Population Dynamics Across Income Levels

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Population dyamics is the study of how population characterstics change over time. Examples of these characteristics include birth and death rates, age distributions, and population size and density. Most importantly, population dynamics help us understand how and why populations evolve in structure and makeup, and allow us to consider how changes in populations interact with key components of human societies, such as economics, public health, and government.

This project aims to explore the population dynamics between five countires of ranging income values: Afghanistan, Kenya, India, Brazil, and the United Kingdom. Using data from the World Bank Development Indicators (WDI), we analyze three key indicators: life expectancy, adolescent fertility rate, and under-5 mortality rate from 2000 to 2023.

The primary research question we focus on is: How do population dynamics compare between countries of different income levels?

We find that while there have been overall improvements on life expectancy, adolescent fertility, and under-5 mortality over time, higher-income countries tend to have higher life expectancy and lower mortality and fertility rates. Lower-income countries display the opposite trend, highlighting the strong connection between income level and population health outcome. Additionally, we found key relationships between adolescent fertility and secondary school enrollment, as well as adolescent fertility and under-5 mortality.