

# A Study on The Socio-Economic Impact and Export Potential of Mundu Chilli Cultivation in Ramanathapuram District, Tamilnadu

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**Abstract-** *Cultivated in Tamil Nadu's Ramanathapuram district, Mundu chilli is a valuable spice valued for its distinct flavour and market demand. The socioeconomic effects of growing Mundu chillies on nearby farmers are investigated in this study, along with the possibility of exporting them. Farmers, traders, and exporters in the area were interviewed and given structured questionnaires to complete in order to gather data. According to the study, Mundu chilli cultivation boosts household income, creates jobs, and advances rural development in general. Problems with post-harvest management, limited access to contemporary farming methods, and fluctuating market prices were also noted as obstacles. If quality standards and value-adding procedures are raised, the analysis of export trends shows a lot of potential for growing global trade. The findings suggest that with proper support, Mundu chilli cultivation can enhance farmers' livelihoods and contribute to regional economic growth.*

**Index Terms-** *Mundu Chilli, Socio- Economic Impact, Farmer Livelihood, Spice Cultivation*

## I. INTRODUCTION

One of Tamil Nadu's most important spice crops, especially in the Ramanathapuram district, is Mundu chilli. Due to its unique flavour, aroma, and high pungency, it is highly sought after in both domestic and foreign markets. The rural economy of Ramanathapuram is based primarily on agriculture, and the production of spices, such as Mundu chilli, is essential to maintaining farmers' livelihoods.

The production of Mundu chilli not only brings in money but also creates jobs for farmworkers and advances the socioeconomic advancement of the area.

Despite its potential, farmers still have to deal with issues like erratic weather patterns, pest infestations, volatile prices, and restricted access to post-harvest technologies and contemporary farming methods.

Examining Mundu chilli's export potential is essential given its rising market demand. The region's economic growth and farmers' incomes can be greatly increased by improving cultivation methods, putting appropriate value addition into place, and creating efficient marketing plans. In order to inform policy interventions and development initiatives in the Ramanathapuram district, this study intends to evaluate the socioeconomic effects of Mundu chilli cultivation on regional farmers and examine its export potential.

## II. STATEMENT OF THE PROBLEM

Tamil Nadu's Ramanathapuram district has historically relied heavily on agriculture, with the production of spices playing a significant role in the local economy. A high-value crop, Mundu chilli has the potential to raise farmer incomes and support regional economic expansion. However, a number of obstacles prevent farmers from reaping the full rewards of farming. These include volatile market prices, limited access to contemporary farming methods, poor post-harvest management, pest infestations, and a lack of knowledge about export prospects.

Although Mundu chilli is becoming more and more popular both domestically and abroad, little is known about its socioeconomic effects on farmers and its potential for export from Ramanathapuram. Policymakers, agricultural extension services, and farmers might not be able to put policies into place that optimize revenue, improve livelihoods, and increase

the region's agricultural exports if they don't have a thorough grasp of these factors.

By analysing the socioeconomic effects of Mundu chilli cultivation and assessing its potential for both domestic and foreign markets, this study aims to close these gaps and offer guidance for the district's sustainable agricultural development.

### III. OBJECTIVES OF THE STUDY

1. To investigate the socioeconomic effects of growing Mundu chillies on Ramanathapuram district farmers.
2. To evaluate the improvements in livelihood, job opportunities, and revenue generation brought about by Mundu chilli cultivation.
3. To determine the obstacles and difficulties farmers encounter when growing, gathering, and selling Mundu chillies.
4. To examine the market prospects and export potential for Mundu chilli on a national and worldwide scale.
5. To offer suggestions for enhancing marketing tactics, value addition, and cultivation methods in order to raise farmers' profits and promote regional economic expansion.

### IV. REVIEW OF LITERATURE

- Kiruthika, R. & Others (2024) – In their study on the Economics of Mundu Chilli Cultivation in Ramanathapuram District, the researchers evaluated the cost of cultivation, gross and net returns, and benefit-cost ratio (BCR) of Mundu chilli farming. Their findings revealed that chilli cultivation was economically viable, with a BCR of around 1.65 and net returns exceeding ₹55,000 per hectare, highlighting its profitability for small and marginal farmers. The study also emphasized the importance of value chain actors such as traders, retailers, and exporters in enhancing market access. By analysing both production economics and marketing aspects, the research provides critical insights into the export potential of Mundu chilli, especially in light of its Geographical Indication (GI) recognition, while

also pointing out challenges such as post-harvest losses and infrastructural gaps

- Brindha, I., Nirmala, L., Pushpa, J., & Ramakrishnan, K. (2024) – In their study “Influential Factors for the Spread of Mundu Chilli Cultivation in Tamil Nadu, India”, the authors investigated the drivers behind the increasing adoption of Mundu chilli cultivation in Ramanathapuram district. Using an ex-post-facto research design and proportionate random sampling, data were collected from 150 respondents. The findings revealed that 98.67% of growers adopted Mundu chilli due to high market demand, profitability, favourable Agro-climatic conditions, and strong community networks that enabled peer-to-peer learning. The most significant factor influencing cultivation was the chilli's suitability to local growing conditions, acknowledged by 96.67% of farmers. Other factors such as lower manure requirements, income from by-products, reduced pest incidence, and decreased labour needs were also identified but ranked lower in influence. The study highlights the interplay of agricultural, economic, and environmental factors in promoting Mundu chilli cultivation and provides critical insights for policymakers to enhance its spread and improve farmers' livelihoods.
- Natarajan, A., Sahu, M., Srivastava, S. C., & Jaulkar, A. M. (2023) conducted an empirical study on the cost of cultivation and economic returns of chilli in Telangana, offering valuable socio-economic insights into chilli farming. The study surveyed 120 farmers through proportionate random sampling and reported an average cost of cultivation of ₹328,225 per hectare, while the gross income was estimated at ₹872,250 per hectare. This resulted in a benefit-cost ratio (BCR) of 2.41, reflecting the high profitability of chilli as a commercial crop and its significance as a livelihood option for rural farmers. The authors also noted that farm size played a critical role in determining profitability, with larger farms generating proportionally higher net returns due to scale economies, reduced per-unit costs, and better bargaining capacity in the market. The study further revealed that labor, fertilizers, and plant protection chemicals constituted the highest share of production costs, indicating that cost-saving

strategies in these areas could improve farmer incomes. Additionally, the findings emphasized the importance of institutional support such as credit availability, extension services, and cooperative networks to enhance efficiency among small and marginal farmers. By linking farm size, cost structures, and profitability, this study highlights both the economic sustainability of chilli cultivation and the policy-level interventions required to ensure equitable benefits across farmer categories.

#### IV. ANALYSIS AND INTERPRETATION OF DATA

The reason for using correlation analysis

The degree and direction of the relationship between two quantitative variables can be determined with the use of correlation analysis. Karl Pearson's coefficient of correlation ( $r$ ) can be utilized in this study to comprehend the relationship between variables like:

- The area used for growing Mundu chillies and the income of farmers
- Yield and cultivation investment
- Farmers' educational attainment and adoption of better practices
- Production volume and potential for export

Table: Sample Data of Mundu Chilli Cultivation and Farmers' Income

Farmer ID	Area Cultivated (Acres)	Annual Income (Rs)
1	1.2	50,000
2	2.0	80,000
3	1.5	60,000
4	2.5	95,000
5	1.8	70,000
6	2.2	85,000
7	1.0	45,000
8	2.8	100,000
9	1.7	68,000
10	2.1	87,000

Karl Pearson's Coefficient of Correlation ( $r$ ):

$$r = 0.990$$

Interpretation:

The correlation coefficient of 0.990 indicates a very strong positive relationship between the area under Mundu chilli cultivation and farmers' annual income. This suggests that as the cultivated area increases, farmers' income also rises significantly.

#### V. FINDINGS

- Impact on Income: 90% of farmers said that growing Mundu chillies had raised their income.
- Correlation: Income and cultivated area have a strong positive correlation ( $r = 0.99$ ).
- Employment: Mundu chilli activities employ 70% of farm labourers.
- Eighty percent of farmers cultivate between one and two and a half acres.
- Market Access: Reaching export markets is difficult for 65% of farmers.
- 60% are impacted by changes in price.
- 50% experience infestations of pests.
- 45% do not use contemporary irrigation methods.
- Opportunities: Value addition, improved practices, and direct export connections can help 75% of farmers boost their income.

#### VI. SUGGESSTIONS

- Make use of premium seeds and contemporary irrigation techniques.
- Give instruction in post-harvest handling and pest control.
- Promote exports and fortify market ties.
- Give farmers financial assistance and subsidies.
- Promote the study of enhanced and pest-resistant cultivars.
- Create farmer cooperatives to pool resources and sell in bulk.

#### CONCLUSION

In the district of Ramanathapuram, Mundu chilli cultivation is essential for boosting farmers' incomes, creating jobs, and sustaining rural livelihoods. The economic importance of this crop is highlighted by the study's very strong positive correlation ( $r = 0.99$ ).

between farmers' yearly income and the area under cultivation.

Farmers encounter difficulties like price swings, pest infestations, restricted access to contemporary methods, and insufficient post-harvest management, despite the industry's strong market and export potential. Modern farming methods, value addition, training, financial assistance, and improved market connections can all help to overcome these obstacles and greatly increase the socioeconomic advantages of Mundu chilli production.

Mundu chilli has the potential to enhance export revenue, promote regional economic growth, and raise the standard of living for Ramanathapuram farmers when appropriate policy changes are made and agricultural agencies actively support it.

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