

Resilience of Urban Food Supply in West Africa

Pay Drechsel
Hanna Karg
Richard Kofi Appoh
Edmund K. Akoto-Danso

27

Within the larger assessment of urban food supply and commodity-specific foodsheds in West Africa, the question was posed how City Region Food Systems (CRFS) respond to natural disasters like droughts or flooding which might severely affect urban food supply and resilience.

The study, which was co-funded by the German Government through the GlobE – UrbanFoodPlus project, and the Water, Land and Ecosystem Research Program of the CGIAR, 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. The project consisted of two parts: (1) a detailed and multi-seasonal quantitative analysis of commodity-specific rural-urban food flows to determine urban foodsheds supporting Ouagadougou and Tamale, respectively, and (2) a commodity-specific, semi-quantitative study on the experience and coping measures of market traders in reaction to supply shortfalls affecting any of the 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, as well as market surveys and visualisation via GIS. Some results were presented earlier in the UA Magazine 29 and in Karg et al. (2016).

For the study of the resilience of urban food supply, 90 traders on 25 retail and wholesale markets in the four study cities were interviewed about shortfalls between 2007 and 2014, addressing the key commodities yam, cassava, plantain, millet, maize, local rice, okra, onions and eggplant, and their coping mechanisms.

Results indicated that foodsheds were highly crop specific, sourcing, for example, specific crops predominantly from one or more areas, with strong variations between seasons. The most common supply challenges were extreme climatic events such as large-scale flooding as well as lack of rain and drought. Traders recorded for every year, supply problems for one crop or another, mostly related to particular weather conditions but also across commodities due to fuel price increases. In particular, 2011 posed severe challenges due to low rain, as mentioned by every third trader who could recall the exact year across the cities. Supply losses due to changes in rainfall ranged between 40 and 100%. However, in 2 out of every 3 cases alternative sourcing allowed the wholesalers to buffer the likely loss; with related extra costs (transport distance) being transferred to the customer. In fact, several



The number of chicken on a motorbike is recorded on an access road to Ouagadougou. Photo by IWMI

traders reported extra profits if they were able to benefit with elevated prices from the general demand/supply gap. Supply shortfalls which some traders could not buffer concerned products such as local rice, millet, maize and onions.

A tendency to an increase of city vulnerability from south to north was observed. Compared with Accra and Kumasi, twice as many cases of unsuccessful coping were reported in Tamale, and the number of cases doubled again in Ouagadougou. Larger geographical diversity of the foodsheds (i.e. more sourcing areas) appeared to enhance the resilience of urban food systems. However, while the urban traders appeared generally prepared to cope with extreme climate events, especially low-income consumers suffer from related food price increases of 5 to 35%. It has to be explored how far such trade-offs could be addressed by the Government through storage facilities for key commodities.

Pay Drechsel, Hanna Karg, Richard Kofi Appoh, Edmund K. Akoto-Danso
GlobE – UrbanFoodPlus project
p.drechsel@cgiar.org

Reference

Karg, H.; Drechsel, P.; Akoto-Danso, E.K.; Glaser, R.; Nyarko, G.; Buerkert, A. 2016. Foodsheds and City Region Food Systems in two West African Cities. *Sustainability* 2016, 8, 1175. www.mdpi.com/2071-1050/8/12/1175/pdf

Note

The paper was originally presented at the International Conference on Agri-Chains and Sustainable Development: Linking Local and Global Dynamics, Montpellier, France, 12-14 December 2016.