WORLD BANK GROUP
Poverty & Equity

High-resolution tools to understand living conditions: Wealth, access to services, and urbanization

Problem Setting:

- Big data applications provide data-driven solutions to close analytical gaps and establish new partnerships with other practices.
- In the past, their usage has been *ad-hoc,* on a project-by-project basis.
- This approach has undermined transparency, prevented reproducibility (in other countries), and reduced learning across teams.

Solution:

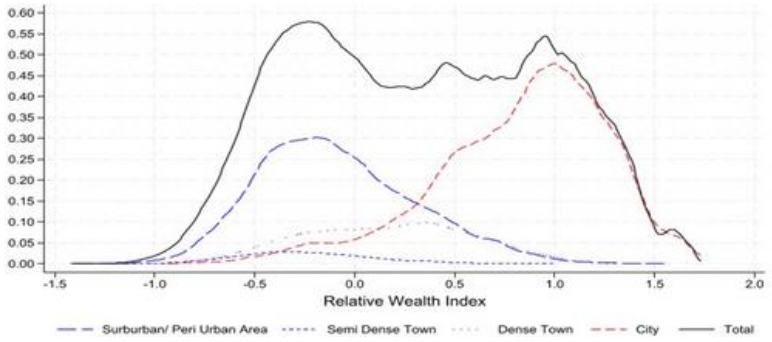
- The Pakistan Poverty and Equity team developed a systematic approach to document, process, and analyze three sources of big data analytics.
- We provide three centralized GitHub repositories and documentation on how to implement these methods in new settings.
- These repositories serve as a one-click shop for better analytics, higher quality, and learning.

Case study: Living standards inside urban areas

Problem Setting: Household surveys (i) use a rigid classification of urban/rural areas that does not respond to on-the-ground realities, and (ii) does not offer the granularity to describe living standards on a highly disaggregated level.

Solution: Combining the Relative Wealth Index (RWI) and the Degree of Urbanization (DoU), we provide a high-resolution of the variation in living standards within urban areas (2.5 km by 2.5 km).

Relative Wealth Index by Degree of Urbanization



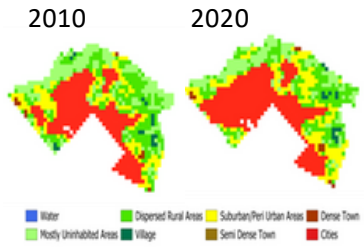
Results: (i) Living conditions in "more" urbanized areas better than in "more" rural areas; (ii) large variation within urban, and within rural areas; (iii) more granularity beyond urban/rural matters.

Data solutions: The Pakistan Poverty and Equity GitHub

Degree of Urbanization (DoU)

Repository: https://github.com/worldbank/DoU_Urban
➔ Input: Shape with relevant administrative level
➔ Output: Population-weighted DoU (at any geographic level)

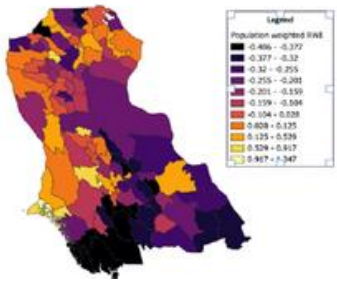
Available: A technical note to demonstrate the evolution of urban areas in Pakistan (seven degrees of urbanization).



Relative Wealth Index (RWI)

Repository: *https://github.com/worldbank/RWI*
➔ Input: Data with relevant administrative level
➔ Output: Population-weighted RWI (at any geographic level)

Available: A technical note to validate the RWI on the district level with the Pakistan poverty map (consumption-based).



Accessibility index (AI)

Repository: *https://github.com/worldbank/Accessibility_Index*
➔ Input: Road data (OSM/government/third party) & geo- locations of markets and services
➔ Output: Highly disaggregated accessibility index for m*arkets, education, and health centers*

Available: A technical note to explain the construction and application of the index for prioritization of road investments.