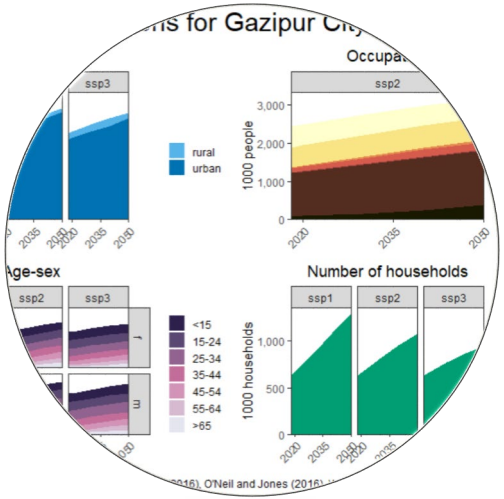
Towards a modelling framework to support national and local food system transformation

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

Michiel van Dijk, Thijs de Lange & Saeed Moghayer

Wageningen Economic Research, Wageningen University & Research (WUR)



WAGENINGEN
UNIVERSITY & RESEARCH

Introduction

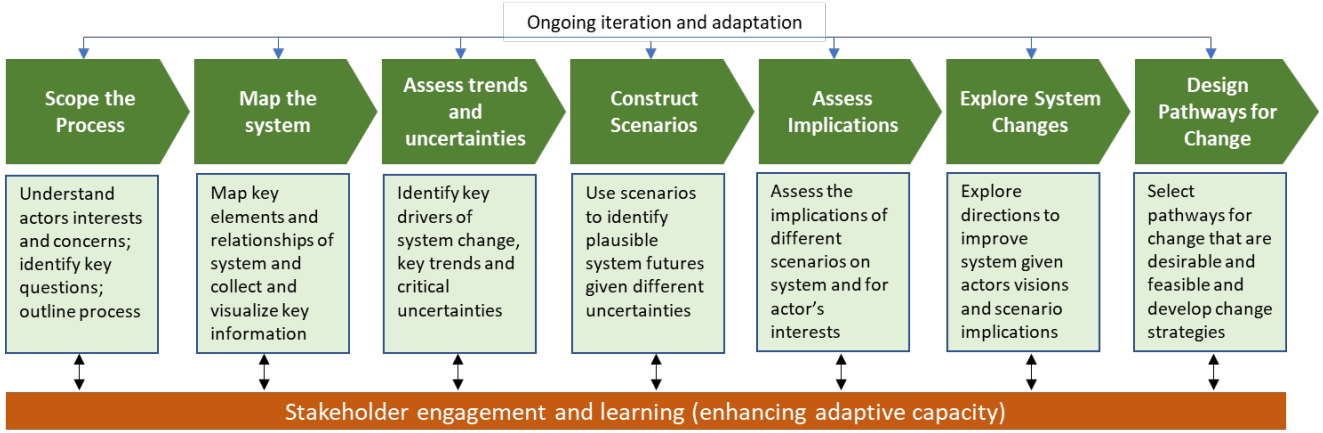
- Many countries are in the process of developing national food security, SDG and climate (NDCs) action plans and strategies.
- National decision makers supported by international donors increasingly approach Wageningen Economic Research (WEcR) for support in developing these plans and **ex-ante policy 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.

WAGENINGEN UNIVERSITY & RESEARCH

Foresight for Food Systems Transformation (FOSTr)

Ministry of Foreign Affairs of the Netherlands

Intergrating qualitative and quantitative foresight approaches

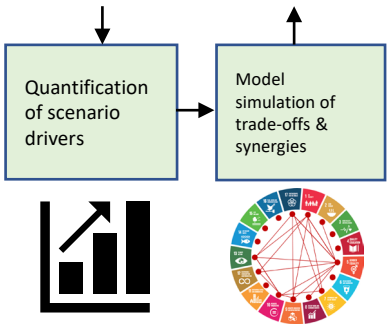


Source: https://www.foresight4food.net

Why modelling:

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

Supports evidence-based decision making



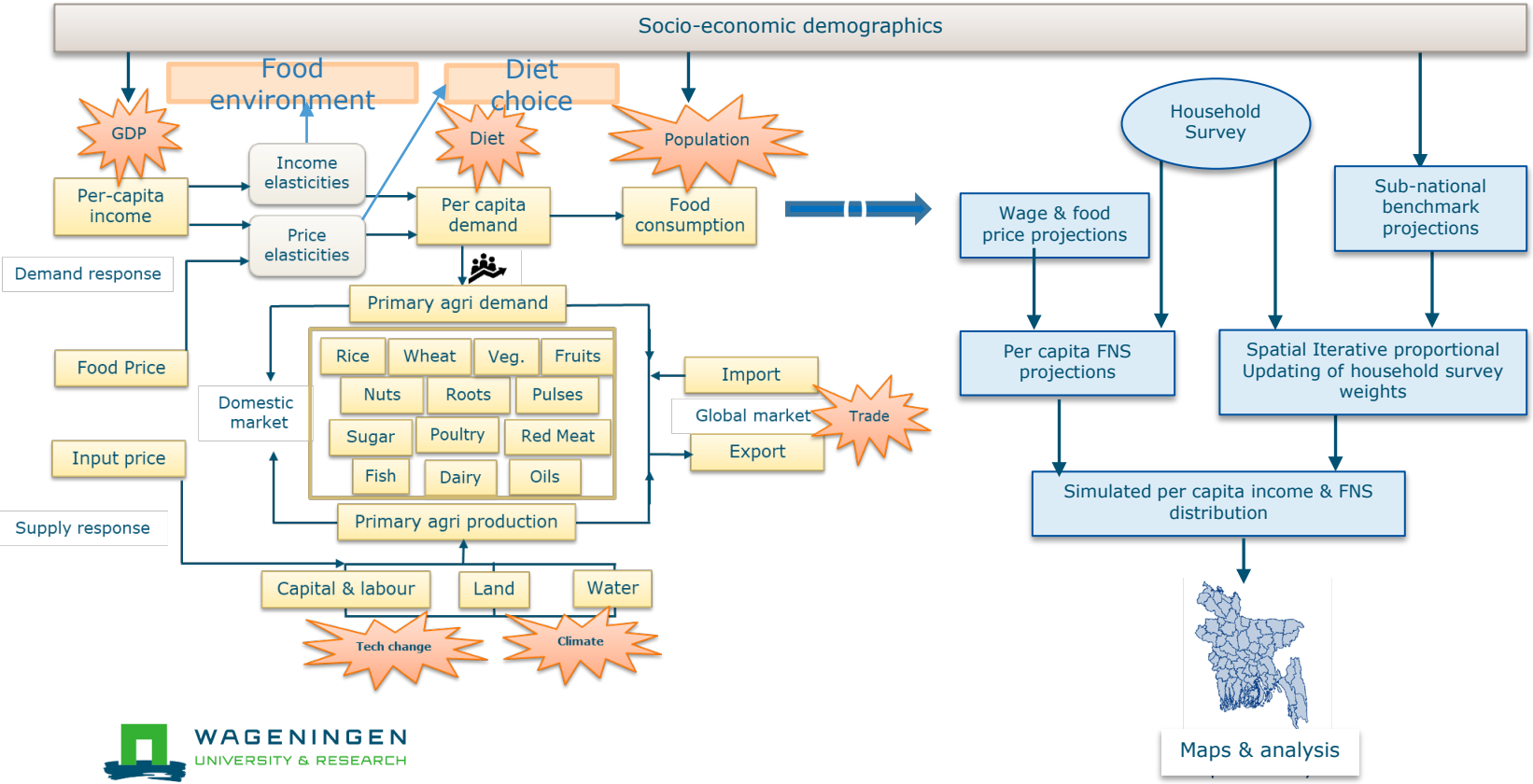
Global to national

MAGNET – CGE Model
Macroeconomic indicators & projections

National to subnational

SSID – microsimulation model
Income & food projections and maps

Impact



Food & nutrition security

Socio-economic

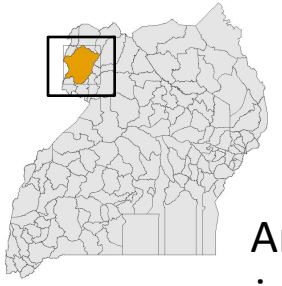
Environment

WAGENINGEN
UNIVERSITY & RESEARCH

Subnational diet and food security projections: Uganda case-study

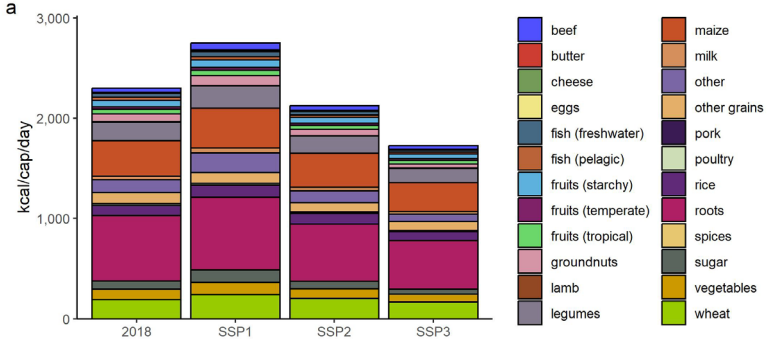
Combining:

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

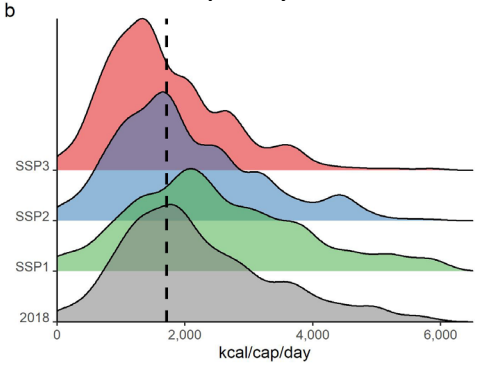


Arua projections

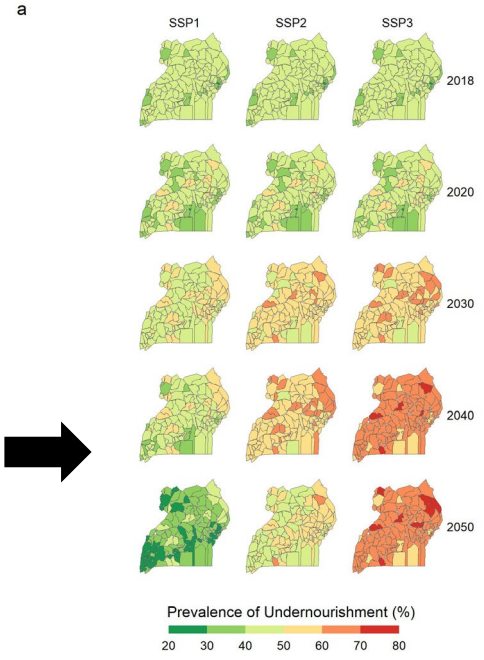
Diet projections



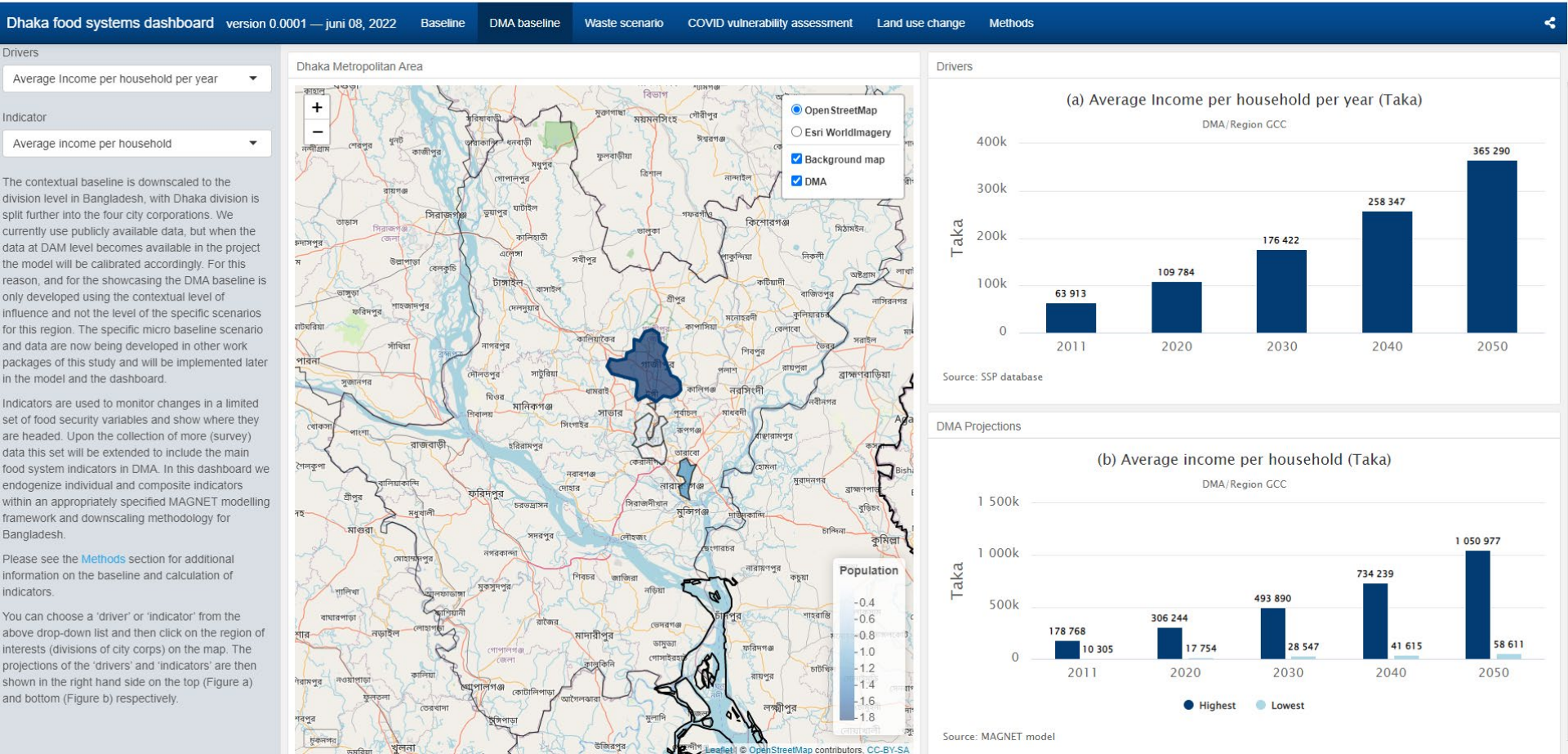
kcal/cap/day distribution



Spatial distribution of undernourishment over space under different scenarios



Interactive dashboard with key scenario results



Dilemmas & questions for discussion

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

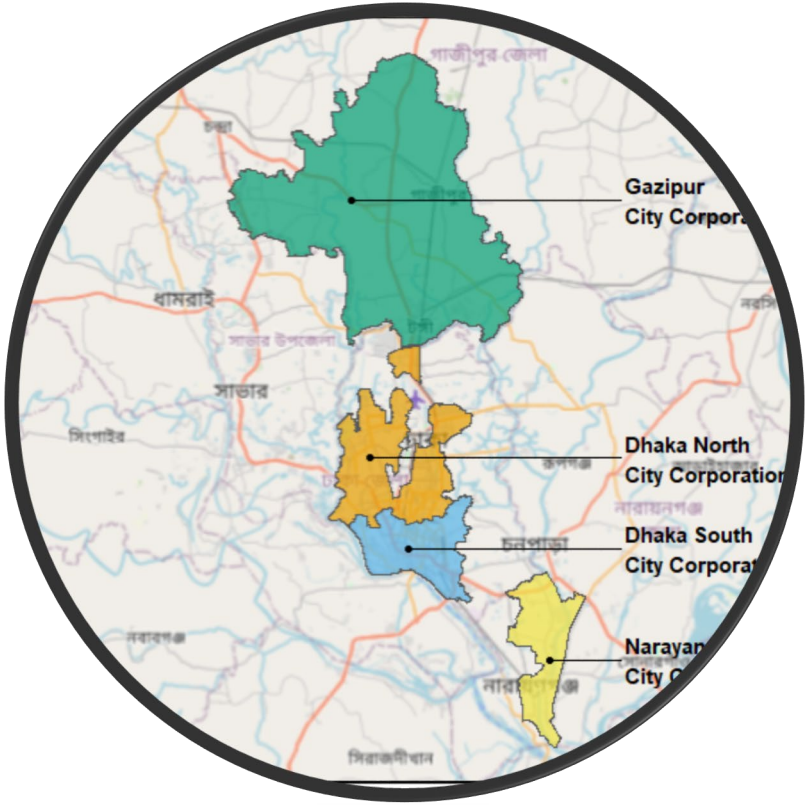
➢ ***What is needed to make models and their output credible?***

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?

Michiel van Dijk
michiel.vandijk@wur.nl



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”