Rwanda

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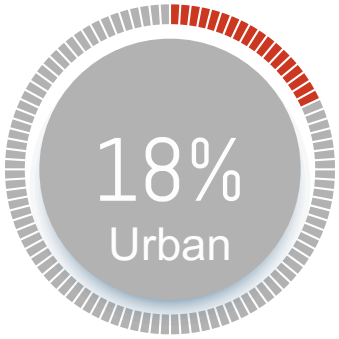


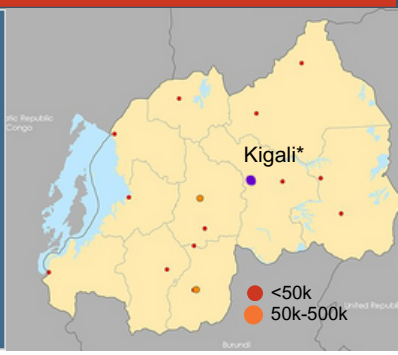
Total population: 13.2 million

41% of the urban population lives in Kigali

61% of urban Rwandans live in informal settlements

Urban poverty rate (2017): 15.8%

Annual urban growth rate: 3.1%



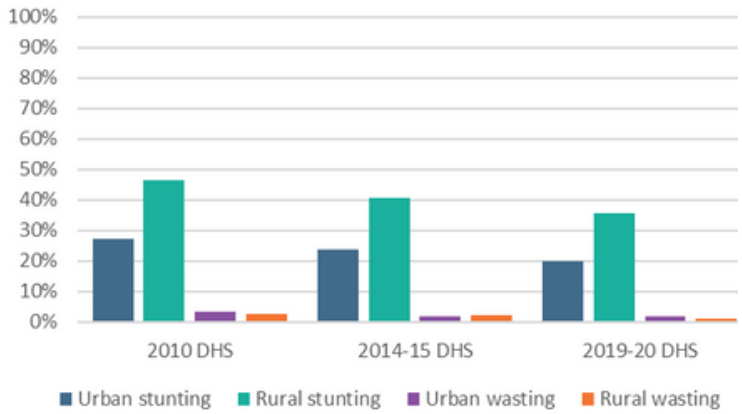
Amy Margolies, Hope Craig, Deanna Olney

Urban diet and nutrition challenges

Rwanda is one of the most densely populated countries in Africa. National strategies aim to eliminate chronic malnutrition by 2050 (1). Overall, the country is on track for global nutrition targets for child wasting, overweight and recommended breastfeeding practices (2). However, there are differences in nutrition challenges between rural and urban areas. The dominance of the agricultural economy at the national level, higher poverty and stunting rates in rural areas has led to a greater focus on promoting food and nutrition security in rural areas (Fig.1) (3,4).

National data show that food and nutrition security improved in urban areas since 2010. Child stunting and wasting over this period also declined in both urban and rural areas (Fig. 1) (5). However, urban poverty increased during the COVID-19 pandemic, with the low-skilled urban poor being most affected (6).

Figure 1: Trends in child nutrition status



While there is no data on the impacts of the pandemic on urban child nutrition, a study of secondary cities found high levels of household food insecurity during the COVID-19 crisis (7).

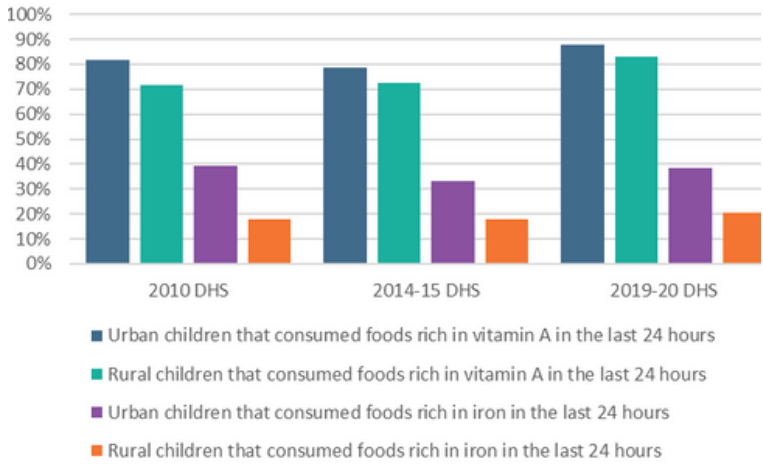


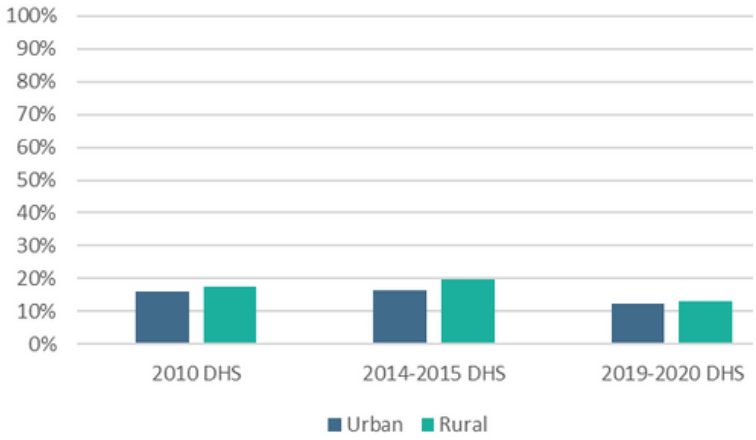
Figure 2: Trends in child feeding practices (6-23 m)

Information on child feeding practices shows high consumption of Vitamin-A rich foods[1] in urban and rural areas and a steady increase from 2010 and 2020 in both areas (Fig 2). Vitamin A deficiency among children 6-59 months is slightly higher in urban children (8.3%) than in rural children (6.5%). Among pregnant women, 14% in urban areas are Vitamin-A deficient as compared to 7% in rural areas (8). Consumption of iron-rich foods is low, especially in rural areas, and has not increased over time (Fig. 2) (5).

[1] Vitamin A-rich foods commonly consumed in Rwanda include spinach, amaranth, cassava, pumpkin, sweet potato, mango; Iron-rich foods include egg, meat, and fish or shellfish.

Child anemia has seen little improvement since 2010, and affects 34% of urban children and 37% of rural children. Women's anemia slightly declined in urban and rural areas from 2010-2020 (Fig. 3).

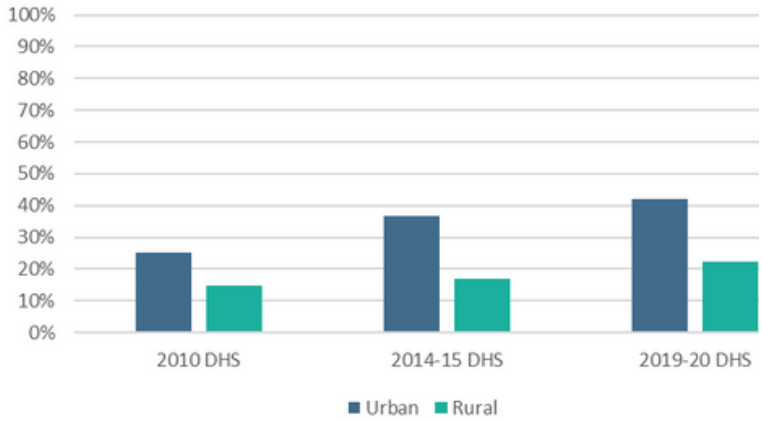
Figure 3: Women's anemia



Vitamin B12 deficiency affects 16% of children aged 6-59 months, with no differences between rural and urban areas. However, nearly half of pregnant women in urban areas (46%) are B12 deficient, and 43% in rural areas.

Overweight and obesity in women is markedly higher in urban versus rural areas and has increased steadily (almost doubled) between 2010 and 2020, and affected 40% of urban women (Fig 4). Obesity and overweight also doubled among women in rural areas but reached a lower prevalence (22%) in 2020.

Figure 4: Women overweight or obese



Likewise, the prevalence of children overweight or obese in urban areas rose from 7% in 2010 to 11% in 2014 but dropped back down to 7% in 2020. Rural child overweight showed a slight decline from 7% in 2010 to 5% in 2020.

Overweight and obesity prevalence among urban men was 9% in urban areas and 2.6% among rural men 2010, and has not been updated for either locality (5).

There is limited information on urban adult diets. A recent study found urbanites may eat more healthy foods, but their overall diet quality is lower than rural residents relative to global diet recommendations and for unhealthy foods that should be limited (9). Another surveyed women in two secondary cities and found that 67% did not consume an adequately diverse diet (7).

Non-communicable diseases

Nationally representative data indicates hypertension prevalence is slightly higher in semi-urban areas (18.5%) as compared to rural (15%) or urban areas (15.7%), and is associated with older age, increased BMI and residence in a semi-urban area (10). A study using World Health Organization surveillance data found diabetes prevalence is also higher in urban areas (9.7%) than in rural areas (7.5%). Obesity, high cholesterol, hypertension, and age were associated with diabetes and impaired fasting glucose among urban residents (11).

Generally, trends in Rwanda mirror the rest of the East African region, with higher rural stunting and wasting but rapidly increasing overweight and NCD burdens in urban areas (12).

Photo of Kigali: Gwendolyn Stansbury/IFPRI

Urban nutrition interventions

There is little published evidence on urban nutrition interventions in Rwanda. In the absence of evidence, formative work could help to inform potential interventions. Formative research in rural Rulindo and urban Kigali identified acceptable feeding practices for children and potential barriers to recommended child feeding practices. One potential barrier to nutrition interventions is the belief by caregivers in both urban and rural areas that child overweight is an indication of good health (13). Unfortunately, the lack of rigorous evaluations and few results presented by locality (urban/rural) preclude an understanding of what interventions would be most effective in urban areas.

Urban food environments

Urban food environments are also understudied in Rwanda. Work on the topic has been only published more recently (after 2015) and is focused on describing characteristics of urban food environments. Most of this work is focused on the 'availability' dimension of the food environment (n=3) (14). The types of food environments studied were formal and informal markets. Cultivated, wild and institutional food environments were not represented in the literature. Two studies focused on vendors and product properties in Kigali. One assessed food safety in meat in retail outlets, finding a need for improvements in meat handling practices particularly in terms of temperature, hygiene conditions and personnel training (15).

An inventory of African indigenous crops in three informal urban markets found only a quarter of consumables available were cultivated or wild native foods, and highlighted the opportunity to promote consumption of native species to improve dietary diversity (16). Another study measured coverage of iron-biofortified beans and biofortified orange-fleshed sweet potato (OFSP) in a peri-urban area. While unfortified bean and OFSP consumption was high, awareness and availability of biofortified crops were barriers to uptake (17). Another study described advocacy efforts to support a ministerial decree for food fortification as a means to support urban food quality (18).

There is a need for further descriptive and inferential work to characterize the urban food environment in Rwanda, particularly in relation to informal urban markets and on topics including prices, consumer preferences, stability, accessibility, sustainability and food safety.

There was also an evidence gap on developing and testing interventions to improve diets and nutrition via the food environment. No published evaluations of urban food environment interventions were found. However, these types of interventions could prove useful to address the diet and nutrition challenges outlined above in the urban environment. For example, the biofortification of commonly consumed foods such as beans, which already occurs in Rwanda, has the potential to address the low percentage of children consuming iron-rich foods. Integrating information from studies of the food environment - such as barriers to availability of these crops - could inform interventions to encourage healthy diets among urban populations.

National urban nutrition plans & policies

Rwanda's first National Nutrition Strategy was adopted in 2007. Subsequently, a multi-sectoral National Food and Nutrition Policy (2013-2018) set political commitments to nutrition, reinforced support to nutrition programs and aimed to reduce household food insecurity and malnutrition. However, while the policy acknowledged the growing challenge of overnutrition and NCDs in urban areas, there were few concrete actions outlined to address them. Homegrown school meals and gardening in urban schools were emphasized in the policy but financing or operational efforts are needed (19). The Vision 2020 Umurenge Program (VUP), the national social protection strategy, incorporated nutrition-sensitive interventions such as the nutrition-sensitive direct support program (NSDS) to provide cash transfers to vulnerable women and children. The NSDS targeted districts with high levels of stunting, including some rapidly urbanizing districts, although urban considerations are not explicitly addressed in design or implementation.

Urban farming is also supported by the National Urbanization Policy (2015), but only through zoning regulation that allows for mixed agricultural use including gardening, tree nurseries and communal plots. Vision 2050 is an ambitious national agenda which foresees a transition from a reliance on imported food to a domestic food system that meets dietary needs of an urbanizing population, including through urban farming. However, how that transition will be implemented or financed is not clearly defined. At the local government level, a partnership between local government and the Food and Agriculture Organization on an Urban Food Agenda is building capacity to implement food system strategies to strengthen the connections between rural and urban food systems surrounding Kigali (20). While national policies reference the importance of urban agriculture, greater designated funding and programmatic support could help to encourage these initiatives. The Rwandan policy environment has many comprehensive strategies focused on nutrition, but there are few specific efforts targeted to the challenges of growing urban areas.

Summary

There are major gaps in the evidence on urban dietary patterns and nutrition challenges, interventions and policies in Rwanda. These include understanding the range of nutritional challenges urban dwellers face (e.g., multiple forms of malnutrition), their dietary patterns, and how food environments and other factors influence their food choices and diets. There is also a lack of comprehensive diet, nutrition and health data on vulnerable urban sub-groups and little information on the role of smaller secondary cities and peri-urban areas in shaping the food environments urban dwellers are exposed to. This data is needed in order to align identified nutrition, diet, and food environment challenges with interventions to address them. These interventions must then be rigorously evaluated, with a goal to eventually incorporate lessons into policy or strategies focused on urban areas.

Key messages

- **Stunting and wasting among urban and rural children declined in Rwanda from 2010-2020**
- **Anemia affects more than a third of rural and urban children and has not improved since 2010**
- **Urban obesity, overweight and NCD burdens are rising challenges, particularly among women**
- **Lack of evidence on urban dietary patterns and interventions tailored to the unique needs of urban populations**
- **Little information on the characteristics of urban food environments and gaps in identifying interventions to improve urban diets at market, food environment, or consumer level**
- **National nutrition policies identify urban challenges but fail to offer actions to address them**

ABOUT THE AUTHORS

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Sources (background): The World Bank. Urban Population (% of population) 2022 based on United Nations Population Division. World Urbanization Prospects: 2018 Revision; UN-Habitat Rwanda profile. https://unhabitat.org/fr/rwanda; Government of Rwanda. (2022). 5th Population and Housing Census. Main Indicators Report; National Institute of Statistics of Rwanda (NISR), Rwanda Poverty Profile Report, 2016/17, November 2018.
Map: Center for International Earth Science Information Network - CIESIN - Columbia University. Global Rural-Urban Mapping Project, Version 1 (GRUMPv1): Urban Extents Grid (Africa). Palisades, NY: NASA Socioeconomic Data and Applications Center.

*The capital city, Kigali, is almost 6 times larger than the second largest city in the country, Rubavu.

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