

# Karamoja Crop Yield & Population Analysis

A Tableau Data Visualization Project examining food security, production disparities, and population distribution across districts in the Karamoja region of Uganda.

# Introduction

This analysis evaluates population distribution and crop production across districts in the Karamoja region of Uganda one of the country's most food insecure zones to inform targeted planning and resource allocation.

## Identify Disparities

Reveal production imbalances across districts

## Evaluate Availability

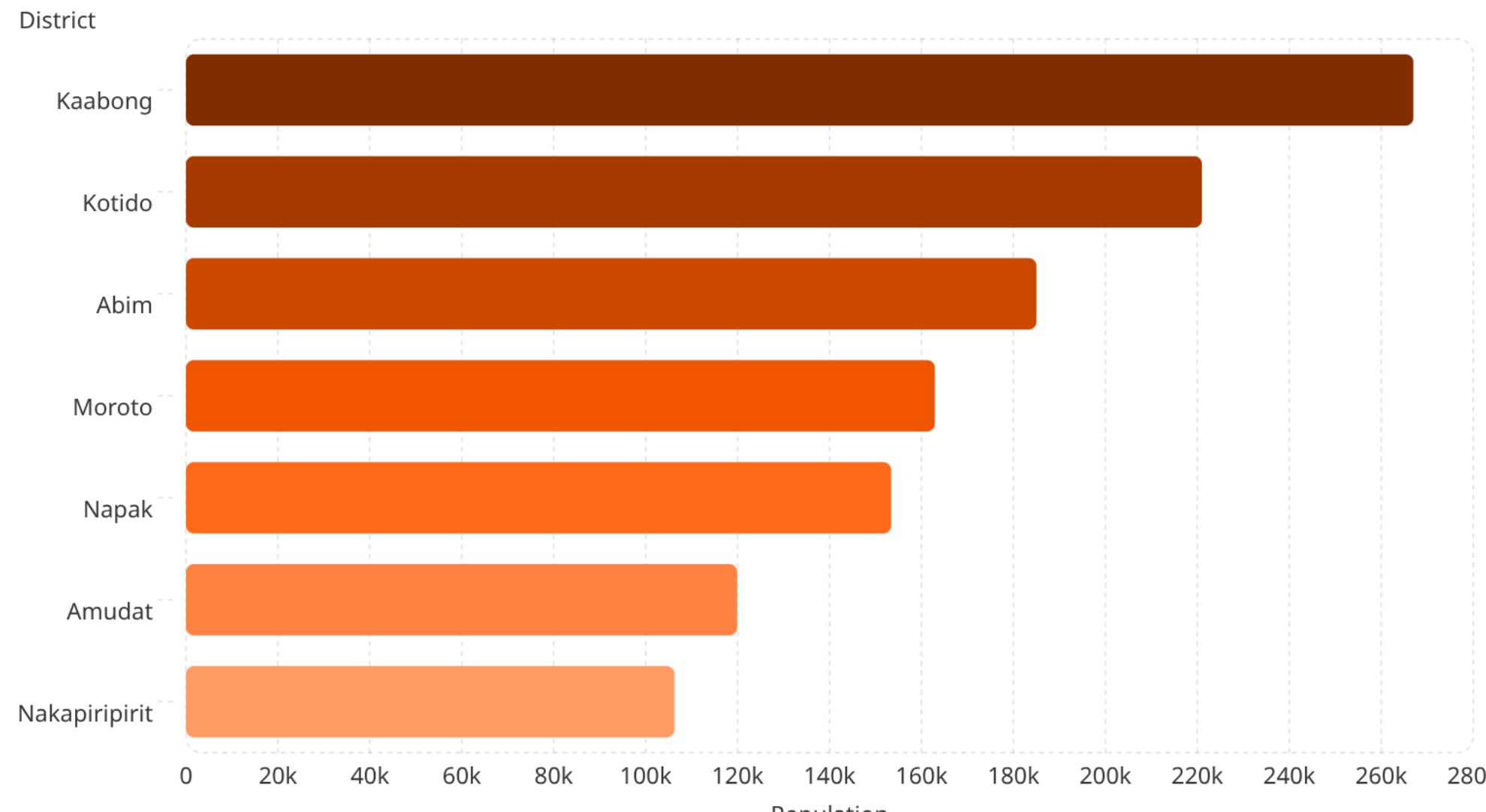
Assess food per capita at the district level

## Support Planning

Enable evidence-based regional interventions

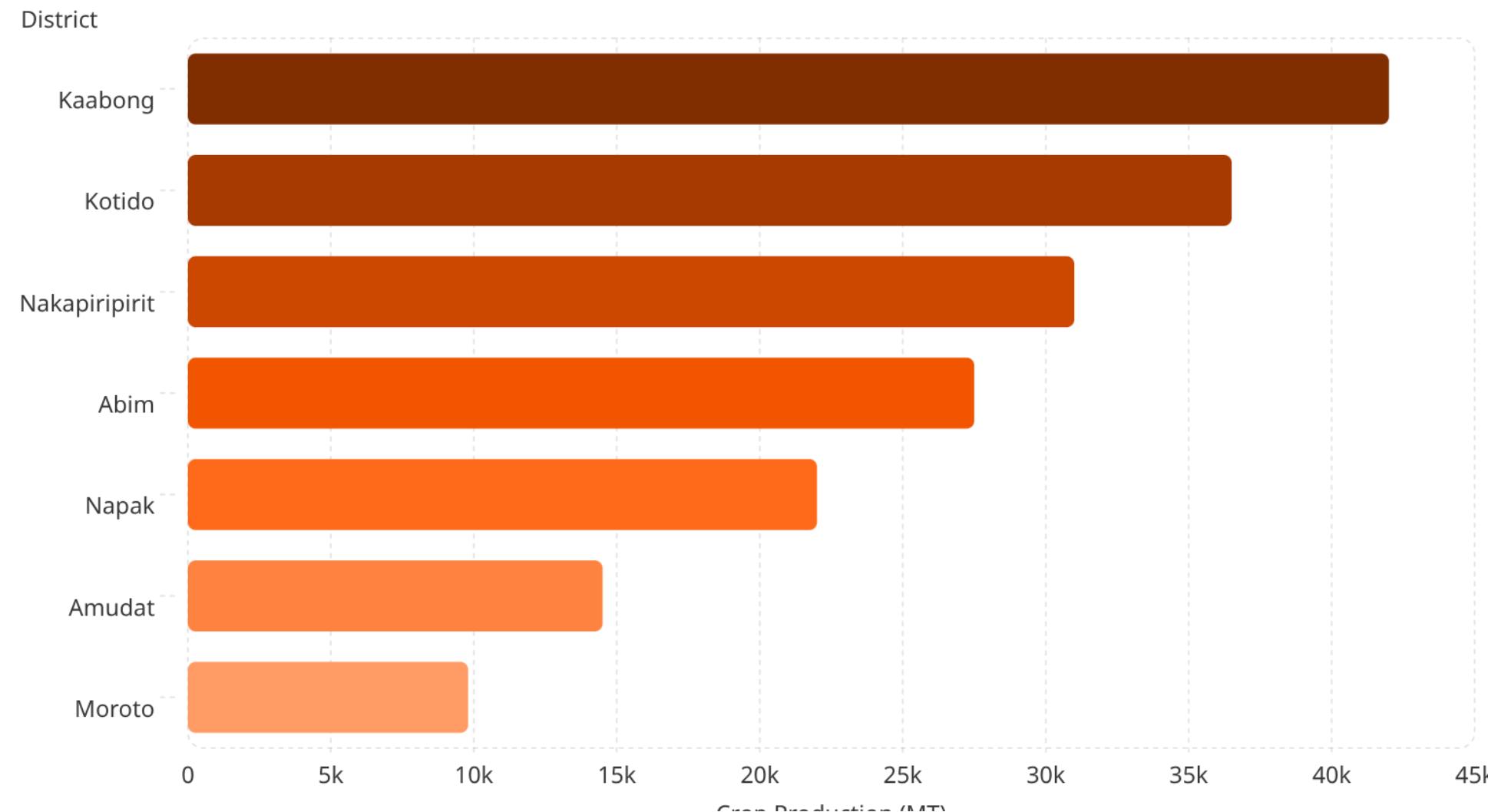
# Population by District

Population is distributed unevenly across Karamoja's districts a critical driver of food demand. Districts are ranked from highest to lowest population, revealing where pressure on food systems is most acute.



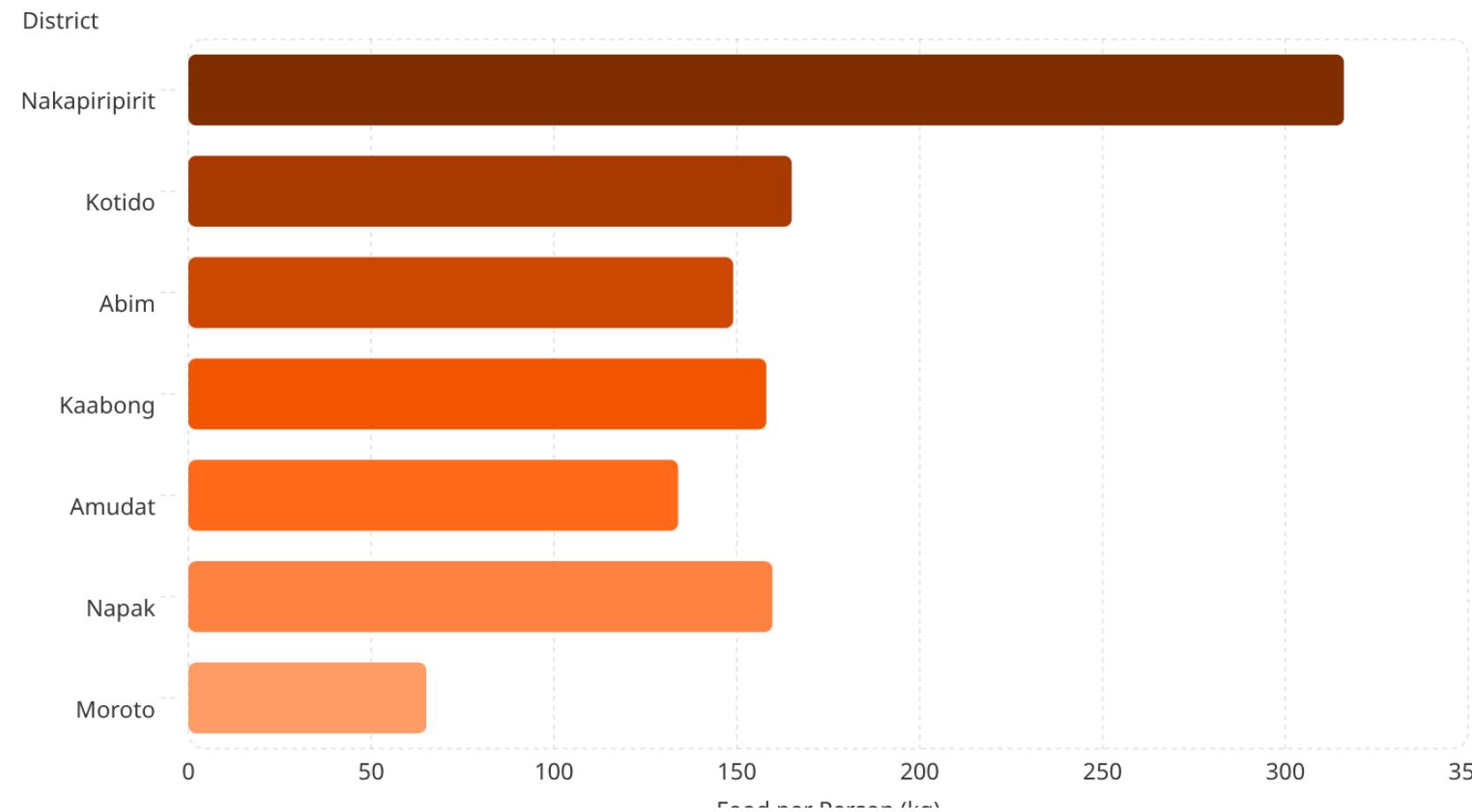
# Total Crop Production by District

Crop production levels vary sharply across Karamoja. Districts are ranked in descending order of output, exposing deep agricultural imbalances that do not always mirror population size.



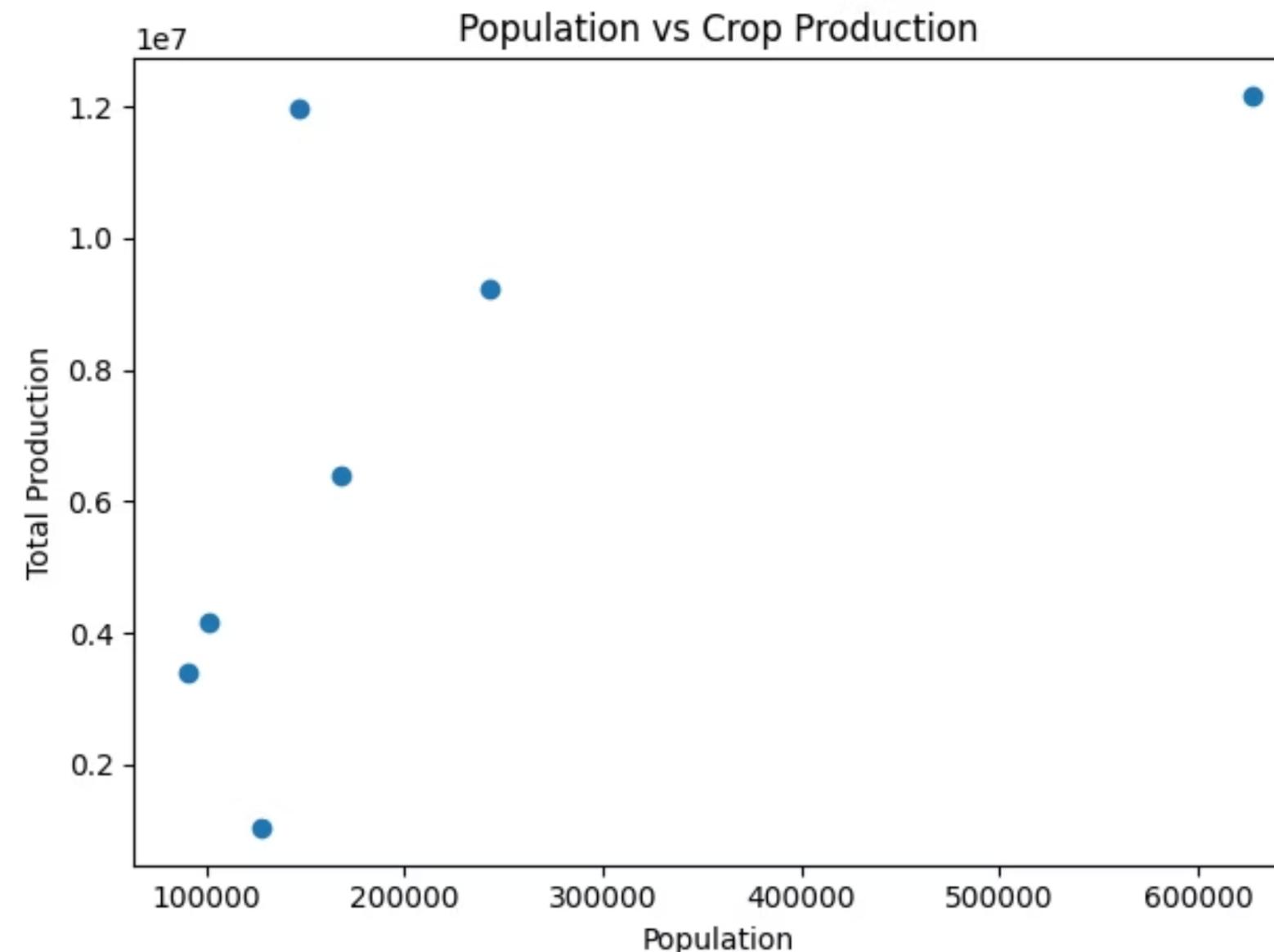
# Food per Person by District

Food per capita crop production divided by population is the most direct indicator of food security risk. Districts are ranked in descending order, with lower values signaling the greatest vulnerability.



# Population vs. Crop Production

This scatter plot tests whether larger populations correspond with greater crop output. The relationship reveals which districts punch above their weight — and which are critically underproducing relative to their population size.



# Key Findings

## Kaabong — Highest Population & Production

Leads the region in both total population and absolute crop output, making it the agricultural anchor of Karamoja.

## Nakapiripirit — Highest Food per Person

Despite a smaller population, this district achieves the best food availability ratio — a model worth examining for scalable practices.

## Moroto — Lowest Production & Food per Person

Critically underperforms on both production volume and per capita availability, representing the region's most acute food security risk.

# Recommendations

Evidence from this analysis points to four priority action areas for policymakers and development planners in Karamoja.



1

## Strengthen Agricultural Investment

Prioritize funding for inputs, extension services, and farmer training, especially in low-output districts.



2

## Improve Irrigation Systems

Karamoja's arid climate demands climate-resilient water infrastructure to reduce reliance on erratic rainfall.



3

## Target Low-Performing Districts

Direct interventions to Moroto and Amudat, where production deficits relative to population are most severe.



4

## Address Subcounty Disparities

District-level data masks local variation — subcounty analysis is essential for precise, equitable resource distribution.

# Conclusion

This analysis reveals a critical mismatch between population pressure and agricultural productivity across Karamoja's districts. High population does not guarantee food security; per capita production is the decisive metric.

Tableau visualizations enabled rapid, district level comparisons, reinforcing the value of data driven tools for regional food security planning. Sustained investment guided by this evidence can meaningfully reduce vulnerability across Karamoja.

## Disparities Are Structural

Production gaps reflect deep infrastructure and investment deficits

## Data Drives Action

Visualization tools translate complexity into actionable policy insights

## Targeted Response Needed

Blanket approaches will fail – precision planning by district is essential