" (hamlet councils) to encourage saving habits and reduce dependency on illicit money lenders.¹⁰

3. Culturally Sensitive Educational Reform

To reduce the high dropout rates among Paniya children, the state should:

- Institutionalize the use of "Community Teachers" and mother-tongue instruction in all tribal schools.²³
- Expand residential schools (Ashram schools) to provide a stable learning environment that is free from the disruptions of seasonal labor migration.⁹

4. Community-Led Substance Abuse Prevention

Individualistic public health warnings have largely failed the Paniya. De-addiction efforts should:

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- Adopt a "collectivistic" approach that empowers tribal elders and women's groups to control the availability of alcohol within their colonies.²⁴
- Address the underlying emotional distress and "vulnerability traps" that lead to substance abuse through culturally appropriate mental health support.¹¹

Conclusion

The Paniya people of Kerala are facing a tough time right now. The Paniya people of Kerala have a lot of things from their past that are still affecting them like the fact that they were enslaved. The Paniya people of Kerala also have some health problems that they are born with which makes life even harder for them. But the Paniya people of Kerala are strong in their way they have a lot of good things, about their culture that they are proud of. The Paniya people of Kerala want to do more than just get by in today's world the Paniya people of Kerala want to make a good life for themselves. The Paniya people will face a change in the years to come. They are used to being known for the work they do for others. Now they will be recognized for who they are, as people. This is because of their hard work and decisions.

The Paniya tribe can make their lives better by combining what they already know with technology. They should also work together to solve their problems. This means they should help each other of waiting for others to tell them what to do. If they do this the Paniya people can stop working on farms and start making their community a better place to live. The Paniya will be able to take care of themselves and have a life. The journey of the Paniya through these hardships is an example of the will of the human spirit and demonstrates to the Government of Kerala that in order to reach historically high levels of Human Development, many minorities throughout the state must also share the same successes.

Works cited

1. Paniya people - Wikipedia, accessed on January 26, 2026, https://en.wikipedia.org/wiki/Paniya_people
2. International Research Tribals Addiction to Liqu of Triblas of Pozhu International Journal of Trend in Scientific Research and D - IJTSRD, accessed on January 26, 2026, <https://www.ijtsrd.com/papers/ijtsrd11699.pdf>
3. Paniyan in India people group profile | Joshua Project, accessed on January 26, 2026, https://joshuaproject.net/people_groups/17834/IN
4. Paniya People of Wayanad: A Brief Ethnography - Sahapedia, accessed on January 26, 2026, <http://www.sahapedia.org/paniya-people-wayanad-brief-ethnography>
5. Community Profile - wdtdac, accessed on January 26, 2026, <https://wdtdac.in/community-profile/>
6. original research paper - Worldwidejournals.com, accessed on January 26, 2026, https://www.worldwidejournals.com/paripex/recent_issues_pdf/2023/August/th

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e-primitive-paniyan-tribes-in-nilgiris-with-reference-to-cultures-conflicting-
socioeconomic-outlooks-traditions-and-dwelling-conditions--an-
assessment_August_2023_3527192766_6402601.pdf

7. Maternal health disparities among paniya tribal women in Wayanad, Kerala - International Journal of Sociology and Humanities, accessed on January 26, 2026, <https://www.sociologyjournal.net/archives/2025/vol7issue2/PartA/7-2-8-227.pdf>
8. FEMALE SUBALTERN: DOUBLE MARGINALIZATION ... - IJCRT.org, accessed on January 26, 2026, <https://www.ijcrt.org/papers/IJCRT1813213.pdf>
9. The Paniya Tribes in Nilgiri Hills of Tamil Nadu - IJFF, accessed on January 26, 2026, <https://intjfermentedfoods.com/Journal/abstract/id/NDMzNg==>
10. Tracing The economic trajectories of the Paniya tribe: Historical dependency and contemporary challenges in Wayanad <https://www.ijirmf.com/tracing-the-economic-trajectories-of-the-paniya-tribe-historical-dependency-and-contemporary-challenges-in-wayanad/> - INTERNATIONAL JOURNAL FOR INNOVATIVE RESEARCH IN MULTIDISCIPLINARY FIELD, accessed on January 26, 2026, <https://www.ijirmf.com/tracing-the-economic-trajectories-of-the-paniya-tribe-historical-dependency-and-contemporary-challenges-in-wayanad/>
11. Paniya Voices: A Participatory Poverty and Health Assessment among a marginalized South Indian tribal population - PubMed Central, accessed on January 26, 2026, <https://pmc.ncbi.nlm.nih.gov/articles/PMC2848202/>
12. Sickle cell disease burden among tribal population of India: a narrative review - International Journal Of Community Medicine And Public Health, accessed on January 26, 2026, <https://www.ijcmph.com/index.php/ijcmph/article/download/13250/7897/62806>
13. 'Know and Eliminate Sickle Cell Disease', Special Campaign to Raise Awareness and Strengthen Prevention - PRD Live, accessed on January 26, 2026, <https://prdlive.kerala.gov.in/news/375892>
14. Prevalence of sickle cells in Irula, Kurumba, Paniya&Mullukurumba tribes of Nilgiris (Tamil Nadu, India) - PubMed, accessed on January 26, 2026, <https://pubmed.ncbi.nlm.nih.gov/7829160/>
15. Prevalence of sickle cells in Irula, Kurumba, Paniya&Mullukurumba tribes of Nilgiris (Tamil Nadu, India) - ResearchGate, accessed on January 26, 2026, https://www.researchgate.net/publication/15370381_Prevalence_of_sickle_cells_in_Irula_Kurumba_Paniya_Mullukurumba_tribes_of_Nilgiris_Tamil_Nadu_India
16. Sickle cell disease in tribal populations in India - PMC - PubMed Central, accessed on January 26, 2026, <https://pmc.ncbi.nlm.nih.gov/articles/PMC4510747/>
17. GUIDELINES FOR NATIONAL PROGRAMME FOR PREVENTION & MANAGEMENT OF SICKLE CELL DISEASE, accessed on January 26,

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2026, <https://sickle.nhm.gov.in/uploads/english/OperationalGuidelines.pdf>

18. Prevalence of sickle cells in Irula, Kurumba, Paniya&Mullukurumba tribes of Nilgiris (Tamil Nadu, India). | Semantic Scholar, accessed on January 26, 2026, <https://www.semanticscholar.org/paper/Prevalence-of-sickle-cells-in-Irula%2C-Kurumba%2C-%26-of-Ramasamy-Balakrishnan/38a0f6e23cdaf4ec7837e5054d5098cf5835003e>
19. Sickle Cell Disease among Tribals, accessed on January 26, 2026, <https://sansad.in/getFile/loksabhaquestions/annex/1715/AU1152.pdf?source=pqals>
20. Factors Associated with Alcohol Misuse among Indigenous Tribal Men in Wayanad: A Qualitative Study - NIH, accessed on January 26, 2026, <https://pmc.ncbi.nlm.nih.gov/articles/PMC6875840/>
21. Substance Abuse among Tribal Children at Wayanad District, Kerala - CORE, accessed on January 26, 2026, <https://core.ac.uk/download/354382058.pdf>
22. Alcohol use and its consequences in South India: Views from a marginalised tribal population | Request PDF - ResearchGate, accessed on January 26, 2026, https://www.researchgate.net/publication/49799107_Alcohol_use_and_its_consequences_in_South_India_Views_from_a_marginalised_tribal_population
23. Integrated interventions for addressing educational backwardness of ..., accessed on January 26, 2026, https://mssrfcab.res.in/?page_id=12664
24. Honoring Cultural Sensibilities: Reworking Current Models of Public Health Education in Kerala, India, accessed on January 26, 2026, <https://libjournals.unca.edu/ncur/wp-content/uploads/2021/07/1417-Nair-Ginger.pdf>
25. Smoking, betel quid chewing, and alcohol use among an indigenous primitive Tribal group in the Kerala State of India: Secondary analysis of a Tribal household survey - ResearchGate, accessed on January 26, 2026, https://www.researchgate.net/publication/369449279_Smoking_betel_quid_chewing_and_alcohol_use_among_an_indigenous_primitive_Tribal_group_in_the_Kerala_State_of_India_Secondary_analysis_of_a_Tribal_household_survey
26. Title Prevalence and determinants of substance use among indigenous tribes in South India: Findings from a tribal household surv - CORA, accessed on January 26, 2026, <https://cora.ucc.ie/bitstreams/ffd25612-47b1-4f5a-9e23-556c197bf168/download>
27. child marriages - PIB, accessed on January 26, 2026, <https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=1947773>
28. child marriage and other crimes - against children in kerala, accessed on January 26, 2026, <https://satyarthi.org.in/wp-content/uploads/2022/09/Kerala.pdf>
29. Maternal Healthcare Utilisation During and After Pregnancy: A Village Level Study of Paniya Tribal Women - African Journal of Biomedical Research, accessed on January 26, 2026,

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<https://africanjournalofbiomedicalresearch.com/index.php/AJBR/article/download/7805/6498/15350>

30. Motherhood in childhood: addressing reproductive health hazards among adolescent married women in India - PMC - NIH, accessed on January 26, 2026, <https://pmc.ncbi.nlm.nih.gov/articles/PMC4855753/>
31. Untold and Painful Stories of Survival: The Life of Adolescent Girls of the Paniya Tribes of Kerala, India | Request PDF - ResearchGate, accessed on January 26, 2026, https://www.researchgate.net/publication/359399121_Untold_and_Painful_Stories_of_Survival_The_Life_of_Adolescent_Girls_of_the_Paniya_Tribes_of_Kerala_India
32. (PDF) Unwed Motherhood among Tribals in South India - ResearchGate, accessed on January 26, 2026, https://www.researchgate.net/publication/234062357_Unwed_Motherhood_among_Tribals_in_South_India
33. How I was Introduced to the Struggles of Tribal Communities in Kerala | by Micah Alex - Medium, accessed on January 26, 2026, <https://medium.com/micah-alex/how-i-was-introduced-to-the-struggles-of-tribal-communities-in-kerala-caf2e8b94a9a>
34. educational prospects among paniya tribe of kerala: an analysis - Serials Publications, accessed on January 26, 2026, https://serialsjournals.com/abstract/80209_4.pdf
35. The Effectiveness Of Oorukoottam In Education Of Paniya Tribe In Wayanad District - Research Publish Journals, accessed on January 26, 2026, <https://www.researchpublish.com/upload/book/The%20Effectiveness%20Of%20Oorukoottam-6926.pdf>
36. (PDF) CULTURAL LEGACY AND SOCIAL CHANGE AMONG THE PANIYA TRIBE IN THE NILGIRIS DISTRICT - ResearchGate, accessed on January 26, 2026, https://www.researchgate.net/publication/389750415_CULTURAL_LEGACY_AND_SOCIAL_CHANGE_AMONG_THE_PANIYA_TRIBE_IN_THE_NILGIRIS_DISTRICT
37. Flame of Transformation: Paniya Tribe's Journey to Empowerment, accessed on January 26, 2026, <https://www.bharatcollab.org/story-of-change/flame-of-transformation-paniya-tribes-journey-to-empowerment/>
38. TUDI- A SAGA OF EDUCATIONAL EMPOWERMENT, accessed on January 26, 2026, <https://www.mierjs.in/index.php/mjestp/article/download/1403/1037/2223>
39. Writing the future with a Talking Pen - PIB, accessed on January 26, 2026, <https://www.pib.gov.in/newsite/printrelease.aspx?relid=151475>
40. From Marginalization to Empowerment: The story of Tribal Communities in Kerala, accessed on January 26, 2026, <https://www.researchgate.net/>

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[publication/385906815 From Marginalization to Empowerment The story of Tribal Communities in Kerala](https://www.researchgate.net/publication/385906815)

41. CULTURAL LEGACY AND SOCIAL CHANGE AMONG THE PANIYA TRIBE IN THE NILGIRIS DISTRICT - IJCRT.org, accessed on January 26, 2026, <https://ijcrt.org/papers/IJCRT2502890.pdf>
42. Tribal Special Projects - Kudumbashree Story, accessed on January 26, 2026, <https://kudumbashreestory.in/index.php/2016-10-12-12-04-37/2016-10-12-12-08-41/tribal-special-projects>
43. Paniya | PDF - Scribd, accessed on January 26, 2026, <https://www.scribd.com/document/909471526/Paniya>
44. Aging in the margins: The psychosocial realities of elderly Paniya women in Wayanad - International Journal of Advanced Academic Studies, accessed on January 26, 2026, <https://www.allstudyjournal.com/article/1443/7-4-26-521.pdf>
45. Exploring Cultural Resilience: Traditions, Legacy, And Values In Tribal Population Of Kerala - Migration Letters, accessed on January 26, 2026, <https://migrationletters.com/index.php/ml/article/download/7787/5043/20385>
46. ORIGINAL RESEARCH PAPER Dr. Monisha M Dr. Naneetha R - Worldwidejournals.com, accessed on January 26, 2026, https://www.worldwidejournals.com/paripex/recent_issues_pdf/2024/December/preserving-heritage-in-a-modern-world-a-cultural-analysis-of-the-paniya-tribal-community-in-the-nilgiris-district_December_2024_3128344799_9502959.pdf
47. NedunkayamPaniya CCA - Community Conserved Areas, accessed on January 26, 2026, <https://communityconservedareas.org/data/show/1007>
48. Sick cell anaemia control mission: Implementation of a comprehensive care model in Anuppur, Madhya Pradesh, accessed on January 26, 2026, <https://pmc.ncbi.nlm.nih.gov/articles/PMC11413877/>