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Planning for changes in complex food systems: value chain mapping of different poultry production systems in Nairobi as a first step to food safety, livelihood improvement and micronutrient supply assessments

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Introduction

Research on livestock food systems in developing countries remains limited yet these systems are undergoing rapid and ongoing changes. Poultry meat in Nairobi is a good case study to investigate the changes that result from increasing demand for animal protein¹, in particular how different systems affect the supply of macro and micronutrients, livelihood improvement and food safety risks. The aim of the current study was to map the broiler and indigenous chicken meat value chains of Nairobi to provide a thorough context (*milieu*) for future food safety and socio-economic assessments of the wide poultry meat system.

Methods

Focus groups and individual questionnaires were used to collect data from:

- Broiler and indigenous farmers (in Dagoretti, reflecting peri-urban chains, and Kibera informal settlement, for urban chains);
- Retailers in Viwandani, Korogocho (informal settlements), and Dagoretti;
- Three larger broiler production companies;
- Livestock production and public health officers, meat inspectors, city council, National Environment Management Authority, and a village chief.

The following data were collected for each chain and entered in templates:

- Categories of farms, retailers, products and consumers; production practices and performance; relative flows of birds and products, their sources and seasonality; market outlets; regulations enforcement and institutional context; interactions and involvement of people in the chains' nodes; biosecurity measures.

Analysis allowed detailed characterisation and graphical representation of the food system. Within the system the following “chain profiles” were identified: 1) peri-urban and 2) urban broilers; 3) peri-urban and 4) urban indigenous chickens; 5) large and 6) medium integrated companies; 7) live and 8) meat poultry markets; 9) main poultry chains in each sub-county; 10) characterisation of poultry retailer types. Each profile has a distinct set of flows, interactions, market potentials, risk practices, production and distribution characteristics, useful for food safety, food security and governance assessments.

Findings and interpretation

Within the poultry meat food system the chains in urban areas had fewer intermediaries and smaller geographic span than those in peri-urban areas – overall they were “shorter”. The limited space in urban areas appeared to reduce flock size and hence increase one-off transactions. Use of brokers in peri-urban chains made transport of meat, rather than birds, more practical.

Greatest homogeneity was seen in the chains with commercial broiler chickens (birds for meat production) with one large company supplying 60% of Nairobi’s day-old chicks to small-scale farmers. A small number of larger companies supply broiler chicken meat to high-end retailers across Nairobi, yet there are many more small-scale broiler farmers who sell birds close to their farms, or in Nairobi markets. Indigenous breed chickens are kept in backyard farming systems and are kept for home or local consumption. Birds are also sourced from remote areas of Kenya.

Different meat products reach different consumers, based on their value. The lowest value products are heads and legs from broilers of large-scale and peri-urban small farms, which are sold in informal settlements via roadside vendors.

The description of the chicken meat food system provides the context for further food safety and food security analysis.

References

1. FAO. 2011. *Mapping supply and demand for animal-source foods to 2030*, by T.P. Robinson & F. Pozzi. Animal Production and Health Working Paper. No. 2. Rome.

Theme (select one)

- Agriculture, poverty and health
- Agriculture, diet and NCDs in development

- Emerging food borne and zoonotic diseases
- Value chain approaches in agri-health research**
- Innovative metrics for agriculture and health research and evaluation
- Impact of environment and climate change on agriculture, health and nutrition

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- Yes
- No**
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