Project Development Phase

Model Performance Test

Date	7 March 2025
Team ID	PNT2025TMID00740
Project Name	Global Food Production and Trend Analysis
Maximum Marks	-

Model Performance Testing:

S.No.	Parameter	Screenshot / Values
1.	Data Rendered	Data is successfully imported, tables are visible, all required columns are present, and visuals correctly display aggregated values. 
2.	Data Preprocessing	Changed the decimal values to whole numbers
3.	Utilization of Data Filters	Filtered Top Production Results whether it is by Year or Entity

4.	DAX Queries Used	Creation of new columns:
		`1. Beverages Production = 'world food production'[Tea Production ( tonnes )]+'world food production'[Coffee, green Production ( tonnes)]`
		`2. Cash Crop Production = 'world food production'[Cocoa beans Production (tonnes)]+'world food production'[Sugar cane Production (tonnes)]`
		`3. Fruit Production = 'world food production'[Oranges Production (tonnes)]+'world food production'[Grapes Production (tonnes)]+'world food production'[Bananas Production ( tonnes)]+'world food production'[Apples Production (tonnes)]+'world food production'[Avocados Production (tonnes)]`

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4. Grains Production = 'world food production'[Maize
Production (tonnes)] + 'world food production'[Rice
Production ( tonnes)] + 'world food production'[Wheat
Production (tonnes)] + 'world food production'[Rye
Production (tonnes)]
5. Pulses Production = 'world food production'[Soybeans
Production (tonnes)]+'world food production'[Peas, dry
Production ( tonnes)]
6. Vegetable Production = 'world food
production'[Tomatoes Production (tonnes)]+'world food
production'[Sweet potatoes  Production (tonnes)]+'world
food production'[Potatoes  Production (tonnes)]+'world
food production'[Yams  Production (tonnes)]
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Creation of New Tables:

```
1. total_production_per_year =
SUMMARIZE(
    'world food production',
    'world food production'[Year],
    "Total Production",
    SUMX(
        'world food production',
        'world food production'[Maize Production
(tonnes)] +
        'world food production'[Rice  Production
( tonnes)] +
        'world food production'[Yams  Production
(tonnes)]  +
        'world food production'[Wheat Production
(tonnes)] +
        'world food production'[Tomatoes Production
(tonnes)] +
        'world food production'[Tea  Production
( tonnes )]  +
        'world food production'[Sweet potatoes
Production (tonnes)]  +
        'world food production'[Sunflower seed
Production (tonnes)] +
        'world food production'[Sugar Cane Production
(tonnes)] +
        'world food production'[Soybeans  Production
(tonnes)] +
        'world food production'[Rye  Production
(tonnes)]  +
        'world food production'[Potatoes  Production
(tonnes)] +
        'world food production'[Oranges  Production
(tonnes)]  +
        'world food production'[Peas, dry Production
( tonnes)]  +
        'world food production'[Palm oil  Production
(tonnes)]  +
        'world food production'[Grapes  Production
(tonnes)]  +
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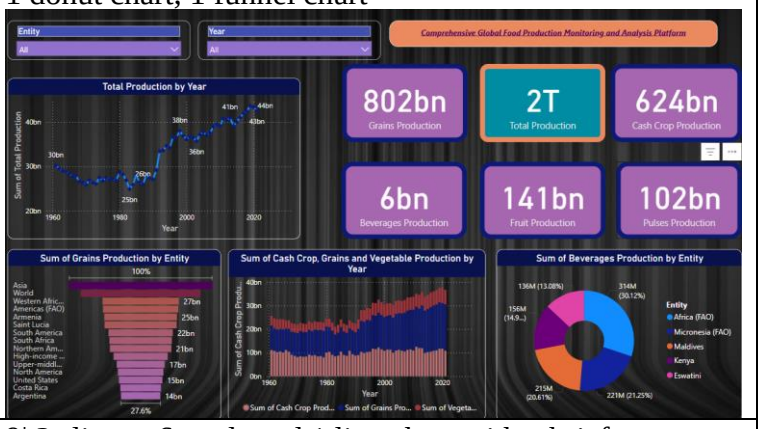
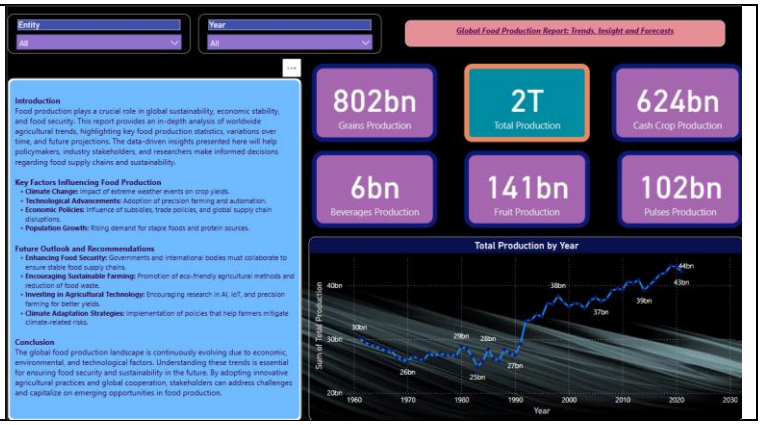
		'world food production'[Coffee, green Production (tonnes)] + 'world food production'[Cocoa Beans Production (tonnes)] + 'world food production'[Meat, chicken Production (tonnes)] + 'world food production'[Bananas Production (tonnes)] + 'world food production'[Avocados Production (tonnes)] + 'world food production'[Apples Production (tonnes)])) 2. category_production_per_year = SUMMARIZE('world food production', 'world food production'[Year], "Grains Production", SUM('world food production'[Grains Production]), "Pulses Production", SUM('world food production'[Pulses Production]), "Cash Crops Production", SUM('world food production'[Cash Crop Production]), "Vegetables Production", SUM('world food production'[Vegetable Production]), "Fruit Production", SUM('world food production'[Fruit Production]), "Beverages Production", SUM('world food production'[Beverages Production]), "Meat Production", SUM('world food production'[Meat, chicken Production (tonnes)]))
5.	Dashboard design	12| 2 slicers, 6 cards, 1 line chart, 1 column chart, 1 donut chart, 1 funnel chart 
6	Report Design	9| 2 slicers, 6 cards and 1 line chart with a brief description of the report

		 Entity All Year All Global Food Production Report: Trends, Insight and Forecasts Introduction Food production plays a crucial role in global sustainability, economic stability, and food security. This report provides an in-depth analysis of worldwide agricultural trends, highlighting key food production statistics, variations over time, and future projections. The data-driven insights presented here will help policymakers, industry stakeholders, and researchers make informed decisions regarding food supply chains and sustainability. Key Factors Influencing Food Production • Climate Change: Impact of extreme weather events on crop yields. • Technological Advancements: Adoption of precision farming and automation. • Economic Policies: Influence of subsidies, trade policies, and global supply chain disruptions. • Population Growth: Rising demand for staple foods and protein sources. Future Outlook and Recommendations • Enhancing Food Security: Governments and international bodies must collaborate to ensure stable food supply chains. • Encouraging Sustainable Farming: Promotion of eco-friendly agricultural methods and reduction of food waste. • Investing in Agricultural Technology: Encouraging research in AI, IoT, and precision farming for better yields. • Climate Adaptation Strategies: Implementation of policies that help farmers mitigate climate-related risks. Conclusion The global food production landscape is continuously evolving due to economic, environmental, and technological factors. Understanding these trends is essential for ensuring food security and sustainability in the future. By adopting innovative agricultural practices and global cooperation, stakeholders can address challenges and capitalize on emerging opportunities in food production. 802bn Grains Production 2T Total Production 624bn Cash Crop Production 6bn Beverages Production 141bn Fruit Production 102bn Pulses Production Total Production by Year Sum of Total Production 40bn 30bn 20bn 30bn 26bn 29bn 25bn 28bn 27bn 38bn 37bn 39bn 43bn 44bn 1960 1970 1980 1990 2000 2010 2020 2030 Year