

“Revitalizing Agricultural Marketing and Infrastructure for Assam's Global Agri-Exports: Opportunities and Challenges”

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Abstract

This study explores the prospects, challenges, and opportunities associated with revitalizing the Agricultural marketing and infrastructure in Assam to foster global Agri-exports. As Assam seeks to position itself as a key player in the international Agricultural market, understanding the current state of its agricultural sector and the factors influencing global trade is of vital importance. In this study, the researcher explores the existing Agricultural marketing mechanisms, infrastructure strengths, and the unique offerings of Assam's Agricultural products. Additionally, it reviews the challenges hindering effective Agri-exports, encompassing issues related to logistics, market access, and regulatory frameworks. The study employs a comprehensive approach and case studies to provide an understanding of the opportunities and challenges. Through these insights, the research aims to offer recommendations for policy enhancements, strategic interventions, and collaborative efforts to prosper Assam towards a more robust and competitive global Agri-export market. This research paper is conceptual and relies on secondary data sources that aim to study Agricultural Marketing and Infrastructure for Assam's Global Agri-Exports: Opportunities and Challenges.

Keywords: Agri-exports, marketing, global competitiveness, market access, export potential

Introduction

The Agricultural sector in Assam stands at a pivotal juncture, poised for transformation and global recognition. As the demand for sustainable and high-quality Agricultural products continues to rise on the global stage, Assam holds immense potential to emerge as a significant player in the international Agri-exports market. This research paper explores through case studies the critical aspects of revitalizing Agricultural marketing and infrastructure in Assam. Assam, located in the northeastern part of India, boasts a diverse agro-climatic environment conducive to the cultivation of a wide variety of crops. From the world-renowned Assam tea to the staple rice fields that dominate its landscape. Assam's agricultural sector, despite its abundant natural resources and fertile lands, has yet to fully realize its global potential. This study explores Assam's potential for enhancing its agricultural marketing strategies and infrastructure to integrate into the global Agri-exports market, while also addressing challenges for sustainable growth. The study analyzes Assam's agricultural sector, identifying areas for improvement and proposing strategic revitalization pathways. It aims to help policymakers, stakeholders, and investors understand the current state, position Assam as a competitive contributor to the global Agri-exports market, and promote economic growth and sustainability in the region.

The global agricultural market is rapidly evolving, with consumers seeking quality and sustainably produced goods. Assam, at the crossroads of tradition and modernity, has the opportunity to carve out a niche for itself. This paper explores the multifaceted aspects of revitalizing agricultural marketing strategies, including adopting modern techniques, adhering to international standards, and exploring niche markets for specialty products. However, it will also critically assess the challenges posed by inadequate infrastructure, such as transportation, storage facilities, and logistical shortcomings, which hinder Assam's seamless integration into global trade networks. The paper aims to provide a comprehensive understanding of the challenges and opportunities in revitalizing agricultural marketing strategies in Assam. Through a comprehensive analysis of opportunities and challenges, this research endeavors to offer valuable insights

and recommendations for policymakers, stakeholders, and the Agricultural community in Assam. By strategizing concerted efforts towards revamping Agricultural marketing approaches and fortifying infrastructure, Assam can position itself as a player in the global Agricultural exports arena while ensuring sustainable development and prosperity for its agricultural sector.

About Assam

The northeastern Indian state of Assam is a major cultural and economic centre, situated on the banks of the Brahmaputra River. To the north lies Bhutan, while to the east is Arunachal Pradesh. South of the state lie Nagaland, Manipur, and Mizoram; southwest is Meghalaya; west lies West Bengal, and west lies Bangladesh. Aside from the old city and the Kamakhya temple, Assam is famous for the Brahmaputra River, Assam tea, and the one-horned rhinoceros. The state of Assam has a vast expanse of 78,438 square kilometres, meticulously divided into 35 districts, 80 sub-divisions, 219 blocks, 184 revenue circles, 2200 gram-panchayats, 214 cities, and 25,372 inhabited villages. (Source: Economic Survey 2021-22, Assam)



Objectives of the study

1. To assess the current state of agricultural marketing and infrastructure.
2. To investigate opportunities and challenges in Agri-exports.

Research Methodology

The research is conceptual, utilizing a theoretical framework to analyze agricultural marketing and infrastructure. Secondary data sources are used to gather information, focusing on pre-existing data and literature.

Overview of Assam's Agricultural sector and its potential in the global market

Assam, a state in northeastern India, is characterized by its rich and diverse Agricultural practices, contributing significantly to the state's economy and the livelihoods of its population. The region's fertile soil and favorable climate create a conducive environment for the cultivation of various crops. Assam's tea cultivation is a significant agricultural activity, renowned globally for its high-quality tea, which significantly contributes to the state's economy. The tea estates, stretching across vast landscapes, produce a substantial portion of India's total tea output. The unique climate and soil conditions in Assam contribute to the distinct flavor of Assam tea, making it a favorite among tea connoisseurs worldwide. Assam's agriculture is centered around rice cultivation, a major Indian staple food. Using both traditional and modern farming methods, rice is grown in various varieties, with paddy fields dominating the landscape during the sowing season, highlighting the state's significant role in the agrarian economy. Jute cultivation is a vital part of Assam's agriculture, providing a versatile fiber for various products like sacks and bags. The jute industry contributes to both agricultural and industrial sectors, offering income and employment opportunities. In addition to these major crops farmers in Assam are engaged in the cultivation of various fruits and vegetables. The state's agro-climatic conditions support the growth of oranges, bananas, pineapples, and other fruits. Farmers in Assam also cultivate a variety of vegetables, meeting the local demand and contributing to the overall Agricultural diversity of the region. The potential of Assam's

Agricultural products in the global market depends on several factors. Quality control and adherence to international standards are crucial to gaining acceptance in the global marketplace. The adoption of modern farming techniques, sustainable practices, and technological advancements can enhance productivity and product quality. Infrastructure development, including transportation and storage facilities, is crucial for connecting farmers to markets, reducing post-harvest losses, and ensuring timely delivery of agricultural products. Government policies that facilitate export and trade agreements can further boost the global market potential of Assam's Agricultural products. Organic farming initiatives in Assam can capitalize on the rising demand for organic and specialty crops, despite facing challenges such as land fragmentation, water management, and climate change. To address these issues, a comprehensive approach involving government interventions, technological support, and community engagement is needed, to ensure Assam's agricultural sector remains competitive and sustainable in the global market.

Agriculture is crucial for the state's economy, supporting 70% of the rural workforce and ensuring food security. In 2021-22, rice production decreased by 15.94%, with an average yield of 1886 kg/hectare. While summer rice output was up 2.61 percent from 2020-21, winter rice production was up 0.58%. Fall rice fields had a 6.94% drop in area. Compared to 1.17 lakh hectares in 2020-21 for autumn rice, 18.64 lakh hectares for winter rice, and 3.80 lakh hectares for summer rice, the total area covered for each crop in 2021-22 (P) was 1.08 lakh hectares, 18.75 lakh hectares, and 3.70 lakh hectares, respectively. Comparing the areas covered by pulses and oilseeds in 2020-21 and 2021-22 (PE), the former had 1.42 lakh hectares of total pulses and 3.30 lakh hectares of total oilseeds, respectively, while the latter had 25.55 lakh hectares of total food grains and 3.32 lakh hectares of total oilseeds (excluding coconut). (Source: Economic Survey 2021-22, Assam).

As a result of unpredictable weather events like floods, soil erosion, and sand deposition in agricultural areas, the state's crop production is lower than the national average. Using high-yielding crop varieties, multi-cropping, improved irrigation access, bio-fertilizers, bio-pesticides, organic farming practices, market linkage, employment creation, and income enhancement are all parts of the plans that the state government has begun to implement in response to these challenges. In addition to encouraging settled agriculture on terrace lands and focusing on horticulture crops (especially ginger, turmeric, pineapple, and citrus fruits), the government has actively marketed these commodities. The goal of the Agriculture Department's free distribution of high-yielding variety seeds to farmers is to increase output. The state has also advocated for the use of vermicompost, organic manures, micronutrients, and bio-fertilizers in order to keep soil healthy and boost agricultural yields. The economic development of Assam is significantly influenced by agricultural exports, which are crucial due to the region's diverse agro-climatic conditions and fertile soil, which serve as a foundation for economic growth and sustainability. This importance can be understood through various key aspects: -

1. **Revenue Generation:** Assam can boost its income by leveraging Agri-exports to sell specialty crops like tea, rice, and jute in global markets.
2. **Employment Opportunities:** The agricultural sector in Assam is a significant employment source, attracting a significant portion of the population. The growth of this sector extends to the entire value chain, from cultivation to processing and distribution.
3. **Foreign Exchange Earnings:** Agricultural exports generate foreign exchange, enhancing a state's financial reserves and promoting economic stability by supporting investments in infrastructure, education, and healthcare.
4. **Rural Development:** Promoting Agri-exports in Assam can enhance rural development by improving infrastructure, and market access, and increasing farmers' income levels due to the significant portion of the population in rural areas.
5. **Global Market Integration:** Assam's Agri-exports enable its integration into the global economy, meeting international quality standards and consumer preferences, thereby enhancing its reputation as a reliable supplier of high-quality agricultural products.

6. Diversification of Agriculture: Focusing on Agri-exports promotes diversification in agricultural practices, allowing farmers to cultivate crops and products tailored to international demands, fostering innovation and sustainability in agriculture.

7. Technological Adoption: Assam's agricultural sector is expected to adopt modern technologies and best practices to meet global standards, enhancing productivity and ensuring high-quality goods production, thus making its agricultural products more competitive in the global market.

8. Value Addition: Agri-exports often involve value-addition processes like processing, packaging, and branding, enhancing the returns for farmers and contributing to the state's economic development.

9. Resilience to Market Fluctuations: Diversifying into global markets can help Assam address domestic economic challenges and capitalize on opportunities in different regions, thereby reducing market fluctuations.

10. Sustainable Development: Assam can contribute to sustainable development goals by aligning agricultural practices with global sustainability standards, focusing on environmentally friendly farming and responsible resource management.

Discussion

I. Opportunities for Assam's Agri Exports

Assam, a state with diverse agro-climatic conditions and fertile soil, has significant opportunities in the agricultural sector. The global demand for high-quality agricultural products is rising, making Assam uniquely positioned to capitalize on these opportunities. Assam tea, known for its distinct flavor and robustness, has already carved a niche in international markets. The growing interest in specialty teas and the preference for ethically sourced products presents an avenue for Assam to further elevate its tea exports. By emphasizing sustainable and organic practices, Assam can meet the demand for premium teas and contribute to the global shift towards environmentally conscious consumption. Assam's extensive rice cultivation, particularly aromatic varieties like Joha and Bora Saul, offers substantial potential for Agri-exports. Strategic branding and marketing efforts can enhance the visibility of these distinctive rice varieties in the global market. The global trend towards healthier lifestyles and conscious consumption opens doors for Assam's horticultural products, such as oranges, bananas, and pineapples. The rich biodiversity and favorable climatic conditions support the cultivation of exotic fruits, presenting an opportunity to tap into the growing market for premium and organic produce. Advancing modern agricultural practices and technology, such as precision farming, advanced machinery, and sustainable farming techniques, can boost productivity and ensure compliance with international quality standards. Collaboration with research institutions and technology providers can facilitate knowledge transfer and skill development among the farming community. Infrastructure development plays a pivotal role in realizing the full potential of Assam's Agri-exports. Upgrading transportation networks, storage facilities, and processing units is essential for maintaining the freshness and quality of agricultural products during transit. In conclusion, Assam stands on the cusp of a transformative journey in the global Agri-export arena. Leveraging its strengths in tea, rice, horticulture, and technological advancements, the state can position itself as a key player in the international agricultural market, ensuring economic growth, employment generation, and sustainable development of rural communities.

A. Abundance of natural resources and favorable agro-climatic conditions

Assam is a state with abundant natural resources and favorable agro-climatic conditions, attracting investors to set up production and manufacturing units. Key industries include Handloom Textile, Tea Processing, Tourism & Hospitality, Bamboo, and Agro-Processing. The state is known for its tea, petroleum resources, Muga silk, and bio-diversity. Assam has untapped potential for agro and food processing industries, with total production of horticulture crops increasing from 81.31 lakh MT in 2019-20 to 99.96 lakh MT in 2020-21. The state also has 300 types of medicinal herbs and plants, with the Brahmaputra valley having 150 commercially valuable varieties. (Source: Economic Survey 2021-22, Assam, State Focus Paper).

B. Horticulture

Assam, a state with diverse agro-climatic conditions and fertile land, has a rich horticultural heritage that plays a pivotal role in the state's agricultural landscape. The horticulture sector in Assam encompasses a wide array of crops, ranging from fruits and vegetables to spices and flowers, contributing significantly to the state's economy and livelihoods. One of the standout features of Assam's horticulture is its diverse range of fruits, such as oranges, bananas, pineapples, guavas, and mangoes. The geographical diversity creates microclimates conducive to the cultivation of various fruits, making them a sought-after commodity in both domestic and potential international markets. Spices, such as ginger, turmeric, and chilies, are essential for local cuisine and have significant export potential. Assam's identity as a spice-producing region offers unique offerings to the global market. Floriculture in Assam has gained traction, with nurseries propagating a wide range of flowers, including roses, marigolds, and orchids, catering to local festivities and religious ceremonies while also offering opportunities for floricultural exports. Despite these strengths, the horticulture sector in Assam faces challenges such as limited market access, inadequate post-harvest infrastructure, and the need for improved packaging and transportation facilities. Addressing these challenges is crucial for unlocking the full potential of Assam's horticultural products in both domestic and international markets. In recent years, government schemes and initiatives have been concerted to promote horticulture in Assam, aiming to enhance productivity, ensure quality standards, and create marketing linkages for horticultural produce. Training programs, modern cultivation practices, and the introduction of high-yielding and disease-resistant varieties are empowering farmers to optimize their horticultural ventures. The future of horticulture in Assam holds promise with the increasing recognition of the sector's importance. Strengthening value chains, improving infrastructure, and fostering collaborations with research institutions and private enterprises are pivotal for elevating Assam's horticulture to greater heights. Assam, a state in India, is known for its rich horticulture sector, which occupies about 15% of the gross cultivated area. In 2020-21, the area under horticulture crops was 7.97 lakh hectares, with production of 99.96 lakh MT and an average yield of 48,001 kg./ha. This contributes significantly to the food and nutritional security of the state. The state is now focusing on increasing the productivity of commercially potential crops through better technology, management, and provision of planting materials. Emphasis is also placed on pre-and post-harvest treatment, proper harvest techniques, collection centers, transport facilities, and marketing facilities.

C. Growing demand for Assam's unique Agricultural products in international markets

The increasing demand for Assam's unique agricultural products in international markets is a result of a shift in global consumer preferences and recognition of the distinctive qualities inherent in the region's produce. Assam, a state in northeastern India, is celebrated for its rich biodiversity, fertile soil, and diverse agro-climatic conditions, which contribute to the unique flavors and characteristics of its agricultural offerings. Assam tea, known for its bold and malty flavor, has carved a niche for itself in the global tea market due to its unique combination of geography, soil, and climate. The growing interest in specialty teas, particularly those with terroir-specific attributes, has propelled Assam tea into the spotlight, with consumers appreciating its robust taste and amber liquor. This demand is not only a testament to the quality of Assam tea but also reflects a broader trend of consumers seeking authenticity and a connection to the origins of their food and beverages. Assam's aromatic rice varieties, such as Joha and Bora Saul, are also gaining attention in international markets due to their fragrant aroma, distinct taste, and cultural significance. The global trend towards healthier lifestyles and a preference for naturally grown produce has propelled the demand for Assam's horticultural products, particularly its oranges, which are prized for their sweet and tangy taste. The surge in demand for Assam's unique agricultural products is also underpinned by a growing awareness of sustainable and ethical farming practices. Assam's tea estates are increasingly adopting environmentally friendly cultivation methods, resonates with conscious consumers globally, and the emphasis on organic farming practices in horticulture further adds to the appeal of Assam's produce in markets where there is a premium placed on products grown with minimal environmental impact. To capitalize on this growing demand, Assam must strengthen its marketing efforts, establish transparent supply chains, and ensure adherence to international quality standards. Collaborations with international distributors and participation in trade fairs can also serve as effective avenues to showcase Assam's unique agricultural offerings to a wider audience. Assam holds a global monopoly on

Muga or golden silk production, accounting for 95% of global Muga production. It is also the major Eri silk producer, accounting for 65% of the country's production. The Assam Silk Outreach Mission, Seneh Jori, aims to produce 1 million kg of Muga silk and 10 million kg of Eri silk by 2025.

D. Agro and Food Processing

Assam's agro and food processing sector offers significant potential for economic growth and value addition to the state's abundant agricultural produce. With a diverse range of crops, such as tea, rice, fruits, and spices, Assam provides a fertile ground for the development of agro-based industries. The food processing industry, including milling, packaging, and preservation, plays a crucial role in enhancing the shelf life and marketability of agricultural products. Modern technologies and processing techniques can reduce post-harvest losses and contribute to the production of high-quality goods. Strategic investments and policy support in agro and food processing are essential for sustainable economic development and meeting the demands of both domestic and international markets. With the advent of state-of-the-art rice mills, dal processing, and oil extraction, the state's agro-processing sectors have a great deal of room to grow and create value. About 15% of Assam's total cultivated land is devoted to horticulture crops, which include fruits, vegetables, spices, nuts, tuber crops, medicinal and aromatic plants, and more. Unfortunately, since primary post-harvest processing is lacking, around 45% of the Horti crop is either shipped unprocessed or discarded. The economic impact of ginger and turmeric on the state is substantial, and the establishment of food processing parks in Nalbari district and Kamrup is expected to fulfill local farmers' aspirations and bridge the infrastructure gap. Another Food Park is coming up in Udalguri district.

II. Challenges in Assam's Agri-Exports

The agricultural sector in Assam faces several challenges, including infrastructure constraints, quality standards, market access, climate vulnerabilities, inadequate cold chain facilities, limited processing capacity, limited access to finance, and policy gaps. Infrastructure constraints include limited transportation networks and outdated storage facilities, which lead to inefficiencies in the supply chain and increased post-harvest losses. Quality standards and certifications are also challenging, requiring investments in technology and training. Market access is limited due to limited awareness of international markets and inadequate market intelligence. Climate vulnerabilities, such as fluctuating weather patterns and climate change, also pose threats to consistent agricultural production and product quality. Insufficient cold chain facilities hamper the preservation of perishable products, limiting export scope. Insufficient processing capacity restricts value addition and diversification, limiting exportable goods. Access to finance is limited for farmers and small-scale agro-entrepreneurs, hindering their adoption of modern farming practices and investment in technology. Policy gaps, such as inconsistent or unclear policies, can create uncertainties for farmers and exporters, affecting long-term planning and investments. Addressing these challenges requires a holistic strategy involving targeted investments in infrastructure, technology adoption, capacity building, and policy formulation. The agriculture infrastructure sector lacks modern infrastructure and transportation facilities, affecting the storage function of Agri-produce. Currently, there are 226 wholesale Regulated Markets, with 7.21 LMT of storage facilities available in the state. The State has six agro-climatic zones, including Brahmaputra and Barak Valley, which experience annual devastating floods. Bank erosion and drainage congestion are two additional negative effects of these floods that have a major impact on the rural economy and ruin crops and lives. The export competitiveness of farmers and exporters is greatly affected by problems with quality control and certification, as well as a shortage of financing and credit facilities. Farmers in the state have a major challenge when trying to sell their crops. Farmers are compelled to sell their laboriously produced goods as quickly and for as little as possible due to a lack of a centralised marketing facility, inadequate storage facilities close to the field, extreme poverty, the necessity to repay agricultural debt, and other unforeseen circumstances. Below is the storage capacity that the Assam government has constructed in response to farmer demand, in conjunction with its partnerships with the Assam State Agriculture Marketing Board and the Food Corporation of India:

Table 1.1 indicates the Storage capacity created by different organizations in the State:

Organizations	Storage Capacity (in MT)		
	2016-17	2017-18	2018-19

Food Corporation of India (FCI)	389976	385913	379969
Central Warehousing Corporation	72150	72983	73717
State Warehousing Corporation	250838	242910	221407
Assam State Agricultural Marketing	46775	46775	46775
Total	759739	748581	721868

(Source: Economic Survey 2021-22).

Table 1.2 Infrastructural Facilities

Regulated Market Committee	24
Primary Market Yards	20
Trader’s Shop	143
Auction Platform/ Retailers shed	532
Rural Primary Markets	806
Wholesale Markets	405
Organic Market	1
Packaging Room	18
Drying Platform	42
Processing units	15
Cold Storage	Out of 26 Cold Storage 23 are in Private Sector and 3 in State Sector

(Source: Economic Survey 2021-22).

In the state, there are twenty primary market yards, one hundred forty-three merchants' shops, eight hundred and sixty-one rural primary markets, four hundred and five wholesale markets, one organic market, eighteen packaging rooms, forty-two drying platforms, and fifteen processing units. There are also twenty-four regulated market committees. The AGMARKNET programme has covered the Regulated Markets. Moreover, out of a total of 26 cold storages, 23 are owned by private companies and 3 are owned by the state. The government of Assam has initiated plans to build a three-story market in Pamohi (Guwahati), a farmers consumers market complex in Ulubari (Guwahati), and eleven sale counters to sell agricultural goods.

Role of the Assam State Agricultural Marketing Board and other institutions

1. Assam State Agricultural Marketing Board (ASAMB):

Market Promotion: ASAMB is instrumental in boosting agricultural markets in the state through awareness programs, exhibitions, and other initiatives to showcase and promote agricultural products.

Financial Support: ASAMB plans to offer financial assistance to farmers and agricultural entrepreneurs through various schemes and subsidies, aiming to encourage investment in agri-business and marketing activities.

Facilitating Farmer-Consumer Interaction: ASAMB may facilitate direct farmer-consumer interactions by organizing farmer's markets or other platforms for consumers to buy directly from producers.

2. Assam Rural Infrastructure and Agricultural Services (ARIAS) Society:

Technology Adoption: The ARIAS Society plans to promote the use of modern agricultural practices and technologies to enhance productivity and quality.

Capacity Building: ARIAS Society may engage in capacity-building programs for farmers, offering training on best practices and post-harvest management to enhance the efficiency of the agricultural sector.

Project Implementation: ARIAS Society could be involved in the implementation of Agricultural development projects, including those focused on infrastructure development, value chain enhancement, and market linkages.

3. Assam Agribusiness and Rural Transformation Project (APART):

The initiative aims to boost the competitiveness, productivity, and resilience of Assam's Agri-enterprises by focusing on value addition, market linkages, and the development of Agri-infrastructure.

4. Assam Trade Promotion Organization (ATPO): State-level organizations like ATPO can facilitate international collaborations and promote Assam's agricultural products in global markets.

Institutions and government departments in Assam are working together to develop a robust agricultural sector, focusing on infrastructure development, policy implementation, market facilitation, and support for farmers and Agri-entrepreneurs.

Findings and Conclusions

Assam has significant potential for global Agri exports due to its diverse agricultural products like tea, spices, and horticultural produce. However, existing infrastructure gaps in transportation, storage, and processing facilities may hinder supply chain efficiency. Regulatory challenges and compliance issues may pose challenges to international trade. Identifying and capitalizing on emerging markets with growing demand for specific agricultural products can be strategic. Modern technologies like precision farming and digital marketing can enhance agricultural practices and global marketing. Collaborative efforts involving government agencies, private enterprises, and international organizations can address infrastructure gaps and facilitate market access. The revitalization of Assam's agricultural marketing and infrastructure for global Agri-exports presents a promising economic growth opportunity. This requires strategic investments, international regulations alignment, and innovative technologies. Collaborative initiatives from various stakeholders are crucial to maximize Assam's agricultural sector's potential. By addressing challenges and leveraging opportunities, Assam can position itself as a competitive player in the international Agri-export market, contributing to the region's economic development.

P.E- Provisional Estimates, Q.E- Quick Estimates

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