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Economics of value-added tea products: A case study on tea processing unit of Assam Agricultural University, Jorhat, Assam

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Abstract

The study on the "Economics of Value-Added Tea Products" with a case study on the Tea Processing Unit(TPU) of Assam Agricultural University (AAU) in Jorhat focuses on analysing the economic impact of producing value-added tea products. By exploring the processing methods, costs, and returns associated with the production of specialty tea, the research highlights how adding value through innovative products like flavoured teas, tea bags, and gift packs can increase profitability (Talukdar & Hazarika, 2020). It provides valuable insights into how value addition in tea processing can lead to economic growth, improved quality, and market expansion for small and large-scale producers. Ultimately, the research emphasizes the importance of diversifying tea products to meet evolving consumer preferences while contributing to the economic development of tea-growing regions. The Tea Processing Unit of AAU, Jorhat, is profitable with a benefit-cost ratio of 1.60. Moreover, the benefit cost ratio of different product of tea processing unit are calculated which are found to be positive. To sustain growth, it is essential to enhance raw material supply, expand production capacity, improve the online platform, and establish a dedicated sales system to meet rising demand.

Keywords: Tea, diversifying, value-addition, tea processing unit

Introduction

Tea is one of the most widely consumed beverages in the world and has significant cultural, economic and agricultural importance. Originating from ancient China, tea cultivation and consumption have spread globally, with India being one of the largest producers and exporters. In India, tea holds a special place, not only as a daily beverage but also as a symbol of hospitality and tradition. In recent times, there has been a noticeable shift towards value-added teas, as consumers increasingly prefer options like flavored, herbal, and specialty teas that offer unique health benefits and enhanced sensory experiences (Talukdar & Hazarika, 2020) [8]. Moreover, the growing demand for value-added teas is creating new opportunities for farmers by encouraging diversification and innovation at the cultivation level (Baruah & Nath, 2020) [1]. Farmers who adapt to producing specialty or organic varieties can access premium markets, leading to higher income and better price stability (Hazarika *et al*., 2022) [6]. This shift also promotes sustainable farming practices and encourages stronger linkages with extension services, which provide training and support for quality improvement and market access (Bhuyan *et al*., 2021) [2]. As a result, value-added tea production contributes to both rural development and agricultural resilience.

Methodology

The current study was carried out in Tea processing unit of Assam Agricultural University of Assam situated in Jorhat district, which is one of India's top agricultural university. Using the personal interview approach, primary data was gathered in order to meet the goals of the study. The purpose of the data gathering tool was to get specific information from the tea processing unit about proceeding of making value added tea, expenses, profits, and related limitations. Analyzing the financial feasibility of various value added tea was the main goal of the study. Six different kinds of tea including tea gift pack were identified. To evaluate the cost, returns, profitability, and limitation associated with each form of tea, the obtained data was subjected to tabular analysis using the proper statistical methods.

Analytical Technique

For calculating the benefit of each value added product of tea, Cost of production is calculated by taking the variable cost at current price. Then total cost of production of each product is equal to total variable cost of 1 kg.

Return analysis: Return from each product = Price of 1kg

So, Profit per kg = Price of 1 kg tea - Cost of production of 1 kg tea

Similarly, to calculate the economics of production of the enterprise as a whole, B:C ratio was calculated. To determine cost of production, all fixed and variable cost of the firm were considered at current price.

Total cost of production = Total fixed cost + Total variable cost

Gross return from Tea production = Total produce (in kg) × price (per kg) Benefit Cost Analysis

$$\text{Benefit: Cost ratio} = \frac{\text{Gross return}}{\text{Total cost of production}}$$

Results and Discussion

In this study, three objectives were studied based on the data taken from TPU of Assam Agricultural University.

To assess the status of value-added products available in Tea Processing Unit of AAU

The different value-added products of tea are identified and their preparation process is mentioned below

1. Elaichi Tea

Elaichi tea is the most demanded tea among all the products. It is a fragrant and soothing beverage that blends the robust flavors of black tea with the warm, spicy-sweet aroma of cardamom. In addition to its pleasant flavor, cardamom is known for aiding digestion, reducing inflammation, and promoting oral health (Goswami, 2019; Talukdar & Hazarika, 2020) [5, 8]. For preparation, 30 grams of elaichi (cardamom) powder is mixed with 1 kg of CTC black tea, and it is available in 250-gram packets. The price of a 250-gram packet is ₹150, and the price of 1 kg is ₹600.

2. Masala Tea

Masala tea, or masala chai, is a traditional Indian beverage combining black tea with aromatic spices such as cardamom, cinnamon, cloves, ginger, and black pepper. It is not only flavorful but also provides immune-boosting properties and supports digestive health due to its rich spice content (Bhuyan *et al*., 2021; Baruah & Nath, 2020) [2, 1]. Masala tea is made by mixing 25g black pepper powder, 15g cardamom powder, and 15g cinnamon powder with 1 kg of CTC black tea. It is available in 250-gram packets priced at ₹150 and 1 kg at ₹600.

3. Ginger Tea

Ginger tea is a warming, spicy tea known for its anti-inflammatory and antioxidant effects, as well as its ability to reduce nausea and improve digestion (Hazarika *et al*., 2022) [6]. This value-added tea is prepared by mixing 40 grams of ginger powder with 1 kg of CTC black tea. It is available in 250-gram packets, priced at ₹150, and 1 kg at ₹600.

4. Black Pepper Tea

Black pepper tea is known for its therapeutic properties, especially in relieving symptoms of cough, cold, and fever. It also boosts metabolism and improves gut health, making it both a flavorful and functional beverage (Talukdar & Hazarika, 2020) [8]. This tea is made by blending 30 grams of black pepper powder into 1 kg of CTC black tea. It is available in 250-gram packets for ₹150 and 1 kg for ₹600.

5. Rose Green Tea

Rose green tea offers a delicate, floral flavor with the fresh, grassy notes of green tea. It is not only soothing but also beneficial for skin health, stress relief, and detoxification (Goswami, 2019) [5]. The blend is prepared by mixing 30 grams of dry rose petals with 1 kg of green tea. It is sold in 100-gram packets priced at ₹150 and 1 kg at ₹1500.

6. Gift Packs

Gift packs are among the top-selling products of the Tea Processing Unit of AAU, making them an excellent choice for various occasions. The big gift pack contains 200 grams each of Masala tea, Elaichi tea, Ginger tea, Black Pepper Tea, Rose Green Tea, Green Tea, and CTC Black Tea, priced at ₹1500. The small gift pack includes 200 grams each of Masala tea, Elaichi tea, and CTC Black Tea, priced at ₹600

To study the economics of each value- added product

1. Elaichi Tea

To find the economics of elaichi tea, variable cost is calculated and return is taken into consideration then variable cost is subtracted from return.

The economics of elaichi tea in Table 1 shows that the total variable cost for producing 1 kg amounts to ₹367, which includes the cost of elaichi, black tea, packaging, stickers, and miscellaneous items. With a selling price of ₹600 per kg, the profit comes to ₹233 per kg, or ₹58.25 for every 250g packet.

2. Masala tea

The economics of masala tea in Table reveal that the total variable cost for producing 1 kg is ₹348, which includes ingredients like elaichi, cinnamon, black pepper, black tea, and packaging materials. With a selling price of ₹600 per kg, the profit amounts to ₹252 per kg, or ₹63 for each 250g packet.

3. Ginger tea

The economics of ginger tea in Table show that the total variable cost to produce 1 kg is ₹294, which includes expenses for ginger, black tea, packaging, stickers, and other minor costs. With a selling price of ₹600 per kg, the profit earned is ₹326 per kg, or ₹81.50 for every 250g packet.

4. Black Pepper tea

The economics of black pepper tea in Table 4 indicate that the total variable cost for producing 1 kg is ₹287, covering the cost of black pepper, black tea, packaging, stickers, and miscellaneous items. With a selling price of ₹600 per kg, the resulting profit is ₹313 per kg or ₹78.25 per 250g packet.

5. Rose Green tea

The economics of Rose Green Tea in Table 5 shows a total variable cost of ₹785 per kg, which includes expenses for rose petals, green tea, packaging, stickers, and

miscellaneous items. With a selling price of ₹1500 per kg, the profit amounts to ₹715 per kg or ₹71.50 per 100g packet.

6. Gift Pack Big Gift Pack

The economics of the Big Gift Pack in Table 6 shows a total variable cost of ₹1051, which includes 200 g each of elaichi, masala, ginger, black pepper, rose green, CTC black, and green teas, along with packaging in a large basket and miscellaneous costs. With a selling price of ₹1500, the profit per Big Gift Pack amounts to ₹449.

Small Gift Pack

The economics of the Small Gift Pack in Table 7 indicates a total variable cost of ₹428, which includes 200g each of elaichi, masala, and CTC black teas, along with packaging in a small basket and miscellaneous expenses. With a selling price of ₹600, the profit per Small Gift Pack is ₹172.

To analyze the economics of production of the unit as a whole

In this objective, the over all profit of the firm(TPU) in the last financial year was calculated. Both fixed and variable costs were considered to estimate the overall economic performance. Fixed costs included investments in infrastructure and equipment such as the building, weighing machines, sealing machines, mixers, and utensils. As shown in Table 8, the total investment in these fixed assets amounted to ₹7,20,000. Depreciation was calculated at 2% for the building and 10% for the equipment, resulting in depreciation costs of ₹2,000 and ₹14,000 respectively. Thus, the total fixed cost for the unit stood at ₹16,000 which is shown in Table 9.

Table 10 represents the variable costs associated with operating the enterprise, which included expenses for raw materials, black tea, green tea, labour, electricity, and other miscellaneous items. The total variable cost was estimated at ₹5,11,248, with raw materials accounting for the largest share of the expenditure.

The total cost of production include total fixed cost and variable cost and its equal to Rs 527248.00.The total return from the unit was equal to Rs 844500.00 which is shown in Table 11.

Benefit cost was calculated for evaluating the efficiency of the enterprise. From the analysis, gross return and total cost of the enterprise were estimated to be Rs 844500.00 and Rs 527248.00. Thus, the benefit cost ratio was calculated to be 1.6 which is presented in Table 12. As the benefit cost ratio is more than 1, it implies that the investment in value added tea production is profitable and the enterprise is running a profitable business.

Table 1: Cost and Return of Elaichi Tea per kg

Items	Cost (Rs)
1.Elaichi per 30 gram (At the rate of Rs 3500/Kg)	105
2.Black tea per kg	200
3.Aluminium foil pouch (4 packet)	32
4.Sticker (4 unit)	20
5. Miscellaneous	10
Total	367.00
Selling price per kg	600.00

Table 2: Table 1 Cost and Return of Masala Tea per kg

Items	Cost (Rs)
1.Elaichi per 15 grams (At the rate of Rs 3500/Kg)	52
2.Cinnamon per 15 grams (At the rate of Rs 850/Kg)	12.75
3.Black pepper per 25 grams (At the rate of Rs 850/Kg)	21.25
4.Black tea per kg	200
5.Aluminium foil pouch (4 packet)	32
6.Sticker (4 unit)	20
7. Miscellaneous	10
Total	348.00
Selling price per kg	600.00

Table 3: Cost and Return of Ginger Tea per kg

Items	Cost (Rs)
1.Ginger per 40 gram (At the rate of Rs 800/Kg)	32
2.Black tea per kg	200
3.Aluminium foil pouch (4 packet)	32
4.Sticker (4 unit)	20
5.Miscellaneous	10
Total	294.00
Selling price per kg	600.00

Table 4: Cost and Return of Blackpepper Tea per kg

Items	Cost (Rs)
1.Black pepper per 30gram (At the rate of Rs 850/Kg)	25
2.Black tea per kg	200
3.Aluminium foil pouch (4 packet)	32
4.Sticker (4 unit)	20
5.Miscellaneous	10
Total	287.00
Selling price per kg	600.00

Table 5: Cost and Return of Rose Green Tea per kg

Items	Cost (Rs)
1.Rose leaf per 30 grams (At the rate of Rs 1500/Kg)	45
2.Green tea per kg	700
3.Aluminium foil pouch (10 packet)	80
4.Sticker (10 unit)	50
5.Miscellaneous	10
Total	785.00
Selling price per kg	1500

Table 6: Cost and Return of Big Gift Pack

Items	Cost (Rs)
1.Elaichi Tea (1 packet of 200 gram)	73.40
2.Masala Tea (1 packet of 200 gram)	69.60
3.Ginger Tea (1 packet of 200 gram)	58.60
4.Blackpepper Tea (1 packet of 200 gram)	57.40
5.Rose Green tea (1 packet of 200 gram)	157.00
6.CTC Black Tea (1 packet of 200 gram)	40.00
7.Green tea (1 packet of 200 gram)	120.00
8.Big basket	445.00
9.Miscellaneous	30.00
Total	1051.00
Selling price per pack	1500.00

Table 7: Cost and Return of Small Gift Pack

Items	Cost (Rs)
1.Elaichi Tea (1 packet of 200 gram)	73.40
2.Masala Tea (1 packet of 200 gram)	69.60
3.CTC Black Tea (1 packet of 200 gram)	40.00
4.Small backet	225.00
5.Miscellaneous	20.00
Total	428.00
Selling price per pack	600

Table 8: Fixed cost of the Processing unit

Fixed cost			
SL. No	**Particulars**	**Size /No./Quantity**	**Cost (Rs) (As on 1/01/2024)**
1	Building	-	700000.00
2	Weighing machine	2	6000.00
3	Sealing machine	2	5000.00
4	Mixer	2	6000.00
5	Utensils	5	3000.00
Total			720000.00

Table 9: Total Fixed cost of the Processing unit

Total fixed cost	
Particulars	**Amount (Rs)**
Depreciation on (Weighing machine, Mixture and Sealing machine, utensils) @10%p.a	2000.00
Depreciation on Infrastructure @2% p.a	14000.00
Total fixed cost	16000.00

Table 10: Variable cost of the Processing Unit

Variable cost				
SL. No	**Particulars**	**Size /No./Quantity**	**Rate (Rs)**	**Amount (Rs)**
1.	Black tea	902 kg	200.00	180400.00
2.	Green tea	18 kg	600.00	10800.00
3.	Cardamom (Elaichi)	15 kg	3500.00	52500.00
4.	Cinnamon	5 kg	850.00	4250.00
5.	Black pepper	10.5 kg	850.00	8925.00
6.	Ginger	6.5 kg	800.00	5200.00
7.	Rose leaf	1 kg	1500.00	1500.00
8.	Basket Small	55 pieces	225.00	12375.00
9.	Basket big	225 pieces	445.00	100,125.00
10.	Aluminum foil pouch	4600 pieces	8.00	36800.00
11.	Sticker	4600 pieces	5.00	23000.00
12.	Labour	1 man-day	365.86	69503.00
13.	Electricity	450 unit	8.60	3870.00
14.	Miscellaneous	-		2000.00
15.	Total			511248.00

Table 11: Return of the Processing Unit for last financial year

Return			
Particular	**Quantity**	**Rate (Rs)**	**Total**
Elaichi tea	293 kg	600.00	175800.00
Masala tea	290 kg	600.00	174000.00
Ginger tea	108 kg	600.00	64800.00
Black pepper tea	29 kg	600.00	17400.00
Rose green tea	28 kg	1500.00	42000.00
Small gift pack	55 no	600.00	33000.00
Big gift pack	225 no	1500.00	337500.00
Total			844500.00

Table 12: Benefit Cost analysis of the processing unit

Benefit cost analysis	
Gross return	₹ 844500.00
Total cost	₹ 527248.00
Net return	₹ 317252.00
B:C ratio	1.6

Conclusion

Value addition in tea production is growing steadily in India and has become a good source of income for many people. From the analysis, it is clear that the Tea Processing Unit of AAU, Jorhat, is running profitably with a benefit-cost ratio of 1.60. This shows that starting such a unit can be a great business opportunity. Nowadays, consumers are showing more interest in value-added tea products like masala tea, elaichi tea, and rose green tea. This growing demand gives entrepreneurs a chance to explore new markets and earn better profits.

References

1. Baruah R, Nath H. Scope of specialty tea in Assam: A sustainable approach. Int J Agric Sci. 2020;12(17):10055-8.
2. Bhuyan D, Hazarika MK, Kalita P. Linkages and market support for tea farmers in Assam: A case study on small tea growers. J Ext Syst. 2021;37(1):45-52.
3. Deng Y, Huang B. Ginger tea: A review of its anti-inflammatory properties, gastrointestinal benefits, and traditional uses. Med Plant Res. 2024;14.
4. Ghosh N, Won-Mo Yang C. Diversification of the tea products: Global scenario. J Tea Sci Res. 2015.
5. Goswami TK. Value addition in tea and diversified products. J Food Process Technol. 2019;10(6):1-5.
6. Hazarika MK, Borah S, Nath D. Organic tea cultivation and farmer livelihood in North East India: A case of sustainable rural development. Indian J Agric Econ. 2022;77(3):347-56.
7. Liao R, Parker T, Bellerose K, Vollmer D, Han X. A green tea-containing skincare system improves skin health and beauty in adults: An exploratory controlled clinical study. Int J Innov Res Technol. 2024.
8. Talukdar U, Hazarika C. Production and export of value-added tea in India and its global competitiveness. Econ Aff. 2020;65(2):197-204.
9. Torane SS, Torane SR, Chakranaraya AD, Rahane RK, Navghare. Analysis of value addition in various products of mango in Konkan region of Maharashtra State (India). Int J All Res Educ Sci Methods. 2023;11(12).
10. Vinokur Y, Rodov V, Reznick N, Goldman G, Horev B, Umiel N, *et al*. Rose petal tea as an antioxidant-rich beverage: Cultivar effects. J Food Sci. 2006;71(4):C225-9.
11. Tea Board of India.
12. Directorate of Economics and Statistics. Statistical Handbook of Assam. Guwahati: Government of Assam; 2023.
13. Directorate of Economics and Statistics, Government of Assam.
14. The Times of India.