



UKRI GCRF
action
against
stunting

Preview of Preliminary Food Environment Experience Metric Construction

November 2020



Background

- **UKRI GCRF Action Against Stunting Hub**

- Transdisciplinary collaboration between 18 institutions in India, Indonesia, Kenya, Senegal and the UK
- Three projects sites (Lombok, Indonesia; Kaffrine, Senegal; Hyderabad, India)
- In collaboration with Drivers of Food Choice (DFC) Competitive Grants Programme and IMMANA

- **Food Systems Team**

- Food environments, food safety and value chains
- Explore potential of nutrition-sensitive market-based level interventions



Development of a food environment (FE) metric

Context

Purpose

Criteria

- Robust measurement FE for LMICs just emerging
- Existing measures have trade-offs between contextual understanding and scale
- Food-system interventions to improve diet quality require actionable data about food environments that is
 - Sensitive to context
 - Can be collected at scale
 - Adaptable for specific foods and food groups of interest

Context

Purpose

Criteria

- Identifies levers for interventions in the food system and/or FE
- Has the ability to characterise whole areas / regions /populations
- Is flexible enough to be adapted for foods, food groups, dietary patterns
- Show relative importance of different FE external and personal domains and sub-domains in a location
- Compare scores between places and between individuals

Household-level survey instrument that measures *household members' interaction with the food environment, a multidimensional construct, within their activity space*

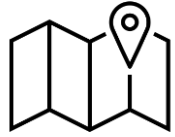
Context

Purpose

Criteria

- Questionnaire survey instrument
- Should consist of a set of unidimensional constructs each measured by a scale
- Quick to administer
- Can be integrated into existing surveys

Existing Approaches



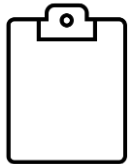
Spatial Measures

- Large scales, can be linked indirectly to aggregate consumption patterns
- Participatory-GIS approaches possible using activity space approach
- Lack of context specificity, correlation often weak, p-GIS resource and time intensive



Market Surveys

- Community Based Surveys of Market, Vendor and Outlet Surveys (checklists, inventories, basket-approaches)
- Food Prices, availability, promotions, quality / freshness
- Do not account for mobility, endogeneity, and personal FE



Questionnaires

- e.g. NEMS-P, Food Choice Questionnaire (FCQ), Conjoint Analysis)
- Can identify preferences, values, priorities, personal and home environment
- Either broad (healthy/unhealthy) or time consuming/repetitive.



Qualitative

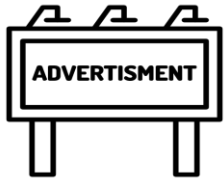
- Focus groups, interviews, ethnography
- Participatory (mapping, PRA-based, photovoice)
- Excellent understanding, limited scale

Possible Approaches for Scales:



Consumer Profile:

What are the characteristics of this consumer that drive their food choice decisions? What are the consumer's priorities in food acquisition behaviour?



Respondent experience of the FE

How has the respondent interacted with the food environment?



Respondent perception of the FE


In the opinion of the respondent... what is the nature of the/their food environment?



Respondent experience of food choice:

Measures the self-reported (not necessarily accurate) reasons behind food-related decisions

Food Environment Experience Scale

- 1. Activity Space**
 - Different people have different food environments
 - 2. Experience**
 - Beyond exposure – how do people interact with their food environment?
 - Personal and external food environments
 - 3. Population Based**
 - Activity space approach allows aggregation by sub-population & location
 - 4. Beyond Exposure**
 - Does not assume unidirectional causal model (i.e. exposure leads to diets)
 - Recognises that food environments can reflect aggregate demand
 - Recognises that people actively seek out food environments
 - 5. Trade-offs**
 - Between competing priorities (e.g. cost and convenience)
 - By quantifying constraints on consumption in terms of other priorities
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Preview of Metric

Constructs and Properties

(from literature)

Availability
Accessibility
Affordability
Convenience (acquisition)
Convenience (cooking)
Affordability (cash flow, credit, purchase volumes)
Convenience (Activity Bundling)
Social Status (aspirational)
Social status (taboo/stigma)
Social Status (Source)
Information Environment (health-related)
Information Environment (promotional)
Food Safety (illness)
Food safety (contamination and adulteration)
Quality, Freshness and Taste
Social Networks

Measurement Approach

A: Measure of Exposure

- Within the activity space
- How often/frequent does the respondent encounter?

B: Measure of Influence

- To what extent does the property constrain consumption
- What trade-offs with other respondent priorities does this property have?

Measuring Trade-offs

Trade-offs between competing priorities can be measured in terms of *friction & constraints*



Can be measured

- Linearly (e.g. extra distance / time / cost)
- Or as a threshold (acceptable / unacceptable)

Friction = 0

No effect on
acquisition and
consumption

Friction = 1

Constraint on household
acquisition due to competing
household priorities



Example: Food Safety

- A particular food (say chicken) may be widely available within a respondent's activity space at an affordable price and easy and convenient to obtain.
- However, a respondent may view many of the places that sell chicken as selling unsafe meat or being risky
- There are two possible effects this view of food safety might have in chicken consumption:
 - No effect on consumption of chicken. While some vendors may be considered risky, there are sufficient vendors considered safe that it does not increase the cost, distance, time, inconvenience etc.
 - An effect on consumption of chicken. In order to buy chicken that is considered safe or acceptably risky, the respondent must travel further, take more time, be more inconvenienced, pay more etc.

Next Steps

- Consultation with experts (October/November)
- Measures and indicators (October/November)
- Construction of proto-type questionnaire (November/December)
- Face validity testing of translated questionnaires (December)
- Pilot testing (January)

Please come join our consultation and give feedback on the approach, constructs and domains

Side Event: 16:00 – 17:00 GMT, 4th November