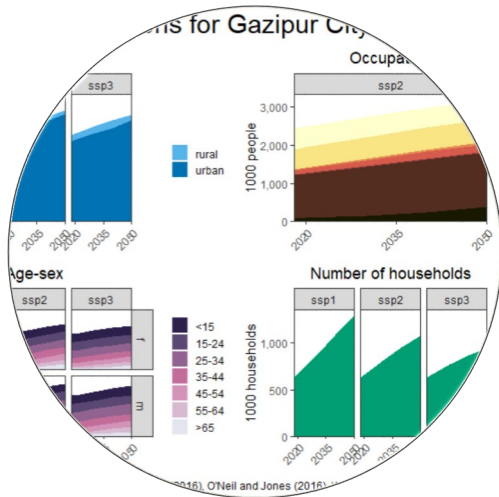


Towards a modelling framework to support national and local food system transformation

Presentation prepared for the third global foresight4food workshop, 8-9 March, 2023, Montpellier

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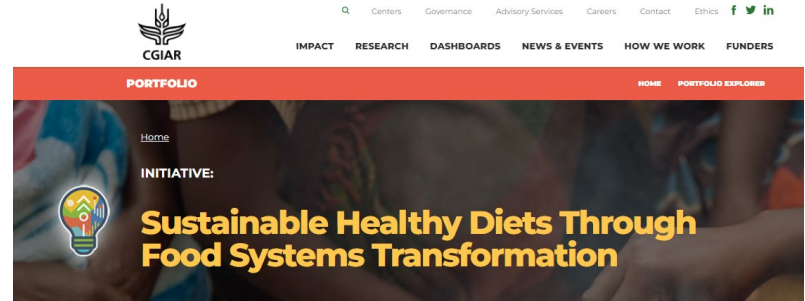
Introduction

- 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 and **ex-ante policy analysis**.
- To address this demand, WEcR started to develop a modelling approach for **long-run national and local scale assessments** to support food system transformation.

PRESS RELEASE

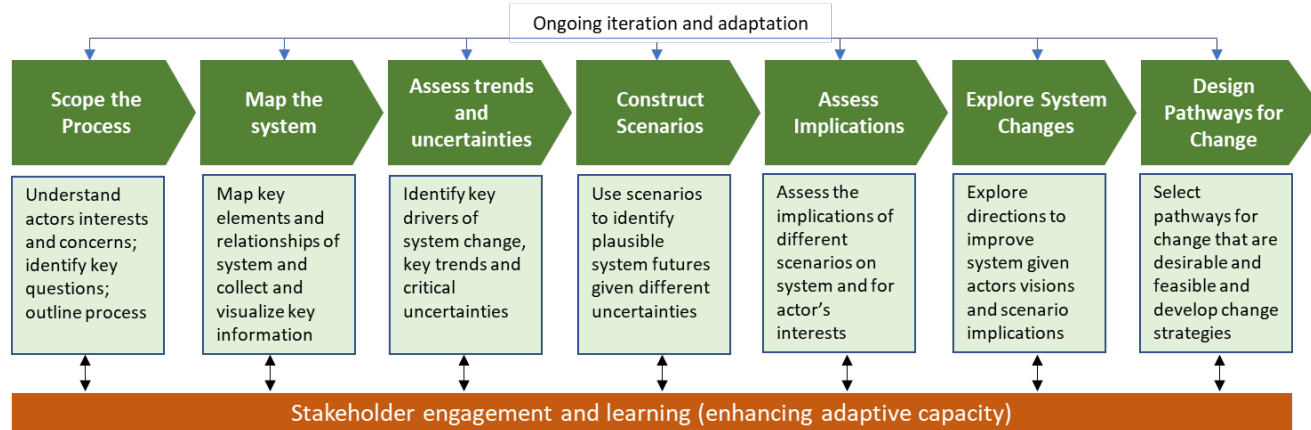
More than 100 countries sign up to develop national strategies for transforming food systems

Ahead of September's Food Systems Summit, more than half of the UN's Member States have pledged to host Dialogue events to begin conversations about improving food systems.



The screenshot shows the CGIAR website header with the logo and navigation menu (IMPACT, RESEARCH, DASHBOARDS, NEWS & EVENTS, HOW WE WORK, FUNDERS). Below the header is a red banner with the text "PORTFOLIO" and "HOME PORTFOLIO EXPLORER". The main content area features a "Home" link, an "INITIATIVE:" label, and a lightbulb icon with a green leaf inside. The main headline reads "Sustainable Healthy Diets Through Food Systems Transformation".

Intergrating qualitative and quantitative foresight approaches



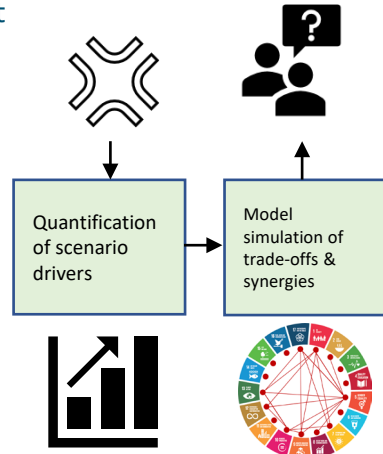
Source: <https://www.foresight4food.net>



Why modelling:

- Adds consistency
- Sheds light on trade-offs and synergies
- Facilitates comparison of scenarios
- Makes system linkages explicit

Supports evidence-based decision making



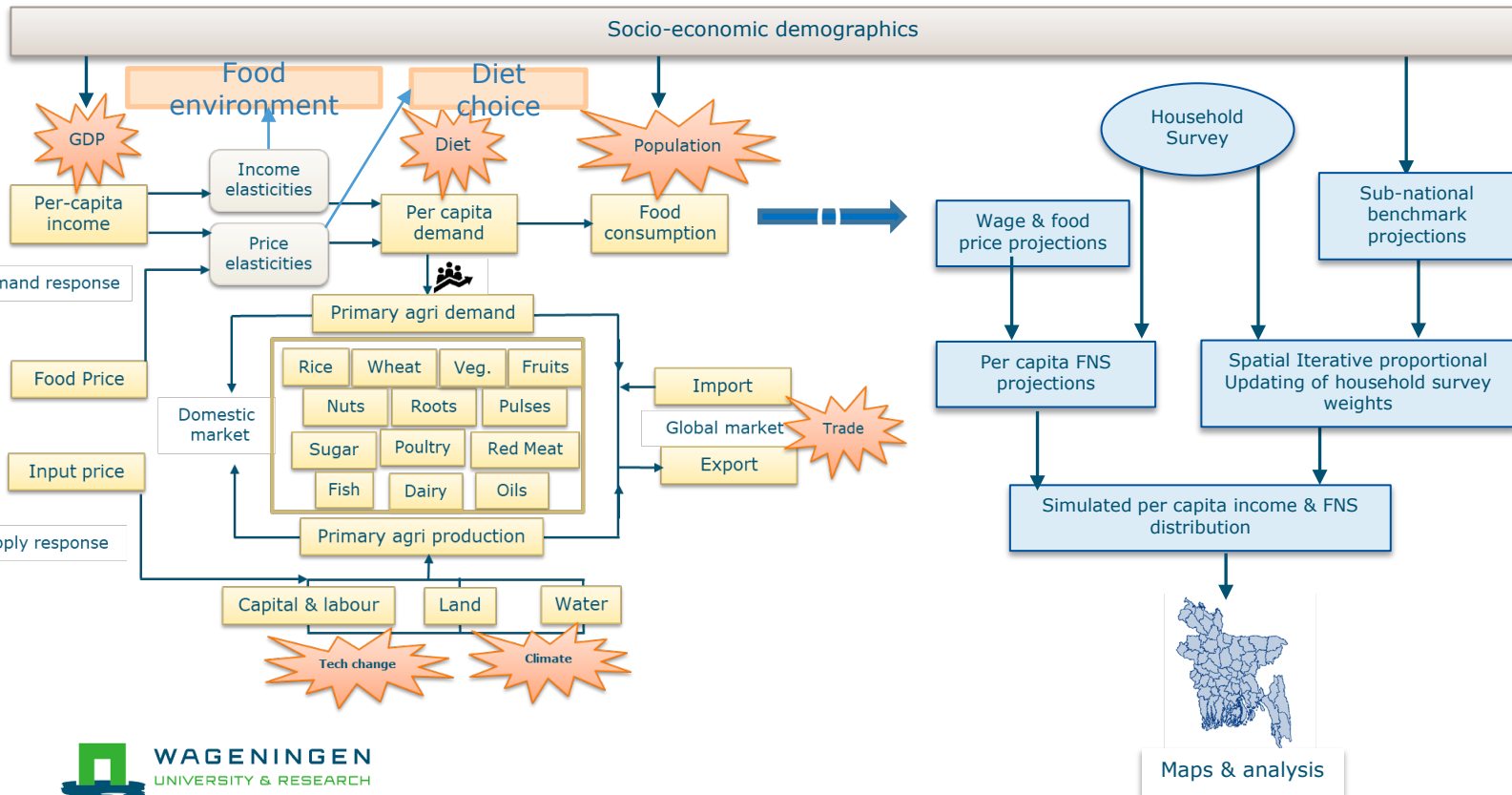
Global to national

National to subnational

MAGNET – CGE Model
 Macroeconomic indicators & projections

SSID – microsimulation model
 Income & food projections and maps

↔ Impact

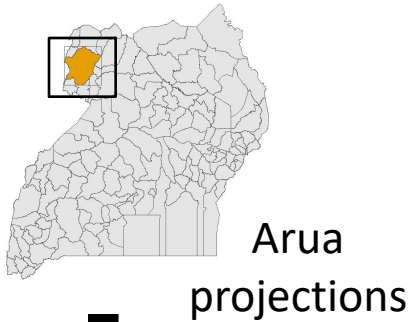


- Food & nutrition security
- Socio-economic
- Environment

Subnational diet and food security projections: Uganda case-study

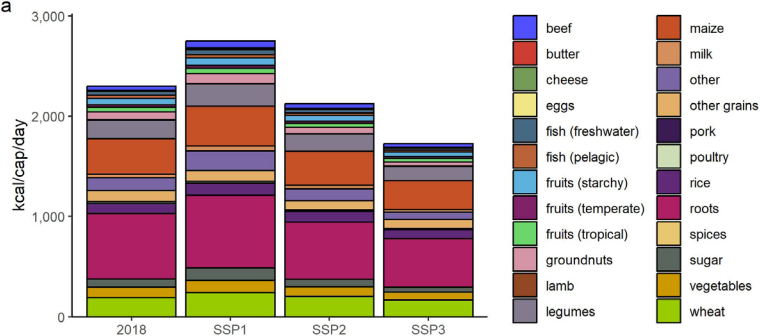
Combining:

- Household surveys
- Food composition table
- Income elasticities
- Subnational drivers
- Macro-economic drivers

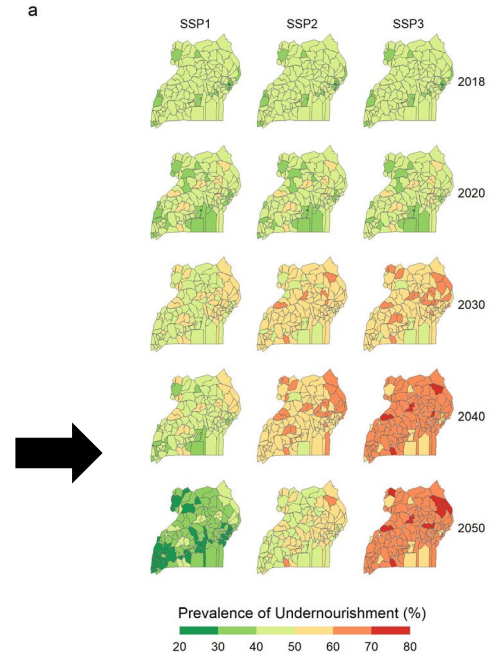
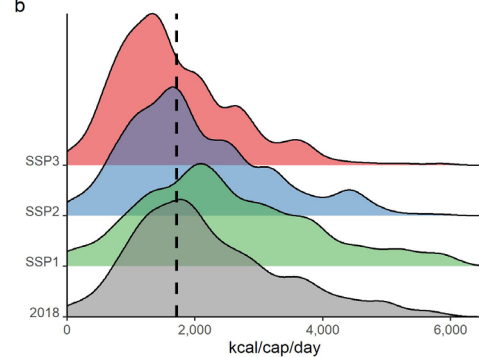


Spatial distribution of
undernourishment over space
under different scenarios

a Diet projections



b kcal/cap/day distribution



Interactive dashboard with key scenario results

Dhaka food systems dashboard version 0.0001 — juni 08, 2022 Baseline DMA baseline Waste scenario COVID vulnerability assessment Land use change Methods

Drivers

Average Income per household per year

Indicator

Average income per household

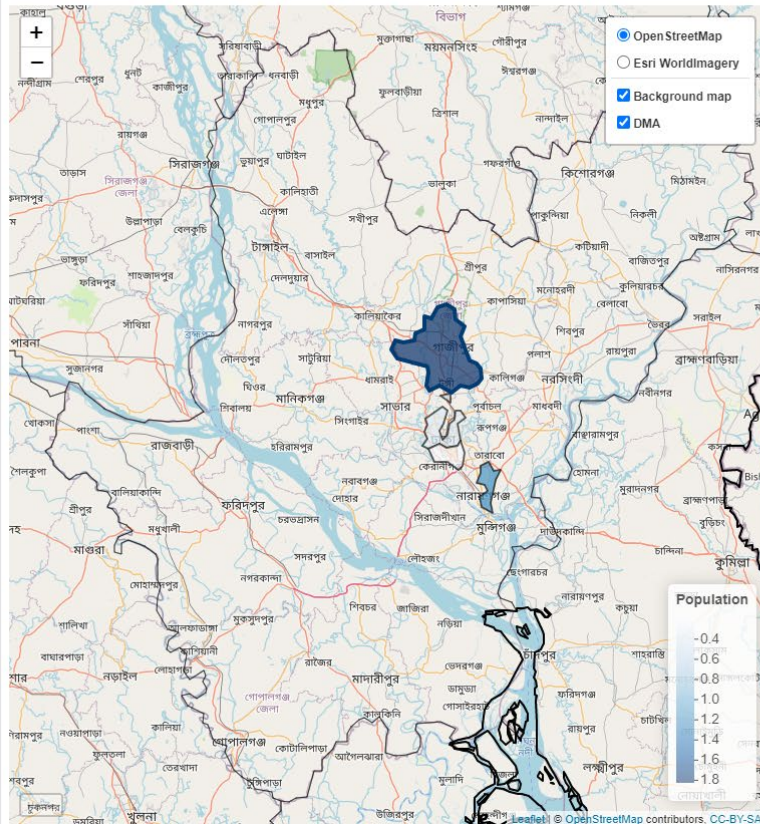
The contextual baseline is downscaled to the division level in Bangladesh, with Dhaka division is split further into the four city corporations. We currently use publicly available data, but when the data at DAM level becomes available in the project the model will be calibrated accordingly. For this reason, and for the showcasing the DMA baseline is only developed using the contextual level of influence and not the level of the specific scenarios for this region. The specific micro baseline scenario and data are now being developed in other work packages of this study and will be implemented later in the model and the dashboard.

Indicators are used to monitor changes in a limited set of food security variables and show where they are headed. Upon the collection of more (survey) data this set will be extended to include the main food system indicators in DMA. In this dashboard we endogenize individual and composite indicators within an appropriately specified MAGNET modelling framework and downscaling methodology for Bangladesh.

Please see the [Methods](#) section for additional information on the baseline and calculation of indicators.

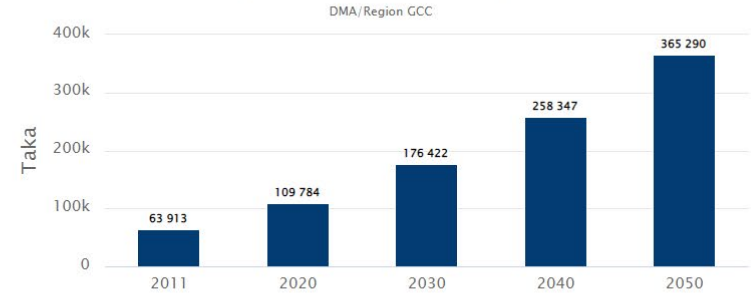
You can choose a 'driver' or 'indicator' from the above drop-down list and then click on the region of interests (divisions of city corps) on the map. The projections of the 'drivers' and 'indicators' are then shown in the right hand side on the top (Figure a) and bottom (Figure B) respectively.

Dhaka Metropolitan Area



Drivers

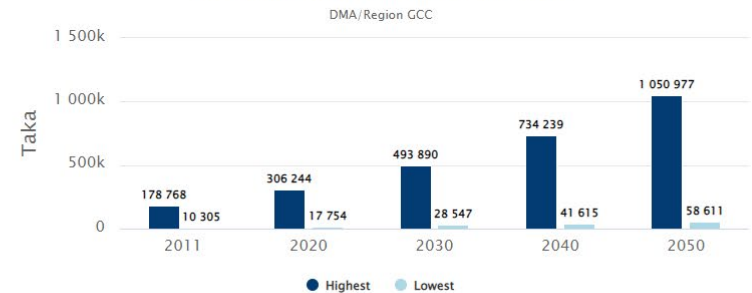
(a) Average Income per household per year (Taka)



Source: SSP database

DMA Projections

(b) Average income per household (Taka)



Source: MAGNET model

Dilemmas & questions for discussion

Modelling only adds value to foresight exercises when results are 'accepted' by decision makers and other stakeholders.

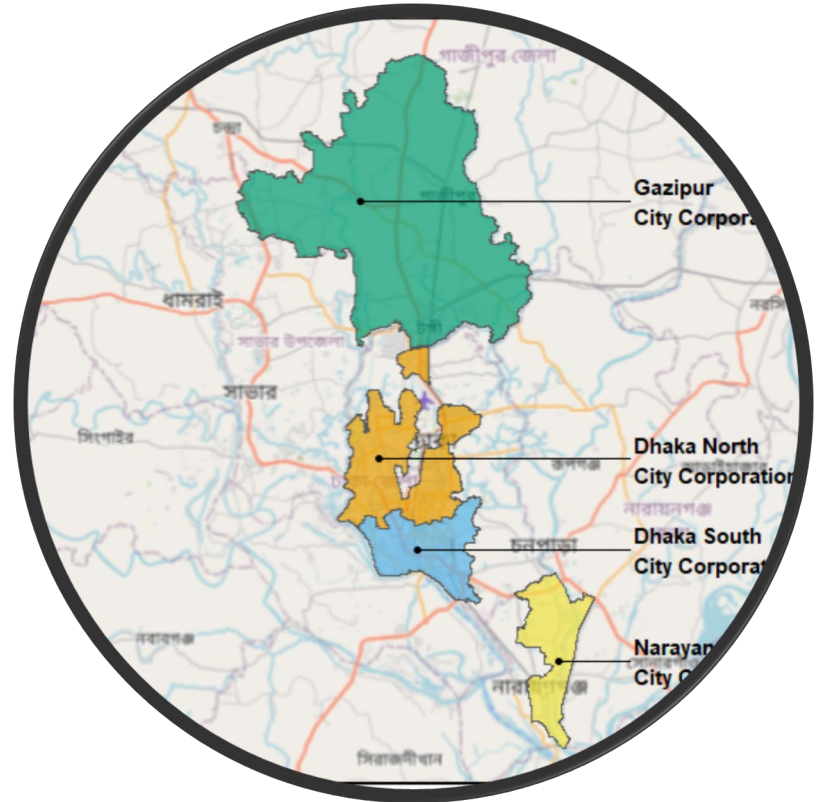
➤ ***What is needed to make models and their output credible?***

Modelling results can be very rich, and sometimes overwhelming.

➤ ***What would be the best way to share output with decision makers and other stakeholders?***

Thank you! Questions?

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The authors would like to acknowledge funding for project KB35-103-002 from the Wageningen University & Research "Food and Water Security programme" that is supported by the Dutch Ministry of Agriculture, Nature and Food Security"