

Job Satisfaction and Labor Turnover in the Tea Plantation Sector in Sri Lanka

Dr. MBM. Amjath¹, M.S. Fuaathus Shamir²

¹*Senior Lecturer, Department of Accountancy & Finance, SEUSL*

²*(SEU/ FMC- PG/ 14/ MBA/ 047)*

Abstract--

Objective: The main objective of this study is to examine the factors influencing the intention of workers in the tea plantation sector to out-migrate and to formulate strategies to mitigate this trend.

Methodology: The study employed a mixed-methods approach using surveys and interviews in Nuwara Eliya tea estates, examining how individual, social, and attitudinal factors influence laborers' intention to out-migrate based on a structured conceptual framework. As the tea estate laborers population was 297,894, the sample size was calculated at 95% confidence level was as 384 sample size. The primary data were collected by using a five-point Likert scale and the secondary data were mainly used for explaining the findings and compare them with existing research findings. Descriptive and inferential statistics were analyzed with the assistance of a computer software package; Statistical Package for Social sciences 21 (SPSS 21).

Findings: Qualitative findings reveal that poor living standards, inadequate healthcare and education, lack of career mobility, and social marginalization contribute significantly to dissatisfaction among laborers. Meanwhile, better wages, working conditions, and support networks in urban and foreign destinations serve as pull factors encouraging migration. Quantitative analysis revealed significant relationships between several variables and migration intention. Low wages showed a strong positive correlation with migration intention, while peer influence and access to information were also significant predictors. Multiple regression analysis indicated that individual and social factors, along with laborers' attitudes, explained 68% of the variance in out-migration intention ($R^2 = 0.68$, $p < 0.001$).

Implication of the research: The study concludes that targeted reforms and enhanced labor protections are urgently needed to reduce out-migration. Strengthening policy, modernizing the industry, and investing in education and skills development are critical to attracting and retaining labor and ensuring the sector's long-term viability.

Keywords: Tea plantation, Migration intention, Push-pull theory, Labor shortage, Socio-economic factors, Sri Lanka

I. INTRODUCTION

Sri Lankan tea plantation sector has immensely contributed to the socio-economic development of the country last 200 years in Sri Lanka. Sri Lanka exports its 95 percent of tea production to international market with export revenue of Rs.411 billion, (USD 1.26 billion) contributing around 2 percent to the national GDP in year 2022 (Sri Lanka Tea Board Annual Report – 2022). Tea industry is a major contributor to Sri Lanka's foreign exchange increase. The majority of the tea plantation workers are residing in the Nuwara-Eliya District. Out of the total population of 711,644 in the district, 380,580 lives in the plantation sector which is 53 percent of the total population (Department of Census and Statistics, 2012) and creates large employment opportunities and consider as the major partner for more than a century in Sri Lanka's economy. Female workers are mainly doing plucking and male workers are mainly involving in pruning, forking, weed controlling, and ridging. Tea production involves difficult processes and require more manpower (Thasfiha , et al., 2020). Early stages of tea industry with the increase of labour demand, workers from India's Tamil Nadu were brought in to maintain Sri Lanka's tea estates (Thasfiha , et al., 2020). At present 80 percent of resident work force represents the South Indian Hindu Tamils (Athauda, et al., 2012). The Tea Research Institute states that labour is the most important factor in tea cultivations since use of labour for field operations accounts for more than 60 percent of the cost of production of tea (Wijeratna M.A., 2014). Kodithuwakku and Priyanath in year 2007, elaborated the reasons for the improvement in labour productivity in the tea plantation sector in Sri Lanka has the third largest estate work force, next to India and Brazil.

II. SRI LANKAN TEA PRODUCTION

In 1867, the Ceylon tea industry started tea plantation in the Lool Kandura estate in Kandy with just 19 acres. However, by the year 2022 total national tea production was reached 251.49 Mn Kg in 203,113 hectares of land. (Sri Lank Tea Board, Annual Report 2022).

Sri Lankan Tea Industry, “Ceylon Tea” has the significant place in the world tea industry and popular for its quality and taste Tasfiha, et al., (2020). Sri Lanka produces high-quality tea with higher priced in the world market due to its moisture, cool temperatures, and favorable rainfall of the country's central highlands. Sri Lanka is the fourth largest tea producer which was second only to the China, India and Kenya among 62 tea producing countries. Tea is the second-most popular natural beverage in the world having 15,000 cups drunk per second worldwide which is surpassed only by water (Athauda, et al., 2012).

Sri Lankan tea production areas divided into three major tea growing areas based on altitude; low- grown tea at elevations of 2,000 feet and below. Ratnapura, Balangoda, Deniyaya, Matara, and Galle are the main tea producing areas in low land. Medium or mid-grown tea at elevations of 2,000 to 4,000 feet. Main tea producing areas at mid-grown tea are Kandy, Pussalawa and Matale. High-grown tea grown at elevations of 4,000 to 6,500 feet. Nuwara-Eliya and Dimbula are two major regions for high land tea grown areas. Nuwara-Eliya district in Central Province is one of the principal teas growing district in Sri Lanka which was acknowledged to produce finest tea in the world because of its agro-climatic attributes and altitude over 6,000 feet. (Thasfiha, et al., 2020).

This study aims to identify the drivers behind workers' decisions to leave, offering insights for policymakers and stakeholders to develop strategies that stabilize the workforce, enhance productivity, and improve the welfare of marginalized plantation communities, ensuring the sector's long-term sustainability, including economic, social, and cultural factors, and explores mitigation strategies tailored to the needs of the tea plantation workforce.

III. LITERATURE REVIEW

Today, plantations face many challenges including a massive problem of shortage of operational workforce (Wickremasinghe, 2008) to carry out daily routines. Moreover in tea plantations situations were more severe than other plantation industry though most of the operational work in estates requires semi-skilled workers (Wickremasinghe, 2008). This was happen due to outmigration of labour. **Internal migration** generally refers to mobility of people from their origin areas (departure area) to a new place (destination area) for work purpose but remaining in-country (Maharjan & Myint, 2015).

It is one of the most common coping strategies adopted by poor households to stabilize their livelihoods and to adapt to climate, political and economic changes (Maharjan&Myint, 2015). Internal migration is more of a survival strategy, **International migration** is more a wealth accumulation strategy. (Maharjan&Myint, 2015). However both internal and international migration has significant impact on migrants' and their households' livelihoods – in terms of access to income, land, labour, services, and social assets. Internal migration in general improves the economic situation of the households. Similarly study in Bangladesh explains that household land holdings reduced temporary and internal migration but increased international outmigration (Dharmadasa & De Zoysa, 2014). Some literature states that the income and employment level are the most important variables influencing migration (Dharmadasa & De Zoysa, 2014).

Not all migrations are made for household income maximization but also for risk diversification. (Maharjan&Myint, 2015). However, Labour out-migration has made a deficiency of work force in this sector. (Ekanayake &Athauda, 2009). In the nationwide context, the internal migration from rural to urban areas has doubled within the last two decades in Sri Lanka (Dharmadasa & De Zoysa, 2014).

Though Sri Lankan tea plantation sector is now experiencing labour shortages due to outmigration and absenteeism of registered resident workers. Outgoing labour from the plantation sector to other sectors in search of employment was a new phenomenon in Sri Lanka. (Chandrabose, 2015). Poor housing, low wages are not motivated factors to attract the young workers with better education to tea industry (Dharmadasa & De Zoysa, 2014). A study shows that youngster are not willing to work in the plantation sector (Chandrabose, 2015) furthermore previous studies has observed the tendency towards unwillingness to join the parental jobs by the youths in the estates (Chandrabose, 2015).

Currently registered labourers are moving from the estates and the estate management encourage temporary workers to be engaged in the estate work (Chandrabose, 2015). Research conducted in the Sri Lanka has concluded that sixty-nine (69%) percent of workers who intend to out-migrate were dissatisfied about the welfare levels of their estates (Dissanayake &Athauda, 2011). Therefore, researchers have suggested that the raising the living standards, housing and working conditions could use as an estate workers out-migration remediation measure (Samarakoon, et al., 2013).

Need to redress, the low cultural esteem and existing class structures should address as possible measures of action. (Samarakoon, et al., 2013).

Labour out migration is not a sudden irrational decision but most of the time it was a process of taking series of decisions which was elaborated in the figure 2.3. The figure explains the critical decision point and suggested to introduce mitigation mechanisms targeting to those points. Moreover, it is necessary to identify and understand the factors effecting on out-migration of tea estate labours. Those factors could affect on specific critical decision point or multiple critical decision points at the decision-making process elaborated in figure 2.3.

IV. PROBLEM STATEMENT

The tea plantation sector, a provider of livelihoods for many, faces multifaceted challenges threatening its sustainability. Once a thriving industry, it now grapples with the effects of increasing demands for fair wages. Labour shortages, a critical challenge, remain at the heart of these problems, severely impacting operations and profitability.

The historical reliance on a resident workforce in tea estates has prolonged. At the same time, parents encourage their children to pursue education and socially accepted jobs outside the plantations. Due to this mentality, the present younger generation of estate workers increasingly rejects plantation work, perceiving it as low-status employment. There is a lower wage, poor living conditions, and limited upward lifestyle, in this sector. Specially, workers from Indian Tamil communities, remain trapped in cycles of poverty, tied to the estates through socio-economic constraints. Exacerbated natural calamities such as monsoon rains and landslide that periodically disrupt their lives and negate progress in improving living conditions.

Despite the sector economically significance, the estate workers continue in suffering endure substandard living standards. This trend is reducing availability of workforce in tea estates. Due to the Chronic absenteeism they are out-migrating to urban areas seeking alternative employment and foreign employment. They engage in job opportunities in hospitality sectors, domestic works, or informal urban jobs.

Although, mechanization has been proposed as a solution to mitigate labour shortages, the sector's reliance on manual selective plucking to maintain tea quality makes total mechanization impractical. Without effective strategies, the risk of production disruptions due to labour shortages appears large.

V. OBJECTIVE OF THE STUDY

Main Objectives

- The primary objective of this study is to examine the factors influencing the intention of workers in the tea plantation sector to out-migrate and to propose strategies to mitigate this trend.

Specific Objectives

- i. To examine the extent of intention to out migrate for employment outside of the tea plantation estates
- ii. To understand the effect of demographic characteristic of workers effects on out-migration
- iii. To identify the underlying factors contributing to the out-migration of workers from tea estates
- iv. To analysis the impact of factors contributing to the out-migration of workers from tea estates.
- v. To suggest measures to sustain the workers retention in the plantations

VI. RESEARCH QUESTIONS

The research questions aim to explore the multifaceted factors influencing the intention of workers in Sri Lanka's tea plantation sector to migrate to other employment opportunities. These questions address key socio-economic and demographic variables such as education, gender, marital status, income levels, access to information, and peer influence. Understanding how these factors shape migration intentions is critical for identifying the underlying drivers of labor out-migration. The insights gained from these inquiries will aid in developing targeted strategies and interventions to address labor shortages and enhance the sustainability of the tea plantation sector.

The study sought to answer the following research questions;

1. To what extent does educational qualification influence the intention of workers to migrate out of the tea plantation sector?
2. How does gender impact the intention of workers to migrate out of the tea plantation sector?
3. What influence does marital status have on the intention of workers to migrate out of the tea plantation sector?
4. To what extent does the monthly wage influence the intention of workers to migrate out of the tea plantation sector?
5. How does access to information affect the intention of workers to migrate out of the tea plantation sector?
6. To what extent do peer influences shape the intention of workers to migrate out of the tea plantation sector?

VII. RESEARCH METHODOLOGY

The main purpose of study is to find the causes of labor out migration in tea industry and investigate the level of labor intention to out migrate. This includes research approach, research design, population of the study, sampling procedure, sample selection and the sampling method, data collection methods, data analyzing methods and operationalization.

Conceptual Framework

The conceptual framework developed through a comprehensive review of existing literature, with the objective of identifying the key factors that influence the intention of laborers to out-migrate from the tea plantation sector in the Nuwara Eliya District. The hypotheses were constructed to find the relationships between different factors and labours intention to out-migrate from tea estates. The framework is structured around three categories of variables:

Independent Variables

Individual Factors: Gender, Age, Marital Status, Education, Living Standard Conditions, Monthly Wage/Income, Language Skills, Welfare Facilities.

Social Factors: Access to Information, Peer Influence, Perception of Social Status.

Laborers' Attitudes: Personal evaluations of their work, quality of life, and perceived opportunities.

Dependent Variable:

Intention to Out-Migrate: The expressed willingness or plan of laborers to leave their current employment in the tea estates.

To achieve the specific objectives of the research based on the conceptual framework following null hypotheses and alternative hypotheses were developed.

H1(0): There is no relationship between individual factors and labours intention to out-migrate

H1(a): There is a significant relationship between individual factors and labours intention to out-migrate

H2(0): There is no relationship between Social Factors and labours intention to out-migrate

H2(a): There is a significant relationship between Social Factors and labours intention to out-migrate

H3(0): There is no relationship between Attitude of Labors and labours intention to out-migrate

H3(a): There is a significant relationship between Attitude of Labors and labours intention to out-migrate

VIII. POPULATION AND SAMPLE SITE AND UNIT OF STUDY

Literature states that out of the total population of 711,644 in the Nuwara Eliya district, 380,580 lives in the plantation sector which is 53 % of the total population (Department of Census and Statistics, 2012). When consider the Nuwara Eliya district total household population (10 years & older) was 538953 & Total labor force of the district was 310492. Hence labor force participation rate 57.6 among labor force employed labor force is 297894 and that is 95.9 from the total labor force. When considering the Employment by Major Industry Group; Agriculture in Nuwara Eliya was recorded the workforce of 211088 and that is 70.9 % from the total workforce (Department of Census & Statistics, 2008). The research was focused on studying the labor out migration in the tea industry. This study considers the Nuwara Eliya District as area of study. This is because, Nuwara Eliya district has the highest extend of tea plantation areas and majority of people in the district are employed in the tea industry. When consider the Nuwara Eliya, Plantation Human Development Trust (PHDT) region, it includes 69 estates of which Nuwaraeliya district has 65 estates and the other four estates from Kandy and Badulla districts. Sample size was calculated using online sample size calculator. As the tea estate labors population was 297,894, the sample size was calculated at 95% confidence level was as 384 sample size.

IX. DATA COLLECTION AND STATISTICAL ANALYSIS

Data collection was done to analysis the existing situation of tea estate labors and their intension to out-migrate from the estate. Qualitativeinformation was collectedusing structured questionnaire surveyand field observation (for verification of data), interview schedule and focus group discussion from estate manager, field officer, welfare officer and retired worker of each tea estate. This In-depth Interviews were used to understand the overall idea about the situation in the estates. Each item is rated using a five-point Likert scale (5 – Very High, 4 – High, 3 – Neither High nor Low, 2 – Low, 1 – Very Low). Secondary data were mainly use for explaining the findings and compare them with existing research findings. The secondary data were observed using censers and statistic department publications, publications from tea research institute (TRI). Sri Lanka labor force survey reports, annual reports of central bank, other research proceedings, books, journals articles and information at the tea estate management. Journal Articles, and validated Web Site Articles.

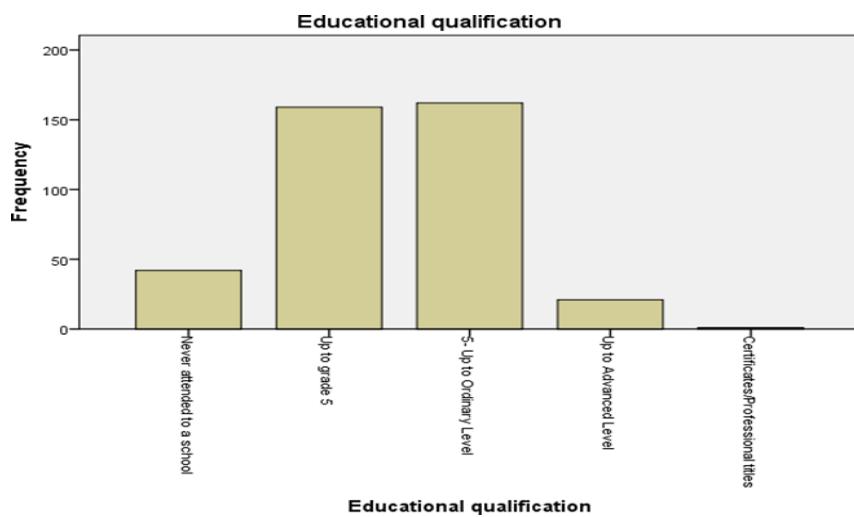
Before analyzing the data, they were cross-checked for accuracy and reliability. Data were analyzed with the assistance of a computer software package; Statistical Package for Social sciences 21 (SPSS 21). Descriptive and inferential statistics were analyzed; mean, median mode, variances were computed and data were further analysis using correlation and chi-squares to find relation correlations between labors intention to out-migrate with educational qualification, wage, gender, marital status, access to information and influence of peers. Results obtained from the quantitative analysis were supported by the qualitative data obtain through kids, interviews and observations.

X. FINDINGS AND ANALYSIS OF THE STUDY

The sample size of the study includes 229 (59.5%) females and 156 (40.5%) male in total 385 labors from all four estates at Nuwara-Eliya District. The higher proportion of women in the tea plantation workforce is primarily due to historical, cultural, and socio-economic factors. The study further explains that majority of labors 301 (78.2%) are living together/married, while 52 (13.5%) of them are single. Widowed is only 28(7.3%). Separated and divorced 1 (0.3%) and it is respectively 3 (0.8%). Hence, Nonparametric Mann-Whitney U was employed to effect of gender on labors' out-migration intention.

However, according to the test statistics, gender has insignificant effect on labors' intention for out-migration. since $p=0.073$ ($P>0.05$) and $U=15953$.

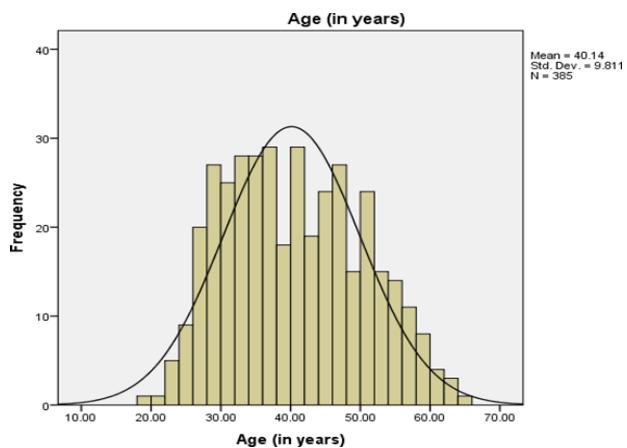
Educational qualification is highly relevant to this study on labor migration in the tea plantation sector because, it directly influences workers' skill levels, employability, and their capacity to seek alternative employment opportunities, both locally and abroad. It explains that majority of the labors were educated up to grade 5 and ordinary level (grade 11). According to the Kruskal-Wallis H test, there is a statistically significant difference in labor's intension to out-migrate between different educational categories $\chi^2(4) = 26.398$, $P= 0.000$. The Kruskal-Wallis H test explains that mean ranking of labor's intension to out-migrate in the group of labors who, never attended to a school =230.08, Up to grade five = 160.40, Grade six to Ordinary Level =233.36, Up to Advance level 267.62 and Certificates/Professional qualification level = 243.00. The Kruskal-Wallis H test was used to test the effect of labors educational qualification categories on the labor's attitude. According to the Kruskal-Wallis H test, there is a statistically significant difference in Labor's attitude between different marital status $\chi^2(4) = 62.274$, $P= 0.000$ ($P<0.05$).



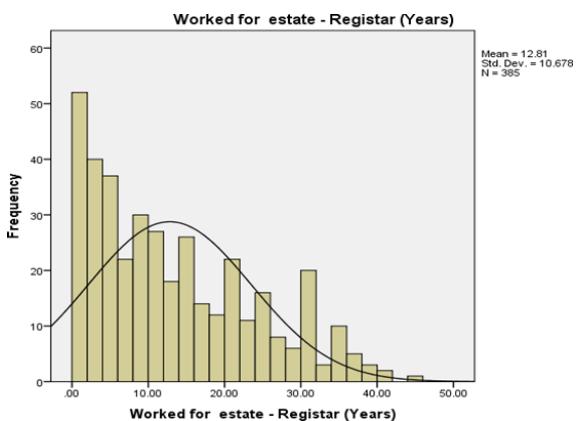
The most of the labors are in the age of 30 to 45 years old. Moreover, the data explains that the tea estates are unable to attract enough young labors who are less than 25 years old. The test statistics show the significant relationships between age of the labors and labors out-migration intention as $P=0.000$ ($P<0.05$), $p = 0.490$.

This indicates the moderately strong significant positive relationship between age and labors' intention for the out-migration. A Kruskal-Wallis H test showed that there was a statistically significant difference in labor's intension for out-migration between different marital status $\chi^2(4) = 33.176$, $P= 0.000$.

Moreover, mean rating for Single =113.58, Living together / Married = 205.03, Separated =147.83, Divorced=103.00 and Widowed = 219.23. Then the A Kruskal-Wallis H test was used again to test the effect of labors marital status on the labors attitude. According to the A Kruskal-Wallis H test statistics there is a statistically significant difference in labor's attitude between different marital status $\chi^2(4) = 82.944$, $P= 0.000$ ($P<0.05$).



Working experience is highly relevant to this study on labor out-migration in the tea plantation sector because it directly affects a worker's skills, job stability, and potential for migration. Workers with more experience in the plantation sector typically possess specialized knowledge and skills that may limit their willingness to migrate, as they may feel more secure and comfortable in their current roles. It was clearly explained that most of the labors have about 15 years of experience.



In the second category is registered labors' experience in estates. According to the analysis most of them have 13 years of experience. Mean of their experience is 13 years and mode of experiences of registered workers is 2.

It explains that majority of the labors (253) are tea pluckers, 85 of them are sundry workers at the sample and rest (44) are factory workers. The total number of teapluckers, factory workers and sundry workers are 259, 50 and 91 respectively. According to test statistics, the labors' intention for the out-migration and the labors' working experience in tea estate has a higher correlation at $P = 0.000$ ($P < 0.05$) and its Spearman correlation coefficient $\rho = 0.437$ which shows that the association strength is moderate. However, the coefficient was positive. Therefore, it is possible to conclude that the labors' intention for the out-migration and the working experience in tea estate has a positive moderately strong significant relationship.

Labors' monthly income was taken into account in the study. Most of their salary lies in between Rs. 25,000-35,000 per month. The Mean of the distribution is Rs. 33,500 and the mode is Rs. 3.00. To test the effect of monthly wage category and labors intention for out migrate Kruskal Wallis non-parametric test was employed. As the table states, labors intention for out migration has significantly varied according to their income categories. The test statistics of the Kruskal-Wallis H test clearly explains statistically significant difference in labors intention for out migrate between different marital income categories as $\chi^2(5) = 17.227$, $P= 0.004$ ($P < 0.05$). When consider the mean rank of labors' intention for the out-migration among different income categories, explains that highest mean rank was obtain by the labors who has monthly wage less than Rs 10,000 lowest was recorded. A few numbers of labors who receive in the range of Rs. 50,000 to Rs. 60,000. Hence to get meaningful explanations, the research has removed the less than Rs. 10,000 and above Rs. 50,000 monthly average wage categories which consist on five labors. Then the test statistics still shows the significant difference in labors intention for out migrate between different marital income categories as $\chi^2(3) = 15.979$, $P= 0.001$ ($P < 0.05$)

Personal living standards are highly relevant to this study on labor out-migration in the tea plantation sector because they directly influence workers' satisfaction with their current living conditions and their motivation to migrate. In many tea plantations, workers often face poor living standards, including inadequate housing, limited access to healthcare, low-quality education for children, and a lack of basic amenities. These conditions can lead to dissatisfaction and a strong desire to seek better opportunities elsewhere, either within Sri Lanka or abroad. Workers with lower living standards are more likely to migrate in search of better housing, healthcare, education, and overall quality of life.

According to test statistics, the Labors' intention for the out-migration and the labors' living standards has a higher correlation because $P = 0.001$ ($P < 0.05$) and its Spearman correlation coefficient $\rho = 0.167$ which shows that the association strength is negligible. However, the coefficient was positive. Therefore, it is possible to conclude that the labors' intention for the out-migration and the labors' living standards has a positive significant relationship with negligible strength. According to the test result, Cronbach's alpha value for all three statements was **0.721** (> 0.70), indicating that the statements are reliable and acceptable for computing composite average values.

Access to information is highly relevant to this study on labor migration in the tea plantation sector, as it directly influences workers' awareness of migration opportunities, rights, and potential challenges. Workers who have better access to information—whether through media, social networks, or formal channels such as government programs or non-governmental organizations—are more likely to make informed decisions about migration. This includes knowing about employment opportunities abroad, the legal and financial aspects of migration, and the potential risks and benefits. Access to accurate and reliable information can empower workers to take advantage of migration opportunities that may lead to higher-paying jobs or improved living conditions.

On the other hand, limited access to information can create barriers to migration, as workers may not be aware of the resources or support systems available to facilitate safe and legal migration. This lack of awareness can also lead to misinformation, increasing the likelihood of exploitation or involvement in illegal migration channels. In the context of the tea plantation sector, where workers are often isolated from urban centers, access to information plays a crucial role in shaping their understanding of migration options and their decision to leave or stay. By exploring the role of information access, this study can identify gaps in communication and propose interventions to improve workers' access to the necessary resources for making informed migration decisions. Spearman Nonparametric Correlation Test was employed to find out the relationship between labors' intention for out-migration and access to information. According to test statistics, the relationship between Labors' intention for the out-migration and the Labors' Access to Information has an insignificant correlation. Since, $P = 0.245$ ($P > 0.05$). The test results showed that **Cronbach's alpha value was 0.723** (> 0.70), indicating acceptable internal consistency for computing the composite average.

The influence of peers is highly relevant to this study on labor migration in the tea plantation sector, as social networks and peer relationships often play a significant role in shaping individuals' decisions to migrate. Workers who have peers, family members, or friends who have migrated—whether within Sri Lanka or abroad—may be more likely to consider migration themselves, as they are exposed to firsthand accounts of migration experiences, opportunities, and challenges. According to test statistics, the relationship between Labors' intention for the out-migration and the Influence of Peers has an insignificant correlation. Since, $P = 0.551$ ($P > 0.05$). The reliability of the four items under this variable was tested using Cronbach's alpha. The results indicated a **Cronbach's alpha value of 0.714**, indicating good internal consistency for computing composite averages.

Perception of social status is highly relevant to this study on labor migration in the tea plantation sector because it shapes individuals' aspirations, self-worth, and motivations to improve their socio-economic position. In many cases, workers in the tea plantations experience low social status, which can stem from limited educational opportunities, low-paying jobs, and social marginalization. These factors can create a sense of dissatisfaction with their current living conditions and motivate them to seek migration as a way to improve their social standing and gain access to better opportunities. Spearman Nonparametric Correlation Test was employed to find out the relationship between Labors' intention for out-migration and Labors' perception on social status. According to test statistics, the relationship between Labors' intention for the out-migration and the Labors' perception on social status has an insignificant correlation. Since, $P = 0.071$ ($P > 0.05$). This variable was originally tested using five items. After assessing internal consistency, the Cronbach's alpha value was found to be **0.716**, indicating good reliability.

Labor attitudes are highly relevant to this study on labor migration in the tea plantation sector, as they reflect workers' perceptions, beliefs, and feelings about their jobs, work environment, and future prospects. A worker's attitude toward their current employment can significantly influence their decision to stay or migrate.

Workers with negative attitudes—stemming from dissatisfaction with wages, lack of recognition, limited career growth, or poor working conditions—are more likely to consider migration as a way to improve their circumstances. These negative attitudes can result from long-standing frustrations, exploitation, or unmet expectations within the plantation sector.

Conversely, workers who hold positive attitudes toward their job and employer, such as feeling valued, appreciated, or supported, may be less inclined to migrate. Positive labor attitudes can be fostered by fair wages, opportunities for skills development, supportive management, and a sense of community within the workplace. Labor's attitude was tested to have correlation with Labors' intention for the out-migration using cross tabs. Spearman Nonparametric Correlation Test was employed and according to test statistics, the Labors' intention for the out-migration and Labor's attitude has a significant correlation at $P = 0.000$ ($P < 0.05$) and its Spearman correlation coefficient $\rho = -0.434$ which shows that the association strength is moderate. However, the coefficient was negative. Therefore, it is possible to conclude that the Labors' intention for the out-migration and the Labors' Attitude has a moderately strong negative significant relationship.

ANOVA table of the model 1

ANOVA^a

Model	Sum ofSquares	df	MeanSquare	F	Sig.
Regression	76.646	11	6.968	11.126	.000 ^b
1	Residual	372	.626		
	Total	383			

According to the table, the model summary, R^2 adj. = 0.773 and it is good model fit meaning that this model can explained the 77.3 % of the total variation of labors intension for out migration.

Regression model summary

Model Summary^b

Model	R	RSquare	Adjusted RSquare	Std. Error of theEstimate
1	.907 ^a	.823	.773	.432

However, when consider the model coefficient table, access to information, influence of peers, labors perception on their social status, Gender and Marital status didn't show statistically significant effects at 95% confident interval ($P > 0.05$) by been $P=0.805$, $P=0.952$, $P=0.589$, $P=0.685$ & $P=0.658$ accordingly.

According to the test result, Cronbach's alpha value for all 11 statements was - 0.251 (<0.6) (table 4.50) this indicate the statement are not acceptable range to explains and Labors' perception on their social status when computing composite average value. Then the test statistics of the Kruskal-Wallis H test clearly explains the significant difference in labors attitude between different income categories as $\chi^2(3) = 24.960$, $P= 0.000$ ($P < 0.05$).

XI. REGRESSION ANALYSIS

Multiple linear regression model was used to conclude the effects of social factors and individual factors on labors intension for outmigration. ANOVA table shows that the model is highly significant as; $P=0.000$ ($P < 0.05$) and $F=11.126$.

Therefore, model explains considered variables explains of the labors out migration intension.

Hence model was adjusted to keeping only the significant variables (personal living standards, labors' attitude, experience in tea estate, average monthly wage, age and educational qualification) resulted the new model. The ANOVA test was conducted to find out the significant of the model and test results explains that model is highly significant $P=0.000$ ($P < 0.05$), $F=15.363$.

The new model summary was used to find out the ability of model to explain the labor's intention for out-migrate. As indicated in the table the table explained the 76.3% of the total variation of labor's intention for out-migrate from the tea estates. Since, R^2 adj. =0.763. Hence this model is more suitable to show the effect of social factors and individual factors on labor's intention for out-migration from tea estates.

XII. CONCLUSIONS AND RECOMMENDATIONS

The study identified several critical factors influencing laborers' intentions to migrate from tea estates in the Nuwara-Eliya district. Educational qualifications emerged as a significant determinant, with higher education levels correlating positively with the likelihood of seeking employment opportunities outside the estates.

Income and wages played a crucial role in shaping migration intentions. The research revealed an inverse relationship between earnings and the inclination to migrate, with lower-wage earners demonstrating a stronger propensity to seek better financial prospects elsewhere.

Age was identified as another significant factor, with older workers showing a higher tendency to consider migration. This could be attributed to accumulated experience, increased family responsibilities, or a desire for career advancement.

Personal living standards also played a crucial role in shaping migration decisions. Improved living conditions within the tea estates were associated with a reduced inclination to migrate, suggesting that investments in housing, healthcare, and other amenities could significantly impact worker retention.

Additionally, laborers' attitudes towards their work and living conditions influenced their migration intentions, with positive attitudes linked to a lower likelihood of seeking employment elsewhere.

Access to information about external job opportunities and the benefits of migration served as a catalyst, making laborers more aware of possibilities beyond their current employment. Peer influence also significantly affected migration decisions, as workers were influenced by the successes and experiences of peers who had previously migrated.

Lastly, laborers' perceptions of their social status and the perceived low dignity associated with plantation work influenced their intention to migrate.

These findings underscore the economic, social, and individual motivations driving the trend of out-migration among tea plantation workers.

They highlight the need for targeted strategies to address these issues and improve worker retention in the sector, including enhancing living standards, providing career development opportunities, and addressing the social stigma associated with plantation work.

Living standards emerged as one of the most critical factors. Poor living conditions, inadequate welfare facilities, and challenging work environments in the tea estates greatly influenced the decision to migrate.

Laborers' attitude towards plantation work played a vital role in shaping their migration intentions. Many workers perceived plantation jobs as lacking dignity and status, which negatively influenced their attachment to the sector. Consequently, workers with a more negative attitude towards their work were more inclined to seek alternative employment opportunities that they viewed as more respectable and rewarding.

Age also had a considerable impact on the intention to migrate. Younger laborers, in particular, demonstrated a higher propensity to consider migration. These younger laborers were more likely to be dissatisfied with the prospects available within the tea plantation sector and was often driven by aspirations for better career opportunities and lifestyle improvements. The younger generation's exposure to different job opportunities and their openness to change made them more susceptible to the idea of out-migration compared to their older counterparts, who might have been more settled or less willing to take the risk of moving.

The Educational category positively influenced the intention to migrate. Laborers with higher education levels were more likely to seek opportunities outside the tea estates. Education opened up avenues for better employment prospects and created a sense of empowerment, enabling workers to envision a future beyond the limitations of the plantation sector. As laborers became more educated, they developed higher aspirations and became more aware of the possibilities that existed outside the tea estates, which increased their likelihood of considering migration.

These factors—living standards, laborers' attitudes, age, and educational category—collectively played a crucial role in shaping the migration intentions of tea plantation workers, highlighting the multifaceted nature of this issue and the need for comprehensive strategies to address it.

The study also identified factors that negatively influenced laborers' intention to out-migrate from tea estates. Notably, experience in the tea estate and average monthly wage played a significant role in reducing the likelihood of migration.

Experience in the Tea Estate was found to have a negative influence on the intention to migrate. The longer experience a workers may feel that they invested in their current job, making them less inclined to seek opportunities elsewhere.

Average Monthly Wage also negatively impacted the intention to migrate. For these workers, the current wages may meet their financial needs to a degree that reduces the appeal of seeking potentially uncertain or riskier opportunities outside the plantation sector.

These factors suggest that laborers who have established themselves in the tea estates through experience and those who receive a comparatively better income are more likely to remain, highlighting the complexity of migration decisions and the need to consider both positive and negative influences when addressing labor retention.

Recommendations

1. Enhance Working Conditions

Improving working conditions is essential to retain workers in the tea plantation sector. Safety and health measures must be prioritized, focusing on minimizing risks from chemical exposure and machinery. Implementing regular safety audits, providing PPE, and running training programs on safety protocols will help ensure a safer environment. Emergency preparedness plans should also be developed, including medical response procedures, to improve overall workplace security. These steps would increase worker satisfaction and reduce accidents, making the industry more attractive and sustainable.

2. Upgrade Living Conditions

Upgrading workers' living conditions can significantly improve retention. Renovating housing to meet modern standards, providing clean water, sanitation, and reliable electricity are key. Recreational spaces and access to healthcare and education further improve quality of life. Improving infrastructure such as transportation also makes the plantations more accessible, fostering community development. This demonstrates a commitment to workers' well-being, resulting in higher job satisfaction, better retention, and ultimately a more motivated workforce.

3. Provide Access to Healthcare

Healthcare access is critical for worker retention and well-being. Partnering with local healthcare providers or establishing on-site clinics ensures affordable and accessible medical care. Preventive health programs focusing on hygiene and nutrition can maintain overall workforce health.

Offering family health coverage supports household stability, while addressing healthcare needs can improve workers' quality of life, reduce illness, and mitigate out-migration pressures.

4. Enhance Compensation and Benefits

To attract and retain workers, tea plantations must offer competitive wages and benefits. Regular wage reviews, equitable pay practices, and performance-based incentives can enhance job appeal. Addressing wage disparities fosters fairness and boosts morale. Additionally, providing channels for workers to voice concerns about compensation ensures transparency. These efforts help create a more appealing employment environment, improving workforce retention and productivity.

5. Provide Additional Benefits

A well-rounded benefits package enhances job attractiveness. Health insurance, retirement plans, and paid time off improve workers' financial security and work-life balance. Educational assistance and childcare support further ease the burden on employees. Effective communication about benefits ensures workers understand their value, increasing loyalty and satisfaction. Offering these comprehensive benefits creates a more supportive work environment, reducing out-migration and building workforce stability.

6. Invest in Skill Development

Providing workers with opportunities for skill development increases job satisfaction and reduces labor turnover. Training programs focused on tea production, machinery operation, and safety practices help enhance productivity and worker confidence. Offering clear career progression paths motivates workers to remain in the industry. Supporting lifelong learning through educational resources encourages continuous improvement, benefiting both workers and plantations.

7. Strengthen Community Engagement

Building strong relationships with local communities creates a supportive environment for workers. Tea plantations can invest in local infrastructure like roads, schools, and healthcare facilities, improving community conditions. Collaboration with community leaders ensures that local needs are understood and addressed. Promoting cultural sensitivity fosters goodwill and strengthens ties, ensuring workers feel connected to both their workplace and community. These efforts improve worker satisfaction, stability, and loyalty.

8. Develop and Implement Policy Frameworks

Robust policy frameworks are necessary to address labor out-migration and ensure fair labor practices. Collaborating with government and labor organizations can help develop policies that promote fair wages, improve working conditions, and provide career development opportunities. Advocating for investment incentives, such as tax breaks for sustainability projects, encourages long-term industry growth. These policies benefit both workers and plantations, reducing migration pressures and enhancing sector sustainability.

9. Utilize Technology and Innovation

Adopting technology in tea plantations enhances productivity and working conditions. Mechanized harvesting, automated systems, and precision agriculture tools reduce the physical demands on workers, while improving operational efficiency. Technological upgrades in processing facilities and workforce management streamline production. Collaborating with research institutions to explore sustainable practices and innovations further strengthens industry resilience. Training workers to use new technologies also boosts retention by offering growth opportunities.

10. Monitor and Evaluate Impact

Regular monitoring and evaluation are crucial for the continuous improvement of strategies to reduce labor out-migration. Collecting data on retention rates, workplace accidents, and worker feedback allows plantations to identify issues early and make necessary adjustments. Implementing open feedback mechanisms ensures workers' concerns are heard and addressed. This data-driven approach enhances transparency, promotes a responsive work environment, and increases worker satisfaction, contributing to a stable workforce. By focusing on these targeted recommendations, the tea plantation sector can improve worker retention, reduce out-migration, and foster long-term sustainability.

XIII. IMPLICATIONS OF THE FINDINGS

The findings of this study hold substantial implications for the tea plantation sector, particularly in curbing labor out-migration and ensuring workforce stability. By identifying the core factors that influence laborers' intentions to migrate, tea estate management and policymakers can implement targeted strategies to mitigate these trends.

The study highlights the critical role that living standards play in migration decisions. To counteract this, improving the quality of life for workers through better housing, healthcare, and education is essential. Addressing these welfare needs will not only enhance worker retention but also create a more supportive and attractive working environment, thereby reducing the push factors that prompt laborers to seek opportunities elsewhere.

The findings also underscore the importance of workers' attitudes toward their jobs. Enhancing the dignity and status associated with plantation work can foster positive attitudes and job satisfaction. Offering career development opportunities, recognition programs, and improved working conditions can help cultivate a sense of pride in their work, thus reducing migration intentions.

Age and educational attainment also emerged as key factors, with younger and more educated workers being more likely to leave. Providing career progression and skill development opportunities tailored to this demographic could help retain these workers. Incentives like scholarships and vocational training can encourage younger workers to stay invested in the sector.

Finally, experienced and better-paid workers showed a lower propensity to migrate, indicating that competitive wages and benefits are effective retention strategies. Offering both financial and non-financial rewards for experience can foster loyalty and reduce turnover.

In conclusion, a comprehensive approach, combining improvements in living standards, career opportunities, working conditions, and compensation, is necessary to retain workers and ensure the long-term sustainability of the tea plantation sector.

XIV. LIMITATIONS

Several limitations must be considered when assessing strategies to mitigate out-migration. Migration drivers are highly context-specific, meaning strategies effective in one region may not work elsewhere without significant adaptation. Additionally, limited data availability can hinder the development of evidence-based strategies. Resource constraints, such as financial and human capital, may also impede implementation. The complexity of migration, influenced by multiple factors, makes isolating causes challenging. Furthermore, a lack of community engagement can reduce the effectiveness of strategies. Finally, migration trends often require time to assess, making it difficult to evaluate long-term outcomes and maintain stakeholder support.

XV. FUTURE RESEARCH

Future research should focus on key areas to enhance interventions for mitigating out-migration. Context-specific studies are essential to address the varying drivers of migration across regions, exploring economic, environmental, social, and political factors. Improved data collection and analysis will support better-informed decision-making. Assessing resource allocation and impact will identify best practices for effective resource management. Longitudinal studies are needed to evaluate the long-term effects of strategies. Emphasizing community engagement and cross-disciplinary approaches will ensure strategies meet local needs and address the complex nature of migration. These areas will deepen understanding and improve strategies to mitigate out-migration impacts.

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