



**Global Panel**  
on Agriculture  
and Food Systems  
for Nutrition

# Urban diets and nutrition: Trends, challenges and opportunities for policy action

This brief explores the deepening crisis of urban malnutrition in low- and middle-income countries and the forces that drive it. Ensuring that everyone has access to healthy diets is the key to meeting this challenge.

**POLICY BRIEF No. 9 | October 2017**



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**RECOMMENDED CITATION:** Global Panel. 2017. Urban diets and nutrition: Trends, challenges and opportunities for policy action. Policy Brief No. 9. London, UK: Global Panel on Agriculture and Food Systems for Nutrition.

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# Executive Summary

Recent decades have seen unprecedented population growth in urban areas. In 2014, just over half of the world's population lived in towns and cities; this is expected to rise to two thirds by 2050. Nearly 90% of these additional 2.5 billion urban residents will be located in Africa and Asia.

Malnutrition in all its forms is now a pressing issue in urban as well as rural areas:

- Approximately one in three undernourished children now live in urban settings. The Global Nutrition Report<sup>1</sup> has identified 13 countries in which urban stunting rates were above 30%.
- Deficiencies of essential minerals and vitamins are estimated to affect half of all pre-school children and 2 billion people worldwide. Urban residents tend to eat more animal-sourced foods as well as fruits and vegetables. However, urban diets can still be low in micronutrients such as iron, zinc and vitamin A.
- During the last decade, urban populations in low- and middle-income countries have experienced accelerating rates of overweight and obesity. In Africa, the number of overweight and obese children under five has nearly doubled since 1990 from 5.4 million to 10.3 million in 2014. In 2016, almost half of all overweight children under five lived in Asia and one quarter in Africa.

**The challenges facing urban policymakers are particularly complex.** Many urban environments are experiencing undernutrition, micronutrient deficiencies, and overweight and obesity (the so called 'triple burden' of malnutrition) simultaneously. Urban populations also tend to be very diverse and policies and programmes will need to be tailored accordingly to take into account, for example, variation in income, age, gender, as well as culture and religion. These policies and programmes also need to reflect the typical realities of urban living – such as a lack of time and facilities for home cooking, pervasive food marketing and urban food environments that may offer diversity as well as greater exposure to unhealthy foods.

**The challenge of malnutrition really matters.** Six of the top 11 risk factors driving the global burden of disease are now related to diet. Stunting has lifelong effects – impairing mental and physical development, and reducing earning potential. Overweight and obesity are major causes of strokes, diabetes and cardiovascular disease with significant costs in terms of mortality, lost productivity and healthcare. Overall, the risk that poor diets pose to mortality and morbidity is now greater than the risks of unsafe sex, alcohol, drug and tobacco use combined. More generally, accessible and affordable healthy diets for all is a pre-requisite for the delivery of the Sustainable Development Goals (SDGs), particularly those SDGs relating to economic growth, health, well-being, life expectancy, climate change and environmental sustainability.

**Urban malnutrition will not 'solve itself' as average incomes increase.** Towns and cities in low- and middle-income countries

are associated with generally rising urban incomes. But evidence shows that as economies grow and urbanization accelerates, child stunting tends to decrease at a slower rate than the concurrent rise in adult overweight and obesity. Micronutrient deficiencies also persist. Projected increases in the numbers of urban poor in informal settlements, particularly in Africa and Asia, will present a particular challenge to policymakers.

**Without decisive action, the nutrition crisis in urban areas across low- and middle-income countries will deepen over the next decade in response to multiple pressures** which include ongoing trends in globalization, migration, population growth, income inequality, increasing pressures on land and water for food production, and climate change. Only by acting now can policymakers avoid locking in future burdens for health, well-being and economic development.

**A rebalancing of policy attention which ensures that all urban residents have access to high-quality<sup>ii</sup> diets needs to be a key objective.** The threats facing urban policymakers are formidable, but the opportunities for positive change are equally impressive considering relatively higher incomes of urban residents, better access to fruits and vegetables and fresh foods, as well as more beneficially processed foods. For example, increasing urban consumer demand for more nutritious foods could stimulate significant opportunities to improve urban food environments by encouraging competition among suppliers and retail outlets in urban supply chains. Also, economies of scale and higher profit in integrated urban markets can make it easier for businesses to innovate, develop new marketing approaches and cross-subsidize products. Food-based dietary guidelines and food labelling are policy instruments that can play important roles in influencing urban consumer demand. These are under-used in the majority of low- and middle-income countries.

**Policymakers also need to take a perspective which looks right across urban food systems** and beyond to wider areas of government policy which affect urban diets and nutrition. These areas include spatial planning, infrastructure and housing, transport planning, education policy, access to energy, water and sanitation, and pre- and ante-natal policies and interventions. Taking this broad approach will help realise the many opportunities for policies and actions that will transform people's diets.

**This brief sets out four priority areas where policies concerning urban diets and nutrition are in particular need of change:** governance of urban food systems, wider aspects of urban governance, policies relating to the informal retail sector and addressing the triple burden of malnutrition, including overweight and obesity. While most actions will depend heavily on local contexts, the Global Panel offers eight recommendations to policymakers which are universally applicable to help governments to address all forms of malnutrition in urban areas.

## Policy Recommendations

- ① **Policy makers need to urgently rebalance their efforts to make high-quality diets a priority for both urban and rural populations.** In particular, this means making fresh fruit and vegetables, pulses, nuts and seeds, and other nutrient rich foods available to all. The rebalancing must address a growing nutrition crisis in cities which is characterized by multiple forms of malnutrition. Importantly, rising urban incomes will not provide the solution alone. High-quality diets are as important as clean water, hygiene and sanitation, good health services and maternal and child care.
- ② **Policy makers at the local level need to take a leading role in championing better diets and nutrition – this requires them to be both mandated and empowered to act.** Local leadership is essential to addressing the challenges within cities. But there is also a need for multiple actors to work together to address the complex and growing problems. Government, business/market actors, education and healthcare providers and civil society all have important parts to play.
- ③ **It is essential to tackle the challenges of urban malnutrition by capitalizing on opportunities offered by urban food systems.** Urban contexts provide a ready-made environment for influencing the diets and nutrition of large numbers of people. A high priority should be given to national policies which regulate product formulation, labelling, advertising and promotion. These are especially important in urban situations where food marketing can be particularly aggressive and can encourage poor-quality diets. Investment in the education of consumers about healthier food choices is also essential.
- ④ **There is a need to connect with wider areas of policy which are usually excluded from dialogues on urban diets and nutrition.** These include: spatial planning, infrastructure and housing, transport planning, education policy, access to energy, water and sanitation, and pre- and ante-natal policies and interventions. There are also opportunities to influence public institutions in towns and cities, such as schools, prisons and government offices, to offer enhanced dietary choice, quality and knowledge about nutrition.
- ⑤ **It is essential to address the needs of all urban population groups.** Populations within cities are diverse, covering a wide range of socio-economic levels, ages, ethnicities, cultures and religions. Recognizing this

“ There is an urgent need to have better urban governance around food, nutrition and health, combined with improved nutrition information to urban populations on how to live well by eating well. ”

**Akinwumi Adesina, President,  
African Development Bank**

diversity is essential for the development of effective strategies which aim to achieve improved consumer access and dietary choice for all.

- ⑥ **Attitudes to the informal food sector need to change.** This sector is vital for meeting the dietary needs of many urban dwellers – particularly the urban poor. Rather than penalizing or seeking to eliminate it, measures are needed to improve the sector in order to better address sanitation and health risks.
- ⑦ **Urban policymakers in low- and middle-income countries need to give more attention to the specific challenges associated with rising rates of overweight and obesity.** The aim should be to limit further rises – no country has yet succeeded in reversing the trend of rising obesity. If allowed to develop, the associated non-communicable diseases could become very burdensome for health resourcing, economic development and for individuals.
- ⑧ **Effective action in tackling urban health and nutrition challenges needs to be carefully measured, rigorously analyzed and quickly disseminated.** Reviewing and disseminating empirical data on what works – and what does not work – can help inform policymakers and promote a variety of tailored actions.

**Finally, there is a need to act without delay.** Urban populations are growing rapidly. Economic growth on its own is insufficient to secure improved diets and enhanced nutrition. Decisive action is needed to tackle the growing global health and nutrition crisis which is increasingly located in urban settings. Large concentrations of consumers with growing incomes offer a particular chance to change behaviour, choice and dietary patterns on a huge scale. But a failure to act now risks locking in processes, behaviours and outcomes for decades.

i See *International Food Policy Research Institute. 2016. Global Nutrition Report 2016: From Promise to Impact: Ending Malnutrition by 2030. Washington, DC.*

ii A high-quality diet is a diet high in vegetables, fruits, wholegrains, and legumes, with lean, low-fat protein sources. For a full definition please see Box 1 on page 8.



## 1. Introduction

Recent decades have seen unprecedented population growth in urban areas around the world. In 2014, just over half of the world's population lived in towns and cities; this is expected to rise to two thirds by 2050. Nearly 90% of these additional 2.5 billion urban residents will be concentrated in Africa and Asia.<sup>1</sup>

Urbanization is a complex and dynamic demographic phenomenon, which interacts with globalization, income growth, migration, population growth, income inequality, climate change, health and sustainability. Together, these interrelated drivers are shaping food systems in low- and middle-income countries to create a crisis of urban hunger and malnutrition – part of a wider global nutrition challenge in which 3 billion people are currently experiencing some form of malnutrition.<sup>2</sup> The Global Panel's 2016 Foresight report *Food Systems and Diets: Facing the Challenges of the 21st Century* describes how new policy initiatives and approaches to improving the quality of diets are critical to averting this nutrition crisis over the next two decades. As the Report makes clear: "Around the world, coordinated action [to improve diets and nutrition] needs to be accompanied by fundamental shifts in our understanding and in our policy actions... Food systems need to be repositioned from just supplying food to providing high-quality diets for all. This will require policy initiatives far beyond agriculture to encompass trade, the environment and health, which harness the power of the private sector and empower consumers to demand better diets."<sup>2</sup>

This policy brief argues that, without decisive action, the crisis of urban food systems in low- and middle-income countries

“ The growing threat of an urban food crisis can no longer be ignored. ”

**Agnes Kalibata, President, Alliance for a Green Revolution in Africa (AGRA)**

will deepen over the next decade. The threats are formidable but the opportunities for positive change on a significant scale are equally impressive. Continuation of current policies will result in crippling health and nutrition problems but implementing innovative policies and facilitating system-wide improvements could transform diets in urban areas.

Ending hunger, improving nutrition and achieving food security are crucial policy objectives in their own right, as embodied in Sustainable Development Goal (SDG) 2. However, what people eat has major implications for wider areas of policy relating to the environment, markets, health costs, labour productivity, national economic growth and social cohesion. Policymakers need to understand that the SDGs relating to economic growth, health, well-being and life expectancy all depend on people having access to healthy diets. Policies that help shape healthy dietary habits should therefore be at the core of the combined SDG policy agenda and must take into account people's food tastes, choices, cultural norms and non-food purchasing power. In other words, it is what people actually eat that matters, not merely what foods are available and affordable in the marketplace. This brief provides advice on how local and national policymakers in low- and middle-

income countries can work together to help ensure that food systems provide healthy diets in urban settings.

Recognition of the scale of current and future policy challenges in urban environments is already growing. It has, for example, led to the adoption of *The New Urban Agenda* by governments participating in the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in 2016.<sup>3</sup> This makes the case for assisting governments in addressing challenges through national and local development policy frameworks.<sup>4</sup> However, the necessary shift in nutrition policy thinking from a narrow focus on rural communities and undernutrition to a perspective that also encompasses urban malnutrition in all its forms is at a relatively early stage. With an additional 500 million people in Asia and a similar number in Africa projected between 2015 and 2030,<sup>5</sup> policymakers have little more than a decade to develop effective urban food systems, to invest in the infrastructure that supports them and to influence consumer behaviour towards healthy diets. Many of these initiatives may take years or even decades to take full effect, which makes action urgent.

Urban food systems are particularly challenging because of the complexity of urban environments, the diversity of the populations they serve and the triple burden of urban malnutrition. Increasingly, undernutrition, over-nutrition and micronutrient deficiencies are simultaneously present in cities in low- and middle-income countries. One survey of low-income households in Nairobi in 2013-14 showed that 41.5% of children were stunted and 74% were anaemic, while 29% of women were overweight and nearly 26% were anaemic.<sup>6</sup>

The evolving crisis in urban nutrition requires a rebalancing of policy attention. Rural food systems, diets and nutrition must remain a key focus, given the high prevalence of malnutrition among the rural poor in most low- and middle-income countries.<sup>7</sup> But the numbers of urban poor are rapidly increasing, due both to relatively high rates of natural growth and to rural-urban migration. This urban growth offers huge potential for a) influencing the diets of an increasingly large majority of global consumers, b) tackling the triple burden of malnutrition by seeking complementary and synergistic urban policies rather than generic, national-level food and agricultural policies and c) positively influencing rural diets, as urban products and

consumer tastes spread rapidly into remote rural markets. Urban areas represent dense concentrations of consumers and offer opportunities for facilitated change in consumer choice, whereas food policies have traditionally focused on producer outputs.

The urgent need for action runs counter to a common belief that, as urban areas in low- and middle-income countries are usually wealthier than rural areas, urbanization will automatically lead to better diets. This is not always the case. Evidence shows that as the economies of developing countries grow and urbanization accelerates, child stunting tends to decrease but at a slower rate than the concurrent rise in adult overweight and obesity. Micronutrient deficiencies also persist.<sup>8,9,2</sup> And, with rapidly expanding informal settlements, a correlation between urban settings and better nutrition cannot be assumed.

The policy recommendations presented here are directed primarily at policymakers and other actors at the sub-national level in urban food systems. These stakeholders have the most important leadership role, as many local factors condition urban diets. Mayors, city managers, education and healthcare leaders, community leaders and business chambers of commerce need to work together to ensure healthy, high-quality diets for all urban residents. However, some of the recommendations are also directed at national and international policymakers who have a role in mandating and empowering local decision makers to act. Opportunities for stakeholders in the private sector, who are influential in shaping diet quality, are also highlighted.

The next section (Section 2) reviews recent trends and future projections on urbanization and sets out key challenges for urban diets and nutrition. Section 3 provides an overview of urban food systems and identifies where interventions are urgently needed, building on the systems-based approach set out in the Global Panel's Foresight report.<sup>2</sup> This approach seeks to turn the complexities of urban food systems into opportunities, for example on consumer information, food regulation, labelling and pricing. Section 4 discusses critical areas where existing policies are in need of change, focussing on governance of urban food systems, wider aspects of urban governance (for instance health, sanitation and planning), the informal sector and the rising incidence of overweight and obesity. Policy recommendations and conclusions are presented in Section 5.



## 2. The challenges facing urban food systems

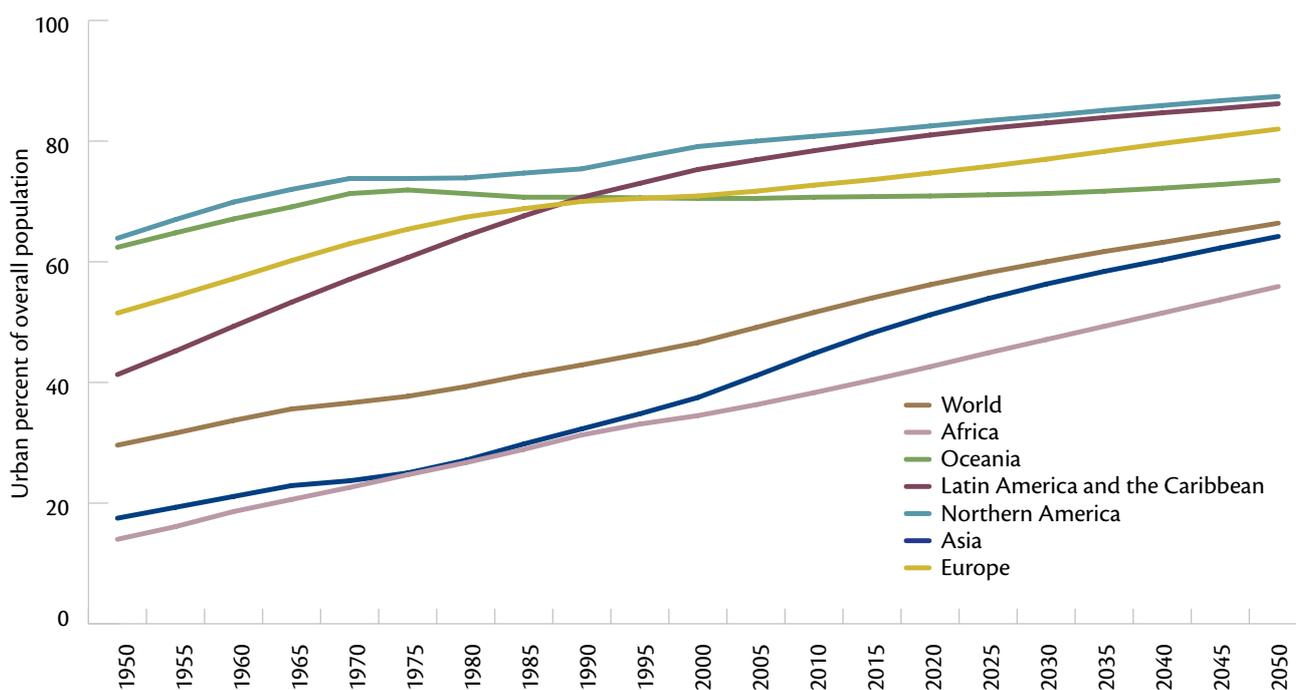
### 2.1 Growth in urban populations

The share of the world's population currently living in urban settings is unprecedented in human history. As shown in Fig. 1, urban population shares in Africa and Asia are currently lower than the global average of 54% (40% and 48% respectively in 2014) but those regions are urbanizing faster than others. These figures are projected to reach respectively 56% and 64% by 2050.<sup>1</sup> While this is still lower than the projected global average of 66%, roughly 90% of the projected additional 2.5 billion urban residents will live in those two regions. Fig. 2 illustrates the scale of past and projected future increases in urban populations in Africa between 1950 and 2050.<sup>10</sup> This suggests that the projected increase in the 30 years between 2020 and 2050 is likely to be more than double that of the previous 70.

Several factors are driving these trends in low- and middle-income countries. Overall, natural increase (i.e. the difference between the number of live births and the number of deaths during the year) is the greatest factor, accounting for half or more of urban growth in Africa, Latin America and Asia. Urban mortality today in these regions is lower than in the past and this fall is projected to continue.<sup>11</sup> Urban birth rates have also declined more slowly in Africa than elsewhere.<sup>11</sup> Rural-to-urban migration accounts for the rest of the increase, although some of this is actually due to re-classification as rural settlements grow in size.



**Figure 1: Changes in urban populations as a percentage of overall populations – past and projected**

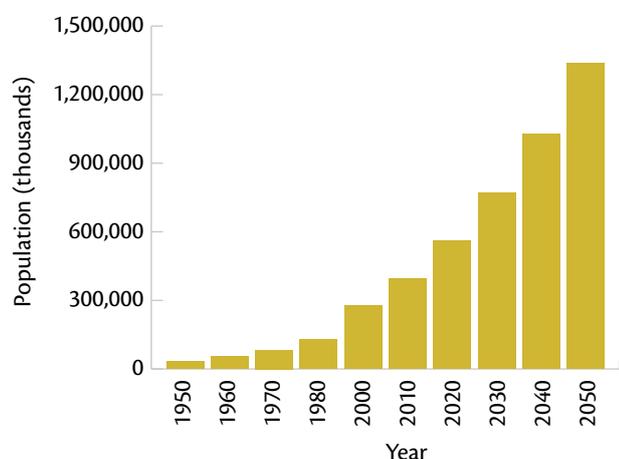


Source: REARDON, T.A. 2016. Growing Food for Growing Cities: Transforming Food Systems in an Urbanizing World. Chicago, US: The Chicago Council on Global Affairs

Across the world, the fastest growing urban areas are those in Africa and Asia with less than one million inhabitants. In Africa, almost 60 percent of the population already live in cities with populations between 300,000 to 500,000.<sup>1</sup>

Given these trends, there will be a need to ensure that food systems are capable of providing safe and affordable high-quality diets for an *additional* urban population of around 2.5 billion by 2050, over and above today's 4 billion urban dwellers. This must be accomplished alongside factors such as climate change, rising environmental pressures, migration and a growing need for infrastructural investment.

**Figure 2: Growth in the urban African population, 1950-2050**



Source: Data from UNHABITAT (2015: 264)

### Box 1: What constitutes a high-quality diet?

A range of sources can be used to characterize high-quality diets. The Global Panel's 2016 Foresight report summarizes these.

According to WHO guidance, healthy diets should<sup>13</sup>:

- Start early in life – notably with breastfeeding.
- Balance intake and expenditure of energy (calories).
- Include fruit, vegetables, legumes, nuts and wholegrains.
- Include at least 400g of fruits or vegetables per day (excluding starchy roots such as cassava and potatoes).
- Limit fat to no more than 30% of total energy intake. There should also be a shift from saturated to un-saturated fats and towards the elimination of industrial trans fats.
- Limit free sugars to less than 10% of total energy intake – or less than 5% for additional health benefits.
- Limit salt to less than 5g per day – to reduce the incidence of hypertension, heart disease and stroke in adults.

## 2.2 Urban diets

Despite limited data on the important topic of what people actually eat, evidence suggests that diets in low- and middle-income countries are evolving rapidly in response to changing social environments and recent poverty reduction – the so called 'nutrition transition'.<sup>12</sup> The pace of change is generally much greater in urban areas because of the concentration of populations, higher incomes and greater availability of food. There is evidence that this transition is also occurring in rural communities but the pace of change is slower, despite influence from new urban norms. Dietary trends at the country level have been reviewed in the Global Panel's 2016 Foresight report.<sup>2</sup>

A major issue for policymakers is the lack of data on urban diets. Detailed information is needed on the diets of different socio-economic groups, for example, comparing high-income residents with low-income groups. Several studies from a range of countries, however, allow useful generalizations on some of the differences between urban and rural diets in low- and middle-income countries:

- **Urban populations tend to consume more calories<sup>14, 15</sup> and more highly processed foods.** Studies in East and Southern Africa show that highly processed foods now account for more than one third of the purchased food market. They also suggest a recent sharp rise that mirrors income growth in both rural and urban areas. In these regions, the share of non-perishable food that is highly processed was found to be 22.3% for rural and 24.7% for urban consumers.<sup>16</sup>

These highly processed foods require less preparation time.<sup>17</sup> They therefore meet the demands of urban consumers who work outside the home and who may have limited time or facilities for





home cooking. In short, urban dwellers tend to value, and to pay for, convenience foods more than their rural counterparts.<sup>18</sup> Furthermore, urban residents are also more exposed to highly processed and non-traditional foods than rural populations through ready access to food retail outlets, street vendors (particularly in poorer areas) and marketing campaigns.<sup>19, 20</sup> Trade liberalization, foreign direct investment and advances in technology have also made certain products (e.g. ultra-processed foods and sugar-sweetened beverages) more widely available to urban consumers in low- and middle-income countries.<sup>21, 22, 23</sup>

- **Urban inhabitants consume more fruits and vegetables.**<sup>24</sup> Compared to rural settings, urban food environments are generally characterized by better availability of fresh fruit and vegetables, and greater diversity of other nutrient-rich foods. This is due in part to urban consumers having higher average incomes, creating a greater demand for perishables. Another factor is the increasing availability of refrigeration and supermarkets, particularly in middle-income countries. In sub-Saharan Africa, however, most urban consumers still do not have reliable refrigeration and do not buy their fresh produce in supermarkets.
- **The urban poor frequently rely on cheap and convenient street foods.** Recent studies show that the share of purchased foods eaten away from home (street food) varies – from 20% in Tanzania and 15% in Nigeria to 1% in Mozambique.<sup>25</sup> These foods, which have appealing flavours and demand less preparation time, are often high in fat, sugar and salt and are in some cases subject to safety concerns.
- **Urban consumers have access to more beneficially processed foods.**<sup>26</sup> Food processing is not inherently negative. The transformation of foods can include the removal of

anti-nutrients (for example de-hulling soybeans and removing phytates), the addition of micronutrients to appropriate delivery foods (for example iodine in salt, vitamins A and D in vegetable oils, calcium in milk) and inspection/sorting prior to combining foods to reduce food safety risks, such as mycotoxins.

- **Urban inhabitants consume more animal-sourced foods.**<sup>27, 28</sup> In urban areas, there is a reduced reliance on starchy carbohydrates as dietary staples, a higher consumption of meat, but lower intake of dairy products. Consumption of animal-sourced foods above recommended levels can have negative effects, although increased consumption of red meat may be beneficial for populations at risk of iron deficiencies.
- **Urban populations have access to a greater diversity of fresh foods such as legumes, vegetables and fruits.**<sup>29</sup> Many foods are also often available at a lower cost in urban environments because of economies of scale due to larger customer bases, better supply infrastructure and increased competition resulting from multiple suppliers.
- **There are substantial dietary differences between high- and low-income groups.** Evidence suggests that income growth enables urban consumers to access more food, both nutrient-dense options that increase diet quality and less nutritious, highly processed foods that reduce it.<sup>30</sup> A recent study from six African countries shows that, as incomes rise, highly processed foods take an increasing share of the food basket value; this is true for rural as well as urban settings. In urban areas, in the highest income group, highly processed foods formed 65% of the value of the food basket compared to 35% for this group in rural areas.<sup>16</sup> The urban poor are also more exposed to unhealthy dietary choices.<sup>31</sup>

### 2.3 Urban malnutrition – a growing crisis

This section considers the nutritional consequences of the dietary trends discussed in section 2.2. Across low- and middle-income countries (rural and urban), the scale of malnutrition in all its forms amounts to a growing crisis. A 2013 study of the global burden of disease showed that six of the top 11 risk factors for global health are now related to diet (Fig. 3).<sup>32</sup> Also, the risk that poor diets pose to mortality and morbidity is now greater than the risks of unsafe sex, alcohol, drug and tobacco use combined.

Key questions for urban policymakers concern the extent to which this crisis will specifically affect urban environments, and how it will affect different sectors of urban populations. Unfortunately, such an analysis is impeded by a substantial lack of data – much of the data that exist are aggregated at the national and regional level. Nevertheless, the following sections describe the broad situation.

#### Undernutrition

There has been significant progress in reducing global undernutrition in recent decades but the rate of decline remains slow. Although the global prevalence of stunted children has fallen from 39.6% in 1990 to 22.9% in 2016, 155 million children under five across the world continue to suffer from stunted growth.<sup>33, 34</sup>

If current trends continue, projections indicate that 127 million children under five will still be stunted in 2025.<sup>35</sup> This is a particular cause for concern given the resulting lifelong burden in educational achievement, physical development and reduced earning potential. The economic costs of child undernutrition

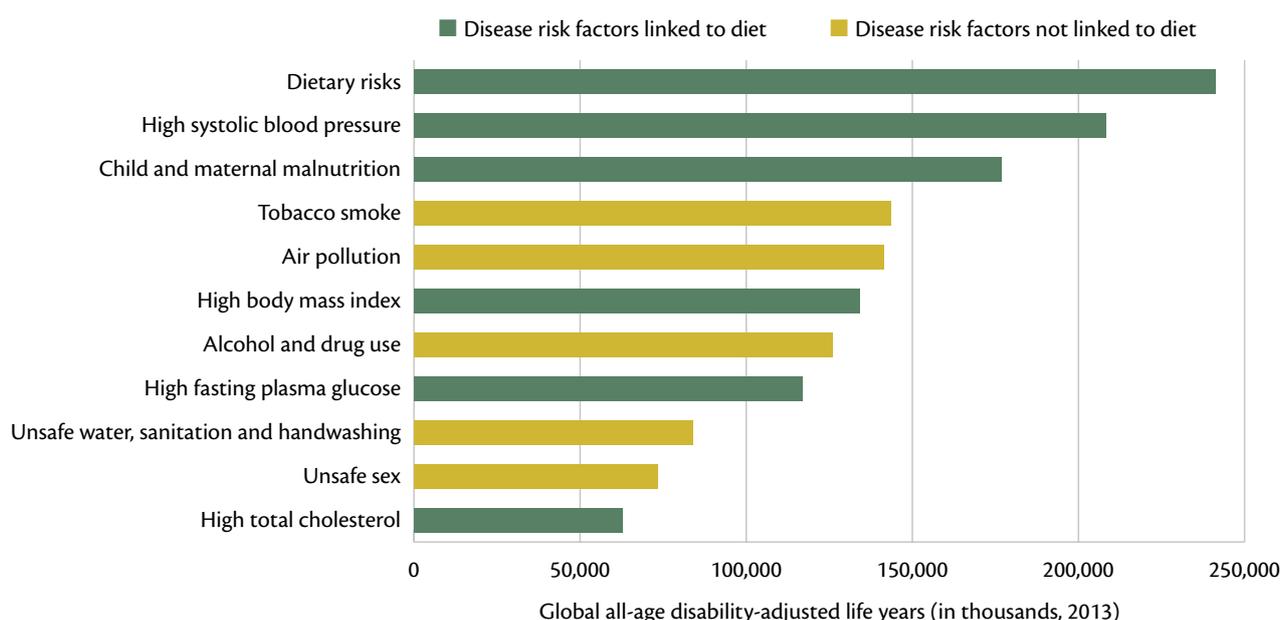
can also be considerable; for example, US\$3.7 billion for Egypt and US\$4.7 billion for Ethiopia in 2009 (respectively 1.9% and 16.5% of GDP).<sup>36</sup>

Globally, the proportion of stunted children living in cities has increased from 23% to 31%.<sup>37</sup> This means that today, approximately one in three affected children is now in an urban environment. There is, however, substantial regional variation in how the number of undernourished urban children has changed over recent decades. For example, in sub-Saharan Africa, the region with the fastest-growing urban population, the number of undernourished children in cities more than doubled between 1985 and 2011. In contrast, the number of undernourished children in cities in East and Southeast Asia fell by more than 40% in the same period, despite the rising urban population.<sup>27</sup> Looking to the future, undernutrition will continue to be a major challenge for urban poor populations in low- and middle-income countries; by 2020, up to 85% of the poor in Latin America are expected to live in towns and cities, and 45% of the poor in Africa and Asia.<sup>38</sup>

These trends illustrate the scale at which undernutrition now affects both rural and urban communities. For example, a study in Africa, Asia and Latin America found that the urban incidence of hunger equalled or exceeded rural levels in 12 out of 18 countries.<sup>39</sup> Another study of 81 countries showed that while stunting rates were 1.45 times higher in rural than in urban areas, they are converging.<sup>40</sup> In 2016, the Global Nutrition Report identified 13 countries in which urban stunting rates were above 30%.<sup>34</sup>

Importantly, stunting does not only affect the poorest households. For example, in Nigeria in 2013, the prevalence of moderate or

**Figure 3: Six of the top 11 risk factors driving the global burden of disease are related to diet**



Source: Global Burden of Disease Study 2013 Collaborators (2015), Figure 5

severe stunting ranged from 35.5% (poorest quintile) to 13.1% (richest), and from 61.5% to 16.6% in Pakistan in 2012.<sup>41, 36</sup>

### *Micronutrient deficiencies*

Deficiencies of essential minerals and vitamins such as iron, zinc, iodine and vitamin A persist globally and are estimated to affect half of all pre-school children and 2 billion people worldwide.<sup>42</sup> There are currently no global estimates comparing deficiencies of minerals and vitamins for populations in urban and rural areas. Although urban residents tend to consume more fruits and vegetables than their rural counterparts, urban diets can be low in micronutrients such as iron, zinc and vitamin A. While micronutrient-fortified processed foods such as cereals, oils, bouillon cubes, milk and noodles are more widely available in urban areas, high prices for these products may be prohibitive for poorer households.<sup>43</sup>

Country-specific studies of micronutrients present mixed findings.<sup>44</sup> In urban areas of Benin, Kenya and Mali, women were found to have inadequate intake of several vitamins and minerals.<sup>45</sup> Also, a recent study conducted in Malawi showed that rates of anaemia among women were higher in urban than rural areas.<sup>46</sup> In China, however, deficiencies of micronutrients such as vitamin A, vitamin B12, iron and zinc in children were found to be higher in rural areas.<sup>47</sup> In Venezuela, adolescents living in rural areas were found to have higher rates of anaemia and iron deficiency than those living in urban areas.<sup>39</sup>

### *Overweight, obesity and associated diet-related non-communicable diseases*

By 2030, the number of overweight and obese people is expected to increase to 3.28 billion or at least one third of the projected global population.<sup>48</sup> The global economic impact of obesity is roughly US\$2 trillion per year, 2.8% of global GDP.<sup>49</sup> The increasing number of overweight and obese children (and adolescents) has been highlighted by WHO as a concern in light of recent evidence linking childhood and adolescent obesity to increased risk of obesity and morbidity in adulthood.<sup>50</sup> Once treated as a high-income country problem, overweight and obesity have recently been on the rise in low- and middle-income countries.<sup>51</sup> In Africa, the number of overweight and obese children has nearly doubled since 1990, from 5.4 million to 10.3 million in 2014.<sup>52</sup> In 2016, almost half of all overweight children under five lived in Asia and one quarter lived in Africa.<sup>52</sup> In South Asian women, the prevalence of overweight and obesity is almost the same as the prevalence of underweight.<sup>53</sup> In China, the combined rate of overweight and obese adults is projected to rise to over 50% by 2030.<sup>53</sup>

Urban areas in low- and middle-income countries have been particularly affected by accelerating increases in overweight and obesity over the past decade.<sup>54</sup> This rise has been fuelled by increasing urban incomes and changes in urban consumption patterns, whereby urban consumers generally consume more sugar, fats, oils and processed foods. Urban environments have also been associated with more sedentary lifestyles and fewer opportunities for physical exercise.<sup>55, 12</sup> In Chinese cities, the prevalence of obesity in urban areas is almost twice as high as

## **Box 2: Non-communicable diseases related to poor diets**

### **Type 2 Diabetes:**

Diabetes is a major cause of blindness, kidney failure, heart attacks, strokes and lower limb amputation. The WHO projects that diabetes will be the 7th leading cause of death in 2030. An estimated 85-95% cases of diabetes in adults are type 2, which is associated with poor diets and sedentary lifestyles.<sup>58</sup>

The rise has been greatest in low- and middle-income countries. In Nigeria, for example, the number of adults with diabetes is expected to double from 3.1 million in 2011 to 6.1 million in 2030.<sup>59</sup> In Ethiopia, the corresponding numbers will also double from 1.4 million to 2.7 million.<sup>2</sup> A study of 173 countries found that a country's level of urbanization is significantly associated with diabetes prevalence.<sup>54</sup> It also found that in most West African countries, across all socioeconomic groups, obesity, hypertension and diabetes have all increased and are generally higher in urban areas.

### **Cardiovascular diseases (CVDs):**

CVDs are the prime cause of death globally (31%). There were 17.7 million deaths from CVDs in 2015 with over 75% occurring in low- and middle-income countries. 80% of all CVD deaths are due to heart attack or stroke.<sup>60</sup>

In 2013, CVDs accounted for 27% of all deaths in South Asia and have increased steadily in sub-Saharan Africa over the last two decades.<sup>61</sup> This burden is likely to rise even more as populations move to urban areas and adopt dietary and physical activity patterns that increase their risk of developing CVDs.<sup>62</sup>

in rural areas.<sup>56</sup> A review of seven African countries between 1992 and 2005 found that urban women were almost three times more likely than their rural counterparts to be overweight or obese.<sup>57</sup> The urban to rural ratio in overweight/obesity ranged from two (in Malawi, Senegal, Kenya and Ghana) to eight in Burkina Faso, and the prevalence of overweight in urban areas ranged from about 23% in Malawi to 38% in Kenya.

The already high and rising rates of overweight and obesity must be given much greater priority by policymakers, for several reasons but notably because of the rising burden of associated non-communicable diseases such as diabetes and CVDs (see Box 2).<sup>63, 64</sup> Tackling overweight and obesity, or at least limiting the rise in their prevalence, is discussed in more detail in Section 4.4.

### 3. Urban diets – priorities for intervention



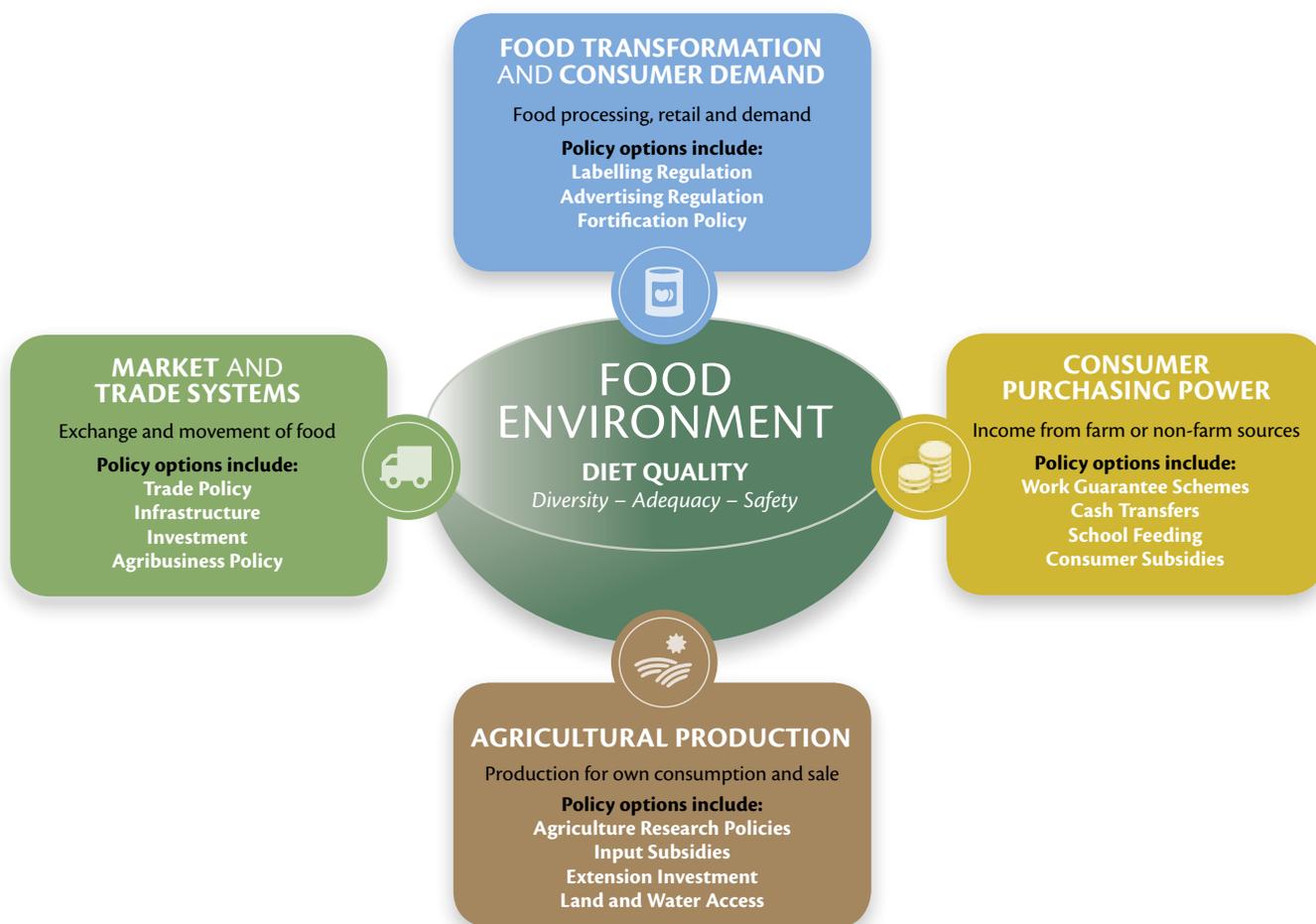
The Global Panel's 2016 Foresight report argues that policy change in food systems is urgent and overdue. The report draws on recent trends and future projections in diets and nutrition in both rural and urban settings across a wide range of countries. Building on the advice and recommendations in that report, we now consider what must be done specifically to improve urban food systems. This broad policy aim now needs to be a major priority for urban policymakers across the developing world. This section begins by considering the important contextual factors in which those systems operate. It then considers each domain of urban food systems in turn (see Fig. 4).

#### 3.1 Contextual factors affecting urban food systems

The following factors exert a strong influence on urban food systems, diets and nutrition:

- **The higher density of social media networks, commercial networks and information flows in urban areas.** These factors present both challenges and opportunities for policymakers. For example, advertisement and promotion of unhealthy foods – rich in sugar, fat and salt – can be unhelpful, counteracting public messaging on eating healthily. But these information flows also offer a powerful means for policymakers to reach diverse urban population groups to promote the consumption of healthy diets and to provide guidance for consumers.
- **Population diversity within cities.** Urban population groups, especially in larger cities, are typically very diverse, especially as they often incorporate different migrating rural populations.<sup>65</sup> Religious and other cultural factors, and the extent to which modern urban lifestyles are embraced, can all affect diets and nutrition profoundly. This non-heterogeneity of urban communities requires tailoring food system policies and programmes to the needs of specific urban population groups.
- **Inadequate access to housing.** It is typical for 50% or more of the population of urban centres in Africa and Asia to live in informal settlements or overcrowded and deteriorating tenements. Worldwide, the number of urban dwellers currently living in informal settlements could be around one billion.<sup>66</sup> The result is often over-crowding, poor water quality and sanitation, pollution, open sewerage and contamination. In some cases, national or municipal governments do not have the resources to deliver reliable services to low-income residents. In others, delivering services to unplanned informal settlements is perceived to run the risk of encouraging even more urban migrants and new unplanned settlements.<sup>66</sup> While infrastructural and environmental problems can have profound effects on food consumption patterns and food safety, policy interventions to address the growth of unplanned settlements are seldom linked to diets or nutrition. Connecting wider areas of policy to improving diets and nutrition is one of four strategic priorities considered in Section 4 below.
- **The diversity of private sector interests and capacities in urban settings.** These can be mobilized to support other initiatives which aim to improve urban nutrition. Possibilities to consider include: improving the quality of affordable housing and environmental sanitation in low-income neighbourhoods, and integrating medical and healthcare services with accessible food retail outlets.<sup>67</sup>
- **Urban women and gender roles.**<sup>68</sup> Women have important economic roles in both urban and rural areas, as well as an important role in influencing what people eat. Recent urbanization has increased employment opportunities for women in low- and middle-income countries. Globally, it is estimated that 50% of women are part of the formal labour force and up to 75% of women are involved in the informal and semi-formal sectors.<sup>68</sup> In African rural areas, children under five generally stay with their mothers and can access breast milk but in urban settings, women take their children with them to the workplace less frequently. Urban women therefore often have to weigh the benefits of breastfeeding with the potential cost of reduced maternal income when considering the implications for food and nutrition security.<sup>69</sup>

**Figure 4: The elements of the food system that affect diet quality**



Source: How can agriculture and food system policies improve nutrition? Technical brief No1 of the Global Panel on Agriculture and Food Systems for Nutrition. 2014. London: UK

### 3.2 Urban food systems – priorities for intervention

Given their level of integration with global markets and their greater diversity and innovation, urban food systems in low- and middle-income countries are, in general, substantially more complex and dynamic than rural food systems. As such, they offer policymakers and urban leaders a wide range of opportunities to provide greater access to safe, affordable and nutritious foods.

What is needed is a shift in approach for governments in how they work with the private sector, the research sector and other stakeholders. Historically, policy has focused on agricultural production, with the broad aim of increasing the supply of low-cost staple foods for both rural and urban populations. By rebalancing policy attention and shifting to a food systems approach, policymakers would be able to address the rapidly changing, distinctive and complex nature of urban food demand more effectively, while simultaneously meeting the evolving needs of rural populations.<sup>70</sup> Such a shift could yield important benefits for both urban residents and rural communities involved in supplying urban food systems (See Box 3).

Priorities and specific actions need to take account of the circumstances prevailing in specific urban settlements in the context of local, national and regional food systems. However, the following sub-section considers each of the four domains of food systems that are likely to be important in many urban settings.



### 3.2.1 Urban consumer purchasing power

Important features of this domain include:

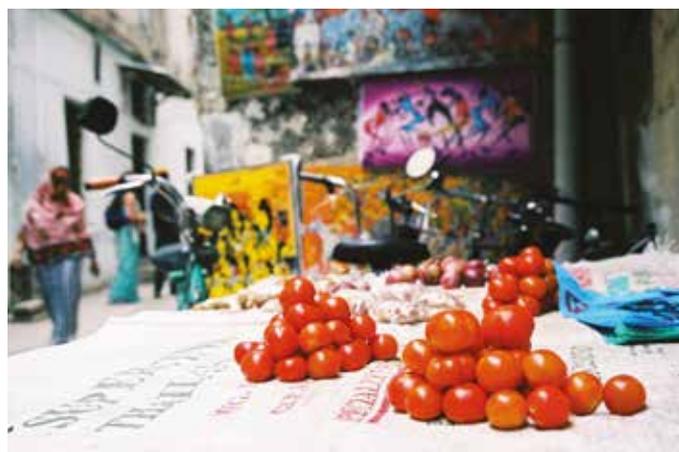
- Urban consumers are more willing and able to spend more money on a diversity of foods, partly reflecting higher average urban incomes.<sup>71</sup>
- Purchasing power should not be viewed in isolation. It interacts with many other factors, such as changing urban lifestyles and aspirations, higher levels of education and the powerful influence of food advertising. This drives demand for greater variety of foods, stable flows of preferred, desirable foods and a variety of retail outlets in which to access food.
- Some urban consumers are willing to pay more for food quality assurance. In Vietnam, for example, consumers are willing to pay an average price premium of 60% for Chinese mustard that is free of chemical residues. This example illustrates a shift in demand in favour of high-value products that is underway in many middle-income countries.<sup>72, 2</sup>

It is important to recognize that low and irregular incomes are a primary cause of inadequate diets for the urban poor and that interventions need to reflect the realities of their lives.<sup>73</sup> As discussed in Section 2.2, this can include time and space poverty which constrains home preparation of foods, greater reliance on street foods high in calories, fat and salt, and the consumption of highly processed foods.

### 3.2.2 Food transformation and retail marketing

#### *Formal retail sector*

The urban food retail sector in many low- and middle-income countries is changing rapidly. In some countries, it includes 'modern' retailers – supermarkets, hypermarkets – which control a large share of the non-staple and processed food market as well as 'traditional' retailers (e.g. wet markets and smaller grocery shops), which dominate sales of fruits, vegetables and usually meat. In Latin America, for example, 4 to 5 chains typically control about 75% of a sector, which in turn controls an average of 55% of food retail.<sup>74</sup> Also, 75% of world food sales are of processed foods, where the largest manufacturers control more than a third of the global market.<sup>75</sup>



#### **Box 3: Strengthening urban food systems: benefits for both rural and urban communities<sup>18</sup>**

Food supply chains linking rural producers and urban consumers through trade networks and market nodes can also be a powerful engine for rural development.

When links are strengthened, farmers can be better connected to rising demand generated by consumers in towns and cities and may be better able to sell increasing shares of their produce in urban markets; for many farmers in developing countries, urban food markets are becoming important end-destinations for their produce.

Urban businesses can also provide diverse benefits such as technical assistance and credit. They can be a source of valuable information on consumer demand for small-scale farms. Finally, urban food demand can drive investment in rural infrastructure.

In many emerging economies, there has been a rapid expansion of supermarkets in urban areas. For example, a supermarket revolution is occurring across much of Asia in response to trade liberalization. This has contributed to a growing westernization of Asian diets.<sup>19, 20</sup>

By the mid-2000s, supermarkets in Central America, Argentina, Chile and Mexico controlled 30-50% of the food market.<sup>76</sup> In sub-Saharan Africa, supermarkets have been much less significant.<sup>77</sup> However, this is changing. Several large retailers consider Africa one of the key areas for growth.<sup>77</sup> For example, Wal-Mart, the world's biggest retailer, has announced plans to open 146 stores on the continent and is particularly interested in expanding in Nigeria.

Demand for prepared food from urban consumers in many countries is met by a variety of outlets: fast or "casual" food shops, restaurants, street food vendors and to-go sections





of supermarkets selling packaged products that are ready-to-eat or only need re-heating at home. In working with the private sector to improve urban diets policymakers will need to engage with a mix of ownership; typically, some will be owned locally, while others will be part of international business entities.

#### *The informal retail sector*

The formal and informal food retail sectors do not operate independently but intersect in ways that are generally mutually beneficial. For example, for large retail stores in low- and middle-income countries, as much as 50% of their revenue may be directly attributed to informal traders using the supermarkets as wholesalers.<sup>78</sup> Wholesalers, transporters, millers and a variety of other formal food system actors sell to the informal retail sector. The informal sector is also connected to international value chains. For example, informal fish traders in the Copper Belt region of Zambia have been found to import products from sources as diverse as China and Namibia. Similarly, fruit sold on city streets in Kenya is often flown in from South Africa and Egypt.<sup>79</sup> Relatively few studies, however, provide a clear, evidence-based assessment of how the informal food retail sector is operating in low- and middle-income countries.

Research carried out in poor urban communities in Southern Africa highlights the importance of the informal food retail sector for this region. Despite contextual differences, poor (and generally food-insecure) households were found to purchase their food from a variety of sources.<sup>80, 81</sup> Supermarkets were used less frequently than the informal retail sector with street food vendors providing a low-cost, convenient and attractive source of ready-made food. Another study found that in Nigeria, adolescents obtained 40% to 70% of their food from street vendors.<sup>82</sup> In a

review of 23 studies, the majority conducted in sub-Saharan Africa (Kenya, Nigeria, Ghana, Benin, Mali, South Africa, Uganda, Burkina Faso), daily energy intake from street foods ranged from 13% to 50% in adults and from 13% to 40% in children.<sup>83</sup> Similarly, street foods contributed significantly to daily protein intake, often at 50% of the recommended daily allowance (RDA).

At the same time, the informal food sector is also associated with a number of health concerns:

- The lack of regulatory inspection and enforcement, particularly in informal urban settlements, means food safety risks can be overlooked.
- Regular consumption of street foods can increase risks of non-communicable diseases (NCDs) due to the often high levels of energy, saturated fats, salt and added sugars, and low micronutrient content.<sup>84</sup>

In view of the importance of the informal food sector and its associated health risks, options for policy intervention are considered in more detail in Section 4, as one of four priority areas for action.

#### *Food preferences of urban consumers*

Many of the factors influencing urban food choices have already been discussed in Section 2. These generally relate to rising urban incomes and the specific characteristics of urban lifestyles, which lead to a high value being placed on convenience. This is due, for example, to women being more active in the workforce and having less time to prepare food, and to the urban poor not having the time or space to cook at home. However, there are numerous other interacting factors that also frame consumer choices, particularly in urban areas.

#### Box 4: Chile: Using multi-sector legal marketing frameworks to promote high-quality diets

In 2015, Chile adopted the most comprehensive marketing restriction law in the world to date (Law No. 2006).<sup>91</sup> This requires food companies to place front-of-package labels on foods and beverages that are high in sugar ( $\geq 10\text{g}/100\text{g}$ ), sodium ( $\geq 400\text{mg}/100\text{g}$ ), saturated fats ( $\geq 4\text{g}/100\text{g}$ ) and energy ( $\geq 275\text{kcal}/100\text{g}$ ). The law also prohibits the advertising and marketing of these targeted foods to children aged 14 and younger. Nor can these foods be sold, marketed, promoted or advertised within establishments of pre-school, primary or secondary education.<sup>92</sup>

The development of new technology has helped satisfy the increasing demand for, and to widen the range of, convenience foods, many with an extended shelf life, including canned and frozen items, snacks and prepared meals.<sup>85</sup> Cold storage operations in particular are increasingly supporting links between farmers and traders, helping to stabilize food supply flows in some countries such as Bangladesh and India.<sup>86,87</sup> Refrigeration in some homes is also allowing less frequent shopping for perishable foods such as meat and dairy. However, as mentioned previously, the development of cold storage solutions and the availability of reliable refrigeration for the majority of the population is largely lacking in sub-Saharan Africa and much of South Asia.

Increasing urban consumer demand for more nutritious foods could stimulate significant opportunities to improve urban food environments. For example, consumer demand can encourage competition among suppliers and retail outlets for position in urban supply chains, which can lead to lower food prices. Also, economies of scale and higher profit in integrated urban markets can make it easier for businesses to innovate, develop new marketing approaches and cross-subsidize products. Food-based dietary guidelines and food labelling are policy instruments that can play important roles in influencing urban consumer demand. These are under-used in the majority of low- and middle-income countries.<sup>88</sup>

- **Food-based dietary guidelines** should inform and influence both consumer choice and policymaking. However, only two out of 31 low-income countries and 12 out of 51 low to middle-income countries have national food-based dietary guidelines.<sup>88</sup>
- **Food labelling**<sup>89</sup> can help consumers make dietary choices which are healthier and more nutritious by: providing information on the content of foods; drawing consumer attention to the benefits and risks of particular nutrients or ingredients of public health concern; and motivating manufacturers to produce and market foods with healthier nutrition profiles (see Box 4).

Food advertising and marketing has a particularly powerful influence on consumer behaviour – the amount that food and beverage companies invested in advertising accounted for 17%

of all global media spending in 2012.<sup>90</sup> There are opportunities for public-private partnerships to promote higher-quality diets through advertising and marketing. Multi-national companies, in particular, are well placed to play an active role, which can span across many countries, for example through sales of similar products in different markets. Access to high-quality diets could be improved if international organisations and governments worked together to establish global norms to regulate food advertising and product promotion by these businesses.

But it is important to underline the critical role of public authorities in ensuring adequate capacity for effective monitoring and enforcement of regulations on food advertisements and product promotion. This appears to be an area of under-investment in some regions. For example, several countries in Africa have implemented policies to restrict marketing and advertising but the capacity to monitor efficacy remains low.<sup>93,94</sup>

#### 3.2.3 Market and trade systems

The vast majority of urban residents in low- and middle-income countries are net food buyers who must spend a large proportion of their income on globally-traded staple foods (rice, wheat and maize). For example, surveys in Ghanaian cities (Accra and Kitwe) found that some 20%-30% of households in low-income areas spend almost all available income on food.<sup>95</sup> However, globalization and trade liberalization have positive as well as negative effects on urban consumers' diet choices. Global commodity flows influence patterns of national food production, transport, processing, trade and investment, affecting urban food availability, prices, market promotion and food safety. Recent trends suggest that international food trade is still increasing steadily in South Asia and sub-Saharan Africa, as current rates of market penetration by large-scale food businesses and retailers are relatively low in comparison to other regions where it has levelled off.<sup>96</sup>

On the positive side, population densities in urban areas can attract investments in market development.<sup>97</sup> For example, public infrastructure and economic growth in urban centres can incentivize business operations in food storage, distribution and transportation – all of which are important, particularly for perishable foods. Growing public and private investment in the market and trade components of the food system can also facilitate access of urban consumers to more diverse foods and reduced prices, both of which affect diet quality.

While food supply chains in many low- and middle-income countries have long been segmented, with commodities changing hands as they moved from farm-gate to urban consumer, a recent study found that vertically-coordinated agri-food chains have improved and expanded, leading to changes in mechanisms for input supply and output procurement.<sup>98</sup> A study of food systems in India, Bangladesh and China suggested that, in the future, supply chains may be driven by buyers such as retailers and large food and beverage companies that process and package for distribution to

consumers.<sup>99</sup> Food and agriculture policymakers must face this new reality much more thoughtfully to ensure the nutritional quality and diversity of the food is reaching urban consumers.

Unfortunately, however, urban consumers are particularly vulnerable to market disruptions. In 2008, food riots and demonstrations occurred in many cities around the world as spiking global food prices provoked fears of hunger and food insecurity among urban residents. Long supply chains in urban settings, together with limited local food production, mean that urban prices are often volatile and easily affected by global price shocks.<sup>100</sup>

Food price rises can disproportionately affect the poorest urban groups – particularly households headed by casual labourers, petty traders and others in the informal retail sector who may have low and irregular incomes. Within poor urban households, infants and young children are particularly affected by price rises, as households cut down or cease purchasing nourishing foods such as milk, meat, eggs and fruit, as well as high-energy and fortified commercially-purchased complementary foods which are essential for reducing the levels of stunting in children.<sup>101</sup> A survey of 3,000 households in 2007-2008 in Nairobi's informal settlements found that 85% of households felt themselves to be food-insecure.<sup>102</sup>

Policymakers have employed a variety of policy tools to better predict food prices and to manage the price volatility that can compromise food system integrity.<sup>103</sup> Policy options, and their prioritization, are context-dependent but can include:

- Promoting long-term growth in agricultural productivity through, for example, the production of diverse commodities that contribute to healthy diets.
- Fostering efficient and stable food markets through investment in road infrastructure and its upkeep.
- Encouraging the transformation of agricultural commodities into food products that are affordable, safe and nutritious.



Food safety nets can also play an important role in addressing food insecurity. However, a 2014 survey of 100 countries showed that, on average, only 21% of urban, compared with 28% of rural dwellers, were covered by formal social safety nets that would have stabilized access to foods.<sup>104</sup> Informal safety nets (e.g. family, friends and neighbourhood networks) may also be less robust for the urban poor, especially those who have recently migrated into cities.

Policies that strengthen social safety nets should therefore be a consideration for urban populations. For example, as high food prices in 2007-08 were rapidly transmitted to urban consumers, programmes were launched in urban areas, such as the vouchers programme in urban Burkina Faso. Other countries, such as the Democratic Republic of Congo, Ethiopia, Mali and Tanzania are currently planning or beginning to implement interventions for urban safety nets.<sup>104</sup> However, such measures should not be seen as a substitute for addressing the underlying causes of food insecurity.<sup>105</sup>

### 3.2.4 Urban food production

Food production in urban and peri-urban areas can contribute to the production of perishable products, such as fruits and vegetables, poultry and dairy products and even meat. But access to land and water in urban environments is often limited and, as such, urban production should be considered only a part of the wider food system, not a solution to providing healthy diets and better nutrition in urban areas.<sup>106, 107</sup> Keeping poultry and small ruminants can be important but can also raise health hazards in crowded urban spaces.<sup>108</sup>

The extent of urban and peri-urban food production is enormously varied. One study shows that the proportion of urban households engaged in agriculture ranges from 11% in Indonesia to 70% in Nicaragua and Vietnam.<sup>109</sup> While this only accounts for 5%-15% of total agricultural production in the 15 developing and transitional countries studied, urban agriculture is nevertheless linked with improved dietary diversity in many countries.<sup>110</sup>

Urban and peri-urban agriculture can also have wider benefits. Cities in developing countries are often unable to create sufficient employment opportunities. Investment in urban agriculture could help to reduce urban poverty and malnutrition, and contribute to local economic development and greening of urban spaces.<sup>110</sup>

However, urban expansion has already led to considerable conversion and disappearance of peri-urban cropland. Recent projections show that, by 2030, urban expansion will result in a 1.8%–2.4% loss of global croplands, albeit with substantial regional differences. About 80% of global cropland loss from urban expansion is projected to take place in Asia and Africa (especially in China, Nigeria, and Egypt).<sup>111</sup> In both Asia and Africa, much of the cropland that will be lost is more than twice as productive as national averages.<sup>111</sup> By 2030, projections also show a 3%–4% decrease in agricultural production, 80% of which will be in Africa and Asia. Managing the expanding boundaries of cities into peri-urban areas should therefore be given greater policy attention in some areas, especially when they could provide opportunities for intensive agriculture that would contribute high-nutrient-quality (fresh, perishable) foods to adjacent urban markets.

There are several ways urban local governments can facilitate local food production which is compatible with surrounding uses.<sup>112</sup> Municipalities around the world are increasingly incorporating land use for urban and peri-urban agriculture in their city planning. (See Box 5 for case examples of support for urban and peri-urban agriculture). However, the contribution of urban food production to total food consumption remains very small. Finding ways to scale up production and productivity represents both a challenge and an opportunity in the decades ahead.

Priorities for policymakers include:

- Developing land use policies to enable urban and peri-urban agriculture to be recognized as an important use of land and viable economic activity, and promoting its integration into national and local agricultural development strategies, food and nutrition programmes and urban planning.<sup>113</sup>
- Ensuring that water supplies used for agricultural production are not contaminated by urban run-off or poorly managed sanitation systems.
- Identifying ways to incorporate private organisations in strategic planning and in achieving common goals.

## Box 5: Support for urban and peri-urban farming

### The Participatory Urban Agriculture Project in Quito, Ecuador<sup>114</sup>

The Participatory Urban Agriculture Project, founded in Quito, Ecuador in 2002, supports more than 12,000 individuals (86% women) and 380 community-based organizations in urban and peri-urban farming. It is inclusive of all community members, including those who would often be excluded or marginalized – older people, single mothers, abandoned children, migrants and refugees and people with disabilities. More than 1,000 active gardens have been established, including 140 community gardens. Annual food crop production is estimated at 400 tonnes, with 47% of produce sold and the remainder kept for home consumption. Participants earn at least US\$55 per month from the sale of surplus produce and make a further saving of at least US\$72 per month on food purchases by consuming what they grow. The programme has helped to diversify the diet of urban farmers and their families and support the establishment of produce markets across the city.

### Government support in the Democratic Republic of Congo for urban and peri-urban horticulture.<sup>114</sup>

In the Democratic Republic of the Congo, government support for urban and peri-urban horticulture since 2000 has created over 16,000 producers across five cities. It has generated about 60,000 jobs and produces 150,000 tonnes of vegetables per year for a total urban population of 11.5 million. Between 2000 and 2010, the project disbursed loans worth US\$1.08

million to market gardeners for investment in crop production and other income-generating activities. Most of that credit was channelled through “microbanks” managed by development NGOs and growers’ associations. Each microbank serves 50–75 growers, who contribute 20% of the loan amount for approved activities. Loans, averaging US\$60 per grower, are used mainly to buy inputs and farm tools, or are invested in small-scale enterprises, such as seedling nurseries, composting units and small-scale animal production.

### Enabling urban agriculture through constitutional change and civil society activism in Nairobi, Kenya.<sup>115</sup>

Like many East African cities, urban agriculture has been practised by many poor residents of Nairobi since the late 1970s and 1980s. Yet, for many years, the city government vigorously opposed it and farmers’ efforts to feed their families were regularly disrupted by law enforcers on public health and land ownership grounds. The Nairobi Urban Agriculture Promotion and Regulation Act 2015 represents a major reversal in municipal attitudes to urban food production. By training farmers, ensuring their access to organic waste disposal, developing marketing infrastructure and monitoring and regulating quality and hygiene standards, the Nairobi City Council has been able to boost food security in the city, promote job creation and value chain development, protect food safety and environmental health and regulate access to land and other resources.



### 3.2.5 Food safety

Food safety is an issue of growing concern in urban areas in low- and middle-income countries.<sup>117, 118</sup> Public importance attached to food safety has no doubt been informed by high-profile food safety scares involving dangerous food additives, counterfeit products and the sale of expired food. These have reduced confidence in some markets and increased consumer demand for better regulation of markets and trade. For example, the history of aflatoxin contamination in the global cereal and groundnut trade shows the magnitude of the potential impacts on export trade.<sup>119, 120</sup> Not only has the value of groundnut exports by West African producers been devastated, but exporters' rejection of groundnuts from Malawi due to high aflatoxin levels resulted in the produce being sold cheaply in local markets.<sup>121</sup>

Factors affecting food safety include:

- Food supply chains becoming longer and less transparent.
- Urban supply chains originating in polluted urban areas, where there is a lack of traceability and accountability measures for food safety and quality.<sup>122</sup>
- Growing urban demand for fruit and vegetables, which is often met with a production response involving irrigation.<sup>82</sup> Wastewater use in farming is increasing due to the rising scarcity of water for irrigation, particularly in peri-urban areas.<sup>123</sup> For this reason, fruit and vegetables are vulnerable to contamination with unsafe heavy metals and pathogens related to faecal contamination (*E. coli*).<sup>124</sup>
- The poorest urban residents, who often depend on foods purchased from informal markets, may be at increased risk of acquiring food that poses food safety hazards due to lax inspection and enforcement. However, this can vary from place to place. Kenyan families normally boil their milk before consumption, which reduces the hazard of unpasteurized fresh milk to a much lower level of risk.<sup>125</sup>



Developing and implementing fit-for-purpose regulatory frameworks for food safety and quality must be a key priority. Important areas of policy intervention include:<sup>89</sup>

*Reducing pathogen pathways:*

- **A farm-to-fork approach is best for identifying control points.** Important principles of food safety management are that risks must be managed along the farm-to-fork (or boat-to-throat) pathway and that some risks are most effectively managed on farm.
- **Where the informal retail sector predominates, professionalize rather than penalize.** Some of the most successful interventions have combined capacity-building for the informal retail sector with incentives to motivate further behaviour change. (See also Section 4.)
- **Encourage uptake of appropriate technology.** Where value chain actors are not using food safety technologies, simple innovations such as food grade containers or chlorinated water can result in substantial improvements in food safety and quality.
- **Improve food safety governance.** A single, unified structure or an integrated system is likely to be more effective but when it is not possible for historical or political reasons, a national food control strategy can at least identify roles of different actors.

*Improving the nutrition pathway:*

- **Adopt approaches that are risk-based rather than hazard-based.** Focussing on risks to human health rather than the presence of hazards allows better resource allocation. Focussing on problems that have become major health issues, rather than those which are more feared but actually pose less risk, will be more efficient.
- **Holistic prioritization.** For example, even where the risk of unsafe food from informal markets is substantial, it is important to consider also the benefits of nutritious foods as well as the livelihoods of the many women and men participating in informal value chains.

## 4. Four priority areas for action to improve urban diets and nutrition

Having considered some of the features of urban food systems in Section 3, this section sets out four priority areas where policies concerning urban diets and nutrition are in particular need of change: governance of urban food systems, wider aspects of urban governance, policies relating to the informal retail sector and addressing the triple burden of malnutrition.

### 4.1 Governance of urban food systems

Local leadership and governance are essential in addressing the challenges of poor diets and nutrition in urban areas. They need to have a close connection with the differing nutritional challenges of diverse urban populations; for example, those of class, age, gender, ethnicity, religion and culture. Policymakers need a clear mandate to deliver high-quality diets as a key policy objective. Without focussed urban governance, other actors from a wide range of other sectors (see Section 4.2) are likely to dominate the food system, often in ways that are not pro-poor or focussed on positive nutrition outcomes. To be effective, however, this mandate must be accompanied by appropriate fiscal devolution so that local authorities have the resources to act. In South America, the city of Belo Horizonte demonstrates

#### Box 6: Tackling food insecurity for two decades through a state-led alternative food system in Belo Horizonte (Brazil)

The city of Belo Horizonte is renowned worldwide as a pioneer in city-level policy on food insecurity. In 1992, it established a dedicated food agency within city government, known as SMASAN — the Secretariat for Food and Nutrition Security — and devised an integrated set of policies and programmes, which amounted to a state-led alternative food system to ensure everyone in the city could access safe, high-quality and nutritious food.

SMASAN delivers programmes such as food distribution, school meals, subsidized food sales and price regulations. Under a municipal urban agriculture programme, more than 100 gardens and orchards have been established.

Belo Horizonte's approach has endured for 25 years with its core principles intact. While changes in political leadership have led to declining influence over the city agenda, SMASAN's longevity is attributed largely to its institutionalization within city government, a cadre of civil servants who have played a crucial role in upholding the core principles and institutionalization of the right to food at the federal level.

the value of leadership at city level in tackling urban food insecurity (see Box 6).

Two further policy shifts are needed:

- **Adopting an approach which looks across urban food systems.** This includes the factors that determine the quality of diets: purchasing power, market access, housing quality, global supply chain dynamics and the role of peri-urban agriculture. Despite so many urban food and nutrition challenges, attention to the systems that underpin healthy diets in urban settings has been largely absent from the majority of urban policy discourse.<sup>126</sup> As a result, many urban food systems actually foster the triple burden of malnutrition, leading to ill health, lower productivity and reduced economic growth. The multiple actors involved in food governance need to address the challenges of urban food systems in an integrated and coherent way.<sup>4</sup> The section below (4.1.1) identifies some of the key actors and the roles that they can play.
- **Implementing cross-cutting food policies at all levels of governance.** This approach recognizes the inter-sectoral and multi-level nature of food systems and food security and the fact that some factors cross geographic lines, including national boundaries. For example, in the Southern Africa, famine early warning systems operate at a supra-national scale to mitigate the increasing occurrence of droughts and other extreme weather.<sup>127</sup>

#### 4.1.1 Summary of the institutional roles in nurturing urban food systems towards better nutrition

##### *City/municipal government*

Local policymakers should be the primary authority for assessing the dietary needs of their populations and for addressing all aspects of food security and diet quality:

- **There is a case for local authorities to develop an urban food charter (embodying food systems principles) and to use this to construct a concrete plan for action** – such a plan would identify scale-appropriate policies and establish structures to govern urban diet quality and food security. Hundreds of cities have already begun to develop integrated food policies.<sup>115</sup> There is a need to align these with national, regional and wider constitutional legislative arrangements. Regular monitoring of progress against action plans is also needed.
- **There is a need to engage all urban food system actors,** recognizing the diverse roles that different stakeholders in food systems can play in promoting healthy urban diets.

##### *National government*

- **Promoting decentralization** – by facilitating effective, accountable and appropriately resourced urban governance. Few countries have decentralized governance systems that

require, let alone empower, urban leaders to exercise policy or budgetary discretion to enhance dietary and nutritional outcomes.<sup>128</sup> Small urban centres face particular challenges as they typically have very limited resources. For example, only 7% of revenues in African countries are decentralized, thereby limiting local action.<sup>129</sup> Overall, there is a need for national governments to work pro-actively with local authorities to strike the right balance of decentralization.

- **Promoting knowledge-building** – there is evidence that, as urban centres grow rapidly, their governing authorities can struggle to develop the capacity and expertise to manage evolving dietary challenges. Providing access to healthy diets for expanding informal settlements and ensuring that urban food systems keep pace and deliver nutritious food against rapidly evolving circumstances can be very demanding. There is a clear role for national authorities to spread best practice and to promote local capacity building.
- **Increased investment in data collection across urban food system interventions** – this needs to be a priority, given the fundamental importance of better diets. This recommendation follows from those in the Global Panel's 2016 Foresight report<sup>2</sup> but specifically recognizes the current paucity of data on urban diets.
- **Developing standardized reporting methods to submit the results of urban food governance interventions into national reporting processes** – in many cases, this is needed to ensure effective monitoring of progress, assess the results of specific interventions and share best practices.

#### *Civil society*

Two roles are critically important:

- **Engaging with urban food system interventions and processes** – this includes facilitating and participating in cross-sector collaborations, thereby promoting the involvement of multiple food system actors.
- **Acting as a challenge function** – holding all actors to account and challenging processes and policies that direct attention away from system-wide approaches.

#### *Business sector*

**There is considerable potential for the private sector to play a role in improving urban diets**, although it is important for policymakers to take a realistic view of those business priorities, which can conflict with this objective – notably the high profitability of certain unhealthy and highly processed foods.

Businesses in the food sector play an important role in influencing consumer choices and behaviours, as well as meeting consumer demand (see Section 3.2.2). Economies of scale and higher profits in integrated urban markets will act as a spur to industrial innovation – for example in pricing, product development, marketing approaches and cross-subsidization of products. This presents an opportunity to encourage private companies to reach poorer households in ways that serve their own interests. However, irrespective of whether businesses are encouraged or regulated to do this, their possible actions include:

- Reducing fat, sugar and salt content of their processed foods.

### **Box 7: Nairobi Food Vendors' Association addressing food safety concerns<sup>116</sup>**

The Food Vendors' Association (FVA) was formed in late 2013 by the Kenyan Federation of Slum Dwellers, with one of the main aims being to champion food security in informal settlements. FVA members are largely informal traders, including women, selling vegetables and cooked food, kiosk owners selling food and butchers.

The FVA offers several opportunities for food vendors to enhance food safety in Nairobi's settlements. These include: team clean-up exercises to create collective responsibility among food vendors, monthly training on food security and sanitation to create awareness of the importance of hygiene and training on how to enhance cleanliness at food vending spaces.

- Ensuring that healthy and nutritious choices are available and affordable to all consumers.
- Restricting marketing of foods high in sugars, salt and fats, especially those foods aimed at children and adolescents.
- Ensuring the availability of healthy food choices and supporting regular physical activity in the workplace.

Importantly, the potential for responsible local leadership from industry is not restricted to the formal sector. The case of the Nairobi Food Vendors Association, which champions food security in informal settlements as well as food safety, provides one example of what leadership in the informal retail sector can achieve (see Box 7). More empirical evidence is needed of similar experiences and opportunities to assess the cost-effectiveness and viability of large-scale approaches.

## **4.2 Wider aspects of governance**

At the city scale, there are a number of wider governance areas, outside the food system, that have a direct impact on nutrition, health and other health-related outcomes. They include spatial planning (including urban form, land management and tenure security),<sup>130, 131</sup> infrastructure and housing, transport planning, education policy, access to energy, water and sanitation, and pre- and ante-natal policies and interventions. Policymakers responsible for diets and nutrition must engage with partners and other actors, which seldom happens at present.

The particular importance of adequate water, sanitation and hygiene for nutrition has long been recognized and, in some countries, has found its way into nutrition policy.<sup>132, 133</sup> A specific opportunity also concerns the development of infrastructure in cities, which is vital for urban food supply chains and the provision of healthy diets. Since most of the infrastructure of the rapidly growing cities in Africa and South Asia will be built

in the next 20–30 years, it is essential to act now to maximize the benefit from these developments.<sup>134</sup>

A widely shared, cross-government, nutrition-sensitive policy framework is one way of helping to secure greater policy coherence. However, improving links between wider areas of government policy and the urban agenda for healthy diets will present substantial challenges, not least because these other areas of policy may have conflicting objectives. Important issues to consider include:

- Securing high-level leadership: this is likely to be important in ensuring that diverse areas of policy work together and adopt a common objective of improving diets and nutrition.
- Developing collaboration between relevant areas of policy, ensuring recognition of the importance of healthy diets and urban food systems for wider policy goals, such as: economic development; reducing poverty and inequality; improving stability; promoting the health and well-being of the population; rural development; the role of urban food systems in job creation and access to employment opportunities, especially for youth and women; and the implications for reducing or limiting the costs of health and social care (see Section 1).
- Collecting data on urban development patterns can help policymakers make healthy diets more accessible and affordable for urban populations, including the urban poor, by analysing city size, urban infrastructures, trade and rural–urban links.<sup>135</sup>
- The influence of wider policies on urban nutrition should be explored, with a view to identifying concrete measures for how they might contribute to better nutrition and health outcomes. Possible outcomes might include:
  - Aligning urban food policy with the long-term agenda of structural transformation driven by investment in infrastructure and industrialization that are inclusive and job-rich.



- Integrating healthy urban diets and food systems into national development agendas – including concrete plans and policies – and explicitly addressing issues of nutrition and urban food systems in national urban plans.
- Integrating urban food security and healthy diets into sustainability strategies at different spatial scales.

### 4.3 Reconsidering the contribution of the informal retail sector

Despite its contribution to the diets and livelihoods of urban communities, the informal food sector has often been maligned. Identifying and managing toxin levels in street foods is often presented as a reason for deterring informal trade. Some studies have found unacceptable toxin levels in these foods, for example in Zimbabwe<sup>136</sup> and Burkina Faso.<sup>137</sup> However this is not always the case; studies in other countries found levels of contaminants to be very low or absent.<sup>138</sup>

However, excessively punitive and restrictive laws, by-laws and policies can affect the ability of the informal food sector to service its large customer base. These can expose traders to oppressive policing and even to the risk of confiscation of stock or arrest. Traders in Zimbabwe, Kenya and Zambia list the payment of bribes as one of their primary operating expenses after the purchase of stock.<sup>139</sup> In a recent UNHCR survey of migrant traders in the Southern African region, many list paying bribes as an accepted and at times even desired practice, offering greater security than formal state registrations.<sup>140</sup>

There needs to be a fundamental shift in attitude whereby the value of the informal sector is better recognized and misconceptions are set aside. Rather than penalizing or seeking to eliminate the informal retail sector, a more pragmatic approach should be taken in order to professionalize the sector and better address sanitary and health risks. This can be achieved through:

- Implementing measures such as better infrastructure (notably access to refrigeration, running water and toilets for vendors and their customers), as well as education concerning food safety practices.
- Reviewing the often punitive and restrictive laws, by-laws and policies that directly affect the informal food sector.
- Involving informal business organizations (and not just larger private sector organizations) in related aspects of urban governance.<sup>141</sup>

### 4.4 Addressing the triple burden of malnutrition

Policymakers in many low- and middle-income countries are already encountering the triple burden of malnutrition – underweight, micronutrient deficiencies and overweight and obesity – in urban populations. Current trends, discussed in more detail in Section 2, indicate that policymakers need to strike a balance of resource allocation and policy attention between the different forms of malnutrition. It is important to recognize that

affordable and accessible healthy diets provide the common foundation to help mitigate all three challenges.

However, urban policymakers in low- and middle-income countries need to increase efforts to address the specific challenges associated with rising rates of overweight and obesity. This is new for policy thinking. In the past two decades, most attention has been focused on reducing undernutrition and producing staple crops. And while that has led to substantial reductions in stunting (see Section 2), there are now compelling reasons to give attention to overweight and obesity.

First, data from the Global Nutrition Report shows that adult overweight and obesity is rising in most low- and middle-income countries. In 2010, overweight and obesity already caused an estimated 3.4 million deaths, almost 4% of years of life lost and 3.8% of disability-adjusted life-years (DALYs),<sup>63</sup> due in large part to the associated NCDs (e.g. diabetes, stroke, cardiovascular disease – See Section 2 and Box 2). Second, no country has yet succeeded in reversing the trend of rising obesity. The stark warning for policymakers is that, if allowed to develop, the associated NCDs could become devastating for health resourcing, economic development and outcomes for individuals. Worse, the impacts are likely to be apparent for many years, if not decades, to come.

Policymakers in low- and middle-income countries therefore need to act now before rates of obesity and overweight, and the associated NCDs, rise further. This urgency is underlined by the WHO targets for 2025 for improving nutrition in mothers, infants and young children, and by the WHO 'Global monitoring framework on NCDs'.<sup>64</sup>

There are no quick fixes to address the challenge of overweight and obesity. Instead, national authorities and municipalities must develop a long-term strategy for at least limiting future rises:

- There is a need to appreciate the broad range of social, economic, institutional, cultural and commercial factors affecting levels of obesity and overweight. Evidence from many settings shows that measures focussing only on encouraging people to eat less and to exercise more, while helpful, are overly simplistic and, by themselves, likely to fail. The UK Government Office for Science Foresight Obesity report<sup>143</sup> provides a detailed systems map<sup>144</sup> of the many social, economic, psychological and other determinants of obesity, which interact in complex ways to influence people's food and lifestyle choices.
- Leadership at very senior levels of government is essential both in the development of policies and their implementation. This is important since diverse parts of government will need to be involved, not just those directly concerned with nutrition and urban food systems.
- Setting clear targets for limiting or reducing obesity is important – as is developing plans to address those targets. Kenya, for example, is a rare example of a country in sub-Saharan Africa already doing this (See Box 8). These plans need to be long-term, recognizing that influencing people's attitudes and choices on food and physical activity can take decades. Also, some infrastructure associated with encouraging healthy urban living

### Box 8: Kenya: A leader in tackling the rise in obesity

In Kenya, approximately one in two women is overweight or obese in urban areas (one in four in rural). Recognizing the importance of this, in 2015 the Ministry of Health published the Kenya National Strategy for the Prevention and Control of Non-communicable Diseases 2015-20, which includes a target of no increase in obesity and diabetes among adults. Also, the National Nutrition Action Plan (2012–17)<sup>142</sup> outlines specific activities to address the increase in overweight and obesity, including:

- Reviewing, developing and disseminating a comprehensive strategy and guidelines for preventing, managing and controlling nutrition-related NCDs.
- Training service providers and creating public awareness on the importance of preventing, managing and controlling nutrition-related NCDs.
- Scaling up community screening of body mass index and waist circumference.
- Improving nutrition in schools (that is, reviewing, developing and disseminating nutrition guidelines for schools, mobilizing resources to sustain optimal feeding programmes and integrating nutrition education into school curricula).

- (e.g. walking and cycling) can take many years to develop.
- Regular monitoring of rates of prevalence of overweight and obesity and evaluating the efficacy of specific actions and policies is especially important. In view of the difficulty of addressing overweight and obesity, plans of action must be flexible and adaptable, responding to what works well in the local circumstances.
- The active participation of multiple stakeholders and communities should be encouraged. This will be important if policies and programmes are to have wide acceptance and lead to effective and sustainable actions.
- Actions should target all stages of the life course but particularly the early years. Diets of infants and children can set the patterns of food consumption for adult life. Possible initiatives include informing parents about healthy food choices while also encouraging children to be more physically active.<sup>145, 146, 147</sup> Some countries are using regulation, for example, constraining advertising of fast food and sugary drinks to children, restricting certain energy-dense foods and drinks in schools and taxing sugary drinks (e.g. Chile, South Korea, Mexico).<sup>148, 149, 150</sup>

The World Cancer Research Fund "NOURISHING" Framework provides one basis on which both national and municipal policymakers can consider specific actions relating to food environments, food systems and behaviour change.<sup>151</sup> The UK Government's Foresight Obesity report provides a wealth of analysis and advice.<sup>143</sup>

## 5. Policy Recommendations

*This brief explores the deepening crisis of urban malnutrition in low- and middle-income countries and the forces that drive it. Ensuring that everyone has access to healthy diets is the key to meeting this challenge. In this context, the Global Panel offers the following policy recommendations:*

- ① **Policy makers need to urgently rebalance their efforts to make high-quality diets a priority for both urban and rural populations.** In particular, this means making fresh fruit and vegetables, pulses, nuts and seeds, and other nutrient rich foods available to all. The rebalancing must address a growing nutrition crisis in cities which is characterized by multiple forms of malnutrition. Importantly, rising urban incomes will not provide the solution alone. High-quality diets are as important as clean water, hygiene and sanitation, good health services and maternal and child care.
- ② **Policy makers at the local level need to take a leading role in championing better diets and nutrition – this requires them to be both mandated and empowered to act.** Local leadership is essential to addressing the challenges within cities. But there is also a need for multiple actors to work together to address the complex and growing problems. Government, business/market actors, education and healthcare providers and civil society all have important parts to play.
- ③ **It is essential to tackle the challenges of urban malnutrition by capitalizing on opportunities offered by urban food systems.** Urban contexts provide a ready-made environment for influencing the diets and nutrition of large numbers of people. A high priority should be given to national policies which regulate product formulation, labelling, advertising and promotion. These are especially important in urban situations where food marketing can be particularly aggressive and can encourage poor-quality diets. Investment in the education of consumers about healthier food choices is also essential.
- ④ **There is a need to connect with wider areas of policy which are usually excluded from dialogues on urban diets and nutrition.** These include: spatial planning, infrastructure and housing, transport planning, education policy, access to energy, water and sanitation, and pre- and ante-natal policies and interventions. There are also opportunities to influence public institutions in towns and cities, such as schools, prisons and government offices, to offer enhanced dietary choice, quality and knowledge about nutrition.
- ⑤ **It is essential to address the needs of all urban population groups.** Populations within cities are diverse, covering a wide range of socio-economic levels, ages, ethnicities, cultures and religions. Recognizing this diversity is essential for the development of effective strategies which aim to achieve improved consumer access and dietary choice for all.
- ⑥ **Attitudes to the informal food sector need to change.** This sector is vital for meeting the dietary needs of many urban dwellers – particularly the urban poor. Rather than penalizing or seeking to eliminate it, measures are needed to improve the sector in order to better address sanitation and health risks.
- ⑦ **Urban policymakers in low- and middle-income countries need to give more attention to the specific challenges associated with rising rates of overweight and obesity.** The aim should be to limit further rises – no country has yet succeeded in reversing the trend of rising obesity. If allowed to develop, the associated non-communicable diseases could become very burdensome for health resourcing, economic development and for individuals.
- ⑧ **Effective action in tackling urban health and nutrition challenges needs to be carefully measured, rigorously analyzed and quickly disseminated.** Reviewing and disseminating empirical data on what works – and what does not work – can help inform policymakers and promote a variety of tailored actions.

### Finally, there is a need to act without delay.

Urban populations are growing rapidly. Economic growth on its own is insufficient to secure improved diets and enhanced nutrition. Decisive action is needed to tackle the growing global health and nutrition crisis which is increasingly located in urban settings. Large concentrations of consumers with growing incomes offer a particular chance to change behaviour, choice and dietary patterns on a huge scale. But a failure to act now risks locking in processes, behaviours and outcomes for decades.





### Box 9: Questions for research

Research on the following questions would be helpful to inform policy development:

- a. Which urban governance processes directly affect the quality of urban diets and nutrition?
- b. How are urban consumer preferences changing across various urban settings and what are the implications for policies to tackle the triple burden of malnutrition?
- c. What evidence exists on the most cost-effective interventions across food systems and along food value chains to improve diets and nutrition? What are the associated benefits and costs?
- d. How do 'hidden' aspects of urban food systems affect demand? For example, the physical environment (urban spatial layout), transport systems and bus routes, informal settlements and green spaces?
- e. What role do food industry stakeholders have in shaping future urban food choices and higher-quality diets?
- f. How can big data on food purchases, prices, locations and food costs, relative to non-food costs, be better used to inform local policy?

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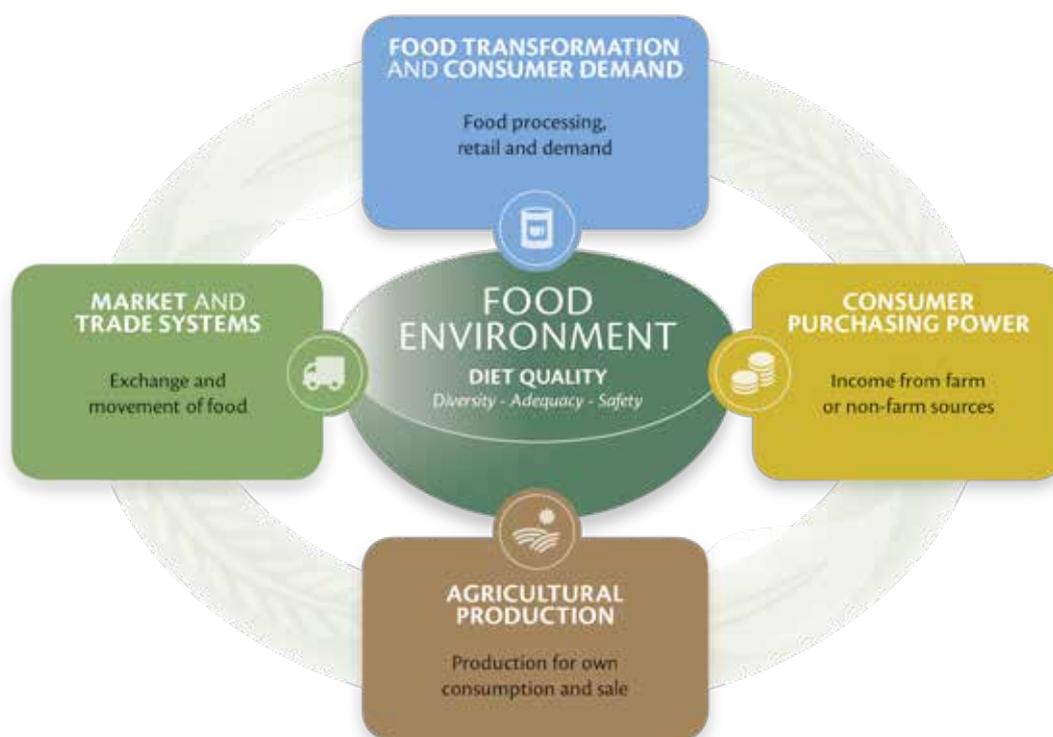
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# How can Agriculture and Food System Policies Improve Nutrition?

The multiple burdens on health in low – and middle-income countries due to food-related nutrition problems include not only persistent undernutrition and stunting but also widespread vitamin and mineral deficiencies and a growing prevalence of overweight, obesity and non-communicable diseases. These different forms of malnutrition limit people's opportunity to live healthy and productive lives, and impede the growth of economies and whole societies.

The food environment from which consumers should be able to create healthy diets is influenced by four domains of economic activity:



In each of these domains, there is a range of policies that can have enormous influence on nutritional outcomes. In the Global Panel's first Technical Brief, we explain how these policies can influence nutrition, both positively and negatively. We make an argument for an integrated approach, drawing on policies from across these domains, and the need for more empirical evidence to identify successful approaches.

**Find out more here: [Glopan.org/nutrition](http://Glopan.org/nutrition)**



*Urban diets and nutrition: Trends, challenges and opportunities for policy action* provides eight key policy options within all of the domains of the food system to help governments to address all forms of malnutrition in urban areas.

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*This report is based on research funded in part by the UK Government and the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the funders*