

**A REPORT  
ON  
TEA PLANTATION WORKERS IN ASSAM: AN EMPIRICAL  
EXAMINATION OF THEIR PRESENT CONDITIONS OF LIVING  
AND HEALTH**

**(AN IN-HOUSE PROJECT SPONSORED BY NALBARI  
COMMERCE COLLEGE, NALBARI)  
SESSION 2022-23**

**SUBMITTED TO  
RESEARCH AND DEVELOPMENT CELL**



**विन्देम देवतां वाचम्**

**NALBARI COMMERCE COLLEGE, NALBARI**

**PROJECT CARRIED OUT BY  
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BARMAN**

**UNDER THE SUPERVISION OF**

**BIBHUTI BHUSAN DAS  
HOD, DEPT. OF MANAGEMENT  
&**

**DR. KABIN SARMA  
ASSISTANT PROFESSOR, DEPT. OF MANAGEMENT  
NALBARI COMMERCE COLLEGE, NALBARI**



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**MESSAGE FROM THE PRINCIPAL**

The completion of the project on Tea Plantation Workers in Assam: An Empirical Examination of Their Present Conditions of Living and Health was a significant breakthrough for our college, and it would not have been possible without the compact support of the R&D Cell. This Cell has been involved in fostering a research culture within our college, encouraging students to explore innovations in their respective fields and contribute to the advancement of knowledge.

I would especially like to thank the postgraduate students who worked so hard on this project. In addition to improving the academic standing of the college, their dedication to their studies and enthusiasm for the topics they study have made significant contributions to their fields. Their diligent work has brought attention to the difficulties experienced by tea plantation laborers of Assam and yielded insights that may help improve working conditions.

I sincerely congratulate these students on their remarkable accomplishments. Future generations of students can look up to them as role models because of their persistence and dedication to their research. Their efforts serve as evidence of the value of research and its capacity to improve society.

I also want to thank the R&D Cell from the bottom of our hearts for their continuous support throughout the project. Their advice, resources, and knowledge have been crucial to the accomplishment of this research project. In addition to opening the door for many innovative projects, their dedication to developing a research culture at our college has given students the confidence to follow their academic passions.

Dr. Basanta Kalita



## DECLARATION

We hereby declare that this Report entitled “**Tea Plantation Workers in Assam: An Empirical Examination of Their Present Conditions of Living and Health**” embodies the result of our original work carried out under the supervision and guidance of Bibhuti Bhusan Das, *HoD, Department of Management, Nalbari Commerce College, Nalbari*, and Dr. Kabin Sarma, *Assistant Professor, Department of Management* and submitted to the Research and Development Cell, Nalbari Commerce College, Nalbari. To the best of our knowledge and belief, the findings in the project are based on the data collected and have not been extracted from any published work or journals except those specified in the Bibliography. We further declare that neither the dissertation as a whole nor any part of it has been submitted elsewhere for any research Degree or Diploma.



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## CERTIFICATE

This is to certify that Piyanuj Nilian Malakar, Indrajit Kalita, Mrigen Kalita, Bhaskarjyoti Pathak, Bhaskarjyoti Barman, Debarshi Barman, Ritwik Barman, Lakshman Barman, Bikash Barman, students of M. Com. 3<sup>rd</sup> Semester, of Nalbari Commerce College, Nalbari had carried out a research project entitled "**Tea Plantation Workers in Assam: An Empirical Examination of Their Present Conditions of Living and Health**" sponsored by Nalbari Commerce College, Nalbari and submitted this report to R&D Cell, Nalbari Commerce College, Nalbari. This report is the result of their sincere effort and no part of it has been submitted to any other Department University or Institution for any degree.

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## EXECUTIVE SUMMARY

The completion of the project on "Tea Plantation Workers in Assam: An Empirical Examination of Their Present Conditions of Living and Health" not only signifies a significant milestone for the college but also demonstrates its firm commitment to research and development. This project, which aimed to shed light on the living conditions and health status of tea plantation workers in Assam, shows the dedication of the college to addressing demanding societal issues and making a positive impact on the community.

The successful completion of this project would not have been possible without the wholehearted support of the Governing Body. Their belief in the importance of research and their willingness to allocate resources and provide guidance has been instrumental in the success of the project. Their commitment to fostering an environment conducive to research and development has allowed the college to flourish as a hub of intellectual curiosity and innovation.

Furthermore, the efforts of the postgraduate students involved in this project deserve special recognition. Their determined dedication, desire, and intellectual consistency have been crucial in carrying out the research, collecting data, and analyzing the findings. Their commitment to excellence and their ability to work collaboratively have been pivotal in ensuring the project's success.

This achievement not only highlights the importance of collaboration within the college but also sets the steps for future endeavors. The completion of this project serves as a stepping stone for further research and development initiatives, inspiring other faculty members and students to embark on similar projects that address pertinent social issues. It reinforces the commitment of the college to producing knowledge that can bring about positive change and improve the lives of marginalized communities.

Moreover, the completion of this project underscores the dedication of the college to fostering a research culture that encourages critical thinking, innovation, and interdisciplinary collaboration. By engaging in empirical research that directly impacts the lives of tea plantation workers, the college demonstrates its commitment to social responsibility and its role as a catalyst for positive change.

I congratulate you all involved with the success of the project.

Date:  
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Bibhuti Bhusan Das  
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## ACKNOWLEDGEMENT

To start, we would like to sincerely thank everyone who has contributed to our research project, both personally and in the form of bodies. This undertaking could not have been accomplished without their committed assistance, direction, resources, and recommendations. We would like to begin by expressing our gratitude to the governing body, secretary, president, and members for providing us with this chance to be a part of the assignment. Through them, we have been able to acquire formal research skills. Our sincere gratitude is due to our esteemed Principal Dr. Basanta Kalita Sir for his kind encouragement to embark on this initiative, which will instill a research culture within the institution.

We owe a debt of gratitude to our mentors and advisors for their invaluable guidance and experience along this journey. Their advice has not only impacted our study but also increased our subject matter knowledge and comprehension. Their untiring devotion to our success has been incredibly motivating. First of all, we would like to express our gratitude to our guide, Bibhuti Bhusan Das, HoD, Department of Management, and and Dr. Kabin Sarma, *Assistant Professor, Department of Management* Nalbari Commerce College, Nalbari, for all of his invaluable guidance and supervision throughout this project. We sincerely thank all of the faculty members whose insightful recommendations have made the project a reality. Lastly, we would like to thank all of the resource persons of the workshop on research methodology for their invaluable contributions to the research projects.

We would like to thank the volunteers and participants who gave up their time and energy to be a part of our research project. We owe a debt of gratitude to our peers and colleagues for their stimulating conversations, insightful critiques, and helpful insights. Again, I wish to express my profound gratitude to all of the writers, editors, and publishers whose invaluable books, papers, journals, magazines, and data helped us in our preparation for this work. We deeply apologize for any errors or omissions in the compilation of this report.

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# **Tea Plantation Workers in Assam: An Empirical Examination of Their Present Conditions of Living and Health**

## **1.1. Introduction:**

It is a matter of discussion whether the plantation workers get adequate health facilities or not. It is frequently argued that these workers often lack access to proper medical care, leading to a higher prevalence of diseases and health issues. The absence of well-equipped hospitals or clinics near the tea gardens worsens this problem. Consequently, the health of the labor force is compromised, impacting their productivity and quality of life.

Furthermore, the substandard housing conditions are supposed to be endured by plantation laborers. It emphasizes that many workers reside in small and dilapidated quarters, lacking basic amenities such as clean water, sanitation facilities, and electricity. These deplorable living conditions not only pose health risks but also contribute to a sense of deprivation and marginalization among the labor force.

Considering these challenges, the study emphasizes the importance of legislative measures to improve the socio-economic position of plantation laborers. It argues that government intervention is crucial to address the systemic issues faced by these workers. Legislative measures can ensure the provision of better health facilities, including the establishment of well-equipped hospitals or clinics near the tea gardens. Additionally, the government can enforce regulations to improve the housing conditions of plantation laborers, ensuring that they have access to decent and affordable housing.

Moreover, it is argued that legislative measures can also address the broader socio-economic concerns of plantation laborers. It argues that policies should be implemented to ensure fair wages, better working conditions, and access to education and skill development opportunities. By enacting such measures, the

government can uplift the socio-economic status of plantation laborers, empowering them to lead healthier and more prosperous lives.

The Tea Industry in Assam is not only the largest industry in the state but also one of the largest tea-producing regions in the world. With its vast tea plantations spread across the picturesque landscapes, Assam has become synonymous with tea production.

This industry plays a crucial role in the state's economy, providing employment opportunities to a significant number of both permanent and temporary workers. The tea gardens in Assam employ a diverse workforce, including skilled laborers, supervisors, managers, and administrative staff. The labor-intensive nature of tea cultivation and processing requires a substantial workforce, making it a vital source of livelihood for many in the region.

Recognizing the importance of protecting the rights and interests of tea workers, the Plantation Labour Act 1951 was enacted. This legislation aims to regulate and ensure the welfare of workers employed in the tea plantations of Assam. The implementation of this act has brought about significant improvements in the working and living conditions of tea workers.

One of the key areas addressed by the Plantation Labour Act is housing. The act mandates that tea garden owners provide suitable and adequate housing facilities for their workers. This provision ensures that workers have access to decent living conditions, with proper sanitation and basic amenities.

In addition to housing, the act also emphasizes the provision of essential services such as water supply, medical facilities, and educational opportunities. Tea garden owners are required to ensure that workers have access to clean and safe drinking water, as well as medical facilities for both routine check-ups and emergencies. Moreover, the act emphasizes the importance of education by mandating the establishment of schools within the tea gardens, ensuring that children of tea workers have access to quality education.



Furthermore, the Plantation Labour Act also recognizes the need for childcare facilities. It requires tea garden owners to provide crèche facilities for the children of workers, ensuring their safety and well-being while their parents are at work. This provision not only supports working parents but also contributes to the overall development and welfare of the children.

The act also addresses the issue of sanitation, emphasizing the provision of proper toilet facilities within the tea gardens. This provision ensures that workers have access to hygienic sanitation facilities, promoting their health and well-being.

Overall, the implementation of the Plantation Labour Act of 1951 in Assam has played a crucial role in improving the working and living conditions of tea workers. By addressing various statutory issues such as housing, water supply, medical and educational facilities, crèche, and sanitation, this legislation has contributed to the overall welfare and development of the tea industry in Assam.

The tea gardens in Assam, a state in northeastern India, are not only numerous but also spread across different districts within the state. This highlights the significant role that tea production plays in the regional economy and culture. tea gardens of Assam are renowned for producing high-quality tea, which is sought after both domestically and internationally.

The distribution of tea gardens across different districts in Assam showcases the state's diverse topography and climate, which are conducive to tea cultivation. Each district has its unique characteristics that contribute to the flavor and fragrance of the tea produced there. From the lush plains of Dibrugarh to the hilly terrains of Sonitpur, each district offers a distinct tea-growing environment.

The varying number of tea gardens in each district further emphasizes the importance of tea production in Assam. Some districts, such as Dibrugarh and Tinsukia, are known for housing a large concentration of tea gardens, while others have a more modest number. This distribution reflects the historical development of the tea industry in the state and the availability of suitable land for cultivation.

The tea gardens in Assam not only provide employment opportunities for thousands of people but also contribute significantly to the state's revenue. The tea industry is a major source of income for both small-scale farmers and large plantation owners. It supports the livelihoods of numerous families and plays a crucial role in poverty alleviation in the region.

Moreover, the tea gardens in Assam have become a popular tourist attraction, drawing visitors from all over the world. Tourists can explore the sprawling tea estates, witness the tea plucking and processing techniques, and even participate in tea-tasting sessions. This has led to the development of tea tourism, which further boosts the state's economy and promotes cultural exchange.

However, the present study will analyze the health and residential issues of the tea garden workers. The Assam Plantation Labour Act 1951 has also given more emphasis on the healthcare issues of the workers and the residential facilities of the workers.

## **1.2. Review of Literature:**

The literature review on plantation workers in Assam provides a comprehensive analysis of the various aspects related to their working conditions, living conditions, health issues, and socio-economic status.

The review begins by examining the **historical background of plantation workers in Assam**, tracing their origins back to the colonial era when they were brought in as indentured laborers. It then delves into the current situation, highlighting the challenges these workers face in terms of low wages, long working hours, lack of access to basic amenities, and limited social security.

Furthermore, the review explores the health issues prevalent among plantation workers (**Occupational disease**), such as respiratory problems due to exposure to pesticides and other chemicals, musculoskeletal disorders from repetitive manual labor, and mental health issues arising from stressful working conditions. It also



discusses the inadequate healthcare facilities and limited access to healthcare services for these workers.

In addition, the review examines the **socio-economic status of plantation workers**, shedding light on their low literacy rates, limited employment opportunities outside the plantations, and the cycle of poverty that often traps them and their families. It also discusses the social discrimination and marginalization faced by these workers, particularly those belonging to marginalized communities.

Moreover, the review analyzes the **existing legal framework and policies aimed at protecting the rights and welfare of plantation workers in Assam**. It critically evaluates the effectiveness of these measures and highlights the gaps and challenges in their implementation.

To address this gap, future research should aim to provide a conclusive summary of the literature, highlighting the main issues faced by plantation workers in Assam and suggesting potential strategies for addressing these challenges. It embraces the studies that were conducted on the tea garden workers in Assam.

Thus, the review of the literature of the study will contain the following areas:

1. Meaning of plantation workers.
2. Historical background of plantation workers in Assam
3. Occupational diseases
4. Socio-economic status of plantation workers
5. Existing legal framework and policies aimed at protecting the rights and welfare of plantation workers in Assam
6. Past studies on plantation labor.

### **1. Meaning Of Plantation and Plantation Workers:**

This Plantation Labour Act 1951 applies to any plantation, including offices, hospitals, dispensaries, schools, and any other premises used for plantation purposes. However, it does not include any factory to which the Factories Act, of 1948 applies.

A "worker" is someone employed in a plantation for payment, whether directly or through an agency, for skilled, unskilled, manual, or clerical work. However, it does not include a

1. medical officer employed in the plantation, anyone employed in the plantation whose monthly wages exceed Rs. 750,
2. anyone primarily employed in a managerial capacity, or
3. anyone temporarily employed in plantation construction, development, or maintenance work.

## **2. Historical Background of Plantation Workers in Assam:**

The Tea-garden community in Assam is a unique and diverse group of individuals who have a rich history and cultural heritage. They are descendants of indentured laborers who were brought to Assam by British colonial planters during the colonial era. These laborers were primarily from different regions of India, including Bihar, Jharkhand, Odisha, and West Bengal, and they were brought to work in the tea gardens of Assam.

The Tea-garden community, also known as Tea-tribes, is a multiethnic and multicultural group, comprising various castes, tribes, and ethnicities. They have their distinct languages, customs, and traditions, which have been passed down through generations. Despite their diverse backgrounds, the community has developed a unique identity and sense of unity over the years.

However, despite their significant contributions to the tea industry and the state's economy, the Tea-garden community has faced various challenges and discrimination. They have been historically marginalized and excluded from mainstream society, leading to socio-economic disparities and limited access to basic amenities such as education, healthcare, and infrastructure.

To address these issues, the Tea-garden community has been demanding Scheduled Tribe status, which would provide them with certain constitutional safeguards and benefits. This status would help uplift their socio-economic conditions and provide

them with better development opportunities. However, this demand has led to conflicts with the tribal organizations of Assam, who fear that granting Scheduled Tribe status to the Tea-garden community would dilute their rights and privileges.

The tribal organizations argue that the Tea-garden community, being migrants from different regions, should not be granted the same status as the indigenous tribal communities of Assam. They believe that the Tea-garden community should be recognized as Other Backward Classes (OBCs) instead, which would entitle them to certain reservations and benefits without affecting the existing tribal rights.

This conflict between the Tea-garden community and the tribal organizations has created a complex and sensitive issue in Assam. It highlights the need for a balanced approach that takes into consideration the historical injustices faced by the Tea-garden community while also respecting the rights and aspirations of the indigenous tribal communities. Efforts are being made to find a middle ground and address the concerns of both sides through dialogue and negotiations.

### **3. Socio-Economic Status of Plantation Workers:**

Socioeconomic status is not solely determined by one's economic standing, but rather by a complex interplay of social and economic factors. By delving into the examination of socioeconomic status, one can uncover the plain inequities in access to resources and the underlying issues of privilege, power, and control that perpetuate these disparities.

When considering socioeconomic status, it is crucial to recognize that it encompasses more than just an individual's income or wealth. While economic factors such as employment, wages, and assets do play a significant role, social factors also heavily influence one's socioeconomic standing. These social factors include education, occupation, social networks, and cultural capital, among others.

Examining socioeconomic status through this lens reveals the inherent inequities that exist within society. It becomes evident that individuals from marginalized communities, such as racial or ethnic minorities, face systemic barriers that limit



their access to resources and opportunities. These barriers can manifest in various forms, such as discriminatory hiring practices, unequal access to quality education, or limited social networks that hinder upward mobility.

Furthermore, the examination of socioeconomic status sheds light on the issues of privilege, power, and control that perpetuate these inequities. Privilege, often rooted in social factors such as race, gender, or class, grants certain individuals advantages and opportunities that are denied to others. This privilege, in turn, reinforces existing power structures and perpetuates the cycle of inequality.

Power and control also play a significant role in determining socioeconomic status. Those who hold positions of power, whether in government, corporations, or other institutions, can shape policies and systems that either perpetuate or alleviate socioeconomic disparities. The unequal distribution of power can further impair existing inequities, as those with less power have limited agency to challenge or change the status quo.

In conclusion, the main point is that socioeconomic status is a complex construct influenced by both social and economic factors. Examining it reveals the stark inequities in access to resources and highlights the underlying issues of privilege, power, and control that perpetuate these disparities. By understanding these dynamics, society can work towards creating a more equitable and just system that provides equal opportunities for all individuals, regardless of their socioeconomic background.

#### **4. Existing legal framework and policies aimed at protecting the rights and welfare of plantation workers in Assam:**

The Kailash Joshi committee report of 2003 highlights the high cost of production in the Indian tea industry, mainly due to the social welfare measures provided to plantation workers. The committee recommends extending central and state labor welfare schemes to benefit the tea plantations and suggests that the Employees State Insurance Corporation of India (ESI) should run the tea garden hospitals while

emphasizing that the plantations must also contribute their share. The report also mentions the example of Kerala, where labor wages and additional cash components contribute to a high total wage per worker, per day, further increasing the cost of production. **(Kailash Joshi Committee Report, 2003)**

The 102<sup>nd</sup> report of the Parliamentary Standing Committee on Commerce in 2012 highlighted concerns about India's high labor cost and welfare costs in tea production, making it the most expensive compared to other tea-producing countries. The report also noted that planters justified not implementing statutory provisions in the Plantation Labour Act due to their inability to bear the social cost. **(The 102<sup>nd</sup> Report of the Parliamentary Standing Committee on Commerce, 2012)**

The O.P. Arya Committee, also known as the OPA Committee, was established by the Government of India in 2007 with the primary objective of streamlining and harmonizing laws related to the tea industry. The committee aimed to promote the rapid development of the tea sector by addressing various challenges and issues faced by the industry.

One of the key focuses of the OPA Committee was to address the social costs associated with the tea industry. This included addressing issues related to labor rights, wages, working conditions, and social welfare of tea workers. The committee recognized the importance of ensuring fair and just treatment of tea workers and aimed to create a framework that would protect their rights and improve their overall well-being.

Additionally, the OPA Committee also aimed to address the issue of the Plantation Labor Act (PLA). The PLA is a legislation that governs the working conditions and welfare of plantation workers, including those in the tea industry. The committee recognized the need to review and update the PLA to ensure that it aligns with the current needs and challenges faced by the tea industry. This included addressing issues such as minimum wages, housing, healthcare, and education facilities for plantation workers.

The OPA Committee worked towards creating a comprehensive framework that would promote the sustainable development of the tea industry. This involved conducting extensive research, consultations with stakeholders, and analyzing the existing laws and regulations. The committee proposed various recommendations and reforms to streamline and harmonize the legal framework governing the tea industry.

The recommendations put forth by the OPA Committee aimed to create a conducive environment for the growth and development of the tea sector. This included simplifying regulatory processes, promoting investment in the industry, improving infrastructure, and enhancing the competitiveness of Indian tea in the global market. **(OPA Committee, Government of India, 2007)**

The Assam Plantation Labour Act of 1951 is a comprehensive legislation that lays down the legal framework for the welfare and protection of plantation workers in the state of Assam, India. This act aims to ensure that the rights and interests of plantation workers are safeguarded and that they are provided with adequate working conditions, social security, and other benefits.

One of the key provisions of this Act is the regulation of working hours and conditions. It sets limits on the number of hours that a worker can be required to work in a day and provides for mandatory rest intervals. It also mandates that the working conditions in plantations should be safe and hygienic, with provisions for clean drinking water, sanitation facilities, and proper ventilation.

The Act also addresses the issue of wages and payment of dues. It stipulates that workers should be paid fair wages, which should be above the minimum wage set by the government. It also ensures that workers are paid their wages regularly and within a specified period. Additionally, the act prohibits the deduction of wages for reasons other than those specified by law.

Furthermore, the Act emphasizes the provision of social security measures for plantation workers. It requires plantation owners to provide medical facilities,



including dispensaries and hospitals, for the workers and their families. It also mandates the establishment of crèches and schools for the children of plantation workers, ensuring their access to education and childcare.

The Act also addresses the issue of housing for plantation workers. It requires plantation owners to provide suitable housing facilities for workers and their families, ensuring that they have access to basic amenities such as electricity, water supply, and sanitation.

In addition to these provisions, the Act also establishes mechanisms for the resolution of disputes between workers and plantation owners. It provides for the appointment of labor officers and labor courts to adjudicate on matters related to the act. It also empowers workers to form trade unions and participate in collective bargaining for the protection of their rights.

Overall, the Assam Plantation Labour Act of 1951 plays a crucial role in ensuring the welfare and protection of plantation workers in Assam. It sets out a comprehensive framework that addresses various aspects of their working and living conditions, aiming to improve their quality of life and promote social justice in the plantation sector.

The Assam Plantation Labour Rules 1956 serve as a comprehensive framework that defines the various regulations and guidelines aimed at safeguarding the welfare and improving the working conditions of plantation workers in the state of Assam, India. These rules were formulated to ensure fair treatment, adequate remuneration, and overall well-being of the labor force engaged in the plantation sector.

One of the key aspects addressed by these rules is the provision of basic amenities and facilities for the workers. The rules mandate that every plantation owner must provide suitable housing accommodations for the workers and their families. These accommodations should be constructed in compliance with prescribed standards, ensuring proper ventilation, sanitation, and adequate living space. Additionally, the

rules emphasize the need for clean drinking water, proper drainage systems, and access to healthcare facilities within the plantation premises.

Furthermore, the Assam Plantation Labour Rules 1956 also focus on the regulation of working hours and conditions. The rules stipulate that the working hours for adult workers should not exceed a specified limit, ensuring that they are not subjected to excessive physical strain. Additionally, the rules mandate the provision of weekly rest days and annual leave entitlements for the workers, enabling them to maintain a healthy work-life balance.

In terms of remuneration, the rules lay down guidelines for the payment of wages to the plantation workers. It mandates that the wages should be paid promptly, preferably every week, and in the presence of authorized representatives. The rules also prohibit the payment of wages in kind, ensuring that workers receive their wages in monetary form.

Moreover, the Assam Plantation Labour Rules 1956 address the issue of child labor in the plantation sector. The rules strictly prohibit the employment of children below a certain age, ensuring that they are not exploited and are provided with opportunities for education and development.

To enforce compliance with these rules, the legislation establishes a system of inspections and penalties. It empowers designated authorities to conduct regular inspections of the plantations to ensure adherence to the prescribed regulations. Non-compliance with the rules can result in penalties, including fines and potential cancellation of licenses for plantation owners.

Overall, the Assam Plantation Labour Rules 1956 play a crucial role in safeguarding the rights and well-being of plantation workers in Assam. By providing a comprehensive framework for the regulation of working conditions, remuneration, and welfare measures, these rules aim to create a conducive environment for the workers, promoting their overall development and ensuring their dignity in the workplace.

## **5. Past Studies on Plantation Workers:**

ILO, 2016 observes that plantation workers and union leaders believe that education is crucial for bringing about change in their community, with a significant number of them expecting their children to be educated and employed outside of the tea gardens. However, they face challenges such as a lack of official jobs for educated children and poor remuneration in the tea garden industry. The workers also face issues related to land ownership and eviction. The text suggests that the situation of tea plantation workers needs improvement and their rights should be protected through mutual agreements among workers, garden owners, and the government. Various stakeholders, including researchers, civil society actors, service providers, and international agencies like the ILO, can contribute to addressing these issues.

D., Kalyan (2012) highlights the high casualization of the workforce, inadequate compensation for occupational hazards, and lack of safety measures in the tea plantation sector. It argues for the need to compensate for the risks associated with pesticide application and suggests using economic values to assess the benefits of risk reduction measures. The state should consider implementing enabling provisions and regulations to protect workers in hazardous jobs.

Kabir, M. (2007) states that the tea industry in Bangladesh faces challenges of low yield and high cost, with the productivity of workers being lower than other tea-producing countries. Factors such as socio-cultural barriers, poor education and health, inadequate wages, and working conditions contribute to low productivity. Women workers, who form the majority, face additional challenges. To improve labor standards and capture a larger share of the global tea market, Bangladesh needs to prioritize social dialogue and address the issues faced by workers. The industry has the potential to contribute significantly to the economy, but immediate attention is required to improve production and workers' quality of life. The government, employers, and trade unions must work together to implement



programs for economic and social change, ensuring equitable distribution of income.

Rafeeque., R., et al mention that the tea plantation falls under the unorganized sector of an economy, and to improve the working conditions and status of the laborers, government intervention and strict implementation of policies are necessary, along with research on solutions to existing problems and the positive impact of unions and labor Acts.

Kalita, R.R., (2020) analyzes the role of tea garden workers in rural development and highlights the challenges they face, such as low wages and economic struggles. However, small tea gardening is seen as an important entrepreneurial activity that addresses youth unemployment and utilizes unused land. The government should implement policies to improve working conditions, enhance skills, and recognize their contributions to economic indicators, ultimately improving the status of tea garden workers in society.

Dutta, P., et al observe that while financial inclusion among tea garden workers in Assam has improved, there are still limitations in terms of access to bank accounts, credit, and insurance. Education is identified as a key factor in promoting financial inclusion, and the study suggests that targeted initiatives are necessary to ensure the delivery of government-sponsored schemes to this marginalized community.

The above studies shed light on the challenges and issues faced by tea plantation workers in various countries, with a focus on Bangladesh and India. The study highlights that education is crucial for bringing about change in their community, with a significant number of them expecting their children to be educated and employed outside of the tea gardens, but they face challenges such as a lack of official jobs for educated children and poor remuneration in the tea garden industry. The workers also face issues related to land ownership and eviction.

The studies also suggest that the situation of tea plantation workers needs improvement, and their rights should be protected through mutual agreements

among workers, garden owners, and the government. It emphasizes that various stakeholders, including researchers, civil society actors, service providers, and international agencies like the ILO, can contribute to addressing these issues.

The study highlights the high casualization of the workforce, inadequate compensation for occupational hazards, and lack of safety measures in the tea plantation sector. It argues for the need to compensate for the risks associated with pesticide application and suggests using economic values to assess the benefits of risk reduction measures. The state should consider implementing enabling provisions and regulations to protect workers in hazardous jobs.

The tea industry in Bangladesh faces challenges of low yield and high cost, with the productivity of workers being lower than other tea-producing countries. Factors such as socio-cultural barriers, poor education and health, inadequate wages, and working conditions contribute to low productivity. Women workers, who form the majority, face additional challenges.

To improve labor standards and capture a larger share of the global tea market, Bangladesh needs to prioritize social dialogue and address the issues faced by workers. The industry has the potential to contribute significantly to the economy, but immediate attention is required to improve production and workers' quality of life. The government, employers, and trade unions must work together to implement programs for economic and social change, ensuring equitable distribution of income.

The study also highlights that tea plantation falls under the unorganized sector of an economy, and to improve the working conditions and status of the laborers, government intervention and strict implementation of policies are necessary, along with research on solutions to existing problems and the positive impact of unions and labor Acts.

Furthermore, the study analyzes the role of tea garden workers in rural development and highlights the challenges they face, such as low wages and

economic struggles. However, small tea gardening is seen as an important entrepreneurial activity that addresses youth unemployment and utilizes unused land. The government should implement policies to improve working conditions, enhance skills, and recognize their contributions to economic indicators, ultimately improving the status of tea garden workers in society.

Finally, financial inclusion among tea garden workers in Assam has improved, but there are still limitations in terms of access to bank accounts, credit, and insurance. Education is identified as a key factor in promoting financial inclusion, and the study suggests that targeted initiatives are necessary to ensure the delivery of government-sponsored schemes to this marginalized community.

### **1.3. Research Gap:**

The present study aims to address the gaps in previous research on tea garden workers in Assam, specifically focusing on housing and medical issues. While previous studies have shed light on the challenges faced by tea garden workers in Bangladesh and India, such as the casualization of the workforce, inadequate compensation, and lack of safety measures, there is a need for further investigation into the specific issues of housing and medical care.

Government intervention is crucial in addressing the plight of tea garden workers, as they often face exploitation and unfair treatment. Research on potential solutions is necessary to develop effective policies and programs that can improve the living and working conditions of these workers. The positive impact of unions and labor Acts is also highlighted, as they can advocate for the rights and welfare of tea garden workers.

Financial inclusion and education are important factors in empowering tea garden workers and improving their socio-economic status. Access to financial services and education can help them make informed decisions, manage their finances, and break the cycle of poverty. However, previous studies have not adequately addressed the housing and medical needs of these workers.



Housing is a fundamental human right, yet tea garden workers often live in substandard and overcrowded conditions. The present study aims to examine the housing situation in Assam's tea gardens, identifying the challenges faced by workers and exploring potential solutions. Adequate housing is essential for the well-being and dignity of tea garden workers, and addressing this issue can significantly improve their quality of life.

Furthermore, the study will also focus on the medical issues faced by tea garden workers. Access to healthcare services is crucial for maintaining good health and productivity. However, previous research has not sufficiently explored the healthcare challenges specific to tea garden workers. The present study aims to fill this gap by examining the availability, accessibility, and quality of healthcare services for tea garden workers in Assam.

In conclusion, while previous studies have highlighted various challenges faced by tea garden workers in Bangladesh and India, such as casualization of the workforce, inadequate compensation, and lack of safety measures, there is a need for further research on housing and medical issues. Government intervention, research on solutions, and the positive impact of unions and labor Acts are crucial in improving the conditions of tea garden workers. Additionally, financial inclusion and education are important factors in empowering these workers. The present study aims to address the gaps in previous research by focusing on housing and medical issues specific to tea garden workers in Assam.

#### **1.4. Objectives of the Study:**

The study aims:

1. To examine the housing facilities provided to the tea garden workers of Assam.
2. To examine the healthcare issues relating to the tea garden workers of Assam.

### **1.5. Data and Methodology:**

The study employed a rigorous methodology by utilizing empirical data and incorporating the Assam Plantation Labour Act and Rules as the foundational documents. These legal frameworks provided a comprehensive understanding of the labor conditions and regulations in the Assam plantation industry.

To further enhance the robustness of the study, the researchers also referred to various subsidiary documents, including journal articles, government reports, and research papers. These additional sources enriched the study by providing a broader perspective and incorporating existing knowledge and insights from experts in the field.

To analyze the data and draw meaningful conclusions, the study employed both descriptive and inferential statistics. Descriptive statistics were used to summarize and present the characteristics of the data, allowing for a clear and concise representation of the labor conditions in the Assam plantation industry.

Furthermore, inferential statistics were utilized to make inferences and draw conclusions about the population based on the sample data. The T-test, a commonly used statistical test, was employed to compare means between two groups, enabling the researchers to assess significant differences in labor conditions or outcomes.

Additionally, the study utilized ANOVA (Analysis of Variance), a statistical technique, to analyze the variance between multiple groups. This allowed for a comprehensive examination of the differences in labor conditions across various categories or factors, providing a better understanding of the industry.

By employing these statistical methods, the study ensured a rigorous analysis of the data, enabling the researchers to make evidence-based conclusions and recommendations. The combination of empirical data, legal frameworks, and supplementary documents, along with the application of descriptive and inferential

statistics, strengthened the study's validity and reliability. Thus, the study is as follows:

Nature of the study: Empirical

Base Documents: The Assam Plantation Labour Act 1951, The Assam Plantation Labour Rules 1956.

Subsidiary Documents: Journal Articles, Government Reports, Research Papers

Statistics Used: Descriptive Statistics, Inferential Statistics

Statistical Tools Used: T-test, ANOVA

### **1.6. Limitations of the Study:**

The study on housing and healthcare issues of tea garden workers in Assam is limited in its scope as it only focuses on the state of Assam. This means that the findings and conclusions drawn from the study may not be applicable or representative of the housing and healthcare issues faced by tea garden workers in other regions or states.

Furthermore, the study solely concentrates on the two components of housing and healthcare, neglecting other important factors that may contribute to the overall well-being of tea garden workers. For instance, the study does not consider factors such as wages, working conditions, access to education, or social support systems, which could also significantly impact the lives of tea garden workers.

Moreover, the study did not utilize primary data, which could potentially limit the reliability and validity of the findings. Relying solely on secondary data, such as reports or surveys, may introduce biases or inaccuracies in the information collected. Additionally, the study assumes the accuracy of the collected reports without independently verifying the data, which could further compromise the reliability of the findings.

In conclusion, while the study sheds light on the housing and healthcare issues faced by tea garden workers in Assam, its limited scope, focus on only two components, and reliance on secondary data without independent verification raises concerns about the generalizability and accuracy of the findings. Further research that encompasses a broader range of factors and utilizes primary data collection methods would provide a more comprehensive understanding of the challenges faced by tea garden workers in Assam and beyond.

Thus, the study is subject to the following limitations and assumptions:

1. The study is confined to the State of Assam only.
2. The study is confined to only two major components viz. housing and healthcare issues of tea garden workers of Assam.
3. The study did not apply primary data.
4. It is assumed that the data collected from the reports is correct.

### **1.7. Chapter Plan:**

Below is a comprehensive overview of the chapter plan for a report. The report begins with an introduction, which sets the context and purpose of the study. This section may include background information on the topic, the significance of the research, and the objectives of the study.

The next section focuses on legislative measures for plantation workers. Here, the report delves into the existing laws and regulations that govern the rights and welfare of plantation workers. This may include an analysis of relevant labor laws, policies, and initiatives aimed at protecting the rights of these workers.

Following the legislative measures section, the report proceeds to an empirical analysis of the present state of plantation workers in Assam. This section involves collecting and analyzing data related to the health safety, and housing of plantation workers in the region.

The subsequent section focuses on data analysis, hypothesis testing, findings, and conclusions. In this part, the report presents the results of the empirical analysis



conducted earlier. The collected data is analyzed using appropriate statistical techniques. Hypothesis testing was employed to validate or refute certain assumptions or claims. The findings derived from the data analysis are then presented, highlighting key observations and insights. Finally, based on the findings, the report concludes and provides recommendations for addressing the issues faced by plantation workers in Assam.

Overall, the chapter plan outlined in the text provides a structured approach to conducting a comprehensive study on plantation workers in Assam. It covers various aspects, including legislative measures, empirical analysis, data analysis, and conclusions, ensuring a thorough examination of the topic.

Thus, the Report contains the following chapters:

1. Chapter 1 is the Introduction which contains an introduction of the topic, a review of the literature, the research gap, objectives of the study, limitations of the study, and chapter plan.
2. Chapter 2 is Legislative Measures for the Plantation Workers Enshrined in the Assam Plantation Labour Act 1951 and the Assam Plantation Labour Rules 1956.
3. Chapter 3 contains the Present State of Plantation Workers in Assam- An Empirical Analysis
4. Data Analysis, Test of Hypotheses, Findings and Conclusions

## **Chapter 2**

### **Legislative Measures for Plantation Workers**

#### **2.1. Introduction:**

The Plantations Labour Act, of 1951 in India is a crucial piece of legislation that aims to protect and promote the welfare of plantation workers. This Act recognizes the unique challenges faced by workers in the plantation sector and establishes comprehensive measures to address their needs. One of the key provisions of the Act is the requirement for the registration of plantations. This ensures that all plantations are officially recognized and accountable for providing necessary facilities and benefits to their workers. By mandating registration, the Act creates a system of oversight and regulation, allowing the government to monitor and enforce compliance with the welfare measures.

The Plantations Labour Act, of 1951 is a legislation that applies to all of India except Jammu and Kashmir, and it will be enforced on a date determined by the Central Government. The Plantations Labour Act, of 1951 applies to land used for growing tea, coffee, rubber, cinchona, or cardamom that is 5 hectares or more and employs 15 or more persons, as well as land used for growing any other plant that is 5 hectares or more and employs 15 or more persons, with the approval of the Central Government and direction from the State Government.

#### **2.2. Registration of Plantations:**

Employers of plantations are required to register their plantations within a specific period and provide necessary information and fees. Any changes in ownership, management, or other prescribed particulars must also be reported to the registering officer. If a plantation is no longer required to be registered, the registration can be cancelled.<sup>1</sup>

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<sup>1</sup> Sec. 3B

### **2.3. Power to Make Rules:**

The State Government has the power to create rules, to carry out the objectives of this Chapter, including matters such as the application process for plantation registration, the format of the registration certificate, the notification of any changes, the authority for appeals, and the maintenance of registers by the registering officer.<sup>2</sup>

The State Government has the authority to appoint a chief inspector and inspectors for plantations, and the chief inspector can designate the areas in which inspectors will exercise their powers. The chief inspector and inspectors are considered public servants under the Indian Penal Code.<sup>3</sup> The employers are required to provide inspectors with reasonable facilities to conduct entry, inspection, examination, or inquiry under the Act.<sup>4</sup> The State Government has the authority to appoint qualified medical practitioners as certifying surgeons for specific areas or plantations, and these surgeons are responsible for examining and certifying workers as well as providing medical supervision for adolescents and children employed in potentially harmful work in plantations.<sup>5</sup>

### **2.4. Medical Facilities:**

The employers in plantations have a legal obligation to ensure the provision of clean drinking water and sufficient latrines and urinals for their workers. This means that employers are legally required to provide access to clean and safe drinking water for their workers, as well as adequate toilet facilities. These facilities must be maintained in a clean and sanitary condition.<sup>6</sup>

This legal obligation highlights the importance of ensuring the health and well-being of plantation workers. Access to clean drinking water is essential for hydration and preventing waterborne diseases. Similarly, having sufficient and

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<sup>2</sup> Sec. 2D

<sup>3</sup> Sec. 4

<sup>4</sup> Sec. 6

<sup>5</sup> Sec. 7

<sup>6</sup> Sec. 8, 9

well-maintained latrines and urinals is crucial for maintaining proper sanitation and hygiene, which is vital for preventing the spread of diseases and maintaining a healthy working environment.

By emphasizing the need for employers to provide these facilities in a clean and sanitary condition, the provision underscores the importance of regular maintenance and cleanliness. It implies that simply providing these facilities is not enough; they must be kept in a state that promotes hygiene and prevents the spread of diseases. This includes regular cleaning, proper waste disposal, and ensuring that the facilities are in good working condition.

Every plantation must have medical facilities for the workers and their families, as per the regulations set by the State Government. If these facilities are not provided by the employer, the chief inspector has the authority to take necessary Actions to ensure their provision. In such cases, the cost of providing these facilities can be recovered from the employer. Furthermore, if the employer fails to pay the cost, the collector has the power to recover the amount as an arrear of land revenue. This emphasizes the importance of providing and maintaining medical facilities in plantations and highlights the legal consequences of non-compliance.<sup>7</sup>

## **2.5. Welfare Facilities:**

To ensure the welfare and well-being of workers in plantations, the provision of canteens and crèches has been discussed in the text. These facilities play a crucial role in meeting the basic needs of workers and their families, providing them with access to food and suitable rooms for their children.<sup>8</sup>

The responsibility for regulating and overseeing the establishment, standards, and management of these facilities lies with the State Government. This authority enables the government to set guidelines and rules that ensure the provision of adequate and appropriate services to the workers.

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<sup>7</sup> Sec. 10

<sup>8</sup> Sec. 11



By having the power to make rules regarding the establishment of canteens and crèches, the State Government can ensure that these facilities are available in all plantations. This helps to address the issue of food security for workers, as canteens provide them with regular and nutritious meals. Additionally, the availability of crèches ensures that workers with young children have a safe and suitable place to leave their kids while they work. The State Government also has the authority to set standards for these facilities, ensuring that they meet certain criteria in terms of hygiene, safety, and overall quality. This helps to safeguard the health and well-being of workers and their families, as they can rely on these facilities to provide them with clean and safe environments.

Furthermore, the government's power to regulate the management of canteens and crèches ensures that these facilities are run efficiently and effectively. This includes monitoring the quality of food served in canteens, and ensuring that workers receive balanced and nutritious meals. It also involves overseeing the staffing and operations of crèches, ensuring that trained and qualified personnel are responsible for the care and well-being of the children.

The State Government has the authority to establish rules mandating employers to provide recreational facilities for workers and their children in plantations, as deemed necessary.

## **2.6. Educational Facilities:**

The State Government has the authority to establish rules mandating employers to provide educational facilities for children between the ages of six and twelve if there are more than twenty-five of them employed in any plantation.<sup>9</sup>

## **2.7. Housing Facilities:**

The employers are obligated to provide and maintain housing accommodation for workers and their families who reside on the plantation, as well as for workers who

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<sup>9</sup> Sec. 14

have completed six months of continuous service and expressed a desire to live on the plantation. However, this requirement does not apply to workers who are family members of a deceased worker who was already residing on the plantation.<sup>10</sup>

## **2.8. Appointment of Welfare Officer:**

In plantations with 300 or more workers, employers are required to appoint a certain number of welfare officers, and the state government has the authority to determine their duties, qualifications, and conditions of service.<sup>11</sup>

## **2.9. State Government Rule Regarding Medical Facilities: (Rules Made Under Sec. 10)**

### **1. Establishment of Medical Advisory Board:**

The State Government will establish a Medical Advisory Board to provide consultation on matters related to medical facilities, consisting of nominated individuals appointed by the government, representatives from employers and workers, and an appointed Chairman. The members of the Board will serve a term of three years, with the possibility of reappointment, and official members will serve at the pleasure of the State Government.<sup>12</sup>

### **2. Types Of Hospitals in Plantations:**

There are two types of hospitals in plantations: Garden Hospitals and Group Hospitals. Garden Hospitals will deal with out-patients, in-patients not requiring any elaborate diagnosis and treatment, infectious cases, midwifery, simple pre-natal and post-natal care of infants and children, and periodical inspection of workers. Group Hospitals shall be capable of dealing efficiently with all types of cases normally encountered but will not be used for routine treatment. Admission to Group Hospitals shall be only on the recommendation of a garden hospital doctor.

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<sup>10</sup> Sec. 15

<sup>11</sup> Sec. 18

<sup>12</sup> Rule 21, 22, 23

Every employer in a plantation should provide a garden hospital according to the standard laid down in the rules. Employers of plantations ordinarily employing less than 500 workers may provide a garden hospital according to the standard laid down in these rules or have a lien on the beds of a neighboring garden or other hospital. The plantation concerned shall provide and run a dispensary of its own with at least two detention beds of the standard approved by the Chief Inspector of plantations under the immediate care and supervision of a full-time qualified pharmacist assisted by a full-time trained nurse-cum-midwife, in case of lien on hospital beds. Patients requiring detention at the hospital and treatment therein should be removed from it forthwith.

Each garden hospital should be at least under a whole-time qualified medical practitioner assisted by at least one trained nurse, one trained midwife, one qualified pharmacist, and one trained health assistant, all of whom should be whole-time ones and all of whose services should be readily available during all hours. Medical and auxiliary personnel shall be appointed according to the following scale:

- Qualified medical practitioner: One per every 1,750 workers or part thereof.
- Midwife: One per every 1,750 workers or part thereof.
- Trained nursing attendants: One per every 300 workers or part thereof.
- Pharmacist: One per every 1,750 workers or part thereof.
- Health Assistant: One per every 2,100 workers or part thereof.

Every hospital shall have a pure piped water supply and the wards, consulting room, operation theatre, and dispensary shall each have a water point over a suitable glazed counter. Each garden hospital shall provide a minimum of 15 beds per 1,000 workers served, and each bed shall be allowed at least 60 sq. ft. of floor space. Every hospital shall be of sound permanent construction, with impermeable

washable walls to a height of at least 5 feet on the inside with proper water supply and efficient sanitary arrangement sink.<sup>13</sup>

### **3. Group Hospitals:**

Employers of plantations are required to establish group hospitals for their workers, in consultation with the Medical Advisory Board. These hospitals should be in areas that are central or otherwise suitable to the groups of gardens concerned. The State Government must approve plans for the establishment of these Group Hospitals, which should include information about their location, size, areas of plantations served, and the number of workers employed there. All group hospitals must have a minimum of 100 beds and there should be at least 3 beds per 700 workers. Each bed must have a floor space of 80 sq. ft.<sup>14</sup>

### **4. The Standard of Medical Facilities for Out-Patient:**

The standard of medical facilities for outpatient treatment includes observation and treatment, preventive measures like vaccinations, free provision of necessary drugs and appliances, advice for pre-and post-natal care, and free certificates for maternity and sickness benefit claims.<sup>15</sup>

### **5. Failure To Provide and Maintain Medical Facilities as Required in These Rules:**

If an employer fails to provide and maintain medical facilities as required, the Chief Inspector has the authority to provide and maintain these facilities in the nearest hospital or dispensary, and the defaulting employer will be responsible for the cost. Additionally, if a group of plantations fails to provide group hospital facilities, the State Government may intervene and recover the cost through levies based on tea production or other criteria.<sup>16</sup>

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<sup>13</sup> Rule 36

<sup>14</sup> Rule 37

<sup>15</sup> Rule 40

<sup>16</sup> Rule 42



## **2.10. State Government Rule Regarding Welfare Facilities: (Rules Made Under Sec. 11)**

### **1. Canteen:**

Every employer who has one hundred and fifty or more workers in a plantation must provide a canteen or more canteens. These canteens should be located close to the workers' place of work and will have the necessary facilities for selling tea, snacks, and other food items. The Chief Inspector of plantations, with prior approval from the State Government, will specify the types of foodstuffs that can be sold in these canteens.

The prices for tea, snacks, and other food items sold in the canteen shall be sold on a no-profit basis. The employer must provide furniture, fuel, utensils, glasses, cups, dishes, and accommodation for the canteen and personnel to run its day-to-day affairs such as cooks, servers, etc., at their own cost. These costs should not be added to the prices of the items sold in the canteen.<sup>17</sup>

### **2. Wash Room Facility:**

A washroom and a latrine should be provided in or near the creche for the washing of children and their clothes, as well as for the use of the children. The creche staff should be provided with clean clothes while on duty, and each child in the creche should have access to towels, soap, oil, and clean clothes.<sup>18</sup>

## **2.11. State Government Rule Regarding Educational Facilities: (Rules Made Under Sec. 12)**

If an employer has 25 or more children between the ages of 6 and 12 on their plantation, they must provide and maintain a primary school for them. However, if there is already a primary school under the direct management of the state government or any local body for free education to children up to the primary or higher standard with enough seats to admit children between the ages of six and

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<sup>17</sup> Rule 44, 45

<sup>18</sup> Rule 48, 49

twelve, and if it is within one mile from where the plantation workers reside, the employer is not required to provide a primary school. Additionally, if the employer is required to pay a tax or cess for primary education under any other law, they are also exempted from providing a primary school. However, a group of employers can jointly provide and maintain a primary school and share its expenses, subject to the provisions of sub-rule (1) of Rule 53.<sup>19</sup>

Every school established under Rule 2 should be centrally located. The school building should be constructed according to the standard plans provided by the State Education Department. In cases where there is no standard plan or if a deviation from the standard plan is proposed, the approval of the State Education Department for the school building plan should be obtained. If there is sufficient space, an open-air playground with suitable equipment should be provided for the children attending the school.<sup>20</sup>

To ensure adequate education for primary school children, one teacher must be appointed for every forty children enrolled. The teacher must possess the qualifications set by the State Education Department for teachers in Government Primary Schools. However, for those who are already working as school teachers on a plantation at the time of these rules' commencement, the State Education Department may relax some of the qualifications under certain conditions.<sup>21</sup> Rule 57 expressly states that no charges or fees shall be levied on the children of workers who attend the primary school. This means that the education of these children will be completely free of cost, and the workers will not have to bear any financial burden for their children's education.<sup>22</sup>

## **2.12. State Government Rule Regarding Housing Facilities: (Rules Made Under Sec. 16)**

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<sup>19</sup> Rule 53

<sup>20</sup> Rule 54

<sup>21</sup> Rule 55

<sup>22</sup> Rule 57

Employers are required to provide housing accommodation to workers and their families who live in plantations. The housing should be as close as possible to the workplace and meet the prescribed standards. If the houses cannot be constructed for at least 8% of the resident workers annually, then they may be provided for several years. However, the State Government may relax this requirement for a certain fixed percentage of workers if the employer provides satisfactory reasons in writing, and the Housing Board approves it.

All housing accommodation for workers in a plantation must meet the standards and specifications approved by the State Government. The Advisory Board, referred to in Rule 68, makes recommendations regarding the standards.

The housing accommodation should be built on dry, well-drained land, with a supply of wholesome drinking water available within a reasonable distance. In materials tracts, the houses should be kept at a safe distance from swamps and marshes, and above the highest flood level.

The employer must provide adequate lighting arrangements in and around the area where housing accommodation is provided. The approach roads and paths to the area where houses are located must be maintained in good condition, as well as the sewers and drains in that area. The public must have free access to those parts of the plantation where the workers are housed.<sup>23</sup>

The employer must ensure that the vicinity of all houses is kept clean, and that no waste or rubbish is left around the area.

### **2.13. Major Observations:**

1. The State Government can create rules and appoint inspectors and certify surgeons for plantations, ensuring the proper application process, maintenance of registers, and medical supervision for workers.

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<sup>23</sup> Rule 58, 59, 60

2. The employers in plantations are legally obligated to provide clean drinking water and adequate toilet facilities for their workers, emphasizing the importance of ensuring the health and well-being of the workers.
3. The Act emphasizes the importance of maintaining clean and sanitary facilities for workers, highlighting the need for regular maintenance and cleanliness. It also states that employers must provide medical facilities on plantations, with legal consequences for non-compliance.
4. The Act emphasizes the importance of canteens and crèches in meeting the basic needs of workers and their families in plantations.
5. The State Government plays a crucial role in regulating and overseeing the establishment, standards, and management of these facilities to ensure the provision of adequate and appropriate services, addressing issues of food security, safety, and overall well-being.
6. The government has the authority to mandate recreational facilities for workers and their children.
7. The State Government can enforce regulations requiring employers to offer educational facilities for children aged six to twelve if there are more than twenty-five of them working in a plantation.
8. Employers are required to provide housing for workers and their families on the plantation, as well as for workers who have completed six months of service and wish to live there, except for family members of deceased workers already residing on the plantation.
9. In plantations with 300 or more workers, employers must appoint welfare officers, whose duties, qualifications, and conditions of service are determined by the state government.
10. The State Government will create a Medical Advisory Board composed of appointed individuals from various sectors to provide consultation on medical facility matters, with members serving a three-year term and the possibility of reappointment.



11. There are two types of hospitals in plantations: Garden Hospitals and Group Hospitals. Garden Hospitals handle less complex cases and routine treatments, while Group Hospitals are equipped to handle all types of cases.
12. Employers in plantations are required to provide a garden hospital or have a lien on beds in a neighboring hospital, and each garden hospital should have a qualified medical practitioner, trained nurses, midwives, pharmacists, and health assistants available at all times.
13. Every hospital should have a piped water supply, proper sanitation, and a minimum of 15 beds per 1,000 workers served.
14. Employers of plantations must establish group hospitals for their workers, with the approval of the State Government, ensuring a minimum of 100 beds and at least 3 beds per 700 workers, each with a floor space of 80 sq. ft.
15. The outpatient medical facilities provide a range of services including observation, treatment, preventive measures, advice for pre- and post-natal care, and free certificates for maternity and sickness benefit claims.
16. The authority of the Chief Inspector to provide medical facilities if an employer fails to do so, with the defaulting employer bearing the cost. It also mentions the State Government's intervention to recover costs for group hospital facilities from plantations through levies based on tea production or other criteria.
17. Employers with a certain number of workers in a plantation are required to provide canteens with necessary facilities for selling food items, which must be sold at no-profit prices. The employer is responsible for providing the necessary resources and personnel for the canteen without adding the costs to the prices of the items sold.
18. Employers with a certain number of children on their plantation are required to provide a primary school, unless there is already a government-managed school nearby or if they are paying a tax for primary education.
19. The school should be centrally located, follow standard plans, and have a playground.

20. One teacher should be appointed for every forty children, and the education should be free of charge for the workers' children.
21. Employers in plantations are obligated to provide housing accommodation that meets prescribed standards and is located near the workplace.
22. The State Government may grant exceptions for a certain percentage of workers if satisfactory reasons are provided and approved by the Housing Board.

#### **2.14. Implications:**

1. The Act emphasizes the legal responsibility that employers have in plantations to ensure the provision of clean drinking water, sufficient toilet facilities, and medical amenities for their workers. This underscores the significance of safeguarding the health and well-being of employees in these settings. Failure to comply with these obligations can lead to severe legal repercussions.
2. By providing clean drinking water, employers contribute to the overall well-being of their workers and create a healthier working environment.
3. By providing sufficient toilet facilities, employers prioritize the dignity and comfort of their workers, creating a more conducive and respectful work environment.
4. By having medical facilities readily available, employers demonstrate their commitment to the health and safety of their workers.
5. The Act also emphasizes the provision of medical facilities on plantations. This indicates that the Act recognizes the importance of workers having access to healthcare services.
6. By mandating the provision of medical facilities, the Act aims to ensure that workers can receive timely medical attention and treatment when needed.
7. Furthermore, the Act highlights the need for canteens on plantations. This suggests that the Act recognizes the importance of providing workers with proper nutrition and meals during their working hours. By ensuring the availability of canteens, the Act aims to promote the physical well-being of workers and enhance their productivity.

8. The also Act emphasizes the provision of crèches on plantations. This indicates that the Act recognizes the need for childcare facilities for workers who have young children. By mandating the provision of crèches, the Act aims to support working parents by providing a safe and nurturing environment for their children.
9. The Act also emphasizes the importance of recreational facilities on plantations. This suggests that the Act recognizes the need for workers to have access to leisure Activities and opportunities for relaxation. By promoting the provision of recreational facilities, the Act aims to enhance the overall quality of life for workers and contribute to their well-being.
10. Moreover, the Act highlights the provision of educational facilities on plantations. This indicates that the Act recognizes the importance of education for workers and their families. By ensuring the availability of educational facilities, the Act aims to promote access to education and contribute to the intellectual development of workers and their children.
11. Lastly, the Act emphasizes the provision of housing for workers and their families on plantations. This suggests that the Act recognizes the need for suitable and adequate housing for workers. By mandating the provision of housing, the Act aims to ensure that workers have access to safe and decent living conditions.

## **2.15. Conclusion:**

The Plantations Labour Act, of 1951 in India emphasizes the importance of providing medical facilities to plantation workers. It recognizes that the nature of plantation work can be physically demanding and hazardous, and therefore, employers are obligated to provide adequate medical care to their workers. This includes access to medical professionals, medicines, and emergency services. By prioritizing the health of workers, the Act aims to prevent and address any health-related issues that may arise in the course of their work. Housing accommodations are another crucial aspect covered by the Act. Recognizing that plantation workers often live on or near the plantations, the Act mandates that employers provide

suitable housing facilities. This ensures that workers have access to safe and decent living conditions, including proper sanitation, ventilation, and basic amenities.

Education is also given due importance under the Act. It recognizes the right of plantation workers and their children to receive education and mandates that employers provide educational facilities within or near the plantations. This provision aims to break the cycle of intergenerational poverty by ensuring that workers and their families have access to educational opportunities. In addition to medical facilities, housing accommodations, and educational facilities, the Act also emphasizes the provision of welfare facilities such as canteens and crèches. Canteens ensure that workers have access to nutritious meals during their work hours, promoting their overall well-being. Crèches, on the other hand, provide a safe and nurturing environment for the children of plantation workers, allowing parents to work without worrying about their children's care. To ensure compliance with these welfare measures, the Act grants the State Government the authority to create rules and regulations. This empowers the government to monitor and enforce the provisions of the Act, ensuring that employers fulfill their obligations towards the welfare of plantation workers. By establishing a regulatory framework, the Act aims to create a fair and just working environment for plantation workers, safeguarding their rights and well-being.

In conclusion, the Plantations Labour Act, 1951 in India is a comprehensive piece of legislation that seeks to protect and promote the welfare of plantation workers. Through its provisions for registration, medical facilities, housing accommodations, educational facilities, and welfare facilities, the Act aims to ensure that workers in the plantation sector are provided with the necessary support and benefits. By granting the State Government the authority to enforce these measures, the Act aims to create a fair and equitable working environment for plantation workers in India.

## **Chapter 3**

### **Present State of Plantation Workers in Assam- An Empirical Analysis**

#### **3.1. Introduction:**

The Tea Industry in the State of Assam holds a prominent position as the largest industry and employer in the region. With a staggering number of 800 registered tea gardens, this industry provides employment opportunities to a significant number of permanent and temporary workers. To ensure fair working conditions and protect the rights of these workers, the Plantation Labour Act 1951 was enacted.

The Plantation Labour Act 1951 serves as a regulatory framework that aims to safeguard the interests of tea plantation workers in Assam. This legislation was put into effect in 1956 when the state rules were implemented. The primary objective of this Act is to address various aspects related to the working and living conditions of the workers. One of the key areas covered by the implementation of this legislation is housing. The Act emphasizes the provision of adequate housing facilities for the workers, ensuring that they have access to safe and comfortable living spaces. This includes the availability of proper infrastructure, such as electricity and sanitation facilities, to promote a healthy and conducive living environment. Another crucial aspect addressed by the implementation of the Plantation Labour Act 1951 is the provision of essential amenities. The Act emphasizes the need for access to clean water supply, medical facilities, and educational opportunities for the workers and their families. This ensures that the workers have access to basic necessities and can lead a dignified life.

Overall, the implementation status of the Plantation Labour Act 1951 in Assam is crucial in addressing various issues related to the working and living conditions of tea plantation workers. By regulating aspects such as housing, water supply, medical and educational facilities, crèche, and sanitation, this legislation plays a



vital role in safeguarding the interests and well-being of the workers in the tea industry.

### **3.2. Tea Gardens in Assam:**

The tea gardens of Assam are not only a significant part of the state's economy but also play a crucial role in shaping its cultural and social fabric. With their lush greenery and sprawling landscapes, these gardens have become iconic symbols of Assam's natural beauty. The sheer number of tea gardens in Assam is a testament to the region's favorable climate and fertile soil, which provide ideal conditions for tea cultivation. The tea produced in these gardens is highly sought after worldwide for its distinct flavor and quality. The tea gardens of Assam not only contribute significantly to the state's economy but also provide employment opportunities to thousands of people. The labor-intensive nature of tea cultivation and processing ensures a steady source of income for numerous workers, both skilled and unskilled.

Dibrugarh district, in particular, stands out as the epicentre of Assam's tea industry. This district is home to a substantial number of tea gardens, making it a hub of tea production and trade. The picturesque landscapes of Dibrugarh, adorned with endless rows of tea bushes, create a mesmerizing sight that attracts tourists and tea enthusiasts from far and wide.

Furthermore, these tea gardens serve as vital social and cultural centers within their respective communities. They provide housing, healthcare, and educational facilities to the workers and their families, fostering a sense of belonging and community spirit.

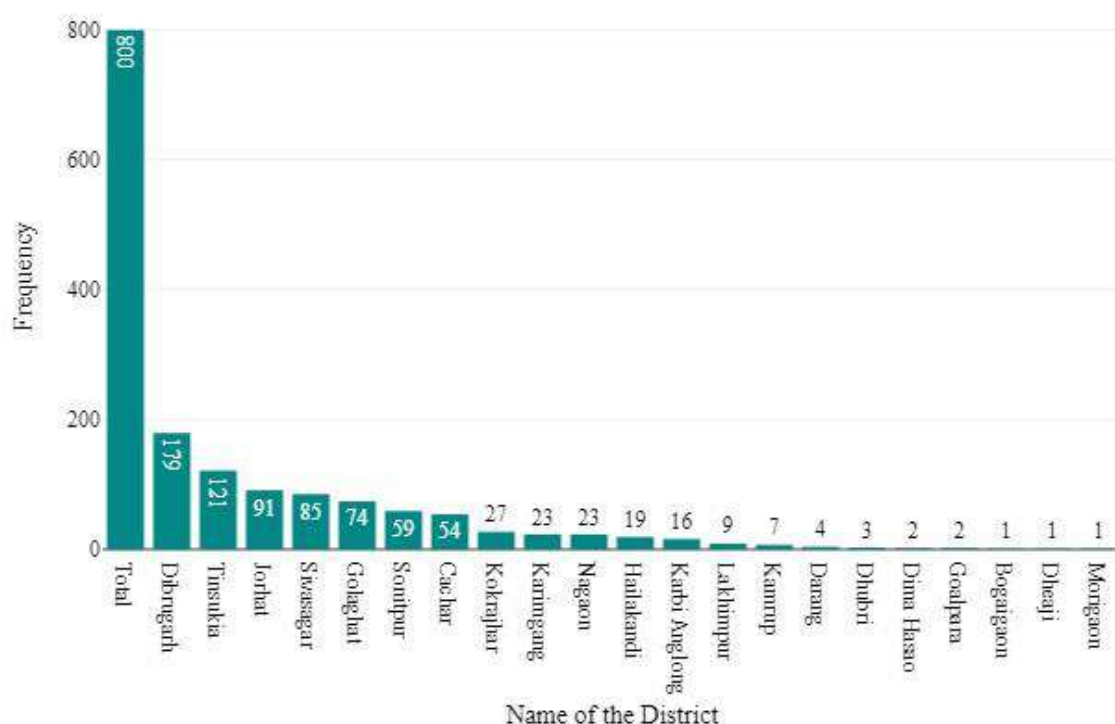
Assam's tea gardens, with their staggering number and concentration in Dibrugarh district, are a testament to the state's rich tea heritage. They not only contribute to the economy but also shape the social and cultural landscape of Assam. The tea produced in these gardens is renowned worldwide for its exceptional quality, making Assam a prominent player in the global tea market.

**Table-3.1****Tea Gardens in Assam**

Name of the District	No. of Tea Garden
Bogaigaon	1
Cachar	54
Darang	4
Dheaji	1
Dhubri	3
Dibrugarh	179
Dima Hasao	2
Goalpara	2
Golaghat	74
Hailakandi	19
Jorhat	91
Kamrup	7
Karbi Anglong	16
Karimgang	23
Kokrajhar	27
Lakhimpur	9
Nagaon	23
Sivasagar	85
Sonitpur	59
Tinsukia	121
Morigaon	1
Total	800

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*.

Assam, a state in northeastern India, is famous for its tea gardens that cover vast stretches of land in the region. The district-wise distribution of these tea gardens is as follows: Bogaigaon has one tea garden, Cachar has 54, Darang has 4, Dheaji has 1, Dhubri has 3, Dibrugarh has 179, Dima Hasao has 2, Goalpara has 2, Golaghat has 74, Hailakandi has 19, Jorhat has 91, Kamrup has 7, Karbi Anglong has 16, Karimgang has 23, Kokrajhar has 27, Lakhimpur has 9, Nagaon has 23, Sivasagar has 85, Sonitpur has 59, Tinsukia has 121, and Morigaon has 1 tea garden. In total, there are 800 tea gardens in Assam. This information has been sourced from "Tea Gardens of Assam, A Report on Plantations Labour Act, 1951".



### 3.3. Status of Tea Garden Workers in Assam:

The table provides an insight into the status of tea garden workers in different districts of Assam. The table includes the name of the district, the number of tea gardens, and the number of workers, divided into categories of permanent and temporary workers, and further subdivided by gender.

The data reveals that Bongaigaon has only one tea garden with 154 permanent and 156 temporary workers, out of which 497 are male and 206 are female. In Cachar, there are 54 tea gardens with an unknown number of permanent workers, 7698 temporary male workers, and an unknown number of temporary female workers. Darrang has four tea gardens with 759 permanent and 861 temporary male workers, and 441 permanent and 707 temporary female workers.

Table-3.2

## Status of Tea Garden Workers in Assam

Name of the District	No. of Tea Gardens	No. of Workers			
		Permanent		Temporary	
		Male	Female	Male	Female
Bongaigaon	1	154	156	497	206
Cachar	54	13036	12417	7698	10381
Darrang	4	759	861	441	707
Dhemaji	1	74	79	170	356
Dhubri	3	554	513	454	1214
Dibrugarh	179	31737	32429	18502	35355
Dima Haso	2	162	206	115	8
Goalpara	2	196	182	158	274
Golaghat	74	13359	13856	9123	13327
Hailakandi	19	3545	3228	922	1624
Jorhat	91	17409	18908	5447	10829
Kamrup	6	524	467	308	380
Karbi Anglong	16	618	720	331	524
Karimganj	23	5130	4703	990	784
Kokrajhar	27	9842	11242	9073	16335
Lakhimpur	9	5363	3949	5741	6698
Nagaon	23	6374	6535	2970	6552
Sivasagar	85	21539	20429	15023	22480
Sonitpur	59	27539	30485	12349	23159
Tinsukia	121	31177	34526	17928	31420
Morigaon	1	330	300	120	250
<b>Assam</b>	<b>800</b>	<b>189421</b>	<b>196191</b>	<b>108360</b>	<b>182863</b>

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951.*

Table-3.2

Similarly, Dhemaji has only one tea garden with 74 permanent and 79 temporary male workers, and 170 permanent and 356 temporary female workers. Dhubri has three tea gardens with 554 permanent and 513 temporary male workers, and 454 permanent and 1214 temporary female workers. Dibrugarh has 179 tea gardens with an unknown number of permanent and temporary workers for both genders.

In Dima Haso, there are only two tea gardens with 162 permanent and 206 temporary male workers, and 115 permanent and 8 temporary female workers. Goalpara has two tea gardens with 196 permanent and 182 temporary male workers, and 158 permanent and 274 temporary female workers. Golaghat has 74

tea gardens with an unknown number of permanent and temporary workers for both genders.

Hailakandi has 19 tea gardens with 3545 permanent and 3228 temporary male workers, and 922 permanent and 1624 temporary female workers. Jorhat has 91 tea gardens with an unknown number of permanent and temporary workers for both genders. Kamrup has six tea gardens with 524 permanent and 467 temporary male workers, and 308 permanent and 380 temporary female workers.

Similarly, Karbi Anglong has 16 tea gardens with 618 permanent and 720 temporary male workers, and 331 permanent and 524 temporary female workers. Karimganj has 23 tea gardens with 5130 permanent and 4703 temporary male workers, and 990 permanent and 784 temporary female workers. Kokrajhar has 27 tea gardens with 9842 permanent and an unknown number of temporary male workers, and 9073 permanent and an unknown number of temporary female workers.

In Lakhimpur, there are nine tea gardens with 5363 permanent and 3949 temporary male workers, and 5741 permanent and 6698 temporary female workers. Nagaon has 23 tea gardens with 6374 permanent and 6535 temporary male workers, and 2970 permanent and 6552 temporary female workers. Sivasagar has 85 tea gardens with an unknown number of permanent and temporary workers for both genders.

Sonitpur has 59 tea gardens with an unknown number of permanent and temporary workers for both genders. Tinsukia has 121 tea gardens with an unknown number of permanent and temporary workers for both genders. Lastly, Morigaon has only one tea garden with 330 permanent and 300 temporary male workers, and 120 permanent and 250 temporary female workers.

### **3.4. Status of Families of Tea Garden Workers in Assam:**

The table presents a comprehensive overview of the status of families of garden workers in Assam. It is a valuable resource for those seeking detailed information on the socio-economic conditions of garden workers and their families in the

region. The table lists the names of districts in Assam, along with the number of tea gardens in each district. It also provides information on the count of resident and non-resident families in each district.

**Table-3.3**

**Status of Families of Garden Workers in Assam**

Name of the District	No. of Tea Gardens	No. of Families	
		Resident	Non-Resident
Bongaigaon	1	272	0
Cachar	54	21798	915
Darrang	4	892	169
Dhemaji	1	62	15
Dhubri	3	1557	1326
Dibrugarh	179	40841	11316
Dima Haso	2	189	0
Goalpara	2	247	317
Golaghat	74	23489	3488
Hailakandi	19	4825	0
Jorhat	91	25910	3932
Kamrup	6	308	686
Karbi Anglong	16	1636	313
Karimganj	23	9074	50
Kokrajhar	27	13506	1778
Lakhimpur	9	5404	983
Nagaon	23	8821	1615
Sivasagar	85	27734	7519
Sonitpur	59	37481	4445
Tinsukia	121	45239	7545
Morigaon	1	363	176
<b>Assam</b>	<b>800</b>	<b>269648</b>	<b>46588</b>

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*

According to the table, Bongaigaon district has one tea garden with 272 resident families and no non-resident families. Cachar district, on the other hand, has 54 tea gardens with a total of 915 families, the exact number of non-resident families has not been specified. Darrang district has four tea gardens with 892 resident families and 169 non-resident families. Dhemaji district has only one tea garden with 62 resident families and 15 non-resident families.

Dhubri district has three tea gardens with a total of 1557 families, out of which 1326 families are non-resident. Dibrugarh district has the highest number of tea gardens



(179) with an unspecified number of resident families and 48,228 non-resident families. Dima Hasao district has two tea gardens with 189 resident families and no non-resident families.

Goalpara district has two tea gardens with 247 resident families and 317 non-resident families. Golaghat district has 74 tea gardens with an unspecified number of resident families and 3488 non-resident families. Hailakandi district has 19 tea gardens with 4825 resident families and no non-resident families.

Jorhat district has 91 tea gardens with an unspecified number of resident families and 3932 non-resident families. Kamrup district has six tea gardens with 308 resident families and 686 non-resident families. Karbi Anglong district has 16 tea gardens with 1636 resident families and 313 non-resident families.

Karimganj district has 23 tea gardens with 9074 resident families and 50 non-resident families. Kokrajhar district has 27 tea gardens with an unspecified number of resident families and 1778 non-resident families. Lakhimpur district has nine tea gardens with 5404 resident families and 983 non-resident families.

Nagaon district has 23 tea gardens with 8821 resident families and 1615 non-resident families. Sivasagar district has 85 tea gardens with an unspecified number of resident families and 7519 non-resident families. Sonitpur district has 59 tea gardens with an unspecified number of resident families and 4445 non-resident families.

Tinsukia district has 121 tea gardens with an unspecified number of resident families and 7545 non-resident families. Morigaon district has only one tea garden with 363 resident families and 176 non-resident families.

### **3.5. Basic Facilities Provided to the Tea Garden Workers in Assam as per State Government Rule 1956:**

The table below provides a detailed breakdown of the basic facilities that are required to be provided to tea garden workers in Assam as per the State

Government Rules 1956. The table contains information on a district-wise basis and includes details such as the number of houses provided for housing, the number of latrines available, the number of water points, the number of creches, and the number of gardens that provide protective materials.

**Table-3.4**

**Basic Facilities Provided to the Tea Garden Workers in Assam As Per State  
Government Rules 1956**

Name of the District	Housing	Latrines	Water Points	Creches	Gardens Providing Protective Materials
Bongaigaon					
Cachar					
Darrang	272	99	285	0	0
Dhemaji	14837	10255	4504	114	43
Dhubri	892	852	385	13	4
Dibrugarh	62	62	20	1	1
Dima Haso	1170	803	413	5	3
Goalpara	36586	32670	14974	213	169
Golaghat	19	39	44	0	2
Hailakandi	137	137	51	3	2
Jorhat	16340	14636	4623	68	68
Kamrup	2656	2676	1096	13	19
Karbi Anglong	18939	14438	5671	118	72
Karimganj	231	160	63	6	4
Kokrajhar	1571	332	233	10	13
Lakhimpur	5744	3481	982	45	17
Nagaon	12659	11699	5136	59	27
Sivasagar	5286	4302	1596	60	9
Sonitpur	7213	4995	2188	25	19
Tinsukia	24493	19271	7795	99	65
Morigaon	34848	28846	12073	224	51
<b>Assam</b>	43025	39432	16780	133	112

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*

The data presented in the table has been sourced from the "Tea Gardens of Assam, A Report on Plantations Labour Act, 1951". According to the report, the district of Darrang has the highest number of houses provided for housing, with a total of 272. In terms of latrines, the district of Cachar has no information available. The district

of Dhemaji has 14837 houses provided for housing, 10255 latrines, 4504 water points, 114 creches, and 43 gardens providing protective materials.

The district of Goalpara has no information available for housing and latrines, but has 14974 water points, 213 creches, and 169 gardens providing protective materials. The district of Jorhat has 16340 houses provided for housing, 14636 latrines, 4623 water points, 68 creches, and 68 gardens providing protective materials.

Overall, the table provides a comprehensive overview of the basic facilities provided to tea garden workers in Assam and highlights the areas where improvements are required to ensure that these workers are provided with a safe and healthy working environment.

### **3.6. No. Of Labour Quarters with Individual Electric Meters:**

The data presented in the table sheds light on the basic facilities provided to tea garden workers in Assam as per the State Government Rules of 1956. The table includes details on the name of each district in Assam, the number of tea gardens present in each district, the number of resident families, and the number of labour quarters equipped with individual electric meters.

The table contains data from a total of 800 tea gardens located across 21 districts of Assam. In the Bongaigaon district, for instance, one tea garden has 272 resident families who are provided with 272 labour quarters equipped with individual electric meters. In the Cachar district, 54 tea gardens accommodate an unspecified number of resident families, but the total number of labour quarters with individual electric meters is 7,849.

Similarly, in the Darrang district, four tea gardens have a total of 892 resident families who are provided with 668 labour quarters with individual electric meters. In the Dhemaji district, one tea garden has 62 resident families who live in 22 labour quarters equipped with individual electric meters.

**Table-3.5****No. Of Labour Quarters with Individual Electric Meters**

Name of the District	No. of Tea Gardens	Resident Families	No. of Labour quarters with individual electric meters
Bongaigaon	1	272	272
Cachar	54	21798	7849
Darrang	4	892	668
Dhemaji	1	62	22
Dhubri	3	1557	378
Dibrugarh	179	40841	17725
Dima Haso	2	189	136
Goalpara	2	247	57
Golaghat	74	23489	10405
Hailakandi	19	4825	1994
Jorhat	91	25910	15559
Kamrup	6	308	283
Karbi Anglong	16	1636	1082
Karimganj	23	9074	2902
Kokrajhar	27	13506	10838
Lakhimpur	9	5404	2512
Nagaon	23	8821	4877
Sivasagar	85	27734	13042
Sonitpur	59	37481	19493
Tinsukia	121	45239	24154
Morigaon	1	363	166
<b>Assam</b>	<b>800</b>	<b>269648</b>	<b>134414</b>

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*

The table also provides data on other districts, including Dhubri, Dibrugarh, Dima Haso, Goalpara, Golaghat, Hailakandi, Jorhat, Kamrup, Karbi Anglong, Karimganj, Kokrajhar, Lakhimpur, Nagaon, Sivasagar, Sonitpur, Tinsukia, and Morigaon.

### **3.7. No of Bank Accounts opened in respect of Tea Garden Workers:**

The following table, Table 3.6, provides information on the number of bank accounts opened in respect of tea garden workers in different districts of Assam. The table includes the name of the district, the number of tea gardens in the district, and the number of bank accounts opened in respect of tea garden workers (if any). The data has been sourced from the report on the Plantations Labour Act, 1951, which provides insights into the tea gardens of Assam.

**Table-3.6****No of Bank Accounts opened in respect of Tea Garden Workers**

Name of the District	No. of Tea Gardens	No. of Bank Accounts opened in respect of Tea Garden Workers (if any)
Bongaigaon	1	0
Cachar	54	10612
Darrang	4	3040
Dhemaji	1	0
Dhubri	3	180
Dibrugarh	179	24053
Dima Haso	2	131
Goalpara	2	183
Golaghat	74	12682
Hailakandi	19	10
Jorhat	91	10266
Kamrup	6	735
Karbi Anglong	16	709
Karimganj	23	4318
Kokrajhar	27	9864
Lakhimpur	9	1833
Nagaon	23	6158
Sivasagar	85	6934
Sonitpur	59	17410
Tinsukia	121	20537
Morigaon	1	0
<b>Assam</b>	<b>800</b>	<b>129655</b>

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*

As per the table, Bongaigaon has one tea garden, but no bank accounts have been opened in respect of tea garden workers. Cachar has 54 tea gardens, and the number of bank accounts opened in respect of tea garden workers is not specified. Darrang has four tea gardens, and 3040 bank accounts have been opened. Similarly, Dhemaji has one tea garden, but no bank accounts have been opened in respect of tea garden workers.

Dhubri has three tea gardens, and 180 bank accounts have been opened in respect of tea garden workers. Dibrugarh has the highest number of tea gardens, which is 179, and the number of bank accounts opened in respect of tea garden workers is not specified. Dima Haso has two tea gardens, and 131 bank accounts have been opened.

Goalpara has two tea gardens, and 183 bank accounts have been opened in respect of tea garden workers. Golaghat has 74 tea gardens, and the number of bank accounts opened in respect of tea garden workers is not specified. Hailakandi has 19 tea gardens, and only 10 bank accounts have been opened in respect of tea garden workers.

Jorhat has 91 tea gardens, and the number of bank accounts opened in respect of tea garden workers is not specified. Kamrup has six tea gardens, and 735 bank accounts have been opened. Similarly, Karbi Anglong has 16 tea gardens, and 709 bank accounts have been opened. Karimganj has 23 tea gardens, and 4318 bank accounts have been opened.

Kokrajhar has 27 tea gardens, and 9864 bank accounts have been opened in respect of tea garden workers. Lakhimpur has nine tea gardens, and 1833 bank accounts have been opened. Nagaon has 23 tea gardens, and 6158 bank accounts have been opened. Sivasagar has 85 tea gardens, and 6934 bank accounts have been opened. Sonitpur has 59 tea gardens, and the number of bank accounts opened in respect of tea garden workers is not specified. Tinsukia has 121 tea gardens, and the number of bank accounts opened in respect of tea garden workers is not specified. Finally, Morigaon has one tea garden, but no bank accounts have been opened in respect of tea garden workers.

The table indicates that a total of 800 tea gardens exist in Assam, and the number of bank accounts opened in respect of tea garden workers is not specified for a significant number of tea gardens.

### **3.8. Housing Facilities Provided and Shortfall:**

The table presented below provides a detailed account of the housing facilities provided and their shortfall in each district of Assam. The data is extracted from the Tea Gardens of Assam report on the Plantations Labour Act, 1951, which aims to ensure that laborers in tea plantations have hygienic and adequate housing facilities. The table contains information on the name of the district, the number of



housing facilities provided with their specifications, and the shortfall in housing facilities, if any

**Table-3.7**

**Housing Facilities Provided and Shortfall**

Name of the District	Housing Facilities Provided	Specifications	Housing Facility Shortfall
Bongaigaon	272	272	0
Cachar	14837	21798	6961
Darrang	892	892	0
Dhemaji	62	62	0
Dhubri	1170	1557	387
Dibrugarh	36586	40841	4255
Dima Haso	19	189	170
Goalpara	137	247	110
Golaghat	16340	23489	7149
Hailakandi	2656	4825	2169
Jorhat	18939	25910	6971
Kamrup	231	308	77
Karbi Anglong	1571	1636	65
Karimganj	5744	9074	3330
Kokrajhar	12659	13506	847
Lakhimpur	5286	5404	118
Nagaon	7213	8821	1608
Sivasagar	24493	27734	3241
Sonitpur	34848	37481	2633
Tinsukia	43025	45239	2214
Morigaon	215	363	148
<b>Assam</b>	<b>227195</b>	<b>269648</b>	<b>42453</b>

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*

The data reveals that the Bongaigaon district has met its housing needs and has no shortfall, while the Dima Haso district has a significant shortfall of 170 housing facilities. Similarly, Karimganj district has a shortfall of 3330 housing facilities. The housing facilities provided in each district vary in number and specifications, with some districts providing more than others. For instance, Hailakandi district has provided 2656 housing facilities, while Kokrajhar has provided only 847.

This table provides valuable insights into the housing needs of each district in Assam, which can be used by policymakers to prioritize development initiatives

and allocate resources accordingly. The data can also be used by researchers to study the impact of adequate housing facilities on the lives of laborers in tea plantations and make recommendations for future policies. Overall, this table serves as a useful reference for anyone interested in the housing situation in Assam.

### 3.9. Toilet Facilities Provided and Shortfall:

The given information is a table that provides detailed data on Toilet Facilities Provided and Shortfall in different districts of Assam. The table is sourced from a report on the Plantations Labour Act, of 1951, which focuses on tea gardens in the state.

**Table-3.8**

#### **Toilet Facilities Provided and Shortfall**

Name of the District	Toilet Facilities Provided	Specifications	Toilet Facility Shortfall
Bongaigaon	99	272	173
Cachar	10255	21798	11543
Darrang	852	892	40
Dhemaji	62	62	0
Dhubri	803	1557	754
Dibrugarh	32670	40844	8174
Dima Haso	39	189	150
Goalpara	137	247	110
Golaghat	14636	23489	8853
Hailakandi	2676	4833	2157
Jorhat	14438	25910	11472
Kamrup	160	308	148
Karbi Anglong	332	1636	1304
Karimganj	3481	9074	5593
Kokrajhar	11699	13506	1807
Lakhimpur	4302	5404	1102
Nagaon	4995	8821	3826
Sivasagar	19271	27734	8463
Sonitpur	28846	37481	8635
Tinsukia	39432	45239	5807
Morigaon	153	363	210
<b>Assam</b>	<b>189338</b>	<b>269659</b>	<b>80321</b>

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*

The table contains comprehensive information on the number of toilet facilities provided, their specifications, and the shortfall in each district. The districts are alphabetically listed, starting with Bongaigaon and ending with Morigaon.

For instance, Bongaigaon has 99 toilet facilities provided, with a specification of 272, resulting in a shortfall of 173. Similarly, Cachar has unspecified numbers for Toilet Facilities Provided, Specifications, and Toilet Facility Shortfall. Darrang has 852 toilet facilities provided, with a specification of 892, resulting in a shortfall of 40.

Moreover, the data also shows that some districts have a significant shortfall in the number of toilet facilities provided as compared to their specifications. For instance, in Dhubri, there is a shortfall of 754 toilet facilities, with only 803 facilities provided as compared to the specification of 1557. Likewise, Karbi Anglong has only 332 toilet facilities provided, with a specification of 1636, resulting in a shortfall of 1304.

In conclusion, the provided data can be useful for policymakers, government authorities, and organizations working towards improving sanitation facilities in the state of Assam. It is essential to ensure that all citizens have access to adequate sanitation facilities to promote health, hygiene, and overall well-being.

### **3.10. Water Point Facilities Provided and Shortfall:**

The following is a detailed report on the water point facilities provided and their shortfall in various districts of Assam. The data is summarized in Table 3.9 and has been sourced from the Tea Gardens of Assam, A Report on Plantations Labour Act, 1951. The table provides information on the name of the district, the water point facilities provided, the specifications of the facilities, and the shortfall of these facilities.

**Table-3.9****Water Point Facilities Provided and Shortfall**

Name of the District	Water Point Facilities Provided	Specifications	Water Point Facility Shortfall
Bongaigaon	285	285	0
Cachar	4504	4786	282
Darrang	385	395	10
Dhemaji	20	20	0
Dhubri	413	498	85
Dibrugarh	14974	17962	2988
Dima Haso	44	44	0
Goalpara	51	56	5
Golaghat	4623	5108	485
Hailakandi	1096	1096	0
Jorhat	5671	6092	421
Kamrup	63	80	17
Karbi Anglong	233	234	1
Karimganj	982	999	17
Kokrajhar	5136	5442	306
Lakhimpur	1596	1834	238
Nagaon	2188	2278	90
Sivasagar	7795	8273	478
Sonitpur	12073	13218	1145
Tinsukia	16780	18424	1644
Morigaon	97	116	19
<b>Assam</b>	<b>79009</b>	<b>87240</b>	<b>8231</b>

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*

According to the report, Bongaigaon district has provided 285 water point facilities and has no shortfall. Similarly, Dhemaji district has provided 20 water point facilities and has no shortfall. However, other districts have varying levels of shortfall in water point facilities.

Cachar district has provided 4504 water point facilities but has a shortfall of 282 facilities. Darrang district has provided 385 water point facilities and has a shortfall of 10 facilities. Dhubri district has provided 413 water point facilities but has a shortfall of 85 facilities. Goalpara district has provided 51 water point facilities but has a shortfall of 5 facilities. Karbi Anglong district has provided 233 water point facilities but has a shortfall of 1 facility. Karimganj district has provided 982 water point facilities but has a shortfall of 17 facilities. Lakhimpur district has provided

1596 water point facilities but has a shortfall of 238 facilities. Nagaon district has provided 2188 water point facilities but has a shortfall of 90 facilities. Morigaon district has provided 97 water point facilities but has a shortfall of 19 facilities.

On the other hand, Dibrugarh district has not provided specific data on the number of water point facilities provided and their specifications. Similarly, Sonitpur district has not provided specific data on the number of water point facilities provided but has reported a shortfall of 1145 facilities. Tinsukia district has also not provided specific data on the number of water point facilities provided but has reported a shortfall of 1644 facilities.

In total, Assam has provided 8231 water point facilities but has a shortfall of 2988 facilities. The data in the report highlights the need for further investment and development to ensure adequate access to safe drinking water in all districts of Assam.

### **3.11. Creches Facilities Provided and Shortfall**

The following table lists the creches facilities provided and the shortfall in various districts of Assam. The data in the table is obtained from the report on the Plantations Labour Act, 1951, which focuses on the tea gardens of Assam.

As per the table, Bongaigaon district has a shortfall of 1 creche facility as no facility is provided in the district. On the other hand, the Cachar district has 114 creche facilities provided against the specifications of 120, resulting in a shortfall of 6 creche facilities.

Similarly, the Darrang, Dhemaji, and Dhubri districts have no shortfall as the number of creche facilities provided is equal to the specifications. Whereas, the Dima Haso district has a shortfall of 1 creche facility.

Moreover, Goalpara, Karbi Anglong, and Lakhimpur districts have no shortfall as no creche facility is provided in these districts. Jorhat, Nagaon, Sivasagar, and Tinsukia districts have a shortfall of 7, 6, 6, and 9 creche facilities, respectively.

**Table-3.10****Creches Facilities Provided and Shortfall**

Name of the District	Creches Facilities Provided	Specifications	Creches Facility Shortfall
Bongaigaon	0	1	1
Cachar	114	120	6
Darrang	13	13	
Dhemaji	1	1	
Dhubri	5	5	
Dibrugarh	213	222	9
Dima Haso	0	1	1
Goalpara	3	3	
Golaghat	68	73	5
Hailakandi	13	18	5
Jorhat	118	125	7
Kamrup	6	7	1
Karbi Anglong	10	10	
Karimganj	45	48	3
Kokrajhar	59	61	2
Lakhimpur	60	60	
Nagaon	25	31	6
Sivasagar	99	105	6
Sonitpur	224	224	
Tinsukia	133	142	9
Morigaon	9	9	
<b>Assam</b>	<b>1218</b>	<b>1279</b>	<b>61</b>

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*

Furthermore, Golaghat district has a shortfall of 5 creche facilities as only 68 facilities are provided against the specifications of 73. Hailakandi district has a shortfall of 5 creche facilities as only 13 facilities are provided against the specifications of 18. Karimganj district has a shortfall of 3 creche facilities as only 45 facilities are provided against the specifications of 48. Kokrajhar district has a shortfall of 2 creche facilities as only 59 facilities are provided against the specifications of 61.

Overall, Assam has a shortfall of 61 creche facilities as only 1218 facilities are provided against the specifications of 1279.



### 3.12. Hospital Provided and Shortfall:

The table labeled "Table-3.11 Hospital Provided and Shortfall" provides a detailed comparison of the hospital facilities provided by various districts in Assam, along with the respective shortfalls. The table includes the names of the districts in Assam, the hospital facilities provided, their specifications, and the shortfall in each category.

**Table-3.11**

#### **Hospital Provided and Shortfall**

Name of the District	Hospital Facilities Provided	Specifications	Hospital Facility Shortfall
Bongaigaon	0	1	1
Cachar	37	42	5
Darrang	4	4	0
Dhemaji	0	0	0
Dhubri	3	3	0
Dibrugarh	91	99	8
Dima Haso	0	1	1
Goalpara	2	2	0
Golaghat	32	39	7
Hailakandi	13	15	2
Jorhat	38	50	12
Kamrup	1	2	1
Karbi Anglong	1	1	0
Karimganj	10	12	2
Kokrajhar	24	25	1
Lakhimpur	4	9	5
Nagaon	1	1	0
Sivasagar	16	17	1
Sonitpur	47	55	8
Tinsukia	49	56	7
Morigaon	61	63	2
Assam	434	497	63

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*

According to the table, Bongaigaon district provided no hospital facilities, while Cachar district provided 37 facilities with specified specifications but fell short by 5 facilities. Darrang district provided four hospital facilities with the exact specifications required and had no shortfall. In contrast, the Dhemaji district did not provide any hospital facilities.

Dhubri district provided three hospital facilities, which met the required specifications without any shortfall. Similarly, Dibrugarh district provided 91 hospital facilities with specified specifications, but there was a shortfall of 8 facilities. Dima Haso district provided no hospital facilities and had a shortfall of one facility.

Goalpara district provided two hospital facilities, which met the required specifications without any shortfall. Golaghat district provided 32 hospital facilities with specified specifications but fell short by 7 facilities. Hailakandi district provided 13 hospital facilities with specified specifications but fell short by 2 facilities.

Jorhat district provided 38 hospital facilities with specified specifications but fell short by 12 facilities. Kamrup district provided one hospital facility with specified specifications but fell short by one facility. Karbi Anglong district provided one hospital facility with the exact specifications required and had no shortfall.

Karimganj district provided ten hospital facilities with specified specifications, but there was a shortfall of two facilities. Kokrajhar district provided 24 hospital facilities with specified specifications, but there was a shortfall of one facility. Lakhimpur district provided four hospital facilities with specified specifications, but there was a shortfall of five facilities.

Nagaon district provided one hospital facility with the exact specifications required and had no shortfall. Sivasagar district provided 16 hospital facilities with specified specifications but fell short by one facility. Sonitpur district provided 47 hospital facilities with specified specifications, but there was a shortfall of eight facilities.

Tinsukia district provided 49 hospital facilities with specified specifications, but there was a shortfall of seven facilities. Morigaon district provided 61 hospital facilities with specified specifications, but there was a shortfall of two facilities.

The table concludes that Assam as a whole provided 434 hospital facilities with specified specifications, but there was a shortfall of 63 facilities. The source of this

information is the "Tea Gardens of Assam, A Report on Plantations Labour Act, 1951."

### 3.13. Dispensary Provided and Shortfall:

The following data represents the Dispensary Provided and Shortfall in various districts of the state. The table lists the name of the district, the number of dispensaries provided, the specifications of these dispensaries, and the number of dispensaries that are still needed to meet the requirement.

**Table-3.12**

#### **Dispensary Provided and Shortfall**

Name of the District	Dispensaries Provided	Specifications	Dispensaries Shortfall
Bongaigaon	0	0	0
Cachar	65	69	4
Darrang	5	5	0
Dhemaji	1	1	0
Dhubri	3	3	0
Dibrugarh	98	136	38
Dima Haso	1	1	0
Goalpara	0	0	0
Golaghat	53	65	12
Hailakandi	20	20	0
Jorhat	75	90	15
Kamrup	3	3	0
Karbi Anglong	5	6	1
Karimganj	19	21	2
Kokrajhar	20	32	12
Lakhimpur	5	13	8
Nagaon	1	1	0
Sivasagar	23	28	5
Sonitpur	62	89	27
Tinsukia	52	96	44
Morigaon	75	120	45
Assam	586	799	213

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*

Bongaigaon district has not yet received any dispensaries. Cachar district has 65 dispensaries, which is currently 4 short of the required number. Darrang district has received all 5 dispensaries, and Dhemaji district has received one dispensary, which fulfills the required number. Dhubri district has also received all three dispensaries

that were required. Dibrugarh district has 98 dispensaries, but it still falls short by 38 dispensaries. Dima Haso district has received one dispensary, which fulfills the required number. Goalpara district has not received any dispensaries yet.

Golaghat district has 53 dispensaries, but it still falls short by 12 dispensaries. Hailakandi district has received 20 dispensaries, and only one more dispensary is needed. Jorhat district has 55 dispensaries and still needs 7 more. Kamrup district has only received one dispensary, but one more is still required. Karbi Anglong district has received one dispensary, which fulfills the required number. Karimganj district has received 7 dispensaries, but it still needs 4 more. Kokrajhar district has 24 dispensaries and still falls short by 2 dispensaries. Lakhimpur district has received 3 dispensaries, but it still needs 6 more. Nagaon district has only received one dispensary, but one more is still required. Finally, Sivasagar district has received 10 dispensaries, but it still needs 6 more to meet the required number.

### **3.14. Doctors Provided and Shortfall:**

The table provided is an overview of the number of doctors available and the shortfall of doctors in different districts of Assam, as of the time of the report. The data is sourced from the "Tea Gardens of Assam, A Report on Plantations Labour Act, 1951". The table is labeled Table-3.13 and lists the names of the districts of Assam, the number of doctors provided, the specifications of the provided doctors, and the number of doctors that are currently required or in shortfall.

According to the table, Bongaigaon district has only one doctor provided and requires one more. Cachar district has a total of 24 doctors provided but still faces a shortfall of 18 doctors. Darrang district has four doctors provided and none in shortfall. Dhemaji district has no doctors provided, but no doctors are in shortfall either. Similarly, Dhubri district has three doctors provided and none in shortfall.

Dibrugarh district has 69 doctors provided but still faces a shortfall of 23 doctors. Dima Haso district has no doctors provided and requires one more. Goalpara district has no doctors provided and requires one doctor. Golaghat district has 29

doctors but still faces a shortfall of 13 doctors. Hailakandi district has only two doctors provided and needs 12 more doctors.

**Table-3.13**

**Doctors Provided and Shortfall**

Name of the District	Doctors Provided	Specifications	Doctors Shortfall
Bongaigaon		1	1
Cachar	24	42	18
Darrang	4	4	0
Dhemaji	0	0	0
Dhubri	3	3	0
Dibrugarh	69	92	23
Dima Haso	0	1	1
Goalpara	0	1	1
Golaghat	29	42	13
Hailakandi	2	14	12
Jorhat	55	62	7
Kamrup	0	1	1
Karbi Anglong	1	1	0
Karimganj	7	11	4
Kokrajhar	24	26	2
Lakhimpur	3	9	6
Nagaon	0	1	1
Sivasagar	10	16	6
Sonitpur	46	57	11
Tinsukia	48	58	10
Morigaon	66	75	9
Assam	391	517	126

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*

Jorhat district has 55 doctors provided and needs seven more doctors. Kamrup district has no doctors provided and requires one doctor. Karbi Anglong district has one doctor provided and none in shortfall. Karimganj district has seven doctors but still faces a shortfall of four doctors. Kokrajhar district has 24 doctors provided and requires two more doctors.

Lakhimpur district has three doctors provided but still faces a shortfall of six doctors. Nagaon district has no doctors provided but requires one doctor. Sivasagar district has 10 doctors but still faces a shortfall of six doctors. Sonitpur district has 46 doctors provided but still faces a shortfall of 11 doctors. Tinsukia district has 48

doctors but still faces a shortfall of 10 doctors. Finally, Morigaon district has 66 doctors provided, but still faces a shortfall of nine doctors.

Overall, the table shows that Assam has a total of 391 doctors and requires 126 more doctors to meet the demand for healthcare in the districts.

### 3.15. Pharmacists Provided and Shortfall:

The following table presents information about the number of pharmacists provided and the shortfall of pharmacists in various districts of Assam, India. The data is taken from a report on the Plantations Labour Act, 1951, which focuses on tea gardens in Assam. The table shows the name of each district, the number of pharmacists provided, the specified number of pharmacists, and the shortfall of pharmacists in each district.

**Table-3.14**

#### **Pharmacists Provided and Shortfall**

Name of the District	Pharmacist Provided	Specifications	Pharmacists Shortfall
Bongaigaon		1	1
Cachar	66	88	22
Darrang	4	5	1
Dhemaji	1	1	0
Dhubri	2	5	3
Dibrugarh	128	196	68
Dima Haso	0	1	1
Goalpara	2	2	0
Golaghat	61	84	23
Hailakandi	20	25	5
Jorhat	90	114	24
Kamrup	2	3	1
Karbi Anglong	2	4	2
Karimganj	18	28	10
Kokrajhar	31	54	23
Lakhimpur	7	22	15
Nagaon	1	2	1
Sivasagar	27	39	12
Sonitpur	79	118	39
Tinsukia	77	141	64
Morigaon	97	161	64
Assam	715	1094	379

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*

According to the data, the district of Bongaigaon has only one pharmacist, which is equal to the specified number of pharmacists. In contrast, the district of Cachar has 66 pharmacists provided, but the specified number of pharmacists is 88. Hence, there is a shortfall of 22 pharmacists in this district. Similarly, the district of Darrang has a shortfall of one pharmacist, with only four pharmacists provided against the specified number of five pharmacists.

Other districts with a significant shortfall of pharmacists include Dibrugarh, with a shortfall of 68 pharmacists, Tinsukia, with a shortfall of 64 pharmacists, and Morigaon, with a shortfall of 64 pharmacists. On the other hand, some districts have met the specified number of pharmacists, such as Dhemaji, with one pharmacist provided and no shortfall, and Goalpara, with two pharmacists provided and no shortfall.

The total number of pharmacists provided in Assam is 715, while the specified number of pharmacists is 1094. Therefore, there is a shortfall of 379 pharmacists in the state. These figures highlight the need for more pharmacists in various districts of Assam to ensure that people have access to quality healthcare services.

### **3.16. ANM, GNM Provided and Shortfall:**

Table 3.14 refers to a statistical table that presents information about Auxiliary Nurse Midwives (ANM) and General Nurse Midwives (GNM). The table provides details about the number of ANM and GNM provided, as well as the shortfall in their provision. This information can be useful for policymakers, healthcare providers, and other stakeholders in making decisions related to healthcare workforce planning, allocation of resources, and improving the quality of healthcare services.

According to the data, one ANM professional was provided, which was also the shortfall in the district. In Cachar district, 2 GNM professionals were provided, and the shortfall was 36. Similarly, 49 ANM professionals were provided, but the shortfall was 39.



**Table-3.14****ANM, GNM Provided and Shortfall**

Name of the District	GNM Provided	Specifications	GNM Shortfall	ANM Provided	Specifications	ANM Shortfall
Bongaigaon		0	0		1	1
Cachar	2	38	36	49	88	39
Darrang	0	1	1	5	5	0
Dhemaji	0	0	0	1	1	0
Dhubri	0	2	2	2	5	3
Dibrugarh	80	106	26	123	226	103
Dima Haso	0	0	0	0	1	1
Goalpara	0	0	0	3	3	0
Golaghat	18	35	17	59	101	42
Hailakandi	0	8	8	22	27	5
Jorhat	20	44	24	77	130	53
Kamrup	0	1	1	1	3	2
Karbi						
Anglong	0	1	1	4	7	3
Karimganj	2	12	10	10	33	23
Kokrajhar	21	29	8	32	71	39
Lakhimpur	3	13	10	6	31	25
Nagaon	0	1	1	1	2	1
Sivasagar	5	18	13	37	51	14
Sonitpur	27	60	33	83	152	69
Tinsukia	44	87	43	78	194	116
Morigaon	88	115	27	89	214	125
Assam	310	571	261	682	1346	664

Source: *Tea Gardens of Assam, A Report on Plantations Labour Act, 1951*

In the Darrang district, no GNM professionals were provided, while one was required. On the other hand, five ANM professionals were provided, and there was no shortfall. In the Dhemaji district, no GNM professionals were provided, and one ANM professional was provided with no shortfall.

In Dhubri district, two GNM professionals were provided, but two were still required. Two ANM professionals were provided, but the shortfall was three. In Dibrugarh district, 80 GNM professionals were provided, but the shortfall was 26. Similarly, 123 ANM professionals were provided, but the shortfall was 103.

In Goalpara district, no GNM professionals were provided, and three ANM professionals were provided, but there was no shortfall. In Golaghat district, 18

GNM professionals were provided, and the shortfall was 17. Similarly, 59 ANM professionals were provided, but the shortfall was 42.

In Hailakandi district, no GNM professionals were provided, and eight ANM professionals were provided, but the shortfall was five. In Jorhat district, 20 GNM professionals were provided, and the shortfall was 24. Similarly, 77 ANM professionals were provided, but the shortfall was 53.

In Kamrup district, no GNM professionals were provided, but one was required. One ANM professional was provided, but the shortfall was two. In Karbi Anglong district, no GNM professionals were provided, and one ANM professional was provided, but the shortfall was three.

In Karimganj district, two GNM professionals were provided, but the shortfall was ten. Similarly, 10 ANM professionals were provided, but the shortfall was 23. In Kokrajhar district, 21 GNM professionals were provided, and the shortfall was eight. Similarly, 32 ANM professionals were provided, but the shortfall was 39.

In Lakhimpur district, three GNM professionals were provided, and the shortfall was ten. Similarly, six ANM professionals were provided, but the shortfall was 25. In Nagaon district, no GNM professionals were provided, and one ANM professional was provided, but the shortfall was one.

In Sivasagar district, five GNM professionals were provided, and the shortfall was 13. Similarly, 37 ANM professionals were provided, but the shortfall was 14. In Sonitpur district, 27 GNM professionals were provided, and the shortfall was 33. Similarly, 83 ANM professionals were provided, but the shortfall was 69.

In Tinsukia district, 44 GNM professionals were provided, and the shortfall was 43. Similarly, 78 ANM professionals were provided, but the shortfall was 116. Finally, in Morigaon district, 88 GNM professionals were provided, and the shortfall was 27. Similarly, 89 ANM professionals were provided, but the shortfall was 125.

The total number of GNM professionals provided in Assam was 310, and the shortfall was 261. The total number of ANM professionals provided was 682, and the shortfall was 664.

## **Chapter 4**

### **Data Analysis, Test of Hypotheses, Findings and Conclusions**

#### **4.1. Introduction:**

Tea Gardens of Assam, A Report on Plantations Labour Act, 1951 has provided the required data for the empirical study that has already been conducted. The report has provided the required data on the district-wise number of tea gardens. It also provided the details of housing facilities, medical facilities, and shortfall based on the specifications basing the Assam Plantation Labour Rules 1956.

The Tea Gardens of Assam report is a comprehensive study that aims to provide valuable insights into the living and working conditions of tea garden workers in Assam. The report includes detailed data on the number of tea gardens in the region and their respective facilities, which enables researchers to formulate hypotheses and draw conclusions about the adequacy of various amenities provided to the workers.

One of the key aspects examined in the report is the housing facilities available to tea garden workers. By analyzing the data on the number of houses provided by each tea garden, researchers can assess whether there is a sufficient number of houses to accommodate the workers and their families. This information can help identify any potential issues related to overcrowding or inadequate housing conditions.

Similarly, the report also provides data on the availability of essential facilities such as toilets, water points, creches, hospitals, dispensaries, pharmacists, GNM (General Nursing and Midwifery) facilities, and ANM (Auxiliary Nurse Midwife) facilities in the tea gardens. Researchers can use this data to evaluate the adequacy of these facilities and determine if there are any gaps or deficiencies that need to be addressed.

To analyze the data and draw meaningful conclusions, statistical tests such as t-tests and ANOVA tests were conducted. T-tests are used to compare the means of two groups, while ANOVA tests are used to compare the means of three or more groups. By applying these tests to the data on various facilities, researchers can identify any significant differences or variations between different tea gardens and their amenities.

The findings from the statistical tests can help researchers and policymakers understand the overall situation and make informed decisions regarding the improvement of living and working conditions for tea garden workers in Assam. For example, if the t-tests or ANOVA tests reveal significant differences in the availability of certain facilities between different tea gardens, it may indicate the need for targeted interventions or resource allocation to address the disparities.

The Tea Gardens of Assam report provides valuable data on the number of tea gardens and their facilities, allowing researchers to formulate hypotheses and draw conclusions about the adequacy of housing, toilets, water point, creche, hospital, dispensary, pharmacist, GNM, and ANM facilities for tea garden workers in Assam. The use of statistical tests such as t-tests and ANOVA tests enhances the analysis and helps identify any significant differences or variations in the data. Ultimately, the findings from this report can inform policy decisions and interventions aimed at improving the living and working conditions of tea garden workers in Assam.

The data enables the researchers to formulate the following hypotheses:

1.  $H_01$ : There is no difference in the mean value between the variables *Housing Facilities Provided* and *Specifications as per the State Rules of Assam for providing housing facilities to the tea garden workers*.
2.  $H_02$ : There is no difference in the mean value between the variables *Toilet Facilities Provided* and *Specifications*

3. H<sub>0</sub>3: There is no difference in the mean value between the variables *Water Point Facilities Provided* and *Specifications as per the State Rules of Assam to be provided to the tea garden workers*.
4. H<sub>0</sub>4: There is no difference in the mean value between the variables *Creches Facilities Provided* and *Specifications as per Assam Government Rules*.
5. H<sub>0</sub>5: There is no difference between the dependent variables of *Hospital Facilities Provided*, *Specifications*, and *Hospital Facility Shortfall*.
6. H<sub>0</sub>6: There is no difference between the dependent variables *Dispensaries Provided*, *Specifications*, and *Dispensaries Shortfall*.
7. H<sub>0</sub>7: There is no difference between the dependent variables *Pharmacist Provided*, *Specifications*, and *Pharmacist Shortfall*.
8. H<sub>0</sub>8: There is no difference between the dependent variables *GNM Provided*, *Specifications*, and *GNM Shortfall*.
9. H<sub>0</sub>9: There is no difference between the dependent variables *ANM Provided*, *Specifications*, and *ANM Shortfall*.

#### 4.2. Test of Hypotheses:

Null hypothesis	Alternative hypothesis
There is no difference in the mean value between the variables <i>Housing Facilities Provided</i> and <i>Specifications as per the State Rules of Assam for providing housing facilities to the tea garden workers</i> .	There is a difference in the mean value between the variables <i>Housing Facilities Provided</i> and <i>Specifications</i>

#### Descriptive Statistics:

	n	Mean	Std. Deviation	Std. Error Mean
Housing Facilities Provided	21	10818.81	13558.97	2958.81
Specifications	21	12840.38	15042.82	3282.61

#### t-Test:

	t	df	p	Cohen's d
Housing Facilities Provided - Specifications	-3.75	20	.001	0.82

The study aimed to discover if there is no difference in the mean value between the variables *Housing Facilities Provided* and *Specifications as per the State Rules of Assam for providing housing facilities to the tea garden workers*.

The statistical analysis presented aimed to investigate whether there is a significant difference in the mean value between two variables, namely, *Housing Facilities Provided* and *Specifications*. To achieve this goal, the researchers formulated two hypotheses: null and alternative. The null hypothesis stated that there is no difference in the mean value between the two variables, while the alternative hypothesis suggested that there is a difference.

To test these hypotheses, the researchers collected data from two groups of 21 participants each, one representing *Housing Facilities Provided*, and the other representing *Specifications*. They calculated a set of descriptive statistics for each group, including the sample size (n), the mean, the standard deviation, and the standard error mean.

The results showed that the *Housing Facilities Provided* group had lower mean values ( $M = 10818.81$ ,  $SD = 13558.97$ ) than the *Specifications* group ( $M = 12840.38$ ,  $SD = 15042.82$ ). To determine whether this difference was statistically significant, a paired-sample t-test was conducted. The t-test result indicated that the difference was indeed significant, as evidenced by a t-value of -3.75, a p-value of .001, and a 95% confidence interval ranging from -3146.36 to -896.78.

Based on these findings, the null hypothesis was rejected, suggesting that both samples were from different populations. This conclusion was further supported by Cohen's d effect size, which indicated a large effect size of 0.82, suggesting that the difference between the two groups was not only statistically significant but also practically significant.

Null hypothesis	Alternative hypothesis
There is no difference in the mean value between the variables <i>Toilet Facilities Provided</i> and <i>Specifications</i>	There is a difference in the mean value between the variables <i>Toilet Facilities Provided</i> and <i>Specifications</i>

### Descriptive Statistics:

	n	Mean	Std. Deviation	Std. Error Mean
Toilet Facilities Provided	21	9016.1	11932.28	2603.84
Specifications	21	12840.9	15042.88	3282.63

### T-Test:

	t	df	p	Cohen's d
Toilet Facilities Provided - Specifications	-4.25	20	<.001	0.93

This table presents the results of a paired samples t-test, which is used to compare the means of two related groups to determine if they are statistically different.

The p-value is <.001, indicating the probability of observing the test results, or more extreme, given that the null hypothesis is true. A p-value of <.001 means there's a 0.04% chance of obtaining these test results if the null hypothesis were true. Typically, a p-value of less than 0.05 is considered statistically significant, so this result suggests that there is a statistically significant difference between the Toilet Facilities Provided and Specifications means. A Cohen's d of 0.93 is considered a large effect size. The effect size helps to understand the practical, as well as the statistical significance of the difference.

The following statistical analysis pertains to a study conducted in the tea gardens of Assam, which compares the mean values of two variables - Water Point Facilities Provided and Specifications as per the State Rules of Assam. The study aims to test two hypotheses - the null hypothesis, which assumes that there is no difference in the mean value between the two variables, and the alternative hypothesis, which assumes that there is a difference in the mean value between the two variables.

Descriptive statistics of the two variables reveal that the sample size for both is 21, with the mean value of Water Point Facilities Provided being 3762.33 and Specifications being 4154.29. The standard deviation for Water Point Facilities



Provided is 5124.55, and for Specifications, it is 5787.31. The standard error mean for Water Point Facilities Provided is 1118.27, and for Specifications, it is 1262.89.

The t-test conducted to compare the two variables revealed a t-value of -2.47, with a degree of freedom of 20 and a p-value of .023. The Cohen's d value, an effect size measure, is 0.54. Based on these results, the null hypothesis is rejected in favor of the alternative hypothesis, indicating a difference in the mean value between Water Point Facilities Provided and Specifications as per the State Rules of Assam in the tea gardens of Assam.

	Alternative hypothesis
There is no difference in the mean value between the variables <i>Water Point Facilities Provided</i> and <i>Specifications as per the State Rules of Assam to be provided to the tea garden workers</i> .	There is a difference in the mean value between the variables <i>Water Point Facilities Provided</i> and <i>Specifications as per the State Rules of Assam to be provided to the tea garden workers</i> .

### Descriptive Statistics

	n	Mean	Std. Deviation	Std. Error Mean
Water Point Facilities Provided	21	3762.33	5124.55	1118.27
Specifications	21	4154.29	5787.31	1262.89

### T-test

	t	df	p	Cohen's d
Water Point Facilities Provided - Specifications	-2.47	20	.023	0.54

Moving on to the null, there is no difference in the mean value between the variables "Creches Facilities Provided" and "Specifications as per Assam Government Rules." On the other hand, the alternative hypothesis states that there

is a difference in the mean value between the variables "Creches Facilities Provided" and "Specifications as per Assam Government Rules."

Descriptive statistics show that the mean value of creches facilities provided is 58 with a standard deviation of 68.65 and a standard error mean of 14.98, while the mean value of specifications as per Assam government

The t-test results show that the t-value is -4.13 with 20 degrees of freedom and a p-value of .001. The Cohen's d value is 0.9. These results indicate that there is a statistically significant difference between the mean values of "Creches Facilities Provided" and "Specifications as per Assam Government Rules."

Null hypothesis	Alternative hypothesis
There is no difference in the mean value between the variables <i>Creches Facilities Provided</i> and <i>Specifications as per Assam Government Rules</i>	There is a difference in the mean value between the variables <i>Creches Facilities Provided</i> and <i>Specifications as per Assam Government Rules</i>

### Descriptive Statistics:

	n	Mean	Std. Deviation	Std. Error Mean
Creches Facilities Provided	21	58	68.65	14.98
Specifications as per Assam Government Rules	21	60.9	70.52	15.39

### t-Test results:

	t	df	p	Cohen's d
Creches Facilities Provided - Specifications as per Assam Government Rules	-4.13	20	.001	0.9

The table labeled "Table-3.11 Hospital Provided and Shortfall" provides a detailed comparison of the hospital facilities provided by various districts in Assam, along with the respective shortfalls. The table includes the names of the districts in Assam, the hospital facilities provided, their specifications, and the shortfall in each

category. The following hypothesis was formulated based on the information in the table.

Null hypothesis	Alternative hypothesis
There is no difference between the dependent variables of Hospital Facilities Provided, Specifications, and Hospital Facility Shortfall.	There is a difference between the dependent variables of Hospital Facilities Provided, Specifications, and Hospital Facility Shortfall.

### The ANOVA Test Results:

	Type III Sum of Squares	df	Mean Squares	F	p	$\eta^2$
Treatment	5237.56	2	2618.78	13.5	<.001	0.4
Error	7758.44	40	193.96			

### Bonferroni Post-hoc-Tests:

		Mean diff.	Std. Error	t	p	95% CI lower limit	95% CI upper limit
Hospital Facilities Provided	Specifications	-3	0.768	-3.904	.003	-4.6	-1.4
Hospital Facilities Provided	Hospital Facility Shortfall	17.67	4.976	3.551	.006	7.29	28.05
Specifications	Hospital Facility Shortfall	20.67	5.483	3.769	.004	9.23	32.11

The provided information presents a comparison of the hospital facilities provided by various districts in Assam. The table named "Table-3.11 Hospital Provided and Shortfall" contains detailed information about the hospital facilities, their specifications, and the shortfalls in each category. The table includes the names of the districts in Assam, the hospital facilities provided, and their respective shortfalls.

Additionally, the two hypotheses were formulated based on the information provided in the table. The null hypothesis states that there is no difference between the dependent variables of Hospital Facilities Provided, Specifications, and Hospital Facility Shortfall, while the alternative hypothesis states that there is a difference between these variables.

The ANOVA test results showed that there was a significant difference between the dependent variables of Hospital Facilities Provided, Specifications, and Hospital Facility Shortfall. The Treatment in the ANOVA test showed a Type III Sum of Squares of 5237.56, with a mean square of 2618.78 and an F-value of 13.5. The p-value was less than 0.001, indicating that the result was statistically significant. The effect size ( $\eta^2$ ) was 0.4, indicating a large effect size.

Finally, the Bonferroni post-hoc tests were conducted to determine which variables were significantly different from each other. The mean differences, standard errors, t-values, and p-values were calculated for each comparison. The results showed that there were significant differences between Hospital Facilities Provided and Specifications, Hospital Facilities Provided and Hospital Facility Shortfall, and Specifications and Hospital Facility Shortfall. The mean differences, 95% confidence intervals, and p-values for each comparison were also reported in the tables.

Table 3.12 contains data on dispensaries provided and Shortfall in various districts of a state. The table includes the names of the districts, the number of dispensaries provided, their specifications, and the number of dispensaries still required to meet the requirement.

According to Table 3.12, the district of Bongaigaon has yet to receive any dispensaries, while Cachar has 65 dispensaries, but still needs four more to meet the requirement. In contrast, Darrang has received all five dispensaries required, and Dhemaji, Dhubri, Dima Haso, and Goalpara have also received the exact number of dispensaries required.

On the other hand, many districts have a shortfall in the number of dispensaries provided. For example, Dibrugarh has 98 dispensaries but requires 38 more to meet the requirement. Similarly, Golaghat has a shortfall of 12 dispensaries, and Tinsukia has a shortfall of 44 dispensaries.

Furthermore, the ANOVA results indicate that there is a significant difference between the dependent variables of Dispensaries Provided, Specifications, and Dispensaries Shortfall. The Type III Sum of Squares for the treatment is 8379.27, with a mean square of 4189.63, an F value of 14.88, and a p-value less than 0.001. Thus, we reject the null hypothesis that there is no difference between the dependent variables.

Additionally, the mean difference, standard error, and t-tests show that there is a significant difference between Dispensaries Provided and Specifications, Dispensaries Provided and Dispensaries Shortfall, and Specifications and Dispensaries Shortfall. The p-values for these tests are 0.018, 0.004, and 0.002, respectively.

Finally, the repeated measures ANOVA confirms that there is a significant difference between the variables, with an F value of 14.88 and a p-value less than 0.001. Therefore, we can conclude that there is a difference between the dependent variables of Dispensaries Provided, Specifications, and Dispensaries Shortfall.

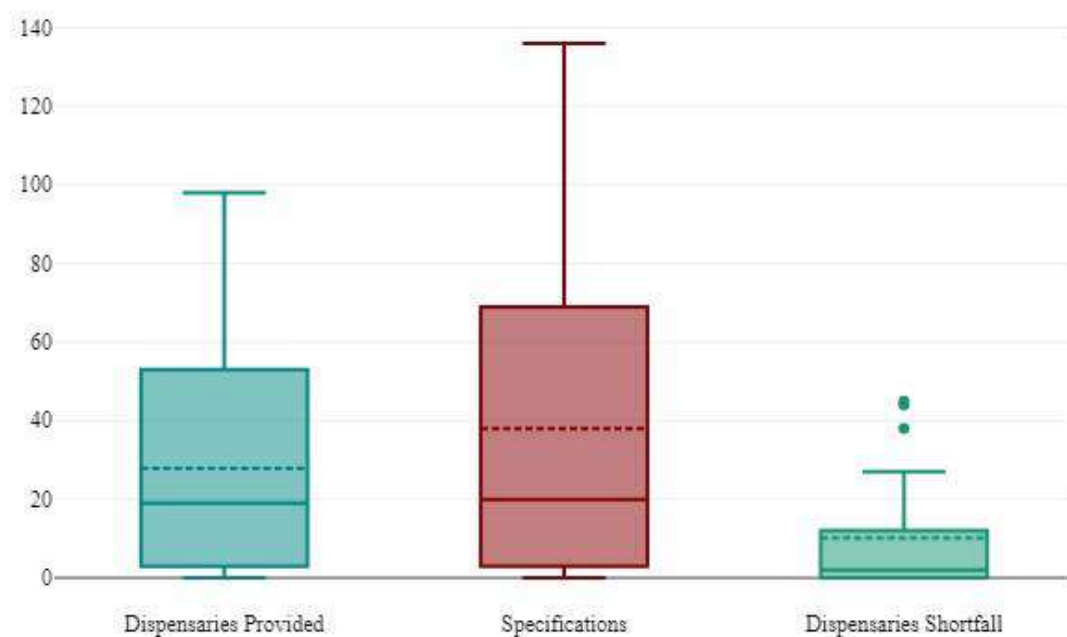
Null hypothesis	Alternative hypothesis
There is no difference between the dependent variables Dispensaries Provided, Specifications, and Dispensaries Shortfall.	There is a difference between the dependent variables Dispensaries Provided, Specifications, and Dispensaries Shortfall.

### ANOVA Results:

	Type III Sum of Squares	df	Mean Squares	F	p	$\eta^2$
Treatment	8379.27	2	4189.63	14.88	<.001	0.43
Error	11260.06	40	281.5			

### Bonferroni Post-hoc-Tests:

		Mean diff.	Std. Error	t	p	95% CI lower limit	95% CI upper limit
Dispensaries Provided	Specifications	-10.14	3.308	-3.066	.018	-17.04	-3.24
Dispensaries Provided	Dispensaries Shortfall	17.76	4.709	3.772	.004	7.94	27.59
Specifications	Dispensaries Shortfall	27.9	6.878	4.057	.002	13.56	42.25



### Repeated measures ANOVA

A one-factor analysis of variance with repeated measures showed that there was a significant difference between the variables,  $F = 14.88$ ,  $p = <.001$ . Thus, the null hypothesis was rejected.

Table 3.14 presents information about the number of pharmacists provided and the shortfall of pharmacists in various districts of Assam, India. The data is taken from a report on the Plantations Labour Act, of 1951, which focuses on tea gardens in Assam. The table shows the name of each district, the number of pharmacists provided, the specified number of pharmacists, and the shortfall of pharmacists in each district. The hypothesis developed based on the information in the table is:

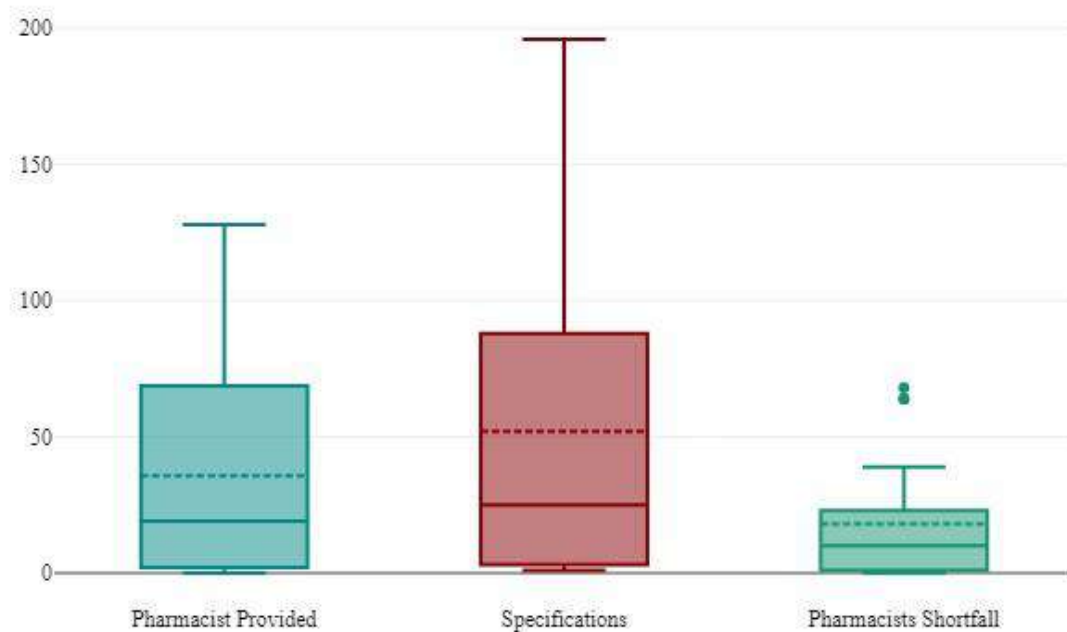
Null hypothesis	Alternative hypothesis
There is no difference between the dependent variables Pharmacist Provided, Specifications, and Pharmacists Shortfall.	There is a difference between the dependent variables Pharmacist Provided, Specifications, and Pharmacists Shortfall.

#### ANOVA Result:

	Type III Sum of Squares	df	Mean Squares	F	p	$\eta^2$
Treatment	12794.63	2	6397.32	14.56	<.001	0.43
Error	16690.7	38	439.23			

#### Bonferroni Post-hoc-Tests

		Mean diff.	Std. Error	t	p	95% CI lower limit	95% CI upper limit
Pharmacist Provided	Specifications	-18.9	5.084	-3.718	.004	-29.54	-8.26
Pharmacist Provided	Pharmacists Shortfall	16.85	4.914	3.429	.008	6.57	27.13
Specifications	Pharmacists Shortfall	35.75	9.043	3.953	.003	16.82	54.68



This table provides information about the number of pharmacists available and the shortfall of pharmacists in different districts of Assam, India. It comes from a report on tea gardens in Assam, dealing with the Plantations Labour Act from 1951. The table lists each district's name, the number of pharmacists provided, the specified number of pharmacists, and the shortfall of pharmacists in each district.

The table shows that there are fewer pharmacists than required in many of the districts, including Dima Haso, Dhubri, Kamrup, and Sonitpur, among others. The highest shortfall is in Tinsukia, with 64 fewer pharmacists than needed. In contrast, Dhemaji has the exact number of pharmacists needed.

Statistical testing was conducted to determine whether there is a difference between the variables of Pharmacist Provided, Specifications, and Pharmacists Shortfall. The results suggest that there is a significant difference between these variables.



In conclusion, there is a shortage of pharmacists in many districts in Assam, and this shortage varies across different regions. The statistical analysis confirms that there is a significant difference between the variables of Pharmacist Provided, Specifications, and Pharmacists Shortfall.

Table 3.14 refers to a statistical table that presents information about Auxiliary Nurse Midwives (ANM) and General Nurse Midwives (GNM). The table provides details about the number of ANM and GNM provided, as well as the shortfall in their provision. This information can be useful for policymakers, healthcare providers, and other stakeholders in making decisions related to healthcare workforce planning, allocation of resources, and improving the quality of healthcare services.

Null hypothesis	Alternative hypothesis
There is no difference between the dependent variables GNM Provided, Specifications, and GNM Shortfall.	There is a difference between the dependent variables GNM Provided, Specifications, and GNM Shortfall.

Null hypothesis	Alternative hypothesis
There is no difference between the dependent variables ANM Provided, Specifications, and ANM Shortfall.	There is a difference between the dependent variables ANM Provided, Specifications, and ANM Shortfall.

	Type III Sum of Squares	df	Mean Squares	F	p	$\eta^2$
Treatment	2777.03	2	1388.52	6.34	.004	0.25
Error	8319.63	38	218.94			

A one-factor analysis of variance with repeated measures showed that there was a significant difference between the variables,  $F = 6.34$ ,  $p = .004$ . Thus, the null hypothesis was rejected.

	Type III Sum of Squares	df	Mean Squares	F	p	$\eta^2$
Treatment	15084.23	2	7542.12	13.26	<.001	0.41
Error	21617.77	38	568.89			

A one-factor analysis of variance with repeated measures showed that there was a significant difference between the variables,  $F = 13.26$ ,  $p = <.001$ . Thus, the null hypothesis was rejected.

Table 3.14 is a statistical table that provides information about Auxiliary Nurse Midwives (ANM) and General Nurse Midwives (GNM). The table shows the number of ANM and GNM provided, as well as the shortfall in their provision. Policymakers, healthcare providers, and other stakeholders can find this information useful for planning the healthcare workforce, allocating resources, and improving healthcare services.

The table contains information about the GNM Provided, Specifications, GNM Shortfall, ANM Provided, Specifications, and ANM Shortfall for different districts in the region. The table shows that there is a difference between the dependent variables GNM Provided, Specifications, and GNM Shortfall, and ANM Provided, Specifications, and ANM Shortfall. A one-factor analysis of variance with repeated measures showed that there was a significant difference between the variables, and thus, the null hypothesis was rejected.

#### 4.3. Findings:

1. The provision of housing accommodation to workers in plantations is a crucial requirement that is emphasized in the Assam government rules for tea garden workers. It is stated that employers are obligated to provide housing to their workers, and the standards and specifications for these accommodations are set by the State Government. This indicates that there are specific guidelines in place to ensure that the housing provided meets certain quality and safety standards.

2. The data reveals the housing needs and shortfalls in different tea gardens of districts of Assam. This data is valuable as it provides insights into the current state of housing for plantation workers in the region. By analyzing this data, policymakers and researchers can gain a better understanding of the housing situation and identify areas where improvements are needed.
3. The availability of this data allows policymakers to prioritize development initiatives based on the housing needs identified in different districts. It helps them allocate resources and plan interventions in a targeted manner, ensuring that the areas with the greatest housing shortfalls receive the necessary attention and support.
4. The policymakers can analyze the correlation between the quality of housing and various aspects of the workers' lives, such as their health, well-being, and productivity. This research can provide valuable insights into the importance of adequate housing for workers and inform future policies and interventions.
5. Medical advisory boards are essential in ensuring the provision of quality healthcare services. These boards play a crucial role in advising and guiding medical professionals, policymakers, and administrators in making informed decisions regarding healthcare policies, practices, and resource allocation. They provide expert opinions and recommendations based on their knowledge and experience in the field, helping to improve the overall quality of healthcare services.
6. In the context of plantations, specialized healthcare facilities are necessary to cater to the unique needs of the workers and their families. These hospitals may vary in terms of size, services offered, and infrastructure, depending on the specific requirements of the plantation. It is important to have these specialized facilities in remote areas to ensure that the workers have access to timely and appropriate healthcare services.
7. However, the information highlights the need for improvement in the standard of medical facilities. Disparities in the quality of healthcare services provided across different districts of Assam may exist due to limited

resources, inadequate infrastructure, and a shortage of skilled medical professionals. This can result in unequal access to healthcare services and poorer health outcomes for residents in certain districts.

8. To analyze these disparities, ANOVA tests are used. ANOVA is a statistical method that determines if there are significant differences between groups or variables. The results of the ANOVA tests indicate that there is indeed a significant difference in hospital facilities, dispensaries, and pharmacists across different districts. This highlights the variations in healthcare infrastructure and resources available in different areas.
9. To further understand these differences, Bonferroni post-hoc tests are conducted. These tests help identify specific areas or districts where there are significant shortfalls in terms of hospital facilities, dispensaries, and pharmacists. By pinpointing these areas, policymakers and administrators can prioritize resource allocation and interventions to address the gaps in healthcare infrastructure.
10. The study suggests that there are shortcomings in the healthcare infrastructure of several districts in Assam. This implies that residents of these districts may face challenges in accessing quality healthcare services.
11. Addressing these shortfalls and improving the standard of medical facilities, dispensaries, and the availability of pharmacists in these areas is crucial to ensuring equitable healthcare access for all residents of Assam.
12. Medical advisory boards, policymakers, and administrators need to work together to address these disparities and improve the overall quality of healthcare services in the region.

#### **4.4. Implications:**

1. The Assam government rules for tea garden workers emphasize the provision of housing accommodation, with specific guidelines in place to ensure that the housing meets quality and safety standards.
2. The data on housing needs and shortfalls in Assam's tea gardens provides valuable insights into the current state of housing for plantation workers, enabling policymakers and researchers to identify areas for improvement.

3. The availability of housing data enables policymakers to effectively allocate resources and prioritize development initiatives in districts with the most significant housing needs.
4. The correlation between housing quality and workers' health, well-being, and productivity can provide valuable insights for policymakers and inform future policies and interventions.
5. Medical advisory boards are vital for providing expert opinions and recommendations to improve the quality of healthcare services and guiding medical professionals, policymakers, and administrators in making informed decisions.
6. Specialized healthcare facilities are crucial in plantations to address the distinct healthcare needs of workers and their families, with the size, services, and infrastructure of these hospitals tailored to meet specific plantation requirements, particularly in remote areas, to ensure timely and suitable healthcare services are accessible.
7. The text emphasizes the necessity for enhancing the quality of medical facilities in Assam, as disparities in healthcare services across districts may arise from limited resources, inadequate infrastructure, and a shortage of skilled medical professionals, leading to unequal access to healthcare and inferior health outcomes for residents in certain areas.
8. ANOVA tests were used to analyze disparities in healthcare infrastructure and resources across different districts, and the results indicated significant differences in hospital facilities, dispensaries, and pharmacists, highlighting variations in healthcare resources available in different areas.
9. Bonferroni post-hoc tests are conducted to identify specific areas with significant shortfalls in healthcare infrastructure, allowing policymakers and administrators to prioritize resource allocation and interventions to address these gaps.
10. The study highlights deficiencies in the healthcare system in Assam's districts, indicating potential difficulties for residents in accessing adequate healthcare services.

- 11.Improving medical facilities, dispensaries, and the presence of pharmacists in Assam is essential for achieving equal healthcare access for all residents.
- 12.Collaboration between medical advisory boards, policymakers, and administrators is crucial to tackle healthcare disparities and enhance the quality of healthcare services in the region.

#### **4.5. Concluding Notes and Suggestions:**

Collaboration among medical advisory boards, policymakers, and administrators is essential for addressing healthcare disparities and improving the quality of healthcare services in the region. By working together, these stakeholders can leverage their unique perspectives, expertise, and resources to develop comprehensive strategies that tackle the root causes of healthcare disparities and ensure equitable access to high-quality care for all individuals.

Medical advisory boards, composed of healthcare professionals and experts, play a crucial role in identifying and understanding healthcare disparities. They possess valuable perceptions of the specific challenges faced by marginalized communities, such as racial and ethnic minorities, low-income individuals, and those living in rural areas and tea garden workers community in particular. By analyzing data, conducting research, and engaging with affected communities, medical advisory boards can provide evidence-based recommendations to policymakers and administrators on how to address these disparities effectively.

Policymakers, on the other hand, have the authority to enact legislative and regulatory changes that can have a significant impact on healthcare disparities in the tea garden areas. By collaborating with medical advisory boards, legislators can gain a deeper understanding of the issues at hand and develop policies that promote equitable access to healthcare services. For example, they can work together to implement initiatives that increase funding for underserved areas, expand health insurance coverage, or improve cultural competency training for healthcare providers.

Administrators, including hospital executives, healthcare professionals, and public health officials, are responsible for implementing and managing healthcare services on the ground. Their collaboration with medical advisory boards and policymakers is crucial for translating policies into action. By working together, administrators can ensure that resources are allocated effectively, programs are implemented efficiently, and healthcare providers are trained to deliver culturally sensitive care. They can also monitor and evaluate the impact of interventions, making adjustments as needed to continuously improve the quality of healthcare services.

The data on housing needs and shortfalls in the tea gardens of Assam provides a comprehensive understanding of the current state of housing conditions for plantation workers. This data serves as a valuable resource for policymakers and researchers, enabling them to identify specific areas that require improvement and develop targeted strategies to address these issues.

By analyzing the data, policymakers can gain insights into the magnitude of the housing problem in tea gardens and the specific challenges faced by plantation workers. They can identify the key factors contributing to inadequate housing, such as overcrowding, lack of basic amenities, and poor infrastructure. This information allows administrators to prioritize interventions and allocate resources effectively to improve housing conditions.

Furthermore, researchers can utilize this data to conduct in-depth studies on the socio-economic impact of poor housing conditions on plantation workers. They can explore the correlation between housing quality and workers' health, productivity, and overall well-being. This research can provide evidence-based recommendations for policy changes and interventions that can enhance the living conditions of plantation workers.

The data on housing needs and shortfalls can also facilitate comparative analysis between different tea gardens in Assam. Policymakers and researchers can identify variations in housing conditions across different regions and estates, enabling them to understand the underlying factors contributing to these disparities. This

comparative analysis can inform targeted interventions that address specific challenges faced by different tea gardens, ensuring that resources are allocated where they are most needed.

Moreover, the data can serve as a benchmark for monitoring progress in improving housing conditions over time. By regularly collecting and analyzing data on housing needs and shortfalls, policymakers and researchers can track the impact of their interventions and identify areas that require further attention. This iterative process allows for continuous improvement and ensures that efforts to enhance housing conditions are effective and sustainable.

The data on housing needs and shortfalls in the tea gardens of Assam is a valuable resource for policymakers and researchers. It offers an understanding of the current state of housing conditions, helps identify areas for improvement, and enables evidence-based decision-making to enhance the living conditions of plantation workers.

Specialized healthcare facilities play a vital role in plantations by catering to the unique healthcare needs of workers and their families. These facilities are designed to address the specific challenges and requirements that arise in plantation settings, particularly in remote areas.

One of the key advantages of legislated healthcare facilities in plantations is their ability to provide timely and suitable healthcare services. Due to the nature of plantation work, workers often face occupational hazards and health risks that are distinct from those encountered in other industries. These facilities are equipped with the necessary expertise and resources to effectively diagnose and treat these specific health issues.

Moreover, the size of these healthcare facilities is personalized to accommodate the large number of workers and their families residing in plantations. Plantations often have a significant workforce, and it is essential to have healthcare facilities that can handle the volume of patients. By having specialized hospitals, the burden on



general healthcare facilities in nearby towns or cities is reduced, ensuring that workers receive prompt medical attention without overwhelming the existing healthcare infrastructure.

In addition to size, specialized healthcare facilities in plantations offer a range of services that are specifically designed to meet the needs of workers and their families. These services may include occupational health programs, preventive care, emergency medical services, and specialized treatments for common health issues prevalent in plantation backgrounds. By providing a comprehensive range of services, these facilities can effectively address the diverse healthcare needs of the plantation community.

Furthermore, the infrastructure of these healthcare facilities is designed to overcome the challenges posed by remote locations. Plantations are often situated in rural or isolated areas, making access to healthcare services a significant challenge for workers and their families. Specialized healthcare facilities are strategically located within or near plantations, ensuring that healthcare services are easily accessible to those who need them. This proximity reduces travel time and costs, making it more convenient for workers to seek medical attention when required.

Specialized healthcare facilities are crucial in plantations to address the distinct healthcare needs of workers and their families. The size, services, and infrastructure of these hospitals are personalized to meet specific plantation requirements, particularly in remote areas. By providing timely and suitable healthcare services, these facilities ensure that workers receive the necessary medical attention, contributing to their overall well-being and productivity.

ANOVA tests, also known as analysis of variance tests, were employed as a statistical tool to examine and evaluate the discrepancies in healthcare infrastructure and resources among various districts. These tests allowed researchers to compare and contrast the availability and quality of hospital facilities, dispensaries, and pharmacists across different areas.

The results obtained from the ANOVA tests revealed substantial variations in healthcare resources among the districts under investigation. Specifically, the analysis indicated significant differences in the number and quality of hospital facilities, dispensaries, and pharmacists across the various regions.

The findings shed light on the unequal distribution of healthcare resources, emphasizing the disparities that exist in terms of access to essential medical services and facilities. The variations observed in hospital facilities highlighted the discrepancies in terms of the availability of specialized medical equipment, the number of beds, and the overall quality of care provided.

Furthermore, the ANOVA tests also revealed significant differences in the number and accessibility of dispensaries across the districts. This indicated that certain areas had a higher concentration of dispensaries, making healthcare services more accessible to the local population. On the other hand, some districts lacked sufficient dispensaries, resulting in limited access to primary healthcare services.

Moreover, the analysis of the distribution of pharmacists across the districts also demonstrated significant variations. Some areas had a higher number of pharmacists, ensuring better availability of medications and pharmaceutical advice. In contrast, other districts faced a shortage of pharmacists, leading to potential challenges in obtaining necessary medications and guidance.

Overall, the ANOVA tests provided valuable intuitions into the disparities in healthcare infrastructure and resources across different districts. The results underscored the need for targeted interventions and resource allocation to address the variations in healthcare resources and ensure equitable access to quality healthcare services for all individuals, regardless of their geographical location.

Bonferroni post-hoc tests are statistical analyses that can be commonly used in healthcare research to identify specific areas within a given population or region that exhibit significant shortfalls in healthcare infrastructure. These tests allow policymakers and administrators to gain a deeper understanding of the specific

areas where healthcare resources are lacking, enabling them to prioritize resource allocation and interventions to address these gaps effectively.

By conducting Bonferroni posthoc tests, researchers can compare multiple groups or regions within a population and determine if there are significant differences in healthcare infrastructure between them. This analysis helps identify specific areas that require immediate attention and intervention to improve healthcare access, quality, and outcomes.

The results of Bonferroni post-hoc tests provide policymakers and administrators with valuable observations into the distribution of healthcare resources and infrastructure across different regions or groups. This information allows them to make informed decisions regarding resource allocation, such as directing funding, personnel, and infrastructure development to the areas that need it the most.

Furthermore, these tests help policymakers and administrators prioritize interventions and initiatives aimed at addressing the identified gaps in healthcare infrastructure. For example, if a specific region is found to have significantly lower numbers of healthcare facilities or healthcare professionals compared to others, policymakers can focus on implementing strategies to attract and retain healthcare providers in that area. They can also invest in infrastructure development, such as building new hospitals or clinics, to improve healthcare access for the population in need.

By utilizing Bonferroni post-hoc tests, policymakers and administrators can ensure that their resource allocation decisions are evidence-based and targeted towards areas with the greatest need. This approach helps maximize the impact of limited resources and promotes equitable access to healthcare services for all individuals within a population or region.

Bonferroni post-hoc tests play a crucial role in healthcare research and policy-making by identifying specific areas with significant shortfalls in healthcare infrastructure. By prioritizing resource allocation and interventions based on these

findings, policymakers and administrators can effectively address these gaps and improve healthcare access, quality, and outcomes for the population in need.

The study conducted throws light on the various shortcomings and inadequacies prevalent in the healthcare system of the tea gardens in the districts of Assam. These findings serve as a plain reminder of the potential challenges that residents may face when attempting to access the necessary healthcare services.

One of the key deficiencies highlighted in the study is the lack of healthcare infrastructure in the tea gardens of Assam. The study reveals a shortage of hospitals, clinics, and healthcare centers, making it difficult for residents to receive timely and appropriate medical attention. This scarcity of healthcare facilities not only hampers the accessibility of healthcare services but also puts stress on the existing facilities, leading to overcrowding and longer waiting times.

Furthermore, the study also points out the shortage of healthcare professionals in the tea gardens. The limited number of doctors, nurses, and other medical staff exacerbates the problem of inadequate healthcare services. With a low doctor-to-patient ratio, residents often struggle to find medical professionals who can provide them with the necessary care. This shortage of healthcare professionals also affects the quality of healthcare services, as overburdened staff may not be able to dedicate sufficient time and attention to each patient.

In addition to infrastructure and personnel deficiencies, the study highlights the lack of essential medical equipment and supplies in Assam's districts. The absence of necessary equipment and supplies further hinders the provision of adequate healthcare services. Residents may have to travel long distances to access facilities that possess the required equipment, resulting in delays and inconvenience.

Moreover, the study reveals disparities in healthcare access between urban and rural areas within Assam. Rural areas often face greater challenges in accessing healthcare services due to limited transportation options, inadequate road infrastructure, and a lack of awareness about available healthcare facilities. This

disparity in healthcare access further exacerbates the difficulties faced by residents in receiving timely and appropriate medical care.

Overall, the study serves as a wake-up call to the authorities and policymakers, highlighting the urgent need for improvements in the healthcare system of Assam's districts. Addressing the deficiencies identified in the study is crucial to ensure that residents can access the healthcare services they require without facing unnecessary obstacles. By investing in healthcare infrastructure, increasing the number of healthcare professionals, and ensuring the availability of essential medical equipment and supplies, steps can be taken to bridge the gap and provide residents with the healthcare services they deserve.

Improving medical facilities, dispensaries, and the presence of pharmacists in tea gardens is crucial for achieving equal healthcare access for all residents in the region. Assam, a state in northeastern India, is home to a diverse population with varying healthcare needs. However, the current state of medical infrastructure in the region is inadequate, leading to disparities in healthcare access and outcomes.

One of the primary areas that requires attention is the improvement of medical facilities. Many healthcare centers in Assam lack essential equipment, resources, and skilled healthcare professionals. By investing in the development and upgradation of medical facilities, the government can ensure that residents have access to quality healthcare services. This includes establishing well-equipped hospitals, clinics, and specialized centers for various medical conditions.

Additionally, increasing the number of dispensaries across the region is crucial. Dispensaries play a vital role in providing primary healthcare services, especially in rural and remote areas where access to hospitals may be limited. By expanding the network of dispensaries, residents can receive timely medical attention, diagnosis, and treatment for common ailments. This would alleviate the burden on hospitals and allow them to focus on more critical cases.

Furthermore, the presence of pharmacists is essential for ensuring safe and effective medication management. Pharmacists play a crucial role in dispensing medications, providing counseling on proper usage, and monitoring potential drug interactions. However, in many parts of Assam, the availability of pharmacists is limited. By increasing the number of pharmacists and ensuring their presence in both urban and rural areas, residents can receive appropriate guidance regarding their medications, reducing the risk of adverse effects and improving overall health outcomes.

Equal healthcare access for all residents in the tea gardens of Assam is not only a matter of social justice but also a necessity for the overall development of the region. By improving medical facilities, expanding the network of dispensaries, and increasing the presence of pharmacists, the government can bridge the healthcare gap and ensure that every individual, regardless of their location or socioeconomic status, has access to quality healthcare services. This would lead to improved health outcomes, reduced healthcare disparities, and a healthier and more prosperous Assam.

#### **4.6. Summary:**

Collaboration among medical advisory boards, policymakers, and administrators is essential for addressing healthcare disparities and improving the quality of healthcare services in the region. Medical advisory boards play a crucial role in identifying and understanding healthcare disparities. Policymakers have the authority to enact legislative and regulatory changes that can have a significant impact on healthcare disparities. Administrators are responsible for implementing and managing healthcare services on the ground. The data on housing needs and shortfalls in the tea gardens of Assam provides a comprehensive understanding of the current state of housing conditions for plantation workers. This data serves as a valuable resource for policymakers and researchers, enabling them to identify specific areas that require improvement and develop targeted strategies to address these issues.

The study discusses the importance of specialized healthcare facilities in tea gardens and plantations. These facilities cater to the unique healthcare needs of workers and their families and are designed to overcome the challenges posed by remote locations. The size, services, and infrastructure of these hospitals are personalized to meet specific plantation requirements, particularly in remote areas. By providing timely and effective healthcare services, these facilities ensure that workers receive necessary medical attention, contributing to their overall well-being and productivity.

The study highlights the lack of healthcare infrastructure, shortage of healthcare professionals, absence of essential medical equipment, and disparities in healthcare access in the tea gardens of Assam. It emphasizes the urgent need for improvements in the healthcare system to ensure residents can access the necessary healthcare services without obstacles. By investing in healthcare infrastructure, increasing the number of healthcare professionals, and ensuring the availability of essential medical equipment and supplies, the authorities can bridge the gap and provide equal healthcare access for all residents in the region.

## References:

1. A Study Report on Working Conditions of Tea Plantation Workers in Bangladesh, ILO, 2016
2. Abdul Rafeeqe AK, Dr. N. Sumathy, A STUDY ON PROBLEM FACED BY THE TEA PLANTATION WOMEN WORKERS IN WAYANAD DISTRICT-Palarch's Journal of Archaeology Of Egypt/Egyptology 18(4), ISSN 1567-214x
3. Dutta, Priyanka & Goswami, Gayatri & Barman, Hemanta. (2021). Financial Inclusion among Backward Communities: A Study of the Tea Garden Workers in Assam, India. Forum for Social Economics. 52. 1-16. 10.1080/07360932.2021.1999297.
4. NRPPD Discussion Paper NRPPD Discussion Paper 26 PLANTATION LABOUR ACT 1951 AND SOCIAL COST – THE CASE OF TEA INDUSTRY J. John Pallavi Mansingh 2013
5. Role of tea garden workers in rural development of Assam Rashmi Rekha Kalita, The Pharma Innovation Journal 2020; SP-9(7): 65-69)
6. Tea Gardens of Assam, A Report on Plantations Labour Act, 1951
7. Tea Plantation workers and its working circumstances: A micro-level study. The Economic Journal of Nepal. 30. 184-194.)
8. The Assam Plantations Labour Act, 1951
9. The Assam Plantations Labour Rules, 1956
10. Valuing Life in a Regulated Labour Market: A Study on Tea Plantations in Assam, India, 2012, Kalyan Das, V.V. Giri National Labour Institute, NOIDA