

Child Food Poverty in Rural vs. Urban Communities

Project by Mean Girls

Danikah Harris, Natalia Vera, Isa Cheng, Haleeyah Adesina, Olivea Cook

Introduction

Motivation:

"An estimated 673 million people faced hunger in 2024, 8.3 percent of the global population."

Research Questions:

Is there a correlation between rural vs. urban living and child food poverty? If so, how can we quantify this?

Hypothesis:

Children living in lower-income, rural households experience higher levels of food insecurity compared to those in higher-income, urban settings



■ Source

Our data comes from UNICEF, the United Nations Children's Fund, including 112 countries.

■ Collection

The data was collected from 2006 to 2023. It utilized a household survey for data collection.

■ Limitations

Limitations include the time frame of the data collection, and the reliability of honest responses.

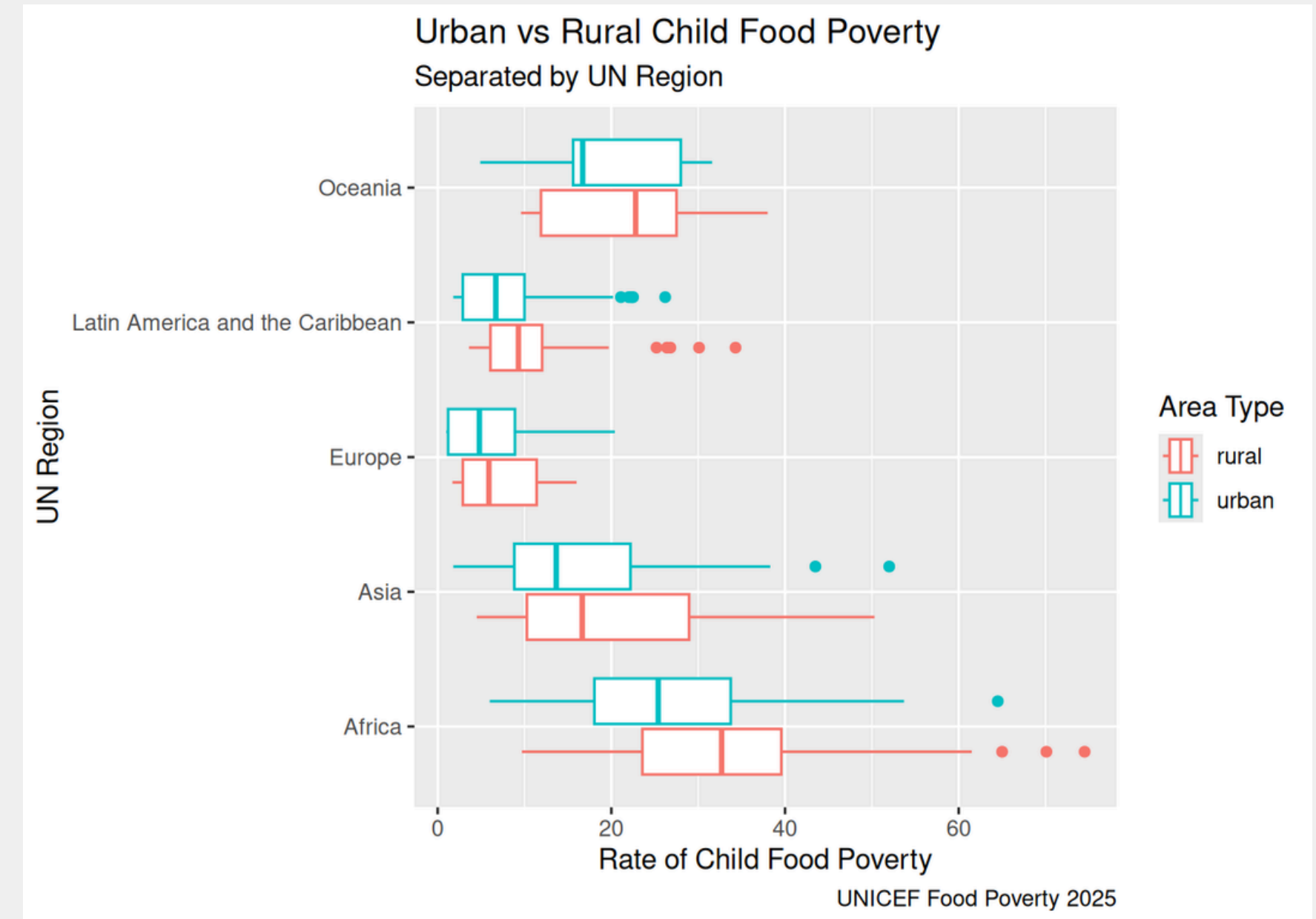
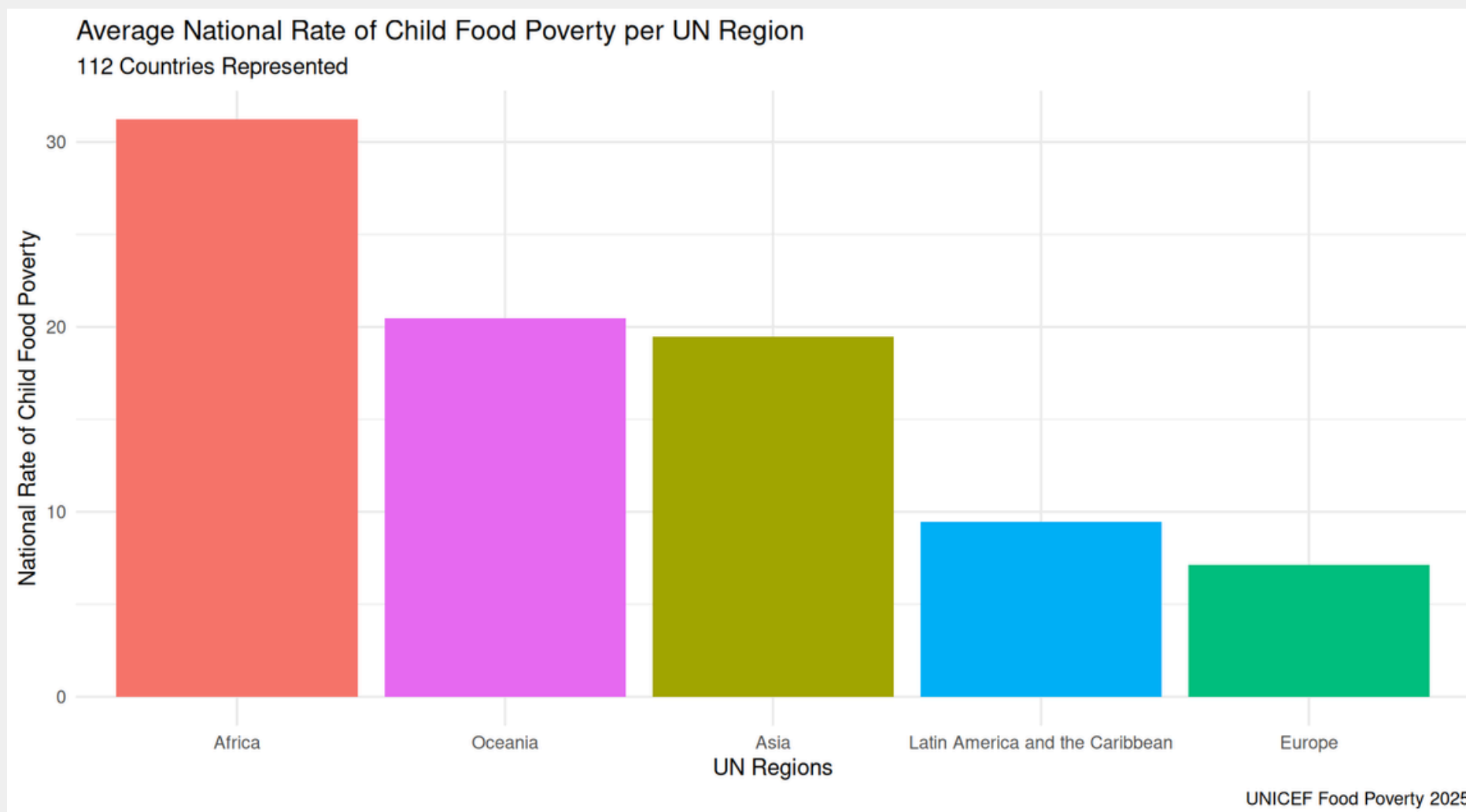
■ Glimpse

country_name	un_region	income_group	national_rate	urban_rate
Afghanistan	Asia	Low Income	39.6	33.2
Afghanistan	Asia	Low Income	48.7	43.5
Albania	Europe	Upper Middle Income	11.8	6.4
Albania	Europe	Upper Middle Income	18.2	20.4
Algeria	Africa	Upper Middle Income	16.8	15.6
Angola	Africa	Lower Middle Income	29.9	27.5
Armenia	Asia	Upper Middle Income	12.5	11.4
Armenia	Asia	Upper Middle Income	13.4	8.9
Armenia	Asia	Upper Middle Income	14.4	11.9
Azerbaijan	Asia	Upper Middle Income	23.8	21.8

Analysis

Part 1:

- Analyzed the national rates of child food poverty
- Separated by UN region
- By far the highest in Africa



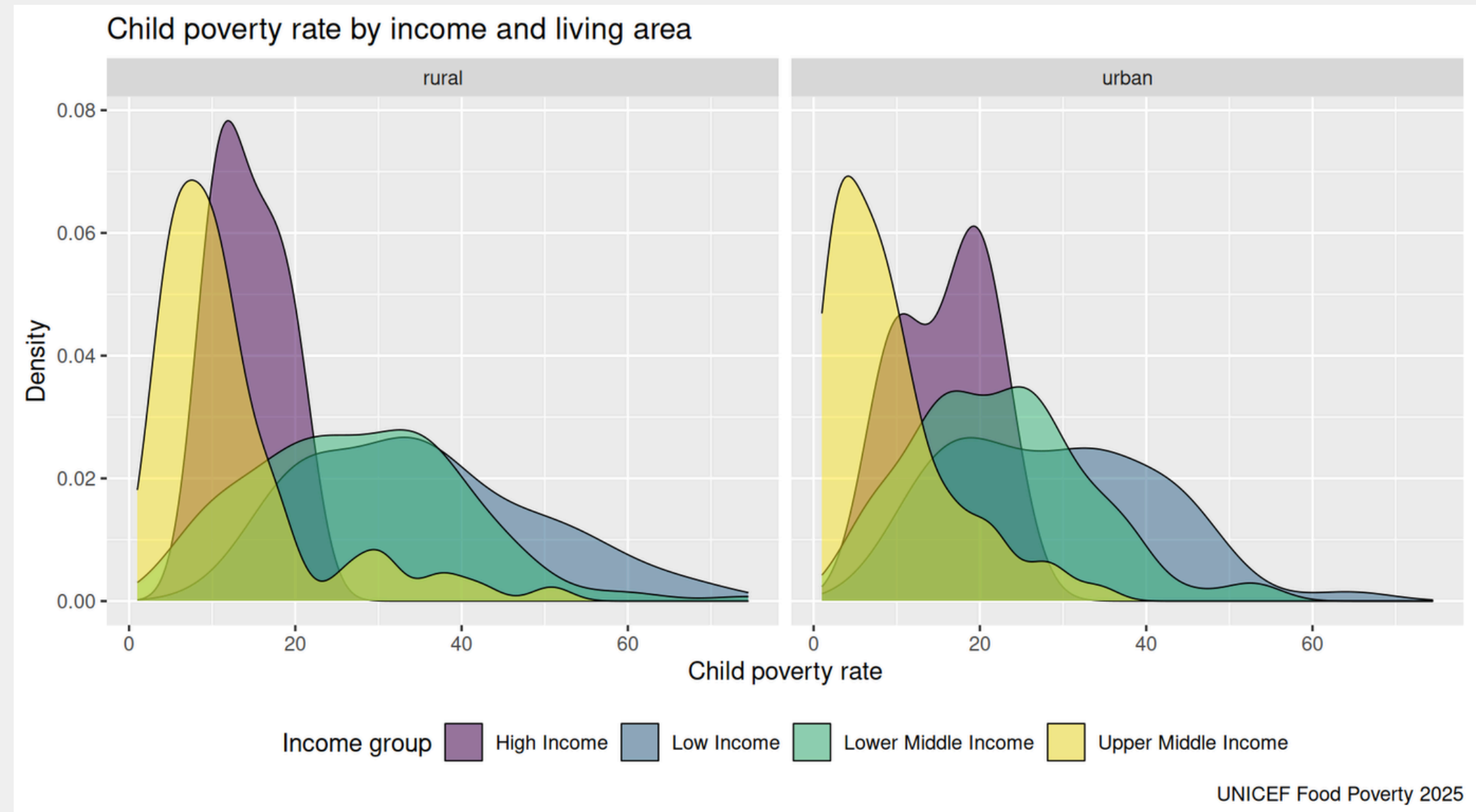
Part 2:

- Typical child rural resident is more likely to experience child food poverty than the typical child urban resident

Analysis

Part 2 (cont.):

- Child food poverty in both urban and rural areas generally decreases by income level
- Exception to this trend is high income groups have higher rates than upper middle
- High income parents may be the target of unhealthy advertising and without the time to prepare fresh meals
- Until the point of the highest income group, more money means greater access to healthy, diverse food



Part 3:

- Varying margins of error
- Sample sizes range from 1.8 to 1,131,954 in rural areas and from 55.1 to 757,457.4 in urban areas
- The margins of error appear to be smaller in rural areas compared to urban areas

Take-Aways

■ Discussion + Critique + Conclusion

- The analysis shows that children in rural areas are more likely to experience food poverty than those in urban areas, supporting our hypothesis. For example, some countries show rural rates reaching over 60%, while urban rates are generally lower and more centered below 40%.
- Food poverty decreases as income increases across both rural and urban areas, but an exception is shown when high-income groups sometimes have higher rates than other upper-middle-income groups. This hints that there are factors beyond just income, like lifestyle difference or food accessibility, that may play a role.
- The data also highlights strong regional patterns, with Africa showing the highest national child food poverty rates in the dataset.
- There are some important limitations: the dataset spans from 2006–2023 across 112 countries, with variability in the sample sizes (from about 1.8 to over 1.1 million in rural areas), which may affect how reliable the data is.
- Future improvements could include adding more variables like food access and education or simply just using more consistent sampling to better explain the difference in these patterns.

References:

“Callout Blocks – Quarto.” Quarto, 2025, quarto.org/docs/authoring/callouts.html.

Riederer, Emily. “10.1 the Function Knitr::Kable() | R Markdown Cookbook.” Yihui.org, 3 Feb. 2026, yihui.org/rmarkdown-cookbook/kable. Accessed 24 Mar. 2026.

“The State of Food Security and Nutrition in the World 2025 - UNICEF Data.” UNICEF, data.unicef.org/resources/sofi-2025/. Accessed 24 Mar. 2026.