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Geographical Indication (GI) and Branding of Assam Litchi: Prospects for Global Market Penetration

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Abstract: The Tezpur Litchi of Assam, India, with a distinctive quality, flavour and a high percentage of pulp to seed, became the first product to have a Geographical Indication (GI) tag in 2013, the first product that has been legally recognised as having a unique origin. Such prestigious certification has a very low penetration in the global market and has potential regardless of the potential inherent in it. This paper discusses the opportunities and threats that are associated with branding and international marketing of GI-tagged Assam Litchi. The type of research is mixed in which the primary data of the research was collected by means of a structured survey of 150 growers of litchi in Sonitpur district of Assam. The SPSS analysis of the data was done using descriptive statistics to obtain a glimpse of the demographic profile of the farmers, the extensive agricultural practices and their awareness of the GI tag. The findings are an indication of a rural climate largely comprised of small and marginal farmers that are of a combination of both traditional and modern farming practices without the necessary after harvest facilities and lacking knowledge of the world market standards. The strategic gap that exists between the potential and actual production of the litchi in the market is expounded in the paper. It has reached the conclusion that multi-pronged strategy that involves farmer collectivization, well-developed supply chain and the particular branding are the key to the opening of the global market of Assam Litchi in order to turn the GI tag into the powerful marketing tool.

Keywords: *Assam Litchi, Geographical Indication (GI), Branding, Global Market, Agricultural Practices, Tezpur Litchi, Supply Chain, SPSS.*

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I. INTRODUCTION

Geographical Indication (GI) is an intellectual property right such that a product is recognized to have a specific geographical origin, and by doing so, it can have a special quality, reputation, or attribute that can be essentially imputed on it due to its geographical origin (Chaudhary, 2018). With the example of agricultural goods, a GI tag is also a powerful differentiator within a saturated market in both regards of ensuring the consumer quality and authenticity and also enabling producers to be able to charge high prices. It is a tool that can be used to preserve the traditional knowledge, to preserve the biodiversity of the region, and to increase the development of a rural area (Datta et al., 2020). The India has got its own agro-climatic areas and has had the opportunity to enjoy diverse and inimitable agricultural harvests and GI framework has been used increasingly to protect and market its treasures.

One of them is the Tezpur Litchi (Litchi chinensis), a famous fruit of the Sonitpur district of Assam, Northeast India. Its fertile alluvial soil and sub-tropical climate is the most suitable place to cultivate this fruit with juicy pulp, small seeds, and sweet and tart-sweet flavour which is not excessive or

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excessive (The Sentinel Assam, 2024). Tezpur Litchi was granted the GI tag (GI Registration No.438) in 2013 and it is a major milestone which was achieved due to the efforts of the North Eastern Regional Agricultural Marketing Corporation (NERAMAC) (NERAMAC, 2013). Such certification will make the name (Tezpur Litchi) legally registered and this will make sure that the name will not be exploited by the other producers who are not actually in the geographical location.

The GI tag was considered a way to enhance the marketability of Tezpur Litchi more so in the global markets where people are becoming interested in the products whose source and quality can be ascertained. Already, some initial steps have been taken; the Agricultural and Processed Food Products Export Development Authority (APEDA) has assisted in exporting some consignments to other nations like the United Kingdom and the United Arab Emirates and exposing the untapped potential of the Northeast of India to be an export hub (Ministry of Commerce & Industry, 2022; Times of India, 2022). It is also possible to note such activities as Litchi Utsav, which was held in the first place, and it is another manifestation of the desire to raise the awareness of the economic and cultural value of the fruit (Assam Tribune, 2025). However, in the influence of these activities, and in the quality of the fruit as it is, the penetration of the Litchi of Tezpur in the world market remains discontinuous and limited. The GI tag process towards creating a successful global brand is not an easy ride with disjointed supply chains, lack of a unified agricultural practice, and insufficient post harvest infrastructure, and poor market connectivity (Sharma, 2025). The given paper will therefore critically look at the current status of Tezpur Litchi value chain and how strategic interventions can be employed to place the GI status of Tezpur Litchi in a working economic benefits and an international competitive brand image.

II. OBJECTIVE OF THE STUDY

The primary goal of the research will be to achieve a comprehensive discussion of the opportunities and threats of the successful branding and international market expansion of GI-tagged Tezpur Litchi. The study will fulfill a theoretical perception of the worth of GI tag and venture to the earthly facts of elevating its business prosperity. To implement this general purpose, the following specific and interrelated secondary objectives inform the study:

- To Profile the Socio-Economic and Demographic Characteristics of Litchi Farmers
- To Document and Analyze Prevailing Agricultural Practices
- To Assess Farmer Awareness and Perception of the Geographical Indication Tag
- To Identify Challenges in the Post-Harvest Management

III. DATA BASE AND RESEARCH METHODOLOGY

This study employed a descriptive and exploratory research design, utilizing a mixed-method approach to gather and analyze data. The research is primarily based on primary data, supplemented by secondary data from relevant sources.

➢ *Data Source:*

- Primary Data: The core of the study is primary data collected through a field survey conducted between March and April 2025 in the Sonitpur district of Assam, the designated geographical area for Tezpur Litchi.
- Secondary Data: Secondary data were compiled from academic journals, government reports, publications from APEDA and NERAMAC, news articles, and official websites related to Geographical Indications in India.

➢ *Sampling and Sample Size:*

A multi-stage random sampling technique was used for the selection of respondents. In the first stage, three major litchi-growing development blocks within the Sonitpur district were selected purposively. In the second stage, two villages were randomly selected from each block. In the final stage, 25 litchi farmers were randomly selected from each village, resulting in a total sample size of 150 respondent farmers.

➢ *Data Collection:*

A pre-tested, structured questionnaire was used as the primary tool for data collection. The questionnaire was designed to capture information on the socio-economic profile of the farmers, landholding details, cultivation practices, post-harvest management, and their awareness of the GI tag.

➢ *Data Analysis:*

The quantitative data collected were coded and analyzed using the statistical software package IBM SPSS Statistics (Version 28). The Frequencies procedure was utilized to generate frequency distributions and percentages for all categorical variables, including gender, education level, and specific agricultural practices. For continuous variables like age and farming experience, the Descriptives procedure was used to calculate measures of central tendency (Mean) and dispersion (Standard Deviation). The results are presented in formatted tables for clear interpretation.

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IV. RESULTS OF SPSS ANALYSIS

Table 1: Demographic Profile of Respondent Farmers (n = 150)

Variable	Category	Frequency	Percentage (%)	Mean	Std. Dev.
Age (Years)	< 30	12	8.0	48.5	11.2
	30 - 50	85	56.7		
	> 50	53	35.3		
Gender	Male	138	92.0		
	Female	12	8.0		
Education Level	Illiterate	18	12.0		
	Primary School	65	43.3		
	Secondary School	47	31.4		
	Graduate & Above	20	13.3		
Farming Experience (Years)	< 10	25	16.7	19.8	9.5
	10 - 20	70	46.6		
	> 20	55	36.7		
Primary Occupation	Farming	115	76.7		
	Farming + Other	35	23.3		

Source: SPSS Output from Primary Field Survey, 2024

Table 2: Agricultural Practices Followed by Respondent Farmers (n = 150)

Practice	Response	Frequency	Percentage (%)
Source of Saplings	Government Nursery	68	45.3
	Private Nursery	55	36.7
	Self-Propagated	27	18.0
Use of Organic Manure (FYM)	Regularly	95	63.3
	Occasionally	40	26.7
	Never	15	10.0
Use of Chemical Fertilizers	As per Recommendation	33	22.0
	Ad-hoc basis	102	68.0
	Never	15	10.0
Pest Management Method	Primarily Chemical	110	73.3
	Integrated Pest Mgt.	32	21.4
	Traditional/Organic	8	5.3
Post-Harvest Sorting/Grading	Yes	58	38.7
	No	92	61.3

Source: SPSS Output from Primary Field Survey, 2024

Table 3: Landholding Based Classification of Farmers (n = 150)

Farmer Category	Land Size (Hectares)	Frequency	Percentage (%)
Marginal	< 1 ha	88	58.7
Small	1 - 2 ha	43	28.6
Medium	> 2 ha	19	12.7
Total		150	100.0

Source: SPSS Output from Primary Field Survey, 2024

V. DISCUSSION

The findings from the SPSS analysis of the primary survey data, when contextualized with existing literature, paint a detailed picture of the opportunities and significant hurdles for the global branding of Tezpur Litchi. The demographic profile of the respondent farmers (Table 1) is particularly revealing. The SPSS Descriptives procedure shows a mean age of 48.5 years, indicating a mature and experienced farming community. However, the frequency analysis highlights a potential challenge in the educational profile; over 55% of farmers have only a primary school education or are illiterate. This lower

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educational attainment can be a barrier to the adoption of complex modern technologies and understanding the abstract market value of a GI tag (Sharma, 2025). The overwhelming male dominance (92%) also points towards a need for gender-inclusive training and development programs.

The classification of farmers based on landholding (Table 3) underscores a critical structural issue. The SPSS frequency output clearly shows that a staggering 87.3% of litchi growers are marginal or small farmers. This leads to fragmentation of produce, lack of economies of scale, and low individual investment capacity. These farmers often lack the bargaining power to negotiate fair prices with intermediaries and cannot independently afford essential infrastructure like cold storage, which are non-negotiable for export markets (Chaudhary, 2018). This finding reinforces the need for collectivization through Farmer Producer Organizations (FPOs).

Analysis of agricultural practices (Table 2) further illuminates the gap between current production and export readiness. While a majority (63.3%) use organic manure, the application of chemical fertilizers is largely ad-hoc (68.0%). Similarly, pest management is overwhelmingly reliant on chemical methods (73.3%), which can lead to issues of pesticide residue, a major concern for international food safety standards. Perhaps the most glaring deficiency identified by the SPSS analysis is in post-harvest management, where 61.3% of farmers do not perform any sorting or grading. This severely diminishes the market value of the produce. The success of initial export consignments (Ministry of Commerce & Industry, 2022) likely depended on selective sourcing, a model that is not scalable without systemic improvements at the farm level.

➢ *Agricultural Practices*

The cultivation of Tezpur Litchi is a blend of traditional wisdom and emerging modern interventions. The unique quality of the fruit is intrinsically linked to the specific agro-ecological conditions of the region, but the practices employed by farmers play a pivotal role in determining the final yield, quality, and export viability.

- Cultivation and Orchard Management: The process typically begins with the planting of saplings, sourced from a mix of government nurseries, private sellers, and self-propagation, as shown in Table 2. While government nurseries are a significant source (45.3%), the lack of a standardized certification system for planting material can lead to variability in plant quality. Orchard management practices are often traditional. Farmers regularly use farmyard manure (FYM), which enriches the soil's organic content. However, the ad-hoc application of chemical fertilizers (68.0%), often without prior soil testing, can lead to nutrient imbalances.

- Pest and Disease Management: Litchi orchards are susceptible to various pests and diseases. The survey data indicates a heavy reliance on chemical pesticides (73.3%) as the primary mode of control. This approach poses significant risks for export-oriented production due to stringent Maximum Residue Limits (MRLs) in international markets. The limited adoption of Integrated Pest Management (IPM) techniques (21.4%) is a major area of concern.

- Harvesting and Post-Harvest Handling: Litchi is a highly perishable fruit. The timing of the harvest is critical. Once harvested, the fruit needs immediate attention. However, this is where the most significant value loss occurs. The survey reveals that a majority of farmers (61.3%) do not practice sorting and grading. Freshly plucked litchis are often packed into bamboo baskets or jute bags without removing damaged or unripe fruits. This practice leads to rapid spoilage and a lower average price. The lack of pack-house facilities and a cold chain infrastructure is the single biggest impediment to upgrading the litchi value chain.

VI. CONCLUSION

The Tezpur Litchi, fortified with a Geographical Indication tag, stands at a crossroads of immense opportunity and significant challenges. Its unique organoleptic properties make it a strong candidate for premium positioning in global markets. However, the GI tag alone is not a panacea. This study reveals that the production ecosystem is characterized by fragmented landholdings, a deficiency in standardized agricultural practices, and critical gaps in post-harvest infrastructure. The awareness and leveraging of the GI tag at the farmer level are sub-optimal, preventing the realization of its full economic potential. To transition from a regional delicacy to a global brand, a concerted, strategic, and collaborative effort is required from all stakeholders.

➢ *Policy Recommendation*

- Strengthen Farmer Collectivization: Actively promote and support the formation of Farmer Producer Organizations (FPOs) for litchi growers. These FPOs can serve as hubs for training, input supply, quality control, collective marketing, and establishing direct linkages with exporters.
- Develop a Unified Branding Strategy: Create a distinct brand identity for "Tezpur Litchi" complete with a compelling story, a unique logo (incorporating the GI mark), and standardized, attractive packaging. This branding should be promoted by a central body like NERAMAC or APEDA.
- Invest in Post-Harvest Infrastructure: Establish a network of modern pack-houses with facilities for sorting, grading, pre-cooling, and sulpher treatment. Simultaneously, invest in developing an end-to-end cold chain, including refrigerated vehicles and storage facilities.

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- Launch Intensive Capacity Building Programs: Organize targeted training programs for farmers focusing on Good Agricultural Practices (GAP), Integrated Pest Management (IPM) to meet MRL standards, post-harvest handling techniques, and financial literacy.
- Facilitate Market Access and Certification: Government agencies should simplify the process for litchi FPOs to obtain necessary export certifications (e.g., GlobalG.A.P.) and actively facilitate buyer-seller meets to connect producers with international importers.

➢ *Limitations of the Study*

This study's geographical scope was confined to the Sonitpur district of Assam, and the findings may not be fully representative of all litchi-growing areas in the state. The research is based on data provided by farmers, which is subject to self-reporting and recall biases. The study primarily focused on the production side of the value chain; a more comprehensive analysis would include perspectives from exporters, retailers, and international consumers.

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