

## Introduction

Given increasing urban populations and their strong reliance on marketed food, surprisingly little is known regarding the way food reaches urban markets, the quantities entering the city on a daily basis, and the geographical supply areas. Therefore, there is a need to understand and map so-called foodsheds, i.e. food flows from the source of production to consumption at the city level. From an understanding of current food flows, improved strategies towards enhancing the resilience and the sustainability of urban food systems can be developed.

The study focused on four cities, Accra, Kumasi, Tamale (all Ghana) and Ouagadougou (Burkina Faso) cutting from South to North across different agro-ecological zones from humid to semi-arid (Figure 1).

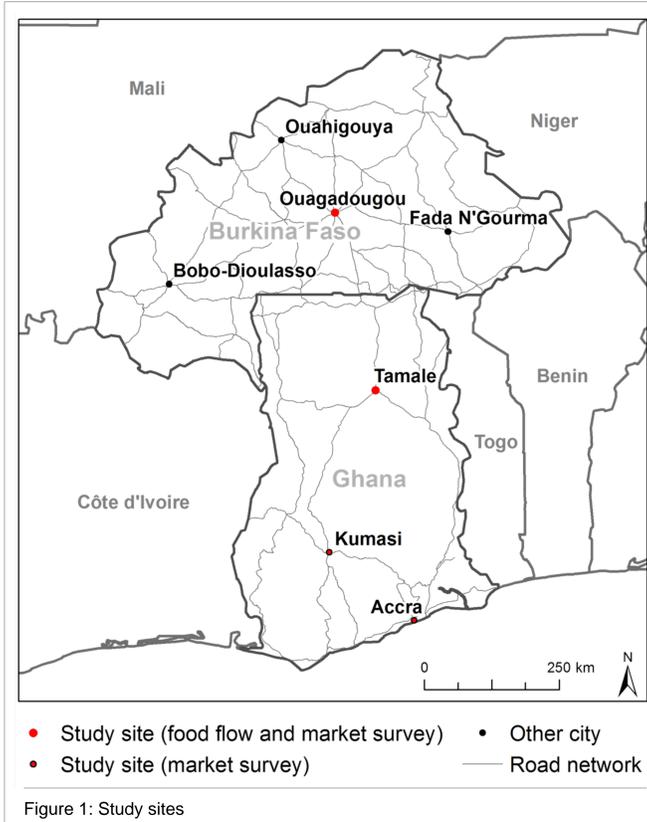


Figure 1: Study sites

## Methods

The study consisted of two parts:

- 1) A detailed and multi-seasonal quantitative analysis of commodity-specific food flows to determine common urban foodsheds for Ouagadougou and Tamale, and
- 2) A commodity-specific, semi-quantitative study on the experience and coping measures of the private sector to production shortfalls in all four cities.

The food flow study was conducted over two years, covering the seasons of good and short supply and more than 30 food commodities. Food flows were assessed *via* vehicle surveys on all major urban access roads to the cities (Photo 2 & 3), as well as *via* market surveys. For the study on coping mechanisms, 90 traders on 25 retail and wholesale markets in the four study cities were interviewed about shortfalls of selected commodities between 2007 and 2014.

## Results

The food flow survey showed that, in Ouagadougou, cross-border trade played a role for the supply of some staples such as yam, plantain, and rice, while for others (millet, sorghum, maize) the city relied on diverse national sources (Figure 3). Tamale, on the other hand, depended strongly on local and regional sources, in particular for the supply of cereals (Figure 2). While the supply of staple crops such as cereals, roots and tubers was rather stable across seasons, seasonal differences primarily concerned perishable goods such as vegetables and fruits.

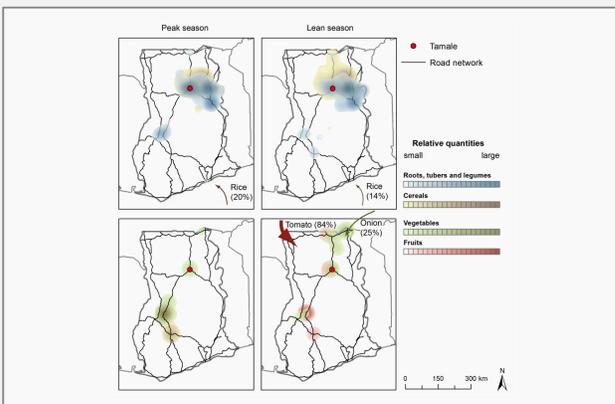


Figure 2: Foodsheds of selected food groups for Tamale, Ghana

In times of short domestic supply of onion, for example, transboundary (Niger, Burkina Faso for Ghana) and international (Netherlands) sources became more important. Cross-border transactions and large-scale transportation thereby potentially increase the vulnerability of distribution networks.

## Highlights

- Unlike for perishable produce such as onion and plantain, the supply of cereals is usually stable across seasons.
- Supply shortages are mostly caused by extreme weather events and increased from South to North.
- Geographical extent of foodsheds expand as traders exploit alternative sources.
- While food supply can be re-established in most cases, 5 to 35% higher prices affect the urban poor.



Photo 1: Main wholesale market in Tamale



Photo 2: Police check point at Tamale-Kumasi road



Photo 3: Enumerator recording cereals in Tamale

## Results

The market survey revealed that supply challenges for particular crops happen every year while cross-commodity shortfalls were mostly caused by extreme weather events. However, most traders were able to exploit alternative, generally more distant sources to recover the loss, although not always and for every commodity. Ouagadougou in particular had to rely even more on neighbouring coastal countries for the supply of maize and yam. Additional costs, mostly referring to transport and travel costs, were transferred to the consumer, affecting the urban poor.

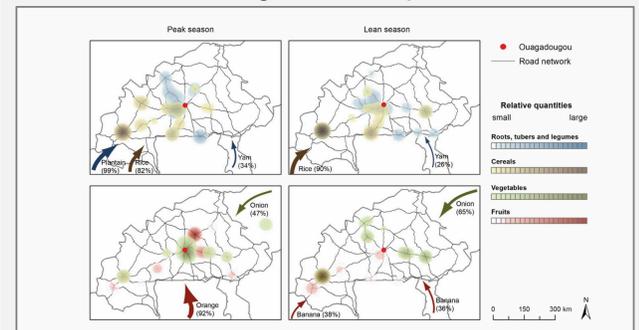


Figure 3: Foodsheds for Ouagadougou, Burkina Faso

## Acknowledgements

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