When rapidity meets complex realities

The NADHALI Approach for Assessing and Planning City-Driven Food Systems

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Local governments are putting food and nutrition high on their agenda, with a sense of urgency. Rapid urbanisation is placing unprecedented pressure on natural resources, influencing what we eat, where and when. It has a profound impact on our health and wellbeing.

The New Urban Agenda (NUA) is a global reminder that sustainable food system planning is fundamental if countries are to achieve the goals of the 2030 Agenda. Innovative urban food ideas have been discussed to facilitate implementation of the NUA (see the report of the post-Habitat III Expert Group Meeting Integrating food security and nutrition into urban and territorial planning). However, for many local authorities, dealing with food systems presents numerous challenges including: (i) understanding the prevailing food system; (ii) recognising what actions may be necessary to improve the system and the prevalent interlinkages with both rural areas and non-food systems; and (iii) instituting a mechanism to facilitate change in a manner that is inclusive and effective.

In December 2016, the Food and Agricultural Organization of the United Nations (FAO) launched a pilot project to assist municipalities to meet their countries' commitments made under the NUA. The project, known as NADHALI, had three main objectives:

1. development of a tool for rapid appraisal of urban food systems[1];
2. development of a participatory food governance mechanism that facilitated effective and inclusive food system planning; and
3. a capacity-building programme that linked analysis to governance and empowered stakeholders in food system planning.

In this article we refer to the first two objectives that jointly aimed to provide an approach to assess and plan city-driven food systems. Consultation with local governments made it clear that a tool for evidence generation and analysis was needed to support their food systems decision-making process. In Nairobi, for example, the County Chief Officer for Agriculture noted that evidence was needed to understand the relationship between logistics in the food system, food cultures and preferences. This information would provide a baseline to support the county in understanding the status of the food system and improvements needed.

To fill this information gap, the FAO developed a Rapid Urban Food Systems Appraisal Tool (RUFSAT) with the goal of identifying food system "hotspots" that compromised or constrained the economic, social and environmental performance of the system. In Dhaka, for example, contrary to the widespread belief that market intermediaries are extracting inordinate profits, the analysis revealed that wholesalers were operating on a margin of just 2 percent. With such low margins, wholesalers were often compelled to find buyers for inferior-quality products, which compromised public health.

The knowledge RUFSAT generated serves to identify strategies that may contribute to reducing food waste; improving access to safe, affordable, nutritious food; reducing pressure on natural resources; addressing inequities in food distribution; preserving food culture and promoting healthy diets. In Dhaka, the major wholesale market for fresh fish and produce is located in the city centre. Despite regulations that determine when food-laden trucks may enter the city, traffic congestion is a significant impediment. Post-harvest losses are accentuated by the absence of a cold chain – and where ice is used to cool the product, the poor quality of the water, poor infrastructure and lack of sanitation accentuate the risk of contaminating the product with faecal pathogens.

The participatory food governance mechanism foreseen in each of the three pilot project cities (NAirobi, DHAka and LIma) relied heavily on the creation of a Food Liaison Advisory Group (FLAG): a multi-stakeholder platform that collectively represents the voices of the various food system actors. These include both private and public sectors, civil society organisations, and other stakeholders affected by government decisions. The latter can be actors representing other commodity systems from the commerce industry and/or from service systems such as the health system. FLAG members, when recognised as a key resource for planning and adequately empowered, are able to lobby decision makers, flagging potential problems and advising urban planners and policy makers at local and national levels on holistic approaches that permit sustainable food system planning. Great examples of institutionalised and/or modified versions of FLAGs are the food policy councils or similar mechanisms found today in cities such as Vancouver, Philadelphia and Bristol. In Lima, stimulated by the "NADHALI approach", an ordinance is under discussion to formally

Street food vending dynamics are covered in the assessment and planning process of the NADHALI approach. Photo by FAO

recognise the FLAG, and the entire FLAG will sign the "Carta Alimentaria" (Food Charter) that includes the vision and priorities for the city.

Prioritising information and engaging plurality

The RUFSAT consists of: (i) a master guide for collecting and analysing secondary data and conducting policy audits; (ii) a set of tailored surveys for key actors including consumers, food producers, processors, retailers and wholesalers; and (iii) a reporting protocol. Secondary data is collected from the national bureau of statistics, government departments (including agriculture, commerce and trade, environment, health and family welfare, transport, tourism and recreation), local municipalities, academia, research organisations and civil organisations. This data offers a greater understanding of the prevailing food system, socio-economic trends, food production and processing, food distribution and marketing, food consumption, and the policy environment. At each of the hotspots identified with RUFSAT, institutional impediments are revealed which may compromise the integrity of the food[2], leading to food safety breakdowns or accentuating food waste as a result of logistic system bottlenecks, inappropriate handling and poor governance.
At the consumer level, surveys are conducted in both modern and traditional shopping centres to gain a better understanding of the factors influencing consumers' decisions to purchase food, the type of food purchased, expenditure on food, food storage and preparation methods at household level, and the different sources from which consumers obtain their food.

With the aim of rapidly (within three-four months) collecting information and understanding the complex relationships between rural food producers and urban consumers, three to four food value chains, prioritised by the FLAG, are analysed. The food products selected for analysis have included a staple food product (rice in Dhaka, potatoes in Lima and Nairobi); fresh produce (commonly a leafy green, a root crop and a fruit crop); and either fresh fish or meat (chicken, beef, pork, mutton or goat). The value chain surveys endeavour to collect information on food sources, seasonality of supply, transport and logistics, long-term trading relationships between buyers and sellers, price margins, operational costs, food safety, food storage, food waste and key constraints impacting the business.

In addition to these structured surveys and value chain analyses, a dynamic, interactive spatial analysis through Geographic Information Systems (GIS) is conducted to integrate spatial and non-spatial data. This information is critical for urban food planning as it reveals gaps in terms of access to nutritious food and allows the FLAG to identify city neighbourhoods with high vulnerability to food insecurity or explore food environments conducive to unhealthy diets such as food deserts, food swamps and food tundras[3]. The GIS helps identify main foodsheds, transport networks and key infrastructure including water treatment plants and major food processors, with a view to boosting management of key urban resources and to establishing contingency plans for dealing with major food system disruption.

Under the leadership of local government and in a consulting role, FLAG members are identified strategically to represent the culture, geography, politics, religion, capacities and rights of all actors directly and indirectly involved in the food system. A FLAG normally consists of an active core group that expands according to specific needs, which may include technical discussions on issues such as food waste management or climate shock vulnerability. The pace and route of the FLAG dialogue process are variable. The process is influenced by many factors, including the level of empowerment and commitment of the local government, political stability, and the ease with which knowledge is managed and brought forward in a consistent way. All along the knowledge construction process within the FLAGs, the role of third-party entities may facilitate the dialogue across the institutions and actors involved. In fact, the NADHALI experience has shown that institutions with a holistic perspective, such as FAO, NGOs and academia, can play a key role in facilitating multi-scalar governance mechanisms.

The FLAG complements the RUFSAT analysis with qualitative information. After reviewing the information generated from RUFSAT, the FLAG may not only call for further analyses based on identified hotspots but also start looking into eventual formulation of holistic strategies and action plans. In a consultative process, the FLAGs also define the character (vision) of the food system they want for their city.

Analyses for action

The food system analyses have shown a persistence of food

losses in the supply chain "middle stages" (i.e., distribution) and an increasing trend towards fewer actors controlling food supply and prices. This reveals the importance of strengthening inclusive and efficient post-harvest systems. The FLAGs are informed of the various inputs and outputs (including environmental and social externalities) at different points of the supply chains and the likely reasons for biological, chemical and physical food safety risks.

Rapid assessments can provide valuable insights into local foodsheds, bringing opportunities for urban buyers (e.g., retailers, restaurants) to better engage with those producing the food. In Lima, the FLAG's improved understanding regarding foodsheds revealed how vital certain regions are for supplying nutritious food to the capital city. This has prompted interest in improving linkages within the Metropolitan Municipality of Lima and other municipalities, with jurisdictions as distant as 16 hours away (ground transportation).

The rapid assessment of the Nairobi food distribution system evidenced that close to 50 percent of food is distributed to the final consumer through informal food channels such as street vendors and informal food stalls. This percentage is much higher (67 percent) for distribution of fresh horticultural products. Of particular concern is that these informal systems operate in the absence of any functional regulatory infrastructure for food safety and quality. This evidence has led Nairobi County, with the support of the FLAG, to develop a food system strategy that will prioritise actions for creating an enabling environment for safe food commercialisation.

The assessment shows that wholesalers in key commodity value chains in Nairobi make significant margins from their food businesses. This cannot be attributed to the efficiency of the food distribution system, but rather to the ability of wholesalers to dictate price to their downstream suppliers (mostly farmers) and upstream buyers (mostly retailers). The same scenario is not reflected among the retailers: the assessment reveals that retailers operate under very small, and sometimes negative, margins. This may be attributed to high operational costs such as transport, electricity and water, as well as labour. The analysis in Nairobi has brought to the fore the importance of sectoral coordination at the subnational (county) level to ensure programmes that effectively reduce food loss and safeguard food safety.

Beyond knowledge generation on food supply, FLAGs rely on information provided by RUFSAT to support local governments in planning healthy urban food retail environments and, depending on priorities agreed upon, to establish mechanisms for improved use of natural resources, weather shock risk management and urban green environments.

Flexible locally-owned solutions as aim: some lessons learned

Entering their second year, the three NADHALI country processes have proven that the potential for effective food system planning relies on a flexible RUFSAT that functions more as a framework than a standardised method, that – once "localised" – could be integrated in the city food systems planning process.

The role of the FLAG in complementing RUFSAT with qualitative information is crucial for ensuring rapidity in analysing the food systems in a complex reality. Rapid generation of data with RUFSAT in a few months has proven to be feasible. However, effective parallel implementation of both RUFSAT and the FLAG is not rapid by nature, given the complexity of the participatory process. To a large extent, success of the FLAG-led process rests with clear commitment and ownership by the local government as a dedicated champion, and with appropriate engagement of the diverse stakeholders. Inclusion of the most vulnerable groups in the FLAGs, then, is of paramount importance. Formally recognising the process of multi-actor involvement and enabling an environment for ownership among stakeholders are both fundamental to the sustainability of the process, regardless of changes in the political environment.

The role of spatial analysis is fundamental to understanding the geographic dimension of the food system and its potential constraints (e.g., unequal physical access to nutritious food). Moreover, it is important to highlight that food is a continuously evolving, complex system that cannot be understood without analysing the power relations among the actors involved.

In 2018, the Municipality of Douala (Cameroon) is adapting the NADHALI approach. Though the Douala context is a very different scenario, yet with the same urge for rapid assessment of city-driven food systems towards effective plans and actions, lessons learned from the experiences associated with the pilot project hold promise for the future.

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Notes

1. In this article the terms "city-driven food systems" and "urban food systems" are used interchangeably, referring to a context inclusive of the wider sustainability footprint of the food systems linked to the cities, recognising the economic, social and environmental implications of the urban food activities.
2. Food integrity is a comprehensive term which describes "the state of being whole, entire, undiminished or in perfect condition". It provides an assurance to consumers and other stakeholders about the safety, authenticity and quality of the food.
3. These concepts relate to the prevailing food offer in city neighbourhoods: food deserts are low-income communities with limited access to nutritious, affordable food; food swamps are poor urban communities with excess retail offerings of both nutritious and fast – energy dense/low nutrient – food; food tundras are urban areas where easy food access is predominantly to low-nutrient/energy-rich food.