

# Linking cities and hinterlands: how food vendors shape food systems in urbanizing West Africa

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## Food vendors as key nodes in rural-urban food systems

Urban growth in West Africa is rapidly transforming farmland into infrastructure (Fig. 1). As a result, food production is increasingly displaced to rural hinterlands and supply chains are lengthening<sup>1,2</sup>. Food vendors (e.g. marketeers, streetside vendors, etc.) are key nodes in this changing food system landscape. Through food distribution, they link consumers with producers<sup>3</sup> and connect urban regions to their rural hinterlands. To ensure sustainable and crisis-resilient food systems, greater attention must be paid to the urbanization-driven growth of food vending and trading networks.

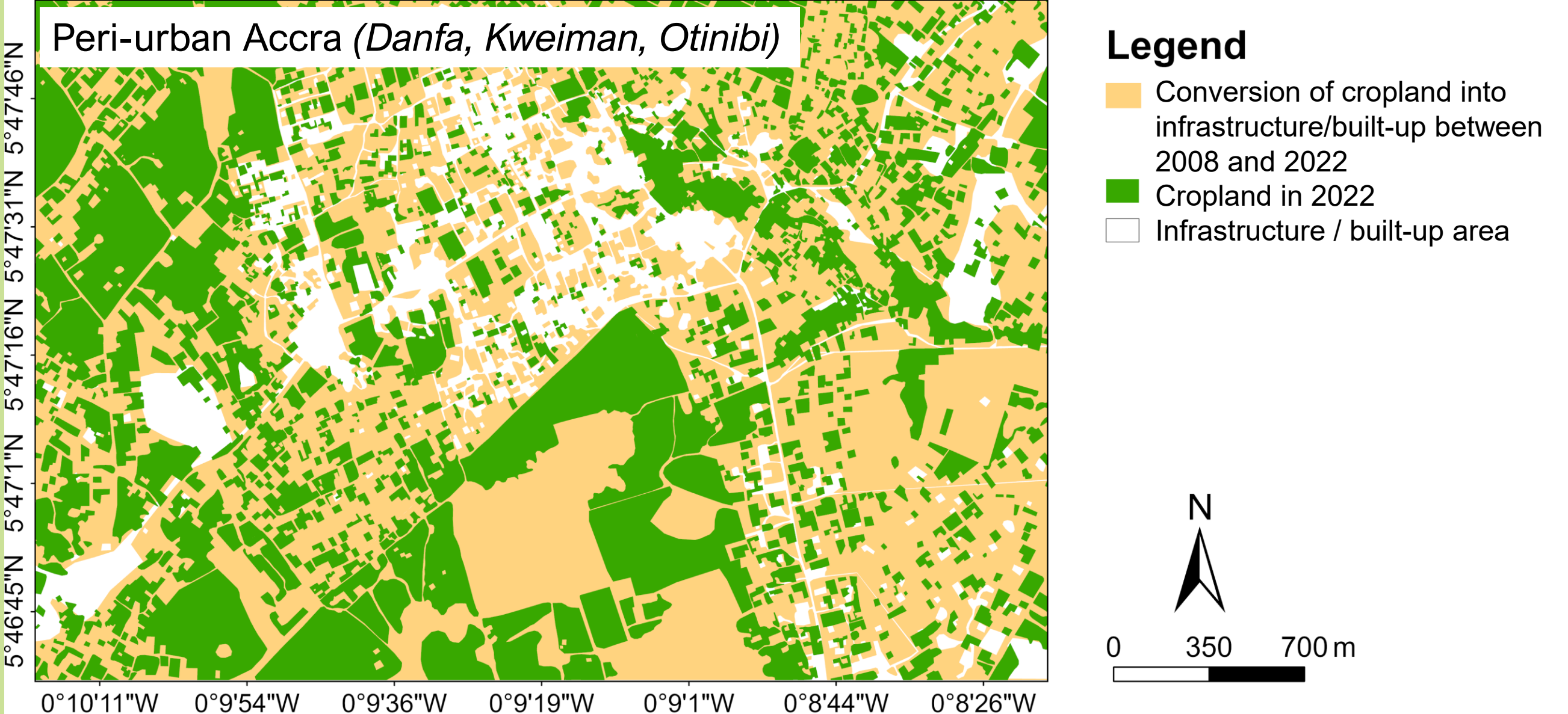


Figure 1. Cropland loss (53%) to built-up areas and infrastructure in a peri-urban region of Accra, Ghana between 2008 and 2022. Fastner et al. (under review).



## Materials and methods

- 400 surveys with fruit and vegetable vendors in four different markets of Accra and Cape Coast (Ghana) in June 2025: Questions on product sources, purchasing patterns, and marketing challenges
- Drone mapping of food markets
- GPS tracks and surveys along the onion supply chain from Niger to Ghana

## Large urban food markets serve as major aggregation and distribution hubs

- The number of individual food vendors and wholesaler in urban markets is growing: > 500 within each market
- Most fruits and vegetables were sourced from national producers (200–300 km radius), except for garlic (China, the Netherlands) and onion (Niger, Nigeria) (Fig. 2)
- Urban food markets supply not only the city, but also surrounding regions (Fig. 4)
  - Complex trade networks
  - Almost 60% of peri-urban vendors purchase products from urban markets (Fig. 3) → higher food prices in peri-urban regions and longer travel distances
- Challenges for vendors include perishability of products (70%), supply, incl. transport and price volatility (13%), high competition (11%), and low market demand (27%)
- 60% of vendors are negatively affected by extreme weather events, particularly floodings

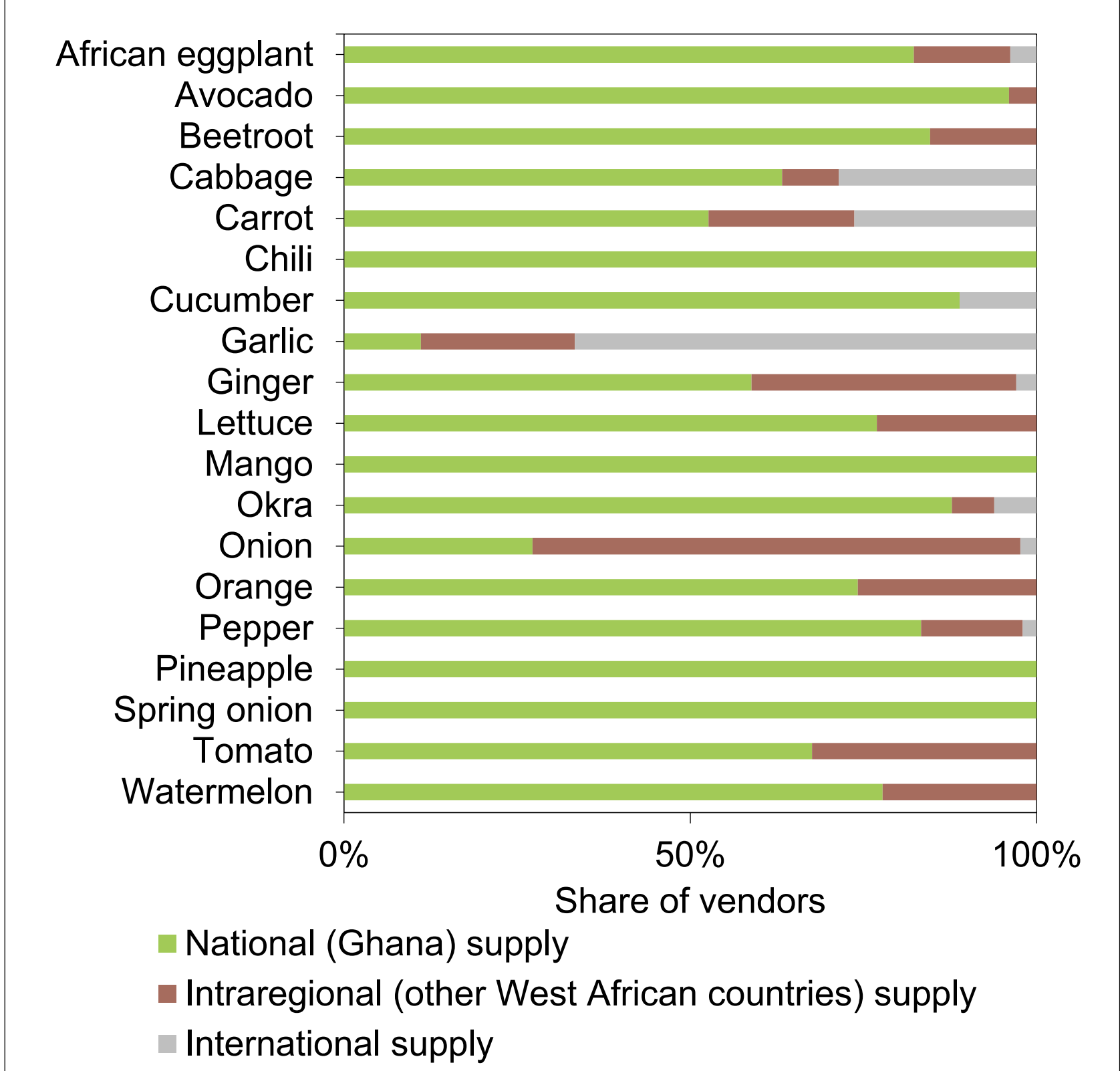


Fig. 2. Origin of selected products sold by food vendors in Accra and Cape Coast, Ghana.

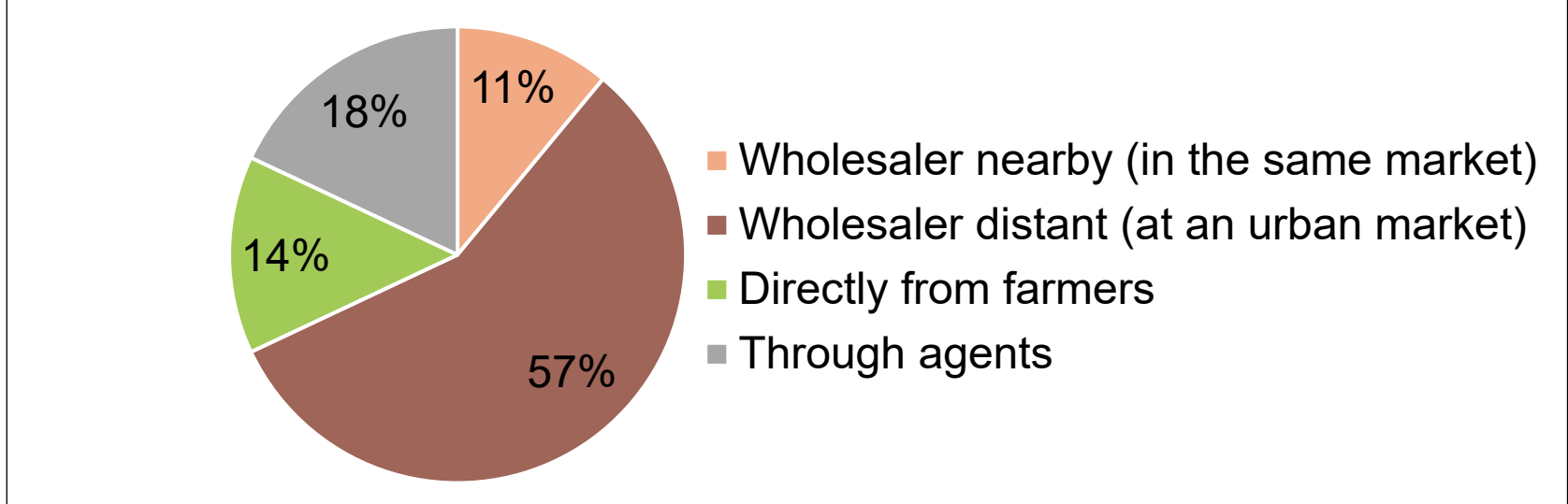


Fig. 3. Suppliers of peri-urban food vendors in Dodowa, Accra, Ghana.

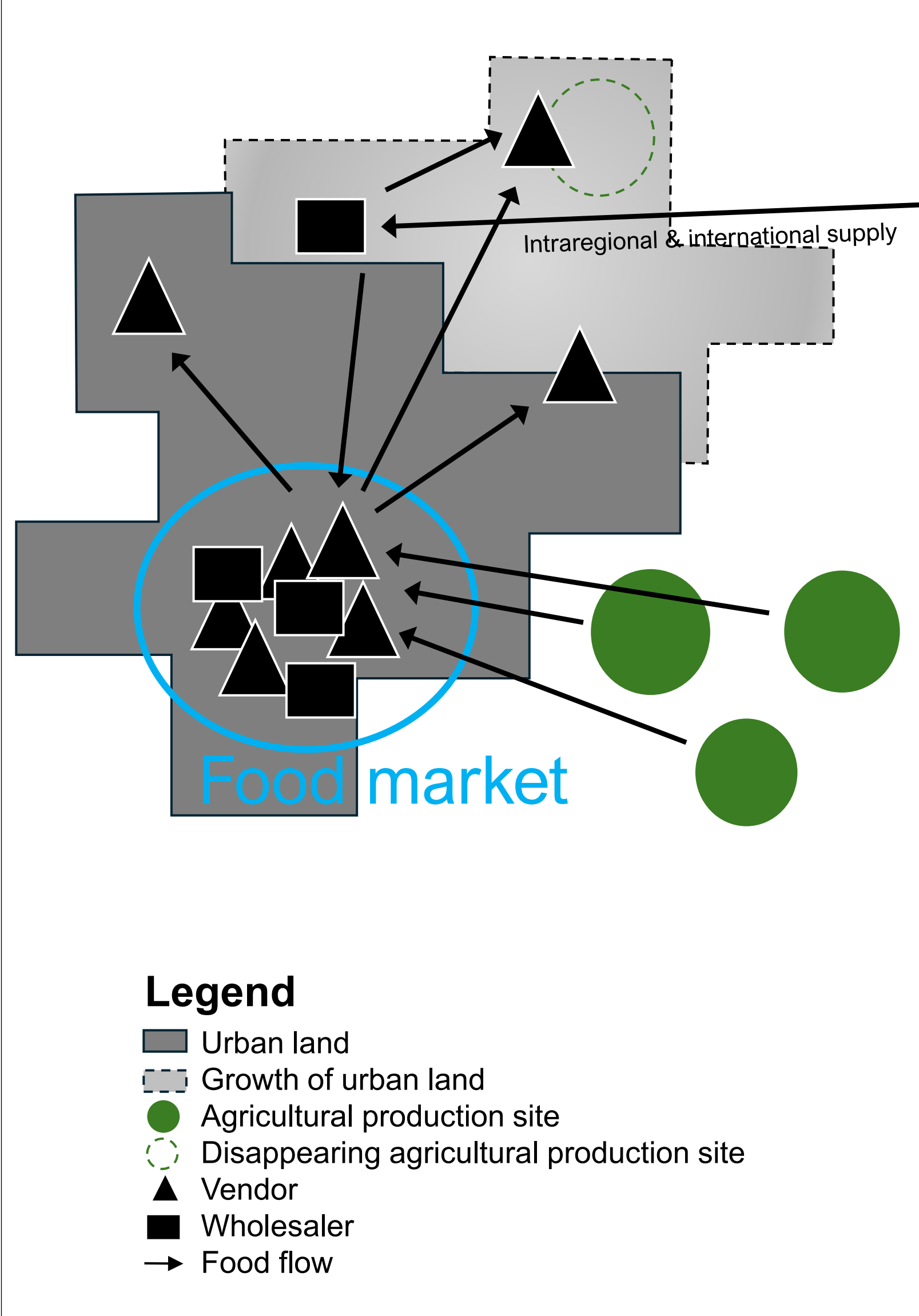


Fig. 4. Changing rural-urban food system landscapes in growing West African cities. Adapted from Fastner et al. (under review).

## How can sustainable and crisis resilient food systems be ensured?

- Integration of informal food vendors and wholesalers into urban planning strategies
- Supply chain transparency to support efficient food distribution in increasingly complex trading networks
- Improved access to affordable food products for peri-urban vendors, e.g., via wholesale markets outside city centers



## References

- <sup>1</sup>Fastner et al. 2023. PLoS ONE 18(9): e0289694. DOI: 10.1371/journal.pone.0289694.  
<sup>2</sup>De Vos et al. 2024. Nat Sustain 7, 869–878. DOI: 10.1038/s41893-024-01362-2.  
<sup>3</sup>Giroux et al. 2021. Food Policy 103(2): 101997. DOI: 10.1016/j.foodpol.2020.101997.

