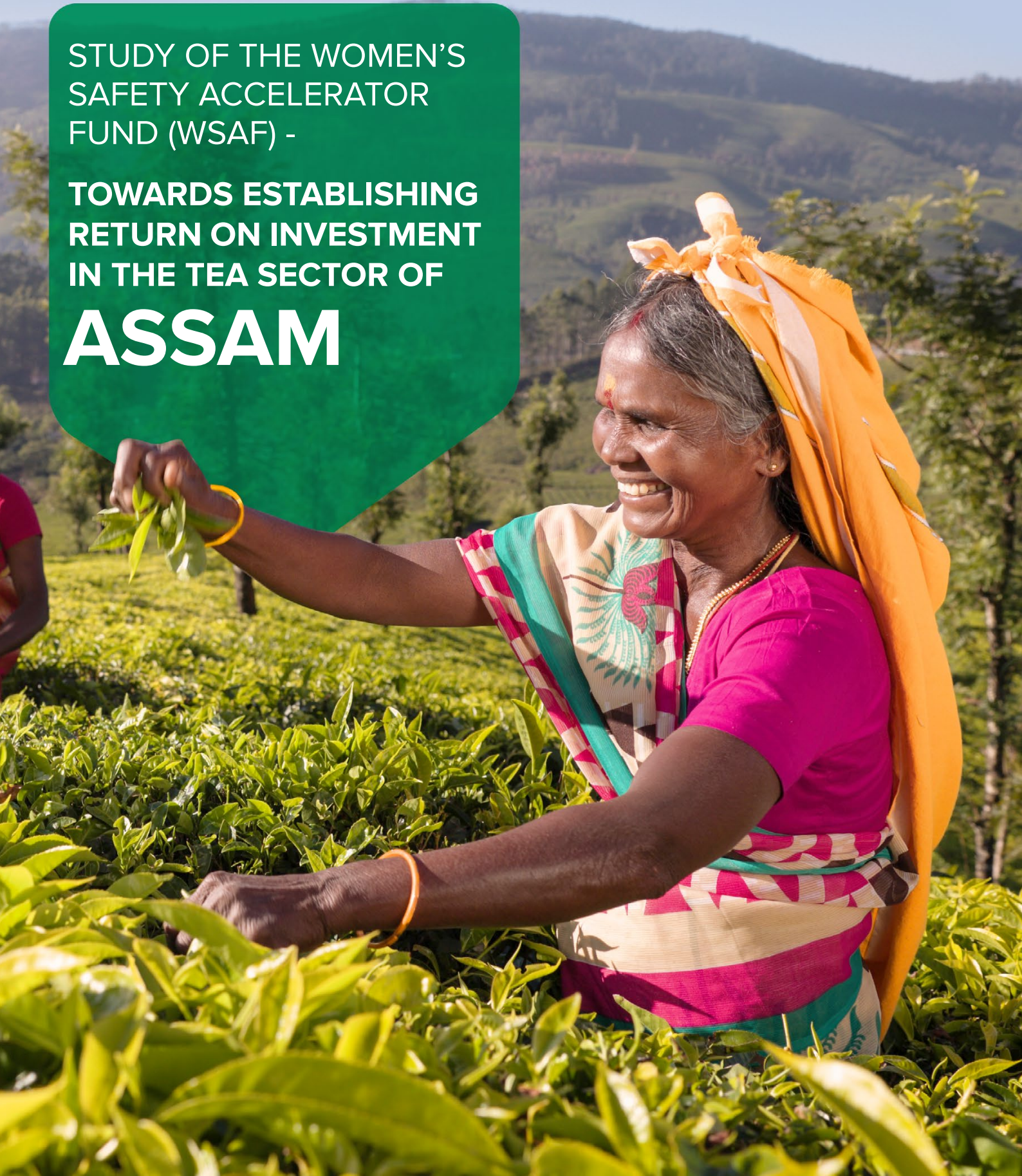




STUDY OF THE WOMEN'S
SAFETY ACCELERATOR
FUND (WSAF) -

TOWARDS ESTABLISHING
RETURN ON INVESTMENT
IN THE TEA SECTOR OF

ASSAM





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A REPORT

Submitted in September 2024



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A vertical photograph of a tea plantation with lush green leaves and white flowers, serving as a background for the left side of the page.

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Hyderabad

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Sujit Kumar Mishra





**EXECUTIVE
SUMMARY**



EXECUTIVE SUMMARY

I. OVERVIEW

A. About the Women's Safety Accelerator Fund (WSAF)

The WSAF was launched by IDH and Unilever in 2020 to support tea producers in setting up mechanisms to address and prevent gender-based violence (GBV) and ensure women's safety and empowerment in Indian TEs (tea estates). Other key funders include TESCO, Taylors of Harrogate, Ethical Tea Partnership and Twinings. The programme is working in the states of Assam, West Bengal, Tamil Nadu, and Kerala. The WSAF programme is designed to focus on GBV on the TEs, through engagement with TEs and producers, the government, and other ecosystem partners and the workers directly. The programme responds to and aims to accelerate the implementation of the UN Women 'Global Women's Safety Framework in Rural Spaces' (GWSF), designed to ensure that 'all women and girls are socially, economically, and politically empowered in rural spaces that are free from sexual harassment and other forms of violence.'

The six key civil society organisation (CSO) partners of WSAF so far have been Seven Sisters Development Assistance (SeSTA), Contact Base, SEEDS, ICCSPL, Delta Rights and Sakshi, who are mandated to carry out different actions at the ground level in their respective geography.

WSAF is managed by IDH, a Netherlands based non-governmental organisation that seeks to transform markets and enable businesses to create value for people and the planet.

B. About the Council for Social Development (CSD), Hyderabad

CSD Hyderabad, Southern Regional Centre is an Indian Council of Social Science Research (ICSSR) funded research institute (www.csdhyd.org), which has been actively engaged in undertaking studies on areas related to social development and monitoring and evaluation of public sector programmes. While CSD was founded by Dr. Durgabai Deshmukh in Delhi in 1962, its Southern Regional Centre was established in Hyderabad in 1967 and has received grants from the ICSSR since 1977-78. Since 1985, the Reserve Bank of India (RBI) has funded the RBI Chair Professor and from 2010-11, the Council has started to receive an annual grant-in-aid from the Government of Andhra Pradesh, and since 2014, it has received support from the Government of Telangana. CSD Hyderabad undertakes research with a special focus on the social aspects of development planning and initiates policy-oriented research on the social

determinants of development—vital concerns in the early plan periods. The wide range of research encompasses various axes of marginality such as gender, caste, tribe, disability, and region on diverse themes such as livelihoods, employment, education, housing, sanitation, and electoral democracy, to name a few.

II. OBJECTIVES OF THE STUDY

Commissioned by the WSAF, CSD Hyderabad conducted a comprehensive study to empirically assess the economic costs of GBV and establish the return on investment (ROI) for the WSAF in the tea industry and other agricultural value chains, thereby presenting a business case for investments in GBV prevention programmes. The study focuses on three objectives: (1) identifying and documenting forms of GBV in the tea sector, (2) understanding the social and economic impacts of GBV, and (3) calculating the tangible and intangible costs of GBV. Data collection, which took place from November 2023 to February 2024, covered four districts—Nagaon, Golaghat, Dibrugarh, and Tinsukia—and involved 750 women workers across 15 TEs owned by APPL, MRIL, Ajay Jalan Industries, and the Chamong Group.

The expected outcomes include: (a) identify the cost of violence at the individual as well as the household level. This includes loss of wages, health costs, and impact on children that includes loss of school days. (b) The loss of productivity due to violence and its economic implications for the TE includes loss of productive days (absenteeism), reduced productivity (low levels of plucking), costs of health, counselling, and impact on co-workers, to name a few. (c) Map interventions to mitigate and/or minimise the occurrence of violence to enhance the productivity at the TE level. These include the necessary actions that have helped mitigate the adverse impact of violence against women such as external and internal support mechanisms—counselling provided by the company, peer group, and family (in the case of the latter), and support from NGOs or programmes like WSAF or any government programmes that help alleviate the suffering of affected women.

III. STUDY DESIGN

The study used mixed methods combining both quantitative and qualitative research designs for data collection. The sensitive nature of discussions around GBV necessitated keen observation and personal interactions. Therefore, an empirical approach was adopted. It used survey methods, personal interviews, and informal interactions, focus group discussions (FGDs), and case studies as part of the data collection. This research engaged with key stakeholders, including women workers, community members, TE management/owners, and government and non-government organisations working on GBV and VAWG (Violence against Women and Girls) issues within the Assam tea industry. The research design ensured numerous consultations at all stages and adopted an empirical methodology to capture nuanced insights. This is discussed at length in section 1.3.

IV. SAMPLE DETAILS

The sampled 15 TEs are owned by APPL, MRIL, Ajay Jalan Industries, and the Chamong Group. These were situated in four districts—Nagaon, Golaghat, Dibrugarh, and Tinsukia. The data collection drive was undertaken from November 2023 to February 2024. The survey covered 750 women workers while over 60 case studies, 30 FGDs, and insights from official records of 2022 were included, alongside observations and informal conversations.

Code	Name of TE	No. of Workers	Case Studies
APPL			
Estate 1	Achabam	55	4
Estate 2	Kellyden	56	6
Estate 3	Lattikujan	53	5
Estate 4	Naharkotia	55	5
Estate 5	Namrup	53	4
Estate 6	Nanoi	58	5
MCLEOD RUSSEL INDUSTRIES LIMITED (MRIL) TE			
Estate 7	Dehing	49	4
Estate 8	Dirial	48	4
Estate 9	Keyhung	45	3
Estate 10	Margherita	45	4
Estate 11	Namdang	45	3
JALAN GROUP OF INDUSTRIES			
Estate 12	Chota Tingrai	45	4
Estate 13	Mokalbari	45	4
CHAMONG GROUP			
Estate 14	Maud	49	4
Estate 15	Sewpur	50	4

V. KEY FINDINGS

The data shows that the majority of the respondents were middle-aged, i.e., in the age group of 30–45 and had at least five years of working experience in the plantation area of the TEs. Respondents were largely (67%) illiterate. It was found that the incidence of violence against women was widespread—close to half of the women workers reported experiencing some form of GBV, particularly verbal and psychological abuse, often occurring in combination with other forms of violence. Violence occurs predominantly at home, with nearly 90% of incidents reported in domestic settings. This reflects deep-rooted social norms and gender inequalities. Public spaces and workplaces report lower rates of violence, but the overlap between these environments suggests a pattern where violence pervades all areas of life for the affected individuals.

The second objective was to understand the social and economic repercussions of such violence. The study established a correlation between absenteeism and GBV, with violence contributing to absenteeism, loss of wages, and reduced productivity. Simple (dummy-based) regression analysis also indicates that workers who have never faced GBV are more productive than other groups facing GBV. The coefficient is 5.06, which means their average productivity is more by 5.06 kg. On the other hand, workers who face GBV, often, pluck less, by 1.31 kg. These essential findings further stress GBV and its negative impact on production.

Econometric analysis showed that GBV increases both tangible and intangible costs, leading to a measurable reduction in productivity. GBV increases the intangible costs by 0.72 units and tangible costs by 0.68 units, while the impact of the former (tangible costs) is significant. The total effect indicates that a unit increase in GBV leads to a 0.156 unit reduction in production (significant at a 1% level). The monetary cost or loss due to GBV based on the data has been calculated at Rs. 1,39,7484 per annum, if 30% of women experiencing GBV. This could rise to Rs. 4,145,870 per annum, with a larger number of women (89%, as found in the study) facing some form of GBV, either at home or in the workplace.

However, interventions like external support and internal support have helped to some extent to minimise the negative impact of GBV. The modelling revealed that external support (in the form of support systems from management, counselling, and programmes like WSAF) can lead to a minimisation of loss by 71%. Therefore, it was established through the present study that strengthening the supportive mechanism will help to not only reduce the negative effects of GBV on production but also reduce the very incidence of GBV among the TE communities.

VI. CHALLENGES AND LIMITATIONS OF THE STUDY

The study faced several challenges, particularly due to the sensitive nature of the data being collected. Identifying women workers who had experienced violence was difficult and required triangulating information from estate hospitals, welfare officers, and TE management records. Also, the team had limited time (2–3 days per estate) allocated for fieldwork, which acted as a constraint, especially for in-depth analysis on such a sensitive topic. Additionally, the study was conducted during the lean season, limiting access to temporary workers who constitute the bulk of women tea workers, which presented another key limitation.

VIII. POSSIBLE INTERVENTIONS & POLICY SUGGESTIONS

Based on these results, the following suggestions and policy interventions can be considered:

1. Strengthen External Support Programmes:

- Partner with organisations specialising in gender-based violence support to provide counselling and resources for affected workers.
- Establish a confidential helpline or support service for workers to report incidents and seek assistance.

2. Enhance Management Support:

- Develop a management training programme focusing on gender-based violence, its impacts, and effective support strategies.
- Designate a senior manager as a point of contact for gender-based violence support and policy implementation.

3. Increase Awareness and Training:

- Conduct regular workshops and training sessions on gender-based violence, its effects, and available support for all workers.
- Include gender-based violence awareness and support information in employee

handbooks and orientation programmes.

4. Develop Supportive Policies:

- Establish a zero-tolerance policy for gender-based violence, outlining consequences for perpetrators and support for victims.
- Develop a clear reporting mechanism for incidents, ensuring confidentiality and protection for victims.

5. Monitor and Evaluate:

- Set up a monitoring system to track reports, responses, and support provided for gender-based violence incidents.
- Conduct regular evaluations to assess policy effectiveness and identify areas for improvement.

6. Collaborate with Local Organisations:

- Forge partnerships with local organisations providing gender-based violence support services, ensuring access to expertise and resources.
- Collaborate with local authorities to ensure effective reporting and response mechanisms.

7. Address Root Causes:

- Develop and implement programmes addressing underlying causes of gender-based violence, such as gender inequality and social norms.
- Promote diversity, equity, and inclusion initiatives, fostering a culture of respect and zero tolerance for gender-based violence.

Some concrete steps that companies can take to address gender-based violence include:

- Providing paid leave for victims of gender-based violence if necessary
- Offering flexible work arrangements for victims
- Ensuring access to counselling and mental health services
- Implementing a bystander intervention programme
- Creating a gender-based violence response team
- Conducting regular safety audits
- Implementing a zero-tolerance policy for perpetrators
- Providing training on consent and healthy relationships
- Creating a confidential reporting mechanism
- Providing support for victims of gender-based violence in the form of resources, services, and accommodations.

Abbreviations

APPL Amalgamated Plantations Private Limited

CB-SEM Covariance-based Structural Equation Model

CSD Council for Social Development

FGD Focus Group Discussion

GBV Gender-Based Violence

GDP Gross Domestic Product

GWSF Global Women's Safety Framework for Rural Spaces

MRIL McLeod Russel India Limited

NFHS National Family Health Survey

NGO Non-Government Organisation

OLS Ordinary Least Square

PCA Principal Component Analysis

PLS-SEM Partial Least Square Structural Equation Model

ROI Return on Investment

SEM Structural Equation Model

TE Tea Estate

VAWG Violence against Women and Girls

WSAF Women's Safety Accelerator Fund



A group of people, likely in a rural or agricultural setting, are carrying large, heavy bundles on their heads. The bundles are wrapped in blue and green plastic or fabric. The background shows lush green foliage and a bright, sunny day. The overall scene suggests a busy, labor-intensive environment.

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SECTION I

INTRODUCTION



SECTION I

INTRODUCTION

BACKGROUND & AIM OF THE PROJECT

Gender-based violence (GBV) is a pervasive issue within the tea industry in Assam, where women constitute the majority of the workforce at the lower levels. In response to this, the Women's Safety Accelerator Fund (WSAF) was launched in 2020 and in its first phase, it aimed to address GBV and Violence against Women and Girls (VAWG) across 300 tea estates (TEs) in Assam, West Bengal, Tamil Nadu, and Kerala by 2023. The primary aim of this initiative is to improve women's safety while ensuring that these improvements are sustainable and scalable. In the light of this, this study seeks to empirically assess the economic costs of GBV and establish the return on investment for the WSAF in the tea industry and other agricultural value chains, thereby presenting a business case for investments in gender-based violence prevention programmes. The study is conducted by the Council for Social Development (CSD), Hyderabad.

SCOPE OF THE ASSIGNMENT

The purpose of this research is to gather empirical evidence on the economic costs of violence against women in tea gardens. To achieve this, we attempt the following: (i) Estimate the tangible costs of inaction and the benefits of investing in gender-based violence prevention and support programmes. (ii) Demonstrate the financial returns on investment (ROI) for TEs and companies that prioritise gender-based violence prevention and support. (iii) Empower the tea industry to make informed decisions and take action to prevent gender-based violence. (iv) Provide a compelling business case for prioritising gender-based violence prevention and support in the tea industry.

OBJECTIVES OF THE STUDY

The study is designed to:

1. Understand and document the types and prevalence of VAWG in Assam's tea industry.
2. Analyse the social and economic implications of VAWG on tea estates in the industry.
3. Measure the tangible and intangible social and economic costs imposed by the VAWG.
4. Provide insights into the financial returns of investing in GBV prevention programmes.

METHODOLOGY & APPROACH

The methodology and action plan, including the activity-wise timeline implemented for the study, are as follows.

a) METHODOLOGY

The study of GBV or VAWG necessitates keen observation and personal interactions. Therefore, an empirical approach was adopted. This involved engaging with key stakeholders, including women workers, community members, TE management/owners, and both government and non-government organisations working on GBV and VAWG issues within the Assam tea industry.

The study included various field trials, such as personal interviews to collect firsthand accounts and insights, case studies to examine specific instances of GBV or VAWG and focus group discussions (FGDs) to facilitate group conversations on the topic. Other related information was collected from office records maintained by TE management, government, and non-government organisations. Additionally, a survey tool was also employed to systematically collect the necessary information.

b) APPROACH

Since the data to be collected was sensitive, numerous consultations were undertaken with key stakeholders throughout the study. The following steps were considered:

Step 1: A kick-off meeting with the competent authority of WSAF to discuss, learn, and collect relevant information about the project was initiated, followed by online weekly meetings to address important aspects such as the sensitivity of the study topic, scope, and data collection tools. These discussions helped the CSD study team gain a reasonable understanding of the structure and functioning of tea estates (TEs) in Assam.

Step 2: Preparation of data collection tools, including questionnaires for female workers, male workers, and management to conduct FGDs. These were shared with participating TE management for feedback, which led to further modifications and fine-tuning of the tools.

Step 3: Consultation meetings with subject experts on VAWG and GBV were undertaken to make data collection tools more inclusive and relevant. Recruitment and training of field staff followed, with data tools being pilot tested. Local field staff ensured seamless activities and trust-building with stakeholders, especially during case studies, personal interviews, and FGDs.

Step 4: Field testing and data collection were launched in Estate 2. Initial meetings with TE management introduced the study team and explained the data collection process. Identifying potential respondents involved in the collation of data from office records, welfare officers, chowkidars/sardars, TE hospital records, and snowballing methods. Data was collected at respondents' preferred times and locations, ensuring comfort. This process was repeated for the next 14 TEs, with breaks for wrapping up and preparing for the next TE.

Step 5: Daily cross-checking of collected data with secondary data ensured reliability. Data was cloud-stored regularly. After completing data collection, the data was downloaded, cleaned, and normalised for analysis. Weekly online meetings resumed to communicate major observations and patterns to the WSAF, IDH, and TE management, leading to the preparation of the draft report, submitted in mid-June 2024 for clarifications and suggestions.

Final Step: Validation meeting by participant TEs.

Table 1.1: Objective-wise Study Approach

Research Objectives	Approach	Research Method/Tool	Main Variable(s)	Data Source(s)
To examine the level of prevalence of VAWG in the tea industry in Assam	To understand and document the type and kind of VAWG in Assam's tea industry	Desk Review	Gender, kind of violence, region	Secondary information – reports of IDH, journal articles, reports
	Level of awareness about the GBV and VAWG	Exposure visits to TE, weekly catchup meetings	Awareness about the WSAF, activities of the WSAF	Exposure visits to TE, weekly catchup meeting of CSD with WSAF Consultations with key stakeholders (mainly meetings and FGDs)
	Level of incidence of GBV and VAWG (experiences)	Simple Random Sampling	Age, education, occupation, size of family, household income, kind of violence	Household survey, personal interviews, case studies
	Level of grievance mechanism to address GBV and VAWG-related issues	Institutional analysis	Redressal mechanism, first stage of reporting, confidentiality, frequency of meeting, cases reported and resolution of cases	Verification at the institutional level
To analyse the social and economic implications of VAWG in the Assam tea industry	Identification of respondents based on records at TEs	With (violence) and without (violence) method	Number of leaves taken, absenteeism, loss of production, loss of wage, loss of children's education, expenditure on health and hospitalisation	Face-to-face interviews, NFHS data, case studies, FGDs, secondary data



Research Objectives	Approach	Research Method/Tool	Main Variable(s)	Data Source(s)
To measure the tangible and intangible social and economic costs¹ imposed by the VAWG and related issues to the Assam tea industry	Identification of tangible, intangible, social and economic costs of GBV	Structural equation model	Under tangible costs: loss of pay, loss of production, expenditure on health and hospitalisation; Under intangible costs: loss of children's education, psychological trauma to children and other dependents;	Verification of records maintained by the TEs, local government, and NGOs, and primary data collected from respondents, FGDs, case studies, and informal discussion

¹ Direct tangible costs are actual expenses paid, representing real money spent. Examples are taxi fares to a hospital and salaries for staff in a shelter. These costs can be estimated by measuring the goods and services consumed and multiplying by their unit cost. Indirect tangible costs have monetary value in the economy but are measured as a loss of potential. Examples are lower earnings and profits resulting from reduced productivity. These indirect costs are also measurable, although they involve estimating opportunity costs rather than actual expenditures. Lost personal income, for example, can be estimated by measuring lost time at work and multiplying it by an appropriate wage rate.

Direct intangible costs result directly from the violent act but have no monetary value. Examples are pain and suffering, and the emotional loss of a loved one through a violent death. These costs may be approximated by quality or value of life measures, although there is some debate as to whether it is appropriate to include these costs when measuring the economic costs of violence against women. Indirect intangible costs result indirectly from the violence and have no monetary value. Examples are the negative psychological effects on children who witness violence, which cannot be estimated numerically.

Source: Day, Tanis, Katherine McKenna, Audra Bowlus (2015). 'The Economic Costs of Violence Against Women: An Evaluation of the Literature,' United Nations.

SAMPLING FRAMEWORK

The following stakeholders were covered at every TE level:

Table 1.2: Sampling Framework

Tool/Method	Key Stakeholders	Samples at Each TE
Personal Interview / Survey	Women/girls who have suffered violence	40–50 depending on the number of workers in a TE
Personal Interview / Survey	Women/girls who have suffered violence	5
FGD	Women workers, men workers, management (including supervisors, line chowkidars, sardars, mid-management staff, welfare officers, and medical officers)	2 for each group

The broad methodological framework of the study focuses on the economic costs of violence. Therefore, the following aspects are considered for data collection.

Individual level – loss of workdays at individual and household level, costs of treatment – medical/hospitalisation (cost of illness), shifting to low-cost medical/hospitalisation (cost of illness), shifting to low-paid jobs, loss of job, loss of productivity among workers who suffered violence.

TE level – the opportunity costs incurred by the TEs due to the absence of workers who suffered violence (leaves, resignations/leaving the job), loss of production, productivity among workers, especially women (both with and without violence), and costs borne for compensation.

Indirect costs – loss of workdays for the household other than the survivor, impact on children (loss of school days, access to food, mental well-being), and suffering of the survivor.

ECONOMIC IMPACT OF GENDER-BASED VIOLENCE: A REVIEW OF LITERATURE

Gender-based violence (GBV) has significant repercussions on women's productivity and economic outcomes globally. The literature broadly categorises these impacts into workplace harassment, domestic violence (DV), and intimate partner violence (IPV), highlighting the direct and indirect costs of such violence on productivity.

Numerous studies have estimated the vast economic losses caused by GBV in both high- and low-income countries. For instance, KPMG's (2019)² analysis across nine Vodafone markets suggests that domestic violence (DV) experienced by 80 million working women results in an estimated productivity loss of \$1.1 to \$2.1 billion, and the broader business impact is between \$2 to \$9.7 billion annually.

² KPMG (2019). The Workplace Impacts of Domestic Violence and Abuse. [A KPMG report for the Vodafone Group]. Vodafone Group Services Limited. <https://www.vodafone.co.uk/newscentre/app/uploads/2019/11/KPMG-Domestic-Violence-and-Abuse-Report-Nov19-1-1-1.pdf>



In New Zealand, Kahui et al. (2014)³ estimated that 7% of women in the workplace were victims of DV, leading to the loss of 130 working hours per victim, costing employers \$371 million in 2014 alone. The main cost components were hours of production lost due to being distracted at work, tardiness, days of leave lost, and termination of employment. An online survey among 8429 participants (of which 79% were women) in Canada revealed that more than a third had experienced DV. Of these, over a third reported difficulties in attending work, while more than half reported that DV continued at or near the workplace. The majority noted a negative impact on work performance (Wathen et al. 2015).⁴

Another online study of managers and employees across six French multi-national companies by Pillinger et al. (2019)⁵ covering 6639 respondents found that almost two out of 10 females/others reported experiencing violence, leading to increased absenteeism, presenteeism (being physically present but not productive), stress on co-workers, and job insecurity. These numbers signal the urgency of addressing GBV within workplace policies to mitigate long-term career setbacks such as missing promotions and diminished earnings.

While the economic losses reported here are specific to multinational businesses, studies like those from Peru (Varna-Horna et al.)⁶ and Vietnam (Duvvury et al. 2012)⁷ show that the productivity impacts of violence also extend to smaller, local economies. In Peru, workplace harassment resulted in 43.1% productivity loss and a rise in counterproductive behaviour like production damage and sabotage.

In Vietnam, violence resulted in a 13.4% and 8.31% loss of women's and men's average monthly earnings, respectively. Many women reported depression, illness, and inability to perform their usual tasks. More importantly, if we account for the opportunity cost of domestic violence for women by accounting for the weighted average unit cost of out-of-pocket expenditures and

³ Kahui, S., Byran, K., & Suzanne, S. (2014). Productivity Gains from Workplace Protection of Victims of Domestic Violence (p. 65). More Media Enterprises. https://www.ituc-csi.org/IMG/pdf/workplace_productivity_improvements_for_dv_21_may_2014.pdf

⁴ Wathen, C.N., MacGregor, J.C.D., & MacQuarrie, B.J. (2015). The Impact of Domestic Violence in the Workplace: Results from a Pan-Canadian Survey. *Journal of Occupational & Environmental Medicine*, 57(7), Article 7. <https://doi.org/10.1097/JOM.0000000000000499>

⁵ Pillinger, J., Bowlus, A., MacQuarrie, B., & Stancanelli, E. (2019). Survey Held in 6 Companies: How Does Domestic Violence Impact the Workplace? 'One in three women' Companies and Face Foundation. https://www.foundationface.org/wp-content/uploads/2019/11/FACE_ProjetOneInThreeWomen.210x297_UK.pdf

⁶ Varna-Horna, A. A., Díaz-Rosillo, A., Asencios-Gonzalez, Z., & Quipuzco-Chicata, L. (2023). Direct and Indirect Effects of Workplace Sexual Harassment on the Productivity of Victims and Witnesses: The Preventive Role of Equitable Management. *Heliyon*, 9(11), Article 11. <https://doi.org/10.1016/j.heliyon.2023.e21096>

⁷ Duvvury, N., Minh, N., & Carney, P. (2012). Estimating Economic Costs of Domestic Violence Against Women in Vietnam (p. 143). UN Women Vietnam.

lost earnings from paid work, it accounts for 34% of the average monthly income of women in the sample. For the economy as a whole, the potential opportunity cost, including out-of-pocket expenditures, lost earnings, and the value of missed housework, comes to 1.41% of the GDP.

Similarly, in Ghana, intimate partner violence accounted for 5% of output loss (Merino et al. 2019).⁸ This is substantiated by another estimate indicating that VAWG accounted for economic loss to the tune of 0.94% of GDP in Ghana, thus hampering growth (ISSER et al. 2019).⁹ Direct losses accounted for 1.1% of the 2017 GDP and included absenteeism and reduced productivity, while the social accounting approach estimated indirect losses as well.

A review of studies from Nigeria (Oni-Oji 2014)¹⁰ indicated that 44 to 66% of the victims of domestic abuse reported being reprimanded for work behaviour. Often, managers fail to recognise the signs or to address the situation. Similarly, yet another study among 164 women in three sectors of the Nigerian economy indicated that domestic violence had a significant impact on productivity and welfare and led to the loss of work time, absenteeism, and high labour turnover (Ajala 2013).¹¹

Coming to the studies on India, there has been a growing literature addressing the economic impacts of GBV and VAWG, including in the tea sector in Assam. For instance, Frankenthal and Dutta (2021),¹² through an analysis of NFHS data, found that women in tea plantations were more susceptible to both domestic and workplace violence due to their low bargaining power due to limited job opportunities, the dichotomy between permanent and temporary workers, and entrenched patriarchal norms. This is further exacerbated by patriarchal and caste structures due to which they are forced to bear heavy physical, social, psychological, and economic burdens. Migrant women, women workers with a history of domestic violence in families, alcoholic partners, and those working in commercial plantations were more likely to suffer GBV. Another study in two South Indian tea gardens points to a high prevalence of domestic violence which was statistically significant in relation to the socio-economic status, spouse's literacy status and age at marriage; and twice more common among women with a husband who was non-literate and alcoholic. This is also substantiated by various studies on tea plantation workers in India (Baruah 2018).¹³

⁸ Merino, Alvarado G., Scriver, S., L. Mueller, J., O'Brien-Milne, L., P. Fenny, A., & Duvvury, N. (2019). The Health and Economic Costs of Violence against Women and Girls on Survivors, Their Families, and Communities in Ghana. In E. Eze Anugwom & N. Awofeso (Eds.), *Public Health in Developing Countries—Challenges and Opportunities*. In tech Open. <https://doi.org/10.5772/intechopen.88690>

⁹ ISSER, Ipsos MORI, International Centre for Research on Women (ICRW) and NUI Galway. (2019). *Economic & Social Costs of Violence Against Women & Girls Summary Report Ghana* [Summary Report]. IPSOS Mori. <https://www.ipsos.com/sites/default/files/ct/publication/documents/2019-07/economic-social-costs-violence-women-girls-ghana-2019.pdf>

¹⁰ Oni-Ojo, E.E., A A, A., A O, O., & T P, H. (2014). Impact of Domestic Abuse on Female Employees' Productivity in the Nigerian Workforce. *European Scientific Journal*, 10(26), 186–198.

¹¹ Ajala, E.M. (2013). Domestic Violence and the Workplace: Improving Workers' Productivity. *LWATI: A Journal of Contemporary Research*, 10(1), 129–144.

¹² Frankenthal, I., & Dutta, D. (2021). Risk Factors for Gender-based Violence: The Case of Indian Agriculture (p. 53) [Research Report]. OXFAM. <https://oxfamlibrary.openrepository.com/bitstream/handle/10546/621301/rr-risk-factors-for-gender-based-violence-081021-en.pdf;jsessionid=A176130924C8C8939826CD4D781F8463?sequence=1>

¹³ Baruah, J. (2018). The Public Versus Private Space: The Feminization of Work in Tea Plantation. *ANTYAJAA: Indian Journal of Women and Social Change*, 3(2), Article 2. <https://doi.org/10.1177/2455632718794570>



Literature shows the prevalence of gender disparities, poor working conditions, and domestic violence among female workers in the tea industry. For instance, Rasaily (2018)¹⁴ pointed out that tea plantation work entails low wages, drudgery, overwork, and minimal social security, perpetuating gender disparities. Similar views are echoed by Rajbangshi and Nambiar (2020)¹⁵ wherein they found that gender discrimination, poverty, and poor working conditions affect women workers' health by restricting their mobility in terms of their capability to access better incomes, housing, sanitation, nutrition and health services. Moreover, strained social networks due to structural factors also lead to additional burdens among women workers.

Importantly, Roy's (2021)¹⁶ study on children workers in tea gardens in Assam indicates that half of the sampled children (out of 300) reported violence at home as an important reason that hampers education while Saha et al. (2019)¹⁷ in their study on decent work conditions in tea plantations of Assam indicate a lack of creche facilities, and consumption of alcohol (leading to abuse and children quitting school) which further marginalises their living conditions.

These studies stress the necessity for comprehensive national policies and interventions to reduce the economic toll of GBV. For example, a social accounting approach to GDP estimation (ISSER et al. 2019) highlights the broader costs of absenteeism and reduced productivity, suggesting that addressing GBV is not only a social priority but also an economic imperative.

¹⁴ Rasaily, R. (n.d.). The Price of Tea: Women workers' Predicament in North Bengal Tea Plantations (Working Paper No.15 RAS 13/55/UKM; Action Research on Women's Labour Migration in India). Centre for Women's Developmental Studies. <https://www.cwds.ac.in/wp-content/uploads/2020/06/Working-Paper-15.pdf>

¹⁵ Rajbangshi, P.R., & Nambiar, D. (2020). 'Who Will Stand Up for Us?' The Social Determinants of Health of Women Tea Plantation Workers in India. *International Journal for Equity in Health*, 19(1), Article 1. <https://doi.org/10.1186/s12939-020-1147-3>

¹⁶ Roy, N.R. (2021). Problems Faced by the Children of Tea Garden Workers at Secondary Level Education in Assam: An Analytical Study (p. 184) [Summary on Project Report]. Tezpur University. https://www.tezu.ernet.in/project_reports/2022/20-464.pdf

¹⁷ Saha, D., Bhue, C., & Singha, R. (2019). Decent Work for Tea Plantation Workers in Assam: Constraints, Challenges and Prospects (p. 105). Tata Institute of Social Sciences. https://tiss.edu/uploads/files/TISS_Study_2019_Decent_Work_for_Tea_Plantation_Workers_in_Assam_Web.pdf





SECTION II

**PROFILES OF THE
15 TEA ESTATES**



SECTION II

PROFILES OF THE 15 TEA ESTATES

This report provides a comprehensive overview of 15 tea estates (TEs) in Assam, India, examining their organisational structure, economic significance, production efficiency, and workforce composition. By highlighting key data on land utilisation, productivity, and the role of women workers, the report offers valuable insights for stakeholders in the tea industry.

TEA PRODUCTION IN ASSAM

Assam is blessed with a high potential for the development of resource-based and demand-based industries. There are several industries in the state such as tea, petroleum, plywood, paper, and fertiliser, among others. Of the agriculture-based industries, tea occupies an important place in Assam. Assam contributes over 50% to India's total tea production and plays a crucial role in India's GDP and foreign exchange earnings. It is the second-largest tea production region in the world after China. There are around 2500 small tea gardens, and the total production of tea in Assam per year is recorded to be more than 500 million kg.¹⁸ In 2022, India's tea production reached 1,336 million kg, with Assam contributing significantly to this total. Although India's tea exports have slightly decreased by 2%, the industry remains crucial for both domestic and international markets.

Being a labour-intensive industry that relies heavily on manual labour for harvesting and processing, the tea estates in Assam play a critical role in the region's economy by providing direct employment to around 6.86 lakh workers daily and indirect employment to several more workers. Our study is confined to 15 gardens spread across four districts, namely Nagaon, Golaghat, Dibrugarh, and Tinsukia.

THE OWNERSHIP OF TEA ESTATES

These tea gardens are typically large estates managed by tea companies or cooperatives. The sample study gardens are largely owned and managed by 1) McLeod Russel, a company owned by the Khaitan Group, a member of the Williamson Magor Group; 2) APPL, a subsidiary of Tata Global Beverages; 3) Jalan Industries (Ajay Jalan); and 4) Chamong Group of Assam Company.

¹⁸ http://www.asthabharati.org/Dia_July%20010/moon.htm



ORGANISATION STRUCTURE

The organisational structure of tea gardens in Assam typically follows a hierarchical format, with various levels of management overseeing different aspects of operations. The organisational hierarchy is typical of the tea plantation industry. This structure is highly organised and divided into five distinct roles:

- Ownership/Management:** They are responsible for the garden's operations, finances, and strategic direction .
- Top Management/Board of Directors:** They are responsible for setting policies, making strategic decisions, and overseeing the overall functioning of the tea garden. This level typically includes senior executives, owners, or management company representatives.
- General Manager/Manager:** They serve as the highest-ranking executive responsible for day-to-day operations. They oversee all aspects of the tea garden's activities, including production, finance, human resources, and administration. The manager reports directly to the board of directors or top management.
- Department Heads/Section Managers:** They are responsible for specific functional areas such as production, marketing, finance, human resources, and administration. These managers oversee the respective teams and ensure the smooth operation of their departments.



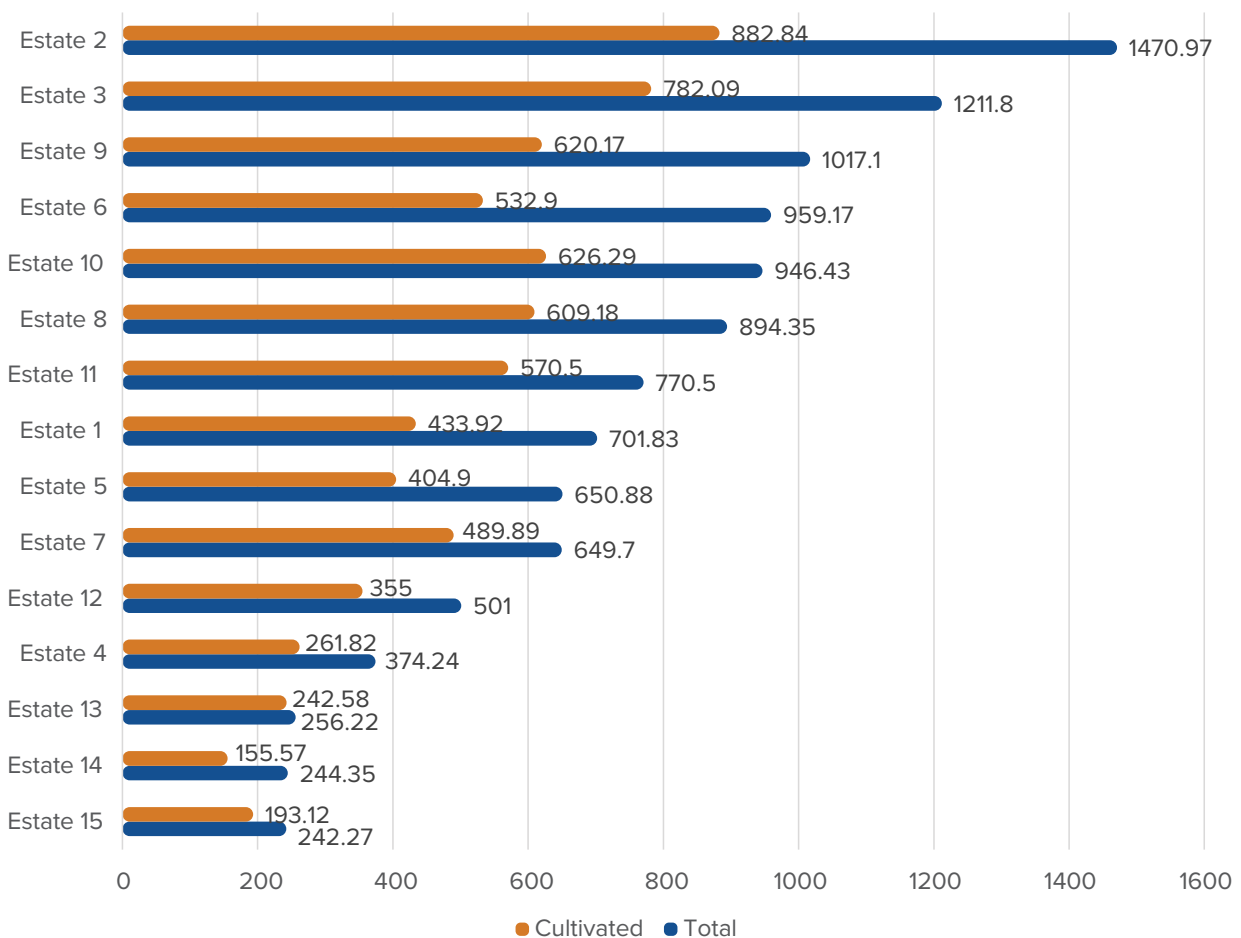
- **Supervisors/Assistant Managers:** They supervise the work of tea garden workers in various sections. They ensure that tasks are carried out efficiently, maintain quality standards, and address any issues during operations.
- **Workers/Field Staff:** They are responsible for carrying out tasks such as plucking tea leaves, pruning bushes, maintaining equipment, and processing tea. These workers are often organised into teams and work under the supervision of supervisors or assistant managers.
- **Support Staff/Administrative Personnel:** They handle functions such as accounting, human resources, procurement, logistics, and office management. These staff members work in offices or administrative buildings within the tea garden premises.

TEA CULTIVATION IN PROFILED TEA ESTATES

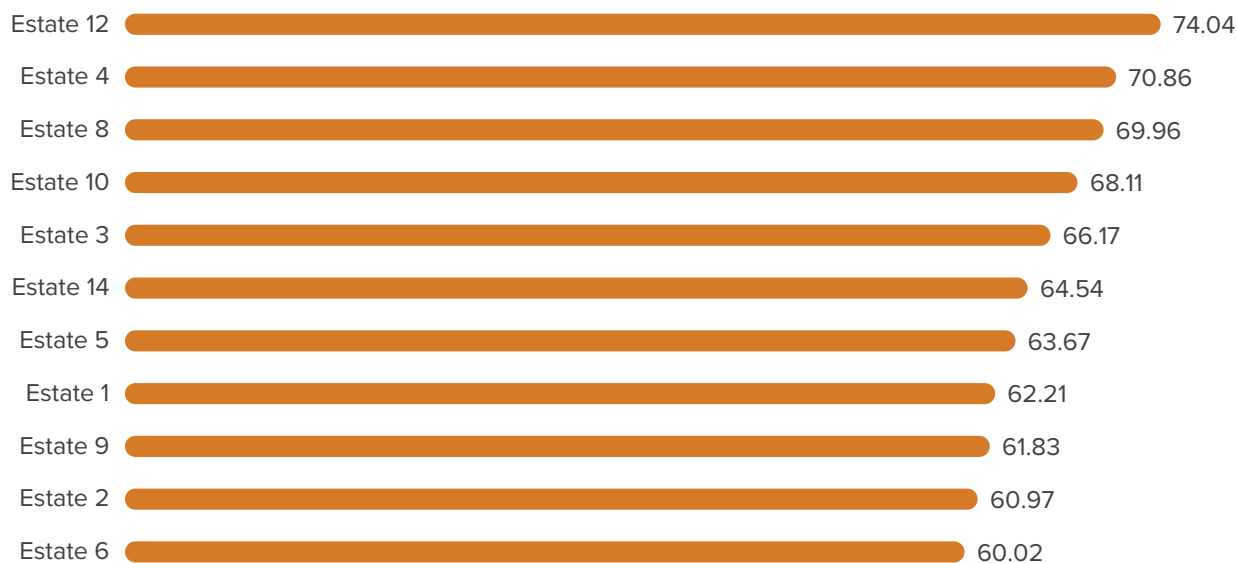
The estates in this study vary significantly in land area and cultivation efficiency (see Bar Graph 2.41). The largest estate, Estate 2, spans 1,470.97 hectares and the smallest estate, Estate 11 spans 770.5 ha. Estate 13 utilises nearly 95% of its total land area for tea cultivation, making it the most efficient in land use for tea cultivation while Estate 6 (55.56%) has room to improve land utilisation by expanding its cultivated areas (Bar graph 2.41).

Efficient land use is a key factor for maximising tea production. Estates that use a higher percentage of their total area for cultivation, such as Estate 12 and Estate 4, demonstrate effective land management practices.

Bar Graph 2.41: Estate-wise Total and Tea Cultivation Area (in ha)



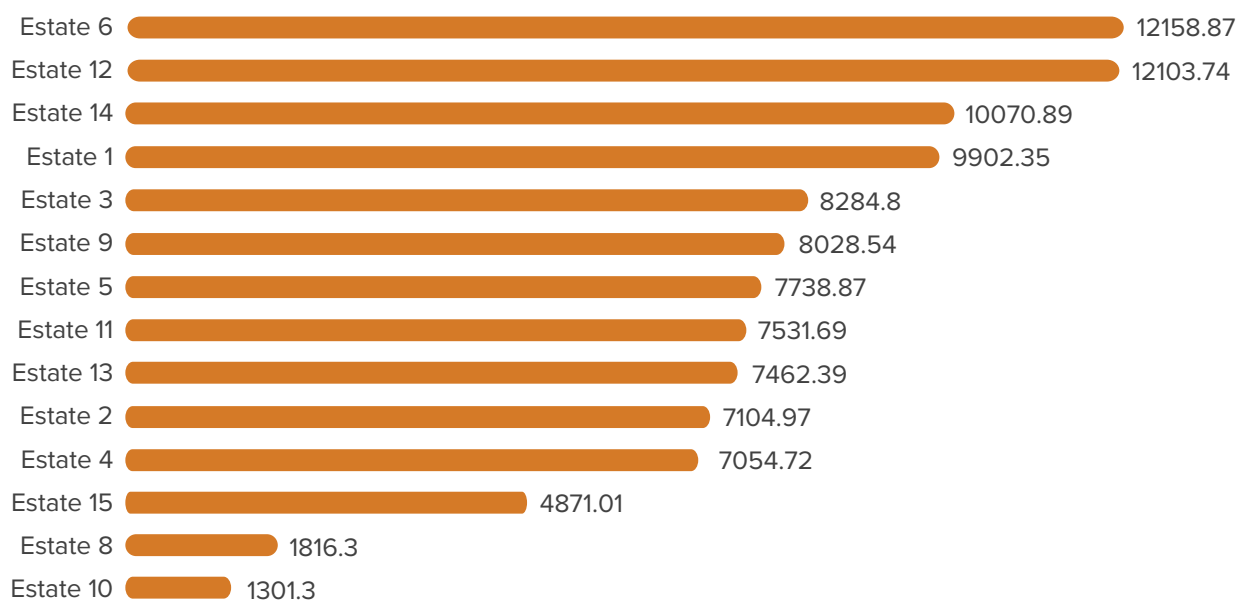
Bar Graph 2.42: Comparison of Percentage of Area under Cultivation across Tea Estates



ESTATE-WISE AVERAGE ANNUAL PRODUCTION

Production efficiency varies widely across the estates. Estate 6 leads with the highest average annual production of 12,158.87 kg/ha and stands out significantly in terms of productivity. Estate 12 follows closely with a substantial average annual production of 12,103.74 kg/ha. Estates such as Estate 10 and Estate 8 lag behind, with lower production rates, indicating potential areas for improvement.

Bar Graph 2.43: Estate-wise Average Annual Production (kg) per Hectare





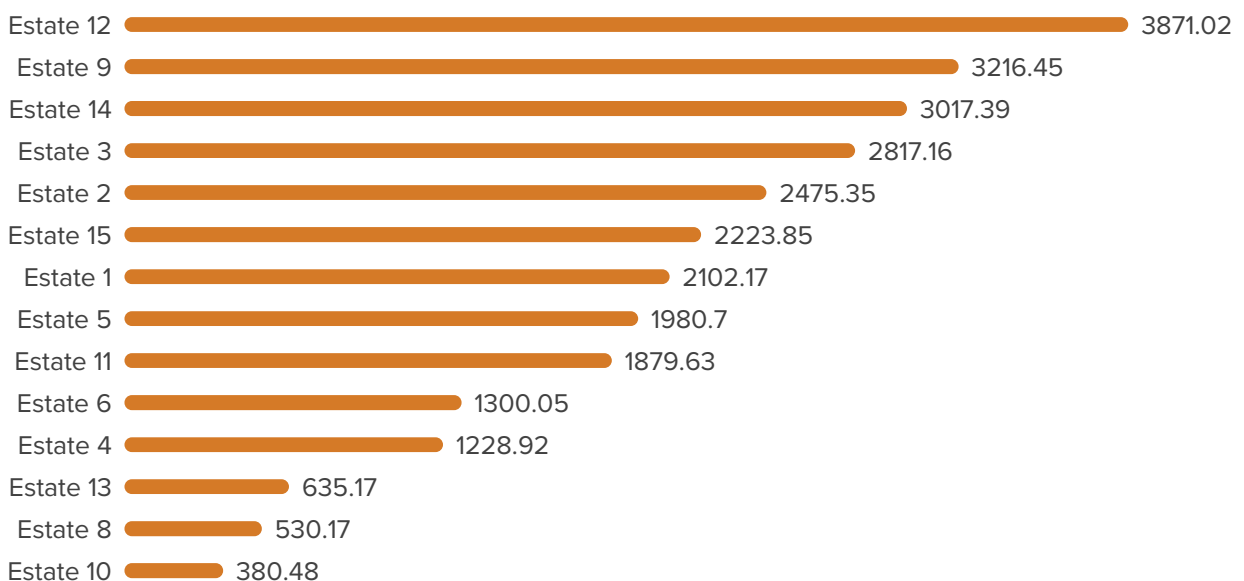
ESTATE-WISE AVERAGE ANNUAL PRODUCTION PER WORKER

In terms of production per worker too, Estate 12 shows the highest productivity, with workers averaging 3,871.02 kg annually, reflecting efficient labour utilisation (Bar graph 2.44), followed by Estate 9 with 3,216.45 kg/worker. On the other hand, estates like Estate 10 and Estate 8 record low productivity per worker as well, with less than 600 kg per worker, suggesting a need for better resource allocation and labour management strategies.

It can be observed that Estate 6, despite having the highest production per hectare, has a relatively low production per worker. This indicates a higher number of workers employed, leading to lower per capita productivity.

Estates such as Estate 10, Estate 8, and Estate 13 have notably low production per worker, suggesting a need for optimisation in labour utilisation and productivity strategies, while estates such as Estate 12 and Estate 9 consistently perform well in both per hectare and per worker metrics, indicating overall effective management practices.

Bar Graph 2. 44: Estate-wise Average Annual Production (kg) per Worker

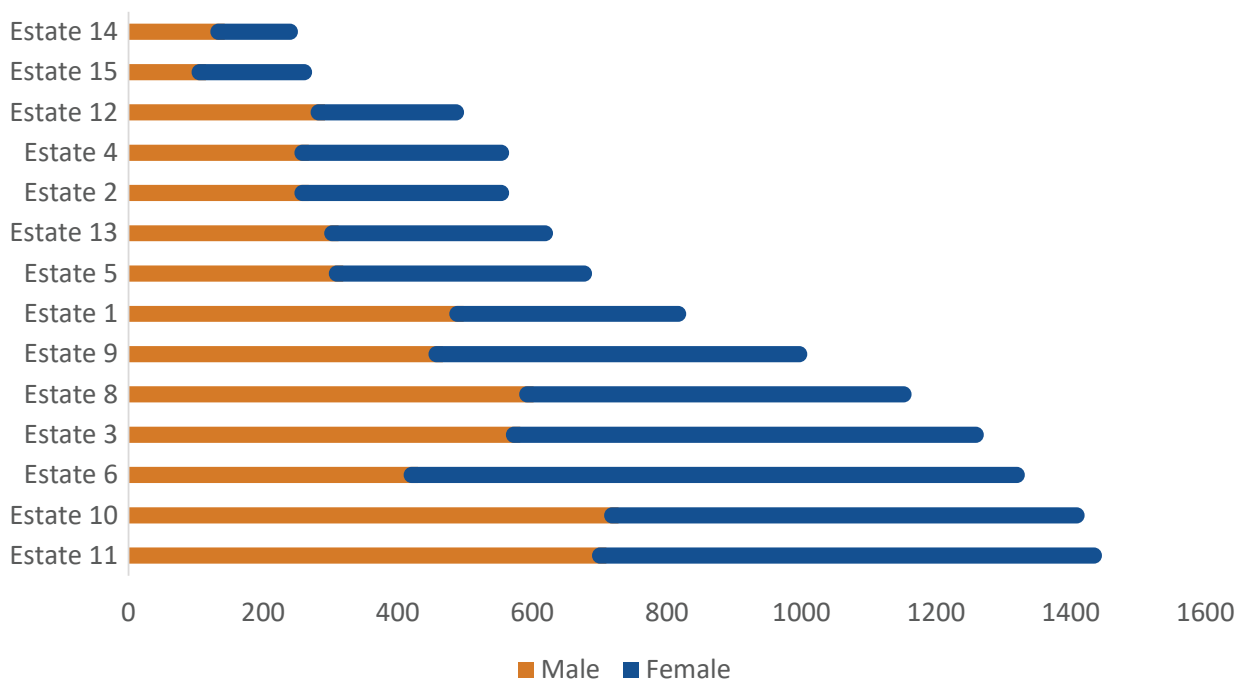


THE WORKERS

Women are the backbone of Assam's tea industry, constituting over 50% of the workforce, with many estates employing more women than men in key operations such as plucking, which constitutes 70% of the work in tea production. Women workers excel in tasks requiring precision and attention to detail, which are essential for maintaining tea quality. Women also participate in tasks such as pruning bushes, weeding, tea processing within the garden factories, sorting tea leaves, operating machinery, and assisting in the various stages of tea production. Their precision and skill ensure the quality standards of the final product. Women workers in tea gardens are also actively involved in community development initiatives. They participate in programmes focused on healthcare, education, skill development, and women's empowerment, contributing to the overall well-being of the tea garden communities.

Among permanent workers, the ratio of men and women was roughly the same, with some estates employing more men and others employing more women among permanent workers (see Bar Graph 2.45).

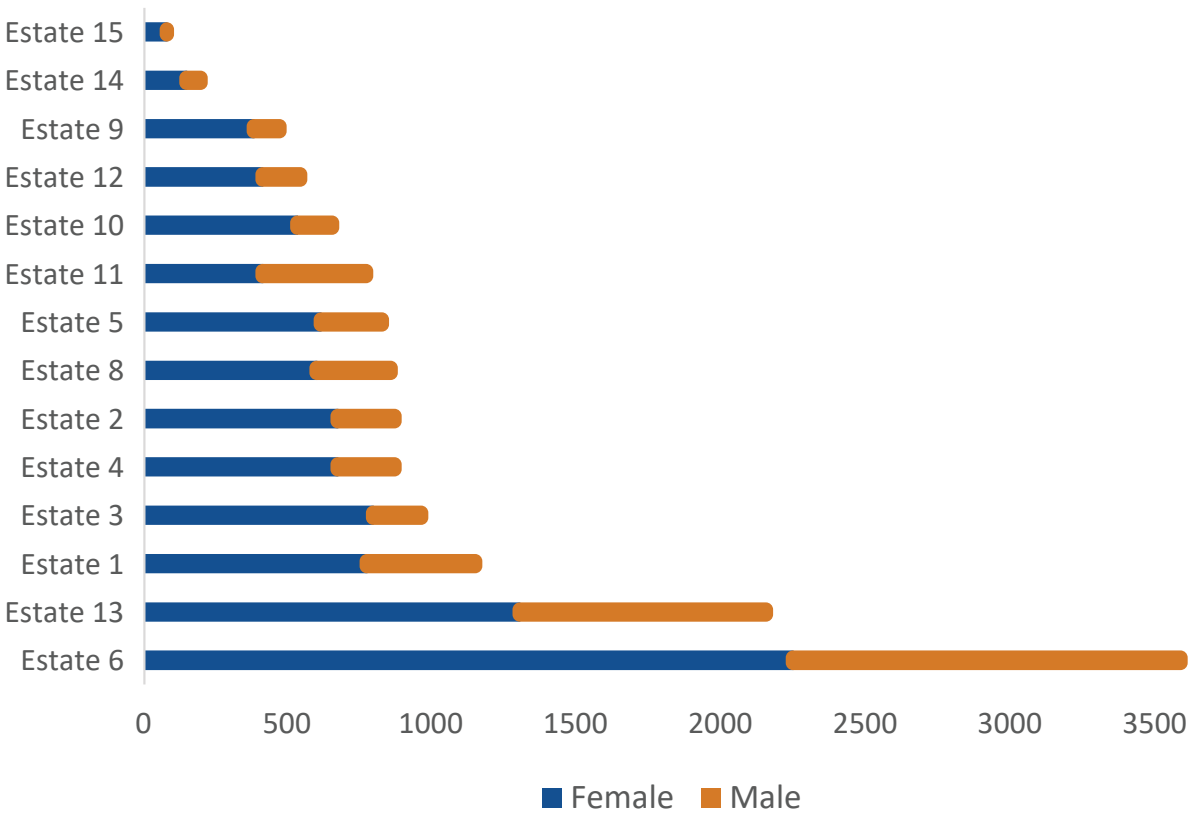
Bar Graph 2.45: Estate-wise Permanent Workers Across Tea Estates



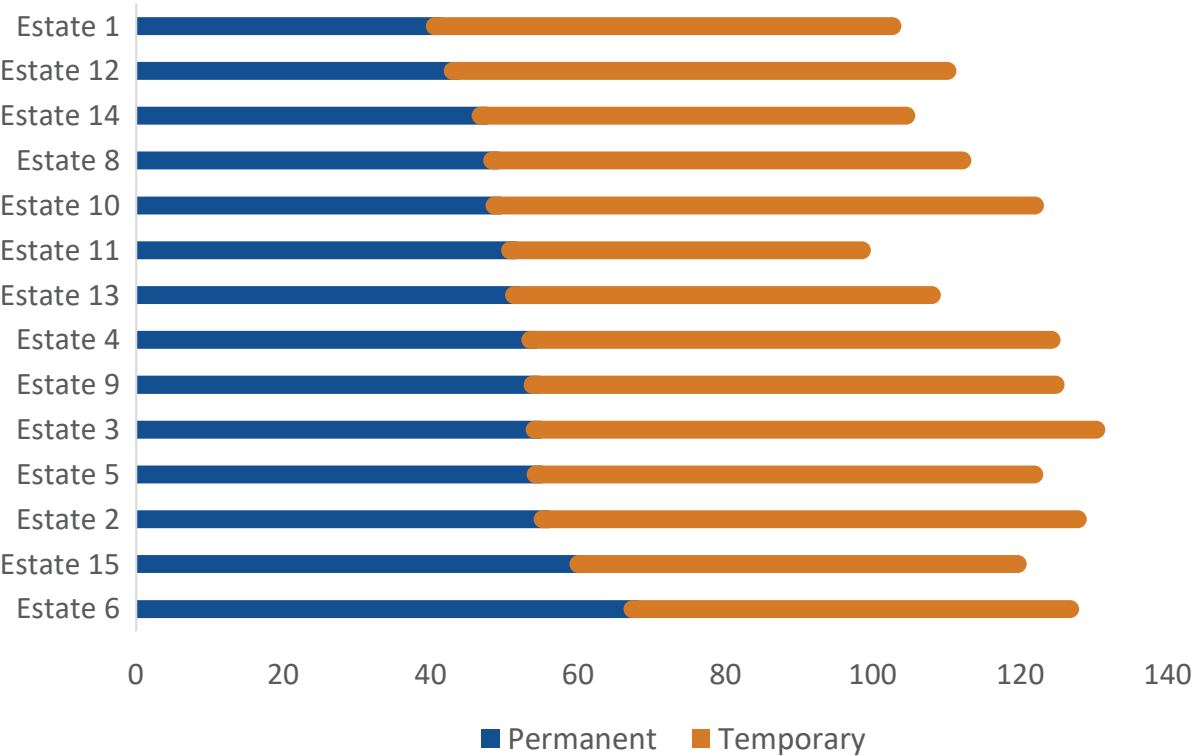
However, among temporary workers, it is evident from Bar Graph II.46 that the percentage of female workers is much higher than male workers, with females accounting for roughly 60% of the workers, with some estates hiring more than 70% of female temporary workers (Estate 2, 9, 10, 3, 5, and 4). The contribution of women workers is particularly evident in estates like Estate 6, where women make up 68.22% of the permanent workforce and 61.75% of the temporary workforce.

Overall, most female workers in most of the estates were evenly distributed into permanent and temporary workers, with some estates hiring more permanent female workers such as Estate 1 (41.41) and Estate 12 (43.85) and others hiring more temporary female workers such as Estate 6 (68.22) and Estate 15 (60.88) (see Bar Graph 2.47).

Bar Graph 2.46: Estate-wise temporary Workers across the TEs



Bar Graph 2.47: Percentage of Female Workers across the TEs



Importance of women workers

Women workers are the backbone of TEs worldwide, contributing immensely to the tea industry's success. Their empowerment and well-being are essential not only for the sustainability of tea production but also for achieving broader social and economic development goals in tea-producing regions.

- **Workforce Composition:** Women constitute a significant portion of the workforce in TEs, particularly in roles such as tea plucking, pruning, and weeding. Their participation is crucial to the functioning of tea gardens, as they often outnumber men in certain tasks due to their dexterity and attention to detail.
- **Labour Intensity:** Tea plucking, the primary task women perform in TEs, is labour intensive and physically demanding. Women are often seen traversing steep terrain, carrying heavy baskets of tea leaves on their backs for long hours under varying weather conditions.
- **Harvesting Expertise:** Women are often preferred for plucking tea leaves due to their dexterity and attention to detail. Their careful selection of tea leaves is crucial for maintaining the quality of the final product.
- **Sustainability:** Women often uniquely connect to the land and environment. Their involvement in tea garden activities can promote sustainable farming practices and environmental stewardship, ensuring the long-term viability of tea cultivation.



FACILITIES MADE AVAILABLE FOR WORKERS

Table 2.1 summarises the availability of various facilities for workers across different tea estates.

All sample study estates have hospital facilities, though the quality and availability differ. Most estates have dispensaries, with estates such as Estate 9, Estate 14, and Estate 15 having comprehensive medical facilities. Some estates have multiple dispensaries (e.g., Estate 2, Estate 3, Estate 11).

All estates have washroom facilities. All estates ensure proper waste disposal facilities in washrooms. Most estates have bathing enclosures for both men and women, with Estate 8 being the exception.

Primarily all the estates provide housing for workers, with varying levels of provision to clean water and sanitation facilities. All estates offer creche facilities though some estates provide more comprehensive education facilities than others. All estates have schools for workers' children, with some estates having multiple schools (e.g., Estate 2, Estate 3, Estate 11, Estate 6).

In addition, tea estates often implement social welfare programmes such as skill development training, women's empowerment initiatives, and community development projects aimed at improving the socio-economic conditions of workers and their families. Many estates provide subsidised or free rations to workers as part of their employment benefits. These rations typically include essential food items such as rice, pulses, cooking oil, and spices, which help supplement the dietary needs of workers and their families. In most estates, uniforms, protective gear, and tools are usually provided to the workers. Moreover, recreational facilities such as playgrounds, community centres, and sports facilities are also provided in some estates which provide opportunities for social interaction and relaxation outside of work hours.

Overall, these facilities are crucial in supporting the well-being and livelihoods of tea garden workers in Assam, contributing to improved living standards and socio-economic development within tea garden communities. However, there are ongoing efforts to address challenges and improve the effectiveness of these facilities to meet the evolving needs of the workers and their families.

The detailed overview of the facilities provided to the TE workers indicates that workers' welfare is prioritised across all estates, with essential amenities like healthcare, drinking water, childcare, housing, and education being well provided. However, there is room for improvement in the provision of sanitation facilities to women workers.

Table 2.1: Estate-wise Facilities Available for Workers

Estate	Hospital	Dispensary	Washrooms		Waste Disposal Facilities in Washrooms	Bathing Enclosures	Drinking Water Facilities	Creche	Housing	Schools
			Women	Men						
Estate 1	1	No	Yes	Yes	Yes	Yes	Yes	1	Yes	1
Estate 2	1	2	Yes	Yes	Yes	Yes	Yes	3	Yes	3
Estate 3	1	3	Yes	Yes	Yes	Yes	Yes	3	Yes	3
Estate 4	1	No	Yes	Yes	Yes	Yes	Yes	1	Yes	1
Estate 5	1	1	Yes	Yes	Yes	Yes	Yes	1	Yes	1
Estate 6	1	3	Yes	Yes	Yes	Yes	Yes	3	Yes	3
Estate 8	1	1	Yes	Yes	No	Yes	Yes	2	Yes	Yes
Estate 9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Estate 10	1	1	2	2	Yes	Yes	Yes	5	Yes	2
Estate 11	1	2	Yes	Yes	Yes	Yes	Yes	1	Yes	2
Estate 12	1	No	Yes	Yes	Yes	Yes	Yes	1	Yes	1
Estate 13	1	Yes	Yes	Yes	Yes	Yes	Yes	3	Yes	3
Estate 14	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Estate 15	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



The Condition of Women Workers in TEs

Despite their significant contributions, women workers often face challenges such as wage disparity, lack of healthcare, and access to essential services such as clean water and education, perpetuating cycles of poverty and marginalisation. They endure longer hours of labour than men, typically starting before sunrise and working under harsh conditions until late evening, often for minimal wages.¹⁹ Moreover, they are exposed to gender-based violence, both within the household and the workplace, which impacts both their well-being and productivity.

It is important to note that while progress has been made in addressing some of these challenges, there is still work to be done to improve the overall well-being and empowerment of women workers in TEs. Various stakeholders, including government authorities, TE management, NGOs, and CSOs, play a role in addressing these issues and promoting positive change.

Conclusion

The tea estates of Assam are pivotal to both the regional and national economies, yet face significant challenges in terms of operational efficiency, land utilisation, and workforce management. By focusing on improving production efficiency, supporting the workforce - particularly women who constitute the bulk of workforce - and optimising land use, stakeholders can ensure the sustainability and profitability of Assam's tea industry.

Despite facing socio-economic hurdles and gender-based disparities, these women demonstrate remarkable perseverance and adaptability, balancing their responsibilities within and outside the tea gardens. Efforts to improve the welfare and empowerment of women workers in Assam's tea gardens have gained momentum, with initiatives focusing on education, healthcare, skill development, and women's rights gaining traction. Governmental and non-governmental organisations and TE management are working collaboratively to address gender disparities and create more inclusive and equitable work environments.

¹⁹ It is important to note that working conditions and practices can vary significantly from one TE to another. However, traditionally, in study tea gardens, the workday for women typically starts early in the morning, around 7:00 or 8:00 AM, and ends in the late afternoon, around 4:00 or 5:00 PM, with a break for lunch for one hour. These timings may change based on various factors such as season, weather conditions, and labour regulations.





SECTION III

**SOCIO-ECONOMIC
FACTORS OF
VIOLENCE:
REFLECTIONS FROM
THE FIELD**



SECTION III

SOCIO-ECONOMIC FACTORS OF VIOLENCE: REFLECTIONS FROM THE FIELD

INTRODUCTION

Section III analyses the data gathered from 15 TEs in the state of Assam belonging to four companies. The data explores various factors such as the working conditions within the TEs, the prevalence of GBV among the TE communities, and its subsequent effects on productivity and the economic well-being of the workers and the TEs themselves.

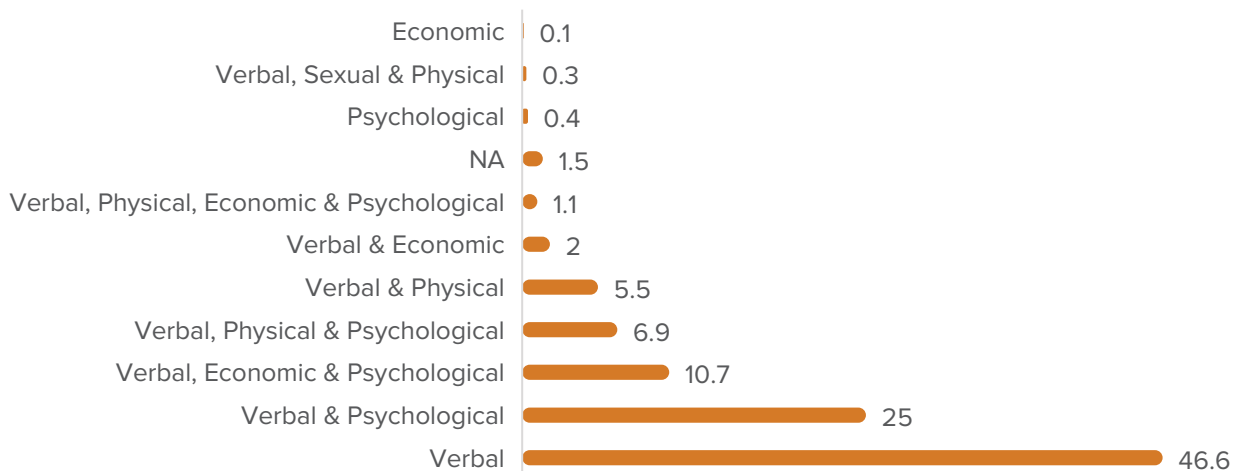
VIOLENCE: KINDS, SITES & FREQUENCY

The following is an analysis of various forms of violence affecting workers on tea estates, examining their types, locations, frequencies, and socio-economic drivers.

Kinds of Violence

The data in Bar Graph III.1 reveals several forms of GBV prevalent in the surveyed tea estates, categorised as verbal, psychological, physical, economic, and sexual violence. Verbal violence is the most frequent, affecting nearly 50% of the respondents, followed by psychological abuse. Physical violence, when combined with verbal abuse, also shows a higher occurrence. These forms of violence are often intertwined, leading to severe emotional and economic distress for victims.

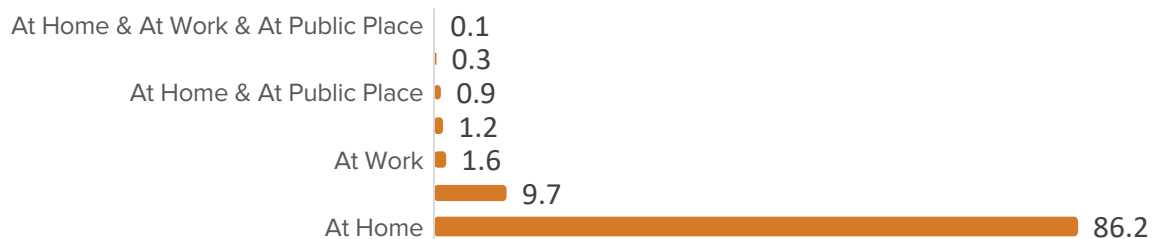
Bar Graph 3.1: Kinds of Violence





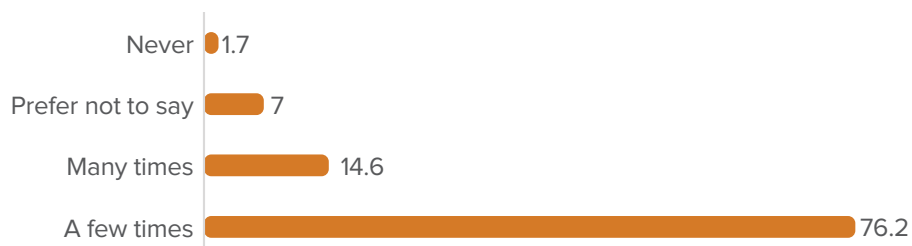
Bar Graph 3.2 reveals a startling fact that violence predominantly occurs at home, with nearly 90% of incidents reported in domestic settings. This reflects deep-rooted social norms and gender inequalities. Public spaces and workplaces report lower rates of violence, but the overlap between these environments suggests a pattern where violence pervades all areas of life for the affected individuals.

Bar Graph 3.2: Sites of Violence



Further, a significant 76.2% of the respondents have experienced violence a few times, while 14.6% report facing it many times. Only 1.7% of the individuals reported 'Never' experiencing violence, emphasising the pervasive nature of the issue.

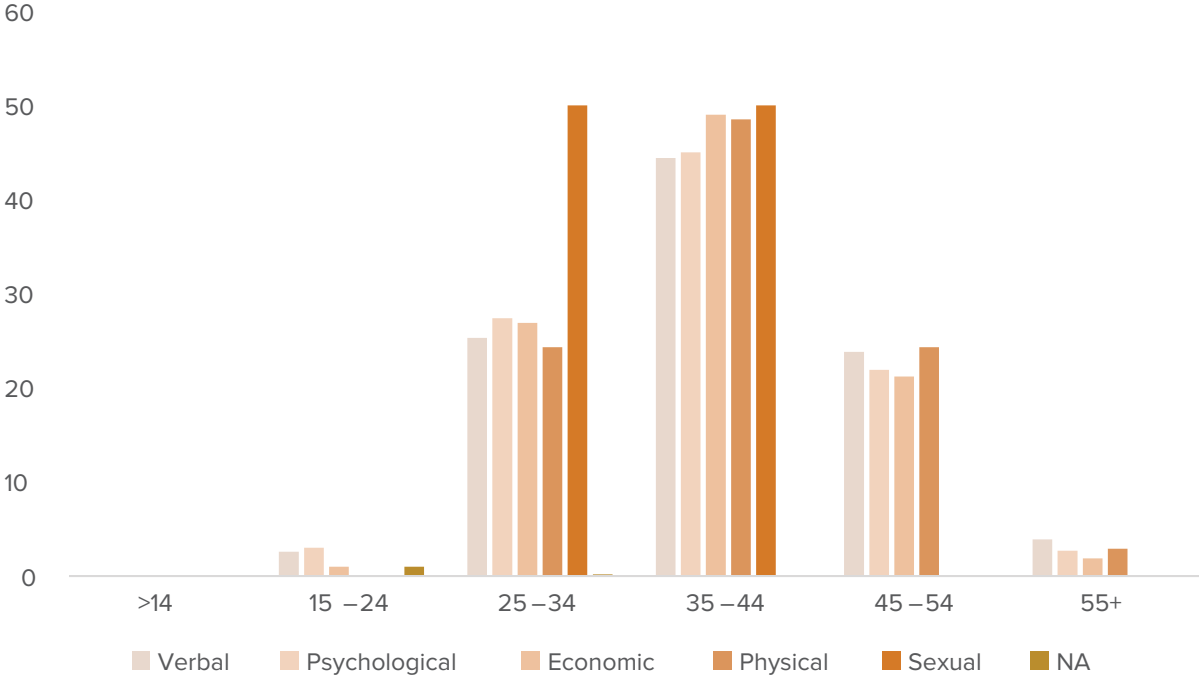
Bar Graph 3.3: Frequency of Violence



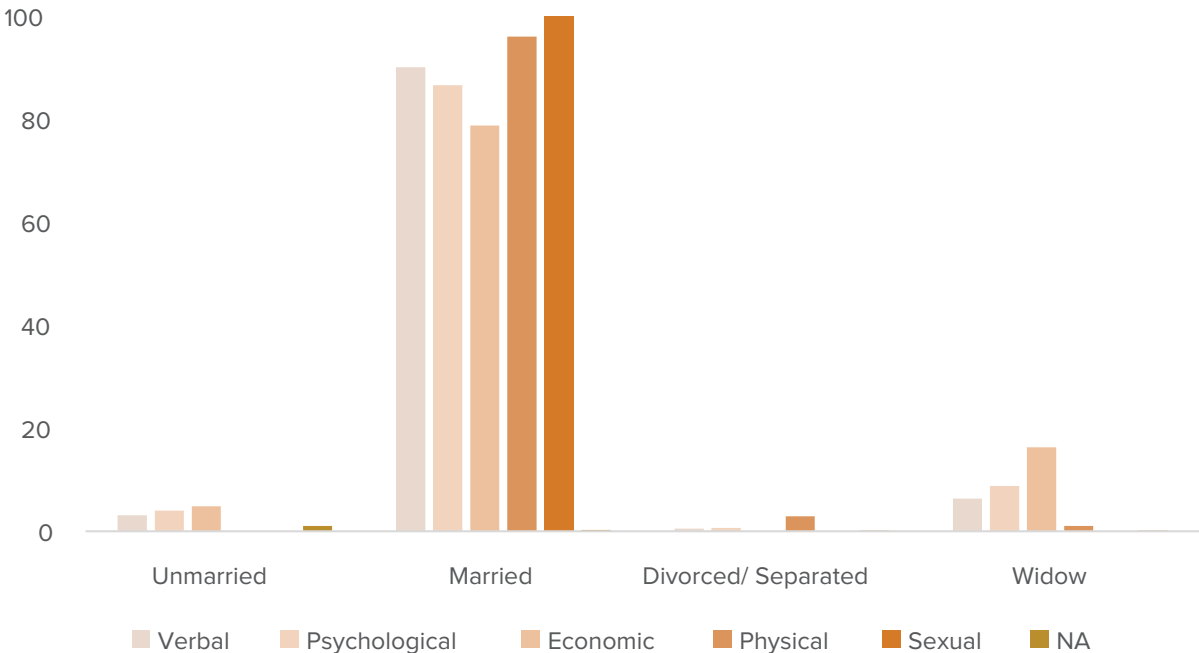
SOCIO-ECONOMIC FACTORS AFFECTING VIOLENCE: AGE, MARITAL STATUS, EDUCATION

Workers in the 25-34 and 34-44 age group are particularly vulnerable, with younger women experiencing higher rates of verbal and sexual abuse, and those older than them facing highest rates of psychological, economic, and physical abuse (Graph 3.7).

Bar Graph 3.7: Violence vs. Age



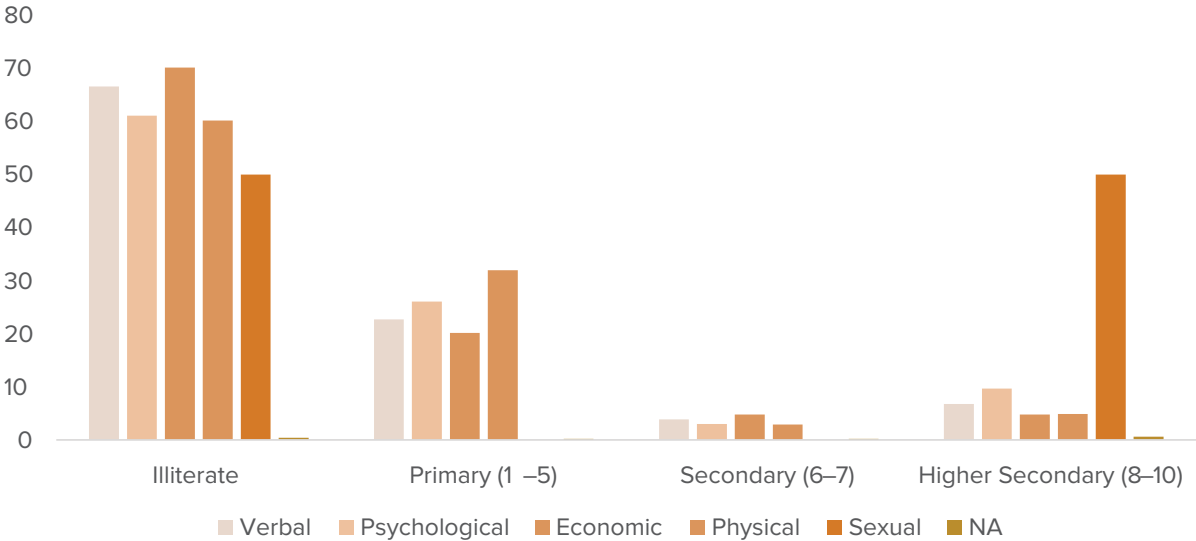
Bar Graph 3.8: Violence vs. Marital Status



Married women face higher incidences of violence across all categories, including sexual abuse while widows primarily experience economic abuse (Graph 3.8). This trend indicates the complex interplay between marital status and vulnerability to violence.

Illiteracy is strongly correlated with higher rates of violence. Among illiterate workers, who constituted two-thirds of the workers, verbal violence is prevalent along with higher rates of psychological, economic, and physical abuse, while those with secondary and higher-secondary education report significantly lower rates. Despite these findings, one must note that even educated women are not entirely insulated from sexual violence.

Bar Graph 3.9: Violence vs. Education

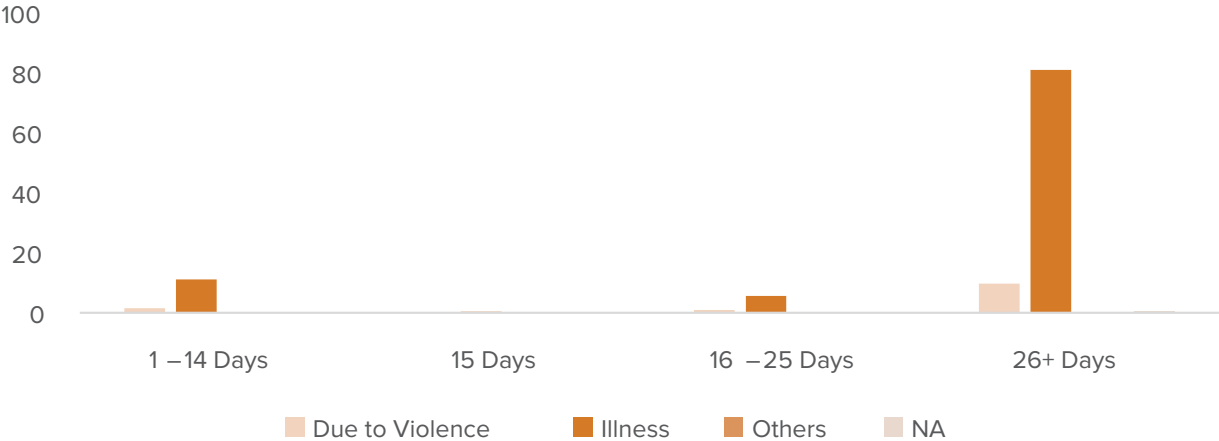


ROLE OF VIOLENCE IN ABSENTEEISM & PRODUCTION

Reasons for Absenteeism

According to the Bar Graph III.11, a majority of women workers who were absent (81%) were absent due to illness, 9.8% were absent due to violence, and a mere 0.1% were absent due to other reasons. Therefore, violence may not be the sole cause of absenteeism but is a significant contributing factor, with victims of physical and sexual violence missing more workdays (Bar Graph 3.10).

Bar Graph III.11: Reason for Absenteeism



Violence, Absenteeism, & Productivity

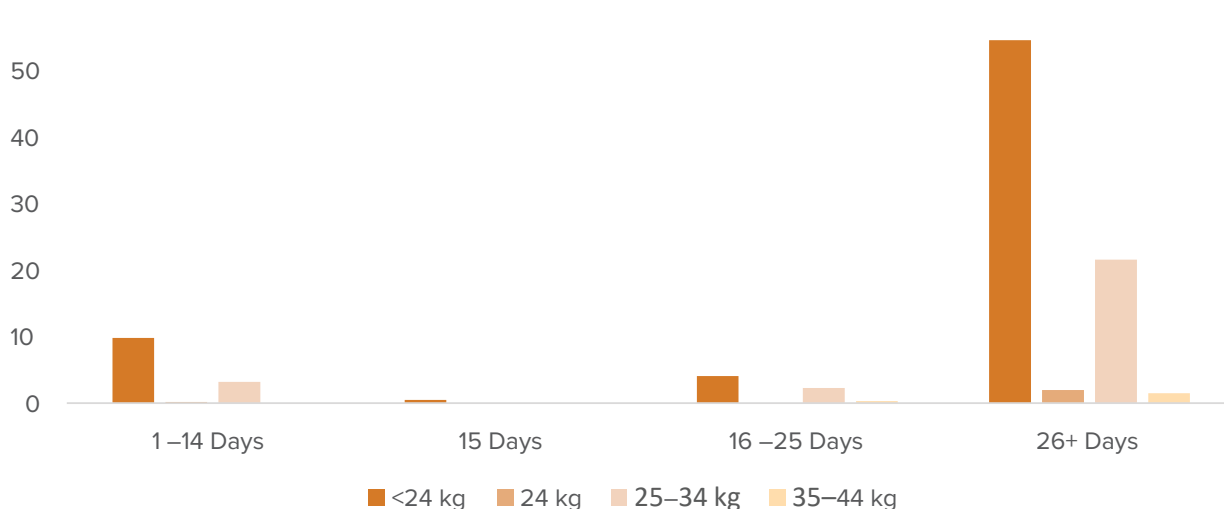
Absenteeism correlates directly with decreased productivity, as workers who take more leaves tend to produce lower quantities of tea leaves. As the intensity of violence escalates, there is a corresponding increase in the percentage of workers in the 'under 24kg' category, 24kg being the expected quantity of green leaves plucked per worker per day across the TEs.

However, a notable observation from Bar Graph III.12 is that there is a significant increase in production among individuals plucking more than 35 kg as the number of absentee days rises. This could suggest that individuals in this weight category are more productive when they return to work after a period of absence, possibly due to rest or recovery. Conversely, the lower weight categories do not show a similar pattern, indicating that absenteeism might have a different impact on their production levels, which could be due to an experience of violence.

Bar Graph 3.10: Violence vs. Absenteeism

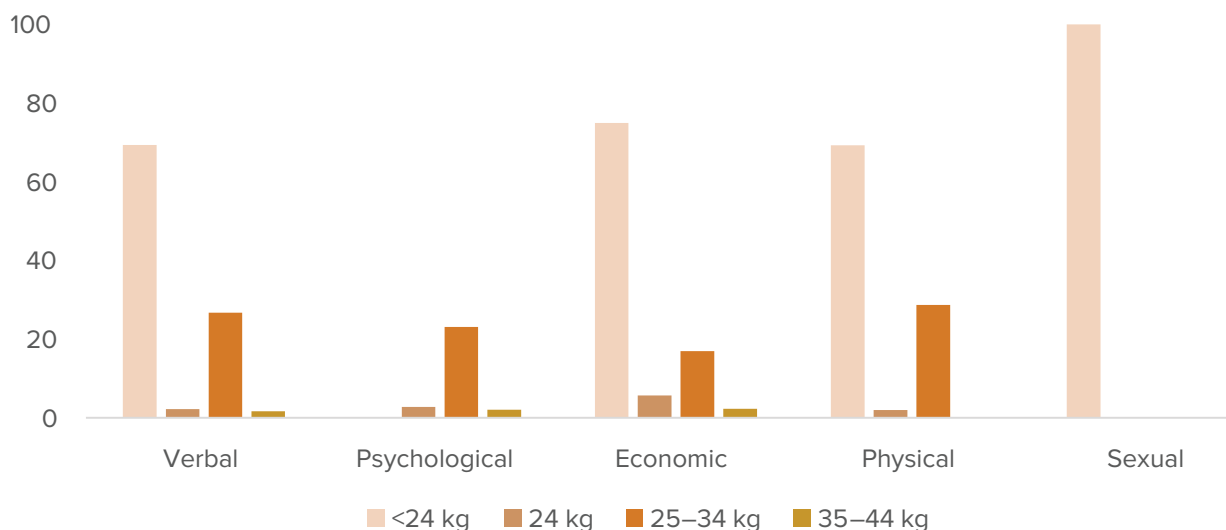


Bar Graph 3.12: Absenteeism vs. Production





Bar Graph 3.13: Violence vs. Production

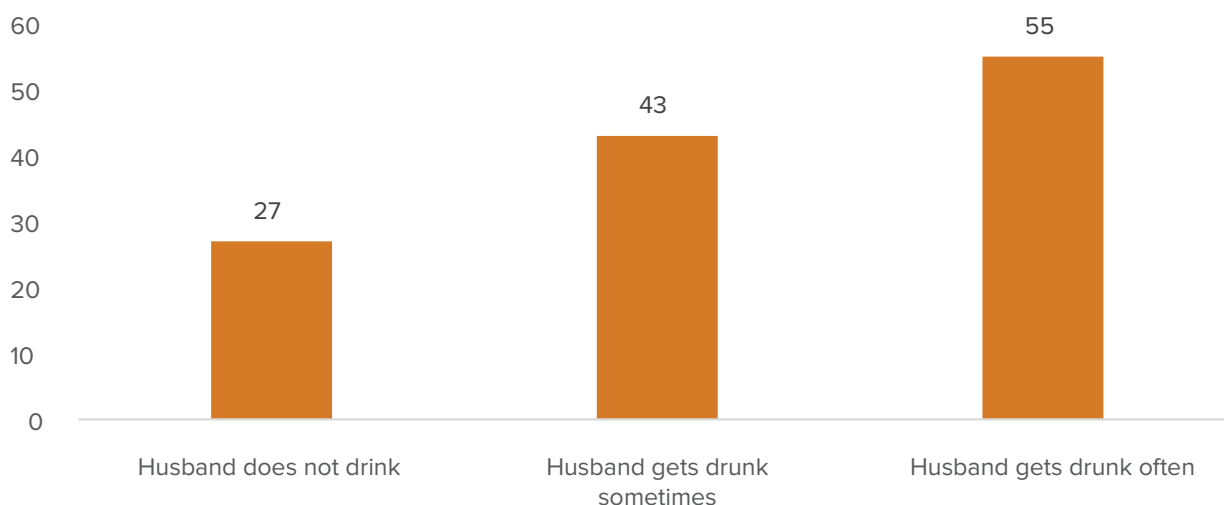


HELP-SEEKING BEHAVIOUR AMONG GBV AFFECTED WOMEN IN ASSAM: OBSERVATIONS FROM THE NATIONAL FAMILY HEALTH SURVEY-5 (NFHS-5)

Domestic violence stands as a critical indicator of women’s empowerment, with its presence directly infringing upon women’s human rights. This violation poses a significant barrier to achieving Sustainable Development Goal 5, which aims for Gender Equality. Despite substantial efforts and resources dedicated by the government towards this goal, progress in reducing violence and discrimination against women remains markedly slow. The repercussions of such violence extend beyond the immediate impact, casting long-term shadow on women’s social and economic well-being. This analysis delves into the prevalence of violence and the pursuit of assistance in Assam, drawing insights from the latest data of the 5th round (2019–21) of the National Family Health Survey (NFHS-5).

In Assam, a concerning 37% of ever-married women between the ages of 18–49 have experienced some form of physical or sexual violence, with their current husbands being the identified perpetrators. The prevalent types of violence reported include 28% of women being slapped by their husband, 12% experiencing pushing, shaking, or having objects thrown at them, 10% having their arms twisted or hair pulled, 7% being punched with a fist or an object that could cause harm, 6% subjected to kicking, dragging, or severe beating, 2% being intentionally choked or burnt. These statistics highlight the urgent need for intervention and support for the victims within the state.

Bar Graph 3.14: Is Alcohol Use Related to Spousal Physical or Sexual Violence?



In Assam, 35% of rural women and 28% of urban women have experienced spousal violence. The risk of violence is higher among women who work for cash (49%), while it is relatively lower for women who are not employed (30%). When it comes to educational attainment, more educated women tend to experience significantly less spousal violence. However, even among women with 12 or more years of education, the experience of emotional, physical, or sexual spousal violence remains at 18%.

Markedly, the incidence of spousal violence is particularly noticeable among husbands who never attended school (44%). Alcohol consumption emerges as a significant factor contributing to domestic violence. According to the recently released data from the National Family Health Survey (NFHS), the highest incidence of violence (57%) occurs when the husband gets drunk ‘often.’ However, this percentage drops to 45% when the husband gets drunk ‘sometimes,’ and it is lowest (27%) when the husband ‘does not drink.’ In other words, avoiding alcohol reduces the risk of violence by nearly two times compared to households where the husband drinks frequently.

The National Family Health Survey (NFHS) reveals a poignant correlation: women who grew up with mothers subjected to spousal violence are more likely to find themselves in similar abusive relationships. This pattern highlights the cyclical nature of domestic violence across generations. A pressing question arises: why have state-led interventions not reached these women effectively, or why have these women been unable to benefit from existing support

mechanisms? The primary issue at hand is the reluctance to seek help. According to NFHS-5 data, 81% of affected women chose not to seek help or disclose their situation to anyone.

The NFHS-5 categorises help-seeking sources into two main types: institutional and non-institutional. The police department is the sole institutional source, yet only 11% of women in Assam resort to it. In contrast, non-institutional sources such as one's own family (44%), neighbours (13%), and the husband's family (37%) are more commonly approached. This disparity underscores the need for more accessible and effective institutional support systems for women facing domestic violence.

Seeking help for domestic violence is influenced by various socioeconomic factors. The oppressive dynamics of marriage within a patriarchal society, discomfort with the legal system, protracted and complicated legal processes, and an unsupportive social environment often hinder women from accessing state-provided remedies. Moreover, the significant opportunity costs associated with violence—such as loss of income, social isolation, and emotional distress—compel many women to endure in silence rather than seek help.







SECTION IV

**MEASURING THE
COST OF GBV:
A STATISTICAL MODEL
ANALYSIS**



SECTION IV

MEASURING THE COST OF GBV: A STATISTICAL MODEL ANALYSIS

INTRODUCTION

Gender-based violence in tea estates is a critical yet often hidden issue that affects both the well-being of workers and their productivity, and the economic performance of estates. This section explores the broader socio-economic impacts of GBV through the use of Partial Least Squares Structural Equation Modelling (PLS-SEM). This model logically connects violence, its costs and impacts, and production by linking the contributing factors of each to their collective effect. By examining the costs of GBV and their effect on productivity, the report provides insights into how investors, estate owners, and government bodies can address this pressing issue.

STRUCTURAL EQUATION MODELING

The PLS-SEM methodology is employed in this study to examine the latent variables associated with GBV and its impact on production. Over the past twenty years, PLS-SEM has emerged as a sophisticated analytical method, earning significant acclaim in the fields of social sciences and management studies.²⁰ Between PLS-SEM and Covariance-Based Structural Equation (CB-SEM), the former is more appropriate for the present study as it encompasses reflective indicators in a construct. PLS-SEM generally does not assume a type of distribution, unlike its CB-SEM counterpart, which favours a normal distribution. This makes it suitable for analysing data that exhibits a non-normal distribution (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014; Hair, Hult, Ringle, & Sarstedt, 2017). It uses the ordinary least square (OLS) method and principal component analysis (PCA).²¹ We use Smart-PLS software for this study.

²⁰ This evidenced by the works of Hair, J. F., Hult, G. T., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (2nd ed.). Thousand Oaks, CA: Sage; and Hair, J. F., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2018). *Advanced Issues in Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Thousand Oaks, CA: Sage.

²¹ PLS-SEM explains variance that predicts construct relationships effectively. This method is used instead of replicating the theoretical covariance matrix. PLS-SEM methodology becomes very useful for conducting predictive analysis with highly complex data. This methodology estimates latent variables through composites, which are exact linear combinations of the indicators assigned to the latent variables. Scale purification is done to get the final revised model with acceptable reliability and validity.

Part A: Conceptual Framework

The model identifies key indicators, such as physical and sexual abuse, and measures their tangible (e.g., wage losses, decreased efficiency) and intangible (e.g., family trauma, loss of education for children) effects. The analysis also evaluates the role of external (e.g., company support, NGO intervention) and internal (e.g., family support) factors in mitigating these costs.

Based on this conceptual framework, six types of hypothetical situations can be tested to better understand the phenomenon. They are as follows.

- **Hypothetical situation 1:** GBV increases the tangible cost.
- **Hypothetical situation 2:** GBV increases the intangible costs.
- **Hypothetical situation 3:** Tangible costs decrease the productivity.
- **Hypothetical situation 4:** Intangible costs decrease the productivity
- **Hypothetical situation 5:** External counselling support helps reduce the negative impact of GBV on productivity by reducing tangible costs.
- **Hypothetical situation 6:** Internal family support in terms of counselling helps in reducing the negative impact of GBV on productivity by reducing intangible costs.

In Diagram 4.1, various coloured circles represent latent variables (such as GBV, tangible and intangible effects, and production) associated with their respective indicators in related coloured boxes. The arrows show the direction of the relationship between variables as well as variables and their associated indicators. The moderation is shown by the dotted arrows.

Diagram 4.1: Structural Equation Model

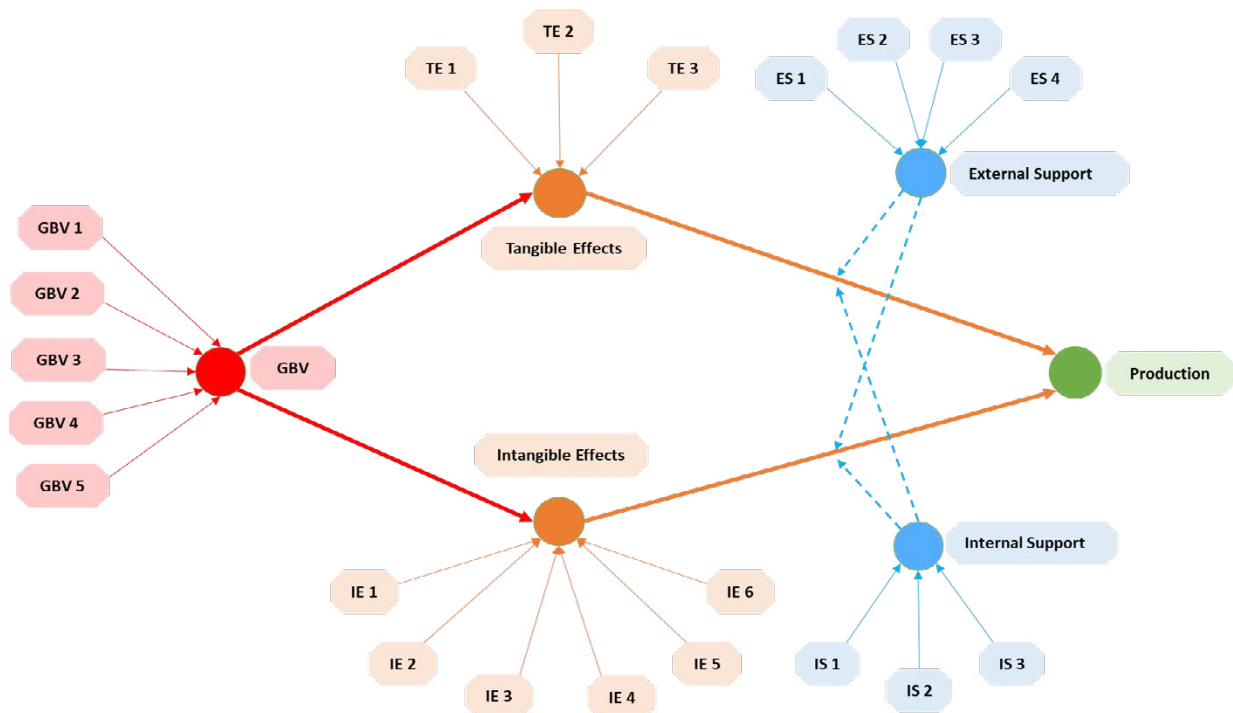


Table 4.1: Variable-wise Indicators (as shown in Diagram IV.1)

Gender Based Violence	GBV1	Gone through physical abuse at home or community frequently
	GBV2	Experienced sexual abuse at home and in the community frequently
	GBV3	Gone through sexual harassment and intimidation at work
	GBV4	Received threats for being a woman at work or at home
	GBV5	Experienced assault, abuse by stranger, known men other than partner
Tangible Effect	TE1	Lost wages due to GBV and treatment
	TE2	Efficiency has gone down after recovery
	TE3	Salary has gone down after recovery
Intangible Effect	IE1	Children suffered during recovery post GBV
	IE2	There is fear among family members especially children after GBV
	IE3	It took a long time for my children to recover from the trauma
	IE4	Children could not go to school during my recovery, and they lost education
	IE5	There should be counselling sessions for children as well
	IE6	Faster justice delivery helps in recovering trauma of children
External Support	ES1	Company helped me with necessary support such as leave counselling after GBV
	ES2	Took support of NGOs after GBV for various activities
	ES3	Took support from community after GBV
	ES4	Colleagues supported me throughout my recovery after GBV
Internal Support	IS1	My family supported me after GBV to recover from it
	IS2	My spouse/parents have provided me moral and emotional support
	IS3	There is social support from community after GBV

At first step, scale purification was conducted by checking reliability and validity of all constructs/variables considered. The reliability and validity results are presented in Table IV.2.

Table 4.2: Reliability and Validity

Construct/Variable	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
External Support	0.862	1.028	0.89	0.672
GBV	0.929	0.931	0.947	0.783
Intangible Effect	0.949	0.96	0.959	0.798
Internal Support	0.705	0.836	0.821	0.609
Tangible Effect	0.935	0.936	0.958	0.885



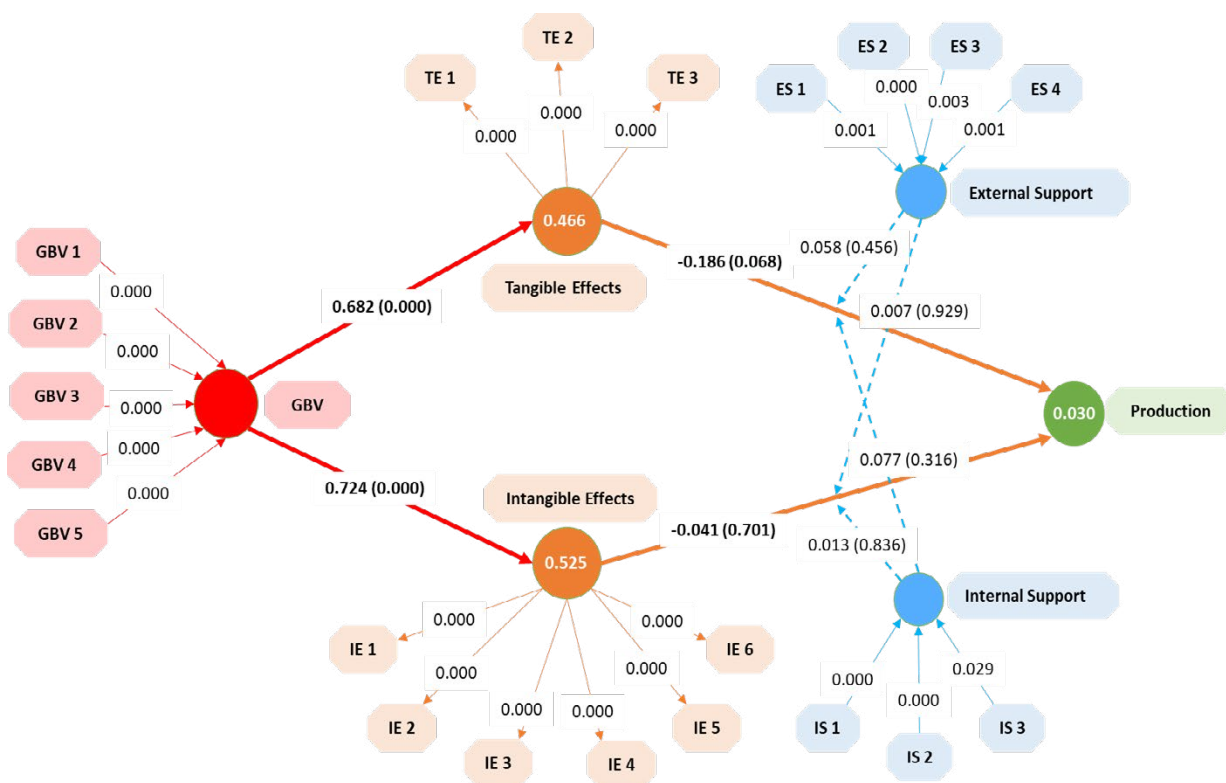
As shown in Table 4.2, Cronbach alpha values are above 0.7 and AVE is above 0.6 indicating validity and reliability of the construct and its indicators. Fornell-Larcker Criterion shows that there is discriminant validity indicating that the scales are as per the requirements (Table IV.3).

Table 4.3: Discriminant Validity: Fornell-Larcker Criterion

Construct/ Variable	External S.	GBV	Intangible	Internal S.	Production	Tangible
External Support	0.82	-	-	-	-	-
GBV	0.649	0.885	-	-	-	-
Intangible Effect	0.807	0.724	0.893	-	-	-
Internal Support	0.535	0.333	0.377	0.78	-	-
Production	0.04	0.037	-0.02	0.06	1	-
Tangible Effect	0.752	0.682	0.833	0.336	-0.067	0.941

After establishing the reliability and validity, the SEM proceeded with PLS estimates. The significance of the path coefficients is shown after bootstrapping with 5000 random samples drawn from the data set. The graphical summary of results is explained in Diagram 4.2. Numbers in parentheses are P-values that represent significant t-stats.

Diagram 4.2: Bootstrapping Results with P-Value



The results are presented below:

Table 4.4: Results of Path Coefficient

Path Coefficient	Original sample (O)	T statistics	P values
External -> Production	0.244	1.82	0.069
GBV -> Intan	0.724	36.45	0
GBV -> Tangible	0.682	32.38	0
Intan -> Production	-0.041	0.38	0.701
Internal -> Production	-0.006	0.12	0.909
Tangible -> Production	-0.186	1.82	0.068
External x Tangible -> Production	0.058	0.75	0.456
Internal x Tangible -> Production	-0.077	1	0.316
Internal x Intan -> Production	0.013	0.21	0.836
External x Intan -> Production	0.007	0.09	0.929
GBV -> Production	-0.156	2.803	0.005



Key Findings

The above table shows that GBV tends to increase both tangible and intangible costs and significantly reduces production and efficiency. The impact of intangible cost on production is not significant but the direction of the relationship is negative. But the impact of tangible costs significantly impacts the production negatively. Workers affected by GBV show lower daily production rates, with a 0.156-unit reduction in output for each unit increase in GBV incidents, which is significant at 1% level.

- **Tangible Costs:** Lost wages, reduced efficiency, and decreased salary after recovery from violence are among the primary tangible costs. These directly impact tea estate productivity.
- **Intangible Costs:** The emotional and social consequences of GBV, particularly the trauma experienced by the workers' families and children, lead to long-term negative effects that extend beyond the workplace.

The model goodness of fit is shown in R-square which shows that 52% of the variations in intangible costs are explained by GBV while around 46% of the tangible cost is explained by GBV. Only 3% of the variations in production is explained by GBV.

Table 4.5: Results of R-square

	R-square	R-square adjusted
Intan	0.525	0.524
Production	0.03	0.018
Tangible	0.466	0.465

Table 4.6: Model-fit

	Saturated model	Estimated model
SRMR	0.10	0.168
d_ULS	2.873	7.146
d_G	0.679	0.957
Chi-square	2586.711	3312.765
NFI	0.817	0.766

Model-fit

Model-fit is assessed through R², which shows that the relationship between GBV and intangibility is (0.52), whereas tangibility is (0.46), but overall, the value is only 0.3. This indicates that productivity is determined by other factors, and only 3% of variations in output produced are explained by GBV. The goodness of fit captured through a Standardised Root Mean Square Residual (SRMR) value of 0.087 indicates that the model is a good fit as it is less than 0.1 (Hu and Bentler 1999), and the model is not mis-specified (Henseler et al. 2014)²² On the other hand, the normed fit indices (NFI) value for the model is 0.69, which is closer to 1.

Table 4.7: Model-fit Statistics

Model Fit Statistics	Saturated model	Estimated model
SRMR	0.087	0.086
d_ULS	1.588	1.54
d_G	0.43	0.427
Chi-square	501.406	492.656
NFI	0.69	0.695

Calculator to assess the impact of GBV on production

The calculator developed in the study quantifies the annual economic loss due to GBV in tea estates and the extent of recovery through external support. It was found that for a 300-hectare estate, with 30% of women experiencing GBV, the estimated yearly loss is Rs. 739,389. However, support from employers, NGOs, and community groups plays a critical role in mitigating the negative impacts of GBV. Strengthening these ‘external’ support systems can recover approximately 71.35% of GBV-related losses. Family support systems, though essential, show a weaker correlation with productivity recovery compared to external interventions. The procedure to assess the impact of GBV on production is described in Appendix 2.

Part-B: Frequency and Impact of GBV on Production & Absenteeism

The study further explored the frequency of violence and its impact on production. The frequency of violence is compared with their average for all the tea gardens together, and as the table shows, those who did not face any violence are producing higher than those with GBV. Without GBV, the average production is 26.59 kg, whereas victims who suffered violence many times produce 20.22 kg. This shows that production is affected by the frequency of GBV.

²² Henseler, J., Dijkstra, T.K., Sarstedt, M., Ringle, C. M., Diamantopoulos, A., Straub, D.W., Ketchen, D.J., Hair, J. F., Hult, G.T.M., and Calantone, R.J. (2014). Common Beliefs and Reality about Partial Least Squares: Comments on Rönkkö & Evermann (2013), *Organizational Research Methods*, Vol. 17, No. 2: 182–209.

Table 4.12: Violence Frequency vs. Production

S. No.	Violence Frequency	Code	Avg. Production
1	Never	1	26.59
2	Once	2	20.32
3	A few times	3	21.66
4	Many times,	4	20.22
5	Prefer not to say	5	20.51

Table 4.13: GBV and Leaves Impact on Production

Variables	Coefficient	t-stats
C	3.35	6.08*
Leaves	1.4	21.71*
Once x Leaves	-0.69	0.074***
Many Times x Leaves	-0.22	2.14**
R-square	0.39	
F-stats	160.64	
DW	1.53	

The findings of this report clearly demonstrate the significant negative impact of GBV on tea estate productivity. Through targeted interventions, particularly external support systems, tea estates can recover a substantial portion of the losses caused by GBV.





SECTION V

**CONCLUSIONS
& POLICY
SUGGESTIONS**



SECTION V

CONCLUSIONS & POLICY SUGGESTIONS

The conclusions of this study are based on data collected from key stakeholders in 15 TEs across four companies. While these conclusions offer a general overview of the tea industry in Assam, they are most relevant to the specific context of these 15 TEs.

The study took place during the period between November 2023 and February 2024. It is important to note that this period coincides with the holiday season for TEs, during which there is very little or no availability of leaves for plucking or harvesting. Therefore, temporary workers are generally not employed during this time, resulting in their absence within the TEs. Consequently, the data primarily reflects insights from permanent workers.

Considering that the data collection centred around analysing the relationship between the occurrence of gender-based violence (GBV) and its impact on production, the resulting conclusions are aligned with this focus. Therefore, when reviewing the conclusions, it is essential to consider these aspects.

CONCLUSIONS

Based on the statistical modelling, the following conclusions may be considered:

- 1. Relationship between GBV and Costs:** The analysis reveals a statistically significant positive relationship between gender-based violence (GBV) and both tangible and intangible costs. Specifically, a unit increase in GBV results in a 0.72-unit rise in intangible costs and a 0.68-unit increase in tangible costs. This relationship holds at a 1% significance level, underscoring the profound economic burden that GBV imposes on both measurable and non-measurable costs.
- 2. Impact on Worker Productivity:** The study finds that workers unaffected by GBV are the most productive, with an average daily output of 26.59 kg. In contrast, workers who reported repeated experiences of GBV demonstrated the lowest productivity, averaging 20.22 kg per day. This difference is statistically significant, highlighting the critical need to address GBV and its underlying causes to enhance productivity within tea gardens.
- 3. Economic Losses due to GBV:** Hypothetical scenarios estimate an average annual loss of 15,390 kg of tea leaves per garden, translating into a revenue loss of approximately ₹739,389, or 1.29% of total annual revenue. However, with the implementation of external support systems, it is possible to recover approximately 0.91% of the revenue loss, equivalent to ₹527,517 per garden annually.

- 4. Intangible Costs and Production:** While the impact of intangible costs on production was found to be negative, it was not statistically significant. However, this area warrants attention, as intangible costs—such as psychological trauma, fear, loss of self-esteem, and social stigma—are often underreported or difficult to quantify. These non-monetary impacts are crucial to understanding the comprehensive effects of GBV and addressing them is vital for designing effective intervention and support programmes.
- 5. Tangible Costs and Production:** Tangible costs were found to negatively affect production, with a unit increase in these costs leading to a 0.186-unit reduction in daily output. Overall, the total effect indicates that a one-unit increase in GBV leads to a 0.342-unit decrease in daily production, a relationship that is significant at the 1% level. Although the reduction may appear modest, the cumulative effect over time can result in substantial losses for the tea gardens.
- 6. Role of External Support Systems:** External support systems have been shown to play a pivotal role in mitigating the negative impact of GBV on productivity. The study demonstrates that such support systems can recover up to 0.24 units of production, effectively mitigating 71% of the loss. This relationship is both statistically significant and positive. In contrast, internal support mechanisms were not found to have a significant moderating effect on productivity recovery.

POSSIBLE INTERVENTIONS & POLICY SUGGESTIONS

Based on these results, the following suggestions and policy interventions can be considered.

1. Implement External Support Programmes:

- Partner with organisations specialising in gender-based violence support, to provide counselling and resources for affected workers.
- Establish a confidential helpline or support service for workers to report incidents and seek assistance.

2. Strengthen Management Support:

- Develop a management training programme focusing on gender-based violence, its impact, and effective support strategies.
- Designate a senior manager as a point of contact for gender-based violence support and policy implementation.

3. Increase Awareness and Training:

- Conduct regular workshops and training sessions on gender-based violence, its effects, and available support for all workers.
- Include gender-based violence awareness and support information in employee handbooks and orientation programmes.

4. Develop Supportive Policies:

- Establish a zero-tolerance policy for gender-based violence, outlining consequences for perpetrators and support for victims.
- Develop a clear reporting mechanism for incidents, ensuring confidentiality and protection for victims.

5. Monitor and Evaluate:

- Set up a monitoring system to track reports, responses, and support provided for gender-based violence incidents.
- Conduct regular evaluations to assess policy effectiveness and identify areas for improvement.

6. Collaborate with Local Organisations:

- Forge partnerships with local organisations providing gender-based violence support services, ensuring access to expertise and resources.
- Collaborate with local authorities to ensure effective reporting and response mechanisms.

7. Address Root Causes:

- Develop and implement programmes addressing underlying causes of gender-based violence, such as gender inequality and social norms.
- Promote diversity, equity, and inclusion initiatives, fostering a culture of respect and zero tolerance for gender-based violence.

Some concrete steps that companies can take to address gender-based violence include:

- Providing paid leave, if necessary, for victims of gender-based violence
- Offering flexible work arrangements for victims
- Ensuring access to counselling and mental health services
- Implementing a bystander intervention programme
- Creating a gender-based violence response team
- Conducting regular safety audits
- Implementing a zero-tolerance policy for perpetrators
- Providing training on consent and healthy relationships
- Creating a confidential reporting mechanism
- Providing support for victims of gender-based violence in the form of resources, services, and accommodations





Strategic Partners and Funders



