An Investigation of Planters Insights for Alternative Worker Deployment Models of Tea Plantations in Sri Lanka

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Abstract. Tea industry remains a vital component of the national economy of Sri Lanka. However, worker shortage is one of the critical issues in this sector. Consequently, in recent years, changes have been occurred in the method of worker deployment from conventional estate practices to Alternative Worker Deployment Models (AWDMs) in order to address worker shortage. AWDMs must meet the expectations of workers and plantation owners while ensuring consistent quality. Stakeholders should understand and accept the system to ensure their commitment during implementation and continuation. Therefore, present study conducted to evaluate the perception of planters regarding AWDMs in cooperate sector tea plantations. Qualitative methods were chosen to achieve this aspect. Data was gathered through structural interviews with twenty-six (26) managers from various plantation companies that implemented and maintained AWDMs. Four key themes emerged during the analysis, (1) AWDM as a solution for labour shortage in plantation sector, (2). Critical points to be considered for sustainability of an AWDM, (3) Policies should be implemented in long term basis, (4) Way forward with AWDMs. The findings showed that the type of worker deployment has been changing depending on the circumstance and time. Most of the managers have acknowledged implementing contract farming system will be benefitted to the estate by reducing cost of production and the burden of maintaining uneconomical tea lands. Finally, the advancement of worker deployment models towards the concept of decent work represents a prospective development for the plantation industry.

Keywords : Alternative worker deployment, Contract farming, worker scarcity

1. Introduction

Workers on plantations have contributed significantly to the generation of foreign currency ever since the colonial era. Arable land and unskilled labor were the mainstays

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of the plantation sector's production process at first. Workers in tea, rubber, and coconut plantations were responsible for the majority of export revenues until the late 1970s. The plantation industry remained a major source of foreign exchange for the nation even after trade liberalization policies were put into place in 1977. Despite the implementation of trade liberalization policies in 1977, the plantation sector continued to be a key source of foreign currency for the country. Even today, the tea industry remains as a vital component of the national economy, significantly influencing to higher portion of the export earnings, following remittances from overseas employment and earnings from the garment export sector.

However, there is a declining trend of workforce employed in the plantation sector. Workforce has declined by 68% from 1984 to 2022 (Ministry of Plantation Industries, 1984-2022). Therefore, it has a negative impact on day to day agricultural activities in tea plantations. Recent research has concentrated on factors affecting to withholding workers in plantation sector. Worker scarcity is a result of high levels of boredom, insecurity, low self-esteem, and lack of interest in working on tea estates. Moving from estate work to non-farm employment is encouraged because of the high anticipation, greater freedom, and higher compensation of employment opportunities outside the estates. Regularity of working-days, availability of adequate avenues for regular incomes, regular work opportunities for family members were additionally noted as causative factors for worker scarcity (Chandrabose, 2012). The industry should concentrate on improving the skills of estate workers, such as social status, recognition, and participation, as this will retain them in the estate work and thereby minimize the future risk of investment and profitability. Enhancing the freedom of choice of estate workers by customizing unproductive traditional work norms and by introducing alternative mechanisms.

The responsibilities of tea planters have evolved significantly over time. They now face not only the day-to-day management of estates but additionally corporate responsibilities involving social regulatory compliance. The perception of planters regarding their roles is shaped by the need to balance productivity with social

responsibilities, such as addressing the grievances of workers and negotiating fair wages in collaboration with trade unions.

To manage labor scarcity, there has been a trend in recent years to switch from traditional estate practices to alternative worker deployment models (AWDMs), such as Revenue Share Models (RSM), Contract Farming Systems (CFS), or Out Grower Model (OGM) to consecutively manage labor scarcity. These models enable workers to manage and harvest tea on designated plots, while remaining employed on the estates, thus offering an additional income stream for workers and addressing the pressing challenges of plantation management. These models have gained consideration as a potential solution to rising worker demands and production costs.

Despite the promising aspects of the AWDM, challenges remain, particularly in ensuring consistent quality and managing the expectations of both workers and plantation owners. Changing the management system is a major part of human resource management. Management of organizational change is the structured approach that helps manage the people component during a business transformation initiative to realize the desired outcomes. Therefore, all the stakeholders in the system should be aware, understood, and convinced to accept the system to get their commitment during the change and its continuation. Therefore, present study conducted to evaluate the perception of planters regarding AWDMs in cooperate sector tea plantations. and to provide a conceptual justification for value added worker deployment as a sustainable solution to the overwhelming problems in social development and worker productivity in the tea plantation sector in Sri Lanka.

2. Methodology

2.1 Study Location

This study was carried out in large-scale tea plantations (above 50 acres) located in different tea-growing areas low country (0 - 600m from mean sea level), mid country (from 600m to 1200m from mean sea level) and up country (above 1200m from mean sea level)).

2.2 Data Collection

Primary data: Two surveys were used for primary data collection.

a) Island-wide telephone call survey: to explore the adopted worker deployment models by the estates.

b) Survey of managers: to collect information about the model they practiced, their perceptions/opinions on the success of these models, their willingness to continue, and factors that affect the continuity of AWDM.

2.3 Sampling

The estates were clustered based on the type of AWDMs adopted (cash for work, block plucking, and contract farming and out grower) using telephone survey data. Thereafter, a subset of estates (30 estates) was identified AWDM successfully adopted estates and selected for data collection. From these estates' participant were recruited using purposive methods until saturation of themes was achieved. Purposive sampling was done based on the preconceived ideas about the required characteristics of the sample. Therefore, targeting and identifying those individuals who had experience in AWDM.

2.4 Data Analysis

The stakeholders' knowledge and insights on the system have a big impact on how well the AWDMs process works and how successful it is overall. The purpose of this study was to comprehend the planter's insights on AWDMs. To fully address this aspect, qualitative methods were selected because they reveal differences in viewpoints among groups and produce a wide range of ideas and opinions that people have about the issues. Additionally, qualitative approaches aim to address gaps in understudied research areas that survey-based research fails to reveal. The design is adaptable and allows for a thorough investigation of the attitudes, experiences, and intentions of the respondents. Qualitative interviews were therefore selected for inductive approaches

that aim to generate concepts that have greater research potential than other models, in accordance with the study's objectives.

The thematic analysis was driven by a few particular analytic questions. The analysis was driven by the researchers' theoretical or analytic interest in the area, and is thus more explicitly analyst driven. Themes were identified at a latent or interpretative level, an attempt to theorize the significance of the patterns and their broader meanings and implications (Patton, 2002). Based on the nature of data and availability of resources, the present study followed cumulative process of validation. Reliability of research was assured by preserving records of face-to-face interviews of the respondents of the study. The guide was piloted on two planters and was modified accordingly by refining data collection instruments i.e. questionnaire and clarifying instructions. Each interview lasted for 30 to 40 min. Probing questions were asked and participants were given freedom to express additional views and comments. All interviews were audio-recorded and additional field notes were taken. The saturation was achieved at the 20th interview, however, additional interviews were carried out further to confirm the saturation. The interviews were verified for accuracy and consistency by listening to the recordings. Authors analyzed the transcripts line by line, which were read repeatedly and thematically analyzed for their contents.

The thematic process of analyzing data entails repetitive reading of the transcript searching for common concepts and coding them together to form a meaningful theme. Some important themes have been outlined and the key findings were reached. The recordings and transcripts from the interviews were repeatedly reviewed and analyzed in order to capture the crucial patterns of relevance to this research. The qualitative method was chosen to provide an in-depth and detailed explanation of this research without attempting to assign frequencies.

3. Results and Discussion

The study identified several Alternative Worker Deployment Models (AWDMs) with distinct characteristics. These models differ in their structure, the number and distribution of participating farmers, contractual arrangements, the provision of technical support (extension services), and quality control mechanisms. Currently, tea estates employ a range of AWDMs, including contract farming, cash plucking, block plucking, out-grower systems, and sundry work on contract. While the fundamental concepts underlying these models are broadly similar, variations exist across estates depending on individual corporate policies and operational priorities. Table 1 presents the key attributes and distinguishing features of the various AWDMs identified in this study.

Table 1.Characteristics of Different AWDMs

AWDM	Characteristics
Sundry work on contract	Utilizes informal labor contracts at the estate level to increase labor productivity, especially during periods of low activity for male workers. This system encourages pluckers to generate additional revenue, boosting overall output. The contracted party is responsible for hiring a group of workers to fulfill the contract, effectively reintegrating idle male labor into the production process.
Cash plucking	Workers harvest tea leaves from designated fields assigned by estate management on specific days. Payment is made based on the weight of green leaves collected. Casual and retired employees harvest during regular working hours, while registered employees pluck after completing estate duties.

Block plucking	A specific block of land is allocated to a registered or casual worker, who is responsible for harvesting and delivering leaves to the estate. Estate management determines the green leaf payment. All other agricultural activities, except plucking, remain under estate supervision.
Contract farming systems	Estate workers or their families are allocated a reasonable number of tea bushes while the estate retains land ownership. Both estate management and contract farmers agree on terms and activities. Contract farmers maintain and improve the plots and supply green leaves to the estate. The estate provides technical support, extension services, and necessary inputs on a cost-recovery basis. Workers benefit from increased income and enhanced responsibility.
Out-grower system	Pensioners or unregistered workers receive a block of land to maintain with family labor. Estates provide technical guidance, fertilizers, and other inputs. Growers supply green leaves to the factory at a rate determined by estate management. This system promotes worker ownership, flexibility, and engagement while maintaining production standards.

3.1 Characteristics of the Sample

In-depth interviews were conducted with twenty-six (26) plantation executives (Estate Managers) representing various plantation companies and tea-growing regions across Sri Lanka. All participants were male. The majority of respondents (n = 12) were over 40 years of age, and nearly all had more than ten years of managerial experience. Only

one participant had six years of experience as an estate manager. Table 2 summarizes the demographic characteristics of the respondents.

Table2. Demographic details of respondents

Characteristics	Frequency
Age (years)	
20–30	1
31–40	12
> 40	13
Experience as Manager	
Mid-Level (6-10)	1
Senior Level (+10)	25
Experience in Plantation management	
01–05	9
06–10	8
>10	9
Previous experience on AWDMs	
No	8
Yes	18

3.2 Thematic Analysis of Findings

During the analysis, four major themes were identified; (1) AWDM as a solution for labour shortage in plantation sector, (2). Critical points to be considered for sustainability of an AWDM, (3) Policies should be implemented in long term basis, (4) Way forward with AWDMs under the major theme there are several sub themes as mentioned in table 3.

Table 3. Themes, Sub themes and codes derived from the interviews

Major themes	Minor Themes	Questions for which information was sought	Code
Theme 1 : AWDM as a solution for labour shortage in plantation sector	1: AWDM to overcome the labour shortage and manage high labour cost.	What do you think the usefulness of an AWDM for the estate	"Reduce the worker Shortage" "Reduce COP"
	2:AWDM as a strategy of renew the benefits from the low yielding old type of seedling bushes in tea estates		"Low yielding fields were distributed"
	3: Worker retention by acknowledgement and sharing responsibility industry betterment	What do you think the usefulness of an AWDM for the Workers	"Living status of workers" "Additional income for workers"
2. Critical points to be considered for sustainability of an AWDM	Method of Payment for Green Leaf	How the system works Please specify the type of AWDM practiced by your estate	"variation in payment methods is problematic" " Difficult to motivate worker with current payment method"

			"payment should followed proper transparent calculation"
	Closer monitoring and supervision		"Monitoring system is critical" "Closer supervision is mandatory"
	Training and Motivation		"workers should trained properly" "frequent training and extension activities will motivate workers" "trainings should include motivational approaches"
	In Puts Supply		"mandatory to provide inputs to avoid MRL issues" "inputs should provided by the estate to keep the control"
3.Policies should be implemented in long term basis	Irregularity of policies makes	What are the general/specific risks/challenges of	"success of the system mostly depend on

	these systems less sustainable.	AWDM for the estate	company and managers policies" "policies and system should not change time to time" "short term policy changes may collapse the system"
(4) Way forward with AWDMs	1. Digitization for proper monitoring	What are the suggestions to improve and for long term applicability of AWDMs	“ Digitized monitoring systems for proper supervision”
	2. Application of Decent work concept		“Standardizing AWDM to ILO decent work concept”

The current study revealed that interest on AWDMs has increased as a possible solution for worker shortage in plantation sector.

Theme 1 AWDM as a Solution to Labor Shortages in the Plantation Sector. This theme explores participants’ perceptions of Alternative Worker Deployment Models (AWDMs) as a viable solution to labor shortages in the plantation sector. Three subthemes emerged under this category.

AWDMs for Overcoming Labor Shortages and Managing High Labor Costs. According to the estate managers interviewed, the primary motivation for introducing outsourcing models such as contract farming is the growing recognition of an

impending labor shortage. Most managers acknowledged that, to sustain productivity, it will eventually be necessary to convert estate workers into contract growers or out-growers through mutually satisfactory arrangements.

To cultivate a sense of ownership among workers, some estates have allocated small plots of land to employees for maintenance and harvesting activities. However, given that land ownership and use are sensitive issues in Sri Lanka, such subleasing initiatives must be preceded by careful consideration of the legal, social, and ethnic implications. As an initial measure, many estates have introduced pilot schemes that allocate land plots to registered workers under formal agreements.

In addition to addressing labor shortages, several managers emphasized that these systems additionally serve as a means to control high production costs. Nevertheless, this finding contrasts with the study by Shyamalie and Nadeeshani (2012), who highlighted the mutual benefits attainable by both estate management and workers through the expansion of out-grower systems in Sri Lanka . Their research underscored the importance of ensuring long-term leasing arrangements and fair pricing mechanisms for green leaf to promote worker welfare and reduce poverty. Outsourcing specific field tasks (plucking, pruning, weeding, spraying) or using out-grower/contract farming arrangements can reduce unit production costs by improving labour productivity and allowing estates to avoid fixed labour overheads (Li. *et.al*, 2024). In Sri Lanka specifically, contract/outgrower models and revenue-sharing or performance-based wage systems are widely discussed as ways to reduce per-kg cost of production however social and institutional issues labour relations, certification influence net gain International Labour Organization (2018).

Worker Retention through Acknowledgement and Shared Responsibility for Industry Development. A key aspect of industry reform lies in worker empowerment and recognition. Participants emphasized that Contract Farming Systems (CFS) and Out-Grower Systems (OGS) represent practical mechanisms for enhancing both worker income and productivity. Several plantations have introduced initiatives to acknowledge and celebrate employee achievements, fostering a sense of belonging and

motivation among workers. These recognition programs have strengthened the connection between workers and estate management, creating a more cohesive and committed workforce.

Under the CFS model, estate employees are entrusted with the development and management of tea bushes, which promotes accountability and shared responsibility. Respondents reported that effective AWDMs not only improve workers' economic outcomes but additionally enhance their social status and dignity, leading to more positive workplace behavior. Furthermore, as observed by Nadeeshani and Shyamalie (2025), these systems have contributed to increased male participation in estate work and reduced male out-migration because of the creation of a more dignified and community-oriented work environment (Nadeeshani & Shyamalie,2025)

Additionally, the study revealed that low labor productivity in tea plantations is closely linked to the limited social development of estate communities. This social disadvantage constrains workers' capabilities and negatively impacts overall productivity. However, Ikemoto (1992) suggests that rural migrants can be encouraged to return to their origins through "pull factors," such as the revitalization of agricultural opportunities . In this context, the entrepreneurial nature of contract farming may serve as an effective mechanism to attract youth back to the plantation sector, functioning as a "back-to-the-land" initiative that helps mitigate future labor shortages.

Estate workers seek social recognition and improved living conditions, whereas Regional Plantation Companies (RPCs) primarily aim to enhance productivity. Yet, existing labor policies of RPCs are often inadequate to address the socio-economic challenges faced by estate workers (Dishanka, 2012). Therefore, coordinated policy interventions from the government and trade unions are essential to ensure the effective implementation and sustainability of AWDMs.

Adopting AWDMs offers multiple benefits in the face of labor shortages. These include the ability to harvest the full extent of cultivated land, prevention of encroachment and illicit plucking, and yield enhancement without increasing labor costs, owing to the

productivity-driven nature of the system. Consequently, AWDMs simultaneously address three major challenges in the Sri Lankan tea industry: low productivity, high production costs, and labor scarcity (Shyamalie & Wellala, 2012).

Importantly, these models additionally help restore the dignity of labor within plantation communities. Allowing estate families to manage individual plots provides greater flexibility, autonomy, and a sense of ownership. Furthermore, as noted by Glover and Kusterer (1990), , contract farming can prevent social differentiation while promoting smallholder empowerment and collective action (Baumann, 2000).

AWDM as a Strategy to Revitalize Benefits from Low-Yielding Tea Bushes in Estates. Tea estates typically comprise several categories of tea bushes, including vegetatively propagated (VP) varieties, old seedling bushes, and medium-level, well-maintained older bushes. According to estate managers, Alternative Worker Deployment Models (AWDMs) are increasingly utilized as a strategy to generate revenue from unproductive or low-yielding tea lands.

However, managers additionally expressed concern that participants with limited agronomic knowledge and restricted financial resources may find it difficult to achieve the intended productivity outcomes, potentially resulting in system failure or worker dissatisfaction. Cultivation of marginal lands often demands considerable labor and financial investment, yet yields remain low. Consequently, it is recommended that estates allocate smaller, more manageable, and economically viable land blocks to each participating family to enhance feasibility and sustainability.

Despite these considerations, many estates have not adequately accounted for such operational constraints, leading to implementation challenges and inconsistent results. Furthermore, the replanting of old tea cultivations a critical factor for long-term sustainability continues to occur at a sluggish pace, particularly in Sri Lanka. In this context, AWDMs could serve as an intermediate strategy to extract residual value from aging tea bushes while facilitating a gradual transition toward replanting and improved productivity.

Theme 2 Critical Points to be Considered for the Sustainability of AWDMs

Method of Payment for Green Leaf. Conferring to Nadeeshani and Shyamalie(2025), there is a considerable variation in the payment methods for green leaf supplied by contract growers. In most cases, the bought leaf rate (BLR) is determined by the respective plantation companies . Some estates pay a fixed price per unit of green leaf, whereas others calculate payments as a percentage of the green leaf price, using the standard green leaf formula.

Variations additionally exist in the timing of payments. Certain estates disburse payments on specific days determined by the management, while others pay workers before the regular monthly salary cycle. From the perspective of estate managers, these payment-related factors are crucial to the continuity and long-term success of AWDMs. Managers emphasized that a fair, consistent, and transparent payment mechanism is essential to acknowledge workers' commitment and to maintain their motivation and trust in the system.

Supervisory Role and Monitoring Mechanisms. According to Mohd Yusoff and Mohd Saad (2025) , supervisors often regarded as the "human face" of an organization play a pivotal role in ensuring the success of alternative worker deployment systems. Their responsibilities extend beyond operational oversight to include fostering trust, motivation, and a supportive work environment. By cultivating trust-based relationships, supervisors can enhance employee commitment, sustain high performance, and promote a positive organizational culture that benefits both workers and management.

In the context of Alternative Worker Deployment Models (AWDMs), an effective and holistic monitoring system is essential, particularly during the initial stages of implementation. Despite the potential advantages of the out-grower model, the Sri Lankan tea industry continues to face significant challenges related to product quality and production consistency. Estate managers reported that many estates have developed individualized strategies to maintain leaf quality and meet production targets.

One critical aspect of monitoring involves bush management practices, especially the assessment of leaf yield per plucking round. Consistency in these measurements is vital, and variations in total plucked quantities should ideally remain within a 5–8% margin. Significant deviations may indicate issues such as incomplete plucking, unauthorized harvesting by workers from neighboring estates, or other forms of irregular activity. Sudden or sharp declines in yield per hectare (YPH) are often symptomatic of these problems.

Therefore, the establishment of structured supervision and transparent monitoring mechanisms is imperative for maintaining product quality, achieving production objectives, and ensuring the overall sustainability of AWDMs in the plantation sector.

Training and Capacity Building of the Workforce. The workforce is central to the success of tea plantations, and their training and motivation are critical for achieving productivity and quality objectives. Estate pluckers should be carefully selected and adequately trained to maximize efficiency and ensure adherence to best agricultural practices. Understanding workers' needs and enhancing their quality of life can further contribute to improved performance.

Estate management should prioritize recognizing and developing the talents of all employees, fostering both skill enhancement and worker satisfaction. Knowledge of good agricultural practices (GAP) is particularly crucial for workers managing their own plots under AWDMs, as it enables them to operate independently and maintain productivity standards(Nadeeshani & Shyamalie, 2025).To address existing knowledge gaps, estates should implement targeted training programs, complemented by routine supervisory visits and extension services. Such a combination ensures ongoing guidance while empowering workers to manage their allocated blocks effectively, thereby supporting both individual and estate-level productivity goals.

Fertilizer, chemical and other input supply. Fertilizer application is a standard management practice in tea cultivation and has a significant impact on yield, productivity, and tea quality (Qiu *et al*., 2014). However, high fertilizer costs can

reduce net returns and profits for farmers, while the uncontrolled use of inorganic fertilizers may result in soil degradation and water contamination through runoff and leaching (Shiwakoti, 2023).

Most estate managers emphasized that the supply of agricultural inputs should be managed by the estate, with workers performing agronomic practices under the supervision of field staff in accordance with the estate work schedule. Knowledge of chemical and fertilizer application is essential for maximizing yield, managing costs, maintaining quality, and protecting the environment .

Preliminary analysis of worker knowledge revealed that most sampled workers demonstrated acceptable knowledge of plucking, but only moderate understanding of weed management, pest and disease control, and soil conservation. Notably, 40% and 36% of workers had poor knowledge of pest and disease control and soil conservation, respectively. Furthermore, 87% of workers lacked acceptable knowledge regarding soil fertility management strategies (Annual Report TRI, 2021). These findings highlight the critical need for targeted training programs to improve workers' agronomic skills and support sustainable tea production.

Theme 3. Irregularity of Policies Makes These Systems Less Sustainable.

Policy Considerations for Sustainable AWDMs. Irregular or inconsistent policies can hinder the sustainability of alternative worker deployment models (AWDMs). While contract farming (CF) models offer notable benefits, significant challenges remain, particularly in establishing a transparent and fair method for calculating green leaf rates. When considering alternative wage structures, a context-specific approach that reflects the unique characteristics of the Sri Lankan tea industry is essential for enhancing worker welfare and improving the overall competitiveness of the sector.

It is widely acknowledged that labor policies and organizational practices play a crucial role in improving workforce productivity productivity (Dishanka & Amaratunge, , 2011). However, this should not imply that plantations are static systems with unchanging labor dynamics. On the contrary, a plantation is an integral part of a broader

social system, and any changes in this system inevitably influence prevailing production relations (Bhowmik, 1981).

Theme 4. Way Forward With AWDMS.

Digitization of plantation management operations. To improve operational transparency, efficiency, visibility, digitization, and large-scale decision-making. Nowadays, the majority of plantation companies are digitizing their manufacturing and tea field management operations. Plantation workflows, including morning muster, harvest, and factory, can be automated and streamlined. Real-time reports will be possible thanks to the recording of these processes. This platform is perfect for supporting data-driven plantation management because it helps with wage calculation by supporting proper worker management through task management, field-level activities, and administrative oversight.

To enhance operational visibility, efficiency, transparency, digitization, and decision-making at scale. Most of plantation companies now in a process of digitization of management operations in tea field operations as well as manufacturing operations. The ability to streamline and automate plantation workflows such as core operations from Morning muster to harvest to factory will be recorded enabling real time reports. Wage calculation by assisting proper worker management via task management field level activities to administrative oversight makes it an ideal platform to support data driven plantation management. Furthermore, manual, paper-based procedures could be eliminated as a result of these systems expediting mobile access. To improve transparency, cut down on inefficiencies, and lower operational risks, these digital platforms will make it possible to collect precise, real-time field data. Field-to-factory integration will be seamless thanks to the user-friendly interface and robust back-end processing, which will enable quicker and more intelligent decisions at all management levels. Through enhanced labor supervision, better resource allocation, cost reduction, and increased accountability, digital plantation management will set a new standard for the sector.

Decent work environment for tea plantation workers. The term "decent work" describes opportunities for both men and women to find employment under terms of human dignity, freedom, equity, and security. A plan to accomplish people-centered sustainable development is the foundation of the Decent Work concept. According to the ILO, decent work encapsulates people's goals for their careers. It entails: Possibilities for productive work that pays fairly; job security and family social protection; improved opportunities for social integration and personal growth; freedom to organize, voice concerns, and take part in life-altering decisions; and gender equality in terms of opportunity and treatment. According to the ILO, reducing poverty and attaining a fair globalization require both decent work and productive employment. The agenda for decent work is built upon four strategic pillars, namely. rights at work, social protection, employment creation, and social discourse.

4. Conclusion

This study revealed that Alternative Worker Deployment Models (AWDMs) are a promising strategy to address labor shortages, high production costs, and low productivity in Sri Lanka's tea plantations. Models such as contract farming and out-grower systems enhance worker retention, empowerment, and social recognition, while additionally enabling better utilization of marginal and low-yielding lands. The sustainability of these models depends on transparent payment systems, effective supervision, worker training, and supportive policies. Overall, AWDMs offer a holistic approach to improving productivity and operational efficiency, provided that estates engage stakeholders, adapt to local contexts, and maintain long-term commitment.

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Reference

Barua, P. (2024). Plantation agriculture: development, dependency and social change. International Journal of Science and Social Science Research. 2(3), 208–219 https://doi.org/10.5281/zenodo.14293545.

Chandrabose, A. S., & Sivapragasam, P. P. (2015). Red colour of tea: Cen-tral issues that impact the tea plantation community in Sri Lanka. CCFD and Human Development Organization.

Dishanka, S., & Ikemoto, Y. (2012). Social development and labor produc-tivity: A study on labor policies and practices of regional tea plantation companies in Sri Lanka.

Glover, D. & Kusterer, K.(1990). Small farmers, big business: contract farming and rural development. Macmillan, Basingstoke.

Ikemoto, Y. (1992). Income inequality in Thailand in the 1980s. Southeast Asian Studies, 30(2), 213–235.

International Labour Organization. (2018). Future of work for tea small-holders in Sri Lanka. ILO Country Office for Sri Lanka & the Maldives.

https://www.ilo.org/sites/default/files/wcmsp5/groups/public/%40asia/%40ro-bangkok/%40ilo-colombo/documents/publication/wcms_654641.pdf.

Li, C., Zhang, D., Lu, Q., Wei, J., & Zhang, Q. (2024). Production process out-sourcing, farmers' operation capability, and income-enhancing effects. Ag-riculture, 14(9), 1448.

https://doi.org/10.3390/agriculture14091448.

Ministry of Plantation Industries. (1984–2022). Statistical pocket book. Ministry of Plantation Industries of Sri Lanka.

Mohd Yusoff, M. S. (2025). The role of compensation, supervision support, and working environment in shaping job satisfaction among plantation workers in Malaysia: A conceptual paper. International Journal of Re-search and Innovation in Social Science, 9, 4578–4585.

https://doi.org/10.47772/IJRISS.2025.90300367.

Nadeeshani, K.W.N., Shyamalie, H.W., Rathnayake, R.M.A.T., Dis-sanayake, K.D.M.P.M & Abekoon, K.M.T.N.B., (2025). Alternative worker deploy-ment models for cooperate sector tea plantations. Proc.242nd Experiments and Extension Forum, The Tea Research Institute of Sri Lanka. 23-33

Patton, M. Q. (1990). Qualitative evaluation and research methods (2nd ed.). Sage.

Qiu, S. L., et al. (2014). Effects of fertilization regimes on tea yields, soil fer-tility, and soil microbial diversity. Chilean Journal of Agricultural Research, 74(3), 333–339.

https://doi.org/10.4067/S0718-58392014000300012

Shiwakoti, L., Chalise, K., Dahal, P., Shiwakoti, R., Katuwal, N., & KC, Y. (2023). Effect of fertilizer application on tea plant productivity and phyto-chemicals in prepared black tea. Cogent Food & Agriculture, 9.

https://doi.org/10.1080/23311932.2023.2184013

Shyamalie, H.W., (2021) Report of the Agricultural Economics Division. Annual Report, Tea Research Institute of Sri Lanka.

Shyamalie, H. W. S., & Nadeeshani, K. W. N. (2012). Implementation of tea out grower system in tea plantations. Tea Bulletin, 21(2), 16–24. ISSN 1012-3962.