

# Enabling actions to improve the food environment

## The role of government in improving urban nutrition

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### ABSTRACT

This paper posits the urban food environment as an extremely useful policy-making framework for developing actions to improve nutrition, as it is the point at which people and food interact. It describes the nutritional challenges of urban areas and how urban food environments influence nutrition through the affordability, physical access to, convenience and desirability of healthy foods. Consequently, governments can use a range of mechanisms to influence the urban food environment, as this paper illustrates. However, there are significant challenges to developing, applying and scaling up such food-environment interventions. Because of the complexity of governments and governance, further work is required to improve understanding of (1) how interventions can be designed and delivered in different contexts; (2) which mechanisms governments can use; (3) how existing interventions can be evaluated, in particular, the extent to which they are meeting the needs of low-income consumers; and (4) how best to develop new cities to optimize nutrition outcomes for urban communities.

### INTRODUCTION

A food system comprises all the processes and people from the production of food, processing and the distribution to consumers (see, for example, FAO, 2013 and the Global Panel on Agriculture and Food Systems for Nutrition, 2016). An integral part of the food system is the food environment, which is defined as the “collective physical, economic, policy and sociocultural surroundings, opportunities and conditions that influence people’s food and beverage choices and nutritional status” (Swinburn et al., 2013). We would argue that the urban food environment is the point of interaction between city dwellers and food, so is an extremely useful framework for policymakers in developing actions to improve nutrition. Such actions need to ensure that urban dwellers can access enough staple foods, while promoting nutritious diets and disincentivizing non-nutritious diets. This paper will outline the nutritional challenges of urban areas and how urban food environments influence nutrition through the affordability, physical access, convenience and desirability of healthy foods. It will suggest that municipal governments (through a range of relevant departments) are particularly well suited to improving urban nutrition by shaping the urban food environment, highlighting areas for action and current cases of government action.

## NUTRITION IN URBAN AREAS

The global population is becoming increasingly urban. It is projected that, by 2050, a further 2.5 billion people will live in cities and their surrounding areas, implying that 68 percent of the world's population will be urban. Almost 90 percent of this growth is expected to occur in Asia and Africa (UNDESA, 2018a). The growth of urban populations can be attributed to natural population growth and an increase in the share of the world's population that live in urban areas (McGranahan and Satterthwaite, 2014). Although the reasons for migration are diverse, internal migration due to climate change is expected to increasingly influence urbanization, with those on the lowest incomes in the poorest countries hit hardest (Rigaud et al., 2018).

Malnutrition is also urbanizing, with all forms of malnutrition (concurrent undernutrition and overweight/obesity) prevalent in urban areas. While stunting rates have declined in developing countries, a review of 141 low- and middle-income countries (LMICs) suggests that this decline has mainly happened in rural areas, resulting in an increase in the share of stunted children living in urban areas (Ruel, Garrett and Yosef, 2017). Dietary changes (to more sugar, fats and oils, and processed foods) are happening fastest among those living in cities, causing a rise in overweight and obesity and diet-related diseases, such as diabetes (Hawkes, Harris and Gillespie, 2017).

The drivers of malnutrition in urban environments include a lack of time and facilities for home cooking, the pervasive marketing of unhealthy foods, greater exposure to nutrient-poor foods, more sedentary lifestyles, greater female participation in the workforce and inadequate water, sanitation and hygiene (Global Panel on Agriculture and Food Systems for Nutrition, 2017). In cities, approximately one in four people lives in inadequate housing, informal settlements, or slum areas, where conditions harm their health and limit their prosperity and opportunities (UNDESA, 2018b). The correlation between income poverty and food insecurity means that low-income households and their ability to purchase food are vulnerable to the impacts of price shocks or political instability (Maitra and Rao, 2015).

## URBAN FOOD ENVIRONMENTS AND THEIR INFLUENCE ON NUTRITION

A food environment is based on an individual's perception and reality. While an urban community may be exposed to the same retail environment, transport infrastructure and services, it is their individual interactions with the food environment, the sources and types of food available that influences their food choice and, consequently, their nutrition and health outcomes.<sup>1</sup> A person's food environment differs depending on income, age and health status (the food choices of those who are very young, infirm or living with a disability may be managed by others); their understanding, skills and capacity (including physical space and availability of equipment) to store, prepare and eat the foods available; their cultural influences (including religious beliefs and the 'social status' of eating certain foods); the effects of rural-urban migration and immigration; gender; their position in the household or family; and language issues (especially when it comes to labelling and purchasing food).

Critical components of the urban food environment and the food choices people make relate to affordability, access, convenience and desirability. Urban food environments are continuously shaped (in both positive and negative ways) by a range of factors: from global to local actors, including government and the private sector, to changing social and cultural norms, household dynamics (such as employment changes), individual factors (changing food preferences, for example) and other factors, such as technological developments in the food industry and food-system infrastructure, and climate change. Understanding the interaction between the influences on urban food environments in different communities is critical to developing successful interventions that improve nutrition.

## AFFORDABILITY

More than 97 percent of low-income urban households rely on purchased foods, so affordability is critical (Cohen and Garrett, 2010). Affordability is not just about the price of food, but also overall household income, how the purchase of food is prioritized over other household expenses and which

<sup>1</sup> Nutritional status depends on a person's food, health, hygiene and care (Cohen and Garrett, 2010).

food types are prioritised over others. A review of 20 LMICs found that for those on the lowest incomes in urban areas, food accounted for a significant proportion of household expenditure - up to 74 percent in Tajikistan and more than 50 percent in 18 of the 20 countries (Ahmed et al., 2007). As healthier diets (those with sufficient protein, fruit and vegetables) can cost more than unhealthy diets (Darmon and Drewnowski, 2015), a smaller food budget and a larger share of the household budget spent on food by people on low incomes can restrict food choice to low-cost, low-quality diets, in contrast to those on higher incomes, who have greater food choice (Darmon, Fergusson and Briend, 2003). For those on low incomes, food price shocks can result in the adoption of coping mechanisms, such as reduced food intake and/or a switch to cheaper, often less nutritious foods, exacerbating rates of malnutrition (Cohen and Garrett, 2010). Food pricing policies or subsidies on certain foods and a range of initiatives can be used by governments to reduce the impact of price shocks on low-income communities (i.e. social safety nets).

## PHYSICAL ACCESS

There are significant differences in people's physical access to healthy diets within cities. Many have diverse sources (supermarkets, markets, smaller retail outlets and food providers, such as restaurants, cafeterias and street food) and types of food available (including imported and domestically produced fresh, packaged and processed foods). However, access to food is dependent on people's mobility, access to transport and a retail environment in which they can source whatever food is affordable. This highlights the need for making food a key factor in urban planning, to ensure accessibility to nutritious food by all communities.

## CONVENIENCE AND DESIRABILITY

Due to the decline in household production of food in cities, the need to engage in cash-based income-generating activities and the changing role of women in society (Tacoli, 2012), there is a greater demand for convenience, prepared or processed food (see, for example, Wang et al., 2014, and Ruel et al., 2017). There is more out-of-home consumption and eating is less family-centred (Caballero and Rubinstein, 1997), highlighting the importance of considering the role of food manufacturers, food providers and food retailers in urban food environments.

## THE ROLE OF GOVERNMENT IN SHAPING THE URBAN FOOD ENVIRONMENT

Governments can utilise a range of mechanisms, such as laws, policies, taxes and subsidies, educational campaigns and the promotion of policies and initiatives through state facilities (such as schools), public procurement and services to influence nutrition (see, for example, the Partnership for Healthy Cities, 2019; FAO, 2018a; Hawkes and Halliday, 2017). The aspects of the food environment related to marketing and, for processed and packaged foods, the formulation and presentation of food are primarily driven by food manufacturers, food providers and food retailers.

Government incentives and minimum standards and/or penalties can encourage these actors to directly or indirectly promote nutritional outcomes – for example, laws to regulate marketing, especially to children (DLA Piper, 2016), packaging and labelling. Mechanisms to influence the food environment can focus on food-based issues (such as food pricing or how and where food businesses can operate), be integrated across sectors (such as the design and management of urban landscapes and services), or relate to broader economic and social development, such as international and domestic trade and labour laws and social safety nets.

The food environment, as the interface between people and food, is a useful policy-making framework for developing actions to improve nutrition. In urban food-systems planning, the integration of food-environment initiatives, particularly those that take into account affordability, physical access, convenience and desirability, can (and should) create a focus on nutrition as a policy outcome. Policymakers can assess the nutritional challenges of urban food environments, the drivers of those challenges, the appropriate scale and target groups, and identify suitable partners and a range of mechanisms that can be applied within their areas of responsibility and their mandate, to develop interventions that improve nutrition. For policymakers to be able to undertake such work requires (1) recognition of the importance of urban nutrition and the political will to prioritise such issues, (2) data and information to inform food-environment assessments and planning, and the technical knowledge to consider the complexity of cross-sectoral issues, and (3) resources to undertake the work and the capacity to effectively work across sectors, government departments and with a wide range of government, private-sector and non-governmental organisations.

Although the mechanisms that governments use to improve nutrition through food-environment interventions must be adapted to the local context and be evidence based, here are some examples to illustrate how governments can improve nutrition:

- **Urban planning:** Many areas slated for urbanization to accommodate growing populations have not yet been built. It has been estimated that by 2030, 60 percent of these areas globally will need to be urbanized (Secretariat of the Convention on Biological Diversity, 2012). There is a clear opportunity to use urban planning policies to develop and build these new areas in a way that makes them more resilient to future challenges. In existing cities, integrating food into urban planning is also critical. One example is the City of Hangzhou in eastern China, which has made a greater diversity of fresh food products safer and more accessible by developing a more efficient food distribution system, by increasing the number and capacity of wholesalers and food markets, prioritising local food production, and improving food safety standards and monitoring in food markets (Zhou, 2018).
- **Public procurement:** With countries around the world spending 10-15 percent of their gross domestic product (GDP), on average, on public procurement, according to World Trade Organization estimates, this is a tool that governments could use to achieve a range of outcomes (FAO and EU DEVCO, 2018). In 2008, New York City created the City Agency Food Standards,<sup>2</sup> which established nutrition criteria for more than 240 million meals and snacks served annually at schools, senior and child-care centres, homeless shelters, correctional facilities, public hospitals and other New York City agency facilities and programmes (NYC Health, 2015).
- **School food environments:** Urban governments can have sizeable mandates to regulate schools and the school food environment. In Belo Horizonte, Brazil, free meals are offered in public schools, while in the Dutch capital, Amsterdam, drinking tap water is promoted in schools (Hawkes and Halliday, 2017). The London Food Strategy, meanwhile, includes a proposal to restrict the opening of new takeaway outlets within 400 metres of schools and is aiming to introduce a range of initiatives to reduce levels of overweight and obesity in school children (Mayor of London, 2018).
- **Social safety nets:** The effects of price shocks on the affordability of nutritious food can be mitigated through government cash-based transfers and other social safety nets. For example, the Djibouti Social Safety Net programme was developed to improve child nutrition by adding to household income, with a particular focus on low-income households with pregnant women and young children (The World Bank, 2014).
- **Taxes or subsidies to change the price of food:** Depending on the jurisdiction, these are often developed at the national level, however in the United States of America some cities are taxing sugar-sweetened beverages (Center for Science in the Public Interest, 2018).<sup>3</sup> Taxes on such drinks are aimed at reducing sugar intake to reduce overweight, obesity and non-communicable disease rates. In Mexico, findings suggest that over two years, on average, there was an 8.2 percent decrease in purchases of sugar-sweetened drinks, with the largest decline in the lowest socioeconomic groups (Colchero et al., 2017). Awareness of the tax was found to lower consumption of sugary drinks in urban areas (Álvarez-Sánchez et al., 2018). The consumption of certain foods can be promoted through subsidies and these have been used by certain governments to improve food security. India, for example, has the Public Distribution System<sup>4</sup> (and other programmes) to ensure the availability of essential commodities (such as rice, wheat, edible oils and kerosene) at below-market prices through a network of outlets or fair-price shops (Marshall and Randhawa, 2017). Such efforts could be more nutrition focussed, by including fresh foods or, at a minimum, fortified staple foods.
- **Improving food safety and nutritional quality:** Shanghai has created a Food Safety Credit System, in which food business are evaluated and classified, and information is shared between all relevant municipal governments to enable enforcement (FAO, 2018b). Singapore has the Healthier Dining Programme, which encourages caterers, restaurants, cafes, hawker centres, coffee shops and other food and beverage outlets to offer healthier food options (Health Promotion Board, 2019).

<sup>2</sup> <https://www1.nyc.gov/assets/doh/downloads/pdf/cardio/cardio-meals-snacks-standards.pdf>.

<sup>3</sup> <https://cspinet.org/sites/default/files/attachment/soda-taxes-passed-to-date.pdf>.

<sup>4</sup> <https://dfpd.gov.in/>.

- **Changing rules on marketing:** In response to growing evidence that the advertising of foods and beverages affects children's food choices and intake, some governments have implemented measures to restrict the marketing of certain foods to children (Galbraith-Emami and Lobstein, 2013). In South Korea, a review of regulations restricting the television advertising of energy-dense, nutrient-poor foods to children has shown the potential to improve children's food environment. However, some companies have merely shifted their marketing away from television to other media to bypass the regulations (Lee et al., 2013), implying that a more comprehensive approach to market oversight may be preferable.

## CONCLUSION

Rapid urban population growth, coupled with the burden of urban malnutrition, has prompted some city governments to implement measures to make the urban food environment more nutrition-friendly. These interventions can include specific, targeted actions, be part of a wider food (and nutrition) strategy, or be conducted more broadly through economic development and social services. As the food environment influences an individual's food choices and, therefore, health, it is an important starting point from which to develop initiatives to improve nutrition. Governments can use the range of mechanisms to influence the food environment, as we have seen in the examples cited.

However, there are significant challenges to developing, applying and scaling up such food-environment interventions. Further work is required to improve capacity and understanding of how interventions can be applied in different contexts, to develop existing and additional mechanisms that governments can use, to evaluate existing interventions (especially the extent to which they are meeting the needs of low-income consumers) and to communicate findings and determine how best to develop new cities in a way that improves nutrition for urban communities.

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