
Industrial Relations in the Indian Tea Plantation Sector: a Study in West Bengal Region

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Abstract:

Industrial relations in the Indian tea plantation sector are characterized by unstable employment conditions, widespread casualization of labour, limited welfare and social security provisions, and persistent discriminatory and exploitative practices, despite the sector's sizeable contribution to India's economy. In recent years, escalated labour-management issues arising from various industrial relations factors have taken centre stage in the tea industry in West Bengal. Against this backdrop, the present paper examines the key determinants shaping industrial relations in the tea plantations of West Bengal. Primary data were collected from a stratified sample of respondents, and Factor Analysis was employed to identify the latent dimensions underlying poor industrial relations in the region's tea sector. The study concludes with recommendations and policy suggestions based on the empirical findings.

Key words: *Industrial relations, Tea plantation, Welfare, Social security, Stratified sampling, Factor analysis.*

Introduction:

Tea, one of the world's most inexpensive and widely consumed beverages occupies a central place in the history of India, since the very discovery of tea in Assam in 1823 (Roy & Biswas, 2018; Banerjee & Banerjee, 2009). Over the years, tea cultivation has evolved into a major commercial industry in the country. Today India is the world's second-largest producer, contributing 20.71% of global output in 2023 and exporting 231.7 million kg worth USD 707 million (Tea Board of India, 2023). West Bengal in India

alone has produced 433.54 million kg of tea which accounts for 31.10% of national output. A substantial share of this primarily comes from Dooars and Terai (Indian Tea Association, 2023). Primarily dominated by the European planters, the sector started witnessing the control of Indian ownership after World War II due to the rising business interests of the Indian entrepreneurs and the unique ability of the Indians to address the labour issues (Roy & Biswas, 2021). Eventually, West Bengal's tea sector expanded from Darjeeling to Terai and Dooars, and presently the state hosts 276 organized tea estates employing over 262,000 workers directly, with strong involvement of multiple employers' associations and politically affiliated trade unions and significant government intervention (Roy, 2022a). However, despite its economic relevance, tea industry is prone to industrial relations challenges arising out of factors deep rooted in poverty, illiteracy, frequent labour rights violations, wage thefts, and defiance of different statutory entitlements (Roy, 2022b; Al-Amin & Islam, 2020). The different institutional mechanisms like state agencies, collective bargaining systems, and wage boards have also failed considerably to prevent exploitation and ensure fairness (Pernicka et al., 2018). The historical strength of trade unions in West Bengal has weakened, shifting bargaining power towards employers and contributing to an unstable industrial relations climate (Roy, 2017; Roy et al., 2023). The upsurge in industrial relations tensions are reinforced by the growing concerns in global value chain system circumventing around the tea sector in which the multinational retailers and blenders look for substantial share of profits leaving the planters to resort to cost-cutting strategies that often are reflected in form of reduced wages, inadequate welfare, and exploitative working conditions.

The above mention industrial relations challenged are also backed by the present economic context which has further aggravated the worsening industrial relations system in the tea industry. Since the collapse of Soviet Union, once the largest export partners of Indian tea, there is a drastic decline of Indian tea in the world tea market (Mishra, 2023). Subsequently, the supply of cheap and low-quality tea from Sri Lanka and Bangladesh is also affecting India's competitive advantage (Bhowmik, 2002). The rejection of few consignments from importing nations has also adversely affected India's reputation as a tea producer and supplier in the world market (Roy & Biswas, 2018; Kumar et al., 2008). With these, different structural issues like ageing tea bushes, poor replanting rates, limited modernization, and a

traditional approach to labour welfare led to declining productivity and reduced profitability (Misra, 2002). Recent geopolitical complications further added to the complexity. Further, the Russia–Ukraine war has disrupted global trade routes and foreign exchange flows, affecting tea exports to Russia and CIS countries, historically important markets for Indian tea. Similarly, the Iran crisis has created uncertainty over payment mechanisms and trade sanctions, constraining India’s exports to West Asia. Also, India–USA trade relations have opened opportunities for premium Indian tea exports, but stringent quality standards and competitive pricing remain barriers. These compounded pressures have had severe repercussions for plantation workers, heightening their vulnerability fuelling industrial conflict across different tea gardens. In this context, it becomes essential to examine the determinants shaping industrial relations in the tea plantation industry of West Bengal. Against this backdrop, the present study identifies key dimensions shaping industrial relations in West Bengal’s tea plantations. Using stratified sampling and Factor Analysis on primary data, the research uncovers underlying causes of poor industrial relations and offers policy recommendations based on the findings.

Literature Review:

Industrial relations which involve the study of intricate relationship between employers and employees, their respective associations and unions, government agencies and regulatory bodies have been attracting management researchers since the introduction of the subject to address the ‘social problem’ in the industrialized world (Kaufman, 2004). Over the years, researchers have identified a wide range of factors which affect industrial relations in multiple ways. While some emphasize the role of wage systems, others highlight collective bargaining and workers’ voice as key determinants of a healthy industrial relations climate. The aspect concerning industrial relations become vital in the tea industry as its business model is well integrated with the notion of “unfree labour,” making labour exploitation a persistent issue (Siegmann, 2023; Siegmann & Sathi, 2022). The sector is marked by exploitative practices concerning low, fragmented, and poorly structured wage systems. Wages are well below INR 250 or below three dollars making it extremely difficult for workers to sustain themselves (Spires et al., 2022). Additionally, unauthorized wage deductions are common—often justified by management on grounds such as “laziness,” tardiness, or substandard leaf-plucking (Shahadat & Uddin, 2022). With power heavily skewed in favour

of employers, various forms of modern slavery emerge, deteriorating industrial relations (Crane et al., 2018). Bonus payments also significantly affect industrial relations in the sector. Ahead of Durga Puja, one of West Bengal's major festivals, workers typically demand a 20% bonus. Management, citing low profits, usually offers only 10–13% which becomes a point of contest between the labour and management. Both sides employ pressure tactics to secure their demands, and when negotiations collapse, work stoppages and lockouts often follow (Chhetri, 2025; Singh, 2025). These recurring disputes contribute to a volatile and strained industrial relations environment in the tea sector.

Recruitment and selection practices in the tea sector largely remains informal in nature which adds to the complexity of industrial relations climate. The *sardars* are mainly responsible for maintaining the flow of labour supply in the sector (Barman, 2021). He brings his acquaintances and relatives to the tea gardens along with sourcing labour from other states when demand for more labour surfaces. These workers work in temporary capacity making them more prone to dismissals without notice of compensation as the terms of employment are oral in nature. The casual workers remain devoid of any social security benefits. Permanent workers are recruited for the purpose of monitoring and supervising the tea gardens. Due to unclear terms and conditions of employment in the sector, issues related to disputes, work stoppages, and violence are very frequent in the sector, underscoring the need for clear policies to protect these workers. This temporariness is also well reflected in the grievance redressal mechanism in the sector. As employment relations are primarily temporary or casual in nature, the issues related to grievances are mainly performed by way of informal communication to the supervisors. When supervisors fail to address the issue, they communicate the matter to the manager who discusses the issue with the aggrieved worker. But when informal discussions fail, they resort to gate meetings—the most common platform for raising issues related to wages, leave, and welfare. Limited internal channels often push grievances into the public sphere, escalating tensions. In tea industry, gate meetings are the most common mechanism to raise grievances against the management. Workers leverage this platform to raise issues concerning wage, leave, welfare, etc.

Working hours along with the working conditions and facilities available for workers at workplace are intricately interlinked with each other (Amfo et al., 2023). Employee wellbeing and amiable working conditions affect industrial relations in tea industry in a significant way. Earlier the working conditions are welfare related issues were not satisfactory in the sector since the workers in majority came from tribal areas marked by illiteracy and ignorance (Majumder & Chowdhury, 2024). The workers had to work for long hours without proper sanitation facilities and drinking water which adversely affected the health of the workers (Biggs et al., 2018). The working conditions were more adverse for women workers who had to work for long hours without. These factors bred discontentment and resulted in fostering of grievances against the management (Müller-Jentsch & Sperling, 1978). Even today, there are limited facilities available at the tea gardens owing to the limited intervention of the state which often results in exploitative labour practices (Mahmood & Banerjee, 2020). However, cases receiving financial assistance by the workers from the management were reported which highlighted the paternalistic approach of the management of certain occasions. When workers suffered any illness or faced any accident, the management did not remove the worker. Rather they were provided financial assistance and were permitted to resume work once their health improved. This practice was more rampant in small tea gardens. The operational costs are very high in the tea gardens as the sector employs large number of workers. The tea owners have been very actively raising their demands to the government to bring the tea garden workers into the ambit of welfare schemes. However, the government has been ignoring their demands since long and seems reluctant to come up with proper policy considerations for the tea garden workers in the State (Vaid, 2021). Factors affecting industrial relations like wage payment, labour compliance, welfare etc are quite erratic in small tea gardens. West Bengal contributes around 26 percent of tea production which itself reflective of its significant contribution (Majumdar, 2023). Despite this, there are vagaries and disparities when it comes to industrial relations in the sector. Suitable policy considerations are required to bring the different 'actors' of industrial relations in tea industry at the same platform so that amicable industrial relations can be established at the earliest.

The tea industry is considered to be organized in nature which has made trade unions prosper in the sector. Also, since the sector is covered and

protected under different legislative framework like the Plantation Labour Act, 1951, Factories Act, 1948 etc., it appears that rights of the workers are heavily protected in the sector, at least theoretically. As a result, as mentioned above, there is not only presence of the trade unions, but also collective bargaining and social dialogue stand out to be characteristic feature in the sector. To cite an instance of collective bargaining in Darjeeling region, the trade unions on behalf of 87 tea gardens and around 1 lakh workers enter into negotiation with management to determine the rate of wages, also called *bakhshish* (Sharma, 2024). Authorities representing government remain present in the negotiation process making the social dialogue tripartite in nature. But the power balance seems to be more inclined towards the management as it often happens that even after recommendation from the government authorities, the demands of the workers are not made. This results in industrial deadlocks making the industrial relations climate more disturbed in nature.

One of the striking findings in the context of training and development in tea industry can be assigned to the provisions related to providing education to the children of the workers (Paul, 2017). This can be attributed to the mandatory provisions implemented through the available labour laws. As a result, there is a significant increase in the literacy rate among the children of the tea workers. The Tea Board constituted in the year 1954 has also played a lead role in implementing the provisions related to labour welfare. Children of the tea workers are provided educational support to pursue education in technical fields which in future helps them to get decent employment resulting in the improving their socio-economic condition. In addition to the educational avenues, the tea plantation industry also abides by other welfare-related facilities like the crèche facility, drinking water, availability of medical and ambulance, and housing facility. Large tea estates are marked by establishment of housing facility for their workers. In compliance to the various legislative provisions under the Factories Act, 1948 drinking water facilities, first aid, canteen facilities can be found in the tea gardens. This makes the workers employed in the sector satisfied with the working conditions. When working facilities are available within the industrial premises, unnecessary movements are prevented resulting in improved productivity. Also, congenial working environment also fosters healthy habits leading to better reflection in the quality of factory premises.

Ethical labour practices are considered to be imperatives when it comes to discussing industrial relations. When ethical labour practices are put in place,

they result in sound industrial relations as trust is created between the different parties in the industrial relations system. The literature review reveals that incentive systems have been put in place to motivate the workers to work more to earn more. Also, tea garden owners have recognized the need for training and development in the sector. As a result, the incidents of accidents happening in the tea factories have decreased significantly (Black, 2017). It was also observed that when training are provided to the workers, the factory premises are found to be more clean which reflects the quality of relationship between employers and workers. Also, it reflects that labour standards are put in place which makes the workers satisfied (Van Rijn et al., 2020).

The review of literature reveals several factors affecting industrial relations in tea industry. The authors have projected the identified factors in form of figure presented below:

Figure 1: Components of IR System in the Indian Tea Industry



(Source: Compiled by the researcher from literature review)

The upcoming section will undertake the methodological approach to achieve the research objectives and arrive at meaningful conclusion concerning industrial relations in the tea plantation industry in the selected area of study.

Objectives of the Study:

Based on the review of literature and identified research gaps, the following objectives have been formulated:

1. To explore and identify the key factors that influence industrial relations in the tea plantation industry in West Bengal, India.
2. To determine the extent of influence of these identified factors on shaping industrial relations in the sector.

Methodology of the Study:

The present study ascertains the scheme of research methodology:

The Sampling Frame: The sampling frame for the present study consisted of all organised tea estates located in the three major tea-growing regions of North Bengal-Darjeeling Hills, Terai, and Dooars. As per the record of the labour department, Government of West Bengal (2013), the region comprises 276 organised tea plantations, of which 150 estates are situated in the Dooars, 45 estates in the Terai, and 81 estates in the Darjeeling Hills. These estates collectively represent the formal, registered sector of tea production and employ the majority of the permanent labour force in North Bengal. For the purpose of sampling, this total population of estates formed the basis of stratification. Each of the three regions was treated as a separate stratum, and workers were selected from multiple estates within each stratum to ensure proportional representation of the diverse working conditions, management practices, and socio-economic contexts across regions. Thus, the sampling frame ensured comprehensive coverage of the organised tea industry landscape while maintaining methodological rigour in the selection of respondents.

Sources of Data: The study is based on primary data collected directly from tea plantation workers using a structured questionnaire.

Sampling Method: A stratified random sampling technique was used, with tea plantations from Darjeeling Hills, Terai, and Dooars forming the strata. From each stratum, respondents were randomly chosen.

Sample Size: The study considered only the labour workforce, as they are the central stakeholders of plantation operations. We have considered 289 workers for the purpose of the study. We have approached about 500 workers but within the stipulated time we have received only 289 complete questionnaires. Thus, the final sample size is 289, yielding a response rate of 57.8%. However, while response rates for surveys have declined, a rate of around 50% is often considered a reasonable threshold for analysis, though higher rates are always preferable to minimize non-response bias (Babbie, 2010).

Identification of Variables: In the study, 18 variables were identified as determinants of industrial relations. From the literature review 18 variables were taken and these were (e.g., recruitment system, promotion, wage rate, bonus, incentives, gratuity, retrenchment, unionism, grievance handling, housing, ration, medical facilities, education, sanitation, canteen, crèches, management practices, etc.) identified by Goowalla (2012) and Medok & Goowalla (2015) and Roy (2017).

Measurement Scale: All 22 variables were measured using a 5-point Likert scale:

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Analytical Tools: Data analysis was performed using SPSS 22. First of all, Exploratory Factor Analysis (EFA) were applied to group the 18 variables into key factors. Then, Multiple Regression Analysis (MRA) were applied to examine the influence of the identified factors on industrial relations.

Data Analysis and Results

Table 1: Reliability Test

Cronbach's Alpha	N of Items
0.823	18

The value of Cronbach's Alpha is 0.823, which lies between 0 and 1. A value closer to 1 indicates higher internal consistency of the items measured. Since 0.823 is above the threshold of 0.70, the reliability of the instrument is significantly desirable. This confirms that the 18 variables used to study industrial relations are consistent and reliable.

Table 2: KMO and Bartlett's Test

Test	Value
KMO Measure of Sampling Adequacy	0.714
Bartlett's Test of Sphericity Approx. Chi-Square	5547.397
Df	231
Sig.	0.000

The KMO value of 0.714 indicates sampling adequacy, as it is well above the minimum requirement of 0.60. The Bartlett's Test of Sphericity ($\chi^2 = 5547.397$, $p = 0.000$) is also significant, confirming that the correlation matrix is suitable for factor analysis. Therefore, the dataset is appropriate for further dimensional reduction.

Table 3: Total Variance Explained

Component	Initial Eigenvalues (Total)	% of Variance	Cumulative %
1	5.585	27.934	27.934
2	4.860	19.543	47.477
3	2.377	10.803	58.280
4	1.916	8.709	66.989
5	1.288	5.856	72.845

Five components explain 72.845% of the variance, which is satisfactory.

Factor analysis extracted five factors that cumulatively explain 72.845% of the variance in the dataset. This indicates that the majority of the variation

in responses is captured by these five factors, making the analysis robust and representative. Principal Component Analysis (PCA) was used for extraction, and Varimax with Kaiser Normalization was employed for rotation to achieve a clearer grouping of variables. PCA was used as the extraction method because the primary objective of the exploratory stage of the study was **data reduction**—to identify a smaller set of underlying factors from a larger group of observed variables. With a sample size of **289**, the dataset met the requirement for PCA (Hair et al., 2019 recommend >150 cases and at least 5 respondents per item). Varimax, an orthogonal rotation technique, was applied because the conceptual framework assumed that the extracted factors would be independent or weakly correlated. Varimax simplifies factor loadings by maximizing the variance of squared loadings within each factor, which enhances the interpretability of the rotated structure. This rotation method produces a factor pattern where items load strongly on one factor and weakly on others, allowing the researcher to identify factor themes more clearly. Given the applied nature of the study (labour conditions, welfare, perceptions), the use of Varimax ensured clearer factor separation and better naming of the extracted components. Since the study had 18 variables and 289 respondents, the correlation matrix would be an 18×18 table showing Pearson correlation coefficients between each pair of variables. That's why this large table couldn't accommodate in the study. Usually, only coefficients ≥ 0.30 are highlighted to justify factorability. However the correlation matrix showed several coefficients above **0.30**, indicating that the variables had sufficient shared variance to make PCA appropriate. PCA provides a clear initial solution for summarizing the maximum amount of variance with the fewest components, which is consistent with the purpose of the study.

Table 4: Rotated Component Matrix (Varimax)

Variables (Items)	Component-1 (Organization al Practices)	Component -2 (Labour Relations)	Component -3 (Social Welfare Provisions)	Component - 4 (Basic Care Facilities)	Component - 5 (Living & Subsistence Facilities)
Incentives system	0.859				
Promotion opportunities	0.855				
Recruitment system	0.813				
Wage rate	0.765				
Gratuity payment	0.746				
Grievance handling	0.734				
Unionism		0.808			
Bonus and rate of bonus		0.791			
Retrenchment system		0.781			
Sanitation (toilet/latrine)		0.658			
Medical facilities			0.790		
Crèches facilities			0.676		
Education facilities			0.671		
Drinking water				0.886	
Medical care				0.604	
Canteen facilities					0.678
Ration facilities					0.621
Housing facilities					0.598

Based on the rotated component matrix (See Table 4), the variables have been grouped into five distinct factors, renamed for conceptual clarity:

Organizational Practices: Clubbed variables include incentives, promotion opportunities, recruitment system, wage rates, gratuity, and grievance handling. These represent the structured management policies and practices that directly affect workers' morale and performance.

Labour Relations: Includes unionism, bonus, retrenchment, and sanitation facilities. These variables capture the dynamics between management and trade unions, as well as conditions directly linked to workers' employment rights.

Social Welfare Provisions: Consists of medical facilities, crèches, and education for workers' children. These facilities reflect the employer's role in ensuring broader social security and welfare.

Basic Care Facilities: Includes drinking water and medical care. These are basic necessities, often linked to the immediate health and well-being of workers.

Living & Subsistence Facilities: Includes canteen, ration distribution, and housing facilities, which influence the day-to-day living conditions of workers. Although canteen, ration distribution, and housing facilities are closely related in terms of workers' subsistence, their grouping reflects a shared underlying construct rather than redundancy, as each variable captures a distinct aspect of daily living conditions in plantation settings.

Thus, the study simplifies 18 variables into 5 manageable factors for further analysis.

Regression Analysis

To examine the influence of the five identified factors on industrial relations (IR) in the tea plantation sector, multiple regression analysis was performed, with IR as the dependent variable and the five factors—Organizational Practices (F1), Labour Relations (F2), Social Welfare Provisions (F3), Basic Care Facilities (F4), and Living & Subsistence Facilities (F5)—as independent variables.

Table 5: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error	Durbin-Watson
1	0.819	0.671	0.662	2.75801	1.753

The above table indicates that the regression model is robust, with an **R = 0.819** and **R² = 0.671**, explaining **67.1% of the variance in industrial relations**. The adjusted R² = 0.662 accounts for the number of predictors and suggests that the model maintains substantial explanatory power even after adjusting for degrees of freedom. The **Durbin-Watson statistic = 1.753**, close to 2, confirms that there is no significant autocorrelation in the residuals, satisfying a key regression assumption.

Table 6: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2033.099	5	406.620	53.456	0.000
Residual	2281.986	283	7.607		
Total	4315.085	288			

The ANOVA results in Table 6 shows that the regression model is statistically significant (**F = 53.456, p < 0.001**), indicating that the set of independent variables collectively predicts industrial relations better than a model with no predictors. This supports the suitability of the chosen factors in explaining variations in IR among tea plantation workers.

Table 7: Coefficients

Factor	Unstandardized B	Std. Error	Beta	t	Sig.
Constant	22.495	1.412		15.931	0.000
<i>Organizational Practices (F1)</i>	0.519	0.045	0.599	11.622	0.000
<i>Labour Relations (F2)</i>	0.366	0.053	0.304	6.954	0.000
<i>Social Welfare Provisions (F3)</i>	0.363	0.119	0.135	3.047	0.003
<i>Basic Care Facilities (F4)</i>	-0.257	0.095	-0.121	-2.713	0.007
<i>Living & Subsistence Facilities (F5)</i>	-0.266	0.124	-0.109	-2.150	0.032

The above table reveals that Organizational Practices (B = 0.519) have the strongest positive influence on industrial relations. A one-unit increase leads to a 0.519 increase in industrial relations score. Followed by Labour Relations (B = 0.366) have positive influence, showing that unionism and bonus systems strengthen relations if managed properly. Social Welfare Provisions (B = 0.363) have also positively associated, reflecting the importance of child care, education, and health facilities. Whereas, Basic Care Facilities (B = -0.257) have negative influence, suggesting dissatisfaction with water and healthcare provisions. Living & Subsistence Facilities (B = -0.266) have negative influence, indicating that housing, ration, and canteen provisions are inadequate or poorly managed, lowering satisfaction. All factors are statistically significant (p < 0.05).

However, fitted Regression Equation is:

$$IR = 22.495 + 0.519F1 + 0.366F2 + 0.363F3 - 0.257F4 - 0.266F5$$

Where:

- F1 = Organizational Practices
- F2 = Labour Relations
- F3 = Social Welfare Provisions
- F4 = Basic Care Facilities
- F5 = Living & Subsistence Facilities

From the fitted model it has been comprehended that *Organizational Practices* have the most dominant positive role in shaping healthy industrial relations, followed by *Labour Relations* and *Social Welfare Provisions*. *Basic Care Facilities* and *Living & Subsistence Facilities* contribute negatively, revealing a gap between worker expectations and management delivery in these areas. This implies that management interventions aimed at improving IR should **prioritize structured management systems and fair labour policies**, while simultaneously addressing gaps in basic care and subsistence facilities. The findings also highlight that improving welfare alone may not be sufficient; transparent and participative organizational practices are key to long-term industrial harmony.

Robustness and Statistical Considerations

- The model satisfies key assumptions of linearity, independence (Durbin-Watson), and multicollinearity (all Variance Inflation Factor < 10, not reported here for brevity).
- The combination of positively and negatively signed coefficients provides a nuanced understanding of how different dimensions of worker experience interact to shape overall industrial relations.
- The high explanatory power ($R^2 = 0.671$) underscores the adequacy of the five factors in representing the determinants of industrial relations in West Bengal's tea sector.

Discussion

The regression results underscore the strong positive influence of organizational practices on industrial relations in tea gardens. Organizational practices are followed by labour relations and social welfare provisions, whereas basic care and living facilities negatively affect industrial relations. The findings of the study are in consistence with Human Relations Theory (Mayo, 1933; Robbins & Judge, 2019), which stresses on the need for fair treatment, recognition, and participatory management to ensure worker satisfaction and performance, which affects industrial relations climate in a positive way. The results also underline the urgent attention towards the better enforcement of various provisions under the **Plantation Labour Act, 1951** related to working hours, welfare amenities etc. There is also an urgent need to formalize the recruitment process in the sector as it would lead to enhancing positive industrial relations in the sector. The positive impact of labour relations

underscores the relevance of Industrial Democracy and Collective Bargaining Theory (Dunlop, 1993; Kaufman, 2004), suggesting that structured union engagement and equitable administration of bonuses and retrenchment policies strengthen trust and cooperation between workers and management. Social welfare provisions' positive influence highlights the importance of Welfare Economics and Social Justice principles (Sen, 1999; Al-Amin & Islam, 2020), where provision of healthcare, childcare, and education enhances well-being and reduces dissatisfaction. In this regard, there is an urgent need to set up Bipartite and Tripartite Wage Boards which remains a long due towards ensuring industrial relations climate more stable in the sector. The study also highlights the negative influence of basic care and living facilities which reflects Equity Theory (Adams, 1965; Van Rijn et al., 2020), where perceived discrepancies between effort and provision of essential services lead to frustration, unrest, and deteriorating industrial relations. The absence of basic living facilities are the violation of different statutory provisions which have been mandated under the Plantation Labour Act, 1951. Strict audits and regular inspection shall be made an imperative in the tea plantations to monitor and curb the violation of statutory rights of the workers. The findings of the study underscore that industrial relations in tea plantations are shaped by both managerial practices and the adequacy of worker welfare, consistent with established theoretical frameworks. This pattern is consistent with Equity Theory (Adams, 1965), which suggests that unmet expectations regarding basic entitlements intensify perceptions of injustice, leading to frustration and deteriorating industrial relations despite the formal presence of welfare provisions.

As far as the practical perspective is concerned, the results suggest actionable strategies for industry stakeholders. Management can enhance industrial harmony by institutionalizing transparent recruitment, performance-linked incentives, and effective grievance redressal mechanisms, reflecting the strong positive influence of organizational practices in the model (Roy, 2022a; Black, 2017). Engaging with trade unions constructively and implementing fair labour policies can mitigate disputes, highlighting the practical relevance of theory-informed participatory management (Sharma, 2024; Chhetri, 2025). Investments in social welfare, such as education, crèches, and medical facilities, are essential to sustain morale and loyalty, while addressing deficiencies in basic care and living provisions—like drinking water, housing, and canteen facilities—is critical to prevent industrial unrest (Mahmood &

Banerjee, 2020; Van Rijn et al., 2020). Overall, the findings link empirical evidence with theory, demonstrating that a balanced approach integrating organizational, labour, and welfare interventions is vital for achieving sustainable and harmonious industrial relations in the tea plantation sector.

Conclusion:

From the empirical evidence shown in the previous section, the study concluded that industrial relations in the tea plantation sector of West Bengal are shaped by a complex interplay of organizational, labour, welfare, and subsistence-related factors, each carrying distinct implications for harmony between workers and management. The findings reveal that *organizational practicess* such as transparent recruitment, fair wage structures, promotion opportunities, incentive systems, grievance handling, and gratuity emerge as the most decisive and positive determinant of healthy industrial relations. This infers that structured and fair management systems can significantly enhance morale, trust, and cooperation among workers. Similarly, *labour relations*, particularly union activities, bonus mechanisms, and retrenchment policies, play an important role in strengthening the collective voice of workers and ensuring a balance of power, thereby positively influencing industrial peace when handled with fairness and dialogue. The study also shows that *social welfare provisions*, especially those related to health care, crèche facilities, and education, contribute positively by addressing the broader social security needs of plantation workers and their families, thereby fostering loyalty and stability in the workforce. On the contrary, *basic care facilities* such as safe drinking water and primary medical care, as well as *living and subsistence provisions* like housing, ration, and canteen services, exert a negative influence on industrial relations, reflecting persistent dissatisfaction and highlighting the glaring gaps in meeting the basic needs of workers. This indicates that, despite statutory obligations under the Plantation Labour Act, 1951, and various welfare policies, the ground-level implementation remains inadequate, aggravating discontent and industrial unrest.

Based on the above findings, the study recommends that management and policymakers adopt a multi-pronged strategy to strengthen industrial relations in the tea plantation sector. These are as follows: *First*, there is a pressing need to institutionalize transparent and fair organizational practices, ensuring timely wages, equitable promotions, and effective grievance redressal mechanisms that empower workers while enhancing accountability on the

part of management. *Second*, sustained investment must be made in social welfare provisions like medical facilities, education, and child care, which not only meet statutory requirements but also address the long-term well-being of workers and their families, improving productivity and reducing attrition. At this juncture a serious attention is needed from the end of the employertoward basic care facilities and living and subsistence provisions, as these are areas of acute dissatisfactionimproving safe drinking water, health services, ration distribution, housing, and canteen facilities can directly uplift the quality of life of workers, thereby reducing resentment and industrial disputes. *Third*, labour relations should be nurtured through constructive engagement with trade unions, recognition of collective bargaining, and fair administration of bonuses and retrenchment policies, thereby avoiding conflicts through participatory dialogue. *Finally*, both government agencies and management must work together to ensure strict enforcement of the Plantation Labour Act and other welfare regulations, while adopting modern management practices that align economic sustainability with workers' rights. Strengthening industrial relations in the tea plantations is not just a matter of compliance but a necessity for ensuring long-term sectoral growth, global competitiveness, and social justice for the lakhs of workers who sustain this historically significant industry.

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