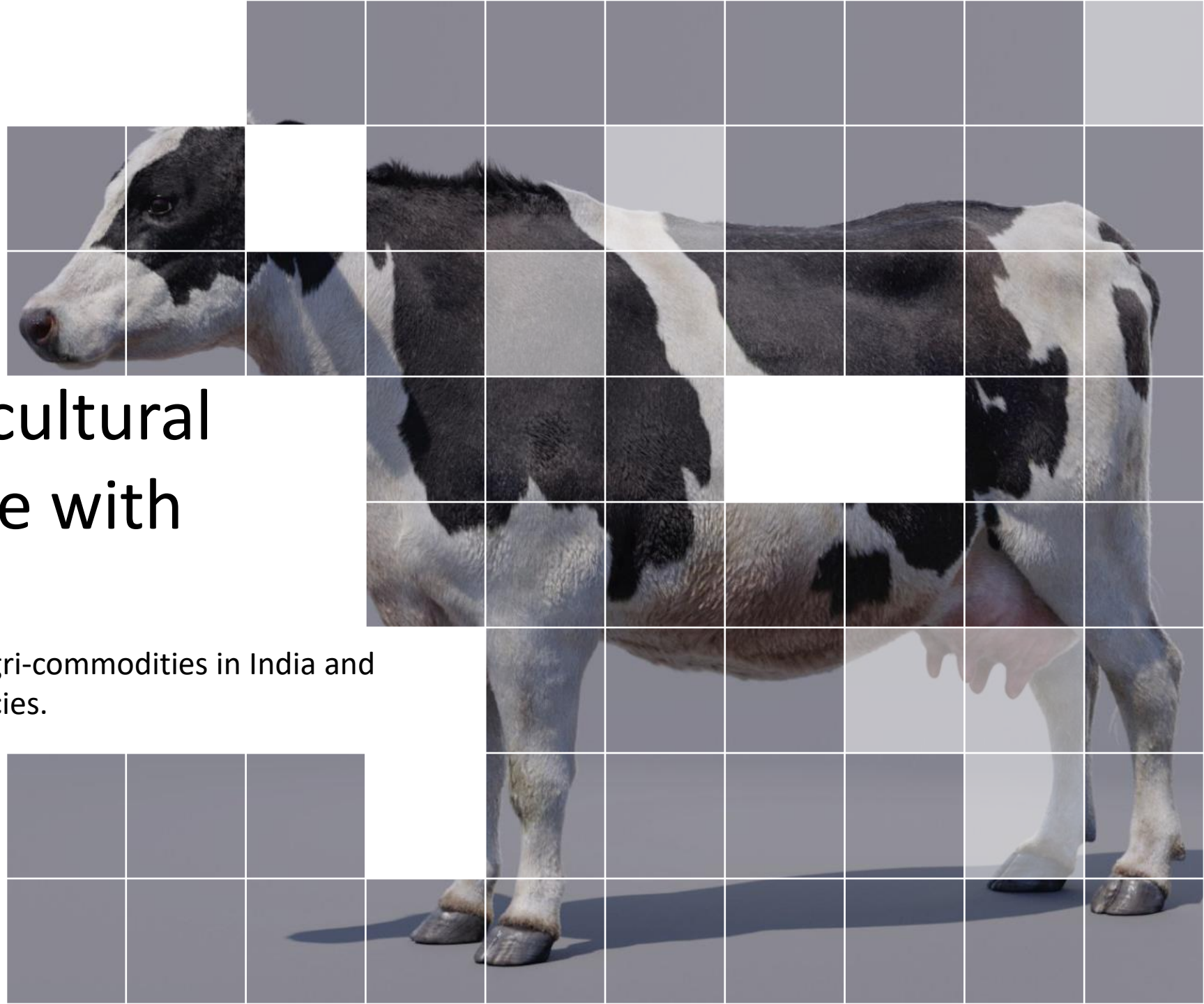


Transforming Agricultural Market Intelligence with Generative AI

Trade discovery and prediction of key agri-commodities in India and US, aligning with relevant data and policies.

Case Study →



Project Overview



Agriculture has always been a cornerstone of economies worldwide, yet the sector has consistently faced challenges such as fluctuating market prices, climate change, and inefficient resource management. Leveraging technology to address these issues has been the focus of the innovations, and AgriGPT stands at the forefront of these efforts.

Beta version of the product, is a generative AI-based market intelligence tool designed to optimize operations, strategy, and fund management for the agricultural sector.



Industry

Agriculture/Dairy



Location

India

Butter

Objectives



AgriGPT, a generative AI-based market intelligence tool, was launched to bring transparency in the agricultural sector by providing comprehensive insights and optimizing trade operations. The beta version of AgriGPT specifically targeted the trade of key agricultural commodities such as butter, skimmed milk powder (SMP), maize, soybean, and edible oils in both the Indian and US markets.

1

Trade Optimization

Companies involved in taking long term position of agri commodities should enhance the efficiency and profitability by price discovery and risk management framework.



2

Policy Analysis

Leverage policy incentives to optimize trade strategies, ensuring compliance and maximizing market opportunities both domestically and internationally.



3

Market Intelligence

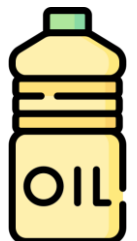
Equip stakeholders with real-time data and trends on global trade, weather, domestic production for better decision-making.



4

Education on Govt Initiatives

Align with and promote government policies like the Rashtriya Gokul Mission, Indian Standards for Sustainable Soy (ISSS), etc



Solutions



Commodity Trade Focus

- **Butter and SMP:** Analyzed production, demand, and pricing trends in India and the US.
- **Maize and Soybean:** Monitored market fluctuations, export-import data, and policy impacts.
- **Edible Oils:** Provided insights into the global supply chain, pricing dynamics, and trade regulations of palm, canola, soyabean etc

Policy Insights

- **Domestic Policies:** Examined policies by the Government of India, including the Rashtriya Gokul Mission and NDDB guidelines.
- **International Policies:** Assessed US agricultural trade policies, tariffs, and international trade agreements impacting the commodities.



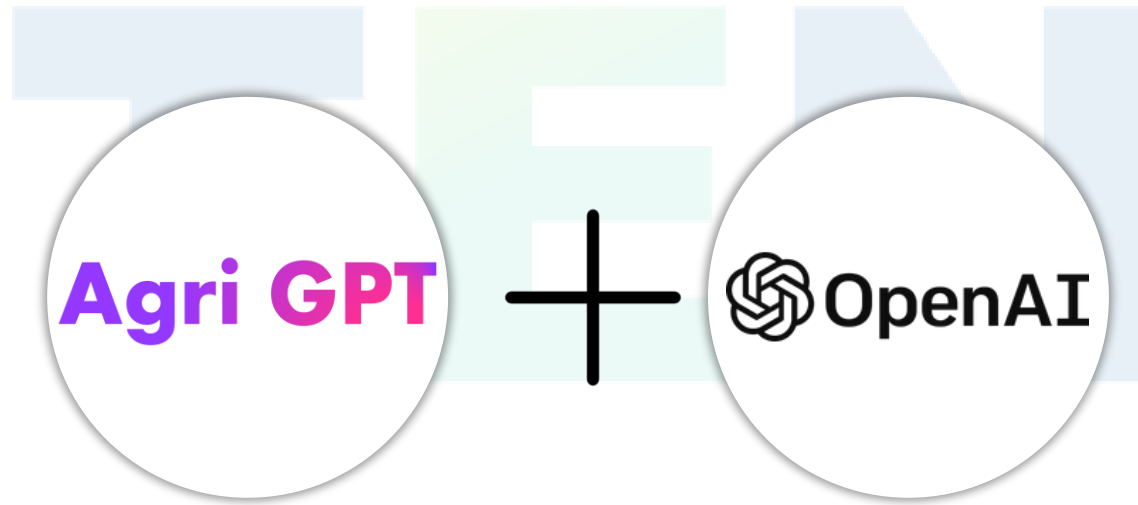
Market Data Analytics

- Real-time data aggregation from multiple sources.
- Predictive analytics to forecast market trends.
- Visualization tools for easy interpretation of complex data.

User Engagement

- Generated dashboards for traders, policymakers, and other stakeholders.
- Customizable reports and alerts on market movements and policy changes.





Content Generation from the Beta Version

BUTTER INVESTMENT STRATEGY



Please design an investment strategy on butter trading based on last 5 year performance

Based on the analysis of butter trading data over the last five years, here is a summarized overview of the performance in terms of total quantity exported (in tonnes) and the total export value (in US \$ million):

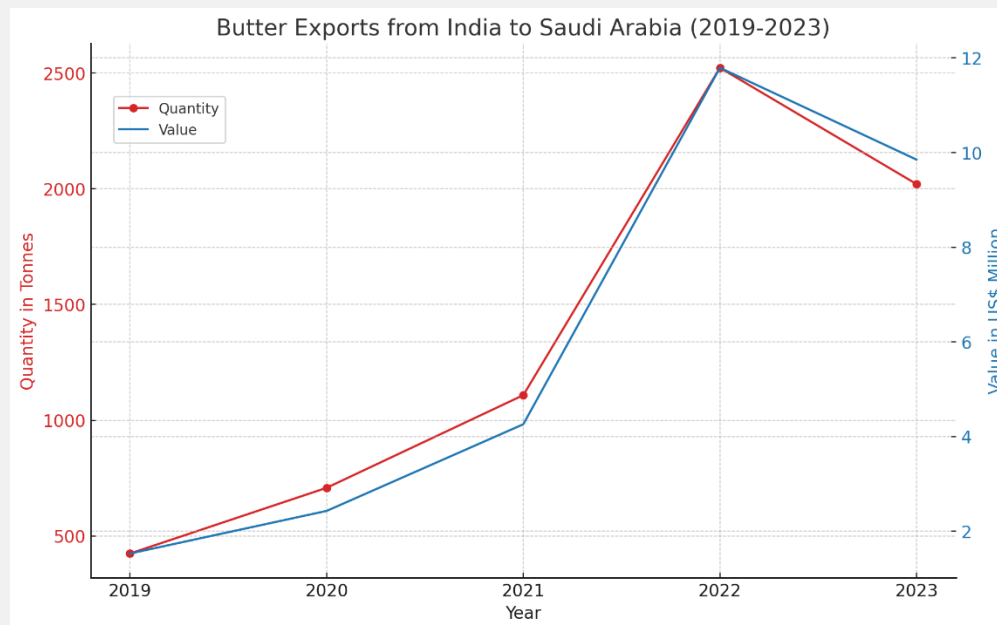
- **2023** (until the date of the data): Total quantity = 5,315.18 tonnes, Total value = \$29.24 million
- **2022**: Total quantity = 19,356.06 tonnes, Total value = \$89.74 million
- **2021**: Total quantity = 8,068.03 tonnes, Total value = \$35.47 million
- **2020**: Total quantity = 5,027.29 tonnes, Total value = \$22.79 million
- **2019**: Total quantity = 29,877.72 tonnes, Total value = \$108.59 million

Based on this analysis, 2019 was the most successful year in terms of both quantity exported and revenue generated. However, there was a significant drop in the following years, particularly in 2020 and 2021, before seeing an increase in 2022. The data for 2023 reflects only a portion of the year, indicating a potential rebound or stabilization in the trading performance.

EXPORT TREND TO SAUDI ARABIA



What is the export of butter to saudi arabia in last 5 years. Provide me the information in a graph



The graph illustrates the export of butter from India to Saudi Arabia over the last 5 years (2019-2023).

As depicted:

- The red line with circle markers represents the quantity of butter exported in tonnes.
- The blue line with 'x' markers denotes the value of these exports in US\$ million.

We observe a noteworthy upward trend in both the quantity and value of exports from 2019 to 2022, with a significant spike in 2022. The data for 2023 shows a high volume of trade but bear in mind this data might only cover part of the year, indicating a continuing strong demand for butter in Saudi Arabia.

This graphical representation provides a clear visual insight into the growth trends in butter exports to Saudi Arabia, helping inform strategic trade and production decisions.

PRICE DISCOVERY FOR



BANGLADESH MARKET

At what price should i sell the skim milk powder to Bangladesh based on last 5 year trend

Based on the exports of Skim Milk Powder (SMP) to Bangladesh in the last 5 years, the average price per tonne for each year was as follows:

- 2019: \$1,950.04 per tonne
- 2020: \$2,545.07 per tonne
- 2021: \$2,741.87 per tonne
- 2022: \$3,532.93 per tonne
- 2023: \$3,853.33 per tonne

There has been a clear upward trend in the average price per tonne over the last 5 years, aligning with increasing costs and possibly growing demand.

Given this consistent increase, when considering the price at which you should sell the Skim Milk Powder to Bangladesh in the future (beyond 2023), it would be strategic to consider setting a price that follows this upward trend, while also accounting for current global dairy market conditions, production costs, and potential fluctuations in demand.

A cautious approach might involve setting a starting price around or slightly above the 2023 average (\$3,853.33 per tonne), possibly in the range of \$3,900 to \$4,200 per tonne, depending on the specific market conditions at the time of sale. This pricing strategy should maintain competitiveness but also respect the historical trend of increasing prices. As always, flexibility and negotiation might be required based on larger volumes or long-term agreements.

It's critical to keep abreast of the latest market conditions and adjust your pricing strategy based on changing supply, demand, and cost of production factors.

Conclusion



The beta version of AgriGPT demonstrated significant potential in transforming the trade of agricultural commodities by leveraging **AI for market intelligence**. Its focus on both the Indian and US markets, coupled with comprehensive policy analysis, provided a robust platform for stakeholders to navigate the complexities of agricultural trade. The alignment with government initiatives further underscored its relevance and impact in the sector. As AgriGPT evolves, it is poised to drive even greater efficiencies and growth in the agricultural domain.

