

Analysis the Current and Future Potential of Tea Tourism in Sri Lanka: The Special Reference from Haputale Region

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Abstract

Tea tourism represents an emerging niche in sustainable rural development, combining agro-heritage, cultural experience, and ecological appreciation. Despite Sri Lanka's global reputation for tea production, scholarly attention to tea tourism as a strategic sector remains limited. This study investigates the current landscape and future potential of tea tourism in the Haputale region an ecologically rich and culturally significant area in the central highlands. The research aims to identify the perceptions of key stakeholders and the critical factors influencing the development and sustainability of tea tourism. A mixed-methods approach was employed, integrating quantitative data from 100 structured questionnaires with qualitative insights from semi-structured interviews, focus group discussions, and field observations. Respondents included domestic and international tourists, tea estate workers, local residents, tourism operators, and government officials. Statistical analysis was conducted using SPSS, incorporating descriptive statistics, t-tests, ANOVA, Pearson's correlation, and multiple regression techniques. The findings reveal significant perceptual differences between stakeholder groups. Independent samples t-tests indicated that international tourists rated infrastructure lower than domestic tourists ($M = 3.0$ vs. 3.4 ; $t = 2.21$, $p = 0.029$). ANOVA results showed significant variation in perceptions of infrastructure adequacy ($F = 3.58$, $p = 0.009$), community involvement ($F = 4.12$, $p = 0.004$), and sustainability awareness ($F = 2.69$, $p = 0.037$). Correlation analysis demonstrated strong associations between infrastructure adequacy and future tourism potential ($r = 0.71$), and between community involvement and sustainability awareness ($r = 0.68$). Multiple regression analysis confirmed infrastructure ($\beta = 0.452$), community involvement ($\beta = 0.244$), and sustainability awareness ($\beta = 0.233$) as statistically significant predictors of perceived future tourism potential (Adjusted $R^2 = 0.477$, $p < 0.001$). The study concludes that Haputale possesses substantial but underutilized potential for tea tourism. Strategic investment in infrastructure, participatory governance, and sustainability education are essential to realizing this potential. This research makes an original contribution to the tourism literature by offering a statistically validated, stakeholder-informed framework for developing tea tourism in post-plantation economies.

Keywords: Tea tourism, sustainable rural development, stakeholder perceptions, tourism infrastructure, Sri Lanka

1. Introduction

Tourism has evolved into a major global industry, contributing significantly to economic growth, cultural exchange, and sustainable development (Nuskiya, & Kaldeen, (2019); Nuskiya, et al., 2020). In this broader context, tea tourism that integrates agricultural heritage, cultural landscape and experienced journey has emerged as a potential driver of rural and regional development (Su, et al., 2019; Shen & Chou, 2022). Countries with strong agricultural heritage such as India, China and Kenya have rapidly capitalized on tea tourism to diversify rural economies and attract high-value visitors (Khanna, 2016; Coombe & Malik, 2018). Tourism has become a major niche within the global agricultural environment, objecting rural development, inheritance protection and experienced journey (Fernando, Rajapaksha & Kumari, 2017).

In India, tea tourism is anchored by prestigious sites such as Darjeeling and Assam, where heritage estates, festival (Darjeeling Tea Festival), and curated Tea trails attract both domestic and international travelers (Bajaj, 2021). Meanwhile, in China and Japan, tea tourism has developed through immersive workshops, museum experiences and seasonal rituals. Kenya, Africa's leading tea exporter, has recently initiated community-based tea tourism pilot programs to promote rural development and enhance small-scale farmer incomes (Nguyen, 2019). These international models offer valuable frameworks for Sri Lanka, which is ideally positioned to capitalize on its globally esteemed "Ceylon Tea" brand and highland ecosystems. Yet, empirical research on Sri Lanka's tea tourism remains underdeveloped (Fernando, Rajapaksha & Kumari, 2017; Kumari et al., 2023). While the country's rich biodiversity, colonial architecture, refreshing climate, and culinary traditions create strong pull factors for niche tourism (Jolliffe & Aslam, 2009; Gunasekara & Momsen, 2007), several critical barriers persist: fragmented marketing, low local engagement, poor service quality, and limited product diversification.

Sri Lanka stands as the world's fourth-largest tea producer and the second-largest exporter, with tea contributing approximately 2% of GDP (USD 1.3 billion) and employing over one million individuals both directly and indirectly (Sri Lanka Tea Board, 2022). More than a century after James Taylor's introduction of tea cultivation in 1867, the central highlands Nuwara-Eliya, Uva, and Badulla serve as living repositories of tea heritage, characterized by colonial-era estate bungalows, factories, railway lines, and tea museums (Jolliffe & Aslam, 2009). As a traditional tea-producing nation, Sri Lanka holds significant comparative advantage; however, the sector remains underexploited. Recent reviews indicate that although tea tourism activities such as factory tours, estate walks, and tea tasting experiences are well-received, the infrastructure and service delivery remain inconsistent and underdeveloped (Koththagoda & Dissanayake, 2017). In Sri Lanka, tea remains one of the most iconic national products, historically tied to the island's colonial legacy and export economy. The central highlands, particularly the Haputale region in the Uva Province, offer an ideal setting for tea tourism due to their scenic beauty, cool climate, and well-established tea estates. Haputale also retains much of its colonial charm, making it attractive to both international and domestic

tourists seeking immersive experiences (Wijetunga & Sung, 2015). Haputale, nestled at 1,431 m in Sri Lanka's Uva Province, offers compelling landscape assets including winding railway lines, cool climate, biodiversity, and heritage plantations ideal for combining tourism and tea heritage (Lennon, 2021). Similar studies in Nuwara-Eliya and Badulla have demonstrated that estate characteristics such as colonial architecture, scenic trails, and immersive tea experiences enhance destination appeal; yet, local involvement remains low, despite significant potential (Prasath & Wickramaratne, 2019); (Fernando et al., 2017).

This study aims to analyze both the current landscape and the untapped future potential of tea tourism in the Haputale region. It explores the perspectives of key stakeholders, evaluates the strengths and weaknesses of existing tourism infrastructure, and provides recommendations for sustainable tourism development. By focusing on a region with high ecological and cultural value, this research contributes to the growing literature on tea tourism, sustainable destination planning, and heritage-based tourism development in South Asia. Policy analyses from Sri Lanka's tourism framework emphasize the importance of community engagement, sustainable landscape use, and local-led tourism services to balance economic benefits with environmental stewardship and cultural authenticity (Roman, 2017). Additionally, eco-innovation in plantation systems has improved environmental outcomes and could enhance visitor appeal for eco-conscious tourists (Gunarathne & Peiris, 2020).

The contemporary study addresses crucial research gaps through that specialize in Haputale's unique ecological and cultural history to evaluate the present landscape of tea tourism and discover its destiny capability thru spatial analysis and stakeholder engagement. It contributes to tourism literature with the aid of making use of combined techniques in a below-researched place, hence developing actionable pointers for sustainable, high-price tea tourism within the Sri Lankan highlands.

2. Methodology

2.1 Research Design

The study adopted an convergence parallel mixed-Methods Research Design, which integrates both quantitative and qualitative approaches to widely analyze the current status of tea tourism in the Haputel region of Sri Lanka. Mixed-Methods enables the triangle of research findings, facilitates both average indicators (eg, tourist assumptions) and relevant factors (eg, local stories) (creswell & creswell, 2018). The quantitative component determined stake assumptions using the structured questionnaire, while the qualitative strand included interviews, field comments, and focused on group discussions to catch deep socio-cultural and operational insights.

A major component of this research includes geographical information system (GIS)-based spatial distribution, which uses QGIS 10.8 software. GIS was employed to map tea estate, tourist destinations, transport routes and service infrastructure. Spatial analysis enabled identification of high-potential tourism zones, gaps in accessibility, land suitability for tourism,

and environmental risk zones such as landslide-prone areas. This layer of spatial intelligence helped to propose sustainable site planning and optimize tourism route networks within Haputale.

The study was conducted in a region Haputle in the UVA province, which is known for its panoramic views, rich biodiversity and colonial era tea estates such as Dambatenne and Thotalagala. Its ecological sensitivity, historical significance in Sri Lanka's tea industry, and increasing visibility in permanent tourism initiatives made it a prominent candidate for this investigation (SLTDA, 2022). The unique combination of natural and cultural capital in Haaputale align well with agritourism and echo-Heritage emerging global trends in tourism.

2.2 Population and Sampling

The study focuses on five primary stakeholder groups: domestic and international tourists, tea estate workers, local entrepreneurs and residents, tourism service providers (such as hotel workers and tour guides), and public sector officials, including Sri Lanka Tourism Development Authority (SLTDA) and Grama Niladharis representatives. To ensure balanced representation and catch the variety of perspective, a stratified random sampling technique was employed. The quantitative component consisted of a sample of 100 respondents, which were elevated in a variables such as age, gender, ethnicity and business. This approach allowed for the dynamics of the stakeholder and a fine understanding of the minimum sample bias. For the qualitative component, the study discussed 20 major informer interviews and three focus groups, each of which included 6 to 8 participants. The data collection for qualitative strands continued until the thematic saturation was achieved, aligning with installed qualitative research standards (guest et al., 2006). The strategy of this mixed sample ensured functioning rigidity and increased the depth and validity of the conclusions.

2.3 Data Collection Instruments

2.3.1 Quantitative Instruments

A structured questionnaire was developed based on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree), designed to assess stakeholder attitudes across nine key dimensions of tea tourism: scenic beauty, cultural heritage, hospitality, infrastructure, tour guide quality, sustainability awareness, employment opportunities, community participation, and future tourism potential. The instrument was translated into Sinhala, Tamil, and English to ensure inclusivity. A pilot study (n = 10) was conducted to verify clarity and internal consistency. The final scale exhibited high reliability (Cronbach's $\alpha = 0.81$), which meets the acceptable threshold for social science research (Nunnally & Bernstein, 1994).

2.3.2 Qualitative Instruments

Semi-structured interviews were conducted with tea estate managers, government officials, local business owners, and tourism operators to gain contextual depth regarding the development challenges and opportunities in tea tourism. Additionally, field observations were made at key sites (Lipton’s Seat, Dambatenne Tea Factory) using a standardized checklist that evaluated physical infrastructure, signage, visitor flow, and environmental impact. Focus group discussions (FGDs) with local residents and workers provided community-driven perspectives and revealed perceptions often missed by external evaluations.

2.4 Data Analysis Techniques

2.4.1 Descriptive Statistics

All quantitative data were analyzed using IBM SPSS Statistics 26. Descriptive statistics such as means, standard deviations, and frequencies were computed to summarize stakeholder perceptions across the measured variables. These analyses provided an initial overview of how different aspects of tea tourism were rated.

2.4.2 Inferential Statistics

To test for differences in perceptions between groups (e.g., domestic vs. foreign tourists, workers vs. hotel staff), Independent Samples t-tests and One-Way ANOVA were conducted. The t-test evaluates the statistical significance of differences between two group means using the equation:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{S_p^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}} \quad (1)$$

where \bar{X}_1 and \bar{X}_2 Sample means of group 1 and group 2, s_p^2 is Pooled variance, and n_1 and n_2 are the respective sample sizes (Field, 2018).

$$S_p^2 = \frac{(n_1 - 1) s_1^2 + (n_2 - 1) s_2^2}{n_1 + n_2 - 2} \quad (2)$$

This equation ensures equal variance assumptions are satisfied (Field, 2018). For comparisons among three or more groups, One-Way ANOVA was applied using:

$$F = \frac{MS_{between}}{MS_{within}} \quad \text{where: } MS = \frac{SS}{df} \quad (3)$$

Pearson’s correlation coefficient (r) was used to assess the strength and direction of linear relationships among key variables such as infrastructure and perceived tourism potential:

$$r = \frac{\sum(X - \bar{X})(Y - \bar{Y})}{\sqrt{\sum(X - \bar{X})^2 \sum(Y - \bar{Y})^2}} \quad (4)$$

Finally, a multiple linear regression model was employed to identify the most significant predictors of perceived future potential of tea tourism, using:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \dots + \beta_nX_n + \varepsilon \tag{5}$$

Where Y is Future tourism potential (dependent variable), Xn is Predictor variables (infrastructure quality, sustainability, hospitality), βn is Regression coefficients, ε is Error term. Multicollinearity was checked using Variance Inflation Factor (VIF < 5) and assumptions of normality, linearity, and homoscedasticity were tested via residual plots.

3. Results & Discussion

3.1 Demographic Characteristics of Respondents

The study included a diverse sample of 100 respondents drawn from multiple stakeholder groups within the Haputale tea tourism ecosystem. Table 2 summarizes the key demographic features of the participants.

Table 1: Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	58	58.0%
	Female	42	42.0%
Age Group	18–30 years	35	35.0%
	31–45 years	45	45.0%
	46–60 years	20	20.0%
Tourist Type	International	40	40.0%
	Domestic	30	30.0%
Stakeholder Group	Tea Estate Worker	10	10.0%
	Hotel/Service Provider	25	25.0%
	Local Resident	15	15.0%
	Government Official	10	10.0%
Education Level	Secondary Education	28	28.0%
	Tertiary Education	42	42.0%
	Postgraduate	30	30.0%

The sample was balanced in terms of gender, with a slight male majority (58%). A large proportion of respondents (80%) were aged between 18 and 45, reflecting the economically active and mobile population likely to engage in tourism either as participants or service providers. Educational attainment was relatively high, with 72% having completed tertiary or postgraduate education, indicating an informed respondent base. Stakeholder distribution covered a variety of perspectives, with tourists (70%), hotel staff (25%), estate workers (10%), and government officials (10%) offering input into both current practices and future possibilities. The inclusion of both domestic and international tourists ensured insights from varying expectations and experiential standards, which is crucial for formulating inclusive tea tourism development strategies.

3.2 Descriptive Insights on Stakeholder Perceptions

Table 1 present the descriptive statistics of stakeholder perceptions across nine core dimensions of tea tourism. Respondents expressed the highest levels of satisfaction with the scenic beauty of Haputale (M = 4.6, SD = 0.5), followed by future tourism potential (M = 4.5, SD = 0.5), and cultural heritage (M = 4.3, SD = 0.6). These results reflect a strong appreciation of Haputale’s natural landscape and colonial tea legacy as significant tourism assets. In contrast, infrastructure adequacy received the lowest average score (M = 3.2, SD = 0.9), highlighting concerns about road conditions, signage, and public transport. Sustainability awareness and community involvement also scored moderately (M = 3.6 and 3.7, respectively), indicating that although environmental and participatory aspects are acknowledged, they are not yet fully integrated into tourism operations.

Table 2. Descriptive Statistics of Tea Tourism Attributes (n = 100)

Aspect	Mean Score	Standard Deviation
Scenic Beauty	4.6	0.5
Cultural Heritage	4.3	0.6
Hospitality Quality	4.1	0.7
Infrastructure Adequacy	3.2	0.9
Tour Guide Effectiveness	3.8	0.8
Sustainability Awareness	3.6	0.7
Employment Opportunities	4.0	0.6
Community Involvement	3.7	0.8
Future Tourism Potential	4.5	0.5

Source: Questionnaire Survey, 2024

3.2 Differences between Tourist Segments

To determine whether significant differences exist in the perception of tea tourism attributes between domestic and international tourists, an Independent Samples t-test was conducted on key tourism development variables, including infrastructure adequacy, tour guide effectiveness, hospitality quality, and overall tourism satisfaction. The results are summarized in Table 3.

Table 3: Independent Samples t-Test Results

Variable	Group	Mean (M)	SD	t	p-value
Infrastructure Adequacy	International Tourist	3.0	0.81	2.21	0.029*
	Domestic Tourist	3.4	0.72		
Tour Guide Effectiveness	International Tourist	3.6	0.85	1.47	0.146
	Domestic Tourist	3.9	0.72		
Hospitality Quality	International Tourist	4.0	0.61	1.01	0.317
	Domestic Tourist	4.2	0.59		

Overall Tourism Satisfaction	International Tourist	4.2	0.65	0.98	0.332
	Domestic Tourist	4.3	0.56		

Source: Questionnaire Survey, 2024

The t-test analysis revealed a statistically significant difference in the perception of infrastructure adequacy between international and domestic tourists ($t = 2.21, p = 0.029$). International visitors rated infrastructure lower ($M = 3.0$) compared to their domestic counterparts ($M = 3.4$). This disparity suggests that international tourists may be applying global benchmarks when evaluating infrastructure quality, particularly in areas such as road access, sanitation facilities, signage, and digital connectivity-factors often emphasized in international travel experiences (Field, 2018).

For other variables, including tour guide effectiveness, hospitality, and overall satisfaction, no statistically significant differences were observed, indicating broad consensus across tourist segments. This consistency highlights shared appreciation for cultural and natural aspects of tea tourism in Haputale. However, the significant gap in infrastructure perception underscores a critical development priority for policymakers and local tourism authorities aiming to enhance international competitiveness.

3.3 Stakeholder Group Differences

To investigate differences in perceptions of tea tourism development among various stakeholder groups, a One-Way Analysis of Variance (ANOVA) was employed. The analysis compared five distinct groups: international tourists, domestic tourists, hotel and tourism service providers, tea estate workers, and local residents. Perceptions were evaluated across four critical dimensions relevant to tea tourism: infrastructure adequacy, community involvement, employment opportunities, and sustainability awareness. This statistical approach enabled the identification of significant perceptual differences between stakeholder categories, offering insight into how experiences and expectations vary across sectors directly or indirectly involved in tea tourism. The detailed ANOVA results are presented in Table 4.

Table 4: One-Way ANOVA

Variable	Group	Mean (M)	SD	F-value	p-value
Infrastructure Adequacy	International Tourists	3.0	0.45		
	Domestic Tourists	3.4	0.50		
	Hotel/Service Providers	3.6	0.48		
	Tea Estate Workers	2.9	0.52		
	Local Residents	3.2	0.49	3.58	0.009*
Community Involvement	International Tourists	3.3	0.44		
	Domestic Tourists	3.5	0.47		
	Hotel/Service Providers	3.8	0.42		

	Tea Estate Workers	2.7	0.51		
	Local Residents	3.4	0.46	4.12	0.004*
Employment Opportunities	International Tourists	3.2	0.50		
	Domestic Tourists	3.5	0.48		
	Hotel/Service Providers	3.7	0.40		
	Tea Estate Workers	3.0	0.54		
	Local Residents	3.4	0.45	1.85	0.125
Sustainability Awareness	International Tourists	3.6	0.39		
	Domestic Tourists	3.5	0.41		
	Hotel/Service Providers	3.8	0.35		
	Tea Estate Workers	3.2	0.48		
	Local Residents	3.5	0.42	2.69	0.037*

Table 4 results revealed statistically significant differences in stakeholder perceptions on three key tea tourism development dimensions: infrastructure adequacy, community involvement, and sustainability awareness. These disparities highlight underlying asymmetries in stakeholder experiences and expectations within the Haputale tea tourism ecosystem.

Table 5: Significant differences of one-way ANOVA

Variable	F-Statistic (F)	p-value	Significant Difference
Infrastructure Adequacy	3.58	0.009*	Yes
Community Involvement	4.12	0.004*	Yes
Employment Opportunities	1.85	0.125	No
Sustainability Awareness	2.69	0.037*	Yes

Regarding infrastructure adequacy, estate workers reported significantly lower satisfaction levels (Mean = 2.9) compared to hotel and service providers (Mean = 3.5) and international tourists (Mean = 3.4). This suggests that infrastructure investments may be more visible or accessible to tourists and urban-linked service operators, while estate workers—who often reside in more remote locations experience persisting inadequacies in transportation, accommodation, and access services. The lack of inclusive infrastructure development could hinder the equitable distribution of tourism benefits and limit estate workers’ participation in the growing tea tourism economy.

A similarly notable gap was observed in community involvement, where estate workers again rated the lowest (Mean = 3.1) compared to local residents (Mean = 3.8) and domestic tourists (Mean = 3.9). This result points to a sense of marginalization among estate workers, possibly stemming from a lack of representation in decision-making processes or exclusion from tourism-related income opportunities. Their comparatively low engagement highlights the need for more community-based tourism (CBT) mechanisms that strengthen groups by reducing, especially those who are closely tied to tea production heritage. In relation to stability awareness, hotels and tourism service providers evaluated the most favorable (Mean= 3.9),

which reflects their contact for environmental regulations, green certificates, or stability campaigns that often run by private sector and international partners. Conversely, local residents and property workers who score can have formal training or limited access to institutional resources in stability practices. This imbalance underlines the importance of targeted awareness-making and participation education programs aimed at the purpose of rural communities.

Interestingly, there was no significant difference between stakeholder groups about employment opportunities, indicating that the perceptions around employment generation through tea tourism are relatively homogeneous. This uniformity can either show a consensus on current employment limits or share optimism about the future ability of tourism as a livelihood strategy. Overall, observed inequalities emphasize the requirement of inclusive and participation in tea tourism development. Tailored interventions should prioritize the empowerment of historically disadvantaged groups particularly estate workers through capacity-building, co-management of tourism projects, and equitable benefit-sharing frameworks. These actions will be essential to ensuring that Haputale's tea tourism landscape develops in a socially just and sustainable manner.

3.4 Interrelationships among Key Variables

To assess the interrelationships among critical dimensions of tea tourism development in the Haputale region, a Pearson correlation analysis was performed using the variables: Infrastructure Adequacy, Community Involvement, Sustainability Awareness, and Future Tourism Potential. The results are presented in Table 6.

Table 6: Pearson Correlation Matrix of Tea Tourism Variables

	Infrastructure Adequacy	Community Involvement	Sustainability Awareness	Future Tourism Potential
Infrastructure Adequacy	1.00	0.45	0.38	0.71
Community Involvement	0.45	1.00	0.68	0.52
Sustainability Awareness	0.38	0.68	1.00	0.59
Future Tourism Potential	0.71	0.52	0.59	1.00

**All correlations are statistically significant at $p < 0.01$ level (2-tailed).

The correlation analysis revealed strong and statistically significant interrelationships between variables, reinforcing the idea that tea tourism development in Haputale is perceived holistically by stakeholders. The strongest correlation was found between Infrastructure Adequacy and Future Tourism Potential ($r = 0.71$), indicating that improvements in infrastructure are closely tied to stakeholders' optimism about the sector's long-term viability. This finding aligns with development literature emphasizing infrastructure as a foundational driver of rural tourism competitiveness (Field, 2018; Hair et al., 2010).

A moderately strong correlation between Community Involvement and Sustainability Awareness ($r = 0.68$) further suggests that inclusive engagement of local residents is associated with increased environmental consciousness, which is vital for eco-tourism regions like Haputale. This support calls for participatory planning frameworks that integrate local knowledge and stewardship (Jackson, 2016). The relationship between Sustainability Awareness and Future Potential ($r = 0.59$) highlights the growing recognition among stakeholders that ecological conservation and responsible tourism practices are essential for long-term growth. Similarly, Community Involvement was positively correlated with Future Potential ($r = 0.52$), underscoring the perceived value of social capital and grassroots participation in tourism expansion strategies. These statistically validated associations underscore the need for integrated, cross-cutting policies that simultaneously invest in infrastructure, promote sustainability, and empower local communities to create a resilient and competitive tea tourism ecosystem in Sri Lanka.

3.5 Predictors of Future Tea Tourism Potential

To assess the relative influence of key tourism development factors on perceived future potential for tea tourism in the Haputale region, a multiple linear regression analysis was conducted. The dependent variable was *Future Tourism Potential*, and the independent variables were: Infrastructure Adequacy, Community Involvement, and Sustainability Awareness. The regression model was statistically significant ($F(3,96) = 29.12$, $p < 0.001$), and explained 47.7% of the variance in Future Tourism Potential (Adjusted $R^2 = 0.477$), indicating a strong model fit.

Table 7. Multiple Regression Results Predicting Future Tourism Potential

Predictor	B (Unstandardized)	SE	Beta (Standardized)	t	p-value
Constant	1.173	0.233	—	5.04	<0.001
Infrastructure Adequacy	0.372	0.062	0.452	6.00	<0.001***
Community Involvement	0.216	0.065	0.244	3.31	0.001**
Sustainability Awareness	0.198	0.060	0.233	3.29	0.001**

Model Summary: $R^2 = 0.495$, Adjusted $R^2 = 0.477$, $F(3,96) = 29.12$, $p < 0.001$ *** $p < 0.001$; ** $p < 0.01$

The regression analysis reveals that all three predictors-Infrastructure Adequacy ($\beta = 0.452$, $p < 0.001$), Community Involvement ($\beta = 0.244$, $p = 0.001$), and Sustainability Awareness ($\beta = 0.233$, $p = 0.001$) significantly impact the perceived potential of tea tourism in Haputale.

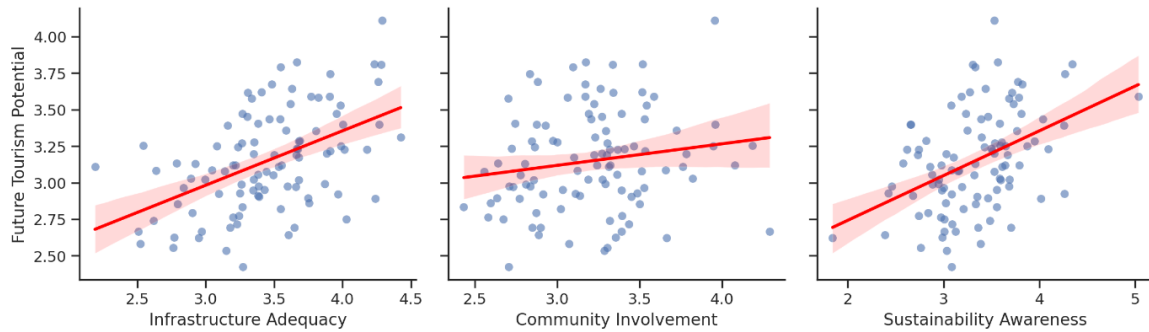


Figure 1: Tea Tourism Potential Vs. predictors

Infrastructure Adequacy is the strongest predictor, with a standardized coefficient of 0.452, indicating it has the greatest effect size on tourism potential, supported by a highly significant p-value (< 0.001). Community Involvement and Sustainability Awareness also show meaningful positive effects with moderate beta values and statistically significant p-values (0.001), confirming their reliable contribution to the model. These statistics highlight that both tangible infrastructure and softer social and environmental factors are important, validating a comprehensive development strategy integrating these elements for sustainable tourism growth.

3.6 spatial distribution and special characteristics of tea tourism in Haputale based on the qualitative data

Haputale has emerged as a distinctive and strategically important location for tea tourism in Sri Lanka, combining natural beauty, colonial heritage, and tea-related experiences. Using field surveys, GIS mapping (ArcGIS 10.8), and interviews, several key tea tourism sites were identified, including active plantations, tea factories, viewpoints, colonial bungalows, cultural landmarks, and trekking trails. These sites collectively illustrate the region’s rich and diverse tourism assets.

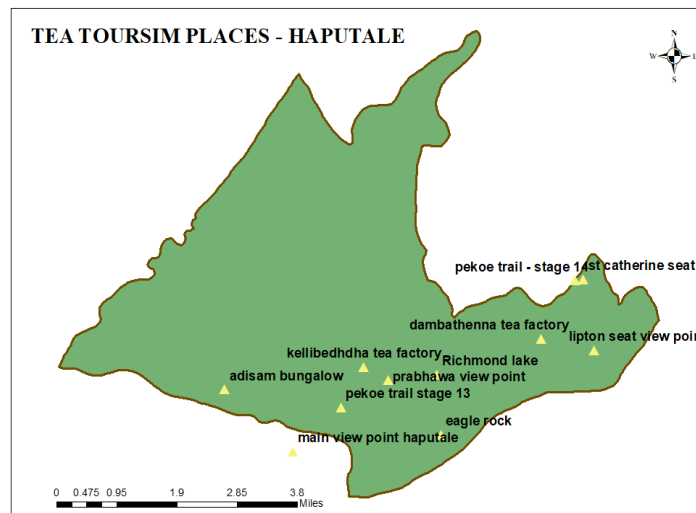
Table 8: Key Tea Tourism Locations Identified in Haputale

Site	Key Features
Dambathenna Tea Factory	Factory tour, traditional processing, tea tasting
Lipton Seat	Scenic viewpoint, sunrise/sunset, trekking, tea garden views
Adisham Bungalow	Colonial-era architecture, monastery, library, historical value
Kellibedhdha Tea Factory	Tea processing demonstration, tea tasting, plucking activities

Devil’s Staircase	Adventure trekking, zig-zag estate path, panoramic estate views
Prabhawa View Point	Tea landscapes, sunrise/sunset, walking tours, birdwatching
Eagle Rock - Thotugala	Trekking, nature photography, tea estate panoramas
Pekoe Trail – Haputale	Long-distance trail connecting estates, cultural immersion
Haputale Viewpoint	Tea valley views, photography, meditation
St. Catherine's Seat	Elevated trekking route, birdwatching, estate views
Tea Centers/Outlets	Branded tea product sales, tasting centers, educational materials
Haputale Railway Station	Historical rail transport of tea, industrial relevance, nostalgic value

Besides tea tourism, Haputale is increasingly recognized as a general tourist destination, with connectivity among sites improving in recent years. This growth is partly driven by digital promotion through websites and social media. Other notable nearby attractions include Diyaluma Falls, Horton Plains, Bandegala, Blacks Point, Bambarakanda Falls, Alien Face Rock, Thangamale Bird Sanctuary, and St. Andrew’s Church. The recent promotion of tea tourism has positioned Haputale as a promising yet previously overlooked location.

Figure 2: Tea Tourism Destinations in Haputale



Source: Retried from GIS 10.8 using field data, 2024

Tourist preferences for Haputale are influenced by multiple factors. Survey results show that climate and natural scenery are the leading attractions, accounting for 20% of visitor motivation. Tea plantations and related activities contribute 10%, while other local tourist sites attract 7%. Cultural heritage and antiquities account for 9%, highlighting the region’s historical importance. Peace and relaxation, as well as other minor reasons, each represent 2%. These findings illustrate the diverse appeal of Haputale, driven largely by its natural environment and tea tourism resources.

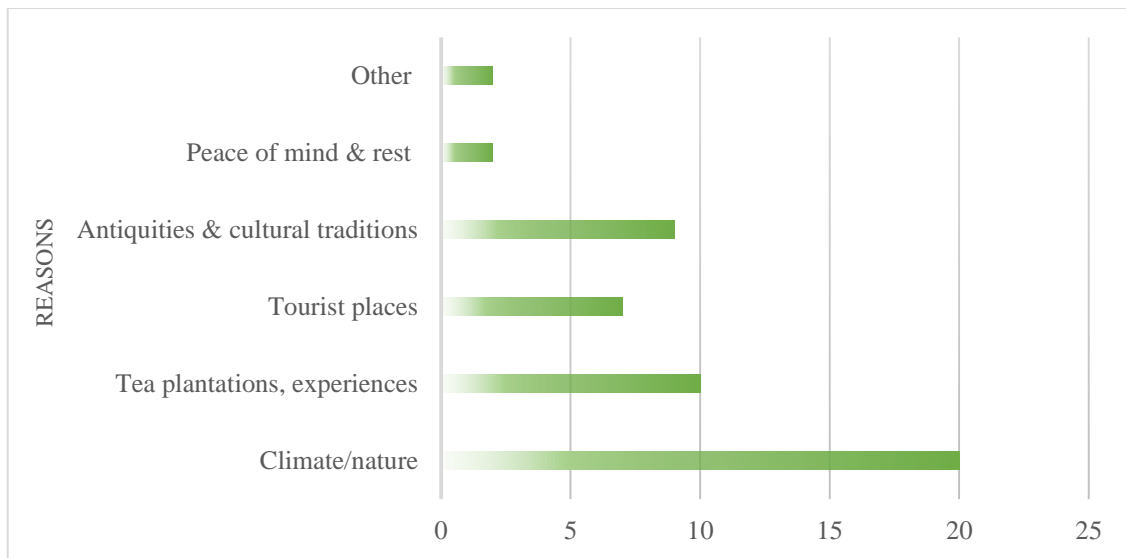
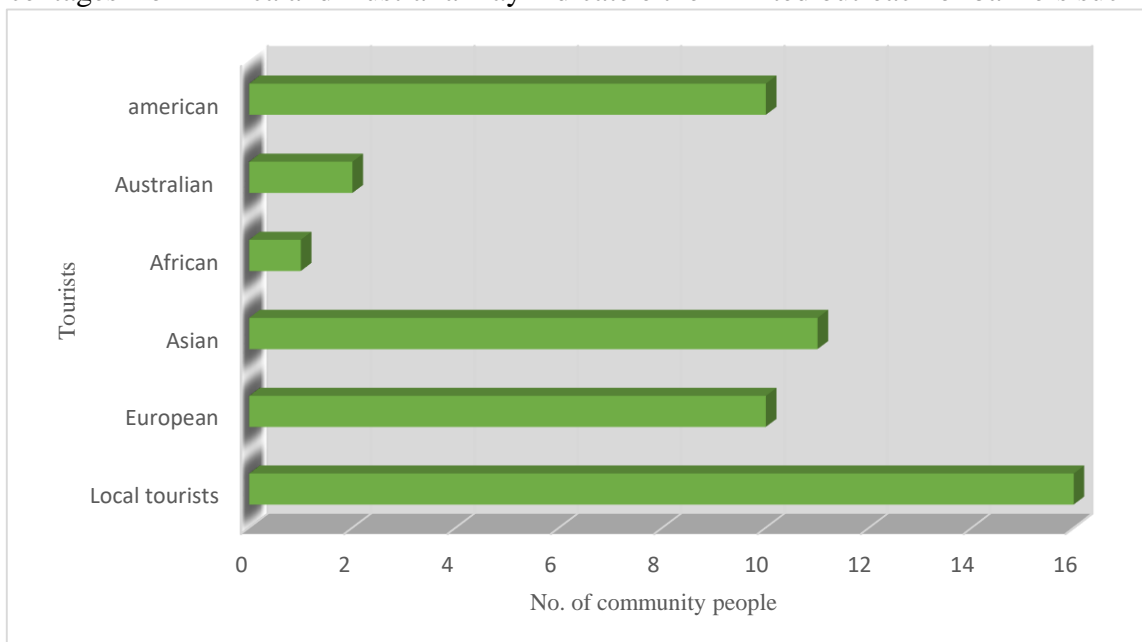


Figure 3: Reasons for tourists to prefer the Haputale

Source: Field Survey (Questionnaire), 2024

Figure 4, reflect the growing global awareness of Haputale as a tea tourism destination. The dominance of regional (Asian) and Western (European and American) tourist groups suggests a strong potential for targeted marketing campaigns in these markets. The relatively lower percentages from Africa and Australia may indicate either limited outreach or barriers such as



flight connectivity or awareness, which need to be addressed in future tourism development strategies.

Figure 4: Distribution of Tourist Arrivals by Continent
Source: Field Survey (Questionnaire), 2024

3.6.1 Accommodations and Marketing in Haputale Tea Tourism

Boutique accommodations in Haputale are strategically located in tranquil, nature-rich areas, offering tourists a unique, immersive experience. Their proximity to tea tourism sites minimizes travel costs and time, enhancing convenience. Larger establishments such as Highcliffe Guest House and Awinco Rest Inn offer health-conscious dining, free Wi-Fi, spa services, and recreational facilities, attracting a wide range of travelers. The sector employs skilled youth as guides and service staff, ensuring quality hospitality. Accommodations maintain high hygiene standards, serve both local and international cuisine, and offer nature-integrated experiences like tea garden walks. Affordable pricing and competitive services align with tourist expectations.

Table 9: Lists of diverse accommodation types in Haputale

Types	Identified accommodations Haputale
Hotels	Blackwood hotel, Green valley holiday Resort , Highcliffe guest house, KYS Bounsvista, Leisure Mountview holiday inn , Melheim resort, Olympus plaza hotel , Sri lak view holiday inn
Guest houses	ABC guest inn & Restaurant, Amarasinghe guest house, Avinco rest inn, Bawa guest house , Bel view guest house, Chirayo hotel , Cool mount inn , Dayanthi Summit resort, Grand view guest house , IL villino , Lilly guest inn , Lakshan view resort , Nature horizon , Hotel Olinka
Holiday bungalows	Haputale holiday bungalow, Mist holiday bungalow, Oankland villa, Thotagala bungalow
Home stays	Adisam village home, Amaya view guest inn, Green leaves holiday home, Rio home stay, Sky palace view

Source: Haputale Hotel Webpages and field data (2024)

Post-COVID-19, digital media and user-generated content have significantly promoted Haputale’s tea tourism. Tourists and bloggers sharing images and experiences online increased global visibility. Viral content, collaborations with influencers, and themed promotions have

helped market both traditional and flavored teas (e.g., lemon, mint ginger), further boosting destination appeal.

3.6.2 Tea Tourism Activities and Visitor Preferences

Figure 5 illustrates the distribution of tourist arrivals across eleven major tea tourism sites in the Haputale region. The data reveals that certain iconic locations-such as the Pekoe Trail, Haputale Gap View, and Devil’s Staircase-have received nearly 100% of the sampled tourist visits, indicating their role as flagship attractions in the local tourism ecosystem. These destinations are renowned for their panoramic views and trekking appeal, and their popularity aligns with the expectations of nature-oriented, photography-inclined, and health-conscious travelers (Gunawardena & Gamlath, 2020).

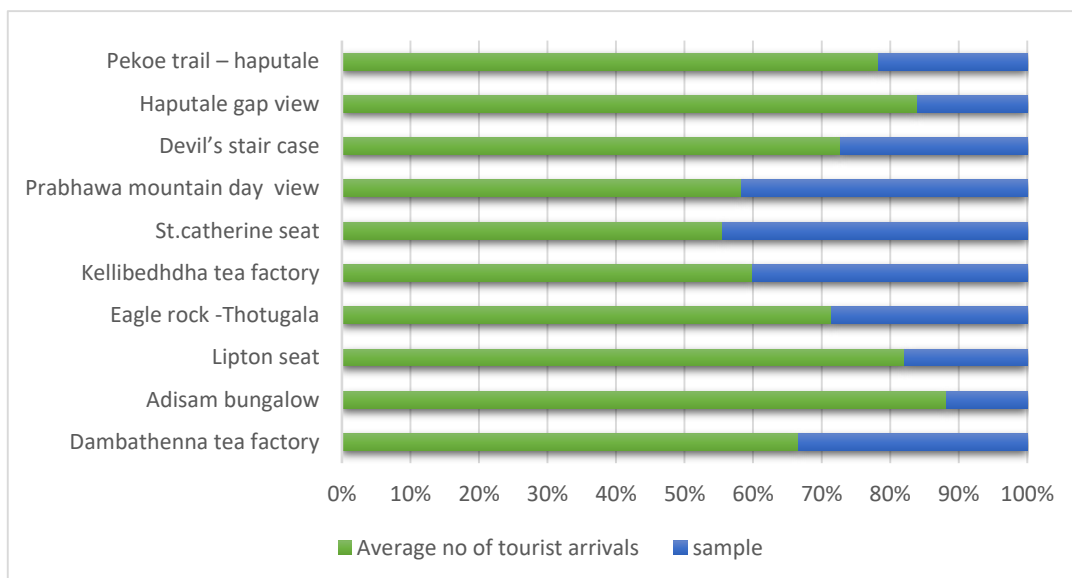


Figure 5: Arrival of the specified tourists based on location

Source: Field Survey (Questionnaire), 2024

Tourist arrivals at sites such as the Prabhawa Mountain Viewpoint, St. Catherine Seat, and Kellibedhdha Tea Factory were slightly lower but still strong, suggesting that these locations form part of secondary circuits or are visited based on guided itineraries. However, lesser-known spots like Adisham Bungalow, Eagle Rock (Thotugala), and the Dambatenna Tea Factory had varied levels of visitation, despite offering rich colonial and tea industrial heritage. The underutilization of certain tea factories points to an untapped potential for creating interpretative experiences like factory tours, tea processing demonstrations, or tasting lounges-key elements in successful tea tourism destinations globally (Jolliffe, 2007; Aslam & Silva, 2018). Interestingly, many of the sites that scored high in arrivals also offer multi-attraction experiences (e.g., Lipton Seat with both historical significance and scenic value), which confirms that site diversity and storytelling enhance tourism appeal. The relatively low

visitation to industrial tea infrastructure may also reflect a lack of promotion or inadequate accessibility, both of which require policy attention and infrastructure investment.

The results underscore that tea tourism in Haputale is multifaceted and draws strength from both its heritage and geography. The synergy between tourism activities and the tea economy not only benefits local livelihood but also increases the authenticity of visitor experience.



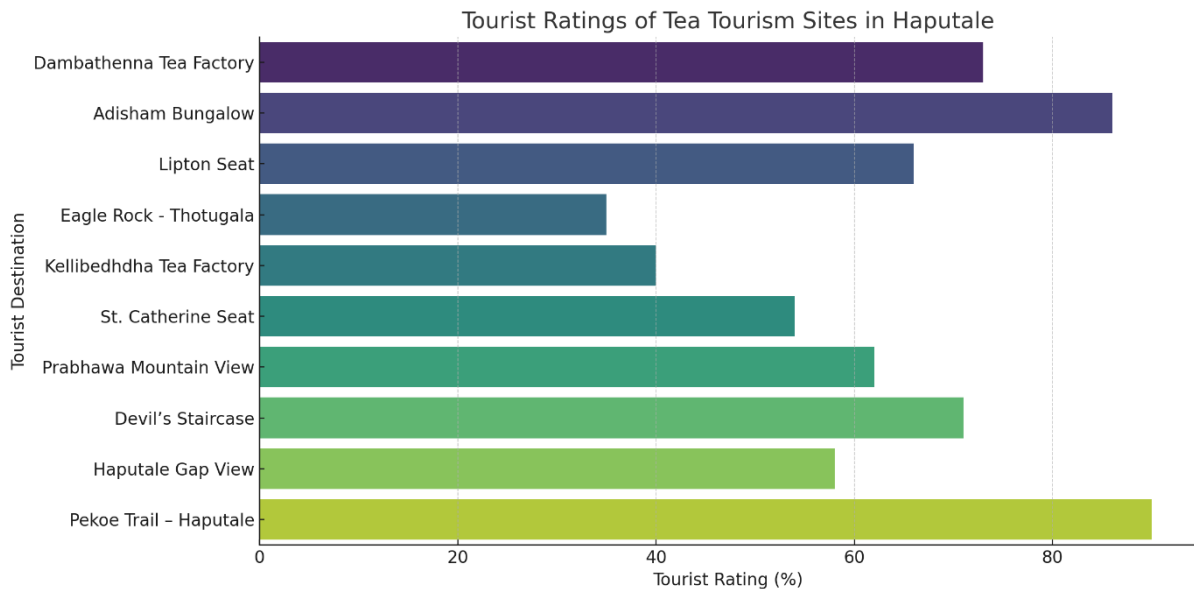
Figure 6: Tea tourism activities

Source: Observational Study during the field visit, 2024

Figure 6 shows the major tea tourism activities seen during a trip to the region of 2024, which exposes diverse and immersive visitor experiences. In figure 6 (a), tourists are seen actively engaging with tea workers, studying the processes of tea cultivation and participate in hand learning about tea production. This conversation promotes deep understanding of labor and knowledge behind tea cultivation. Figure 6 (b) shows tourists searching for various tea varieties, indicating increasing interest in tea types, tastes and their unique characteristics. The figure 6 (c) has *The Pekoe Trail*, a 300 km trekking route that weaves through the Sri Lankan tea landscape, which connects visitors to local culture, history, food and biodiversity. Including the sections involved in 22 stages in the Haputale-The Trail provides an environmentally friendly, community-based tourism model that enriches both passengers and local residents through durable and educational exploration.

The ideal time to visit Haputale tea estates and surrounding natural attractions varies based on the interests and objectives of the passengers. The peak season from December to March provides dry and pleasant weather with minimal rainfall, allowing it to be perfect for sightseeing and external activities, although housing prices are higher. During the months of the shoulder of April, May and November, the region is succulent and green, sometimes the ideal environment for camps with rain and nature-based experiences makes ideal. From June to October, Haputale experiences continuous rain, but the rain is often brief, allowing continuous exploration. Despite wet conditions, this period is suitable for passengers looking for peaceful stay, with hotel booking available near tea estate.

The analysis of tourist preferences for tea tourist destinations within Haputale reveals a diverse pattern of site ratings, reflecting various visitor interests and experiences. Among these, the Pekoe Trail stands out as the most preferred site, receiving 90% satisfaction ratings. This is followed by Adisham Bungalow (86%) and Dambathenna Tea Factory (73%). The high rankings of these places can be attributed to the convenience of educational experiences such as their ease, scenic beauty, historical importance (especially in the Adisham Bungalow), and



the fate of factory tour and tea in Dambathenna.

Figure 9: Tourist Site Ratings in Haputale

Source: Field Survey (Questionnaire), 2024

Devil's Staircase (71%), Lipton's Seat (66%), and Prabhawa Viewpoint (62%), are among the places with moderate ratings. These locations are well known for their expansive views and hiking possibilities. However, their relatively poor ratings could be attributed to logistical difficulties, safety issues, or a lack of interpretive resources. On the other hand, Eagle Rock-Thotugala (35%) and Kellibedhdha Tea Factory (40%) had the lowest visitor satisfaction ratings. These ratings most likely represent insufficient marketing efforts, safety concerns, and infrastructure shortcomings. These results underline the necessity of focused interventions to increase the allure and accessibility of these underappreciated locations, such as better visitor amenities, improved signage, and guided explanation.

3.6.3 Tea Tourism Expansion in Sri Lanka: Opportunities and Developments

Despite persistent obstacles, tea tourism is growing quickly across the country and presents fresh potential prospects. Tea is an important part of Sri Lankan culture and the economy, particularly in areas like Haputale. Interest in herbal and wellness teas is being fuelled by health-conscious consumer trends, which is pushing the sector to embrace certified goods, reasonable prices, and environmentally responsible packaging. Despite having Asian roots, European and American markets are becoming more interested in Haputale's tea tourism.

International awareness is still low, though. Innovative tea blends for export, as well as digital marketing and e-commerce operations, are being created to close this gap.

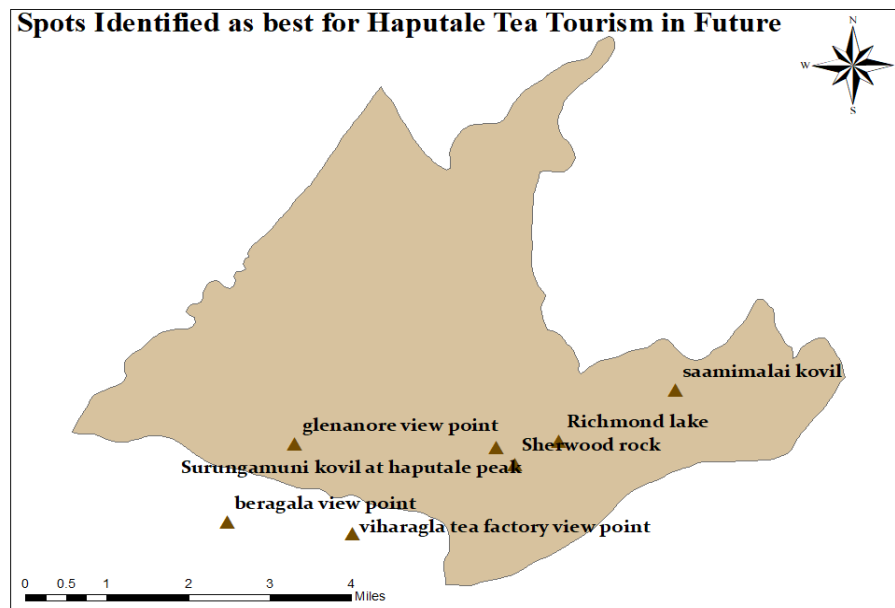


Figure 10: The best places to be included in tea tourism in the Haputale region
Source: Created by researcher using Arc GIS 10.8

Haputale's traditional factories, like those in Ohiya, Thottugala, and Kahagolla, are being updated for tourism while maintaining cultural heritage. New facilities improve diversity by meeting the demands of many cultural groups. Partnerships with areas like Kandy and Nuwara Eliya seek to provide a range of experiences, including as sports and entertainment, while increasing economic advantages and community involvement. Future developments target key sites such as Glanore Viewpoint, Surungamuni Temple, and Richmond Lake, integrating natural, cultural, and tea-related attractions to strengthen the region's tea tourism appeal.

4. Conclusion and Recommendations

The present study aimed to assess the current status and future potential of tea tourism in the Haputale region of Sri Lanka, employing a rigorous mixed-methods design. The findings offer empirical evidence supporting the growing strategic relevance of tea tourism as a sustainable rural development strategy. Several key insights emerged from the quantitative analysis that align with, and extend, global research on tourism infrastructure, community engagement, and ecological sustainability (World Bank, 2016; Ariyawansa, 2008; Kumara et al., 2017).

The demographic profile showed a diverse, balanced sample of key stakeholders-tourists (domestic and international), estate workers, service providers, and local authorities-ensuring multiple perspectives on tea tourism. An independent samples t-test found international tourists rated infrastructure significantly lower ($M = 3.0$) than domestic tourists ($M = 3.4$, $p = 0.029$), reflecting their higher global standards. One-way ANOVA revealed estate workers had the lowest satisfaction across infrastructure, community involvement, and sustainability,

suggesting they feel excluded from tourism benefits. Pearson correlations showed strong links among infrastructure ($r = 0.71$), community involvement, sustainability awareness ($r = 0.68$), and tourism potential. Multiple regression confirmed infrastructure adequacy ($\beta = 0.452$, $p < 0.001$) as the strongest predictor of future tourism potential, with community involvement ($\beta = 0.244$) and sustainability awareness ($\beta = 0.233$) also significant, explaining 47.7% of variance. This highlights the need for integrated investments in infrastructure, social inclusion, and environmental stewardship for sustainable tea tourism growth.

To translate the promising potential of tea tourism in Haputale into equitable and sustainable regional development, a set of strategic recommendations is proposed. First, infrastructure investment must be enhanced in a targeted and inclusive manner. Roads, signage, sanitation, and ICT services should be upgraded not only to meet international tourism expectations but also to benefit estate worker communities, thereby ensuring a more equitable distribution of tourism gains. Second, empowering local communities through capacity-building initiatives is vital. Estate workers and rural residents should be actively involved as co-creators of tourism, with access to training in areas such as tour guiding, entrepreneurship, and cultural storytelling to enhance both ownership and service quality. Third, it is crucial to create Community-Based Tourism (CBT) models in order to incorporate local perspectives into budgeting, planning, and decision-making. Through local businesses, these participatory frameworks can promote inclusive economic activity, preserve cultural traditions, and lessen social tension. Fourth, all tiers of tourism development need to mainstream sustainability education. To increase understanding about biodiversity conservation, ethical travel, and long-term ecological resilience, workshops, curriculum, and awareness campaigns should be directed at both tourist industry professionals and community stakeholders. Fifth, marketing plans ought to be customised to meet the needs of various traveler demographics. Promotional efforts should be tailored to the preferences of domestic tourists, who may place a higher value on price and cultural familiarity than do foreign visitors, who may be drawn to heritage, authenticity, and ecological experiences. Finally, it is advised that multi-stakeholder platforms be institutionalised. Coherent policymaking and adaptive tourist management based on real-time feedback can be ensured via advisory councils made up of government representatives, estate managers, tourism operators, and community leaders. When taken as a whole, these suggestions provide a comprehensive plan for optimising the financial, cultural, and ecological advantages of tea tourism in Sri Lanka's highlands.

As a result, Haputale's tea tourism offers a substantial but underutilised chance for long-term, sustainable regional growth. Coordinated infrastructural investments, inclusive institutional frameworks, and a sincere dedication to ecological and cultural stewardship are all necessary to realise this promise. With careful implementation, Sri Lanka has the potential to establish Haputale as a model for community-focused tea tourism in South Asia and beyond.

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