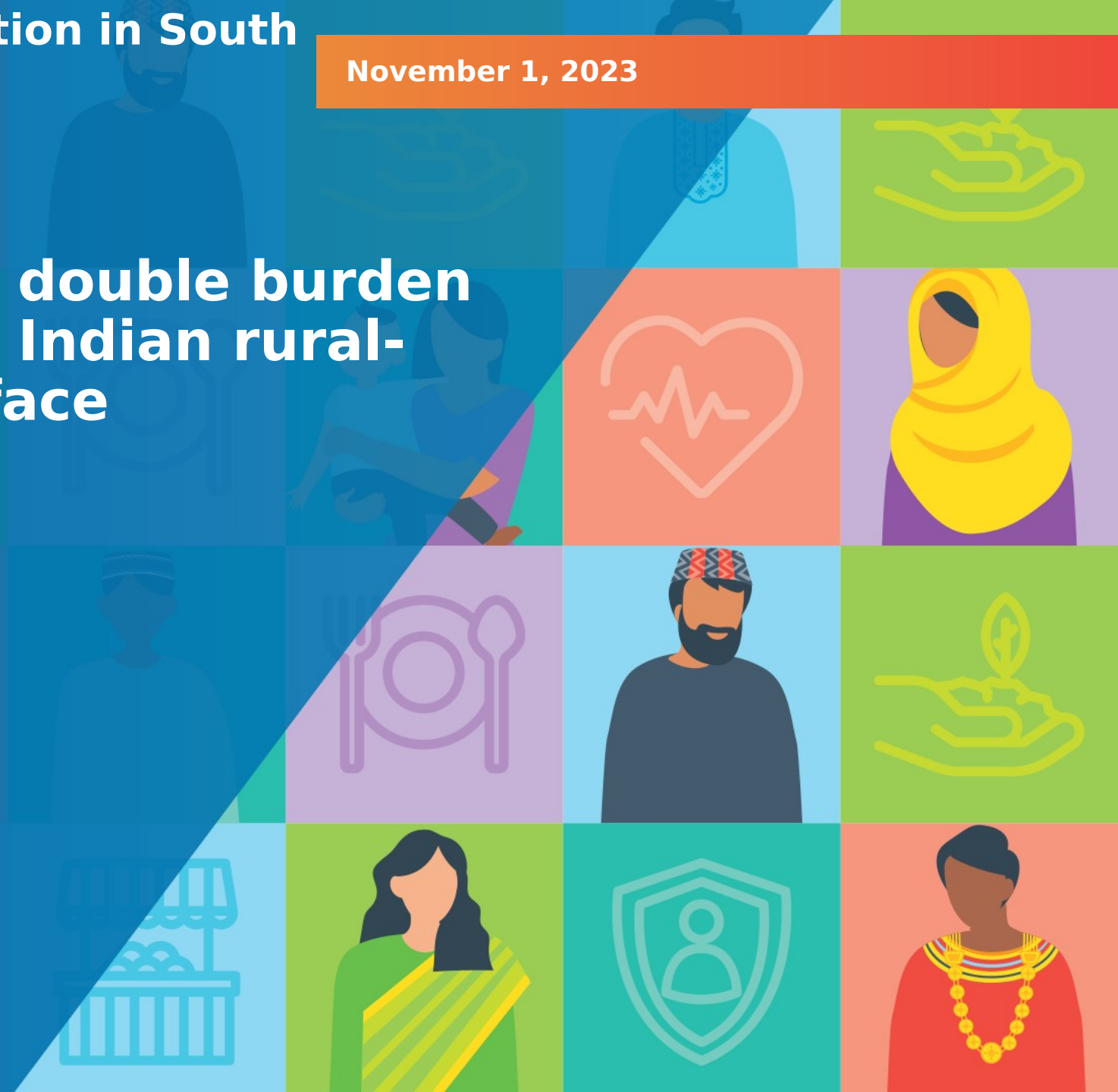


Spatial dynamics of the double burden of malnutrition in the Indian rural-urban interface

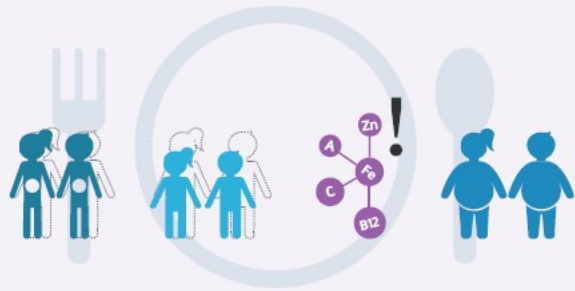
Anjali Purushotham
Institute of Sustainable Food
University of Sheffield



The double burden of malnutrition (DBM)

WHAT ?

THE DOUBLE BURDEN OF MALNUTRITION IS CHARACTERIZED BY THE COEXISTENCE OF:



Undernutrition (wasting, stunting and micronutrient deficiencies) along with overweight and obesity



and diet-related noncommunicable diseases



within individuals, households and populations



throughout life

DBM and urbanization

- Urbanization as a driver of the DBM ([Popkin et. al., 2020](#))
- Dichotomous approach to measure urbanization ([Popkin, 2009](#))
 - Rural and urban areas
- Continuous measure of urbanization ([Aiyer et al., 2021](#); [Dahly and Adair, 2007](#))
 - Distance to a city/town, urbanicity scale, etc.
- Common factor – linear or monotonous gradient in urbanization effect

The rural - urban interface (RUI)

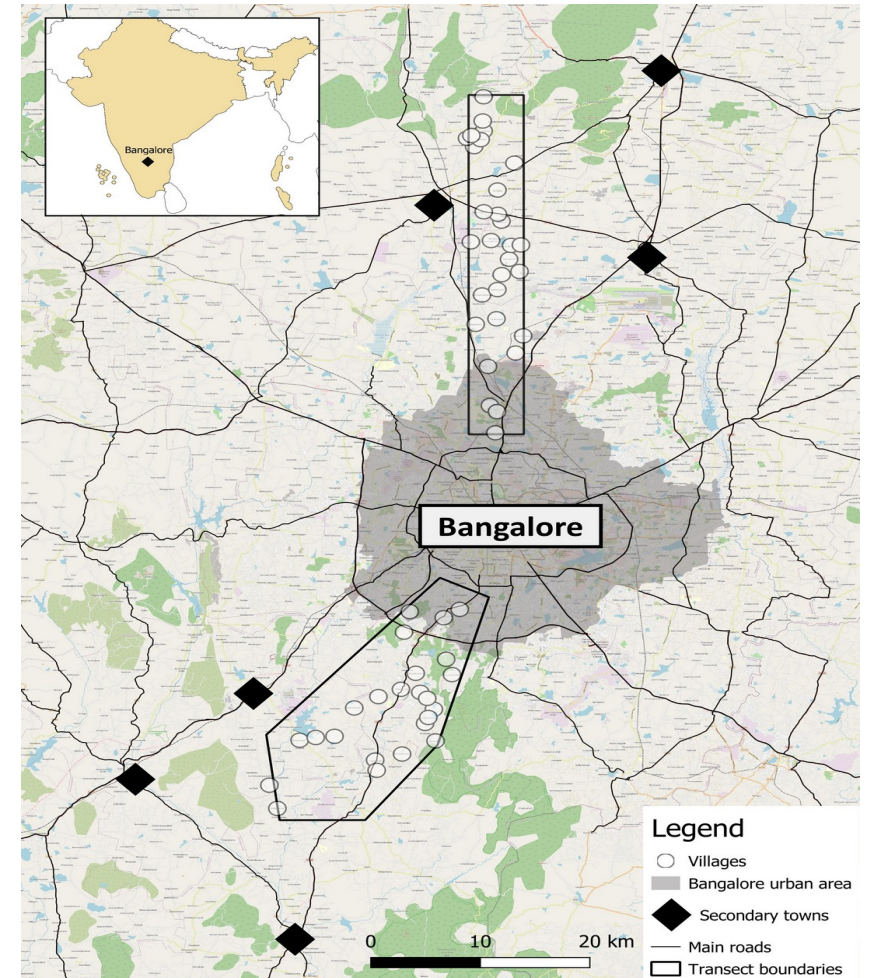
- Rural and urban features merge and evolve
- People find themselves in between the expanding urban center and surrounding secondary towns
 - Web of interacting factors that pull in different directions
- People's decisions regarding work, lifestyle, and consumption habits
 - Location dependent
 - Polycentric patterns in urbanization ([Steinhuebel and von Cramon-Taubadel, 2021](#))

Data

- Rural-urban interface of Bangalore
- Survey: March and August 2022
- Two-stage stratified sample
- 955 households from 61 villages

Information we have:

- Socioeconomics
- Diet and lifestyle
- Health outcomes (biomarkers)



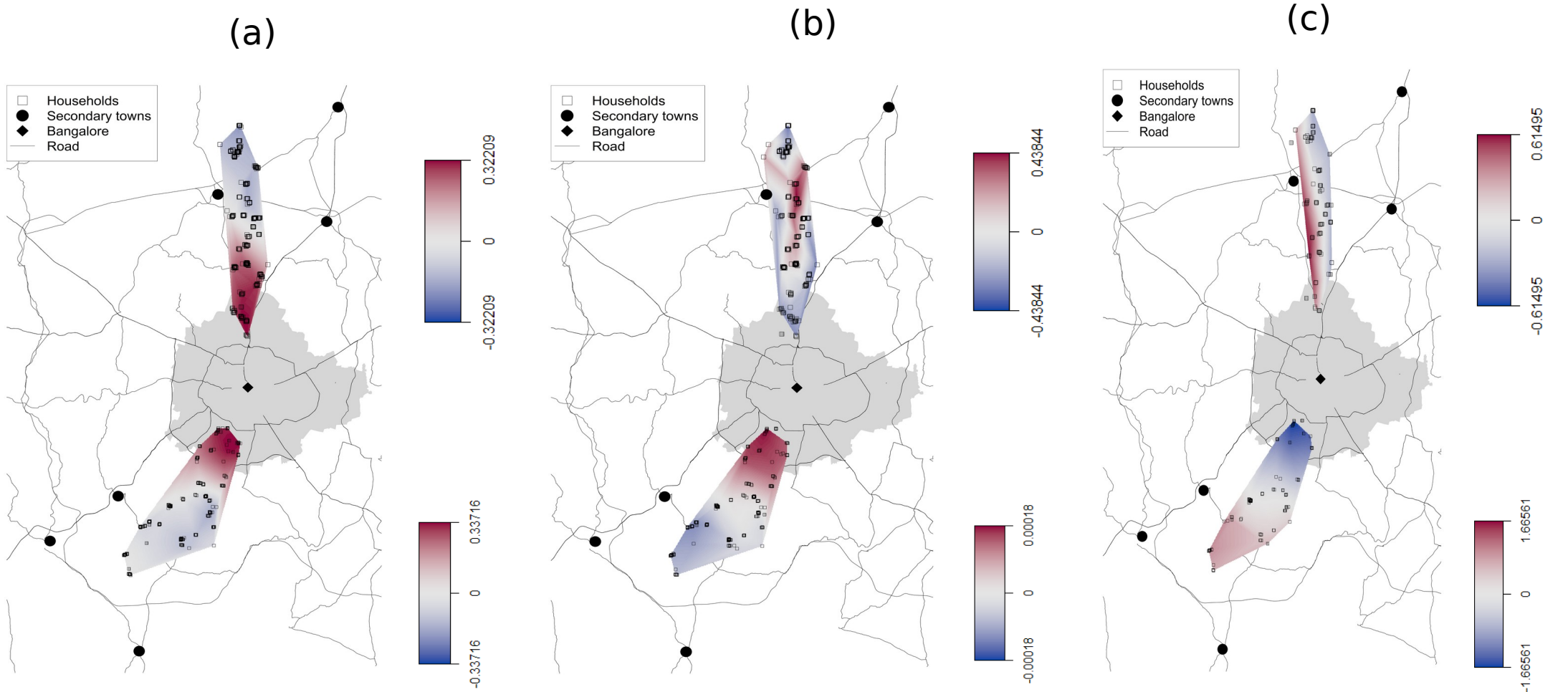
Key variables

DBM = Undernutrition + Overnutrition

- Undernutrition = Underweight or anaemia
- Overnutrition = Overweight/Obesity or any form of NCDs (diabetes or high cholesterol or hypertension)

Empirical strategy

Structural additive regression (STAR)



ation effects on the prevalence of the double burden of malnutrition among (a) Women, (b) Men, (c) Children

Take away

- DBM among women – follows the traditional pattern
 - DBM increases with proximity to Bangalore in both the transects
- DBM among men – non-linear pattern
 - DBM cluster middle to northern parts of the northern transect (close to secondary town, Doddaballapura)
 - DBM increases with proximity to Bangalore in the southern transect
- DBM among children – complex patterns
 - DBM cluster along the west border of the northern transect
 - DBM increases in areas further away from Bangalore in the southern transect (close to secondary town, Bidadi)

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Thank
you!