Crop Production Analysis

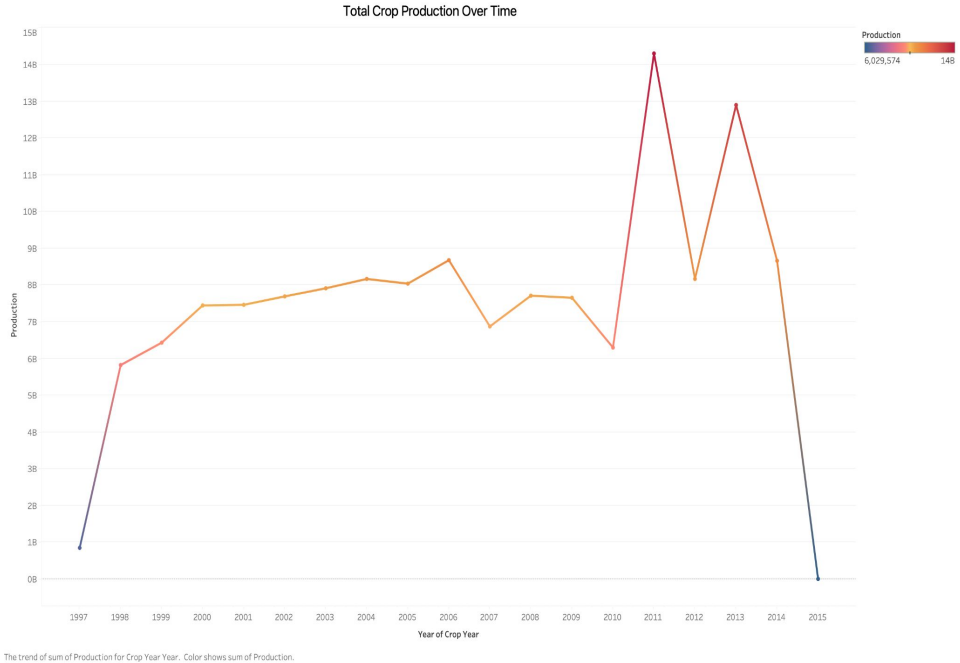
Done By:
Aastha Sharma

Problem Statement

The Agriculture business domain, as a vital part of the overall supply chain, is expected to highly evolve in the upcoming years via the developments, which are taking place on the side of the Future Internet.

The dataset provides a huge amount of information on crop production in India ranging from several years. Based on the Information the ultimate goal would be to predict crop production and find important insights highlighting key indicators and metrics that influence crop production.

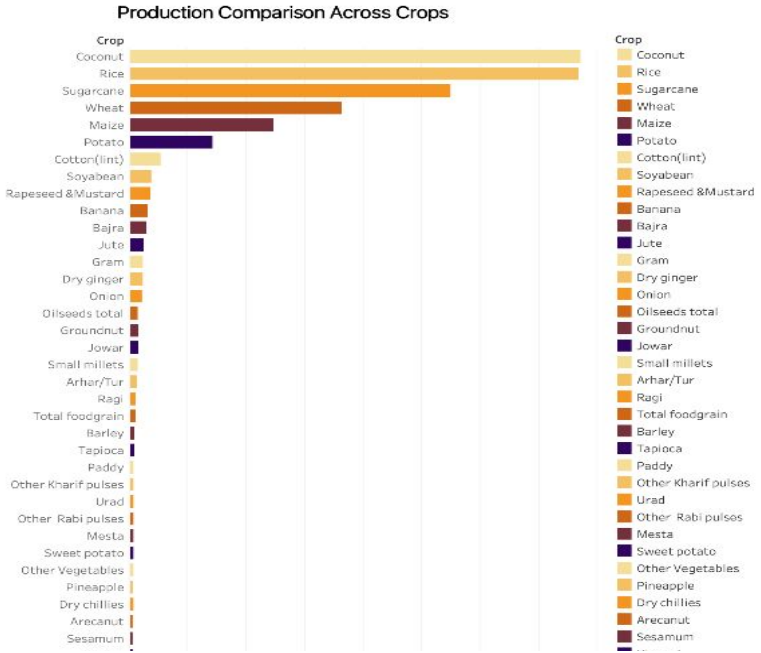
Total Crop Production Over Time



Production has shown significant fluctuations over the years.

Peak years observed around 2010-2012.

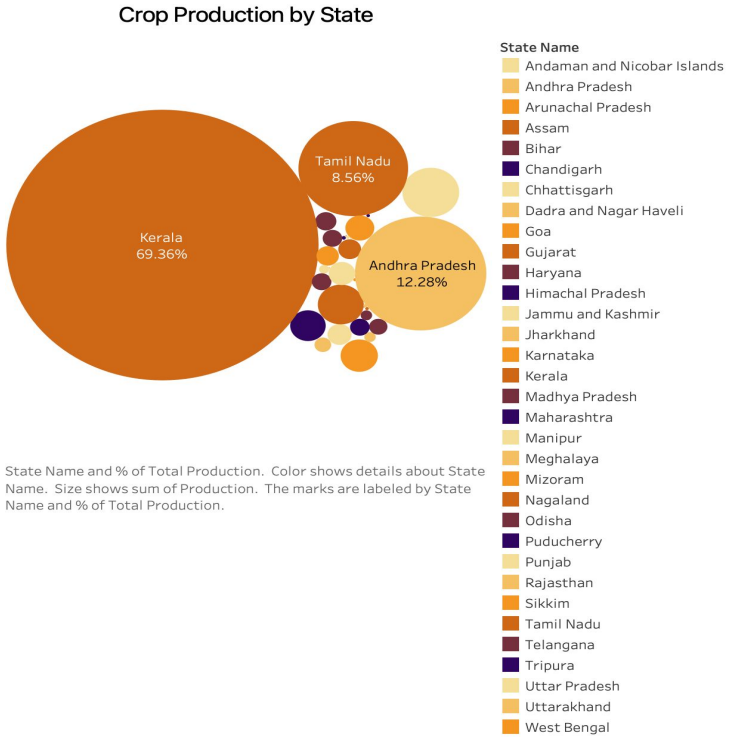
Production Comparison Across Crops



Coconut, Rice, and Sugarcane are the dominant crops in terms of production.

Coconut has the highest contribution, suggesting regional specialization.

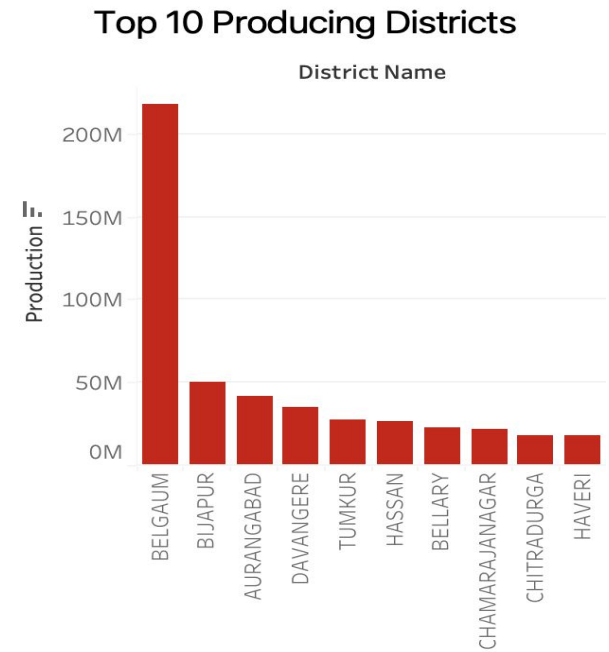
Crop Production by State



Kerala leads significantly with 69.3% of production, primarily dominated by coconut cultivation.

Andhra Pradesh and other states contribute majorly to specific crops, highlighting regional crop specialization.

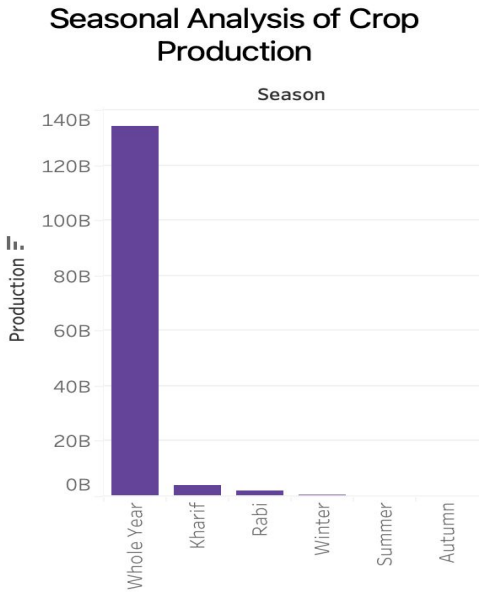
Top 10 Producing Districts



Sum of Production for each District Name. The view is filtered on District Name, which keeps 10 of 646 members.

Districts like Ernakulam and Thrissur are among the top contributors, emphasizing regional hotspots for production.

Seasonal Analysis of Crop Production

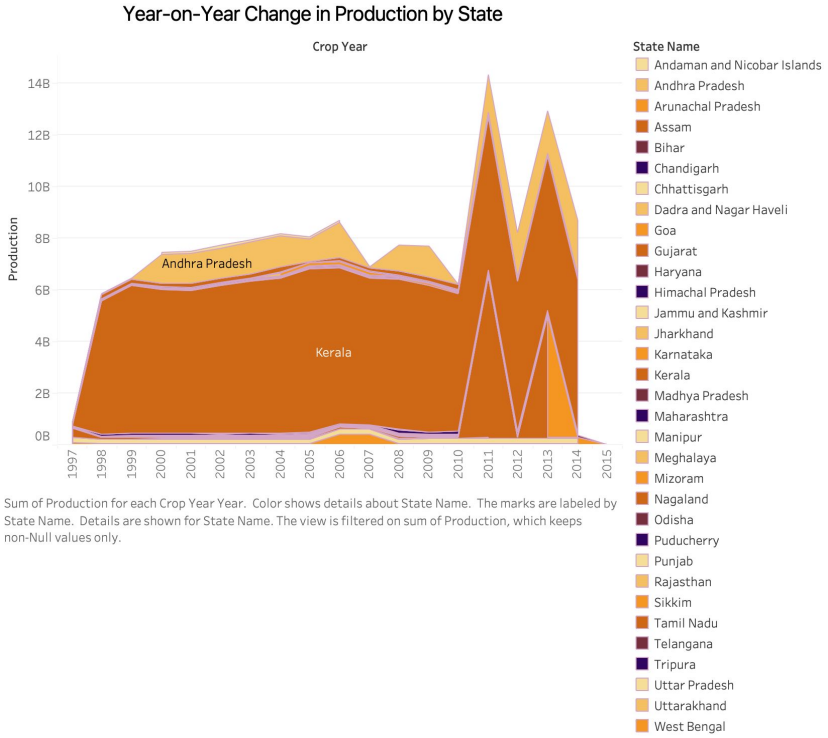


Sum of Production for each Season. The view is filtered on sum of Production, which keeps non-Null values only.

Whole Year Crops dominate production, with Rabi and Kharif seasons contributing significantly during specific periods.

Highlights the importance of year-round crops in overall production sustainability.

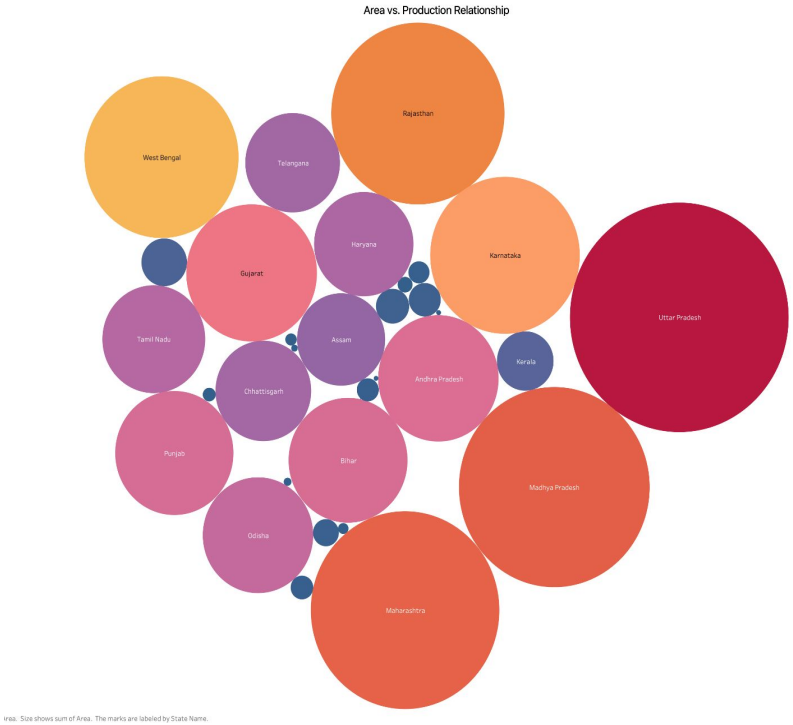
Year-on-Year Change in Production by State



Sum of Production for each Crop Year Year. Color shows details about State Name. The marks are labeled by State Name. Details are shown for State Name. The view is filtered on sum of Production, which keeps non-Null values only.

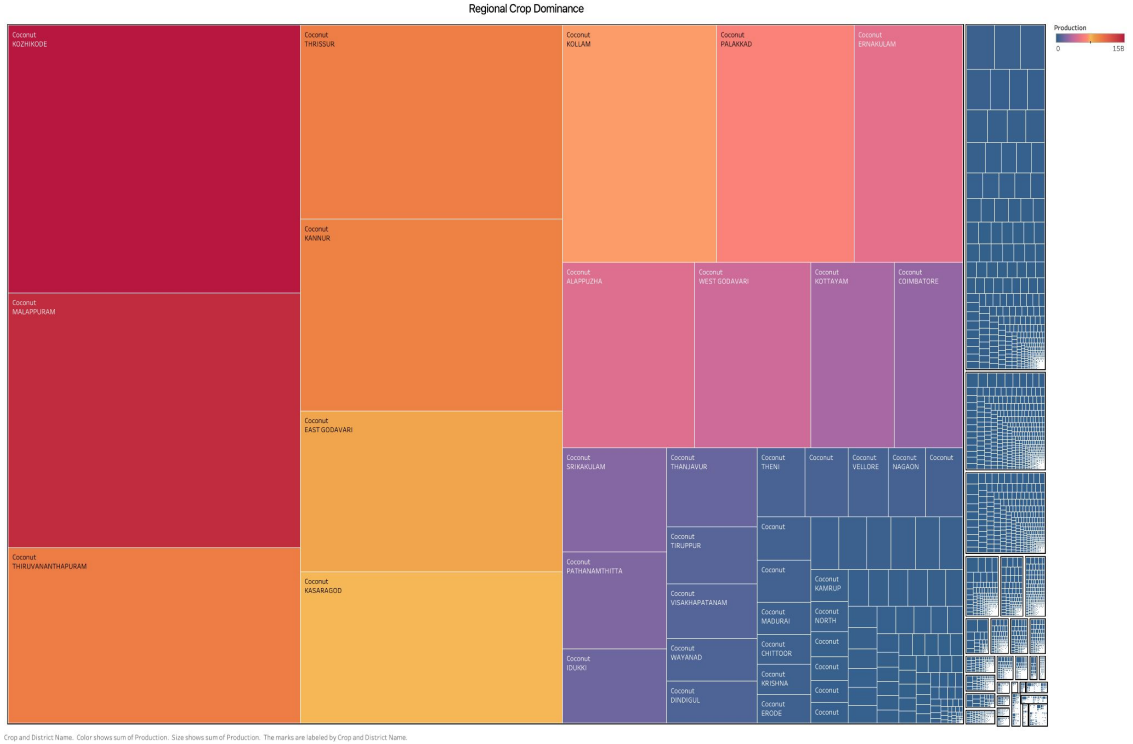
Kerala shows consistent growth in crop production across years, while other states exhibit fluctuating patterns, indicating potential challenges or opportunities.

Area vs. Production Relationship



States like Uttar Pradesh, Madhya Pradesh, and Punjab utilize large cultivation areas but differ significantly in productivity.

Regional Crop Dominance



Crop and District Name. Color shows sum of Production. Size shows sum of Production. The marks are labeled by Crop and District Name.

Coconut dominates several districts in Kerala, reflecting a monoculture trend.

Suggests potential for diversification to mitigate risks like pest infestations or price volatility.

Conclusion and Recommendations

1. Summary of Findings:
    a. Kerala's dominance in coconut production highlights its reliance on a single crop.
    b. Seasonal patterns and state-specific contributions provide valuable insights for future planning.
2. Recommendations:
    a. Diversify crop cultivation in dominant regions like Kerala.
    b. Encourage balanced crop production across underperforming states.
    c. Investigate and mitigate year-on-year production declines in certain states.

Thank You