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MediMo Case Study

**Turning Data into Profit: Tur Dal Price
Forecasting for a Legacy Pulse
Processor**

Executive Summary

This case study highlights the successful price trend forecasting of tur dal (Arhar dal), a vital agricultural commodity in India that, according to Government of India data, accounts for around 12.5% of total pulse consumption due to its nutritional value. By combining historical price data, seasonal patterns, climatic conditions, and global market factors, a predictive model was created to anticipate tur dal prices for the upcoming season.

The analysis enabled the client's procurement and supply chain teams to take proactive, data-driven decisions, refine sourcing strategies, and minimize exposure to price fluctuations.

Introduction

The client, a pulse processing company headquartered in Delhi, India, has been serving global markets for over 20 years with advanced technology and high-quality standards. Given tur dal's importance as a staple in Indian households, its procurement is a strategic priority.

Our engagement began in June 2024, focusing on price forecasting, as the client's monthly procurement volume was valued at nearly INR 10 crore. On 2nd July 2024, tur dal (lemon variety) was priced at INR 116.50 per kg (delivered cost, Delhi).

We examined historical price cycles, seasonal supply variations, weather trends in key producing nations, and global supply-demand shifts. The findings revealed emerging softness in pricing, offering an opportunity for strategic procurement.

This study outlines the operational and strategic implications of the observed price softness and details our data-driven forecasting methodology, which leverages statistical models, historical data, and macroeconomic indicators to strengthen supply chain resilience.

Problem Statement

How can the company accurately forecast tur dal prices to empower procurement and finance teams to make timely, data-backed decisions that support budgeting, sourcing efficiency, and sustainable profitability?

Methodology

Data Sources: Mandi price records.

Tools Applied: Mathematical modeling techniques.

Key Variables Considered:

- Rainfall patterns
- Sowing area coverage
- International demand
- Mandi arrival trends
- Geopolitical developments
- Global logistics conditions

Analysis

In 2024, state elections in Haryana, Maharashtra, and Jharkhand—three major tur dal-consuming states—created political pressure to stabilize commodity prices. Simultaneously, Myanmar, Malawi, Mozambique, and Tanzania reported strong crop yields.

Government-held buffer stocks, coupled with abundant domestic and international production, exerted downward pressure on prices. Our mathematical models accurately projected an 18% decline from the 2nd July 2024 price levels till 5th Dec'24 validating the predictive accuracy of our approach.

Conclusion

Effective forecasting of tur/arhar dal prices equips decision-makers with actionable insights to enhance procurement planning, reduce risk from price volatility, and improve profit margins.

MediMo's integrated approach—blending advanced mathematical modeling with real-time market intelligence—can significantly enhance preparedness, agility, and efficiency for stakeholders across the value chain.



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Implementation Timeline:

Month Activity

1st Conduct historical price analysis.

2nd Finalize procurement strategy.

3rd Implement phased procurement rollout.

4th Monitor key performance indicators and adjust as needed.

