KARAMOJA REGION CROP YIELD & FOOD SECURITY

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PROBLEM STATEMENT

- Karamoja region faces recurring food insecurity challenges.
  - Low agricultural productivity affects food availability.
  - Uneven crop yield distribution across districts.
  - Need for data-driven decision-making tools.

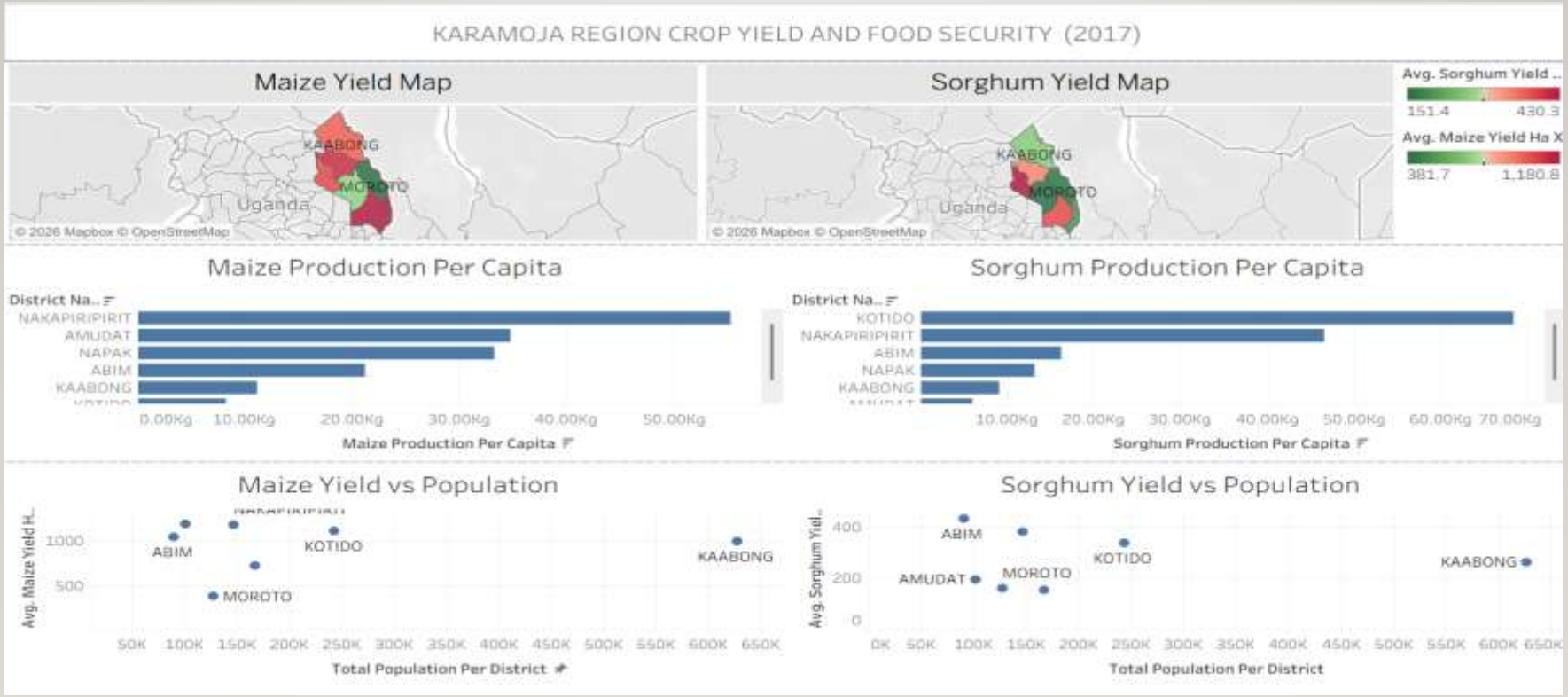
PROJECT OBJECTIVES

- Analyze maize and sorghum yields by district.
  - Evaluate production per capita (food availability per person).
  - Assess relationship between population and productivity.
  - Develop an interactive dashboard for stakeholders.

DATA & TOOLS USED

- District-level crop yield and production data.
  - Population data per district.
  - Geographic shapefiles (district boundaries).
  - Python (Pandas, Matplotlib) and Tableau Public.

FINDING AND INSIGHTS



FINDING AND INSIGHTS

1. Spatial Differences in Crop Yields

The analysis reveals noticeable variations in maize and sorghum yields across districts in the Karamoja region. Some districts consistently record higher productivity per hectare, while others show relatively low yields, indicating uneven agricultural performance within the region.

2. Differences in Production Per Capita

The production per capita findings highlight disparities in food availability among districts. Certain districts produce more crop output relative to their population size, whereas others may experience pressure due to lower per-person production levels.

3. Population and Productivity Relationship

The yield versus population analysis shows that higher population size does not automatically result in higher agricultural productivity. Some densely populated districts do not demonstrate proportionally higher yields, suggesting possible land pressure or resource constraints.

4. High Dependence on Staple Crops

The region shows strong reliance on maize and sorghum as primary staple crops. This dependence increases vulnerability to climatic shocks, pests, and environmental challenges that directly impact these crops.

RECOMMENDATIONS

1. Target Low-Yield Districts	Districts consistently recording low maize and sorghum yields should be prioritized for agricultural support, including improved seeds, extension services, and better farming techniques to enhance productivity.	2. Support High Population Pressure Areas	Districts with large populations but relatively lower production per capita may face greater food security risks. Targeted food security interventions and resource allocation should focus on these areas.
3. Promote Climate-Resilient Agriculture	Given the region's reliance on maize and sorghum, promoting drought-resistant crop varieties and climate-smart farming practices will help reduce vulnerability to environmental shocks.	4. Encourage Crop Diversification	Reducing heavy dependence on maize and sorghum through crop diversification can improve resilience, reduce risk, and enhance long-term food security.
	5. Strengthen Sustainable Agricultural Planning	Long-term strategies should integrate sustainable land management, water conservation, and improved agricultural infrastructure to ensure stable food production across districts.	

CONCLUSION

- Yield and food availability vary significantly across Karamoja.
  - Data-driven targeting can improve intervention efficiency.
  - Sustainable agricultural strategies are essential for long-term resilience.

THANK YOU

QUESTIONS?