Final Project Report Template

1.Introduction

1.1. Project overviews

ABC Company undertook a comprehensive study of global food production trends from 1961 to 2023, leveraging Power BI for insightful visualizations. The analysis encompassed key agricultural commodities, revealing that total production of rice,wheat,maize,tea. The project also explored the production volumes of apples, avocados, bananas, and oranges by different regions, identifying Europe and Asia as significant contributors. This comprehensive analysis equips ABC Company with valuable insights to better understand global food production trends, aiding strategic decision-making in the agricultural sector.

1.2. Objectives

- How is the production of key commodities changing?

- How agricultural land use changing?

- Which production is highest in the various countries?

2.Project Initialization and Planning Phase

2.1 Define Problem Statement

As Policymaker or Researcher analyse global food production trends over time. Identify high yield regions and balance supply chain logistics to meet global demand and better understand global food production trends, aiding strategic decision-making in the agricultural sector.

2.2.Project Proposal

To design and develop an interactive Power BI dashboard that visualizes global food production trends across years, regions, and crops, enabling policymakers, researchers, and businesses to make data-driven decisions.

2.2.Initial Project Planning

Task	Date
Data Collection	1 October 2025
Data Cleaning & Preprocessing	3 October 2025
Visualization & Dashboard Design	5 October 2025

3.Data Collection And Preprocessing phase

3.1.Data collection Plan And Raw Data Sources Identified

Dataset used :

World food Production.csv

Source :

Kaggle World Food Production

3.2.Data Quality Report

. Missing values in production, yield, or area harvested columns

.Duplicate rows for same country, crop, and year

3.3.Data Exploration and Preprocessing

. Verified outliners and ensured consistent formatting for visualizations

. Preprocessed data is Power BI ready for dashboards and analysis
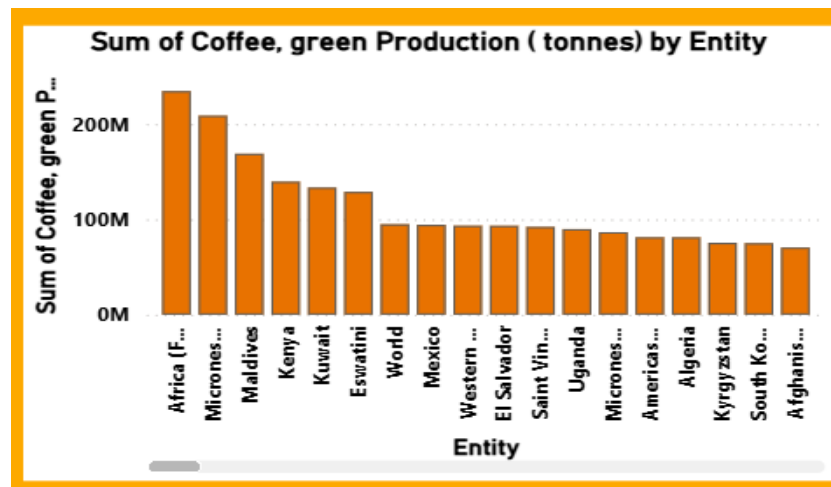
4. Data Visualization

4.1,4.2 Framing Business Questions and Developing Visualizations

1. **What is the global average of Global Food Production Trends And Analysis (sum of the production)**
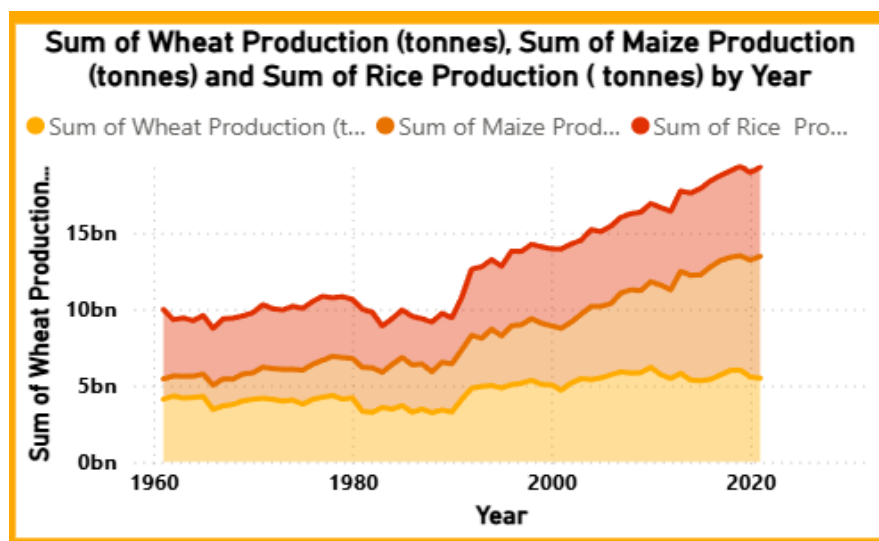   - **Visualization:** KPI Cards showing global averages

269bn

Total Rice Production (tonnes)

2. Which countries have the highest sum of production ?

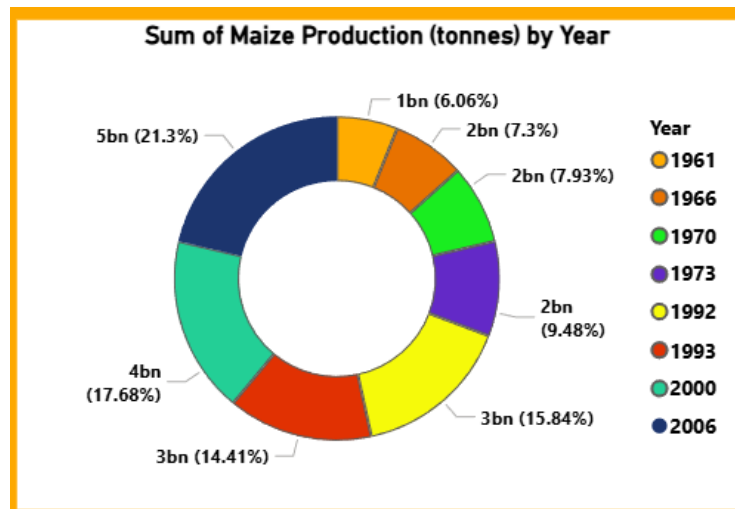- **Visualization:** Bar chart with countries color-coded by Stunting

3. What is the Global Food Production of a selected country?

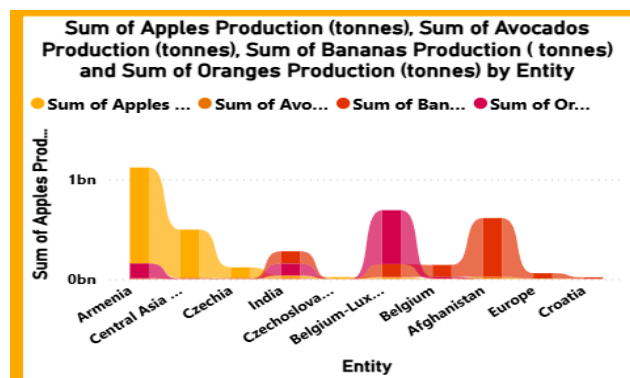Visualization : *area chart (Production,Year)*

4. What is the contribution of a country to the global production ?

Visualization: Donut/Pie Chart (Country's burden % of global total)

Sum of Maize Production (tonnes) by Year

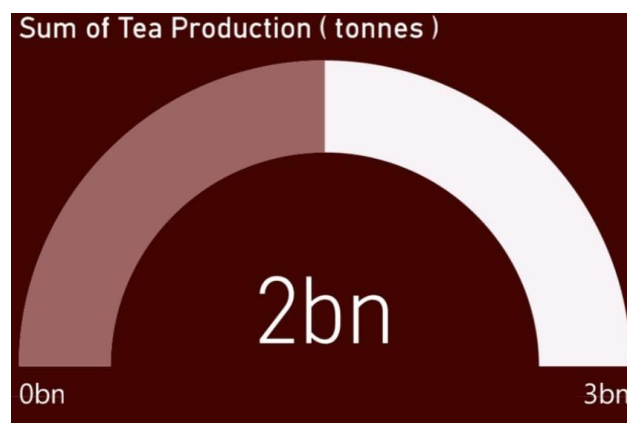## 5. What is the contribution of a Entity to the global production ?

Visualization: Area chart (Country's burden)

Sum of Apples Production (tonnes), Sum of Avocados Production (tonnes), Sum of Bananas Production (tonnes) and Sum of Oranges Production (tonnes) by Entity

6. How are the sum of tea production ?

Visualization: gauge (in tonnes)
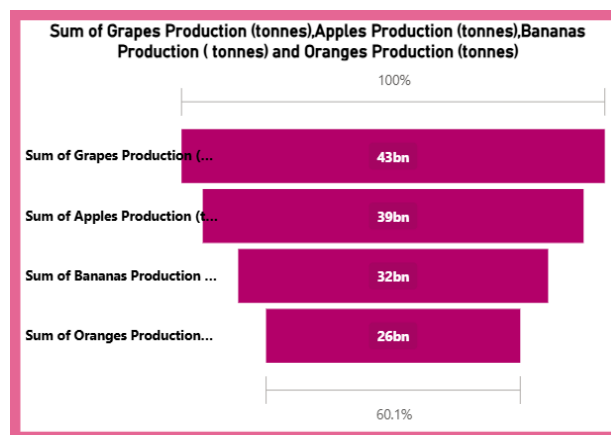

Sum of Tea Production (tonnes)

7. What is the Total wheat production?

Visualization : kpi card

8.What is the production of different fruits?
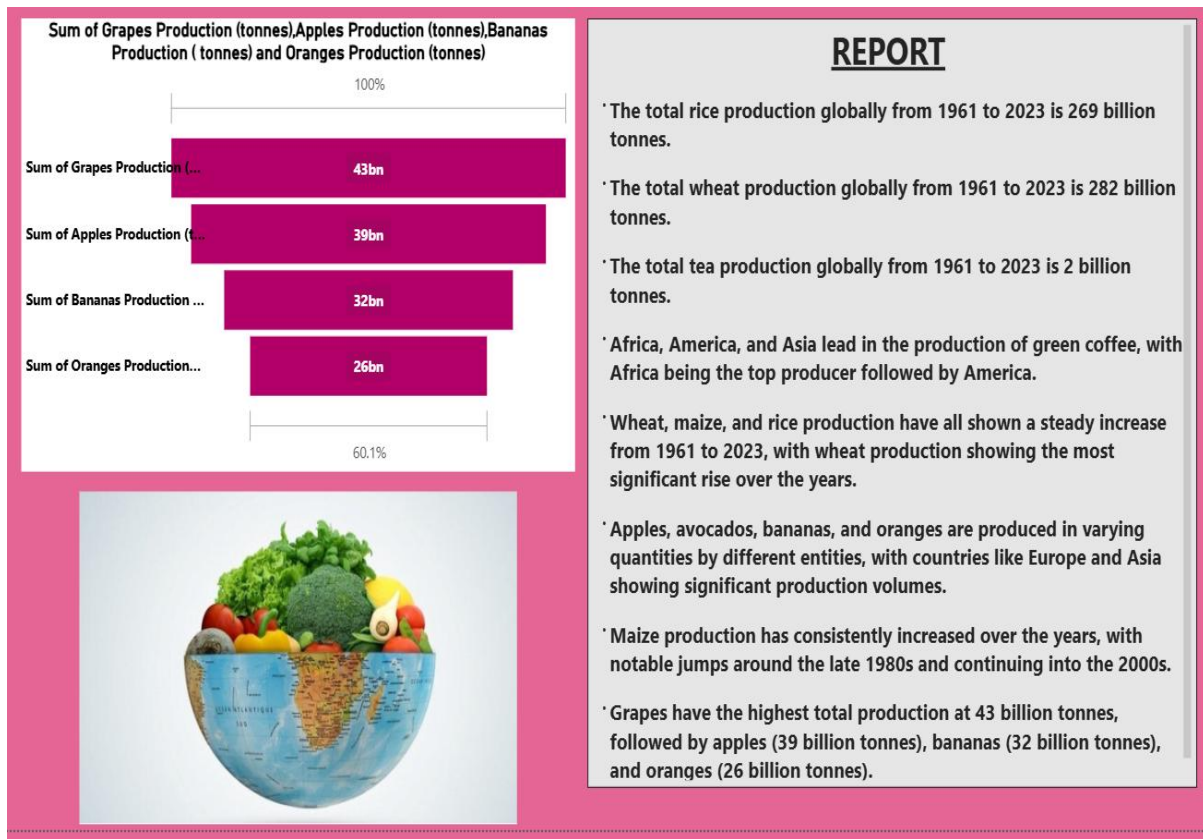
Visualization : funnel chart

5.Dashboard

5.1. Dashboard Design File

Global Food Production Analysis (1961-2023)
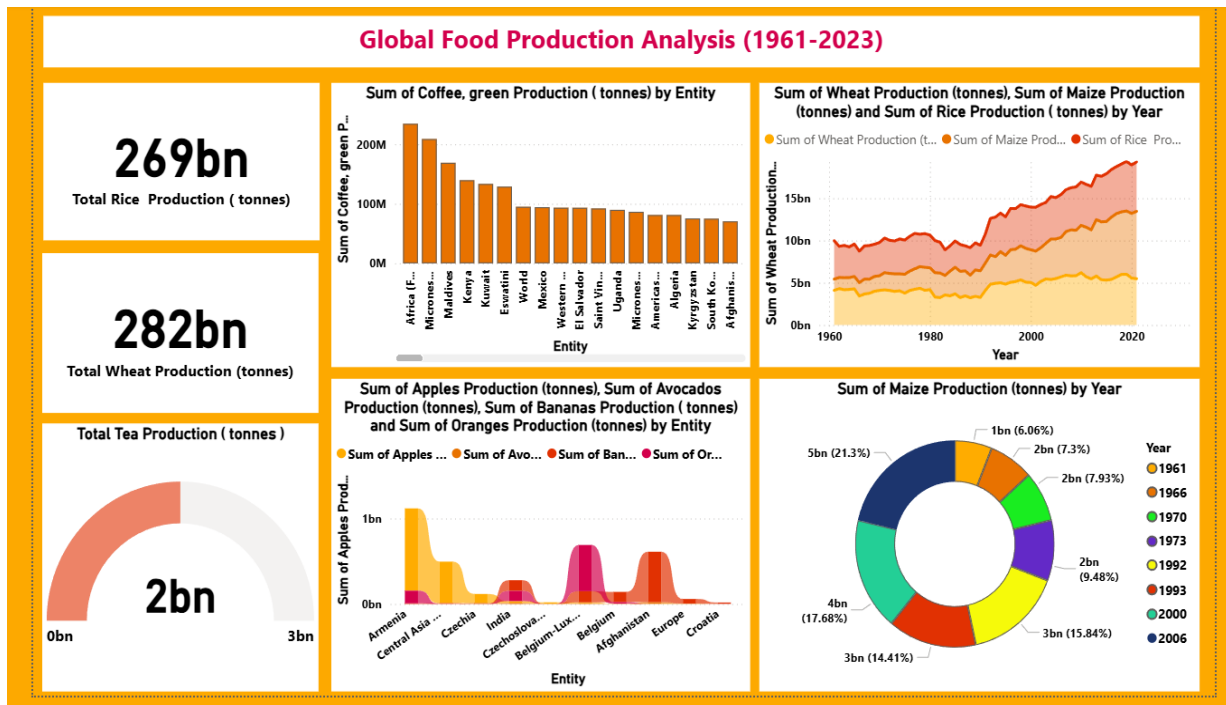
6.Report

6.1 Story Design File

REPORT

- The total rice production globally from 1961 to 2023 is 269 billion tonnes.

- The total wheat production globally from 1961 to 2023 is 282 billion tonnes.

- The total tea production globally from 1961 to 2023 is 2 billion tonnes.

- Africa, America, and Asia lead in the production of green coffee, with Africa being the top producer followed by America.

- Wheat, maize, and rice production have all shown a steady increase from 1961 to 2023, with wheat production showing the most significant rise over the years.

- Apples, avocados, bananas, and oranges are produced in varying quantities by different entities, with countries like Europe and Asia showing significant production volumes.

- Maize production has consistently increased over the years, with notable jumps around the late 1980s and continuing into the 2000s.

- Grapes have the highest total production at 43 billion tonnes, followed by apples (39 billion tonnes), bananas (32 billion tonnes), and oranges (26 billion tonnes).

7.Performance Testing

7.1 Utilization of Data Filters

. Selected "Country" as a Filter

7.3. No Of Visualization

. 8 major visuals are used : Cards , Funnel chart , ribbon chart , Donut chart , Gauge chart , Stacked Area chart

8. Conclusion/Observation

1. Grapes Lead in Fruit Production: Among the fruits listed, grapes have the highest total production globally at 43 billion tonnes, followed by apples (39 billion), bananas (32 billion), and oranges (26 billion).

2. Wheat Outpaces Rice: Over the 62-year period from 1961 to 2023, the cumulative global production of wheat (282 billion tonnes) was greater than that of rice (269 billion tonnes).

 3. Steady Growth in Staple Grains: The production of essential grains wheat, maize, and rice has consistently increased over the decades, with the report specifically noting that wheat has shown the most significant rise.

4. Africa is the Top Coffee Producer: The report identifies Africa, America, and Asia as the leading producers of green coffee, with Africa holding the top position.

5. Maize Production Surged in Recent Decades: Maize production has not only increased consistently but also experienced notable jumps in the late 1980s and continued to rise into the 2000s

9. Future Scope

. Strategic research and planning

. Holistic Production Overview

- Interactive Historical Analysis

10. Appendix

10.1 GitHub and Project Demo Link

Project demo video link :

https://drive.google.com/file/d/1c2bMqczHkLP6OPC1iVqWQOL2uvbawsb9/view?usp=sharing