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# Developing approaches to achieve adequate nutrition among urban populations requires an understanding of urban development

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## ABSTRACT

Since 2008 the world has become predominantly urban. By 2050, there will be 2.5 billion more people living in cities and most of these will be in small and medium-size cities in Africa and Asia. These continents are home to high malnutrition rates. Policy makers will need to ensure that food and nutrition security can be achieved by the growing urban populations, including the urban poor, in order for this urban growth to generate equitable economic growth. This paper demonstrates how understanding urban dynamics such as city size, urban infrastructures, and rural-urban linkages are critical for planning for adequate urban nutrition. In particular it highlights the potential strength of strategically investing in medium-size cities as they are more likely to generate equitable growth, including for their surrounding hinterlands, thus strengthening local foods systems and creating better enabling environments for improved urban nutrition through better sanitation infrastructures and increased access to nutritious foods by the urban poor.

## 1. Introduction

The world is urbanizing swiftly and the influx of people moving to cities is increasing, particularly in low- and middle-income countries. By 2030 there will be 5 billion people living in cities (UNFPA, 2008). The Sustainable Development Goals (SDGs), adopted in September 2015, include making cities inclusive, safe, resilient and sustainable (SDG 11). Nutritious and sustainable food systems (SDG 2) are also considered critical for a healthy world. Nutrition security is essential for the equitable growth of cities and nations as adequate nutrition, particularly during the first 1000 days (from conception to the second birthday), is a prerequisite for achieving one's potential in health, cognitive performance and productivity throughout life (Black et al., 2013). While most discussions on urban food systems, which encompass the entire food value chain from production, distribution, to retail and final consumption in urban areas, emphasize the food systems part (i.e. production), very little attention is given to the urbanization factor (i.e. how urban areas interact with food systems and how urban people access food). This paper assesses the importance of considering 1) urban size, 2) infrastructure and 3) access to nutritious and safe foods for improving urban nutrition in order to achieve equitable growth and development of urban residents.

## 2. City dynamics and trends

Today there are 4 billion people living in cities and since 2008, more people live in urban than in rural areas (UN-HABITAT, 2016). The pace of urbanization in the last few decades is unprecedented. The number of people that moved to East Asian cities in the past decade is equal to the number of people that urbanized over the course of more than 50 years in Europe (The World Bank Group, 2015). It took Africa and Asia 60 years to increase the share of people living in cities from 15 to 40% while it took industrializing Europe 110 years to see the same level of increase (Jedwab et al., 2015). By 2030, 60% of the world will be urban and 90% of that growth will take place in Africa and Asia (United Nations, 2014a).

There are more megacities in low- and middle-income than in high-income countries. Despite all of the attention given to megacities (see Table 1 for classification of city size by number of people living in these cities) only 12.5% of urbanites live in the world's 28 megacities and around 50% live in small-size cities (see Fig. 1) (United Nations, 2014a). Medium and small-size cities in Africa and Asia make up the majority of the fastest growing cities in the world (UN-HABITAT, 2016; United Nations, 2014a). However, by 2030, the share of the urban population living in mega, large and medium size cities will have increased, while the proportion living in small cities will have decreased (see Fig. 1). The number of medium-size cities will more than double in Sub Saharan Africa by 2030 and more than half of the

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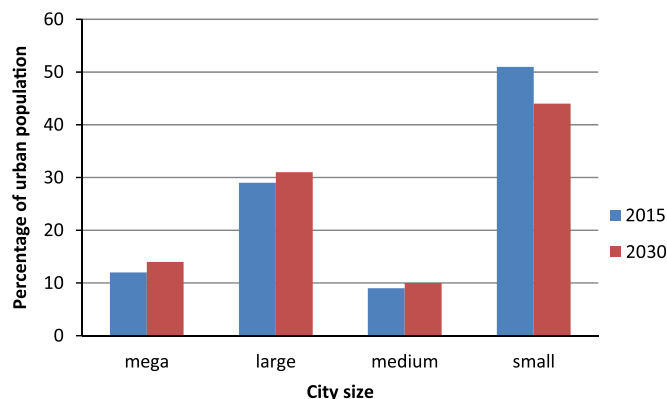
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**Table 1**  
City size classifications.

Type of city	Population size
Megacities	> 10 million
Large	1–10 million
Medium	500,000–1 million
Small	< 500,000

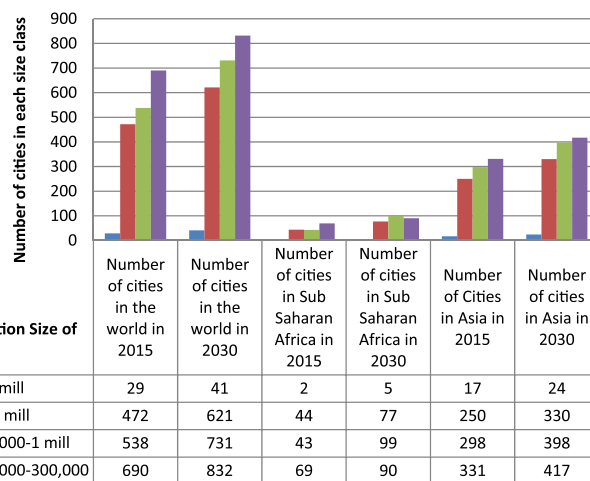


**Fig. 1.** Shows the percentage of the world's urban population living in each city size category. This figure utilized data from (United Nations, 2014b).

cities in the world will be located in Asia (see Fig. 2).

Although urbanization can be considered a non-desirable trend due to congestion, pollution and inequality issues, cities also provide opportunities (UN-HABITAT, 2016). These include economic growth, agglomeration of ideas and infrastructure leading to innovations, and access to a wider range of ideas, products and services (Jedwab et al., 2015; UN-HABITAT, 2016). In order to improve urban nutrition and achieve sustainable and equitable growth and development, we need to better understand trends and learn to cope with urbanization in a more effective way. Cities only occupy 2% of land but produce 70% of global domestic product and account for 60% of global energy consumption, 70% of greenhouse gas emissions and 70% of global waste (HabitatIII, 2015). Around 828 million people live in slums (UN-HABITAT, 2012) and if the right actions aren't taken, such as improving urban infrastructures and food systems, and increasing informal sector support, this could increase to 2 billion by 2030 (UN-HABITAT, 2003). On the other hand, urbanization is highly correlated with economic growth (The World Bank Group, 2015). No country has reached high income status without urbanizing, but cities have also been home to enormous wealth inequalities. How can we ensure that this economic growth associated with urban growth is more equitable, including having a positive impact on nutrition across the urban populations?

Currently, there is a short window of opportunity to accelerate poverty reduction and reduce inequality. This requires developing and implementing the right policies such as investing in cities' infrastructure (including in medium and small-size cities), improving rural-urban linkages and increasing access to healthy and sustainable urban food systems for the urban poor. Most of the infrastructures of the rapidly growing cities in Africa and Asia will be built in the next 20–30 years which offers a great opportunity and duty to get these policies right quickly (The World Bank Group, 2015). Some of the fastest growing cities are medium-size cities, which have the potential to produce more equitable growth in contrast with their larger counterparts. This paper will outline why the focus for creating healthier cities with better nourished populations should be on medium-size cities.



**Fig. 2.** Shows the number of cities by population size class of a city for the World, Sub-Saharan Africa and Asia in 2015 and 2030. This figure utilized data from (United Nations, 2014b). Note this figure does not include the number of cities that consist of < 300,000 inhabitants that are also part of the small-city size category.

### 3. Urban nutrition problems

#### 3.1. Global nutrition situation

The global nutrition report has shown that almost every country in the world and one in three people has a nutrition problem, ranging from undernutrition and micronutrient deficiencies to overweight and obesity (IFPRI, 2016, 2015). Low income countries, which previously mainly suffered from undernutrition, are now also facing the double burden of malnutrition. Obesity has become a global epidemic; 1.9 billion adults are overweight or obese and the prevalence is increasing in every country in the world (IFPRI, 2015). Although stunting has decreased in the past decade, 159 million children under five are still stunted globally (IFPRI, 2016, 2015; UNICEF et al., 2015) and more than 25% of today's school-age children and adults suffer the consequences of stunting during their childhood (UNICEF, 2013). Furthermore, approximately 2 billion people do not consume adequate amounts of vitamins and minerals to live a healthy life. Malnutrition does not only have enormous health costs but also economic consequences. Obesity is associated with non-communicable diseases such as cardio-vascular disease and type II diabetes. Two out of three people with diabetes live in cities (Novo Nordisk et al., 2015). Worldwide, up to 20% of healthcare expenses go to treating obesity and associated diseases, whereas a one dollar invested in preventing undernutrition early in life and combating micronutrient deficiencies can yield a 16 dollar return over a person's life course in low and middle income countries (IFPRI, 2015). Every year Asia and Africa lose 11% of their gross domestic product (GDP) due to malnutrition (IFPRI, 2016).

#### 3.2. Urban nutrition issues

Nutrition in urban areas of low- and middle-income countries has been ignored for a long time, for several reasons. Nutrition and food security has mainly been considered as a rural problem (Mohiddin et al., 2012). With high inequalities within cities, general data on the urban population are far less informative than data on different subgroups and subareas. However, identifying and collecting statistically representative data on specific subgroups is challenging. This heterogeneity in cities has been identified as a major obstacle to understanding the real nutrition problem in cities (Corburn, 2015). Recent global data show that still one quarter of children under five living in urban households are stunted, compared to one third of children in rural households (UNICEF, 2013) (see Fig. 3). Although prevalence of child stunting is on average higher in rural settings (see

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