Mapping of subnational poverty and food security to support national and local food system transformation

Presentation prepared for the Ethiopia mapping workshop, 20-06-2023 in Wageningen

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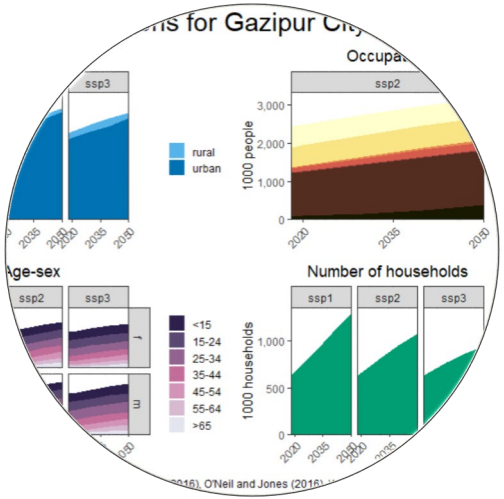

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Introduction

- Many countries are in the process of developing national food security, SDG and climate (NDCs) action plans and strategies.
- National decision makers supported by international donors increasingly approach Wageningen Economic Research (WEcR) for support in developing these plans by means of **ex-ante policy analysis** using simulation models.
- Examples:
    - CGIAR SHIFT (with IFPRI & ABC)
    - FOSTr (with Oxford University)

Foresight for Food Systems Transformation (FOSTr)

Ministry of Foreign Affairs of the Netherlands

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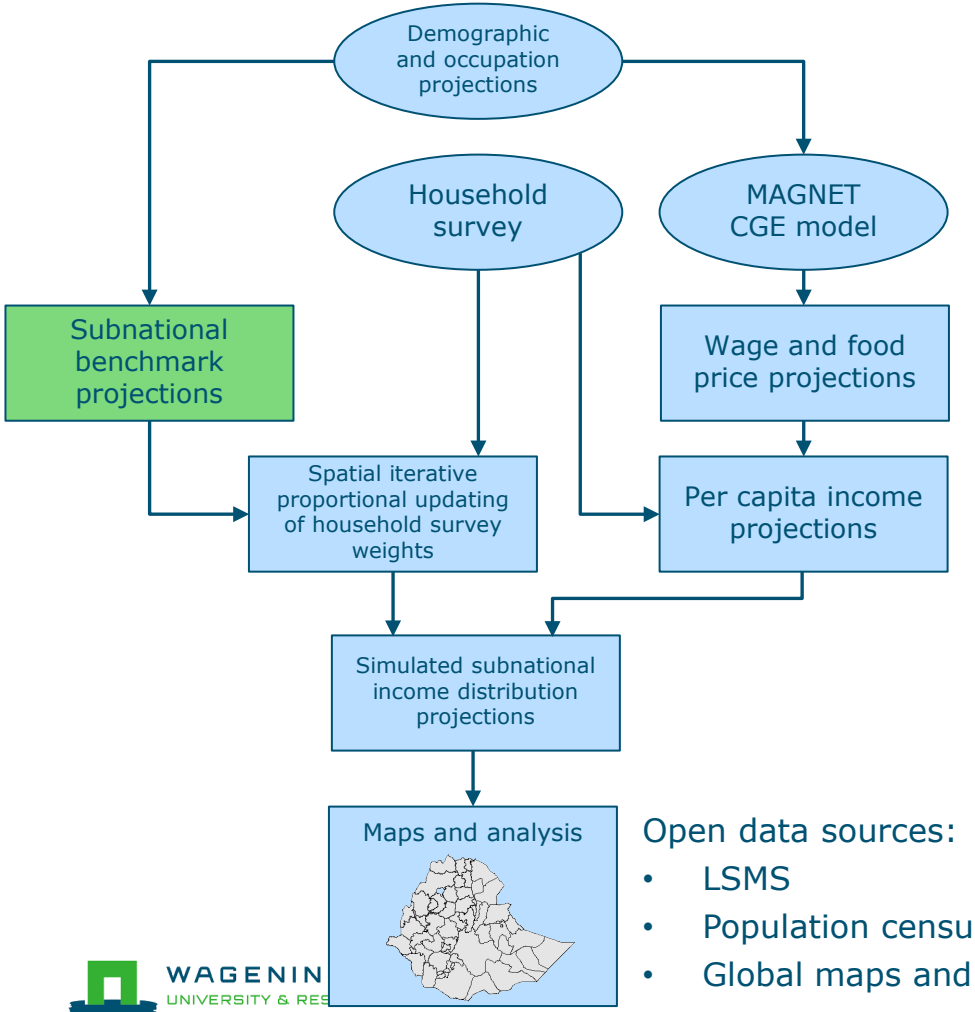
Aim

To develop a **modelling approach** that takes into account global, national and local drivers **to simulate income distribution, poverty, food consumption and food security at subnational scale**, answering questions such as:

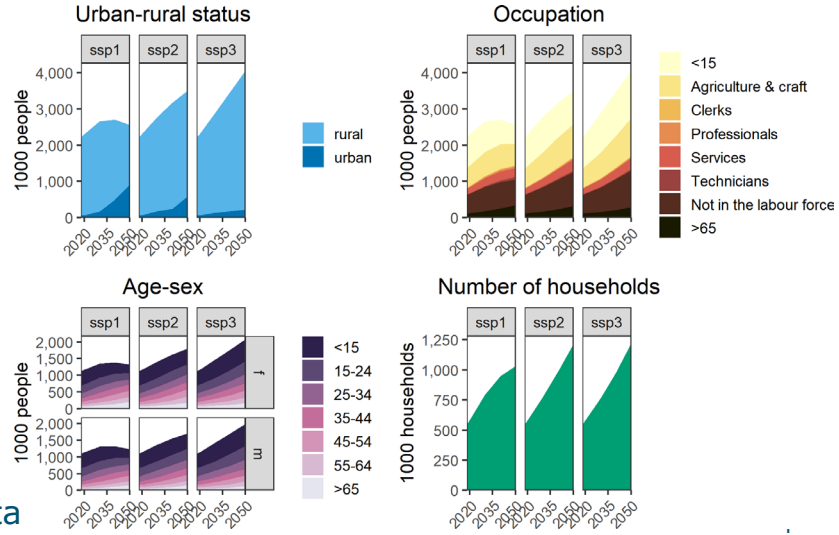
- Which districts are most likely to achieve SDG1, SDG2 and SDG10?
- What is the impact of decreasing economic growth (e.g. caused by COVID-19) on the spatial distribution of poverty and food security?
- Are there overlaps between climate, poverty and food insecurity hotspots?

Spatial Simulation of Income Dynamics (SSID) model



- Key drivers:
  - Urbanization
  - Occupation change
  - Sex-age distribution
  - Number of households

North Shewa



Open data sources:

- LSMS
- Population census
- Global maps and data

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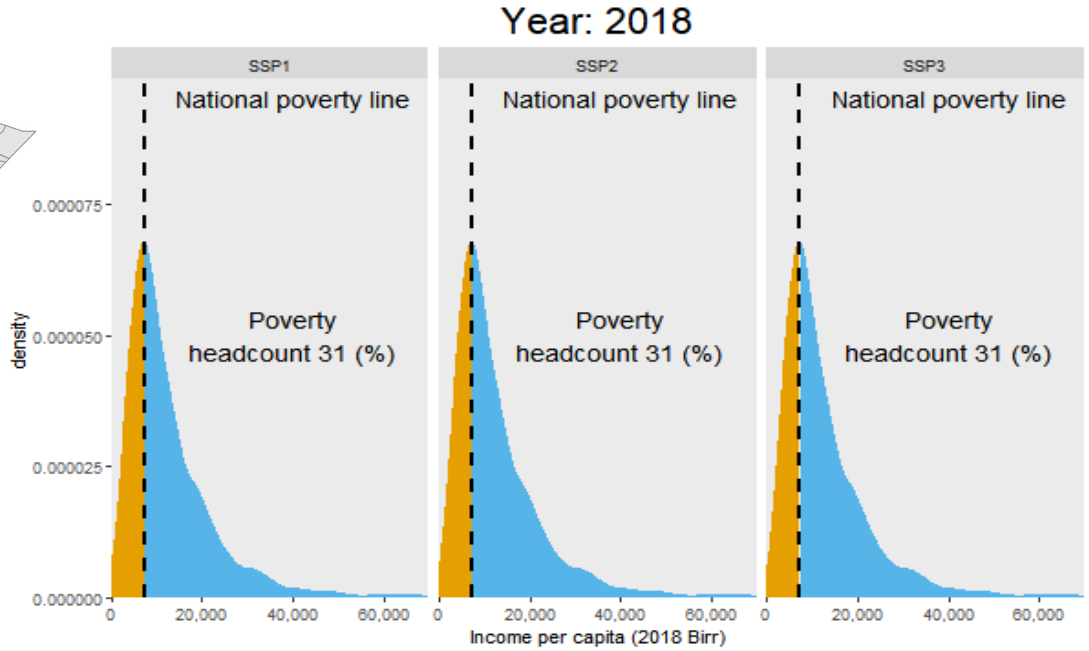
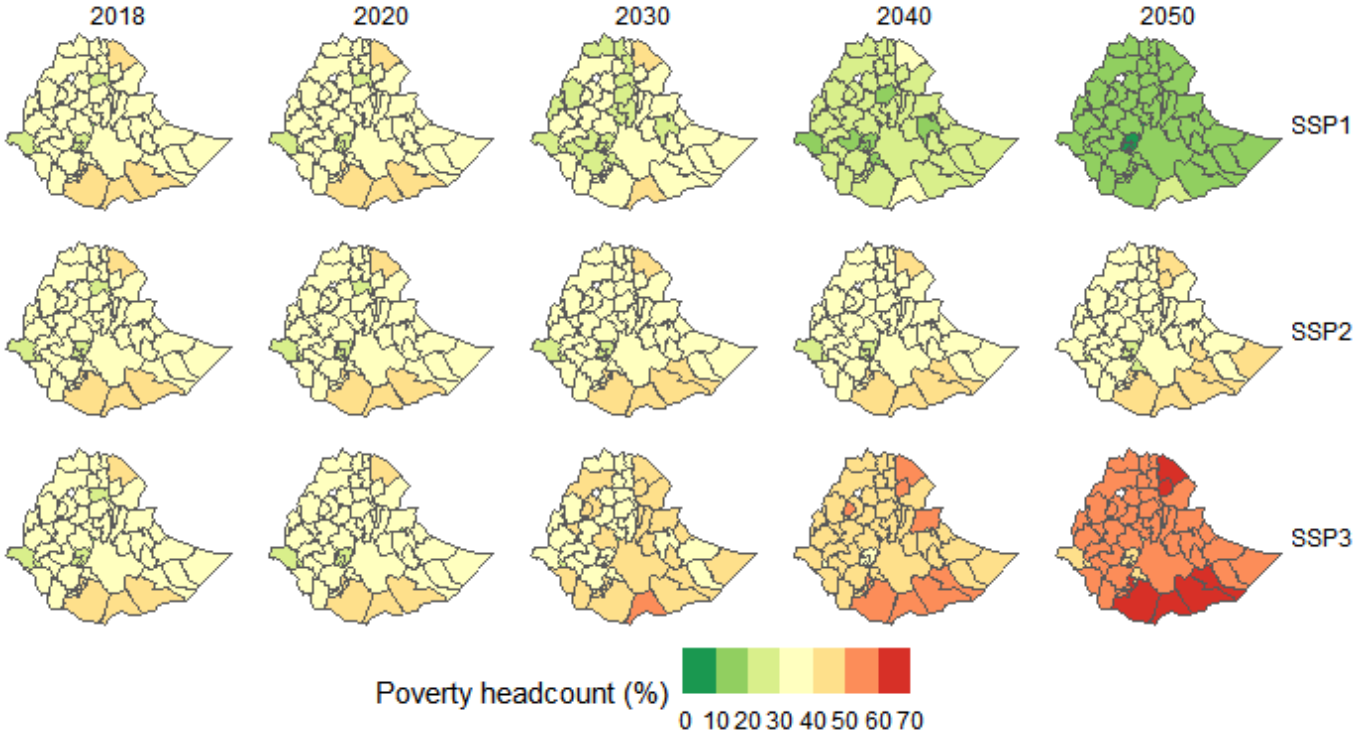
North Shewa:
Income distribution by SSP scenario: 2018-2050

Regional distributional patterns determined by the combined effect of:

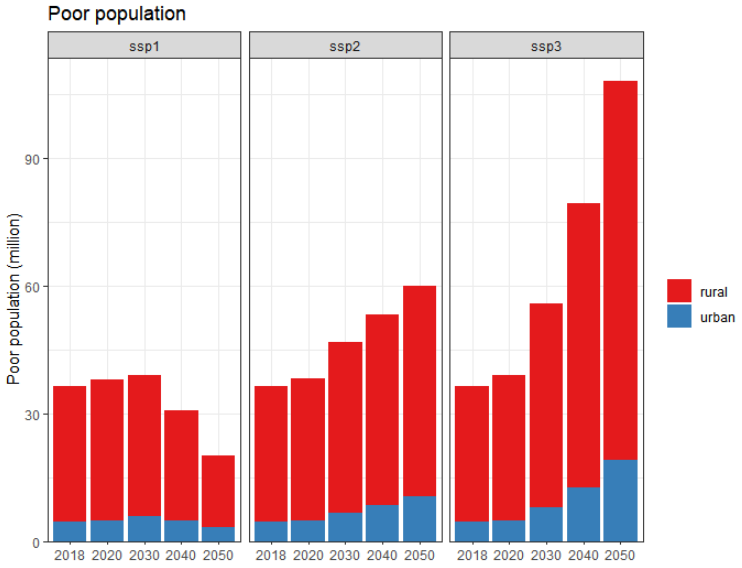
- Demographic change
- Urbanization
- Structural economic change
- Change in wages per occupation

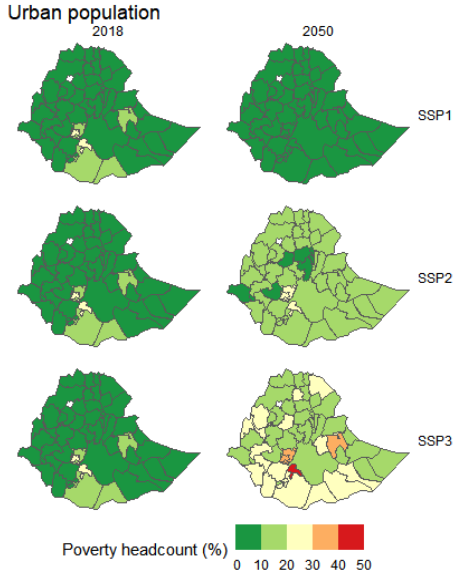


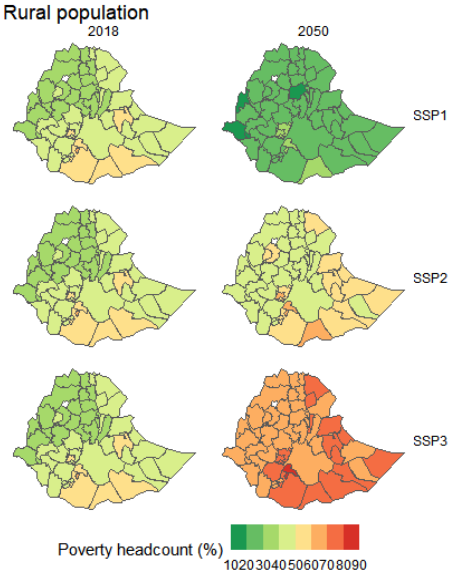
Spatial distribution of poverty headcount over time and space by SSP scenario: 2018-2050



Spatial distribution of poverty headcount over time and space by SSP scenario and urban rural status: 2018-2050







Additional maps and figures for poverty headcount by occupation, age group and sex

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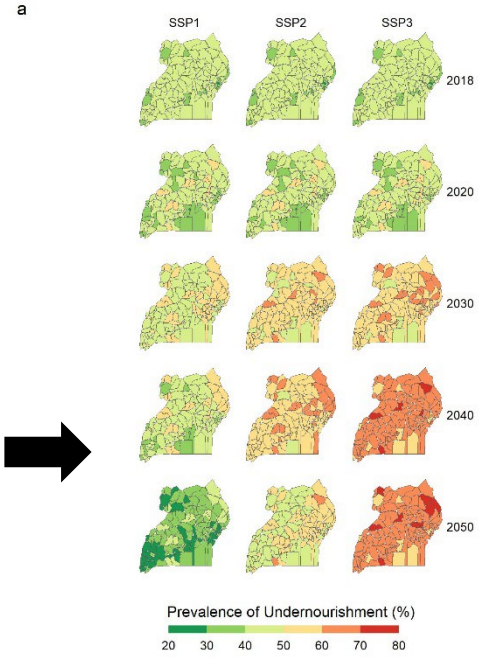
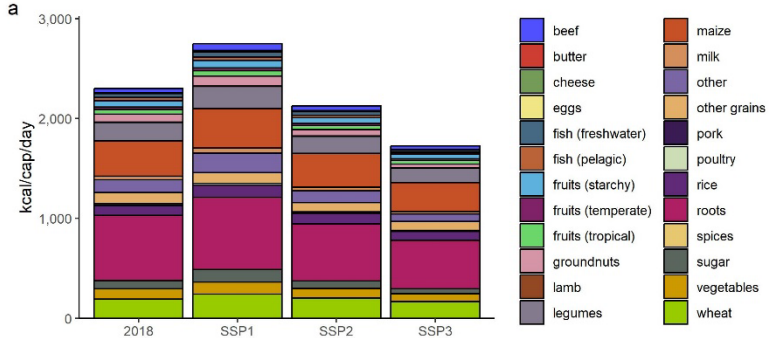
Subnational diet and food security projections: Uganda case-study

Arua projections

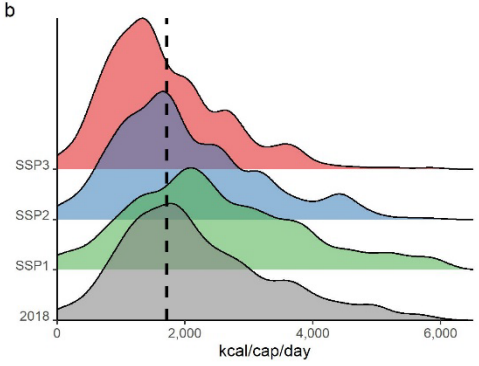
Spatial distribution of undernourishment over space under different scenarios



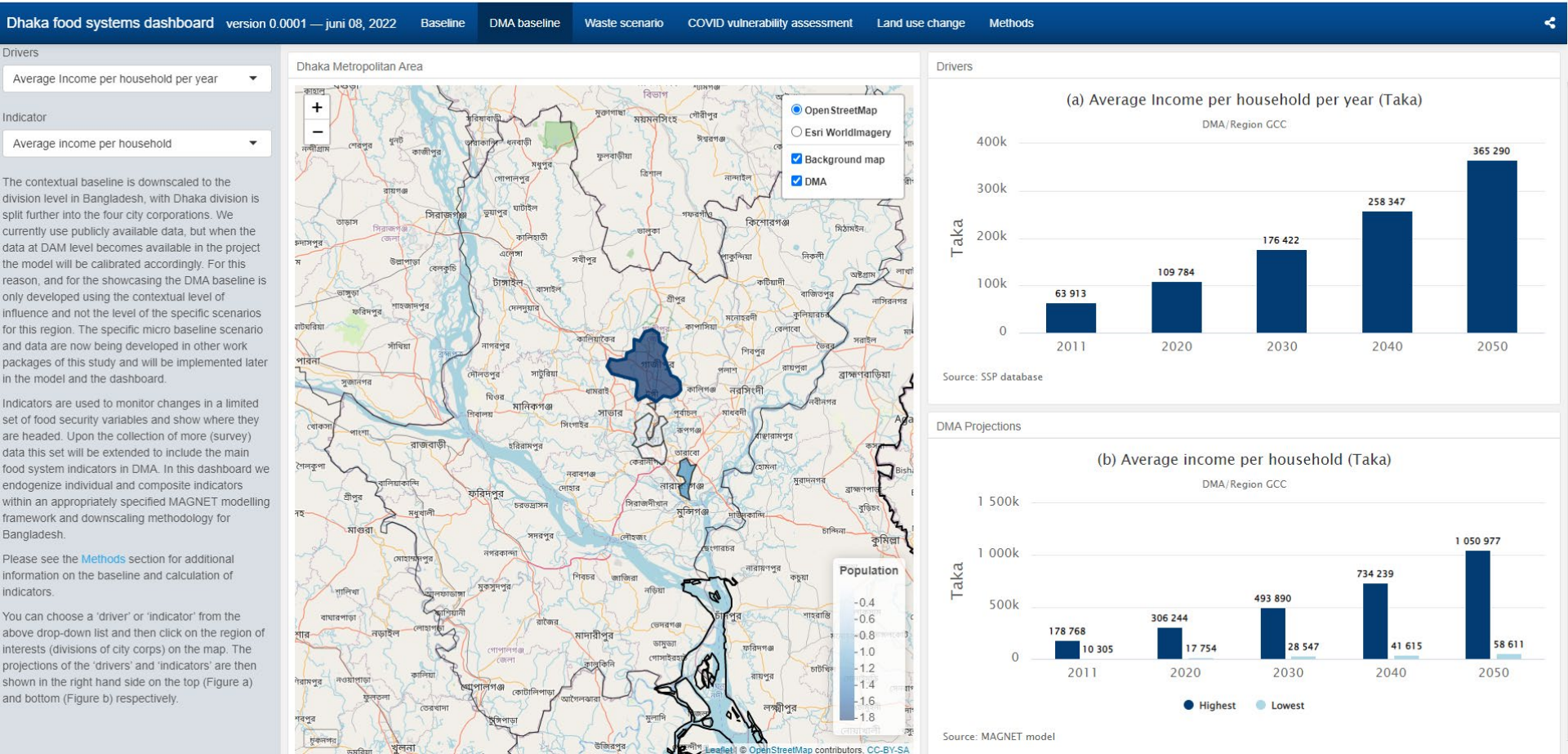
Diet projections



kcal/cap/day distribution



Interactive dashboard with key scenario results



Thank you!
Questions?

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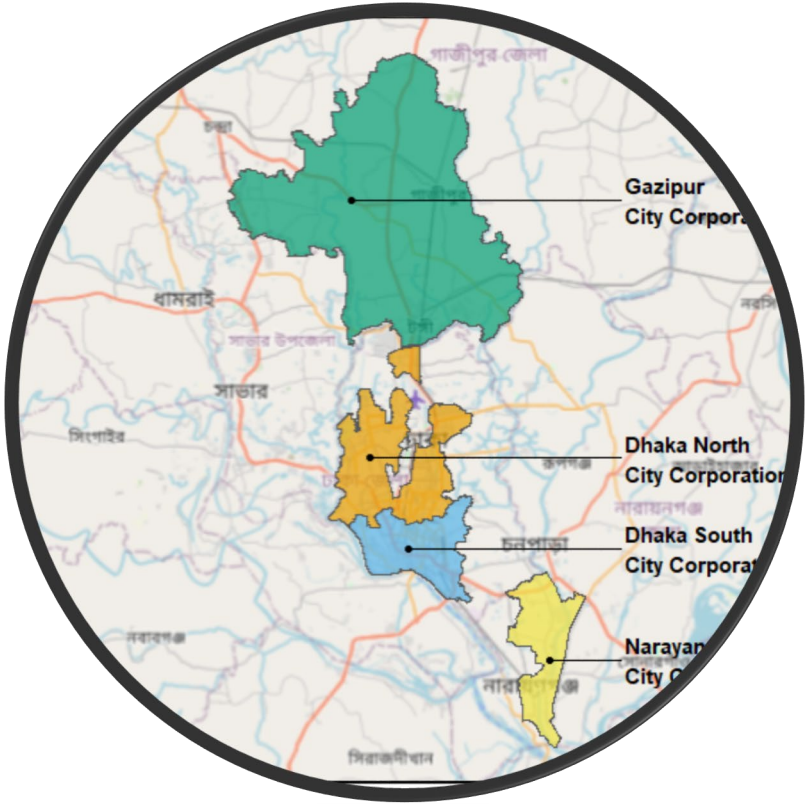

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