Mapping Obesogenic Food Environments in South Africa and Ghana: Implications for Governance

Presentation for ANH Congress

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Provisional Programme

13:00-13:05 **Welcome, Introductions** and Workshop overview

13:05-13:15 **Introduction to the ROFE project** research interests and approach (Rina)

13:15 - 13:45 **Session one:** Quantitative and spatial methodologies to link food environments and systems

- **Breakaway A:** Mapping Household and Neighbourhood Food Environments (Flo / Reggie)
- **Breakaway B:** Tracing value chains (Robert)

13:45 - 14:00 **Plenary: Breakaway rapporteurs feedback**
14:00-14:05 **Comfort break**

14:05- 14:35 **Session Two:** Qualitative methodologies to explore food governance arrangements

- **Breakaway C:** Advocacy for food systems change to improve access to healthy food choices in Ghana (Charles / Esi)
- **Breakaway D:** Exploring food systems governance arrangements in SA (Busiso, Flo)

14:35-14:55 **Plenary: Breakaway rapporteurs feedback and discussion**
14:55 **Closing remarks (Rina / Flo)**

Breakaway Groups

Brief presentation of methods and findings by breakout leads

Facilitated group discussion with *suggested* guiding questions:

- *What is interesting about this approach?*
- *How feasible is this methodology in my context (potentials and pitfalls)?*
- *What are the food governance implications?*
- *Who needs to know this information and how can they act on it?*

Group rapporteurs will summarise discussion

Rapporteurs feed back to plenary

Background and Aims

In sub-Saharan Africa, urbanisation and food systems change contribute to rapid dietary transitions promoting obesity.

To what extent are these changes mediated by neighbourhood food environments or other factors?

This presentation correlates neighbourhood food provision with household consumption and poverty in Khayelitsha, South Africa and Ahodwo, Ghana. It is based on a paper published in Sustainability: Mapping Obesogenic Food Environments in South Africa and Ghana:Correlations and Contradictions

Methods

Georeferenced data of food consumption and provision were collected through digital survey instruments.

Food consumption and provision were classified by obesity risk and protection.

- Risky: Ultra-processed, high sugar and sodium (Processed Meat; Instant Noodles; Salty snacks; Sugary drinks; Ready-to-eat foods; Fast food; Fried potatoes/hot chips; Processed Dairy; Breakfast cereals; Sweets; Confectionery; Sugar; Vetkoek/Dumpling; Commercial Bread—White; Commercial Bread—brown)
- Protective: Minimally-processed, high micronutrient and fibre (Vegetables—fresh; Vegetables—cooked; Vegetables (fried/stir fry); Fruit; Legumes; Bread—wholewheat; Fish)

Nr of each class consumed above cutoff (2/week for obesogenic, 5/week for protective) were added.

If the total nr exceeded second cutoff, that category was marked “high”.

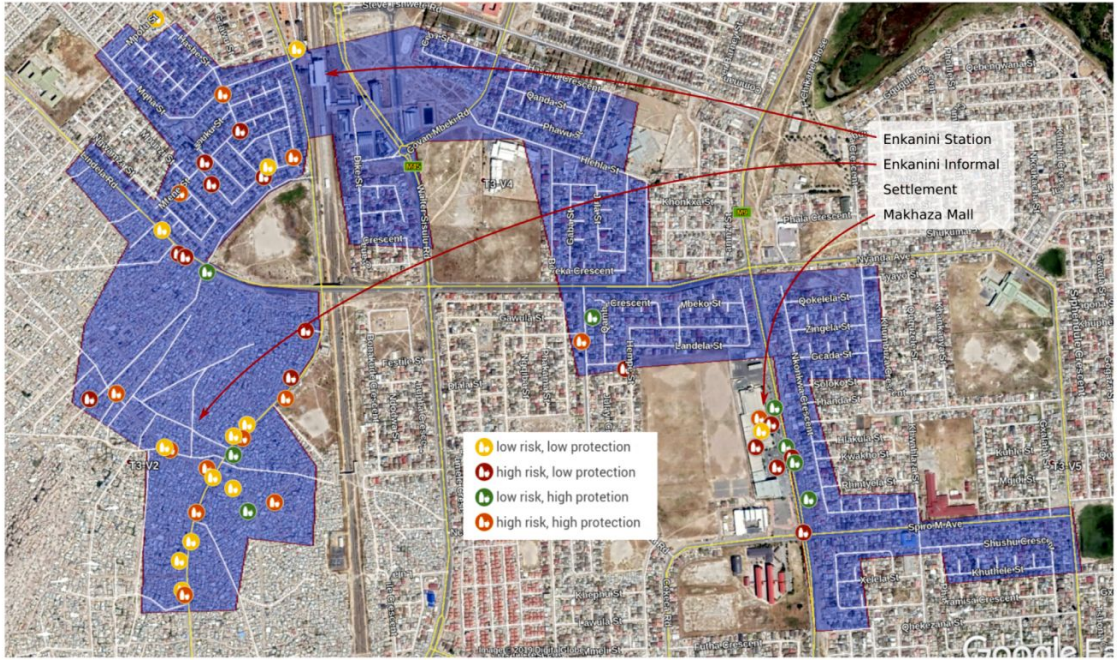
Obesity Risk Matrix

Outlets were mapped, density and distribution correlated with risk classes.

	Protection Index 1	Protection Index 0
Risk Index 1	high risk, protective	high risk, vulnerable
Risk Index 0	low risk, protective	low risk, vulnerable

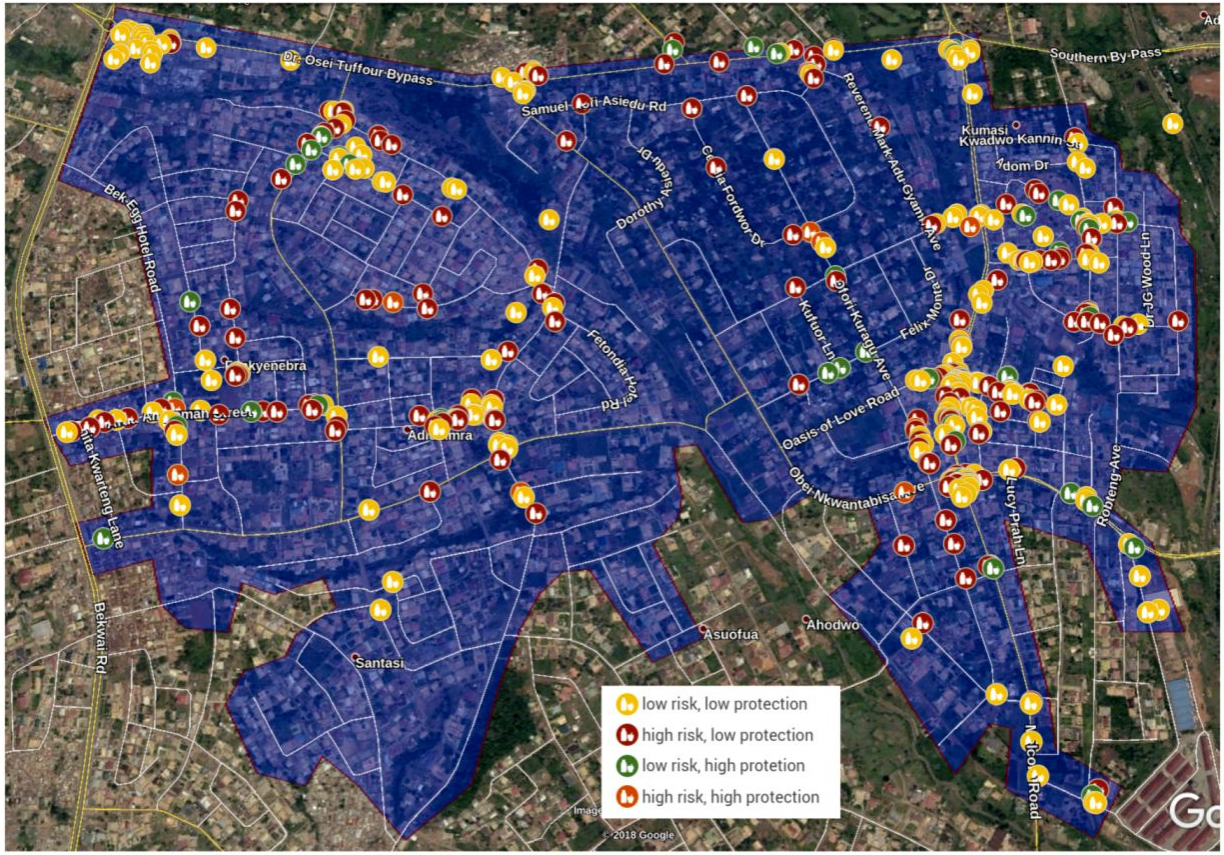
Findings - Mapping

Food retail outlets were clustered around shopping centres and along high streets.



Findings - Mapping Ahodwo

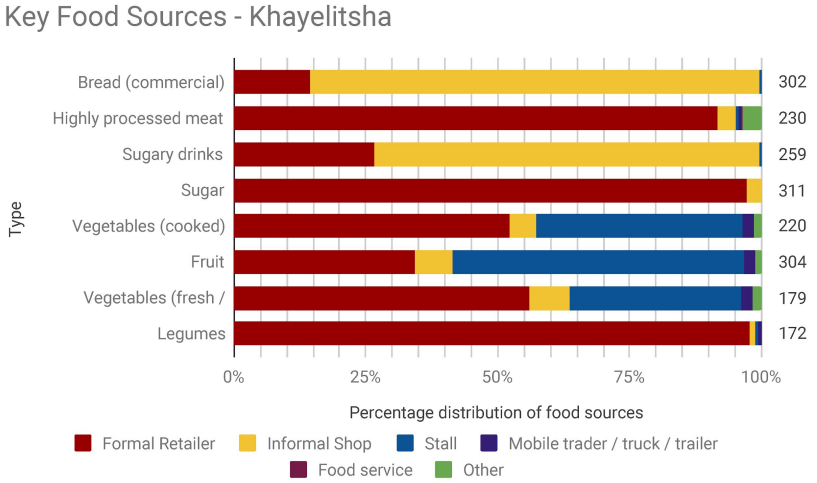
Food retail outlets were clustered along high streets and busy intersections.

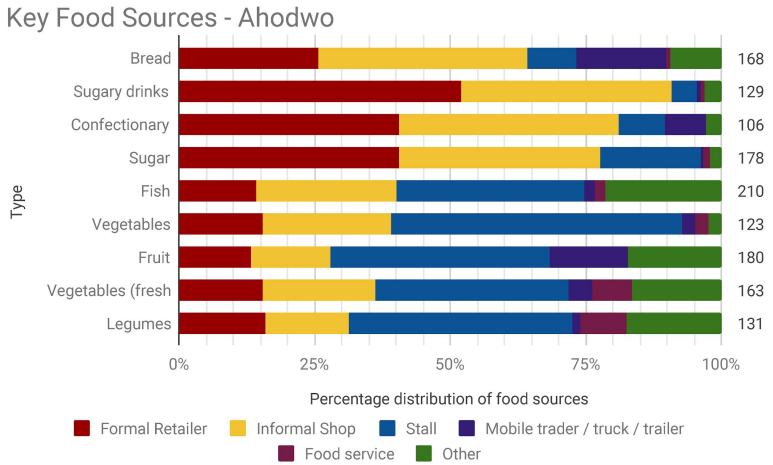


Results: Food Sources

In Khayelitsha, households accessed obesogenic food from supermarkets and informal shops, while healthier foods were sourced from roadside stalls and supermarkets.

In Ahodwo, supermarkets played a far smaller role, but were a key source of obesogenic food. Overall, small shops and roadside traders played a bigger role in providing healthy food options.



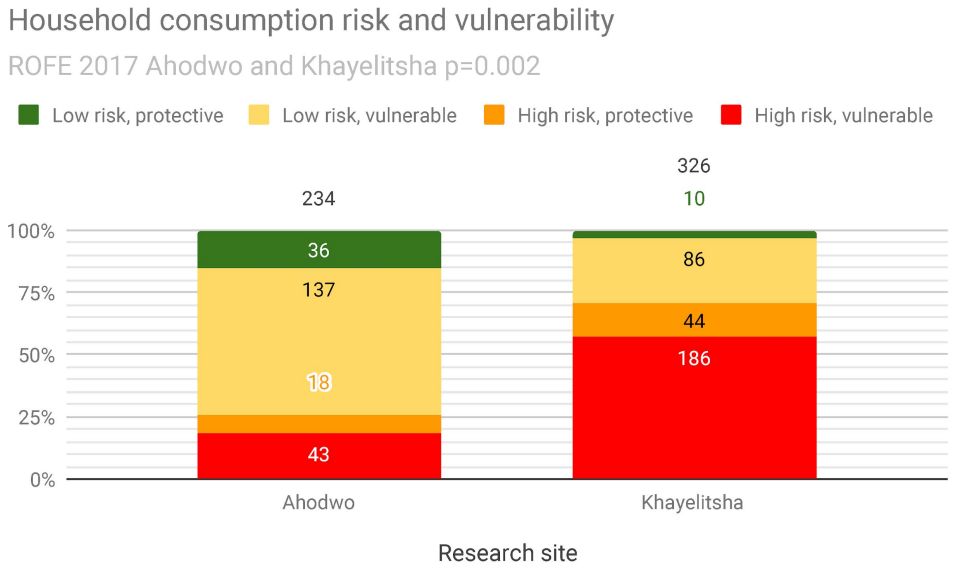


Results: Household Food Consumption

In Khayelitsha, 71% of households exceeded dietary obesity risk thresholds while 16% consumed protective diets.

Obesogenic profiles were less (26%) and protective more prevalent (23%) in Ahodwo despite greater income poverty in Khayelitsha.

Here, income-deprived households consumed significantly ($p<0.0000$) less obesogenic and protective diets.

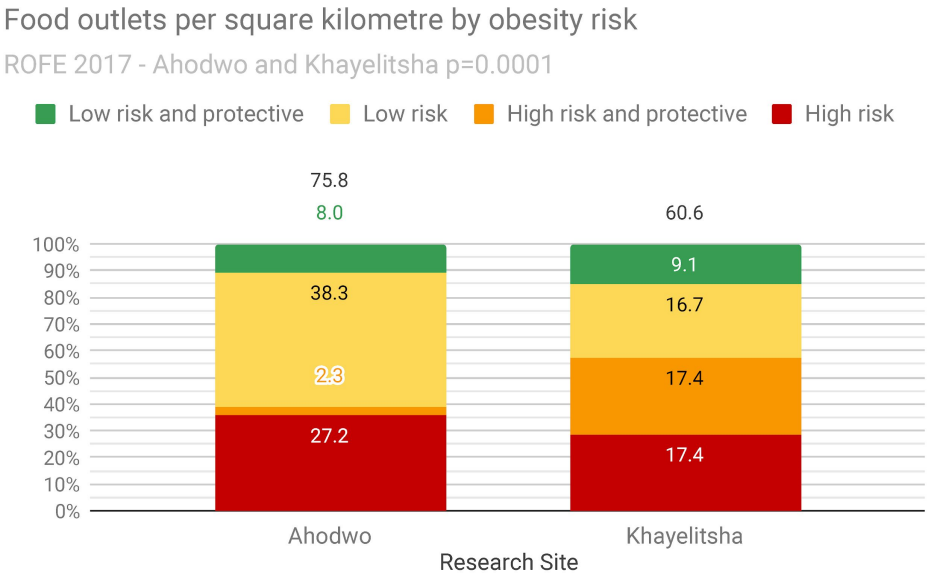


Results: Food Provision

Small informal food outlets dominated numerically but supermarkets were key household food sources in Khayelitsha.

Although density of food provision in Ahodwo was higher (76/km²), Khayelitsha outlets (61/km²) provided greater access to obesogenic (57%Khayelitsha; 39%Ahodwo) and protective (43%Khayelitsha; 16%Ahodwo) foods.

Consumption and provision profiles correlate more strongly in Ahodwo than Khayelitsha (rKhayelitsha=0.624; rAhodwo=0.862).



Digital Storytelling

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https://youtu.be/-ON4Q-zBymY

https://youtu.be/eDrHvHg6VxY

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COVID-19 Lockdown Impacts

The obesogenic food environment contributes to the large proportion of the population in poor areas at high risk of COVID-19 due to pre-existing NCDs.

In South Africa, Covid-19 lockdown regulations have shut down many street traders, while supermarkets continued to operate.

In Ghana, partial lockdown allowed street traders and small shops to continue operating.

South African informal traders and poor consumers were disadvantaged by the regulations, exacerbating food insecurity.

The impact on food environments is poorly understood, but is likely to increase obesity risk due to reduced incomes and local availability of diverse foods.

Conclusion

Our findings suggests that risky food environments promote obesogenic diets.

Governance interventions that promote availability of affordable protective foods through roadside stalls and discourage retail of ultraprocessed and obesogenic foods through supermarkets and small shops could reduce obesity risk.

- Zoning and development approval processes should promote diverse, small food shops
- Supermarket development approvals should include provisions for small, informal fruit and vegetable traders
- Law enforcement should be supportive of street traders dealing in fresh, raw food
- Upstream regulation should disincentivise production and distribution of ultra-processed food.

Acknowledgements

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