

DV Mini Project

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INDIA'S CROP DATA ANALYSIS

Introduction

In response to the dynamic evolution anticipated within the agriculture sector, driven by advancements in the Future Internet, a novel Business-to-Business collaboration platform has been developed from the perspective of the agri-food industry. This platform endeavors to streamline collaboration among diverse stakeholders across associated business domains, fostering effectiveness and flexibility in their interactions. Furthermore, this report stems from the culmination of efforts to leverage extensive datasets on crop production in India spanning multiple years. The primary objective is to harness this wealth of information to predict crop production outcomes and unearth critical insights elucidating key indicators and metrics that significantly influence agricultural productivity.

Total Area

2.95bn

Avg. Produce By Season

427.53K

Total Production

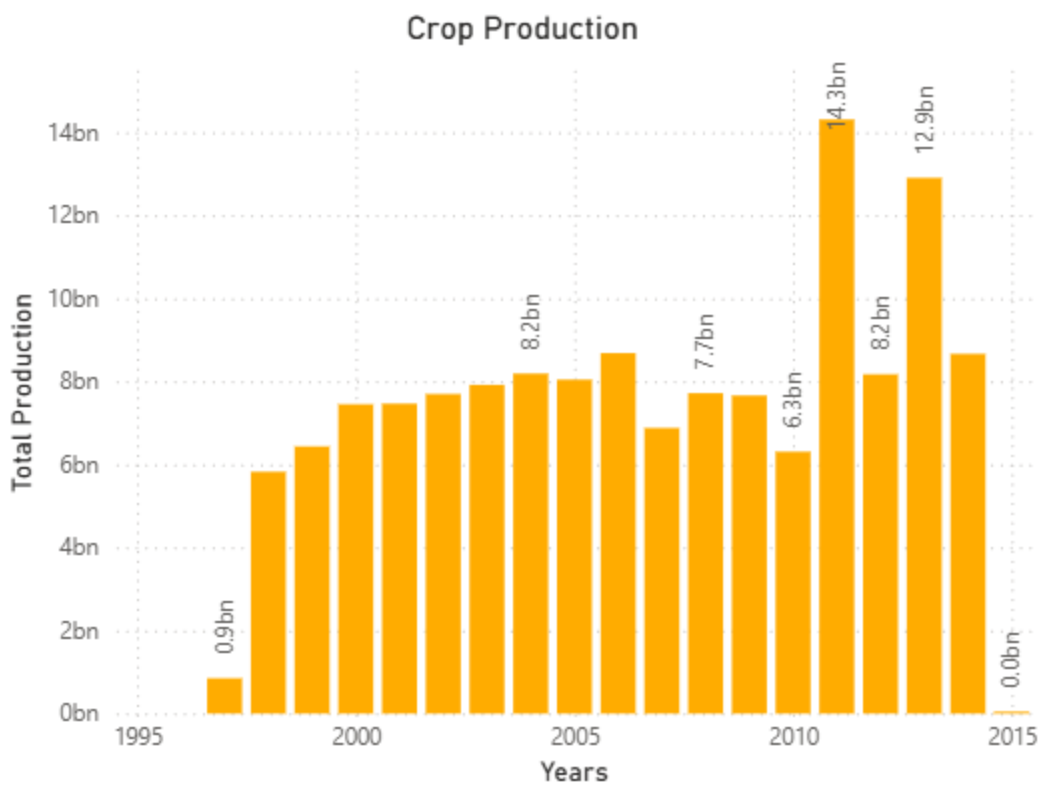
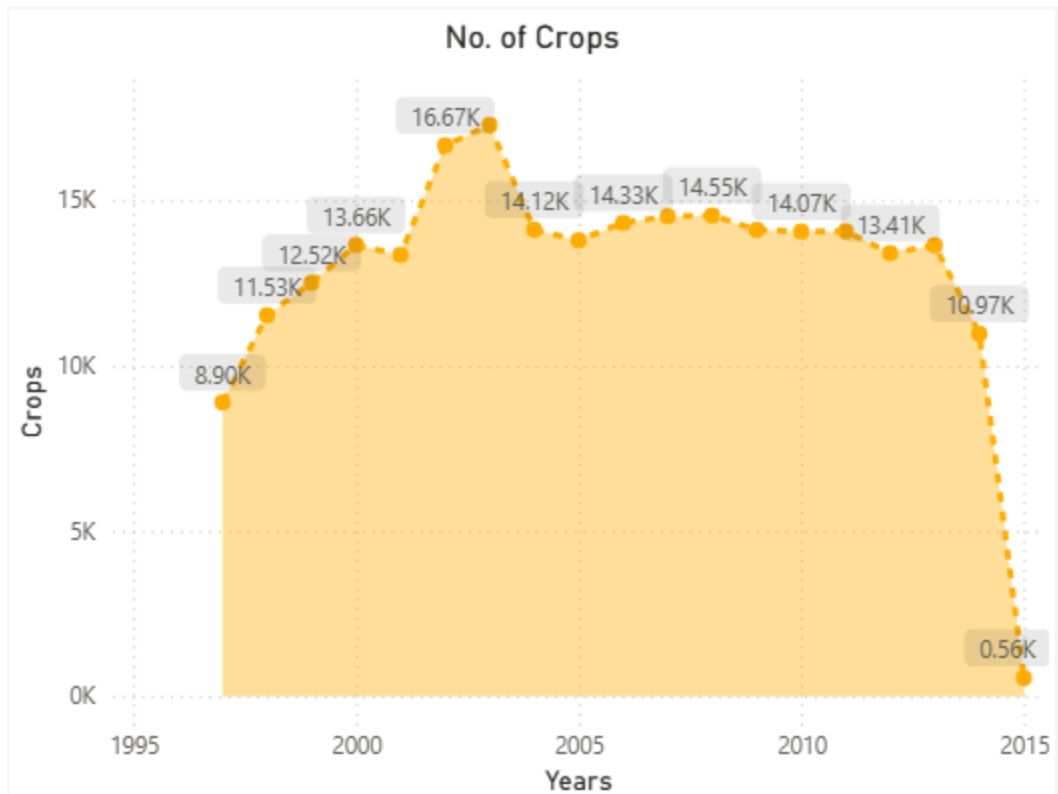
141.18bn

Crop Diversity

70

Crop Diversity and Production Overview

- **Crop Diversity:** A diverse range of 70 distinct types of crops is evident within the dataset.
- **Total Production:** Over the extensive timeframe from 1995 to 2015, cumulative production figures amount to an impressive 141.18 billion units, underscoring the magnitude of agricultural output.
- **Total Area:** This substantial production is spread across an expansive area encompassing 2.95 billion units, indicative of the extensive cultivation practices in place.
- **Average Seasonal Production:** Furthermore, the data highlights an average seasonal production of 427.53 thousand units of produce, illustrating the consistent yield achieved over time.
- **Key Performance Indicators (KPIs):** These KPIs provide a comprehensive overview of crop production dynamics, laying the foundation for further analysis and strategic decision-making within the agricultural domain.

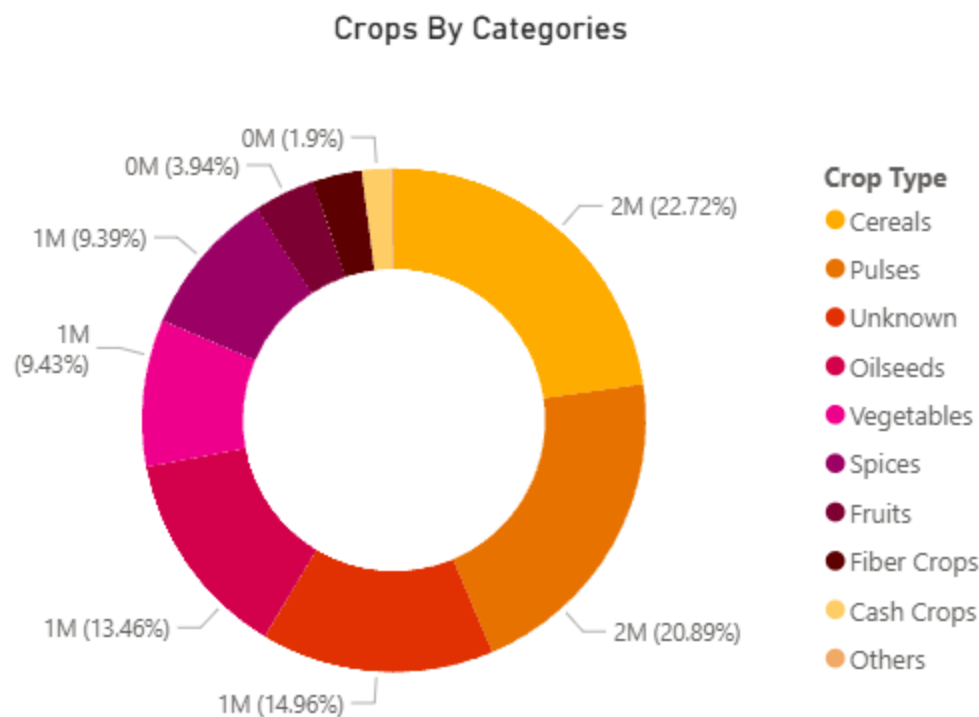


Production Trends

As depicted in the visual representation, the total production has exhibited an upward trend over the specified period, reaching its peak in 2011. Subsequently, favorable outcomes were observed in 2013. However, in 2015, production experienced a significant decline, reaching an all-time low. Similar trends are observed in the number of crops sown, with figures peaking between 2000 and 2005, reaching a high of 16.67 thousand, before declining to a low of 0.56 thousand in 2015.

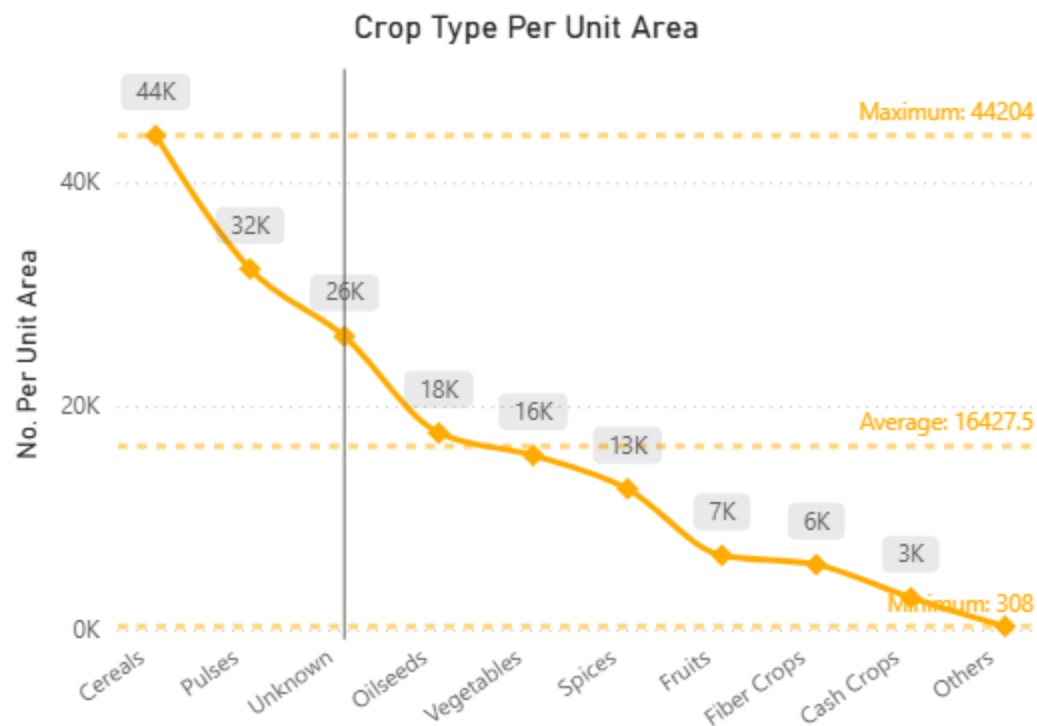
Crop Categories

As depicted in the chart above, the top three grown categories are as follows: Cereals with 2 million units, constituting 22.72% of the total; Pulses with 2 million units, accounting for 20.89%; and Unknown with 1 million units, representing 14.96% of the total. Conversely, Cash Crops and Others comprise less than 5% each, signifying their comparatively lower contribution to the overall distribution.



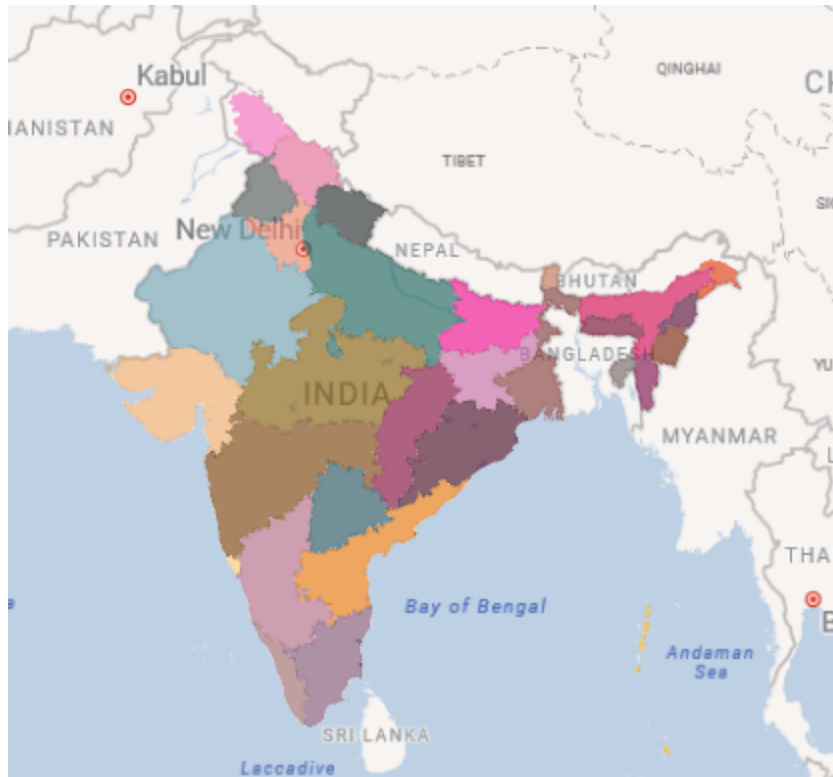
Crop Type Per Unit Area

Crop type per unit area refers to the category of crop growing per unit of area. In this context, cereals emerge as the predominant category, reaching a peak of 44 thousand units, while others lag significantly behind at only 308 units. The average crop type per unit area is calculated at 16.42 thousand units.



Data Origin

A map of India illustrating the Indian states from which this data originates.



Insights

- **Seasonal Variations:** Analysis reveals significant fluctuations in crop production across different seasons, with peak production observed during the Kharif and Rabi seasons, indicating the influence of climatic factors on agricultural output.
- **Crop Diversity:** The study highlights the rich diversity of crops cultivated across various regions, with some districts exhibiting a wide range of crop varieties, while others specialize in specific crops, underscoring the importance of regional agricultural practices and preferences.
- **Yearly Production Trends:** Examination of yearly production trends unveils notable patterns and trends over time, with certain years witnessing substantial increases or decreases in crop production, suggesting the impact of factors such as weather conditions, technological advancements, and policy changes.
- **Predictive Modeling:** Leveraging machine learning algorithms, predictive models are developed to forecast crop production, providing valuable insights for stakeholders to anticipate future agricultural trends, optimize resource allocation, and mitigate potential risks.