



Tea Industry in Bangladesh: A Viability Study



Research Department
Bangladesh Bank
March 2026

Special Research Work (SRW)- 2603

Editorial Board¹

Chief Advisor

Dr. Ahsan H. Mansur, Governor, Bangladesh Bank

Advisor

Dr. Md. Habibur Rahman, Deputy Governor, Bangladesh Bank

Dr. Sayera Younus, Former Executive Director (Research), Bangladesh Bank

Dr. Md. Golzare Nabi, Executive Director (Research), Bangladesh Bank

Coordinator

Ms. Nurun Nahar Sultana, Director, Research Department, Bangladesh Bank

Study Team Members

Mr. Alok Roy, Additional Director, Research Department, Bangladesh Bank

Mr. Rizwanul Karim, Joint Director, Banking Regulation and Policy Department, Bangladesh Bank

Mr. Md. Faysal Khandokar, Joint Director, Agricultural Credit Department, Bangladesh Bank

Mr. Md. Masudur Rahman, Joint Director, Research Department, Bangladesh Bank

Ms. Jasmin Akter, Deputy Director, Research Department, Bangladesh Bank

Ms. Sharmin Chowdhury, Assistant Director, Monetary Policy Department, Bangladesh Bank

Ms. Farah Nasreen, Assistant Director, Research Department, Bangladesh Bank

Mr. Md. Ashik Ali, Assistant Director, Research Department, Bangladesh Bank

¹ The authors are grateful to the Honorable Governor of Bangladesh Bank, Dr. Ahsan H. Mansur, for his insightful remarks during discussion sessions. Bangladesh Bank officials who attended discussion sessions also gave important comments on the study. However, views expressed in this study report are the authors' own and do not necessarily reflect those of the Bangladesh Bank. Comments can be sent to: nurun.sultana@bb.org.bd

Table of Contents

Executive Summary	7
CHAPTER 1: Background, Objectives and Methodology	11
1.1. Background	11
1.2. Objectives	12
1.3. Scope of the Study	12
1.4. Methodology and Data.....	14
CHAPTER 2: Bangladesh's Tea Industry	18
2.1 Tea Industry in Bangladesh	18
2.1.1 Tea Growing Districts in Bangladesh	18
2.1.2 Tea Estate Lands in Bangladesh.....	21
2.1.3 Supply Chain of Tea Industry of Bangladesh	21
2.1.3.1 Tea Auction in Bangladesh.....	22
2.1.4 Productivity of Tea in Bangladesh.....	23
2.1.4.1 Valley-wise Productivity	23
2.1.4.2 Area-wise Productivity	25
2.1.4.3 District-wise Productivity	27
2.1.5 Production, Consumption, Export & Import of Bangladeshi Tea	28
2.1.6 Investment in the Tea Sector of Bangladesh	31
2.1.7 Initiatives of Relevant Entities to Develop the Tea Sector of Bangladesh.....	32
CHAPTER 3: Global Tea Industry	33
3.1 Global Tea Production	33
3.2 Global Tea Exports	34
3.3 Global Tea Consumption	35
3.4 Global Tea Imports	36
3.5 Structure of Global Tea Industry	38
3.5.1 Structure of Tea Industry in Kenya.....	38
3.5.2 Structure of Tea Industry in Sri Lanka	39
3.5.3 Structure of Tea Industry in India	40
3.5.4 Structure of Tea Industry in Bangladesh	41
3.6. Export position of the Tea Producing Countries.....	43
3.7 Productivity of the Tea Producing Countries.....	44
3.8 Certifications of the Tea-Producing Countries	44
3.9 Positioning of Bangladesh in the World Tea Market.....	47

CHAPTER 4: Profitability Analysis of Selected Gardens from Field Survey	49
4.1 Financial Analysis of Selected Tea Gardens	49
4.1.1 Average Auction Price, Yield per hectare, and Labor per hectare	49
4.2 Cost Structure.....	51
4.3 Profitability Ratios	53
4.4 Financial Ratios	54
4.5 Revenue-Cost Ratio	57
CHAPTER 05: Challenges to the Sustainability	58
5.1 Legal Compliance in Tea Industry.....	58
5.1.1 Land Use, Financing and Auction Regulations: Bottlenecks in Practice	58
5.1.2 Labor Laws and Employment Standards.....	59
5.1.3 Internal Credit Risk Rating System (ICRRS) for Tea companies.....	60
5.2 Climate Change and Tea Industry.....	62
5.3 SWOC Analysis of Tea Industry	64
CHAPTER 6 : Recommendations and Conclusion	66
References.....	69
Annexure.....	70

Acronyms and Abbreviations

ACD	Agriculture Credit Department
BB	Bangladesh Bank
BDT	Bangladesh Taka
BKB	Bangladesh Krishi Bank
BLF	Bought Leaf Factory
BRPD	Banking Regulation and Policy Department
BTA	Bangladesh Tea Association
BTB	Bangladesh Tea Board
BTRI	Bangladesh Tea Research Institute
BTRP	Bangladesh Tea Rehabilitation Project
CIS	Commonwealth of Independent States
COFCC	China Organic Food Certification Center
COP	Cost of Production
CTC	Crush, Tear and Curl
CTG	Chattogram
DNV	Det Norske Veritas
ETP	Ethical Tea Partnership
HACCP	Hazard Analysis and Critical Control Points
FAO	Food and Agriculture Organization
FAO IGG	Food and Agriculture Organization Intergovernmental Group
GDP	Gross Domestic Product
GMO	Genetically Modified Organism
GMP	Good Manufacturing Practices
ICRR	Internal Credit Risk Rating
ICRRS	Internal Credit Risk Rating System
ICTS	International Confederation of Tea Smallholders
IFAD	International Fund for Agricultural Development
IFOAM	International Federation of Organic Agriculture Movements

IGG	Intergovernmental Group
ISO	International Organization for Standardization
ITC	International Tea Committee
KSA	Kingdom of Saudi Arabia
KTDA	Kenya Tea Development Agency
NGO	Non-Governmental Organization
OSH	Occupational Safety and Health
PFI	Problem Facing Index
R/C	Revenue-Cost
RFA	Rainforest Alliance
ROA	Return on Asset
ROE	Return on Equity
SGS	Société Générale de Surveillance
SOFA	Small Organic Farmers' Association
STG	Small Tea Growers
SWOC	Strengths, Weakness, Opportunities and Challenges
TTAB	Tea Traders Association of Bangladesh
UAE	United Arab Emirates
UK	United Kingdom
UN	United Nations
UNB	United News of Bangladesh
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States of America
USD	US Dollar
USDA	United States Department of Agriculture

Tea Industry in Bangladesh- A Viability Study

Executive Summary

This study outlines a comprehensive viability assessment of Bangladesh's tea industry, which has evolved from its colonial origins to become a significant agro-based economic sector contributing to employment generation, export earnings, and as well as import substitution. The tea industry of Bangladesh is a long-established agro-industrial sector vital to employment, rural livelihoods, and domestic consumption. The sector is under serious strain due to operational inefficiencies, financial stress, climate threats, and institutional bottlenecks. Productivity stagnation and widening yield variability across estates and valleys further undermine long-term sustainability.

Key Issues and Strategic Concerns

1. Declining Competitiveness and Quality

Global demand increasingly favors high-value, organic, specialty, and orthodox teas, whereas Bangladesh's tea production and export structure remains largely concentrated on bulk tea. Limited modernizations of cultivation, uneven factory management, and slow adoption of quality-enhancing technologies have contributed to quality gaps. Without strategic reform, the country risks losing further ground in international markets.

2. Rising Operational Costs

Production costs have increased steadily, driven by labor expenditures, land management needs, and rising input prices. Auction prices, however, have not kept up, leading many estates to cut back on essential field development, pruning, and replanting. This has long-term implications for both productivity and quality.

3. Productivity (Yield per Hectare) Variability

One of the most pressing structural challenges is the wide variation in productivity across regions, valleys, and garden categories. Some estates maintain comparatively strong yields, while others suffer from aging bushes, inadequate field upkeep, limited replanting cycles, and inconsistent management practices. Differences in soil quality, rainfall patterns, topography, and access to skilled labor further contribute to these disparities. Small Tea Growers (STG) and Bought Leaf Factories (BLF) add another layer of variability, with uneven standards in plucking, processing, and quality control. High yield variability reduces overall efficiency, raises per-unit production costs, and creates widening financial gaps between well-managed and struggling estates.

4. Financial Stress and Credit Access Constraints

Many tea estates are experiencing ongoing financial losses, resulting in weak creditworthiness under the Internal Credit Risk Rating System (ICRRS). With most estates falling into the unacceptable category, they cannot access new financing when needed.

Limited credit at the beginning of the tea season restricts labor payments, factory operations, and maintenance—ultimately deepening productivity challenges.

5. Climate-Related Vulnerability

Irregular rainfall, prolonged dry spells, rising temperatures, and increased pest incidence have disrupted production cycles and reduced leaf quality. Climate effects also drive up costs through additional irrigation, soil care, and pest management requirements. Without systemic adaptation policies, climate risks will intensify yield instability and amplify regional gaps.

6. Regulatory and Land-Use Bottlenecks

Outdated regulations constrain efficient use of estate land and restrict diversification into complementary activities such as renewable energy, secondary crops, or eco-tourism. Lengthy land approval processes and inconsistency in regulatory interpretations discourage investment and innovation.

7. Challenges in Small Tea Grower and BLF Systems

Small Tea Growers contribute an increasing share of national supply but lack adequate support in training, registration, and quality practices. Bought Leaf Factories, in many cases, operate under inconsistent standards, leading to variable quality of processed tea. This inconsistency feeds into national yield variability and weakens the industry's collective reputation.

8. Worker Welfare and Social Infrastructure Gaps

Workers face limited access to healthcare, safe water, adequate housing, and secondary education. These conditions affect workforce stability, morale, and productivity. Improved welfare services are essential for long-term sector viability and social equity.

Policy Recommendations

1. Reduce Yield Variability and Improve Productivity

- Launch a national productivity enhancement program focused on modern plantation management, soil health improvement, replanting cycles, and scientific pruning.
- Promote consistent adoption of high-quality planting materials and climate-resilient varieties.
- Introduce performance benchmarks for estates and offer targeted incentives for those closing productivity gaps.
- Strengthen extension services to support small growers with training, field demonstrations, and advisory support.

2. Strengthen Quality Enhancement and Value Addition

- Develop sector-wide quality protocols and encourage technological upgrades in factories.
- Expand production of orthodox, green, organic, and value-added teas to align with global demand.
- Support international certifications, branding, and market diversification initiatives.

3. Reform Credit and Financing Mechanisms

- Provide temporary ICRRS flexibility for tea estates to restore access to working capital.
- Introduce concessional lending programs or sector-specific refinance facilities.
- Ensure early-season financing so estates can meet labor obligations and maintain regular field operations.

4. Improve Climate Resilience

- Promote climate-adaptive varieties, including drought-tolerant varieties, mulching, contour planting, and water-efficient technologies.
- Support research on climate impacts and create region-specific adaptation strategies.
- Encourage estates to adopt renewable energy sources and sustainable field practices.

5. Modernize Policy and Land-Use Regulations

- Review land-use rules to allow diversified, economically beneficial activities while preserving environmental safeguards.
- Streamline approval processes to reduce administrative delays.
- Enable selective use of unproductive estate land for renewable energy, secondary crops, or eco-tourism models.

6. Strengthen STG and BLF Integration

- Improve registration, monitoring, and training frameworks for small growers.
- Establish quality standards for Bought Leaf Factories and strengthen oversight mechanisms.
- Support STGs in accessing inputs, technology, and better market linkages.

7. Enhance Worker Welfare

- Upgrade healthcare, drinking water, sanitation, and housing infrastructure.
- Provide transportation to support secondary education for workers' children.
- Encourage partnerships among government agencies, estate management, and NGOs to improve living standards.

8. Improve Auction and Marketing Systems

- Fully digitalize the auction system to enhance transparency and efficiency.
- Explore forward contracts and stable long-term buying arrangements to reduce price uncertainty.
- Strengthen domestic marketing campaigns and export promotion initiatives.

Conclusion

Bangladesh's tea industry stands at a critical crossroad. Wide productivity variability, combined with financial stress, climate risks, and institutional barriers, is weakening long-term sustainability. With the right interventions—focused on yield enhancement, credit access, climate adaptation, quality upgrading, and worker welfare—the sector can recover competitiveness and expand its contribution to the national economy. A coordinated, forward-looking policy response is essential to ensure that the tea industry remains viable, resilient, and globally relevant.

CHAPTER 1: Background, Objectives and Methodology

1.1. Background

The Bangladesh tea industry is a crucial agricultural sector with deep historical roots and significant economic importance. Tea cultivation commenced during the British colonial era with the establishment of the first tea garden near the Chattogram Club in the 1840s, followed by the Malnicherra Tea Estate in Sylhet in the 1850s, which remains the oldest and one of the largest tea gardens in Bangladesh.² The industry has undergone substantial transformation since Bangladesh's independence in 1971, when tea was ranked among the country's top export commodities alongside jute and leather.

Contemporary industry statistics highlight both opportunities and critical challenges for the tea industry of Bangladesh, necessitating a comprehensive viability assessment. As of May 2025, there are 170 tea gardens³ and small-scale operations across traditional regions of Sylhet and Chattogram, with emerging production areas in northern regions of Bangladesh (e.g., Panchagarh and Thakurgaon) and hill tracts (e.g., Rangamati and Bandarban). The sector provides direct employment to more than 1 lakh individuals⁴ across the tea plantations covering 294,142 acres⁵. The tea industry provides livelihood to 5 lakh people directly and another 5 lakh people indirectly who depend on the tea industry through tea trading, tea brokerage, tea warehousing, packaging, transportation and other ancillary service industries.⁶ However, production fell short of expectations, approximately 15 million kgs below the target of 108 million kgs⁷ reaching only 93.04 million kgs in 2024. This shortfall is further strained by rising production costs and stagnant auction sale prices, putting pressure on overall profitability.

The market landscape has fundamentally shifted from export-oriented production to domestic consumption dominance. Current domestic demand consumes 97% of total production, with only 2.45 million kgs exported from 93.04 million kgs produced in 2024⁸. This transformation reflects Bangladesh's economic development and changing consumption patterns, where tea has evolved from an upper-class luxury to a universal household staple. But rising production costs, stagnant auction sale prices, and lowered export earnings underscores the strategic importance of this sector and the need for comprehensive viability assessment of the tea sector.

² Bangladesh Tea Association

^{3, 4, 5, 6, 7, 8} Bangladesh Tea Board

1.2. Objectives

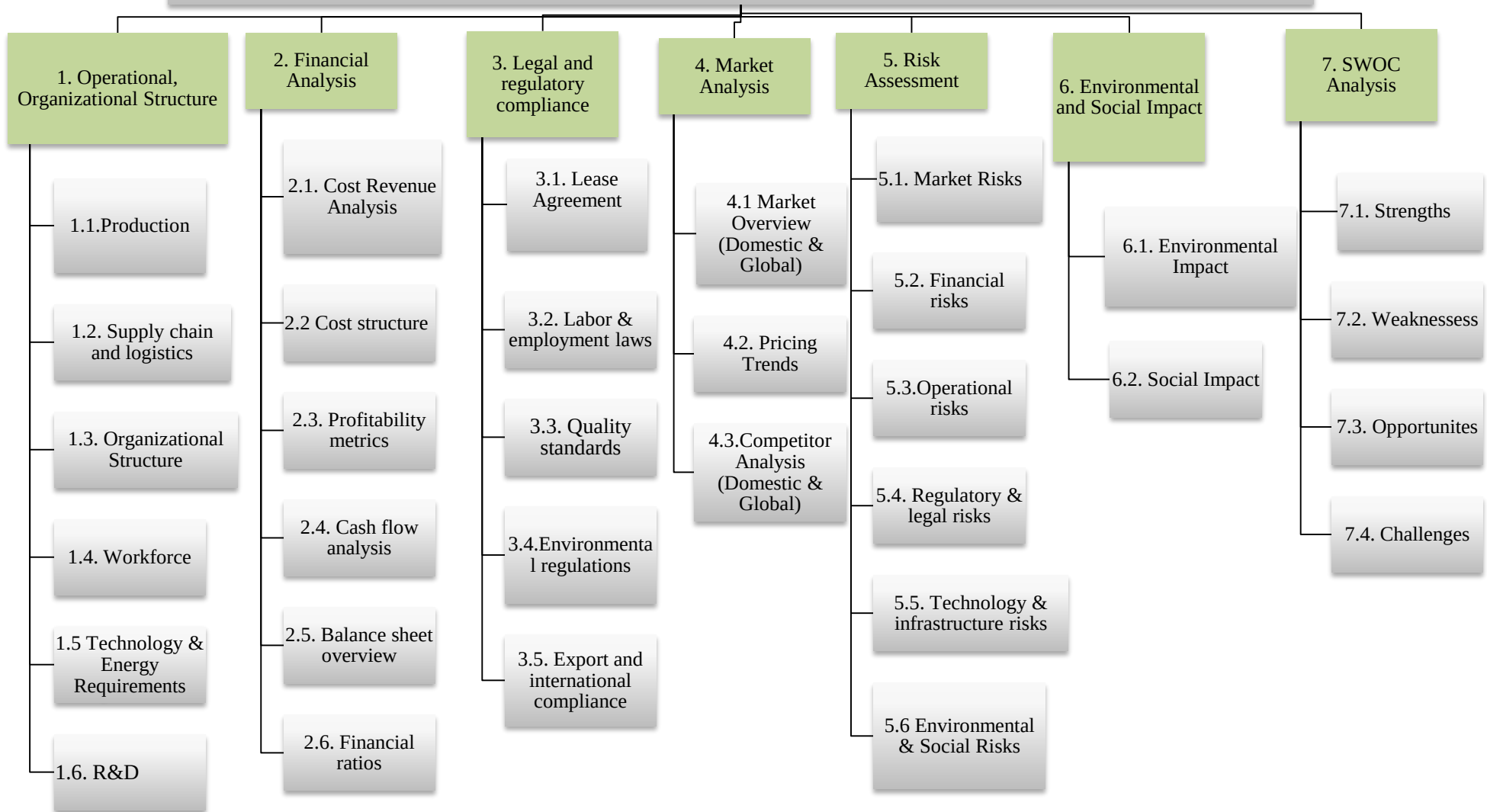
The primary objective of this viability study is to conduct a comprehensive assessment of the Bangladesh tea industry's current status, future potential, and strategic positioning within both domestic and international markets. The study tried to provide evidence-based recommendations for policy makers regarding formulating strategies for sustainability of the tea industry. Additionally, the analysis also tried to investigate export potential restoration strategies. In summary, the objectives of this study are:

- To assess the market and financial viability of the tea industry in Bangladesh.
- To identify operational, legal, and other factors affecting the industry.
- To evaluate the strengths, weaknesses, opportunities, and challenges (SWOC) faced by the industry.
- To explore the feasibility of alternative uses of tea garden lands, including solar power installations, eco-tourism, and associated cropping; and
- To recommend actionable strategies for sustainable development and explore the potential for restoring export capabilities.

1.3. Scope of the Study

This viability study adopted a comprehensive, multi-dimensional approach to assess the current state and prospects of the tea industry in Bangladesh. The study examined the industry's structure and dynamics—including market performance, financial health, operational practices, regulatory environment, technical capacity, and socio-environmental considerations. By integrating qualitative and quantitative insights, the assessment evaluated the industry's strengths, weaknesses, opportunities, and challenges (SWOC), explored the feasibility of alternative uses of tea garden lands and provided evidence-based recommendations for enhancing sustainability, competitiveness, and resilience across the sector. The key components of the study are outlined in Figure 1.1.

Figure 1.1: Viability Study of the Tea Industry in Bangladesh



1.4. Methodology and Data

The study used a mixed-methods approach combining primary and secondary data to analyze Bangladesh's tea industry comprehensively. Primary data were gathered through structured interviews and focus group discussions with key stakeholders such as tea garden owners, managers, labors, traders, brokers, bankers related to financing in tea industry, Bangladesh Tea Board (BTB), Bangladesh Tea Research Institute (BTRI) and policy-making authorities to gain qualitative insights into operations, workforce, market practices, and perceptions. Secondary data include reports from the Bangladesh Tea Board, Bangladesh Tea Association, Bangladesh Tea Research Institute, International Tea Committee, Tea Traders Association of Bangladesh, and relevant academic literature to provide context and analytical background. Most importantly, financial and operational data from selected tea gardens and visited by the study team, were analyzed to assess profitability, productivity, and sustainability. The names and identity of the tea gardens are anonymized in the report, as most of the tea gardens are private limited companies.

1.5. Sample Selection

According to the Bangladesh Tea Board, there are 170 registered tea gardens in Bangladesh, distributed across nine designated valleys: Balisera, Luskerpore, Juri, Longla, North Sylhet, Monu-Doloi, Chattogram, Korotoya, and Bandarban. These tea gardens vary significantly in terms of geographical location, year of establishment, land area, productivity, and quality of production, some are longstanding and large-scale operations, while others are newer and smaller in scale.

According to the Annual Tea Review 2023 of Bangladesh Tea Board, Balisera Valley contributed the highest share, accounting for 25% of the country's total tea production, followed by Korotoya Valley at 18%, Luskerpore at 13%, Longla at 11%, Chattogram and Monu-Doloi at 10% each, Juri at 8%, North Sylhet at 5%, however, Bandarban region is very new and contributing insignificant amount. Productivity levels and output quality also differ widely across regions and estates. These variations represent key considerations in determining an appropriate sampling technique for the study, ensuring that the selected sample captures the diversity of the industry in terms of geographic distribution, operational scale, and performance characteristics.

This study primarily classifies the tea garden into 4 categories based on the annual production levels (Figure 1.2). This stratified approach ensures representation across different scales of operation.

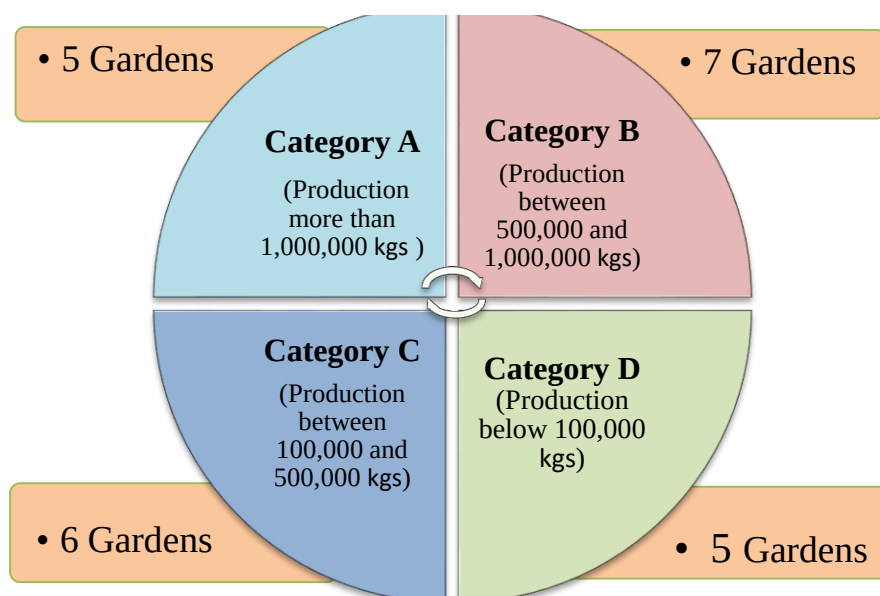
Category A: Gardens with an annual production of more than 1,000,000 kgs are classified under Category A. A total of 25 gardens fell under this category. Out of these 25, 5 has been selected in the sample.

Category B: Gardens with an annual production between 500,000 and 1,000,000 kgs are classified under Category B. A total of 40 gardens fell under this category. Out of these 40, 7 has been selected in the sample.

Category C: Gardens with an annual production between 100,000 and 500,000 kgs are classified under Category C. A total of 66 gardens fell under this category. Out of these 66, 6 has been selected in the sample.

Category D: Gardens with an annual production below 100,000 kgs are classified under Category D. A total of 38 gardens fell under this category. Out of these 38, 5 has been selected in the sample.

Figure 1.2: Category-wise Coverage Based on Annual Production



Note: Latest garden-wise production data is available for 2023.

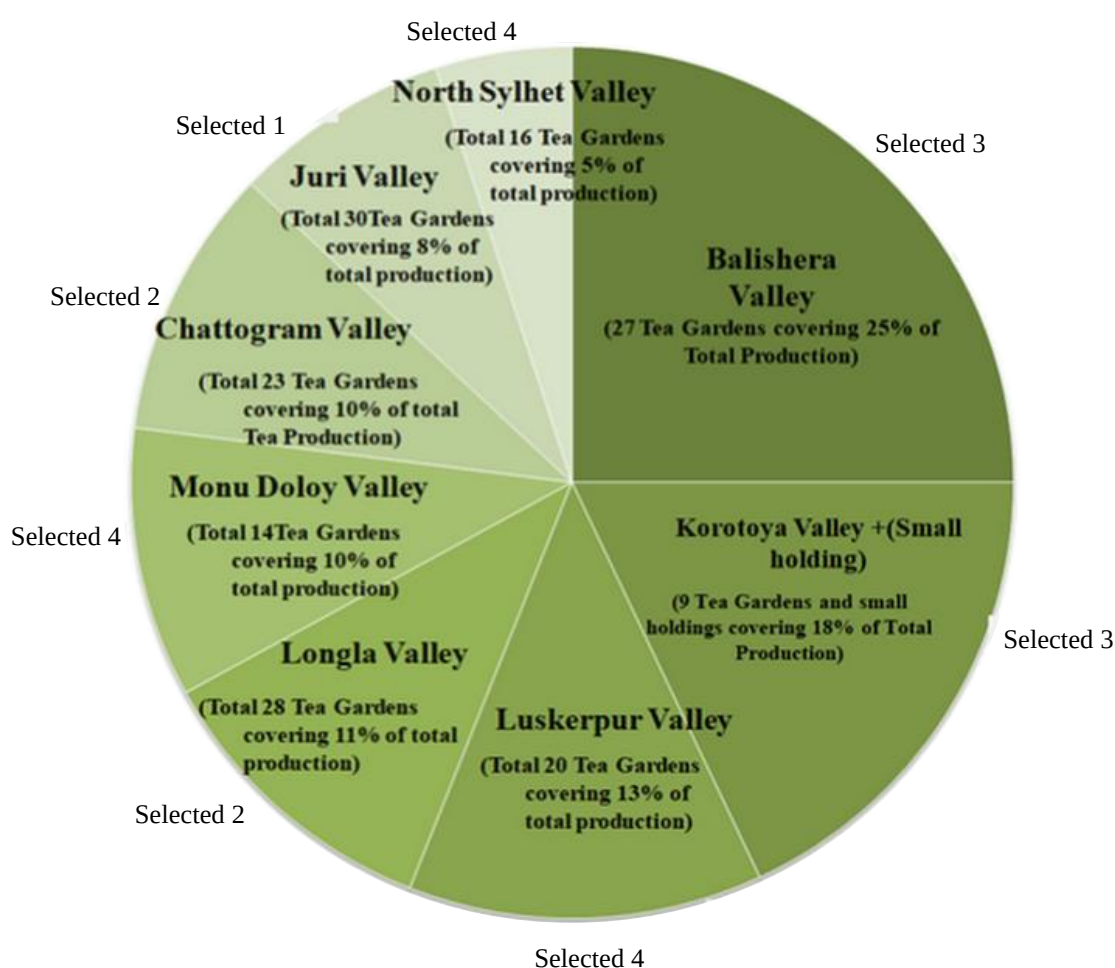
Source: Garden-wise Tea Production of 2023, Bangladesh Tea Board.

In selecting the sample, efforts were made to ensure coverage across most of the tea valleys, thereby capturing regional diversity in production, and operational practices, and contextual challenges. The sample selection in this study accounts for variation in auction sale prices—considering high, medium, and low across tea gardens, thereby capturing differences in quality among them.

Additionally, efforts were made to include tea estates or gardens under different ownership structures or companies, to reflect variations in management approaches, resource capacities, and strategic priorities.

Besides, for this study, 23 tea gardens were selected (Annexure-B) from 8 valleys (figure 1.3), excluding Bandarban valley due to its negligible production. The selected gardens are located in 5 different districts, with Rangamati and Bandarban and Thakurgoan districts are excluded for similar reasons.

Figure 1.3: Valley-wise Coverage



*Note: Latest garden-wise production data is available for 2023.
Source: Garden-wise Tea Production of 2023, Bangladesh Tea Board.*

The selected 23 tea estates or gardens represent approximately 16% of the total 170 gardens and 18.7% of national tea production in 2023⁹ (19.2 million kg out of 102.9 million kg). Additionally, some Bought Leaf Factories (BLFs) and Small Tea Growers (STGs) in the Korotoya valley also incorporated in the study.

This study analyses the current condition of the Bangladeshi tea industry in a global context and suggests recommendations to strengthen its viability and future growth in Bangladesh.

⁹ Bangladesh Tea Board

CHAPTER 2: Bangladesh's Tea Industry

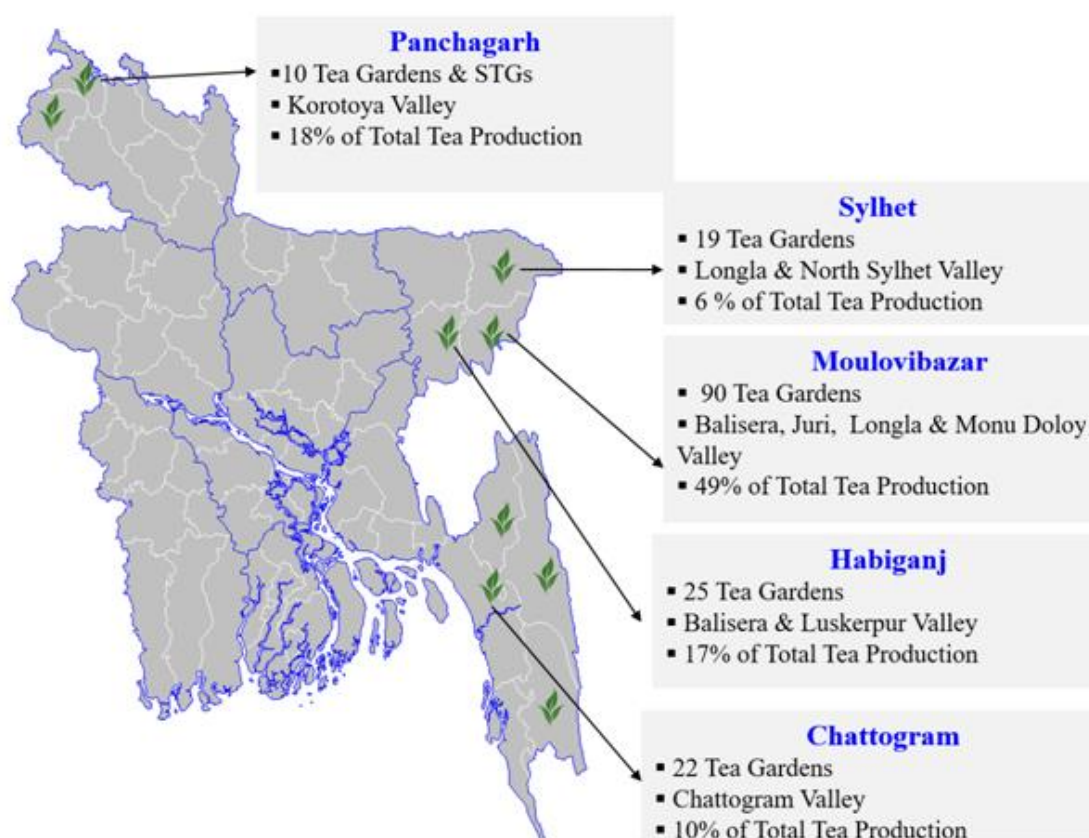
2.1 Tea Industry in Bangladesh

Tea is one of the most popular and oldest drinks widely consumed around the world. Drinking tea is a daily ritual for half of the world's population. Bangladesh is no exception. Bangladesh is currently the eighth-largest tea-producing country, contributing approximately 1.5% of global production (International Tea Committee). In 2023, Bangladesh achieved its highest growth in tea production, reaching a total of 103 million kgs. However, production fell short of expectations, reaching only 93 million kgs in 2024, approximately 15 million kgs below the target of 108 million kgs (Bangladesh Tea Board).

2.1.1 Tea Growing Districts in Bangladesh

Tea production in Bangladesh began in the 1850s; at that time, 103 tea estates covered a total plantation area of 26,374 hectares. (Boonerjee et al., 2025).

Figure 2.1: Tea Producing Districts of Bangladesh

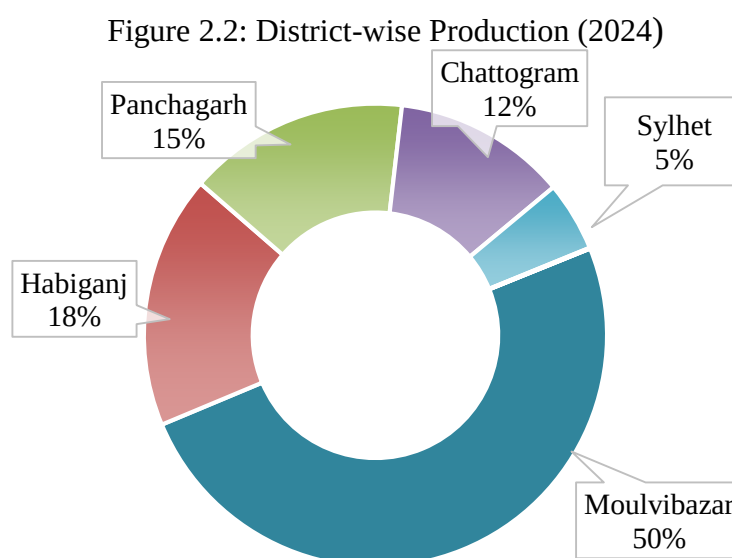


Notes: Garden-wise production data as of 2023. Rangamati, Bandarban, Khagrachari, and Thakurgaon include 4 Tea Gardens.

Sources: Annual Tea Review 2024, Bangladesh Tea Board.

As of May 2025, there are 170 tea estates or gardens and approximately 2,500 registered small tea growers in 9 districts, covering a total area of 2,94,142 acres (Bangladesh Tea Board).

Tea cultivation was primarily spread over hilly zones in the Eastern part of Bangladesh (Sylhet, Moulvibazar, Habiganj and Chittagong). About 72% annual production was contributed by greater Sylhet in 2024 (Figure 2.1). Of which, 50% of the total production comes from Moulvibazar district followed by Habiganj 18%. Panchagarh produced 15% and Chattogram 12%. Currently small holdings of the northern part (e.g., Panchagarh and Thakurgaon) and Chattogram hill tracts (e.g., Rangamati, Khagrachari and Bandarban) with an area of 10,112 acres are contributing less than 1% of the country's total production. In 2023, Northern Bangladesh contributed 17.95 million kgs of tea, accounting for 18% of the total tea production. However, in 2024, this contribution decreased to 14.39 million kgs, representing 15.46% of the total production.



Source: Bangladesh Tea Board.

According to the Bangladesh Tea Board, the 170 registered tea estates or gardens of Bangladesh, distributed across nine designated valleys: Balisera, Luskerpore, Juri, Longla, North Sylhet, Monu-Doloi, Chattogram, Korotoya, and Bandarban. These tea gardens vary significantly in terms of geographical location, year of establishment, land area, productivity, and quality of production—some are longstanding and large-scale operations, while others are newer or smaller in scale. In 2024, Balishera Valley, situated in Moulvibazar and Habiganj districts, produced the highest 24.16 million kg of tea, representing around 26% of the total production. Korotoya Valley, located in the northern part of Bangladesh, held second place, contributing 15.46% of the total production in 2024.

Table 2.1: Tea Production in Bangladesh

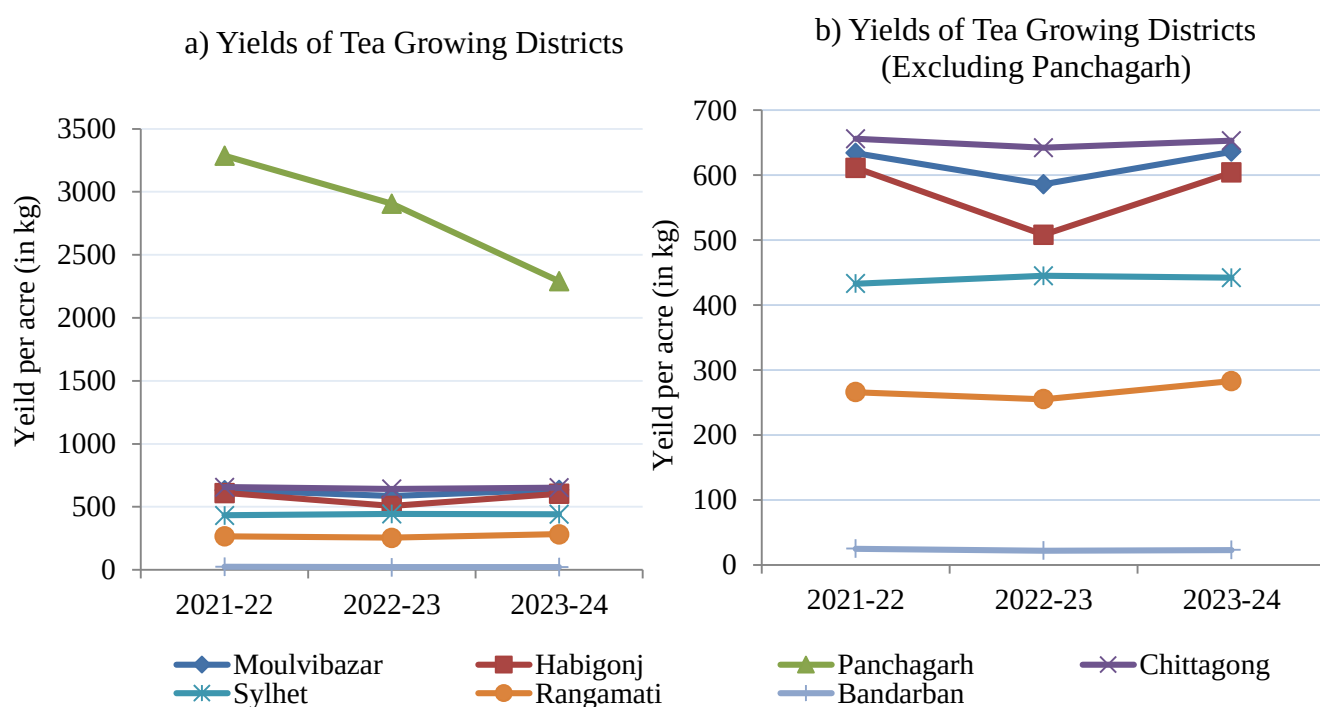
Year	Total Land Area (Tea Gardens + STG) (acres)	Area under Tea (Tea Gardens + STG) (acres)	Production			Yield/Acre
			Target (million kg)	Total (million kg)	Increase/Decrease from Previous Year (million kg)	
2019	-	-	74.14	96.07	+13.94	716
2020	2,91,108.76	1,61,678.62	75.94	86.39	-9.68	633
2021	2,87,422.69	1,63,021.46	77.78	96.51	+10.12	697
2022	2,90,584	1,64,984	100	93.83	-2.68	664
2023	2,92,264	1,67,571	102	102.92	+9.09	709
2024	2,94,142	1,68,853	108	93.04	-9.88	629

Source: Annual Tea Review, Bangladesh Tea Board

Over the past few years, Bangladesh has witnessed a substantial rise in tea production. The country has been consistently producing above the targeted amount (Table-2.1). In 2019, tea production was 96 million kg, 21.93 million kgs surplus from the targeted amount. In 2023, Bangladesh achieved a record production (103 million kgs) with a productivity of 1722 kg per hectare. However, in 2024, Bangladesh produced approximately 93 million kgs, about 15 million kgs below the target. The northern area of Bangladesh has added a considerable quantity of tea to the national production over the last five years.

Panchagarh shows the highest yield among all tea-producing districts, recording 3,287 kg per acre in FY22, however it decreased to 2,292 kg per acre in FY24, as shown in Figure 2.3(a). Excluding Panchagarh, Chattogram has the highest yield per acre, followed by Moulvibazar, Habiganj, and Sylhet, as illustrated in Figure 2.3(b).

Figure 2.3: District-wise yield



Source: Bangladesh Tea Board.

2.1.2 Tea Estate Lands in Bangladesh

There are 170 tea gardens in Bangladesh, comprising approximately 279142 Acres of Land (Table 2.2). Around 53.3% of this grant area, which is 6,805 hectares, is cultivated for tea production.

Some areas of the tea estates are under-infrastructure, such as factories, bungalows, and housing for estate employees. Some areas are reserved for roads and water resources, while others are covered in fields. The total area under infrastructure in tea estates is 23616 hectares, covering 20.9% of the total grant area. The area suitable for expansion is 3,960 hectares, which is 11% of the total grant area.

Table 2.2: Tea Estate Lands (In acres, as on 2022)

Total Granted Area	Area Under Tea	Factory, Bungalow, housing etc.	Roads, Water resources etc.	Paddy lands	Area under infrastructures (3+4+5)	Uprooted area for replanting	Area available for extension	Area under timber, bamboo etc.	Area suitable for extension (7+8+9)	Diversified crops coffee, rubber etc.	Other areas
1	2	3	4	5	6	7	8	9	10	11	12
279142	148730	16816	11401	30186	58356	1194	9785	20146	30718	21560	15412
As % of Grant Area	53.3%	6.0%	4.1%	10.8%	20.9%	0.4%	3.5%	7.2%	11.0%	7.7%	5.5%

Source: Annual Report 2021 and 2022, Bangladesh Tea Association

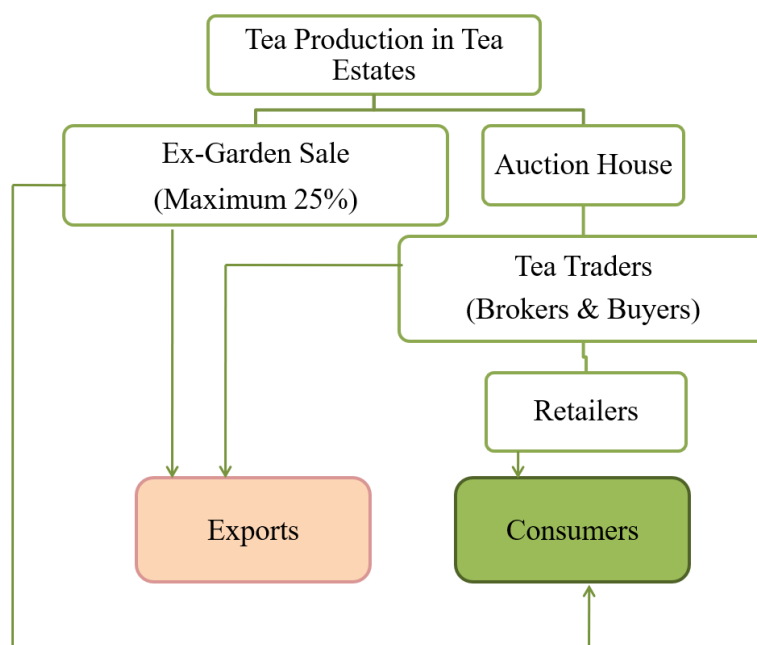
2.1.3 Supply Chain of Tea Industry of Bangladesh

Greater Sylhet is the largest tea-producing region in Bangladesh. The pattern of supply-chain differs between the eastern and northern sides of the country, particularly among smallholders. The primary actors in the tea industry's supply chain include tea estate owners, producers, brokers, blenders, wholesalers, retailers, and consumers (Roy et al., 2022).

Traditionally, tea leaves are produced in tea estates, which produce tea granules and sell either directly from factory (permitted for a maximum of 25% of total production) to domestic consumers or to international consumers through export. Producers typically sell their tea to buyers through brokers in tea auctions. Bangladesh follows a well- managed auction system from the beginning of the tea trade (Sultana et al., 2014). Chattogram Auction house is the main auction house in Bangladesh established in 1949. Bangladesh has expanded the auction centers depending on tea plantation areas in Sreemangal in 2018 and Panchagarh in 2023. The marketing channel in Bangladesh's tea industry is dominated by the brokers in the auction houses, who play a crucial role in distributing tea to the local market by facilitating auctions as well as selling tea granules internationally (Roy et al., 2022). The tea

granules reach retailers through tea traders, who sell them to consumers. Besides, a considerable amount of tea is also exported by tea traders. The supply-chain of the Tea Industry of Bangladesh is illustrated in Figure 2.4.

Figure 2.4: Supply-Chain of the Tea Industry of Bangladesh
(Excluding STGs)



For small tea holdings, the supply chain operates somewhat differently. Panchagarh is the primary area for small tea growers (STGs), who typically cultivate below 25 acres of land. According to the Bangladesh Tea Board as of 2023, there are 2,536 registered STGs in Bangladesh. These STGs sell their green tea leaves to Bought Leaf Factories (BLFs), which vary in capacity. As of 2023, there are 52 registered BLFs in Bangladesh, of which around 30 factories are operating and some are under construction. The BLFs process the raw tea leaves collected from small tea growers and produce tea granules, which are then sold to the auction houses through brokers and also to the market. These tea granules are purchased by tea traders who blend these with other teas and sell them to retailers as well as internationally, ultimately reaching consumers.

2.1.3.1 Tea Auction in Bangladesh

The backbone of Bangladesh's tea marketing system is the Chattogram Tea Auction Centre. It was established in 1949 and handles over 97% of auctioned tea in 2024–25. It was created after the Partition to replace the Kolkata and London auctions. Since it has evolved into a well-structured platform, regulated by the Bangladesh Tea Board and managed by the Tea Traders Association of Bangladesh (TTAB). Despite the launch of newer centres in Sreemangal in 2018 and Panchagarh in 2023, Chattogram remains dominant due to its superior infrastructure, including 16 warehouses, blending factories, quality control facilities, and the presence of all seven licensed broking firms. Weekly auctions, held from April to

December, bring together more than 50 major buyers, including Ispahani, Abul Khair, Meghna, and City Group, ensuring transparency, competitive pricing, and efficient distribution. By policy, 75% of tea production must pass through the auction, reinforcing Chattogram's enduring role as the central hub of Bangladesh's tea trade. (The Daily Star, 2025)

2.1.4 Productivity of Tea in Bangladesh

2.1.4.1 Valley-wise Productivity

The tea gardens of Bangladesh are situated in 9 different valleys. Understanding valley-wise productivity is essential to analyze the industry. Analyzing valley-wise productivity will help to understand whether tea estates are getting advantages in terms of yield (kg/hectare) and price due to the geographical location. The valley-wise productivity of the tea gardens of Bangladesh are depicted in the following table. Table 2.3 shows valley-wise productivity (yield per hectare) of gardens and table 2.3 and 2.4 shows valley-wise auction price (BDT/kg). Data of two different years (2022 and 2023) are presented for a valid comparison.

Table 2.3 Valley wise Productivity

Valley	Number of Gardens	% share of Total Production	Grant area (approx, hectares)	Area under tea (approx, hectares)	Yield (kg/hectare)– 2022			Yield (kg/hectare)– 2023			Standard Deviation (Yield) 2022	Standard Deviation (Yield) 2023
					Min	Avg	Max	Min	Avg	Max		
Balisera	27	25	26500	15000	103	1358	2658	387	1605	2752	509	529
Luskerpore	20	13	18000	11000	323	1018	1811	352	1226	2532	373	586
Longla	28	11	15500	8000	226	1230	2416	292	1325	2275	542	534
Monu-Doloi	14	10	13000	7500	817	1449	3079	760	1434	3349	632	680
Chattogram	23	10	14500	7000	254	1497	4311	139	1451	4107	863	852
Juri	30	8	14000	7500	157	1074	2231	189	1144	2253	420	473
North Sylhet	16	5	10000	4500	118	834	1540	103	889	1665	416	413
Korotoya (Only Kazi & Kazi)	9 [#]	18	1700	470	1271*			1193*				

Notes: *Only Kazi and Kazi

#In Korotoya valley, along with the 9 gardens, some STGs are included.

Source: Bangladesh Tea Board, Bangladesh Tea Association and Study team's calculation

From Table 2.3, it is seen that Balisera Valley has the highest grant area of 26500 hectares (approx.) and area under tea about 15000 hectares. This indicates around 57% of the total

grant area of this valley are used for tea cultivation. This valley has 27 gardens and most of them are larger gardens in comparison to other valleys. The terrain type of this valley is well-drained loamy soils with high rainfall and humidity which is ideal for tea cultivation. Luskerpore valley is situated in Habiganj with 20 gardens and around 61% (highest) of the total grant area of this valley are used for tea cultivation. The other valleys are Longla, Monu-doloi, Juri, Chattogram, North Sylhet, Korotoya and Banderban Valley.

According to the table 2.3, Chattogram valley had the highest average yield of 1497 kg/hectare in 2022 while Balisera Valley had the highest average yield of 1605 kg/hectare in year 2023. Chattogram valley had the maximum yield of 4133 kg/hectare in year 2022 and 4107 kg/hectare in year 2023. It indicates that some of the gardens of Chattogram valley are highly productive. Balisera valley and North Sylhet Valley had the minimum yield of 103 kg/hectare in year 2022 and 2023 respectively. Chattogram valley had the highest standard deviation of 863 in year 2022 and 852 in year 2023 in terms of yield which means that the productivity of the gardens of this valley is highly uneven, that means some gardens are performing very well, while others lag far behind. This indicates that the gardens of Chattogram valley are different in soil quality, management practices, access to irrigation or inputs, and age of tea bushes.

Table 2.4 Auction Price

Valley	Number of Gardens	% share of Total Production	Grant area (approx., hectare)	Area under tea (approx., hectare)	Auction price/kg _2022			Auction price/kg _2023			Standard Deviation (Price) 2022	Standard Deviation (Price) 2023
					Min	Avg	Max	Min	Avg	Max		
Balisera	27	25	26500	15000	158	188	226	148	201	252	17	28
Luskerpore	20	13	18000	11000	151	188	243	171	214	325	22	35
Longla	28	11	15500	8000	162	190	214	128	188	240	12	32
Monu-Doloi	14	10	13000	7500	173	185	193	163	190	215	6	18
Chattogram	23	10	14500	7000	153	202	269	164	215	281	26	25
Juri	30	8	14000	7500	169	190	218	152	194	243	12	24
North Sylhet	16	5	10000	4500	162	184	197	144	181	209	10	17
Korotoya (Only Kazi & Kazi)	9 [#]	18	1700	470	205*			218*				

Notes: *Only Kazi and Kazi

#In Korotoya valley, along with the 9 gardens, some STGs are included.

Source: Bangladesh Tea Board, Bangladesh Tea Association and Study team calculation

In terms of auction price, the gardens of Chattogram valley got the highest price of 202 BDT/kg in year 2022 and 215 BDT/kg in year 2023, Luskerpore valley got the lowest price of 151 BDT /kg in year 2022 and highest price of 325 BDT/kg in year 2023, and Chattogram valley got the highest price of 269 BDT /kg in 2022 while Longla valley got the lowest price of 128 BDT /kg in 2023. Chattogram valley had the highest standard deviation of 26 in 2022 while Luskerpore had the highest 35 in 2023. High standard deviation indicates that the auction prices of the gardens of respective valleys have greater disparity and inequality. It also indicates that the market performance of the tea gardens in these valleys is more volatile than in other valleys.

In short, Chattogram and Balisera are two major high yield producing valleys that have highest average productivity (yield/hectare) and Chattogram valley are getting the highest auction price both in year 2022 and 2023S. In terms of variability, Chattogram valley and Luskerpore valley has the highest standard deviation in terms of productivity (yield/hectare) and auction price respectively.

2.1.4.2 Area-wise Productivity

Area-wise production is another important aspect to analyze the productivity of the whole industry. Tea gardens are distributed in six different categories based on the area of gardens. We have divided the total tea gardens into six category according to the area of the tea garden. Gardens that have an area of more than 1500 hectares are in category-A, gardens between 1000 to 1500 hectares are in category-B, gardens that have area more than 700 hectares but less than 1000 hectares are in category-C, gardens with area between 400 hectares to 700 hectares are in category-D, gardens of 200 hectares to 400 hectares are in category-E, and all other gardens are in category F.

Gardens of category-A are large and category-F are small in size. Yield and auction price data of 151 gardens of six different categories have been used in the following tables to calculate the area wise productivity. Some gardens have been omitted from the calculation because of incomplete data. Data of 14 gardens from category-A, 32 gardens from category-B, 17 gardens from category-C, 33 gardens from category-D, 34 gardens from category-E, and 21 gardens from category F have been used here. Table 2.5 presents data of yield kg per hectare of year 2022 and 2023 while table 2.6 presents data of auction price per kg of the similar years.

Table 2.5 Category wise productivity

Category	Number of Gardens	Grant area (approx., hectare)	Area under tea (approx., hectare)	Yield (kg/hectare) _2022			Yield (kg/hectare) _2023			Standard Deviation (Yield) 2022	Standard Deviation (Yield) 2023
				Min	Avg	Max	Min	Avg	Max		
Category-A (> 1500 hectares)	14	31978	16588	323	1315	1701	648	1519	2013	345	341
Category-B (1000-1500 hectares)	32	37706	19839	528	1192	2196	580	1295	2752	374	488
Category-C (700-1000 hectares)	17	14275	7764	285	1060	2002	442	1210	2272	451	468
Category-D (400-700 hectares)	33	17839	9761	254	1226	2516	139	1298	2532	549	650
Category-E (200-400 hectares)	34	10605	5869	103	1137	3079	189	1231	3349	617	645
Category-F (< 200 hectares)	21	2668	1690	118	1431	4311	103	1440	4107	951	894

Source: Bangladesh Tea Board, Bangladesh Tea Association and Study team calculation

According to the table 2.5 and 2.6, the gardens in category-“B” had the highest grant area (19839 hectare) but gardens in category-A had the highest yield of 1315 kg/hectare in year 2022 and 1519 Kg/hectare in year 2023.

Table 2.6 Category wise Auction price

Category	Number of Gardens	Grant area (approx., hectare)	Area under tea (approx., hectare)	Auction price/kg _2023			Auction price/kg _2023			Standard Deviation (Price) 2022	Standard Deviation (Price) 2023
				Min	Avg	Max	Min	Avg	Max		
Category-A (> 1500 hectares)	14	31978	16588	169	197	226	171	216	252	17	19
Category-B (1000-1500 hectares)	32	37706	19839	151	189	214	144	198	231	14	24
Category-C (700-1000 hectares)	17	14275	7764	151	185	214	167	197	240	16	20
Category-D (400-700 hectares)	33	17839	9761	159	191	269	128	196	325	24	42
Category-E (200-400 hectares)	34	10605	5869	158	190	218	147	196	241	12	23
Category-F (< 200 hectares)	21	2668	1690	153	193	227	148	196	243	23	35

Source: Bangladesh Tea Board, Bangladesh Tea Association and Study team calculation

Gardens in category-A also got the highest auction price/kg of around BDT 197 per kg in year 2022 and BDT 216 per kg in year 2023. It indicates that the gardens in category-A are in some advantageous position as they are the highest yielding gardens with good quality tea.

It is seen from the data presented in the tables that the gardens in category-F had both the minimum of 103 kg and maximum of 4107 kg yield per hectare in year 2023 which had also resulted in the highest standard deviation of 894 in year 2023. Category-E gardens had the minimum of 103 kg and category-F gardens had the maximum of 4311 kg yield per hectare in year 2022. Category-F gardens also had the highest standard deviation of 951 in year 2022.

According to the table 2.6, the gardens in category-D had the maximum auction price of BDT 269 per kg in year 2022 and BDT 325 per kg in year 2023. Category-B and category-C gardens had the minimum auction price of BDT 151 per kg in year 2022 while category-D gardens had the minimum of BDT 128 per kg in year 2023. Category-D gardens had the highest standard deviation (24 and 42) in auction price in both the year of 2022 and 2023. As category-D gardens are getting the maximum price while having the maximum standard deviation, it can be said that some gardens in this category are producing high quality tea. In short, it can be said that the large gardens in this industry (category-A gardens) are enjoying both the highest average yield and the highest average auction price.

2.1.4.3 District-wise Productivity

Tea gardens in Bangladesh are located mainly in five districts that include- Moulavibazar, Habiganj, Sylhet, Chattogram, and Panchagarh. From these five district's data of 159 gardens have been used here to calculate the district-wide productivity. Some gardens have been eliminated from the calculation because of incomplete data. However, data of 85 gardens of Moulavibazar, 24 gardens of Habiganj, 19 gardens of Sylhet, 22 gardens of Chattogram, and 9 gardens of Panchagarh have been used here. Table 2.7 presents data of yield per hectare of year 2022 and 2023 while table 2.8 presents data of auction price per kg of the similar years.

Table 2.7 District wise productivity

District	Number of Gardens	Grant area (approx., hectare)	Area under tea (approx., hectare)	Yield (kg/hectare)– 2023			Yield (kg/hectare)– 2023			Standard Deviation (Yield) 2022	Standard Deviation (Yield) 2023
				Min	Avg	Max	Min	Avg	Max		
Moulavibazar	85	62837	33997	103	1268	3079	189	1380	3349	537	574
Habiganj	24	24463	14345	323	1078	1811	352	1276	2532	397	570
Sylhet	19	11255	5534	118	835	1540	103	904	1665	420	426
Chattogram	22	14838	7164	254	1497	4311	139	1451	4107	863	852
Panchagarh	9	1700	470	1271*			1193*				

Notes: *Only Kazi and Kazi

Source: Bangladesh Tea Board, Bangladesh Tea Association and Study team's calculation

According to these tables, Moulovibazar has the highest (62837 hectares) and Panchgarh has the lowest (1700 hectares) grant area among these 5 districts. Table 2.7 shows that the gardens of Chattogram had the highest average yield (kg/hectare) and the maximum yield (kg/hectare) in both the year of 2022 and 2023. The district had the highest average yield of 1497 kg/hectare in 2022 and 1451 kg/hectare in 2023. It also had the maximum yield of 4311 kg/hectare in 2022 and 4107 kg/hectare in 2023. Chattogram district also had the highest standard deviation of 863 in year 2022 and 852 in year of 2023 which indicates that the district had very large gaps between the minimum and maximum production of its gardens. However, Moulovibazar and Sylhet had the minimum yield of 103 kg/hectare in year 2022 and 2023 respectively.

Table 2.8 District wise Auction Price

District	Number of Gardens	Grant area (approx., hectare)	Area under tea (approx., hectare)	Auction price/kg-2023			Auction price/kg-2023			Standard Deviation (Price) 2023	Standard Deviation (Price) 2023
				Min	Avg	Max	Min	Avg	Max		
Moulovibazar	85	62837	33997	258	189	226	133	195	252	13	26
Habiganj	24	24463	14345	151	187	243	148	211	325	21	35
Sylhet	19	11255	5534	162	183	197	128	178	209	12	22
Chattogram	22	14838	7164	153	202	269	164	215	281	26	25
Panchagarh	9	1700	470	205*			218*				

Notes: *Only Kazi and Kazi

Source: Bangladesh Tea Board, Bangladesh Tea Association and Study team's calculation

Table 2.8 shows that the gardens of Chattogram had the highest average auction price of BDT 202 per kg in year 2022 and BDT 215 per kg in year 2023. Habiganj had the lowest auction price of BDT 151 per kg in year 2022 while Sylhet (BDT 128 per kg) had the lowest in year 2023. Chattogram had the highest auction price of BDT 269 per kg in year 2022 while Habiganj (BDT 325 per kg) had the highest of it in 2023. Chattogram had the highest standard deviation of 26 in year 2022 and Habiganj had it highest of 35 in year 2023.

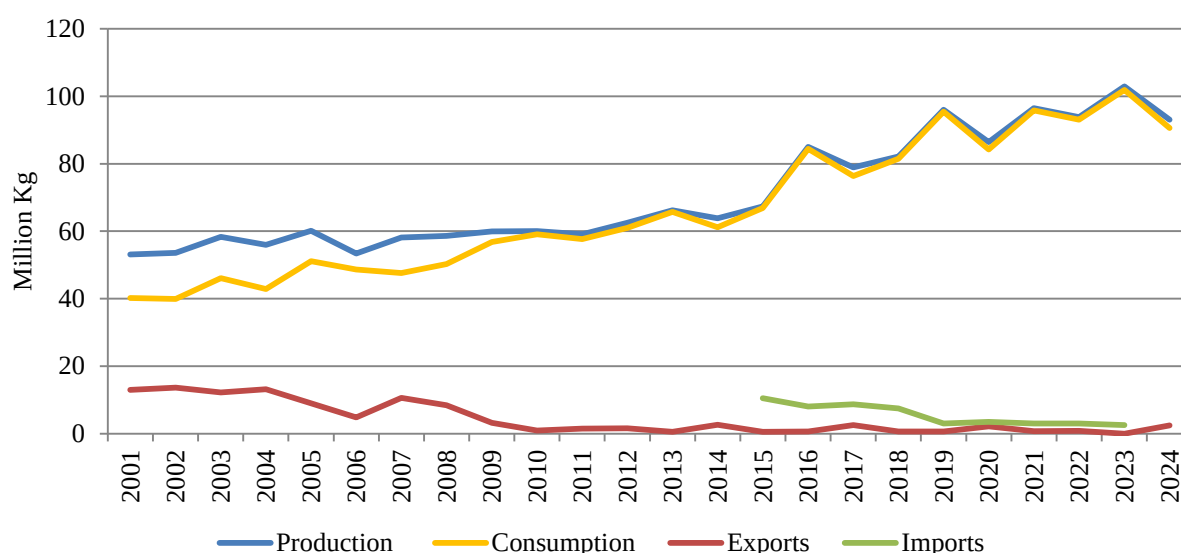
The gardens of Panchgarh district lack data of yield and auction price. That's why only the data of Kazi & Kazi tea estate of this district has been used here.

2.1.5 Production, Consumption, Export & Import of Bangladeshi Tea

Domestic consumption of tea has been increasing during the last 10 years. A decade behind, exporting tea was a foremost earning source of foreign exchange, but in recent years, there remains little to export after fulfilling the country's demand. (Boonerjee et al., 2025) The market landscape has fundamentally shifted from export-oriented production to domestic consumption dominance. The people of Bangladesh consume 14,28,58,272 cups of tea daily

(Boonerjee et al., 2025). According to the International Tea Committee report, the rate of tea consumption in Bangladesh is increasing by 2.93% (Boonerjee et al., 2025). Current domestic demand consumes 97% of total production, with only 2.45 million kgs exported from 93.04 million kgs produced in 2024 (figure 2.5). This transformation reflects Bangladesh's economic development and changing consumption patterns, where tea has evolved from an upper-class luxury to a universal household staple.

Figure 2.5: Production, Consumption, Exports and Imports



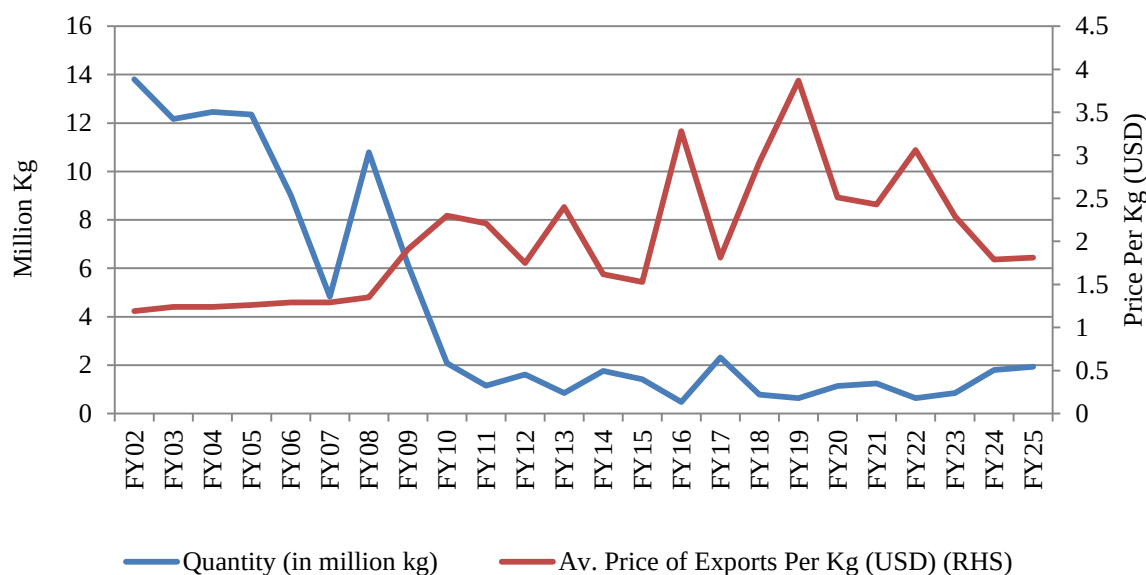
Note: Consumption is shown as domestic retention.

Source: Bangladesh Tea Board, Bangladesh Tea Association & International Tea Committee

From the start of tea production, Bangladesh was one of the key exporters of the world. It was the world's fifth tea exporting country until 1990s (SM Salim, 2019). However, in recent years, tea imports have been continuously surpassing tea exports (Figure 2.5). Since a decade, Bangladesh has started to import green tea, black tea, and a small amount of instant and premium tea. Now Bangladesh imports green and black tea mostly from China and Kenya (SM Salim, 2019). In 2023, tea imports reached 2.5 million kgs, while tea exports totaled 2.45 million kgs in 2024. At present, on an average the country is importing around 2.5 million kgs of tea annually

While tea imports are surpassing exports, exports have been declining since 2010. Exports drastically decreased to 0.91 million kgs in 2010, compared to 12.92 million kgs in 2001 and 9.01 million kgs in 2005. As of 2024, Bangladesh exported only 2.45 million kgs of tea (Figure 2.5). Export earnings declined consequently with the decrease in export quantities. In FY10, Bangladesh earned only 4.8 million USD from tea exports, compared to 16.5 million USD earned in FY02 (figure 2.6). In FY25 Bangladesh earns only 3.5 million USD from tea exports.

Figure 2.6: Tea Exports of Bangladesh

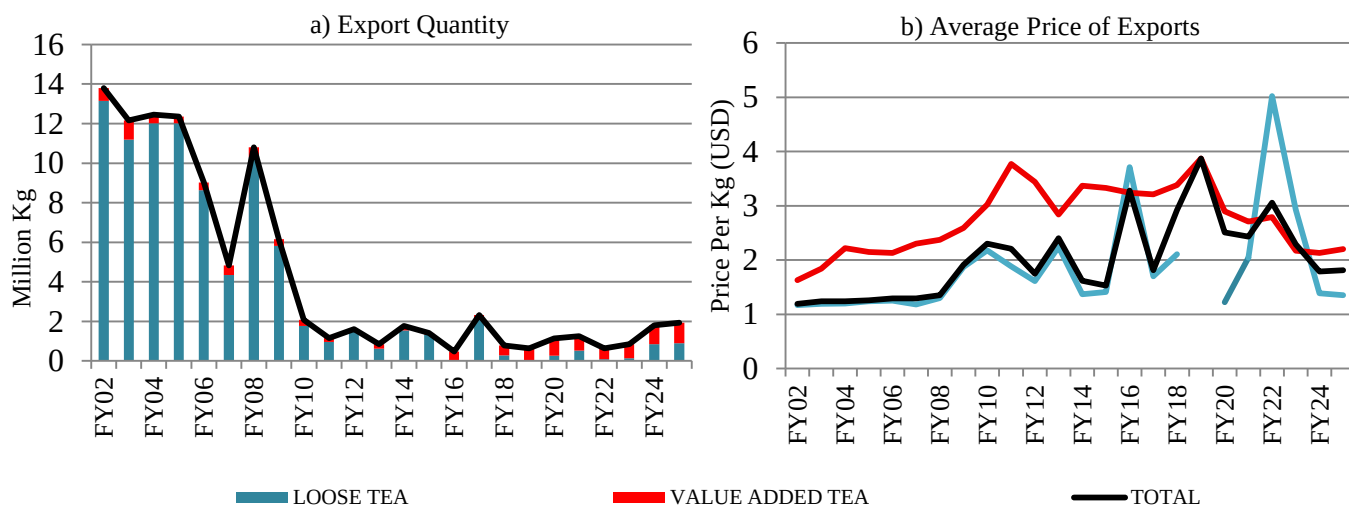


Source: Bangladesh Tea Board

2.1.5.1 Value-Added Tea vs. Loose Tea Exports

Bangladesh's tea exports are predominantly bulk CTCs. From Figure 2.7a, it is evident that Bangladesh tea exports were focused on loose tea before FY16. The highest amount of loose tea is exported to Pakistan and the UAE, respectively. After Pakistan, the UAE imports a large amount of Bangladeshi loose tea, followed by KSA, Kuwait, China, and Japan (Boonerjee et al., 2025).

Figure 2.7: Value-added Tea vs. Loose Tea Exports



Source: Bangladesh Tea Board

With changing time and preferences, value-added tea is gaining popularity across the globe. From FY18, the exports of value-added tea have increased substantially (figure 2.7a). In FY25, Bangladesh exported 0.89 million kgs of loose tea and 1.04 million kgs of value-added tea to different countries.

The value-added tea also offers higher prices (figure 2.7b) with greater export potential. In 2022, about 11 countries imported packet teas and only 3 countries imported loose teas from Bangladesh amounted to 48000 kg and 407000 kg respectively. Though the imported loose tea quantity is more than the packet tea, the maximum number of countries prefers to import packet tea. The countries' preference for packet tea indicates the importer's concern for quality. Bangladeshi tea has appreciable demand in several countries, and they are concerned about quality (Boonerjee et al., 2025). In case of value-added tea, UAE is the highest tea importer country of Bangladesh. Bangladeshi packet tea has gained a big demand in Pakistan, USA, Kuwait, KSA, and China, (Boonerjee et al., 2025).

According to the UNB report, the three top brands in Bangladesh are Ispahani Mirzapur, Kazi & Kazi, and Fresh Premium Tea. Among them, Kazi & Kazi is the pioneer in producing organic tea and leading in the export of green tea. (Boonerjee et al., 2025)

However, Bangladesh's tea export competitiveness has weakened. Bangladeshi tea faces extreme competition regarding the quality of international standards (Boonerjee et al., 2025). Moreover, exporters suffer from certain limitations of the auction system. These are, the higher price of the exportable tea than the international price, high cost for shipment, insufficient containers for shipment, payment terms and conditions for export are too tough to maintain, insufficient supply and inferior quality of tea against importer's demand, etc. The high price value of exportable tea created a critical circumstance in the export of tea as Bangladesh needed to compete with the international price (Boonerjee et al., 2025).

2.1.6 Investment in the Tea Sector of Bangladesh

Investment in Bangladesh's tea industry is significantly low compared to national levels. Historically, there was minimal investment until the Bangladesh Tea Rehabilitation Project (BTRP) from 1980-1992, followed by government initiatives in 1999 with a Revolving Fund of BDT 250 million and a Special Fund of BDT 450 million for capital investment. Despite these efforts, the capital absorption rate in tea estates remains low, with investments constituting only 0.12% to 14.15% of total revenue, compared to national investment levels ranging from 12.03% to 25.55% of GDP. In 2008-2009, investment in tea was just 1.51% of total revenue, reflecting the sector's slow growth relative to the overall economy. (Kazi Muzafar Ahmed, 2012)

2.1.7 Initiatives of Relevant Entities to Develop the Tea Sector of Bangladesh

In recent years, the Bangladesh Tea Board (BTB) and the Bangladesh Tea Research Institute (BTRI) have undertaken a wide range of initiatives to strengthen the country's tea industry. The BTB has promoted exports by providing a 4% cash incentive in FY23, modernized auctions through expanded online sales, and established new facilities, including the Panchagarh Tea Auction Centre in 2023, broker houses, and warehouses. It has supported farmers with subsidized fertilizers, free equipment, and mobile apps for information access, while also expanding cultivation in northern and hill districts and providing welfare and educational assistance to tea workers (Bangladesh Tea Board).

Meanwhile, BTRI has advanced research by developing 23 high-yielding clones and 5 seed varieties, operating through 8 research divisions, and collaborating internationally. It has focused on capacity building through training, workshops, tea tasting sessions, and quality control programs, equipping hundreds of garden managers and assistant managers with modern cultivation and processing techniques to improve both yield and quality. Together, these institutions play a pivotal role in modernizing tea production, marketing, and research in Bangladesh (Bangladesh Tea Board).

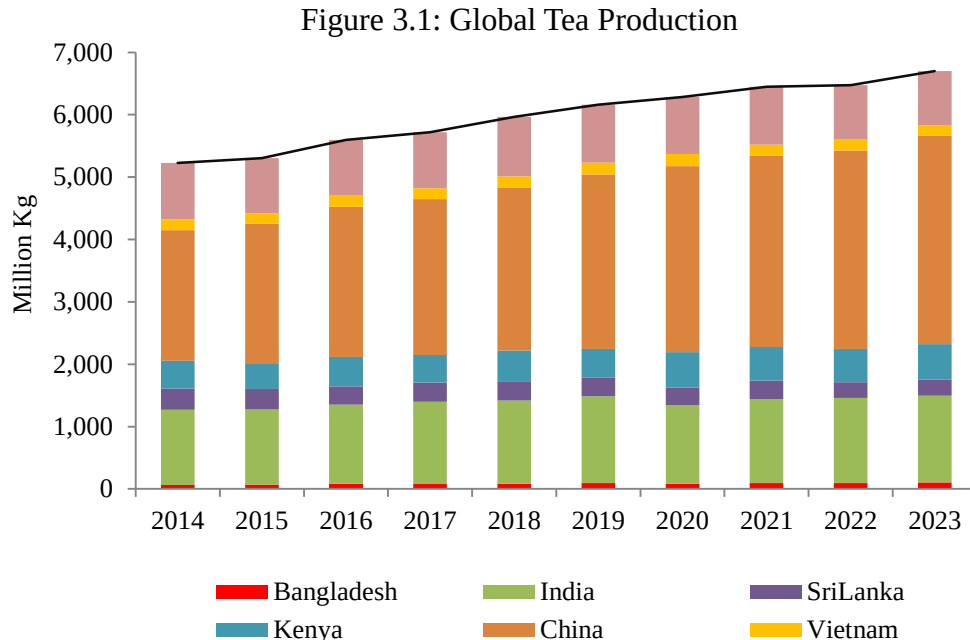
CHAPTER 3: Global Tea Industry

Tea, a dried leaf-infused beverage derived from the leaves of a small shrub originally from China, is considered one of the most popular beverages worldwide, with 3 billion cups drunk every day. Tea is consumed worldwide by diverse types and classes of people and is produced in over 60 countries (Voorra et al., 2024).

3.1 Global Tea Production

Global demand for tea has been steadily increasing, accompanied by a gradual increase in production over the years. Tea Production doubled in the past two decades reaching 6701 million kg in 2023 (Figure 3.1). Asia and Africa have been the primary regions for tea production over the years. Asia is the world's largest tea-producing region, with major producers such as China, India, Sri Lanka, Bangladesh, and Vietnam contributing significantly to global supply. African tea-growing countries are located primarily in tropical regions, including Kenya, Malawi, Rwanda, Tanzania, Uganda, and Zimbabwe.

The largest tea-producing countries in 2023 are China (3339 million kg), India (1394 million kg), Kenya (570 million kg), and Sri Lanka (256 million kg). Around 80% of the tea is produced in China, India, and Kenya. Bangladesh was the eighth-largest producer of tea in 2023, with an annual production of 103 million kgs.



Source: International Tea Committee

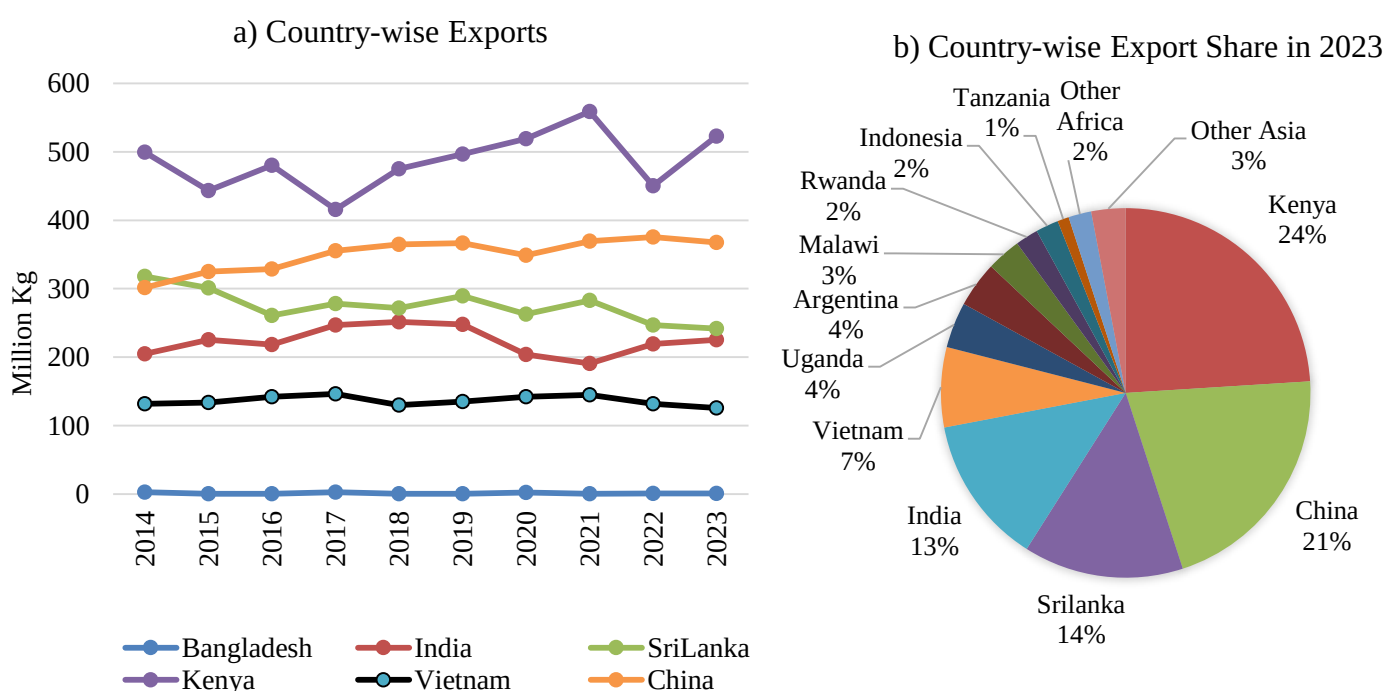
Figure 3.1 shows the production of major tea-producing countries across the globe. According to the International Tea Committee's 2024 annual bulletin, China holds the record for the highest tea production. In 2023, China produced half of the world's tea production.

India holds the second-highest position (20%) in tea production followed by Kenya, Turkey, Sri Lanka, Vietnam, Indonesia, and Bangladesh.

3.2 Global Tea Exports

Global Tea Exports have grown, supported by rising demand in traditional and emerging markets. In 2023, global tea exports totaled 1,847 million kg, representing approximately 28% of tea production. Global tea exports are dominated by a few key players, including Kenya, China, Sri Lanka, and India. Kenya has continuously been the leading exporter of tea over the past decade, shipping 522.9 million kg of tea (figure 3.2a) and containing 24% export share in 2023. China holds the second-largest share in global tea exports, at 21%, followed by Sri Lanka with 14%, India with 13%, and Vietnam with 7% (Figure 3.2b). However, China ranks highest worldwide in export valuation, earning roughly USD 1.74 billion in 2023, followed by Sri Lanka (USD 1.30 billion) and Kenya (USD 1.29 billion) (Annual Bulletin 2024, ITC). All together, Kenya, China, and Sri Lanka account for more than half of the world's total export, underscoring their influence in the world tea trade.

Figure 3.2: Country-wise Exports and Export share

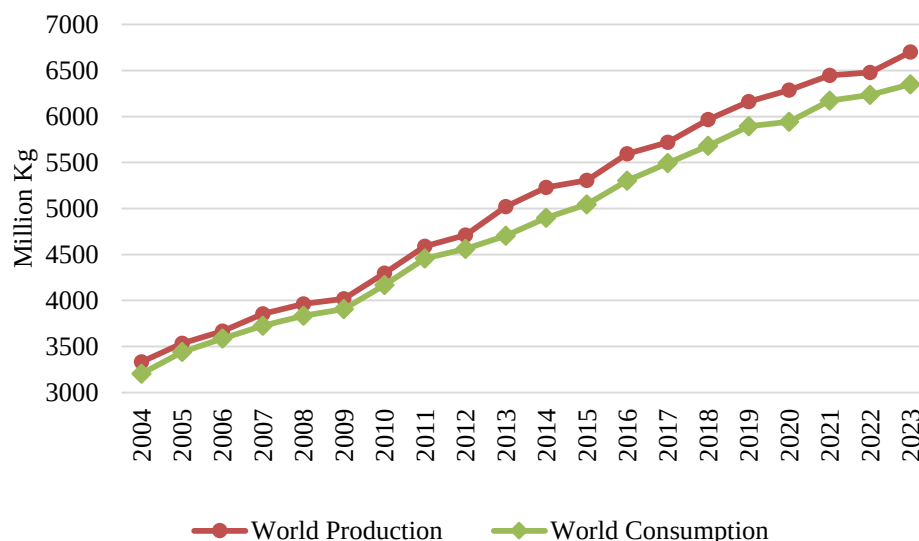


Source: Annual Bulletin 2024, International Tea Committee

Although, China and India have emerged as the largest producers of tea, accounting for around 70% of the world's tea, they balance between large domestic and export demand. On the other hand, a large portion of Kenya and Sri Lanka is shipped abroad.

3.3 Global Tea Consumption

Figure 3.3: World Tea Production and Consumption



Source: Annual Bulletin 2024, International Tea Committee

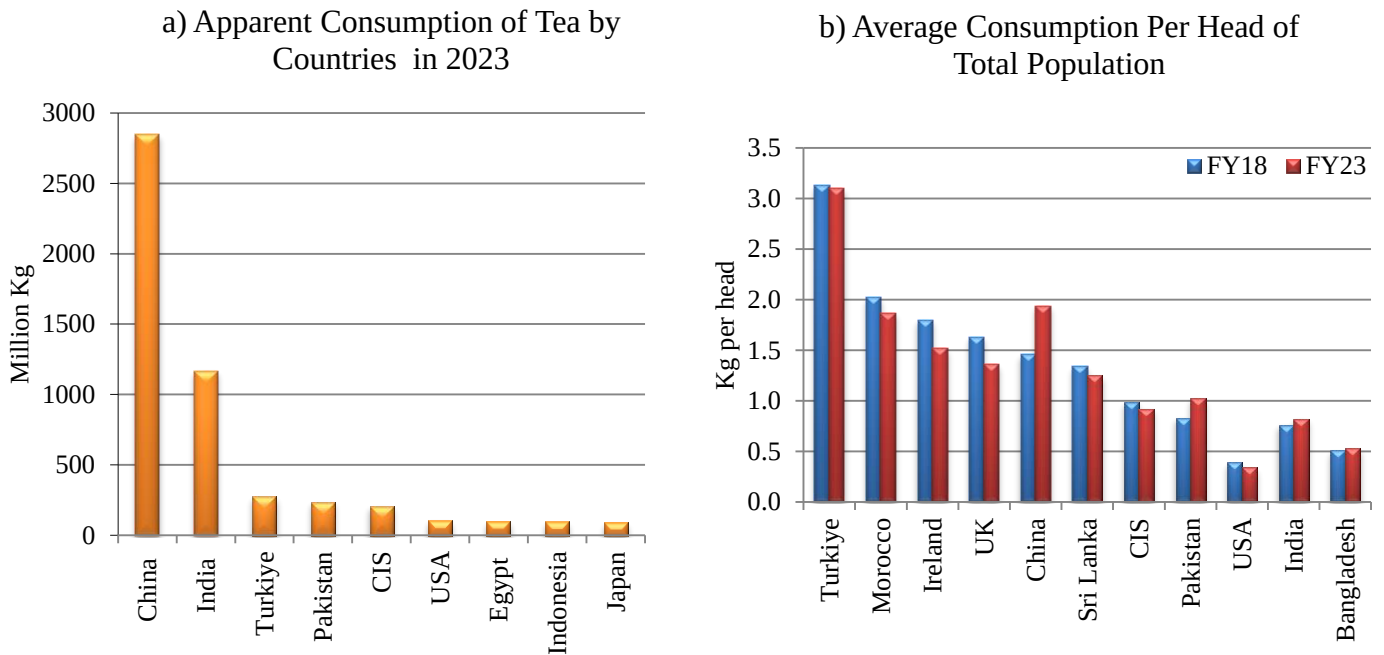
The major tea-producing countries in the world are China, India, Kenya, Sri Lanka, and Vietnam, among others, as shown in Figure 3.1. These countries export a significant portion. However, a considerable amount of tea produced in these countries is retained domestically for consumption.

China, the world's largest producer of tea, accounts for nearly half of global production, with most of it being consumed by its robust domestic market. 89% of China's tea production is retained domestically, followed by India with 82% (Annual Bulletin 2024, International Tea Committee). Hence, the Asia-Pacific region dominates global demand.

Global tea consumption reached approximately 6351 million kgs in 2023, compared to about 3206 million kgs in 2004 (Figure 3.3), indicating that consumption has doubled within two decades.

In 2023, the highest tea-consuming nation is China, followed by India, Turkiye, and Pakistan (Figure 3.4a). The amount of tea consumed in China, India, and Turkey in 2023 was more than the consumption of all other tea-consuming nations.

Figure 3.4: World Tea Consumption



Source: Annual Bulletin 2024, International Tea Committee

Turkey leads the world with average annual consumption of 3.1 kgs of tea per person in 2023, reflecting the deep-rooted tradition of tea drinking in Turkish society. Morocco and Ireland also record high levels of consumption, each averaging at 1.9 and 1.5 kgs per person annually (Figure 3.4b). In Asia, per capita consumption is lower in absolute terms; however, overall demand is significantly larger due to the region's larger population size. For instance, China and India, the two largest consumers in aggregate, average around 1.9 and 0.8 kgs per person annually, yet their vast populations translate into more than two-thirds of global consumption (Figure 3.4b).

3.4 Global Tea Imports

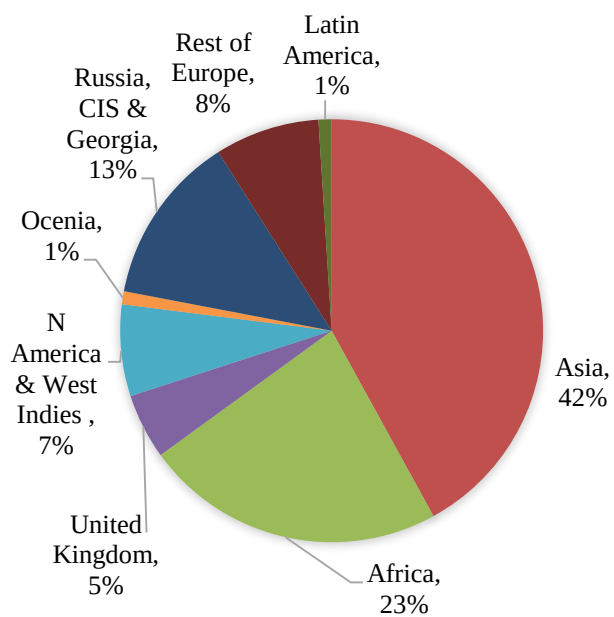
Global tea imports volume reached approximately at 1681 million kgs in 2023, with Asia (42% import share) and Africa (23% import share) being the two largest importing regions, as depicted in Figure 3.5a.

The Russian Federation, Pakistan, USA, UK, and Egypt are the major tea importers in the world. In 2023, Pakistan was the largest importer in terms of volume, importing approximately 236 million kgs of tea. The Russian Federation and the USA followed with 129 and 104 million kgs (Figure 3.5b).

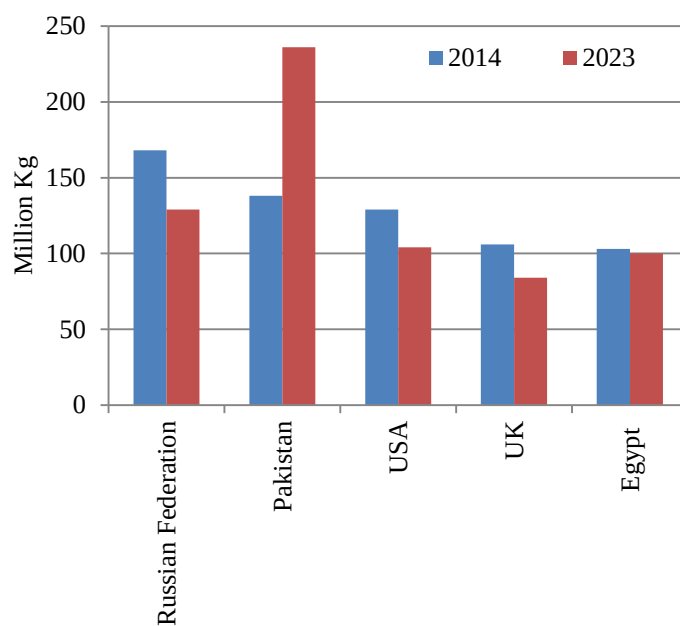
Among the major tea-producing countries, China and India lead both in production and imports, while Bangladesh, Kenya, and Sri Lanka also import smaller amounts.

Figure 3.5: World Tea Imports

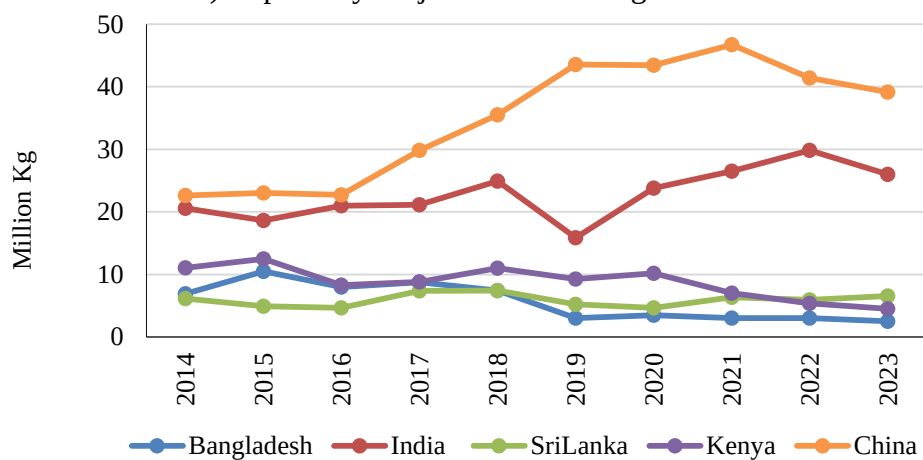
a) Regional imports of Tea in 2023



b) Imports of Tea



c) Imports by Major Tea Producing Nations



Source: Annual Bulletin 2024, International Tea Committee

3.5 Structure of Global Tea Industry

Most tea-producing countries, including Bangladesh, have hierarchical structures that include large plantations or tea estates, which are often organized with infrastructures, factories, and permanent tea laborers. On the other side, a significant portion of the world's tea production is produced by smallholder farmers who are usually part of the informal tea economy (Bermúdez et al., 2024). The tea smallholder sub-sector represents more than 60% of world tea production and 70% of world tea area (IGG, 2024). Over 9 million tea farmers in the four main tea-producing countries, China, India, Kenya, and Sri Lanka, are smallholders (IGG, 2024). In developing countries, 9 million out of the 13 million people employed in the global tea sector are smallholder farmers, who produced 60% of the world's tea in 2022 (Bermúdez et al., 2024).

The structure of the tea industry and the scenario of smallholding farmers of Kenya, Sri Lanka, India and Bangladesh is illustrated below:

3.5.1 Structure of Tea Industry in Kenya

In Kenya, tea is primarily grown in the highlands of the Rift Valley at altitudes ranging from 1,500 to 2,700 metres, with ideal volcanic soils and 1,200–1,400 mm of annual rainfall (Tea Board of Kenya). The industry comprises two sectors: large-scale plantations, mostly owned by multinational companies, and smallholder farmers. Smallholder farming, legalized in 1963, accounted for approximately 62% of production as of 2010, involving over 562,000 growers (Kagira et al., 2012). In July 2025, Smallholders produced 16.9 million kgs of tea, which is 10.8 million kgs produced in estates.

Table 3.1: Production (in Kg) in Tea Estates and Smallholdings- Kenya

	Jul-24	Jul-25
Estates	11,189,935	10,787,089
Smallholders	19,577,040	16,908,088

Source: Kenya Tea Industry Performance Report (July 2025), Tea Board of Kenya

In Kenya, smallholder farmers are organized under the Kenya Tea Development Agency (KTDA). KTDA was established by the government in 2000 with the purpose of organizing smallholder tea farmers as a cooperative platform (Tea and Coffee Trade Journal, 2017). KTDA monitors 560,000 tea smallholder families, who operate 67 tea factories with a staff of over 12,000, and provides indirect employment to more than four million people. It trains smallholder farmers, teaching them how to use fertilizers and combat pests. It arranges regular cross information sessions that allows the farmers to share experience and knowledge, with an aim on improvement, cost cutting, and new developments (Tea and Coffee Trade Journal, 2017).

3.5.2 Structure of Tea Industry in Sri Lanka

In Sri Lanka, the tea industry comprises two main sectors: corporate (large plantations) and smallholders. According to the Tea Control Act, lands under 10 acres (4 hectares) are classified as smallholdings, though definitions vary, and some development programs have included lands up to 50 acres (Perera, 2014). Smallholder tea cultivation supports approximately 4 million people in Sri Lanka and is present across 14 districts, with a concentration mainly in low elevations—Rathnapura, Galle, Matara, and Kaluthara (accounting for 75% of the area)—while large estates dominate high and mid-elevations (Wekumbura et al., 2017).

Smallholders play a significant role in Sri Lanka's tea industry. In 2010, 338645 smallholders cultivated 120,324 hectares of land in Sri Lanka (Table 3.2). In 2012, 120,955 hectares of the tea land were cultivated by smallholdings out of a total of 221,968 hectares of tea land (Wekumbura et al., 2017).

Table 3.2: Important Features of Tea Smallholders in Sri Lanka

	2010	2011	2012
Extent of Tea Smallholdings (Hectares)	120324	120664	120995
Number of Tea Smallholders	338645	389561	390346
Productivity (Kg of Tea/Hectare)	1976	1966	2001
Price (A Kilo of green leaf-Rs)	54.11	52.63	57.27

Source: Perera, 2014.

In 2012, smallholders contributed 234 million kg, increasing to 248 million kg in 2013 (Perera, 2014). The share of total production of smallholder farmers is gradually increasing from 64.9% in 2005 to 72.9% in 2013 (Table 3.3). The share of smallholdings reached 76% in 2014. (Wekumbura et al., 2017).

Table 3.3: Smallholders' Contribution to National Tea Production (2005-2013) in Sri Lanka

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Percentage Contribution	64.9	68.3	67.5	67.4	69.3	69.4	69.9	71.7	72.9

Source: Perera, 2014

In Sri Lanka, smallholder farmers are organized as cooperatives, such as: Small Organic Farmers' Association (SOFA), without any national overhead platform. These cooperatives help farmer to understand the side effects of chemicals and importance of organic tea production (Tea and Coffee Trade Journal, 2017).

3.5.3 Structure of Tea Industry in India

The Indian tea industry has undergone numerous structural changes over time. The emergence of small tea growers and Bought Leaf Factories, which create a new paradigm in the tea industry by putting forward low cost of production in terms of workforce and technology, is one of the major changes in the recent history of the tea industry in India (Kadavil, 2007). In India, smallholdings usually have less than 25 acres of land under tea (Table 3.4).

Table 3.4: Estates vs Smallholders in the Indian Tea Industry

Type	Size	Ownership
Smallholdings	1-25 acres (<10.12 hectares)	Proprietor
Tea Gardens	<200 acres	Single proprietor or partnership firms
Tea Estates	>200 acres	Big companies, government undertakings, and co-operatives

Source: Kadavil, 2007.

As of 2007, the number of small holdings in India stood at 126,256. (Kadavil, 2007). As of now, 180,448 small tea growers produce tea on 161,648 hectares of land (Langford, 2021). In 2019, smallholdings produced 646.37 million kgs of tea, representing 48% of the total production (Table 3.5).

Table 3.5: Production (million kg) of Smallholdings and Tea Estates in 2019- India

Smallholdings	Tea Gardens/Estates
646.37 million kg (48% of total production)	693.26 million kg (52% of total production)

Source: India Tea Association (2019) as mentioned in (Langford, 2021)

The share of smallholders in total production has been increasing over time. In 1991, smallholders' share of the total Tea production in India was around 7%, while by 2019, 48% of tea production was provided by smallholders (Table 3.6).

Table 3.6: Percentage Share in the Tea Production of India

Type	Smallholdings Percentage share (%)	Tea Estates (%)
1991	7	93
2001	24	76
2011	28	72
2012	32	68
2013	31	69
2019	48	52

Source: India Tea Association (2019), Tea Board of India 2013 as mentioned in (Langford, 2021)

Indian smallholders in the tea industry are more productive than tea estates, as illustrated in table 3.7.

Table 3.7: Productivity of Smallholdings vs Plantation Estates (Kg per Hectare)- India

Type	Smallholdings	Tea Estates
2011	2000	1970
2012	2292	1882
2013	2367	2035

Source: Tea Board of India (2013) as mentioned in (Langford, 2021)

Therefore, it is evident that the smallholdings subsector in India has grown exponentially over time. The expansion of smallholder tea farming in India was heavily supported by government initiatives. In Assam alone, state efforts to popularize small tea production have led to an increase from 657 farmers in 1990 to over 84,000 in 2019 (Langford, 2021).

3.5.4 Structure of Tea Industry in Bangladesh

On the northern side, tea plantation was started around 2002 with only 300 acres of land in Panchagarh District (Sultana et al., 2014). As of 2024, small holdings cover an area of 11,526.87 acres of land under Tea, according to the Bangladesh Tea Board. Until 2014, Tea was being cultivated on over 275 small gardens (3-5 acres), 17 medium-sized gardens (>5 acres), and 18 large estates (>20 acres), involving more than 500 small-scale farmers in the Panchagarh District (Sultana et al., 2014). Currently, there are 2,174 registered tea gardens and smallholdings on the northern side, covering Panchagarh, Thakurgaon, Lalmonirhat, Dinajpur, and Nilphamari districts (Table-3.8). The small holdings are showing great potential in the case of increased volume and productivity. In 2024, northern region contributes 10.04 million kgs with a productivity of 1248.40 kg per acre. The small holdings produce 14.39 million kgs of tea in 2024 (BTB)

Table 3.8: Smallholdings of Bangladesh, 2024

District	Number of Registered Small Tea Gardens	Number of Tea Gardens	Total Area under Tea (Acres)	Total Production of Green Tea Leaves (Million Kg)	Total Production of Made Tea (Million Kg)
Panchagarh	1465	9	9729.73	58.65	12.32
Thakurgaon	436	1	1457.29	8.31	1.35
Lalmonirhat	184	0	141.80	0.653	0.33*
Dinajpur	44	0	130.13	0.505	
Nilphamari	35	0	67.92	0.4005	

Source: Bangladesh Tea Board, Panchagarh

Note: *Made tea from green leaves sourced from Lalmonirhat, Dinajpur, and Nilphamari is processed in the Bought Leaf Factories of Panchagarh.

In summary, the number of smallholder farmers in the global tea industry has increased significantly, and their production has surpassed that of traditional tea estates in many countries. Major tea producers, such as Kenya and Sri Lanka, have become more productive on the global market due to increased smallholder production (Kagira et al., 2012).

The largest tea producer in the world, China, produces more than 80% of its tea through smallholder tea farmers (Table 3.9). Smallholders produce more than 80% of the tea grown in Vietnam, as well as over 50% of that grown in Kenya and Sri Lanka, and more than 30% in India and Indonesia. On the other hand, in Bangladesh <15% of tea is produced by smallholders (Table-3.9).

Table 3.9: Production Share of Smallholders in Major Producing Countries

Country	China*	Vietnam*	Kenya*	Sri Lanka*	Indonesia*	India*	Bangladesh [#]
Share	>80%	>80%	~ 60%	~ 60%	35%	30%	<15%

Source: *FAO (Food & Agriculture Organization of the UN) Intergovernmental Group (IGG) on Tea report on the subject, which was generated following the May 2016 Plenary session of the FAO as mentioned in *Tea and Coffee Trade Journal*, 2017.

[#] Bangladesh Tea Board (2024)

Smallholder farmers are involved in tea production in China, with over 8 million farmers (Table 3.10). India's tea sector provides livelihoods for 1.2 million smallholders, of whom up to 50% are women. The Kenyan tea sector accounts for 26% of the country's annual export earnings and provides employment for 650,000 smallholders. Sri Lankan tea accounts for 12% of the country's annual export earnings and employs approximately 450,000 smallholders (Bermúdez et al., 2024).

Table 3.10: Number of Smallholders in Major Producing Countries

Country	China [#]	India [*]	Kenya [*]	Sri Lanka [*]	Bangladesh ^{**}
Number	>8 million	1.2 million	0.65 million	0.45 million	8371

Source: *Global Market Report: Tea (2024) (Bermúdez et al., 2024).

[#]Tea and Coffee Trade Journal, 2017

^{**}Bangladesh Tea Board 2024 (Represents both registered and unregistered smallholdings)

These figures underline the importance of millions of small tea growers are vital for ensuring global supply. Smallholders are currently supplementing or even replacing production of larger tea estates in many countries (FAO).

However, smallholder farmers who contribute the most in the global supply of tea are the most vulnerable. They are not included under the social security provisions and not guaranteed to get minimum wages. Many plantation workers in South Asian countries, including India, Sri Lanka, and Bangladesh, have reported mistreatment and huge wage reductions that have pushed wages below the legal minimum, threatening their livelihoods (Bermúdez et al., 2024).

The smallholder tea farmers require some status and empowerment, better income and more education and development opportunities to develop and contribute the highest in the global tea industry. An important first step in addressing this issue was to organize the “International Confederation of Tea Smallholders” (ICTS) under the umbrella of the FAO IGG Tea in May 2016. After several years of ongoing discussions, the formal creation of this new body will now provide the world’s tea smallholders with a unified platform and, consequently, a stronger voice in the marketplace (Tea and Coffee Trade Journal, 2017).

Moreover, as a large portion of the global tea supply comes from smallholders, they should engage in the production of organic and value-added teas. Studies in tea-producing countries, including Nepal, Uganda, Bangladesh, and Vietnam, suggest that owners of larger farms access more certifications than small farmers. This may be because transitioning from conventional farming requires the adoption of new production methods and significant capital investment, which only larger-scale farmers can afford (Bermúdez et al., 2024).

3.6. Export position of the Tea Producing Countries

Tea production in Bangladesh has been gradually increasing. In 2001, the country's tea production was 53.15 million kgs. Bangladesh produced a record high of 103 million kgs of tea in 2023, representing a 10% increase from 2022. Despite its substantial production, Bangladesh's tea exports are going into a declining trend. Bangladesh exported 12.92 million kgs of tea in 2001, representing around 24% of its production. However, tea exports declined significantly from 2010, and as in 2024, Bangladesh exports nearly 3% of total tea production.

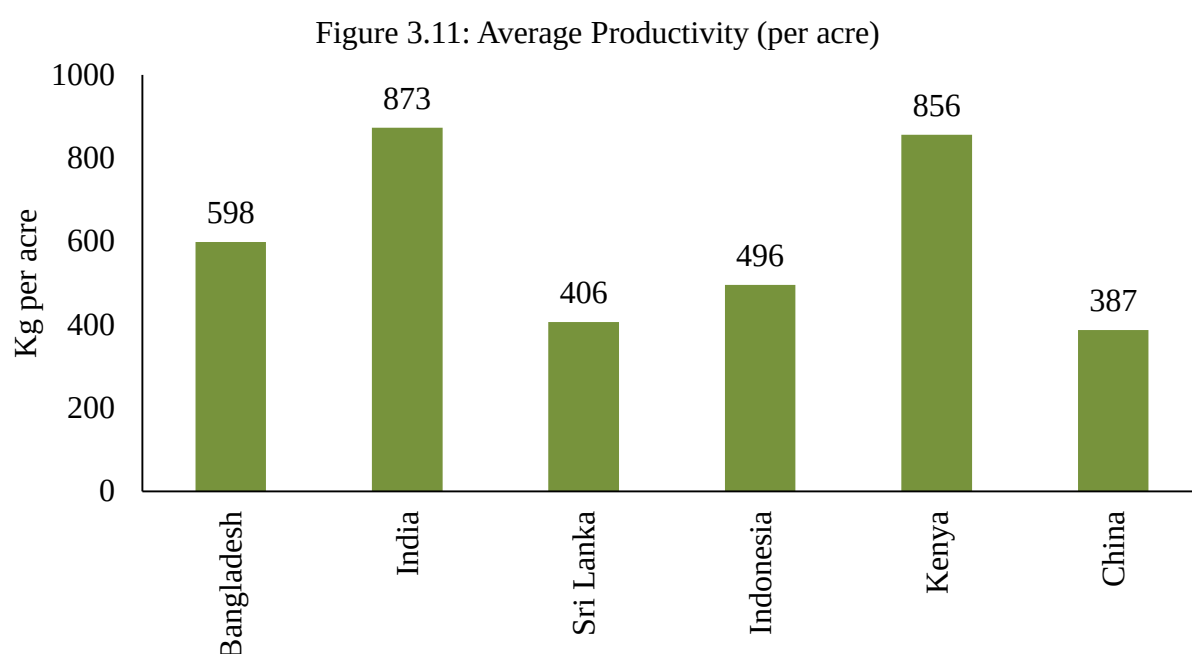
Despite significant domestic demand, China and India remain competitive in their domestic markets, exporting 11% and 16% of their production respectively in 2023. On the other hand, Sri Lanka has dominated the export market, exporting over 90% of its production for years. Sri Lanka has recognized the global demand and focused on exporting high-quality, packaged Ceylon tea. While Bangladesh focused on producing bulk CTCs to meet the domestic demand.

Efforts are needed to enhance export volumes and diversify international markets. Achieving this goal will require investments in quality improvement, branding, producing high quality green tea and orthodox tea and exploring new markets to strengthen Bangladesh's position in the global tea industry.

3.7 Productivity of the Tea Producing Countries

The average global yield of tea was 1,224 kg/hectare in 2021-23, as mentioned in the Annual Bulletin of Statistics 2024 of the International Tea Committee. Among the major tea-growing nations, Bangladesh ranks third in average productivity, with a productivity of 629 kg/acre of tea production (Tea bulletin, BTB), behind only India (873 kg/acre) and Kenya (856 kg/acre) (figure 3.11).

Bangladesh needs improve productivity through quality production in order to stay competitive in the global tea market. This can be accomplished through various strategies such as investing in better agricultural practices, using modern processing methods, and ensuring skilled labor is available (Kazi Muzafar, 2012).



Source: International Tea Committee.

3.8 Certifications of the Tea-Producing Countries

Certifications are crucial in the global tea industry as they allow consumers to verify the journey of tea from the tea gardens to the cup. To maintain the quality of tea and promote environmental sustainability, responsible farming, and fair trade, international organizations and regulatory bodies establish tea standards. These standards outline the requirements for various stages of tea production, including cultivation, processing, packaging, and distribution. This process is commonly referred to as tea certifications, which ensure that consumers receive safe and high-quality products.

The commonly recognized certifications in the tea sector include Organic certification, Fair Trade certification, Shade/Bird Friendly Certification, Rainforest Alliance (RFA), Ethical Tea partnership (ETP), HACCP (Hazard Analysis and Critical Control Points), GMP (Good Manufacturing Practices), Trustea and ISO (International Organization for Standardization)

certifications (Munasinghe et al., 2021), (Munasinghe et al, 2017) and (Viswanathan, 2021). Organic certifications specify four main areas: health, ecology, fairness and care, and identify and measure indicators relating to the health of soil, plants, and people. Fair Trade and Bird Friendly focus on improving social and environmental conditions of production in tea plantations beyond minimum levels. GMP, HACCP, and ISO focus on food safety in tea production. Further details of tea certifications are presented in Annex A.

Among the major tea-producing countries, the adoption and prominence of these certifications vary as illustrated in Table 3.12.

Certifications in the tea industry have become increasingly important due to the growing global demand for healthier and eco-friendly products, as well as high-quality, ethically produced, and environmentally sustainable options. These certifications not only build consumer trust but also provide access to premium markets that demand high-quality and ethically sourced tea. Tea producers must embrace international standards to remain competitive in the global marketplace. As Bangladesh needs to strengthen its tea sector, prioritizing these practices, Bangladesh can further expand its market reach and secure a strong position in the global tea industry. For Bangladeshi tea producers, obtaining recognized certifications is essential for enhancing credibility for domestic consumers as well as increasing export demand and securing higher prices in the international trade.

Table 3.12: Tea Certifications in the Major Tea-Producing Countries

Country	Major Certifications Adopted	Notes on Implementation
India	Organic, Fair Trade, Rainforest Alliance, UTZ, Trustea, HACCP, Ethical Tea partnership (ETP), ISO	- Many estates in Assam, Darjeeling, and Nilgiri regions follow organic and fair trade standards. The state of Sikkim was declared fully organic in January 2016, and the teas produced at the Temi Tea Estate were certified as 100% Organic in 2008 (Indian Tea Board). - About 3.7% of the total tea cultivation area in India is Fairtrade certified. As of 2018, 140 out of the 850 tea estates were certified under the Rainforest Alliance (Viswanathan, 2021). - Trustea certification in India has a total of 221 holders, distributed across key tea-producing states: Assam (151), Kerala (11), Tamil Nadu (13), West Bengal (45), and Others (1) (Viswanathan, 2021).
Sri Lanka	Organic, Fair Trade Certification, Rainforest Alliance (RFA), Ethical Tea Partnership (ETP), Ozone Friendly	- The Ceylon Tea Industry ensures the protection of soil and environment, as well as the wealth and welfare of people related with tea production. - Engaged in Ethical Tea Partnership to improve and encourage the safety and health of workers, and prevent discrimination and harassment. - Seven tea regions have all been certified by the Rainforest Alliance (RFA). - In 2011, Ceylon Tea was presented with the honor of “Ozone Friendly Ceylon Tea” – a singular honor that no other tea-growing nation can lay claim to. - Aspire to reduce carbon emissions and become carbon neutral. Source: Tea Board of Sri Lanka
China	Organic, ISO	- Focus on organic certification in specialty teas; ISO standards. - China places greater emphasis on Organic and ISO-certified production - China has its own organic tea certification, regulated by the China Organic Food Certification Center (COFCC). (Xie et al., 2011)
Kenya	Organic, Rainforest Alliance, ISO, Fair Trade, HACCP	- Tea of Kenya is renowned world-wide for its quality and safety for to good agricultural practices (no pesticides or agro-chemicals, no additives, preservatives or artificial colouring) - Commitment to Global and National Food Safety standards (ISO, HACCP, KS1927) as well as - Compliance with environmental and social market requirements (ETP, Fair Trade e.t.c); (Source: Tea Board of Kenya)
Bangladesh	Organic, Fair Trade (limited)	Only Kazi & Kazi Tea Estate

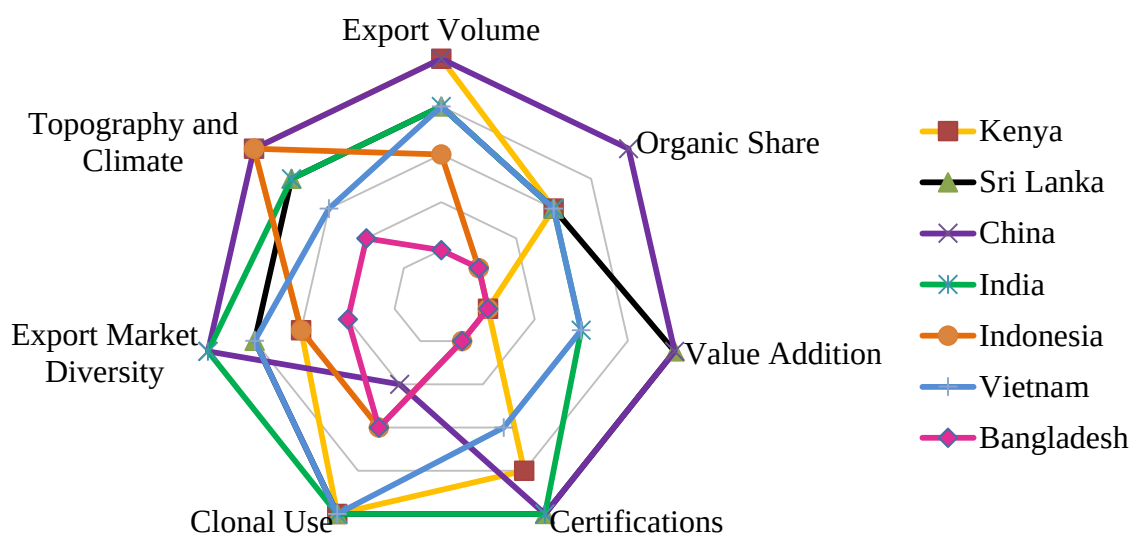
3.9 Positioning of Bangladesh in the World Tea Market

Despite being a small country, Bangladesh is the world's 8th largest producer of tea. Tea is cultivated in the fertile, hilly lands of Sylhet and Chattogram region, as well as in the flat lands of Panchagarh. Bangladesh scores moderately in topography, reflecting suitable but limited conditions for tea cultivation. On the other hand, Kenya and Sri Lanka have demonstrated that their regions have favorable conditions for tea cultivation, owing to their hilly volcanic terrain.

In terms of export volume and diversity of tea, China, India, Kenya, and Sri Lanka take the lead, while Bangladesh's exports are minimal, accounting for only 3% of its annual production. India, China, and Sri Lanka have captured the global export market with their value-added and artisanal teas. Bangladesh still focuses on Bulk CTCs and is not taking many measures to capture the global export market. China and Vietnam lead in the proportion of organic tea, whereas Bangladesh has a minimal share. In case of value added tea, China and Sri Lanka score high, meaning they add more value to tea (e.g., packaged, flavored, or specialty teas) before exporting. Bangladesh scores low as exports are primarily in loose CTC or bulk form. India and China lead in certifications (such as Fairtrade and Rainforest Alliance), reflecting their adherence to global standards. Bangladesh lags in this aspect—India, Kenya, and Sri Lanka export to a wide range of countries. Bangladesh has fewer international markets. Positioning of Bangladesh in the world tea market is summarized in figure 3.13¹⁰.

¹⁰The Study Team considered seven key indicators to construct Figure 3.13: export volume, organic share, value addition, certification, clonal use, export market diversity, and topography. Each indicator was assessed based on agronomic, economic, and market relevance. Topography was evaluated on factors such as elevation, soil type, drainage, and climate suitability. Rankings were assigned based on how conducive each terrain was for tea cultivation, with highlands, well-drained slopes, and mountain regions scoring highest, while lowlands, flood-prone, or overly humid areas scored lowest. Export volume, market diversity, and value addition reflected the commercial and competitive performance of each country. Organic share, certification, and clonal use captured quality standards, sustainability, and technological adoption. For each indicator, countries were assigned scores on a scale of 1 to 5 based on the study team's judgment and available information, with 1 representing low suitability or performance and 5 indicating optimal conditions or high performance.

Figure 3.13: Positioning of Bangladesh in the World Tea Market



Source: Estimate of the Study Team.

Bangladesh's tea-growing conditions are suitable, but lower value addition, minimal certifications, and a narrower export market limit its global competitiveness. Enhancing these areas could help Bangladesh expand its role in the international tea market.

As consumer preferences shift, innovation and diversification into other market segments such as organic teas, specialty teas and premium teas are the key for market expansion, for raising returns of tea producers and processors, and for ensuring the long-term performance of the sector. New growing markets are also building on product innovation and diversification into new segments of consumers. Several factors influence demand for tea, including prices, income and demographics such as age, education, occupation and cultural background. Furthermore, as consumers are increasingly looking for healthier and natural beverage options, the demand for specialty and premium teas has surged, creating new opportunities for the tea market.

CHAPTER 4: Profitability Analysis of Selected Gardens from Field Survey

The study team selected 23 tea estate or gardens based on some criteria from four categories Category A (Production more than 10 lac kgs), B (Production between 5-10 lac kgs), C (Production between 1-5 lac kgs), and D (Production below 1 lac kgs). However, two of them are not operating. The team visited 21 tea estate or gardens physically and collect data and information. The names and identity of the tea gardens are anonymized in the report, as most of the tea gardens are private limited companies.

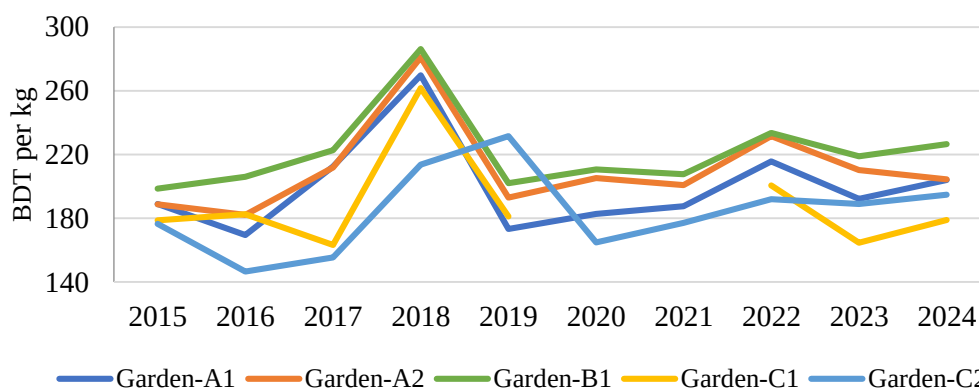
4.1 Financial Analysis of Selected Tea Gardens

From the collected quantitative data of 21 tea gardens, the study team has selected 5 gardens from three different categories based on production for this chapter. The average auction price, yield per hectare, and labor per hectare of these 5 gardens are analyzed in the following segment.

4.1.1 Average Auction Price, Yield per hectare, and Labor per hectare

The figure 4.1 shows the average auction prices of five tea gardens (A1, A2, B1, C1, and C2) from 2015 to 2024. Prices stayed almost steady around 180–200 until 2017.

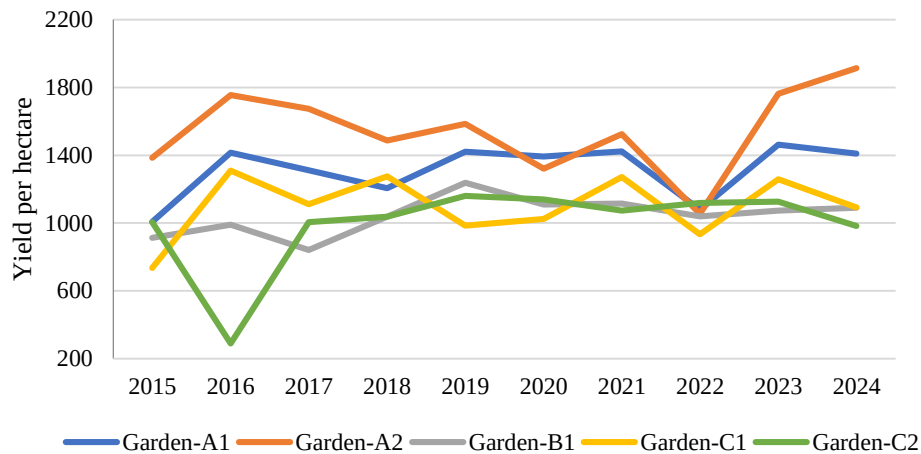
Figure 4.1: Average Auction Price



Source: Study team's calculation

In 2018, prices went up sharply, with Garden-B1 reaching the highest level, close to 300. After that, prices dropped in 2019 and 2020 but became stable again in the following years. From 2021 to 2024, the prices moved up and down a little but mostly stayed between 170 and 220. Garden-B1 is getting higher prices than other gardens in this graph.

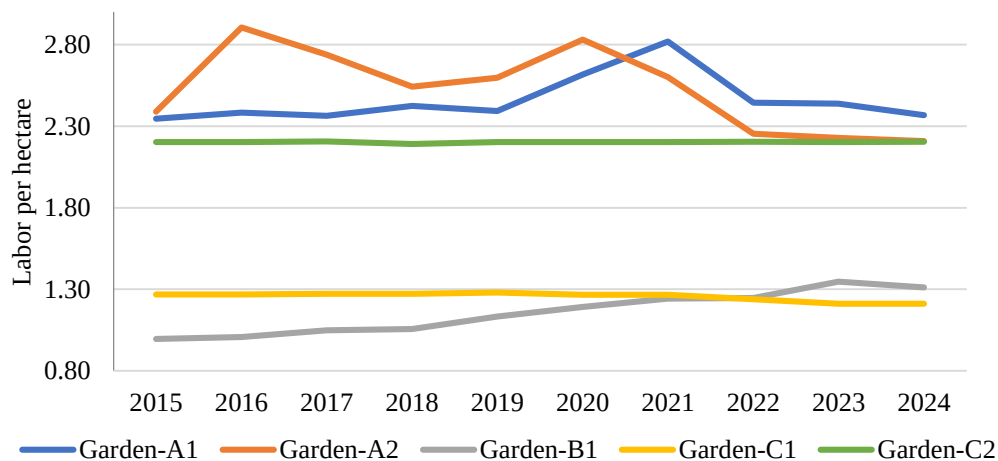
Figure 4.2: Yield per hectare



Source: Study team's calculation

The graph shows the productivity (yield per hectare) of five tea gardens (A1, A2, B1, C1, and C2) from 2015 to 2024. Garden A2 consistently performed better than the others, starting at around 1,400 in 2015, peaking at over 1,700 in 2016, and again rising sharply after 2022 to nearly 2,000 in 2024. The other gardens showed moderate yields, mostly between 1,000 and 1,400, with occasional ups and downs. Garden A1 and C2 had more fluctuations, while Gardens B1 and C1 stayed relatively stable around the 1,000–1,200 range. Overall, Garden A2 maintained the highest and most improved productivity over the period, while the other gardens showed smaller and more stable variations.

Figure 4.3: Labor per hectare



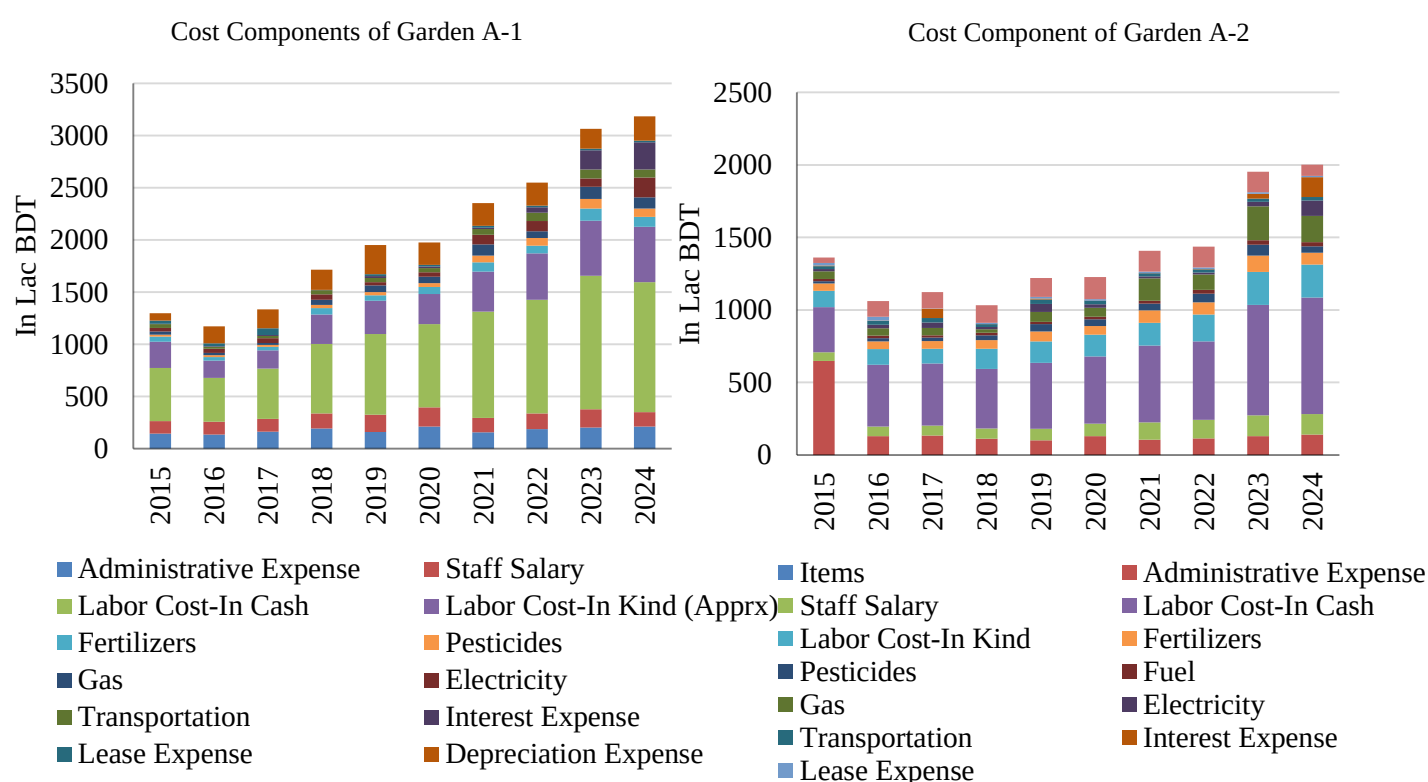
Source: Study team's calculation

The graph shows the labor productivity (labor per hectare) of five tea gardens (A1, A2, B1, C1, and C2) from 2015 to 2024. Tea is a labor-intensive crop (plucking, pruning, weeding, shade regulation, etc.). More labor per hectare can mean better plucking frequency, higher quality leaf, and improved yield per hectare. In high-quality estates, frequent plucking (every

7–10 days) requires more workers, which helps maintain consistent quality and output. On the other hand, if labor per hectare is too high relative to yield, it increases production costs and reduces profitability. From the graph, it can be seen that Garden A-1 and Garden A-2 which are large gardens, have more labor per hectare compared to garden-B1 and Garden-C1. The labor productivity trend across these five gardens over the years is almost stable, but labor per hectare of Garden-A1 and A-2 are decreasing after 2021.

4.2 Cost Structure

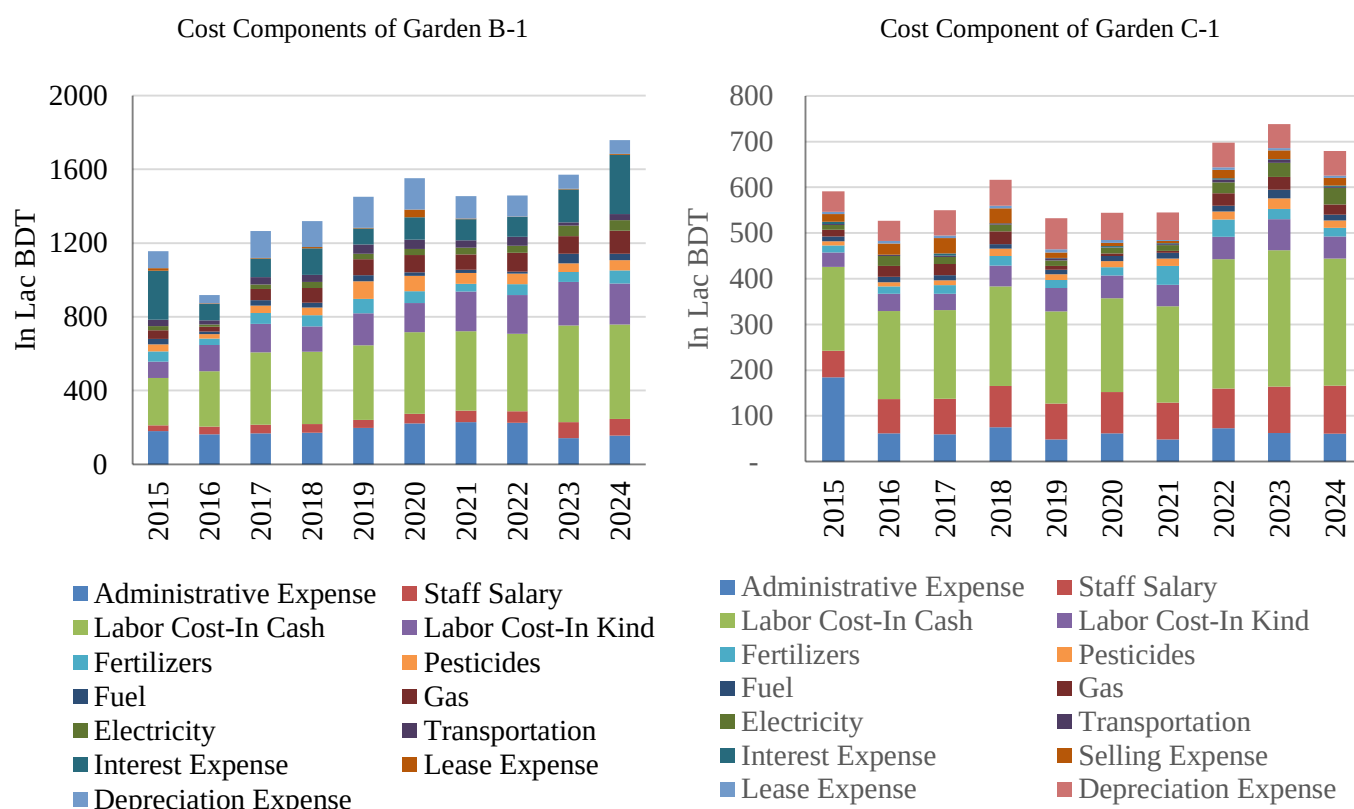
Figure 4.4: Category-wise Cost Components (A1, A2)



Source: Study team's calculation

Garden-A1 belongs to category A (production more than 10 lac Kg). Labor cost-in cash is the major element of the cost component of this garden and it has increased gradually over the last ten years. Labor cost-in kind is the second major element here which has also maintained an upward trend. Cost structure of garden-A2 (belongs to category A) has also followed the same pattern. Labor cost-in cash and labor cost-in kind are the two main components here and both of these costs have been increasing for the last 10 years. Cost of fertilizers has also been increased in the last few years. Another noticeable thing is interest expense has increased since 2021 for both the gardens which means these gardens have taken more loans from the bank to meet their short-term obligations

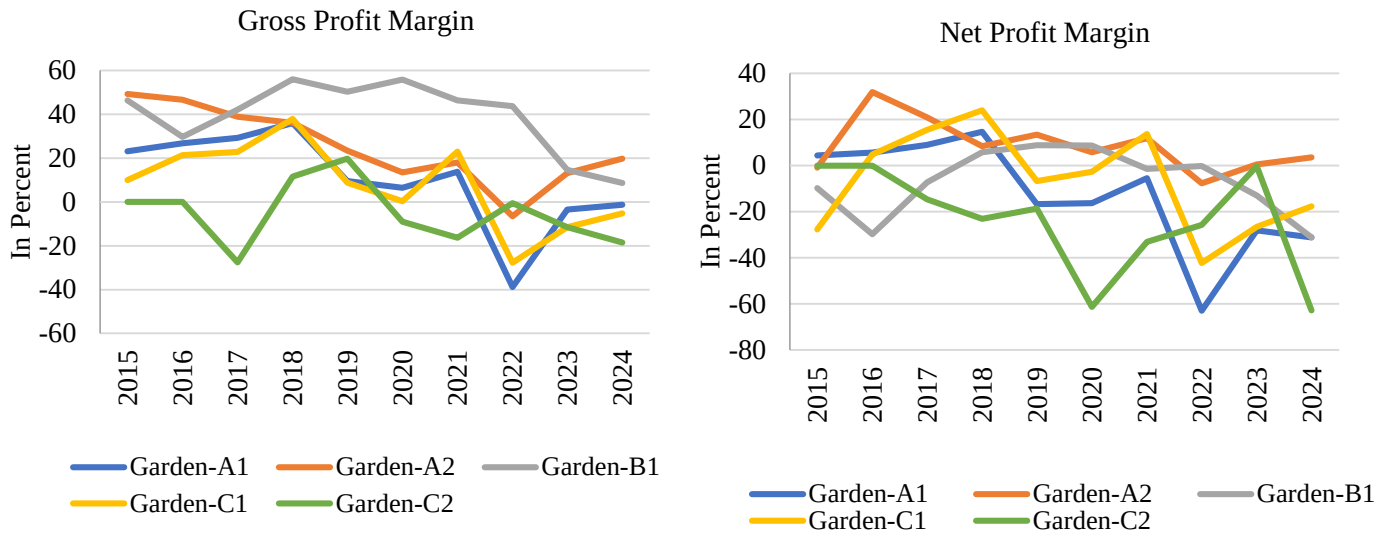
Figure 4.5: Category-wise Cost Components (B1, C1)



Garden B-1 belongs to category B (production between 5-10 lac kg) and C-1 belongs to category C (production between 1-5 lac kg). Both of the above graphs are showing labor cost-in cash as the major element in the gardens' cost component and labor cost-in kind as the second major element. Both of these items have increased in value over the time. By analyzing all the four graphs of the cost components of the tea gardens it can be said that the labor cost-in cash and labor cost-in kind are liable for the maximum portion of the gardens' total costs. In Garden-B1, interest expense has significantly increased after 2022 which means that this garden has taken more loans in recent years

4.3 Profitability Ratios

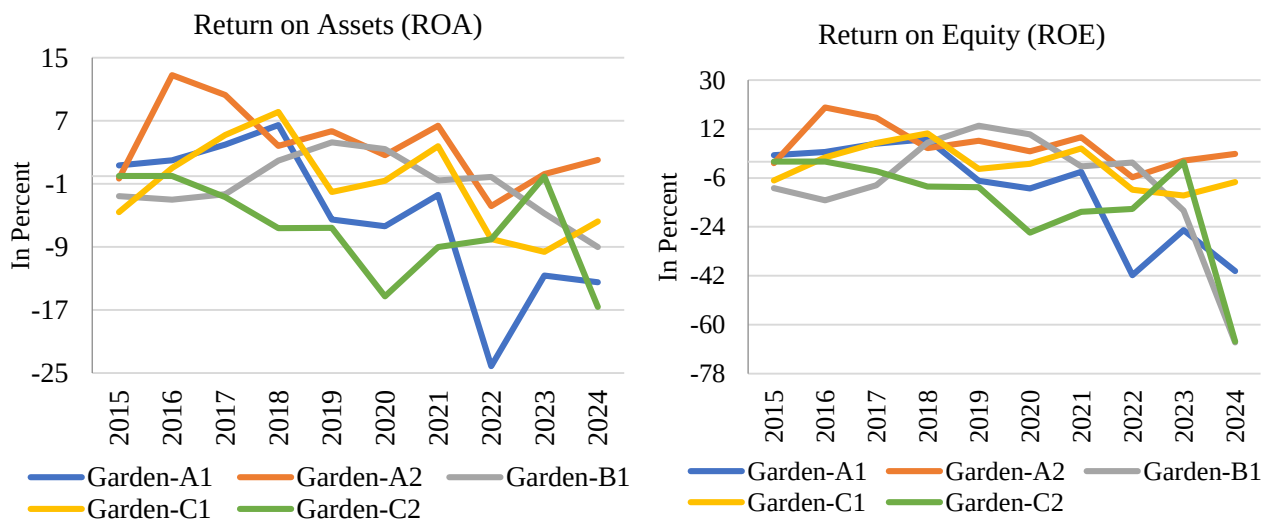
Figure 4.6: Gross and Net Profit



Source: Study team's calculation

Gross profit margin and net profit margin are two major measures of profitability of an organization. The above graphs present gross profit margin and net profit margin of 5 tea gardens from 3 different categories. The garden A-2 has both the highest gross profit margin and net profit margin in year 2024. The garden-B2 has achieved highest gross profit margin from 2017 to 2023. It can be said that this garden has been efficiently managed by reducing the production costs. The net profit margin of this garden was also good in those years. But after 2022, the garden is not doing well which resembles in their decreasing gross profit margin and net profit margin. The garden C-2 has the lowest gross profit margin and net profit margin in year 2024. According to these two ratios it can be said that the large gardens (A and B category) have made better profit than the smaller gardens over the years.

Figure 4.7: Return on assets (ROA) and return on equity (ROE)



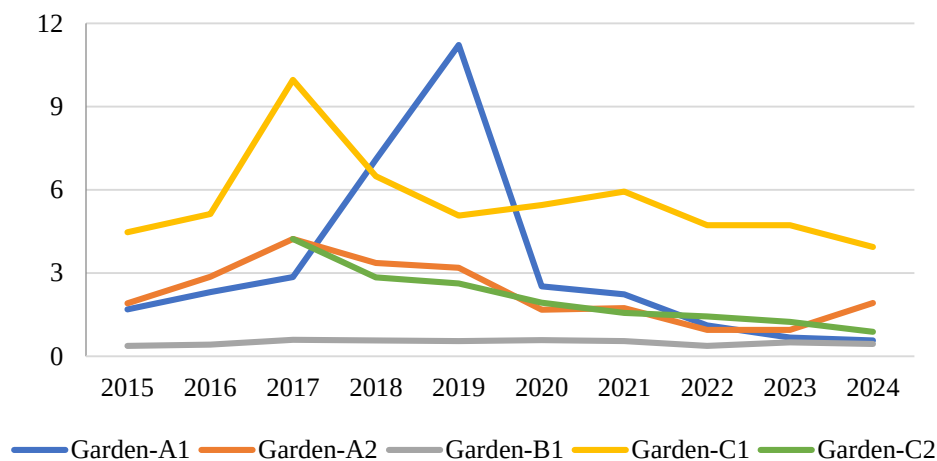
Source: Study team's calculation

Return on assets (ROA) and return on equity (ROE) are also two important measures of profitability for an organization. According to these graphs, the Garden-A2 has the highest ROA meaning that Garden-A2 is more efficient at using its assets to generate profit. It also has the highest ROE meaning that the garden is efficiently using its shareholders' equity to generate profit. On the other hand, the garden C-2 has the lowest ROA and ROE. The ROA and ROE of all the gardens are on a decreasing trend because they are facing severe losses since 2019 and that's why these indicators are negative. ROE has been decreased more than ROA in case of Garden-A1, B1, and C2 because these gardens are using higher financial leverage, meaning the operations are heavily funded by debt.

4.4 Financial Ratios

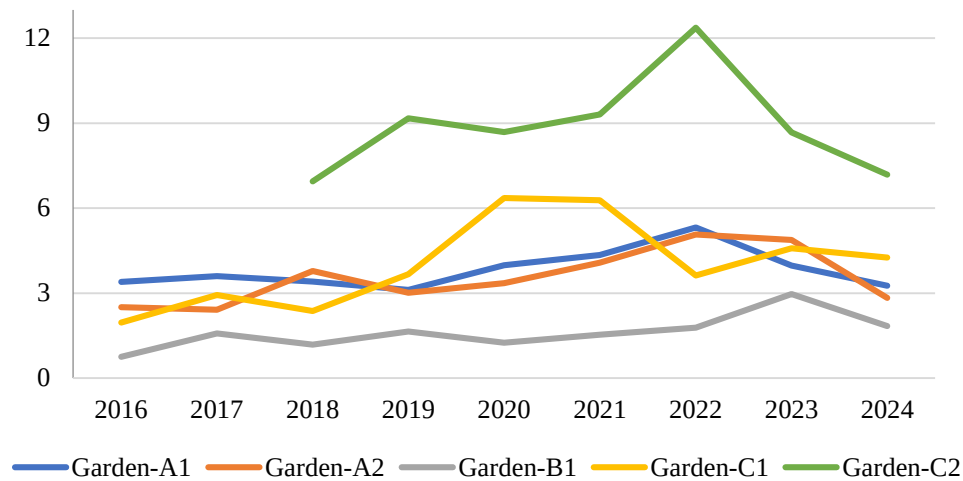
Current Ratio indicates the financial capacity of an organization to meet its short-term liabilities. A current ratio between 1.5 and 2 is considered healthy for most industries. According to the above graph the garden C-1 has a current ratio of 3.9 in year 2024 which is the highest among these 5 gardens. On the other hand, the garden B-1 has the lowest current ratio (0.44) in year 2024. This low current ratio indicates that the garden is not capable enough to meet its short-term liabilities. But holding too much current assets or having a large current ratio indicates that the organization is holding too much liquidity which hampers its profitability.

Figure 4.8: Current Ratio



Source: Study team's calculation

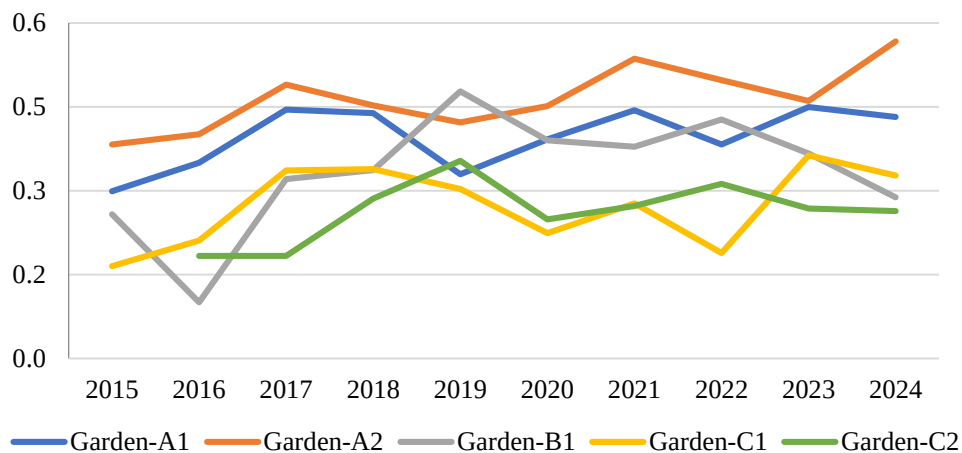
Figure 4.9: Inventory turnover ratio



Source: Study team's calculation

Inventory turnover ratio measures the rate that inventory stock is sold, or used in a year. A higher inventory turnover ratio indicates efficient inventory management and a low ratio indicates overstocking, obsolete goods, or weak sales. In the above graph, garden C-2 has the highest and garden B-1 has the lowest inventory turnover ratio among these 5 gardens in year 2024. Not only in year 2024 but also in the last few years garden C-2 had the highest and garden B-1 had the lowest inventory turnover ratio. It indicates that garden C-2 has strong sales or it manages its inventory better than that of other gardens. It is noticeable from the graph that the inventory turnover ratio has decreased in the recent years which means that the gardens are struggling to manage their inventories efficiently.

Figure 4.10: Asset turnover ratio¹¹

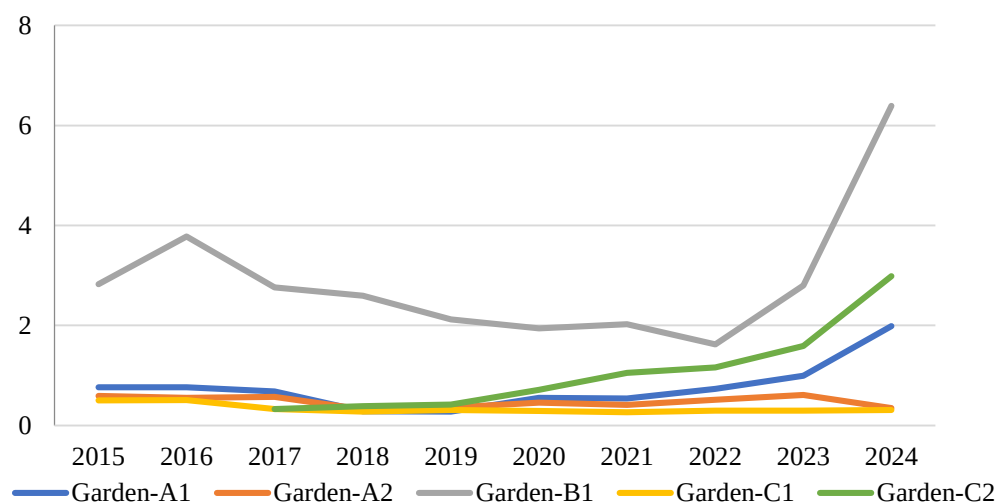


Source: Study team's calculation

¹¹ Asset Turnover Ratio measures how efficiently a company uses its assets to generate sales revenue.

Asset turnover ratio measures the efficiency of an organization in using its assets to generate revenue. The ratio is calculated by using the formula net sales divided by average total assets. The above graph shows that the asset turnover ratio of garden A-2 was consistently higher than that of other gardens meaning that this garden has efficiently used its assets to generate revenue indicating strong operational performance. From the graph, it can be seen that the large gardens (A1, A2) has higher asset turnover ratios that smaller gardens (C1, C2).

Figure 4.11: Debt-equity ratio¹²



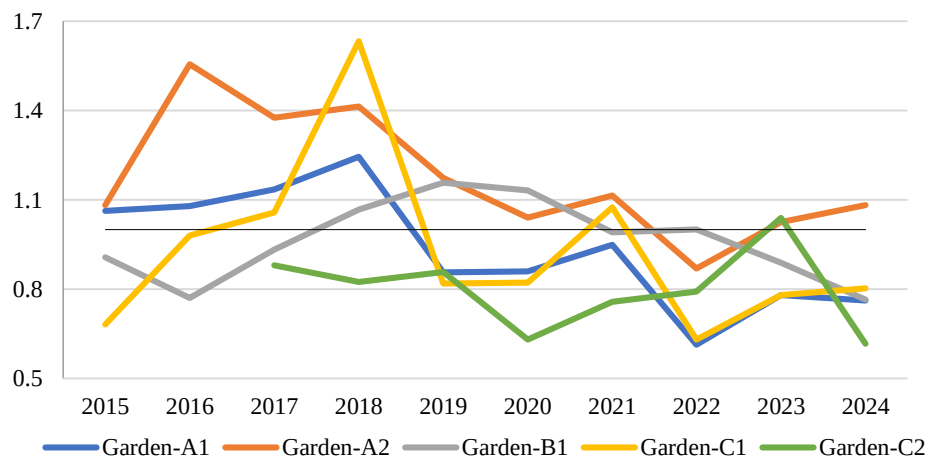
Source: Study team's calculation

Debt-equity ratio is an important financial measure that indicates the proportion of debt and shareholders' equity in the resources of an organization. A debt-equity ratio below 1.0 is considered healthy, between 1.0 and 2.0 is also acceptable but above 2.0 is a red flag for an organization. The above graph shows that all the gardens except B-1 had debt-equity ratio below 2.0 till year 2023. But in year 2024, garden C-2 went above 2.0 and garden A-1 reached the level 2.0. Garden B-1 always had a very high debt-equity ratio in the last 10 years. From this graph, it can be said that the debt-equity ratio of Garden-A1, B1, and C2 are increasing since 2022 that means these gardens are taking more loans from banks rather than injecting new equity in those gardens. Relying heavily on bank loans for meeting short-term obligations is increasing financial risks of these gardens.

¹² Debt-Equity Ratio measures the proportion of a company's debt relative to its shareholders' equity, indicating financial leverage.

4.5 Revenue-Cost Ratio

Figure 4.12: Revenue-Cost Ratio (R/C Ratio)



Source: Study team's calculation

The Revenue-Cost Ratio (R/C Ratio) measures the profitability of a business by comparing total revenue to total costs. A higher Revenue-Cost Ratio indicates better profitability and efficient cost management. Revenue-Cost Ratio above 1.0 suggests that the garden's investment in labor, fertilizers, machinery, and maintenance is generating a positive return, and resources are being managed efficiently. A higher R/C ratio reflects good cost management and operational efficiency, whereas a lower ratio would signal the need for better control of expenses or improved yield. The above graph is showing that the cost-benefit ratios of almost all the 5 gardens are decreasing over the years. All the gardens had R/C ratio below 1.0 since 2022. In 2024, Garden-A2 had R/C ratio more than 1.0. It indicates that, the gardens are facing losses in their operations and their production and operational costs are more than their total revenues.

CHAPTER 05: Challenges to the Sustainability

5.1 Legal Compliance in Tea Industry

The tea industry of Bangladesh operates under a unique legal and regulatory framework that combines general corporate and labor laws with sector-specific obligations. Compliance in this sector is critical not only for the sustainability of tea estates but also for safeguarding employment, ensuring export competitiveness, and protecting environmentally sensitive regions where tea gardens are located.

5.1.1 Land Use, Financing and Auction Regulations: Bottlenecks in Practice

Tea Garden Land Management Guidelines, 2017 (Land Use Guidelines) (Article 8.0):

Subject to obtaining permission from the Deputy Commissioner, the lessee may avail loan facilities by mortgaging the lease agreement with a bank. However, the lessee cannot mortgage the lease land.

Bottleneck: Complex administrative obstacles create delays in financing. Due to restriction on mortgage, banks cannot get land as secondary collateral.

Re-determination of minimum auction price of tea (Bangladesh Tea Board, Memorial no.: 26,09,0000,000.105.31,0006.17-88, Date: 04/06/2025): The minimum auction price of tea gardens of Sylhet and Chattogram has been re-determined at BDT 245 and auction price of bought leaf factories in northern region has been re-determined at BDT 170.

Bottleneck: Floor prices in auctions can lead to unsold items, hinder true market value discovery, discourage bidder participation, and reduce the competitive dynamism that makes auctions effective.

Financing Seasonal Tea Production Loans (Bangladesh Krishi Bank, Planning & Management Circular No: 01/2020, Date: January 01, 2020): According to the circular, BKB allows tea gardens to take seasonal production loans. The loan amount is calculated on the basis of the lower of two factors: the average production cost of the last three years, or the average auction selling price of tea in the last three years. After identifying the lower amount, the bank finances up to 90 percent of that amount. That is, BKB will finance based on 90 percent of either production cost analysis of last 03 (three) years each garden, or latest auction average selling price for last 03 (three) years, whichever is lower.

Bottleneck: Financing is capped at 90 percent of the lower between production cost or auction price, which may not reflect actual financing needs.

Considering tea industry as partially agricultural sector (MoC/R-4/1(17)/2008/137, Date: 30/10/2014): This policy is aligned with the Agricultural & Rural Credit Policy and Program of Bangladesh Bank. Necessary steps at the field level, such as tea seedling, planting and maintenance, pruning, plucking etc. fall under agricultural sector (60 percent). The step of processing for producing tea granules from the plucked green tea leaves fall under the industrial level (40 percent).

Bottleneck: Loan facility considering 60 percent as agriculture is not widespread. The absence of BKB in Panchagarh region is creating an insufficient loan access to the stakeholders.

Agricultural & Rural Credit Policy and Program for the FY17 and onwards (ACD, BB Circular No. 01, 31/07/2016): For setting up tea gardens, agricultural loans can be given for field-level preparatory activities such as tea cultivation, nursery, maintenance, pruning and plucking (60 percent). However, for processing green tea leaves, loans can be given as an industrial loan (40 percent). This loan must be disbursed within a maximum of five years, and loans will be provided only for new tea plantations or expansion/replanting of existing tea gardens in areas suitable for tea cultivation.

Bottleneck: Only BKB is providing loan to the tea gardens. However, those loans are not mentioned as agricultural loan creating pressure on tea garden owners.

5.1.2 Labor Laws and Employment Standards

Tea workers are governed by the Bangladesh Labor Act, 2006 (amended at 2013 & 2018) and relevant wage board declarations. As per labor law:

- Employers must comply with rules on working hours, weekly holidays, maternity leave, provident fund contributions, and timely payment of wages. However, in reality, the survey data found that some tea estates are delayed their payment. Labors also mention that unions are weak, enforcement of labor laws is patchy and wage boards' decisions do not always reach implementation.

- Sector-specific minimum wages are periodically set for tea workers by the minimum wages board. The workers themselves opine that even after recent wage increases, this wage is insufficient to sustain a household. The daily wage for tea workers (around **178 BDT per day**) is still far below what would be considered a living wage given present inflation, cost of food, housing etc.
- Compliance with occupational safety and health (OSH) requirements is mandatory, including housing, sanitation, and medical facilities for workers, as stipulated in certain labor agreements and tripartite settlements. However, the survey data found that most of the tea laborers live in substandard housing (kutcha and semi-pucca house with poor ventilation), limited potable water and insufficient sanitation toilets. Access to clean drinking water or regular healthcare is often limited. Though some tea estates have their own medical center, where the workers get their first-aid treatment. While, the workers have to visit government hospital/upazilla sadar hospital and other private hospital for their better medical treatment. In that case, tea garden owner does not bear any private hospital's treatment cost but partially/fully bear the government hospital's treatment cost. Moreover, educational attainment among tea worker families is below standard (majority with only secondary level or less). Barriers include cost, distance to school, and lack of high schools inside estates (some tea estates only primary school). Along with these, many workers are lack of skills that allow them to obtain jobs outside tea gardens. As a result, their mobility (economic and social) is constrained. Education barriers, lack of training, caste or tribal issues found from the survey data are considered to perpetuate poverty.

5.1.3 Internal Credit Risk Rating System (ICRRS) for Tea companies

Bangladesh Bank has implemented Guidelines for Internal Credit Risk Rating System (ICRRS) for Banks through BRPD circular no 16, Dated 30 October 2018. ICRRS is a system used to assess a borrower's repayment capacity based on his financial condition including liquidity, cash flow, profitability, debt profile and other indicators. It is an integral part of banks' credit approval process and is applied to all credit proposals-whether new, renewal, or enhancement of existing loans.

In deriving ICRR, the total score is 100 with 60 percent weight assigned to quantitative part and 40 percent to qualitative part. According to the BRPD Circular Letter No. 14/2021, dated 23 February 2021, ICRR categorizes borrowers into four distinct notches based on their aggregate score out of 100. These are:

- (i) Unacceptable: Aggregate score below 55
- (ii) Marginal: Aggregate score ranging from 55 to less than 65
- (iii) Good: Aggregate score ranging from 65 to less than 75
- (iv) Excellent: Aggregate score 75 or above

However, if a borrower's score in the quantitative part falls below 45 percent, the overall ICRR rating will be classified as "Unacceptable," regardless of performance in the qualitative assessment. This structured grading mechanism ensures uniformity in assessing repayment capacity and risk profiles, thereby strengthening the overall credit approval and monitoring process within the financial system.

Based on the Internal Credit Risk Rating (ICRR), the credit ratings of tea companies financed by Bangladesh Krishi Bank in 2025 season are classified as follows:

Table 5.1: Internal Credit Risk Rating (ICRR) Status in 2025

Rating	Number of Companies
Unacceptable	26
Marginal	8
Good	4
Excellent	11
Total no. applied for loan	49

Source: Bangladesh Krishi Bank

This distribution indicates that out of 49 tea companies, 26 financed tea companies fall under the unacceptable rating category, reflecting heightened credit risk exposure in the sector. Only a limited number of tea companies achieved good and excellent ratings that highlighting the need for strengthened financial resilience, operational efficiency, and compliance with credit risk management standards.

Implications of ICRR on Loan Sanctioning for Tea Companies

As per the ICRRS guidelines outlined in BRPD Circular number 16, dated 30 October 2018, no loan shall be sanctioned to borrowers whose ICRR is classified as "*Unacceptable*." Since the majority of tea gardens financed by Bangladesh Krishi Bank are new loans and fall under the "*unacceptable*" category, they are vulnerable to access new financing facilities. The implications of this situation are multifaceted:

- ❖ Workers in the tea gardens may face delays in receiving their wages.
- ❖ Several tea estates might be forced to close down or cease operations.
- ❖ The overall stability and sustainability of the country's tea industry could be at significant risk.

Given these challenges, temporary regulatory relaxation of ICRR requirements for the tea sector was necessary to ensure the continuity of operations, safeguard employment, and protect the long-term viability of the industry. Bangladesh Bank has already published a new guideline addressing this issue on 19 August 2025.

5.2 Climate Change and Tea Industry

Bangladesh's tea industry is highly sensitive to environmental challenges. To assess this challenge systematically, the Problem Facing Index (PFI) is used in this study. Roy et al. (2022) also used this index in their tea related study. The Problem Facing Index (PFI) is a composite measure used to assess the relative severity of problems faced by respondents in a survey. It is particularly useful in ranking issues (such as climate change risks) when perceptions differ across severity levels. Instead of simply counting responses, PFI assigns weights to different severity categories (such as: Severe = 5, Less Severe = 4, Moderate = 3, Low = 2, Very Low = 1, Not at All = 0). This allows the researcher to capture both the frequency and intensity of responses in a single score.

Problem Facing Index (PFI) Calculation:

The formula of PFI is: $PFI = \sum_{i=0}^n (N_i \times W_i)$

$$PFI = (N_1 \times W_1) + (N_2 \times W_2) + (N_3 \times W_3) + (N_4 \times W_4) + (N_5 \times W_5) + (N_6 \times W_6)$$

Where:

- N_1 = Number of respondents who gave severity rank 5
- N_2 = Number of respondents who gave severity rank 4
- N_3 = Number of respondents who gave severity rank 3
- N_4 = Number of respondents who gave severity rank 2
- N_5 = Number of respondents who gave severity rank 1
- N_6 = Number of respondents who gave severity rank 0 and

The severity ranking is on a scale of W=5 to 0, where 5 = severe effect and 0= not at all

Based on the survey observations and perceptions of Problem Facing Index (PFI), the issues can be ranked as follows:

Table 5.2: Types of Risks mentioned by the selected tea estates due to climate change

Climate Change Risks Witnessing	Extent of the problem						PFI	Severity Ranking
	Severe (5)	Less severe (4)	Moderate (3)	Low (2)	Very Low (1)	Not at all (0)		
Drought	14	4	0	0	1	0	87	1
Irregular Rainfall	4	10	2	1	2	0	70	2
Heavy Rain	0	3	8	7	1	0	51	3
Heat waves	1	1	7	7	3	0	47	4
Storms	0	1	2	4	12		30	5

Note: Figures in parenthesis are weights assigned for the severity ranking.

Source: Estimation based on field survey, 2025.

The study found that drought represented the most acute risk for tea estates, affecting leaf quality, yield and irrigation requirements. After that, irregular rainfall is the second-highest concern, disrupting harvest schedules and water management. Heavy rain, heat waves, and storms while still important, are relatively moderate risks in terms of frequency and impact (table 5.2).

Table 5.3: PFI of Climate Change Related Adverse Effect in Tea Estates

Adverse effect of climate change	Extent of the problem						PFI	Severity Ranking
	Severe (5)	Less severe (4)	Moderate (3)	Low (2)	Very Low (1)	Not at all (0)		
More pests and diseases	5	7	4	3	0	0	71	1
Irrigation problems	6	3	4	5	0	1	64	2
Damage to young plants	3	6	7	1	1	1	63	3
Poor Leaf Quality	5	1	3	8	1	1	55	4
Others (yield loss, soil nutrient loss, etc.)	0	1	0	1	1	16	10	5

Note: Figures in parenthesis are weights assigned for the severity ranking on a scale of 5 to 0, where 5=severe effect and 0=not at all.

Source: Estimation based on field survey, 2025.

From table 5.3, PFI results clearly show that pests and diseases, irrigation challenges, and damage to young plants are the most pressing adverse effects of climate change in Bangladesh tea industry. While poor leaf quality and degradation of soil nutrient rank lower, they remain important for the global market reputation and sustainability of Bangladesh's tea exports. Apart from other reasons, these adverse effects collectively lead to an increase in the cost of production (COP) and decrease the quality of tea.

5.3 SWOC Analysis of Tea Industry

Bangladesh tea industry stands at a crossroads. It has strong foundations and growth opportunities, but its structural weaknesses and external challenges are considerable. The SWOC (Strengths, Weaknesses, Opportunities, Challenges) framework helps to systematically evaluate the industry's current position.

Table 5.4: SWOC Analysis of Tea Industry

Strengths		Weaknesses	
<u>Issues</u>	<u>Indexed Response</u>	<u>Issues</u>	<u>Indexed Response</u>
1. Skilled and experienced labor	130	1. Not getting fair price	140
2. Good infrastructure	100	2. Old and unproductive bushes	100
3. Favorable land and Climate	90	3. Higher production cost	100
4. Adoption of modern technology	90	4. Insufficient financing	90
5. Adequate and timely bank financing	50	5. Lack of adoption of modern technology	70
6. Labor Expense	30	6. Poor infrastructure	40
		Inadequate reinvestment by owners	30
		7. Lack of water reservoir	30
Opportunities		Challenges	
<u>Issues</u>	<u>Indexed Response</u>	<u>Issues</u>	<u>Indexed Response</u>
1. Rising domestic demand	130	1. Rising operational cost	150
2. Eco-tourism	130	2. Climate change	140
3. Government support/ subsidies	120	3. Rising labor cost	130
4. Export market development	110	4. Price volatility	120
5. Secondary crops	100	5. Inadequate bank financing	60
6. Value added or specialty tea markets	50	6. Policy/regulatory changes	50
		7. Strong competition from BLF	50
		8. Delayed bank financing	40
		9. Declining exports	20

Source: Study team's estimation based on field survey

Strengths

According to table-5.4, the study found that skilled and experienced labor, existing infrastructure, and favorable land and climate gave the industry a strong base. Some tea estates are modernizing with mechanization, receives credit support on time and relatively low labor costs also add competitiveness.

Weaknesses

Based on the field survey data portrayed on table-5.4, producers face unfair pricing, old and unproductive bushes, high production costs, and insufficient financing. Besides, technological backwardness, weak infrastructure, poor reinvestment and lack of water reservoirs worsen productivity.

Opportunities

According to the survey data on table-5.4, rising domestic demand, potentiality of eco-tourism, government support, export market development, and secondary crops offer growth avenues. Value added/specialty tea can also diversify income.

Challenges

The survey data found that rising operational costs, climate change, labor costs and price volatility threaten sustainability. Moreover, limited and delayed bank financing, strong competition from BLFs, and declining exports further add pressure (table-5.4).

CHAPTER 6: Recommendations and Conclusion

According to the findings, some recommendations were made by the study team to revive the tea industry of Bangladesh. It requires combined effort by the Government, Bangladesh Bank, and tea garden owners to reverse the current situation of this industry. The consumption of tea in Bangladesh is increasing. If this industry doesn't survive, Bangladesh may need to import tea which will create pressure on foreign exchange reserve of the country. So sustainability of this industry is very crucial. That's why recommendations are made considering the long term sustainability of this industry through combating the challenges and gain benefits from the opportunities. The recommendations are as follows:

1. Focusing on **high-quality tea** production with **increased productivity**. Emphasizing high-quality tea with greater productivity will help Bangladesh to remain competitive in global markets, capture higher prices, and meet rising demand efficiently despite limited land and growing costs.
2. **Diversifying** into orthodox tea, green tea and other value-added teas will create new market opportunities, attract higher prices, and meet changing consumer preferences at home and abroad.
3. Developing a framework to **increase the share of organic tea production** considering changing domestic and global consumer preferences. Expanding organic tea production will meet rising health-conscious consumer demand, secure premium markets, and improve the industry's long-term sustainability.
4. Long term plan for export market development through **product diversification**, and **international certifications** (e.g. Kazi and Kazi). A long-term export plan with diversified products and global certifications will boost credibility, expand market access, and ensure sustainable growth.
5. **Country branding** for export market development. Strong country branding will enhance Bangladesh tea's recognition, build trust in international markets, and support higher export demand.
6. **Improve efficiency** of tea garden management to minimize the variability in productivity and quality across the valleys/ tea gardens. Better management will reduce differences in productivity and quality, ensuring consistent output and higher overall efficiency across tea gardens.
7. Further research on the feasibility and designing policies for **alternative usage** (secondary crops, solar energy, and eco-tourism, etc.) of unused tea estate lands. Exploring alternative uses of unused tea estate lands can generate additional income, promote sustainability, and diversify economic opportunities.
8. Reducing human reliance, increase **mechanization** in the areas with labor shortage for greater efficiency. Introducing mechanization in labor-shortage areas will increase efficiency, reduce dependency on manual labor, and ensure consistent productivity.

9. Frameworks to develop **quality of tea** produced by the Small Tea Growers (STGs) and Bought Leaf Factories (BLFs). Developing frameworks for STGs and BLFs will improve tea quality, enhance market competitiveness, and increase growers' income.
10. Control **indiscriminate usage of pesticides**; replacing dependence on **coal-based heater** with environment friendly options; bring more **STGs under registration** with BTB. Controlling pesticide use, adopting eco-friendly heating, and registering more STGs will promote sustainability, improve safety, and strengthen regulatory oversight. In this regard, gardens may be encouraged and where feasible made mandatory to **switch to solar panels** at least for their own operational use, thereby reducing carbon emissions and promoting clean energy adoption within the sector.
11. Reassess the capacity of existing BLFs before providing **new license**. Reassessing the capacity of existing BLFs will ensure efficient use of resources, prevent overcapacity, and support balanced industry growth.
12. **Timely financing**, especially during the start of tea season. Providing timely financing, especially at the start of the tea season, will ensure smooth operations, maintain productivity, and support growers' financial stability.
13. As an import substitute item (like-Lentils, Spices, Oil seed, etc.), temporary **concessional lending rate** may be given for tea estates. Providing temporary concessional lending for tea estates will help ease financial strain in the sector, encourage domestic production, and reduce import dependence.
14. Bangladesh Bank may introduce a **refinance scheme** for the tea industry. Introducing a refinance scheme will relieve funding pressures, improve credit availability, and support the growth and stability of the tea industry.
15. Inspiring all banks to provide loans to tea gardens in line with the **Agricultural and Rural Credit Policy and Program** under BB's Agricultural and Rural Credit Policy will enhance credit access, support operations, and promote sector growth. In this regard, loans to tea gardens may be structured in a 60:40 ratio, where **60 percent is provided as agricultural loan** for green leaf production activities, and the remaining **40 percent is extended as industrial loan**, considering the manufacturing of the tea granules.
16. Introducing more **climate resilient** and **higher quality** of tea varieties will improve yield, ensure consistent quality, and strengthen the tea industry's adaptability to changing environmental conditions. Moreover, **climate-fund subsidies** can support this transition.
17. Initiatives for improving housing, education, drinking water and healthcare facilities for the tea labors. Implementing initiatives for better housing, education, drinking water, and healthcare will improve tea labor welfare, boost productivity, and contribute to overall sector sustainability.
18. Adopting **e-auction** system for all tea trading will increase transparency, ensure fair pricing, and streamline the marketing process.

19. Other than spot auction sale, exploring the **feasibility of forward contracts**. will provide price stability, reduce market risks, and improve planning for tea producers and buyers.

Bangladesh has strong potential in the global tea industry if it can shift from bulk exports to value-added products supported by strong branding. By focusing on innovation, quality, and storytelling, Bangladeshi tea can gain a competitive edge in both domestic and international markets. For doing this, Bangladesh has to produce value-added tea and focus on some key branding strategies such as attractive packaging, storytelling, creating strong brand identity, market positioning, digital marketing, and export branding. Value-added tea is becoming popular because of growing health conscious customer base for green and herbal teas. So, exploring the feasibility of value-added tea is very important for the future outlook of the tea industry of Bangladesh.

Bangladesh's tea industry, once a major contributor to foreign exchange earnings, has experienced declining exports in recent years due to rising domestic consumption, lower productivity, and lack of product diversification. Restoring tea exports requires a comprehensive strategy that focuses on enhancing yield through modern cultivation techniques, replanting old bushes, and improving quality standards to meet international demand. Policy support in the form of export incentives, better trade negotiations, and investment in research and technology will be crucial for revitalizing the sector and restoring Bangladesh's position as a leading tea-exporting country.

Further research may focus on developing efficient financing strategies to resolve the funding crisis in existing tea estates and gardens, boost the tea industry in Bangladesh, and evaluate opportunities for small tea growers in line with international practices.

References

1. Bermúdez, S., Voora, V., Larrea, C., & Luna, E. (2024). Tea Prices and Sustainability: Sustainable Commodities Marketplace Series – Market overview: *International Institute for Sustainable Development*.
2. Boonerjee, S., Islam, M. A., Islam, S. M. M., Paul, S. K., Uddin, M. T., & Alamgir, M. S. (2025). Consumption and Export Potential of Tea in Bangladesh: A field study. *Journal of Agriculture and Food Research*, 19. <https://doi.org/10.1016/j.jafr.2024.101607>
3. E Committee on Commodity Problems. (2024). *Food and Agriculture Organization*.
4. Kagira, E. K., Kimani, S. W., & Githii, K. S. (2012). Sustainable Methods of Addressing Challenges Facing Small Holder Tea Sector in Kenya: A Supply Chain Management Approach. *Journal of Management and Sustainability*, 2(2), 75–85. <https://doi.org/10.5539/jms.v2n2p75>
5. Kazi, M. A. (2012). Investment for Sustainable Development of Bangladesh Tea Industry: An Empirical Study. *Bangladesh Journal of Political Economy*.
6. Langford, N. J. (2021). From Global to Local Tea Markets: The Changing Political Economy of Tea Production within India's Domestic Value Chain. *Development and Change*, 52(6), 1445–1472. <https://doi.org/10.1111/dech.12652>
7. Munasinghe, A. T. K. M. (2017). The Agency of Global Sustainability Certifications in Developing Countries: The Rainforest Alliance and the Sri Lankan Tea Industry. *University of Birmingham E-thesis Repository*
8. Munasinghe, A., Cuckston, T., & Rowbottom, N. (2021). Sustainability Certification as Marketisation: Rainforest Alliance in the Sri Lankan Tea Production Industry. *Accounting Forum*, 45(3), 247–272. <https://doi.org/10.1080/01559982.2021.1893053>
9. Perera, P. (2014). Tea Smallholders in Sri Lanka: Issues and Challenges in Remote Areas. *International Journal of Business and Social Science*, 5(12). <http://www.ijbssnet.com>
10. Roy, S. S., Uddin, M. T., & Alam, M. N. (2022). Value chain and Profitability Analysis of Tea in Selected Areas of Greater Sylhet District. *Journal of Agricultural Innovation and Development*, 2(1), 75–89.
11. Saji, M. K. (2007). Indian tea research. SOMO - *The Centre for Research on Multinational Corporations*.
12. Salim, S. M. Raza (2019). Prospects and Challenges of Tea Industry in Bangladesh. *Institute of Cost and Management Accountants of Bangladesh (ICMAB)*, ISSN 1817-5090, Volume-47, Number-02.
13. Sultana, J., Siddique, E.-A., & Halim, M. A. (2014). Conventional to Ecological: Tea Plantation Soil Management in Panchagarh District of Bangladesh. *Journal of Science, Technology and Environmental Informatics*, 1(1). <http://www.journalbinet.com>
14. Viswanathan, P. K. (2021). Do Trade Certifications Alleviate Economic and Social Deprivations of Plantation Workers? A Study of the Tea Plantation Sector in India. *Work Organisation, Labour and Globalisation*, 15(2), 46–72. <https://doi.org/10.13169/workorglaboglob.15.2.0046>
15. Voora, V., Bermúdez, S., & Larrea, C. (2024). Global Market Report: Tea. *International Institute for Sustainable Development*.
16. Wekumbura, W. G. C., Mohotti, A. J., Frossard, E., Kudagammana, S. T., & Silva, K. D. R. R. (2017). Prospects and Issues Related to Tea Cultivation in Mid Country Homegarden-based Tea Smallholdings in a Selected Village in Sri Lanka. *Tropical Agricultural Research*, 28(4), 421–430.
17. Xie, B., Li, T., & Yi, Q. (2011). Organic Certification and the Market: Organic Exports from and Imports to China. *British Food Journal*, 113(10), 1200–1216. <https://doi.org/10.1108/00070701111177647>

Web Sources

18. 76 years: CTG tea auction centre still commands the market. (2025, July 16). The Daily Star. Retrieved (2025, August 22), from <https://www.thedailystar.net/business/news/76-years-ctg-tea-auction-centre-still-commands-the-market-3941376>
19. Smallholders dominate world tea supply. (2017, August 10), Tea & Coffee Trade Journal. Retrieved (2025, August 12), from <https://www.teaandcoffee.net/feature/2113/smallholders-dominate-world-tea-supply/>

Annexure

Annex A: Popular International Tea Certifications

Certification/ Standards	Provider	Commencement	Certification/ Standard characteristics
Organic	United States Department of Agriculture (USDA), Ecocert (France)	In 1972, IFOAM (International Federation of Organic Agriculture Movement) was founded in France to coordinate global organic agriculture efforts. It collaborates with UN agencies like FAO, IFAD, and UNFCCC to promote organic farming.	- Standards are based on four principles: health, ecology, fairness, and care. Aims to promote the health of soil, plants and people through organic farming. - Verifies that the tea is cultivated without the use of synthetic pesticides, chemical fertilizers, or genetically modified organisms (GMOs).
Fair Trade	Fairtrade International (Germany)	As the second phase of development of the Fair Trade movement, organizations developed certification systems as a means of introducing 'fairness' in international trading that supports marginalized producers in developing countries.	- Fair Trade certification is crucial in guaranteeing ethical labor practices, fair wages, and community development initiatives for tea workers. Ensure that producers receive prices that cover costs of sustainable production. - Fair Trade-certified teas assure consumers that farmers and workers are treated fairly and receive a premium for their products, which is reinvested in community welfare programs such as education, healthcare, and infrastructure development. - Helps improving the socio-economic conditions of tea farmers but also attract ethical consumers who prioritize sustainability and fair wages in their purchasing decisions.
Shade/Bird Friendly	National Audubon Society (USA)	In 1991 initiated as a State/NGO wildlife conservation body in Washington called the Smithsonian Migratory Bird Centre	Farms are required to be organic and standards require natural shade covers to protect birds' habitats.
Rainforest Alliance	Rainforest Alliance (USA)	In 1996 a North American NGO was initiated to conserve forests vulnerable to economic activities. Currently certifies more than 170 products.	- Focus on biodiversity conservation, responsible water use, soil preservation, and reducing the carbon footprint of tea farming. - Eco-friendly farming techniques - Certification is based on the Sustainable Agriculture Network standard which covers 10 principles to ensure agricultural sustainability through improving health and safety of workers/community and conservation of biodiversity and the environment. - No assured premium. Price depends on market determined quality.
Hazard Analysis and Critical Control Points (HACCP),	Independent, accredited certification bodies: SGS (Société Générale de		- HACCP aims at improving the quality of tea manufacturing/processing. - Ensures food safety in tea production - Prevents health hazards - Quality supervision in production and processing

and Good Manufacturing Practices (GMP)	Surveillance, Switzerland), Bureau Veritas (France), and DNV (Det Norske Veritas, Norway)		Ensures that tea is free from contaminants such as pesticides, heavy metals, and microbial hazards
ISO(International Organization for Standardization)	Independent, accredited certification bodies: SGS (Société Générale de Surveillance, Switzerland), Bureau Veritas (France), and DNV (Det Norske Veritas, Norway)		- ISO 3720: Defines the minimum quality standard for black tea exports. - ISO 22000: Focuses on food safety management systems. - ISO 14001: Ensures environmental management in tea production.
Ethical Tea Partnership (ETP)	Ethical Tea Partnership (UK)		- Partnership / Ethical improvement program - Promotes ethical practices in tea production. - Improve lives and incomes of tea workers, farmers and their communities - Empower women. - Address environmental challenges and respond to climate change.
Trustea	Trustea Initiative (India)		- Focuses mostly on the Indian tea estates - Driving sustainability in the Indian tea industry - Achieve improved competitiveness of tea growers and estates - Improving livelihood of smallholders and estate workers

Sources: This table has been developed using insights from (Munasinghe et al, 2017) and (Viswanathan, 2021)

Limitations, Ethical Considerations, and Disclaimers

1. The findings presented in this report are drawn from secondary sources, and primary responses are collected through survey-based discussions. The results of the study reflect the views of the respondents only and may not represent the views of the entire population.
2. The sample was drawn from available respondents and might be affected by sampling error. Non-response bias, self-selection bias, and partial responses could influence the results of the study. Therefore, the findings should be interpreted with caution.
3. Efforts were undertaken to ensure data accuracy. The survey is based on published reports and self-reported information; however, the latter may be affected by memory limitations, misinterpretation of questions, or subjective judgment.
4. All responses have been analyzed in aggregated form. No individual respondent's identity or personal information has been disclosed or used in the analysis.
5. This report is intended for informational and analytical purposes only. The authors do not assume responsibility for decisions made solely on the basis of survey outcomes.
6. Survey results indicate correlations and respondent perceptions. They should not be interpreted as establishing causation unless stated otherwise.
7. The survey represents opinions and conditions during the data collection period only. Subsequent changes in circumstances may not be reflected in this report.
8. Some figures or contextual information may be supplemented by external data sources. The authors are not responsible for inaccuracies in third-party datasets.
9. This study adhered to standard ethical guidelines for survey-based research. Participation was voluntary, anonymity was maintained, and no sensitive personal information beyond what was necessary for analysis was collected.
10. All participants provided informed consent prior to participation. Respondents were informed about the purpose of the study, their rights, and the confidentiality of their responses. Completion of the survey was considered as an acknowledgement of consent.
11. The authors declare no known financial, personal, or professional competing interests that could have influenced the design, analysis, or reporting of this survey.