Ghana

Urban nutrition profile

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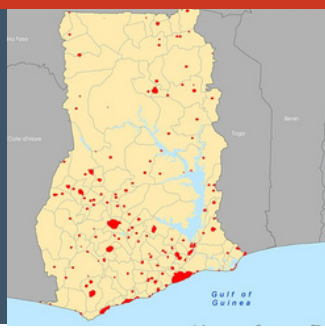
Total population: 33.5 million

Annual urban growth rate: 3%

28% of the urban population lives in Accra

34% of Ghanaians live in informal settlements

Poverty rate (2022): 27% urban, 65% rural

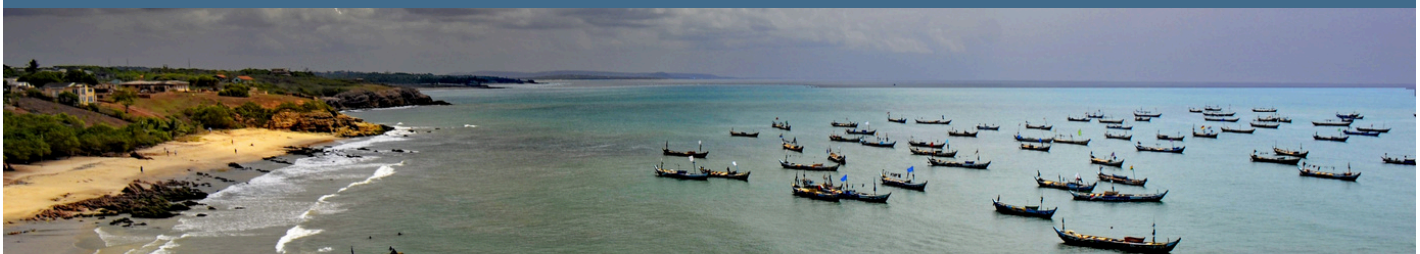


Amy Margolies,[1] Dorcas Amunga,[2] Hope Craig, Gloria Folson, and Deanna Olney[1]

[1]International Food Policy Research Institute; [2]International Potato Center, Consultant

Key messages

- In both urban and rural areas, the prevalence of stunting significantly declined in children under five years of age from 1993 to 2022.
- Overnutrition affects almost half of urban women and one-third of rural women; other groups of concern for overweight include urban men and urban adolescent girls.
- The double burden of malnutrition (DBM)—which includes both under- and overnutrition—is more prevalent in urban areas, particularly among overweight, micronutrient-deficient mothers and their children.
- Dietary diversity is only slightly better for urban women than rural women, but urban diets are increasingly influenced by unhealthy food consumption.
- The cost of a healthy diet has increased from USD$3.45 to $4.29 per person per day (2017–2022). Over 60 percent of the population cannot afford a healthy diet.
- Micronutrient data are outdated, but data from 2017 show no urban-rural differences. Vitamin A deficiency affected one-fifth of all children under five and serum folate deficiency affected more than half of non-pregnant women.
- Diet-related noncommunicable diseases are rising faster in urban than rural areas due to socioeconomic, lifestyle, and demographic factors.
- Urban nutrition studies show benefits from supplementation and education but overlook poor diet quality and the double burden of malnutrition.
- Urban food environments are diverse, but the availability and marketing of unhealthy foods contribute to the growing problem of unhealthy diets and overnutrition.
- The nutrition policy environment is multisectoral and evidence-based, with national safety net programs and a sugar-sweetened beverage tax.
- Renewed efforts in policy governance, coordination, and targeting are needed to address disparities and enhance urban food environments to support healthy diets, and tackle multiple forms of malnutrition via double-duty actions.



Summary

Ghana's urban population has grown significantly, and while undernutrition in children has decreased, urbanization and economic progress have led to a shift toward overnutrition. The rise in consumption of poor-quality diets and ultra-processed foods (UPFs), along with more sedentary lifestyles, is contributing to alarming increases in overweight and obesity and diet-related noncommunicable diseases (NCDs) such as hypertension and diabetes. The country is facing an emerging double burden of malnutrition (DBM), in which undernutrition coexists with overnutrition.

The prevalence of child stunting is declining in rural areas, but child overweight and obesity is rising in urban areas. Increasing rates of overweight and obesity are also concerning among urban women and adolescent girls. Micronutrient deficiencies affect both urban and rural populations. Ghanaians in urban areas have more diverse diets but higher consumption of unhealthy foods, while those in rural areas face food insecurity and nutrient inadequacies. These challenges highlight the need for targeted dietary interventions to address poor feeding practices, healthy diets, and micronutrient deficiencies. Diet-related NCDs, such as hypertension and diabetes, are rising alongside contributing dietary risk factors, with urban areas and women most affected. Urban youth face higher NCD risks, with low diagnosis rates and socioeconomic factors exacerbating urban-rural disparities. Urban nutrition interventions improved child growth, reduced blood pressure in hypertensive adults, increased nutrition knowledge in schoolchildren. However, some strategies had limitations, and urban programs overlook poor diet quality, failing to address the need for double-duty interventions to tackle the double burden of malnutrition (DBM).

Nutrition policies, guided by the Scaling Up Nutrition movement, address food security and healthy diets by targeting vulnerable groups such as young children, women, and adolescents. Ghana has made progress in promoting nutrition and healthy diets through multisectoral advocacy efforts, including the implementation of sugar-sweetened beverage (SSB) taxes, social protection programs, and a national NCD policy. However, challenges remain, as few policies directly address the urban poor, and insufficient funding, weak governance, unhealthy urban food environments, food safety issues, and the unaffordability of healthy diets require targeted efforts to improve diets and address multiple forms of malnutrition, particularly in urban and peri-urban areas. Strengthening coordination and focusing on obesity and NCD prevention in urban areas are urgent priorities. Double-duty interventions and programs in social protection, agriculture, health, and education should be designed, implemented, and evaluated to tackle all forms of malnutrition [1].

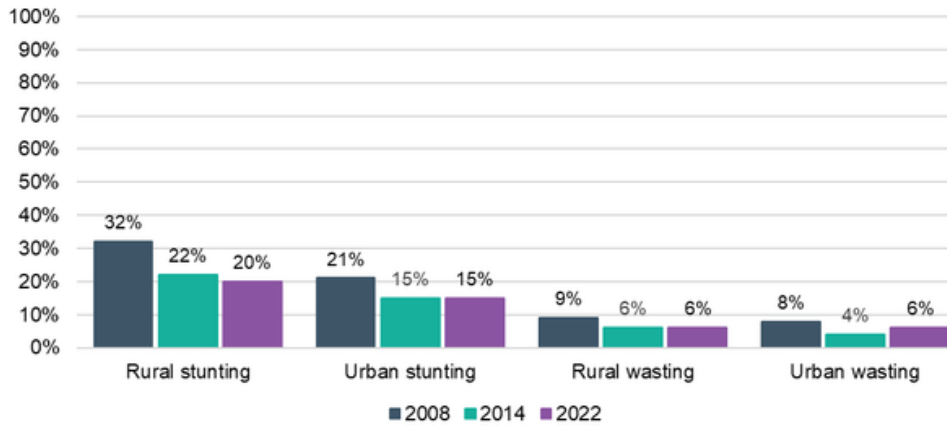
Nutrition and diets

Ghana's urban population expanded from 32 percent to 59 percent from 1984 to 2022 [2]. The country reduced undernutrition in children under five years of age [3, 4, 5] as part of a downward trend in stunting and wasting prevalence over the past two decades. Yet dietary changes brought by economic progress and urbanization are shifting the trend from under- to overnutrition in adolescents and adults. The influence of urban food environments and declines in home agricultural production have driven consumption of unhealthy foods like UPFs. UPFs are cheap, highly palatable, and convenient manufactured food products that may displace nutritious whole foods and are associated with increased risk of adverse health outcomes [6]. Unhealthy dietary patterns contribute to overnutrition and diet-related NCDs. Less physically demanding urban employment and more sedentary lifestyles contribute to overnutrition and NCD burden in these areas [7]. Rates of overweight and obesity increased by 139 percent between 1993 and 2008 [8]. Most Ghanaians (76 percent) eat less than five servings of fruit and vegetables daily [9]. Progress in reducing chronic undernutrition is failing to keep pace with rising overnutrition, leading to a double burden of malnutrition [10].

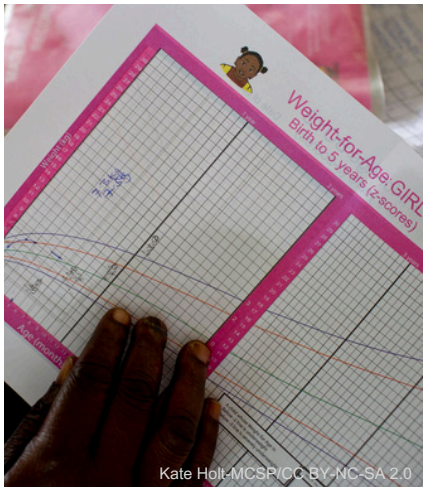
Undernutrition

From 2008 to 2022, declines in stunting and wasting were more dramatic in rural areas (from 32 percent to 20 percent for stunting, and from 9 percent to 6 percent for wasting, respectively) than urban areas (21 percent to 15 percent, and 8 percent to 6 percent, respectively). Urban stunting rates did not decline from 2014 to 2022, and rural stunting rates dropped only slightly during this period, from 22 percent to 20 percent (**Figure 1**). The prevalence of wasting in urban and rural areas was 6 percent in 2022, which was about average for the West and Central African region (6.5 percent) [11]. Ghana could meet the 2030 World Health Assembly's target for undernutrition to reduce stunting in children under by 40 percent, but renewed efforts are needed to halve the prevalence of wasting to below 3 percent. However, disparities within urban areas present challenges to this progress. For example, a study documented that the children of urban adolescent girls were eight times more likely to be stunted than the children of adult mothers (2018) [12].

Figure 1: Child* nutrition status in Ghana, 2008–2022



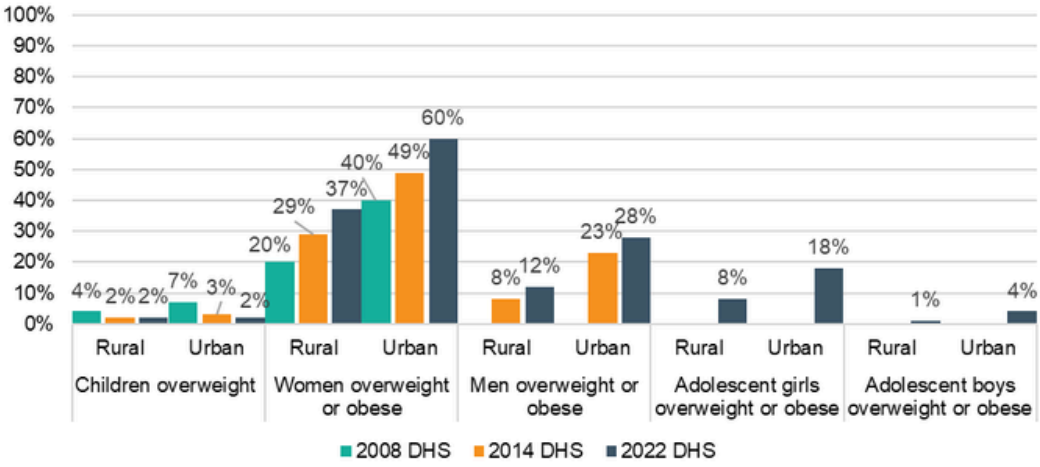
Source: DHS [3, 4, 5]. **Note**: *Among children under five years. DHS = Demographic and Health Surveys.



Overnutrition

Overweight prevalence in young children is very low and declined slightly from 2008 to 2022, while adult overweight and obesity has been increasing steadily, especially in women. Overweight/obesity is much higher among urban adults (40 percent, 17 percent) than rural adults (25 percent, 8 percent) [9]. Overweight and obesity is highest in urban women (**Figure 2**).

Figure 2: Child* overweight, adolescent** and adult overweight and obesity in Ghana, 2008–2022



Source: DHS [3, 4, 5]. **Note**: *Among children under five years. **Adolescents between 15–19 years.

From 1993 to 2022, overweight/obesity rose from almost one-third to two-thirds among urban women, and from 9 percent to 37 percent among rural women [5]. Women's overweight/obesity is associated with urban residence, high parity, older age, and wealth [13, 14]. Overweight/obesity affects almost one-third of urban men, compared to 12 percent of rural men, contributing to the second-largest increase globally in male urban-rural BMI difference between 1985 and 2017.

Overnutrition also affects school-age children, adolescents, and older adults, with variations by socioeconomic and urban-rural status. In Accra, 16 percent of schoolchildren are overweight and obese, and higher socioeconomic status is associated with overnutrition [15]. Among school-age children (9–15 years), overweight and obesity was associated with physical inactivity, maternal higher education, higher socioeconomic status, and private school attendance [16]. Overweight prevalence was high in a study of low-income urban adolescents (47 percent) [17]. Overweight is more common in urban girls (18 percent) than rural girls (8 percent), and it is low among boys (4 percent urban, 1 percent rural) [5] (**Figure 2**). Thinness affects 18 percent of rural and 15 percent of urban adolescent girls, and 46 percent of rural and 37 percent of urban adolescent boys [5]. Ghanaian adolescents prefer heavier body weight or misperceive their own weight (believe they are thinner than they really are) [18, 19]. While societal preferences for being overweight may be shifting due to negative health impacts, in rural areas, being overweight is still perceived as a positive attribute associated with wealth [20]. Ethnicity can also affect body perceptions [21]. In adults 50 and older, urban living increases the risk of being overweight and obese and having central adiposity [22]. Rural residents are more active than urban residents, with physical activity decreasing as socioeconomic status rises [23]. Physical inactivity in youth (84 percent) and higher BMI are factors linked to adolescent hypertension and prehypertension, especially among girls [24]. Rural women have higher BMI, while urban women have larger waist and hip circumferences [25].

Although the National Micronutrient Survey (2017) is outdated, it found a 24 percent prevalence in DBM in nonpregnant adult women (overweight/obesity co-occurring with at least one micronutrient deficiency), and a 7 percent prevalence of women's overweight/obesity with anemia. The prevalence of women's overweight/obesity with a micronutrient deficiency was significantly higher in urban areas (30 percent) than rural areas (18 percent) [26], with wealth and education among the obesity risk factors [27]. For example, the DBM for all overweight/obese mothers with an anemic child under five was 24 percent, with a significant urban-rural difference of 13 percentage points (31 percent urban versus 18 percent rural) [28], exceeding African regional averages. However, the DBM for overweight/obese mothers with a stunted or wasted child was 9 percent, lower than the regional average of 14 percent [29].

Diets

Infants and young children

Infant and young child feeding (IYCF) practices in Ghana improved slightly from 2014 to 2022, with urban areas performing slightly better than rural ones. Yet, feeding practices remained poor overall, with less than 55 percent of children achieving minimum dietary diversity or minimum meal frequency in both urban and rural areas (**Figure 3**). IYCF indicators performed much better in 2008, but this may have been due to changes in indicator definitions (see **Figure 3 note**).

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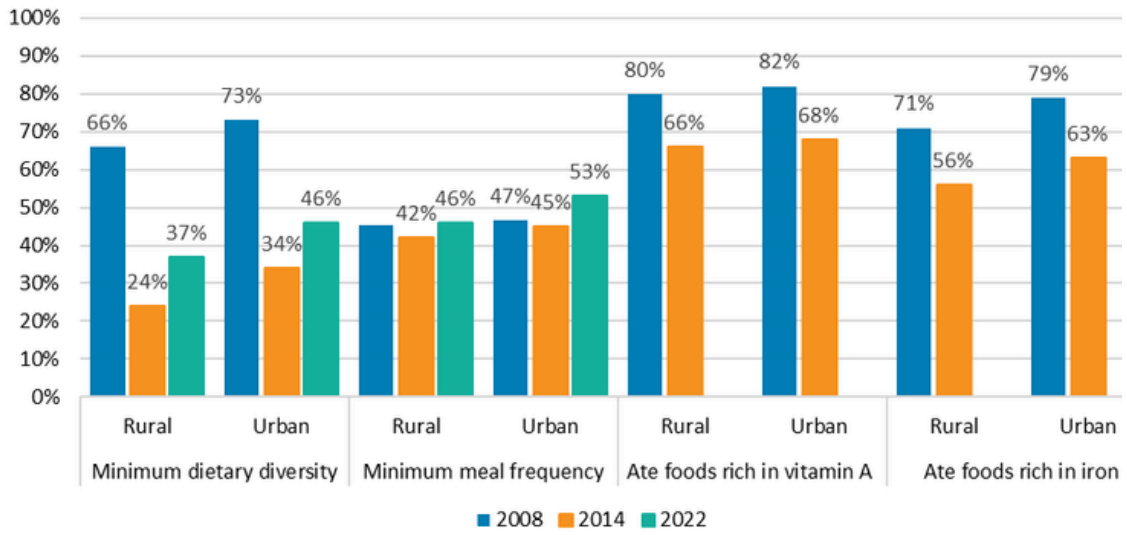
In 2022, SSB and unhealthy food consumption in the past day was higher among urban children 6–23 months of age (40 percent) than those in rural areas (25 percent), but one-third of both groups did not eat any fruit or vegetables [5]. Most processed complementary foods available from Accra vendors were cereal-based (49 percent), ready-to-use (76 percent), and without recommended maternal and infant young child nutrition labeling [30]. Processed complementary foods, which are widely available in urban areas, were not in compliance with international marketing codes or national breastfeeding promotion regulations [30].

Figure 3: Infant and young child* feeding practices in Ghana, 2008–2022



Source: [3, 4, 5]. **Note**: *IYCF indicators cover children aged 6–23 months. However, the 2014 DHS indicators for iron-rich and vitamin A–rich food consumption cover a different age range (6–35 months) so differences in these indicators (2014-2017) may reflect that. Also, since 2008, there were changes to IYCF indicator definitions (such as the removal of "foods made with fats" as a food group, the removal of cheese from the list of milk products in line with WHO guidelines), so comparisons with recent surveys are problematic. Data measure consumption over the last 24 hours.

Schoolchildren

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Urban dietary patterns, marked by unhealthy foods like processed meats, fried foods, and SSBs, contribute to overnutrition/obesity among school-age children [31]. Obesity risk is higher in older schoolchildren who drink SSBs frequently [31].

Adolescents

In Ghana, the soft drink market is valued at US$2 billion, and 51 liters are consumed per capita annually. In 2022, one-third of the adolescent population consumed SSBs more than twice weekly [32]. Adolescents frequently consume these drinks: high intake was particularly notable among 12-to-15-year-old youth [33]. In the town of Tamale, 70 percent of 15-to-45-year-old people consume energy drinks [34]. Among urban adolescents, diet quality improves temporarily during Ramadan, though meal frequency declines [35]. In central Ghana, only half of adolescents follow healthy dietary patterns, with high consumption of soft drinks (93 percent) and sweets (90 percent) [36]. Urban adolescents also experience food insecurity, both at home and school, due to a lack of school meal coverage [37]. Dietary patterns vary, with some urban adolescents consuming sugary snacks and SSBs while others consume traditional diets rich in cereals, legumes, and fish [38]. Pregnant adolescent girls in rural areas face higher rates of inadequate diets (63 percent) compared to urban areas (50 percent) [39], and a study found that only 45 percent of pregnant urban adolescents had adequate nutrition knowledge, with one-third consuming sodas daily [40]. Further, a study using the 2012 Ghana Global School-based Student Health Survey found that one-third of all adolescents (13–17 years old) attending school in urban and rural areas consumed carbonated SSBs daily (e.g., Pepsi, Coca-Cola, Fanta, Lucozade) [41].


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Women

In Ghana, minimum dietary diversity for women remains low, with little urban-rural differences–52 percent in urban areas and 47 percent in rural areas (2022) [5]. Urban women consume more dairy (21 percent versus 8 percent) and eggs (35 percent versus 18 percent), while rural women consume more starchy roots (66 percent versus 59 percent) and nuts (39 percent versus 31 percent). Meat, fish, poultry and leafy greens [i] are commonly consumed in both urban and rural areas (approximately 90 percent and 70 percent, respectively), but consumption of vitamin A–rich foods [ii] is low (19 percent urban, 12 percent rural) [5].

Urban women report higher consumption of sweet beverages [iii] (45 percent versus 27 percent) and unhealthy foods (33 percent versus 21 percent) [5], with soft drink intake at 21 percent compared to 12 percent in rural areas [42]. In 2020, only one-third of pregnant women in the Ashanti region met minimum dietary diversity, with rural women facing more nutrient deficiencies [43]. Traditional and healthy dietary patterns in urban pregnant women were associated with a lower risk of low birth weight, while a Western dietary pattern was not [44]. In urban men and women, a staple diet (fried/salted fish, maize, raw vegetables, low consumption of ready-to-eat foods, processed meat, and commercial bread) was associated with lower BMI and visceral fat, while other dietary patterns were not (a diverse pattern covering all food groups, a meat pattern, and a nonmeat pattern) [45].

Poor urban areas have experienced a rise in UPF consumption [46]. In Accra, for example, UPF intake in poor neighborhoods rose from 21 percent to 29 percent between 2011 and 2013 [47]. Both urban and rural populations consume excessive amounts of salt [48], with rural households consuming 25 percent more [49]. These data are outdated, however, and it is highly likely that UPF and salt consumption will continue to increase over time. Food safety risks are also prevalent in urban markets [38]. Addressing unhealthy and unsafe diets in Ghana remains a growing challenge, especially in urban communities [50].

Micronutrient deficiencies

Available data show no urban-rural differences in micronutrient deficiencies, but these data are outdated. Vitamin A deficiency affects 20 percent of children (6–59 months) but only 2 percent of pregnant women, while B12 deficiency is low (7 percent) in nonpregnant women [14]. Large-scale fortification initiatives include universal salt iodization, vegetable oil and wheat flour [51] but compliance with fortification is inadequate [14]. Despite widespread consumption of wheat bread fortified with nutrients, including iron, zinc, folic acid, niacin, riboflavin, thiamin, and vitamins A and B12, more than half of nonpregnant women have folate deficiency [14]. Estimated nutrient inadequacies include calcium and iodine (all ages, males and females), iron (ages 10–24), and riboflavin (adults ages 45 and older) [52].

Diet-related noncommunicable diseases

Hypertension and diabetes are the main diet-related NCDs of concern in Ghana [53]. The percentage of total deaths attributed to dietary risks, however, is low (5.3 percent). Reported national diabetes prevalence is also low (2.6 percent, 2021) but has been estimated to range from 4 percent [54] to 8 percent [55], and it is projected to increase over time, alongside the rising prevalence of hypertension [56]. Among specific groups, these figures are higher: in Indigenous urban communities in Accra, for example, the concurrent prevalence of Type 2 diabetes and hypertension was 14 percent [57]. The presence of three or more risk factors for cardiovascular disease [iv] is more common in urban adults than rural adults and is particularly notable in adults ages 45-to-69 (32 percent compared to 16 percent) [48].

Hypertension is also more prevalent in urban areas than in rural areas, with 16 percent of urban adults affected, compared to 10 percent in rural areas. Hypertension is also more prevalent among urban women (13 percent urban versus 8 percent rural) [58]. The STEPS survey (2023) found that 23 percent of urban adults had elevated blood pressure, compared to 19 percent of rural adults, though actual hypertension prevalence is likely higher due to low diagnosis rates [48]. Undiagnosed hypertension is common in workers with sedentary jobs and those whose occupations make eating stressful, and high energy intake is linked to adiposity [59]. In Accra, 18 percent of adults have undiagnosed hypertension, often associated with older age, high alcohol consumption, and low physical activity [60]. Both urban and rural adults are largely inactive (engaging in no vigorous activity) (74 percent, 68 percent respectively), and women are significantly less active than men (91 percent and 52 percent, respectively) [9].

Among adolescents, boys are twice as likely as girls to have prehypertension [61]. A study also documented that urban youth (ages 15–24), especially boys, face high rates of prehypertension (32 percent) [24]. Women and rural residents are more aware of hypertension [25]. Socioeconomic factors such as wealth, education, and urban residence predict NCD risks [62], while poverty is associated with lower rates of hypertension and obesity [62].

National urban nutrition plans, policies and programs

Ghana joined the Scaling Up Nutrition movement in 2011. Nutrition policy is directed by a cross-sectoral planning group that addresses data and financing, as well as the need for healthy diets and food environments. Young children under five, women, and adolescents are commonly targeted as beneficiaries of nutrition policies [63]. Ghana has worked to integrate nutrition and food systems into broader policies and government plans [64].

Policy analyses highlight the need for stronger linkages between sectors, such as linking health and economic impacts of poor diets and diet-related diseases to better support nutrition and mainstream efforts across government [65] (e.g., the National Urban Policy does not address nutrition). However, potential tensions exist between the goals of different sectors: for example, trade policies promoting food security could conflict with the nutrition sector's efforts to regulate commercial food interests [66].

Ghana's main nutrition strategies include the Food and Agriculture Sector Development Policy (established in 2007), the Coordinated Program for Economic and Social Development Policies (2017–2024), and the National Nutrition Policy (NNP, developed in 2016). The NNP aims to improve nutrition through high-impact interventions for maternal health and child survival, nutrition-sensitive programs addressing the underlying causes of malnutrition, and the positioning of nutrition as a multisectoral priority. However, inadequate funding hampers these efforts, which are highly reliant on foreign donors for financial and technical support [67]. Ghana's nutrition policy landscape is improving through coalition building and proposed measures such as front-of-pack labeling, marketing restrictions, and food-related fiscal policies. However, urban nutrition challenges remain poorly addressed due to weak integration between sectors [62, 63].

Vulnerable urban groups, such as the informally employed and urban poor [64], face inadequate targeting despite efforts under the National Social Protection Policy and through the Labour Intensive Public Works and Livelihood Empowerment Against Poverty (LEAP) programs. LEAP, which expanded to urban areas in 2016, struggles due to eligibility criteria and design issues rooted in rural contexts, failing to account for higher living costs and population density. Proposed changes, such as revising targeting and increasing benefits, have limited potential to reduce urban poverty [69]. The Ghana School Feeding Programme (GSFP), based on the National School Feeding policy, links farmers to schools for locally produced meals but faces challenges such as weak farmer connections, reliance on large markets, and insufficient urban-specific adjustments [70]. Despite these challenges, the GSFP has the potential to improve dietary diversity among urban schoolchildren [71]. These examples emphasize the need for well-tailored strategies to address urban nutrition.

Ghana's second National Policy for Non-Communicable Diseases (2022) reflects the Ministry of Health's commitment to addressing the growing problems of NCDs, including unhealthy diets as a driver of these risks. The additional cost burden from older adults will be US$82 million, the majority of which will be the responsibility of the national public health system, with costs estimated to increase quickly if overweight and obesity prevalence continue to rise [72]. However, policy efforts have encountered challenges such as insufficient data and funding for health promotion, policy inertia, and weak intersectoral partnerships [48, 73]. Advocacy and research engaging communities and national stakeholders have improved the generation of evidence and dissemination in collaboration with policymakers, regulators, the private sector, consumer protection agencies, and UN agencies.

Ghana is working to improve food environments with a 20 percent excise tax on SSBs—one of the few African countries with such a tax—although a 17.5 percent tax on bottled water affects healthy beverage choices. Advocacy efforts, such as those by the Advocacy for Health Coalition, promote acceptance of taxes on unhealthy foods [74], but implementation of healthy food policies remains weak [75]. Key challenges include poor governance, weak coordination, and limited funding [76]. Efforts to restrict unhealthy food marketing to children are a priority [75], but various factors hinder obesity reduction, including a need to identify which foods to control (requiring food composition tables and updated food-based dietary guidelines, among others) [75], as well as cultural norms linking overweight to wealth [20]. Programs such as Healthy Street Food Incentives aim to enhance urban food safety and encourage fruit consumption through customer-led monitoring of street foods and lottery rewards.

In Ghana, the nutrition policy context is primarily evidence-based and driven by global nutrition targets, with multisectoral planning and financing groups, large-scale social protection and school feeding programs, and policy interventions addressing the influence of obesogenic food environments. There is potential to continue strengthening multisectoral coordination, as well as to urgently intensify the policy focus on overweight, obesity, and NCD prevention and the adoption of double-duty actions to address all forms of malnutrition in urban populations.


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Urban nutrition interventions

Urban nutrition interventions emphasizing supplementation, fortification, and nutrition education showed mixed results (**Table 1**). Daily small-quantity lipid-based nutrient supplements for pregnant women and their infants improved child growth and reduced stunting [77] compared to iron-folic acid (IFA) and multiple micronutrients (MMN), while IFA and MMN were more effective in promoting gestational weight gain [78]. Lysine supplementation reduced blood pressure in hypertensive adults with insufficient lysine intake [79].

Nutrition education, physical activity education, and nutrition combined with physical activity education improved knowledge and reduced low BMI-for-age in schoolchildren, with the combined nutrition plus physical activity intervention showing the greatest impact [80]. Fortified foods (salt, oil, wheat flour) and supplementation can address urban micronutrient needs but face challenges such as low consumption. Biofortified foods alone are not sufficient for women's nutritional needs [81]. Supplement and fortification interventions do not address poor diet quality and the DBM in urban areas, and nutrition education interventions may not address issues with access or affordability of healthy diets, underscoring the need for double-duty actions to tackle all forms of malnutrition [1].

Table 1: Nutrition interventions in urban Ghana, 2010–2022

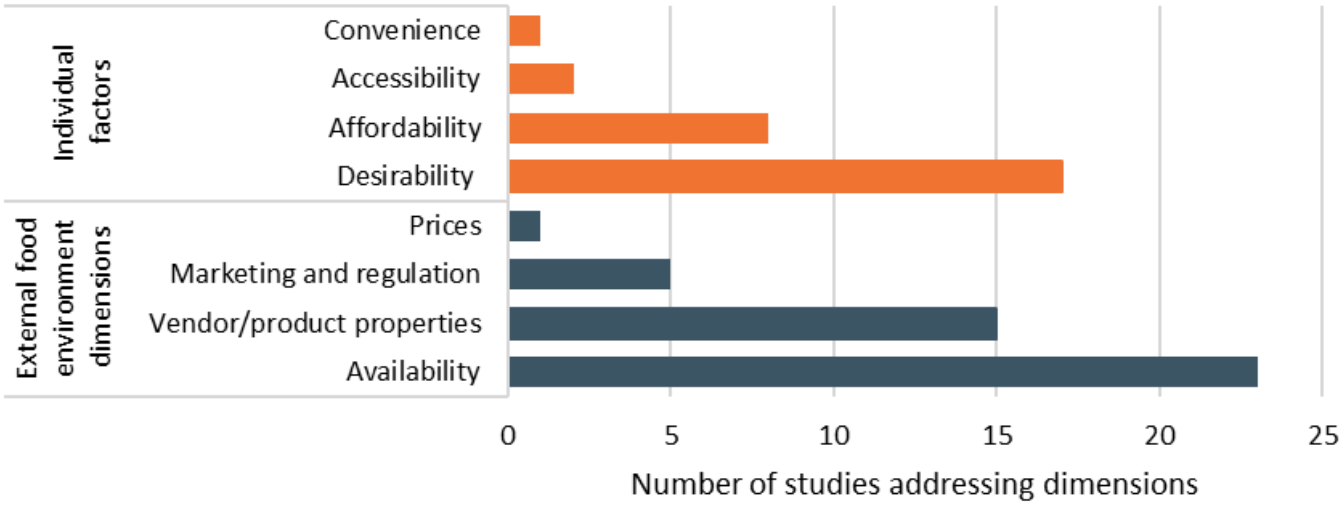
Randomized controlled trial	Population	Intervention	Results
Yes [77]	Infants (6–18 months), pregnant women	**Small-quantity lipid-based supplements (SQ-LNS):** Daily supplement for women (≤20 weeks gestation to 6 months postpartum; infants 6–18 months received SQ-LNS. Comparison groups: (1) SQ–LNS, (2) Iron and folic acid (IFA), (3) Multiple micronutrients (MMN)	**Significant effect.** Greater mean length, length-for-age z-scores, weight, and weight-for-age z-scores in SQ–LNS group vs. IFA, MMN groups. Lower proportion of stunted children at 18 months in SQ–LNS group. **No impact** on head circumference or mid-upper arm circumference.
Yes [78]	Pregnant women (<20 weeks gestation)	Same as [77]	**No significant effect**. MMN and IFA groups had a lower prevalence of inadequate gestational weight gain (67%, 63%) than the SQ–LNS group (57%). **No differences** in adequate or excessive gestational weight gain across groups.
Yes [79]	Adults (18–45 years) not on anti-HT medications	**Daily lysine supplementation** (112 days): (1) Lysine-hydrochloride tablets (500 mg lysine), (2) Placebo	**Significant effect**. Reduced blood pressure in hypertensive participants with insufficient lysine intake. No change in systolic blood pressure with placebo.
No [80]	Schoolchildren (9–13 years)	**Nutrition and health education** (6 months, twice monthly): (1) Nutrition education & group learning; (2) Physical activity (PA) education; (3) Nutrition & PA education; (4) Control (no education)	**Significant effect**. Knowledge improvement: Group 3 (Nutrition + PA) (31%), Group 1 (Nutrition only) (30%), Group 2 (24%), Control (19%). Body mass index-for-age increased (from negative z-scores at baseline): Nutrition group (+0.65) > Dual-intervention group (+0.27) > PA group (+0.23) > Control (+0.18)
No [81]	Women (15–49 years), pregnant and lactating women	Integrated strategies for reduction of micronutrient deficiencies (simulation): (1) Fortification (salt, oil, wheat flour); (2) Biofortification; (3) Supplementation; (4) Local nutrient-rich foods	**Key insights.** Mandatory fortification and supplementation could help the urban population meet recommended nutrient intakes for iron, zinc, vitamin A, and folate. Biofortified foods help with vitamin A but are insufficient for women of reproductive age. Risks of excessive intake of vitamin A, folic acid, and niacin.

Source: Authors. **Note**: CG = control group; IFA = iron and folic acid; MMN = multiple micronutrients; SQ–LNS = small-quantity lipid supplement; PA = physical activity.

Urban food environments

A review of urban food environment studies in Ghana (n=56) revealed that most focused on availability (n=23), desirability (n=18), and vendor and product properties (n=19). Fewer studies examined affordability (n=8), marketing and regulation (n=5), accessibility (n=2), prices (n=1), or convenience (n=1) (**Figure 4**). Geographically, the evidence focused on Accra (n=30) and Kumasi (n=14). We summarize the evidence by food environment dimensions, starting with external factors followed by individual factors. The section is organized around the number of studies reviewed.

Figure 4: Studies of urban food environments in Ghana, 2000–2023



Source: Authors. **Note**: This figure summarizes the results of a systematic scoping review of urban food environments. Papers were categorized under multiple dimensions of the food environment as appropriate.

Availability

Urban markets offer diverse food options through formal and informal vendors, with traditional markets favored for freshness and affordability [82, 83, 84, 85, 86, 87]. Urban agriculture supplies leafy vegetables [85], while backyard gardens and urban trees, such as mango trees, help supplement diets [87, 88]. In cities, residents grow food for household use, such as in Techiman and Tamale, where a study found 43 percent of sampled households engaged in urban agriculture [89]. However, UPFs are increasingly common in formal markets [86, 90, 84, 91, 92], with 85 percent of shelf space in Accra stocked with unhealthy options [86]. In schools, private institutions offer more food choices—both healthy and unhealthy—than public ones [85, 86, 87, 88]. Most schools in Accra are near fast food outlets [93], and children at public schools often rely on street vendors for meals [94]. The rising availability of inexpensive, energy-dense UPFs, particularly around schools, poses concerns for increasingly unhealthy eating habits in children.

Vendor and product properties

Studies of food vendors in Ghana highlight poor adherence to food safety practices, including basic guidelines such as handwashing, and widespread contamination of fresh produce and street foods, such as lettuce, fruits, and beef [95, 96, 97, 98, 99, 100, 101, 102, 103, 104]. These safety issues harm consumer health and reduce demand for fresh, nutrient-rich foods. Initiatives such as the Ghana Green Label Foundation offer a multistakeholder governance framework for improved food safety, including the development of safety standards, compliance audits, and third-party certification to boost consumer trust and demand for safe, fresh food [105].

Marketing and regulation

Food marketing and regulation studies show that advertising, particularly in urban areas, influences consumer behavior and consumption of UPFs [106, 107, 108]. Much of urban advertising in low-income Accra neighborhoods promotes unhealthy foods. A study showed that nearly half of food advertisements promoted SSBs [109], and more than two-thirds of school advertisements promoted unhealthy foods, primarily SSBs, alcohol, and high-fat or sugar-sweetened dairy products [110]. Packaged foods, sold and marketed near schools, appeal to children, who, in urban areas, make independent food choices [108].

Desirability

Studies of urban Ghanaians show that individual tastes and preferences, food quality and appearance, and the influence of the social food environment, such as family and friends, shape food choices [106, 111, 112, 113, 83, 96, 114, 115, 116, 117]. Taste was a key consideration in qualitative studies identifying preferences for local meat [113] and for ultra-palatable UPFs such as instant noodles, while healthier foods with low sodium were unpopular [114]. A study showed that vegetable purchasing was influenced by concerns about the safety of food production (chemicals, quality of irrigation water) and consumer income [112], while another study documented that freshness influenced urban consumers more than organic certification [118]. Caregivers selected infant foods for perceived health value, child acceptability, and affordability, preferring the convenience of commercial cereals over preparing a time-consuming traditional millet porridge [119]. Food insecurity from poor harvests influenced consumer food choices, with urban households adopting more severe coping strategies than rural and peri-urban households [120].

Affordability and prices

Consumers are often willing to pay a premium for safer and more sustainable (organic) foods [121, 103, 122], though these choices are significantly influenced by higher incomes. Similarly, employed consumers tend to show a greater willingness to purchase safer vegetables [122]. Qualitative research highlights that nutrient-rich foods, like fruit, meat, and fish, are desirable but often unaffordable, leading women buy cheap alternatives like instant noodles [123].

Another study shows that poorer households are more inclined to consume affordable but unhealthy foods and beverages (SSBs, fried foods, and sweet foods) [46]. Vegetables and cereals dominate food budgets across all socioeconomic groups, but higher-income, food safety-conscious consumers buy more vegetables, though they allocate the lowest percentage of their total food expenditures to those foods [112]. Food costs limit access to healthy diets, with low-income urban and rural families able to achieve healthy and nutritionally adequate diets on US$3.10/day by consuming more cereals, vegetables, soy, and groundnuts. For rural households, achieving healthy diets at a lower poverty threshold (US$1.90/day) is possible but requires consumption of wild foods like amaranth leaves, snails, and moringa [124].

Accessibility and convenience

Convenience and accessibility also shape consumer behavior. Many urban consumers value street foods for their affordability and accessibility [125], while shoppers in larger cities (Accra, Kumasi) rely on nearby supermarkets [83]. However, market conditions and poor vendor storage practices impact food quality, which in turn determines the prices that vendors can charge for their products (such as lower prices for spoiled produce, which is sold to livestock producers) [99].

Urban food environment interventions: regulations and programs

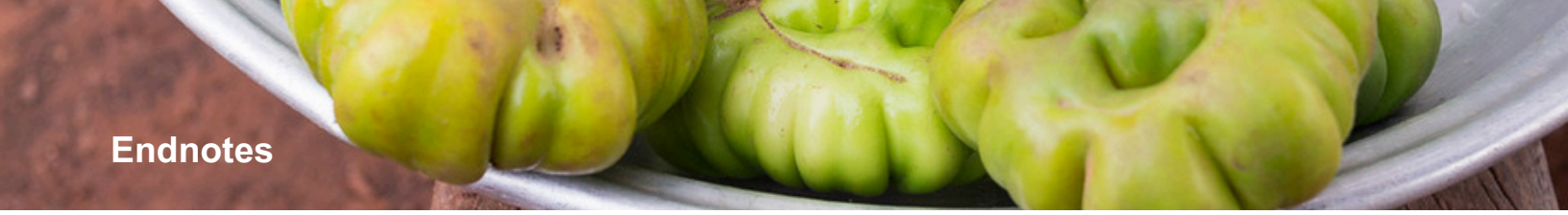
We identified only one urban food environment intervention in our review (**Table 2**). A day-long WHO-based food safety training for street vendors improved self-reported knowledge and handwashing practices, but limited access to safety equipment hindered sustained behavioral change [126]. It is important to note that the intervention was a small, one-day pilot training without a comparison group, which limits inferences that can be made from the results. There is a need for more experimentation in effective urban interventions to promote food safety in urban food environments.

Table 2: Food environment interventions in urban Ghana, 2000–2023

Randomized controlled trial	Population	Intervention	Results
No [126]	Street food vendors	**Risk communication training:** food handling and safety practices using WHO Keys for Food Safety guidelines	**Key findings:** 68% of vendors self-reported that they acquired and applied knowledge from training, and increases in handwashing practices, but limited access to proper safety equipment hindered sustained behavioral change or changes in other WHO key practices.

Source: Authors. **Note**: KAP = Knowledge, attitudes, and practices; WHO = World Health Organization. This table summarizes the results of a systematic scoping review of urban food environments that included interventions.

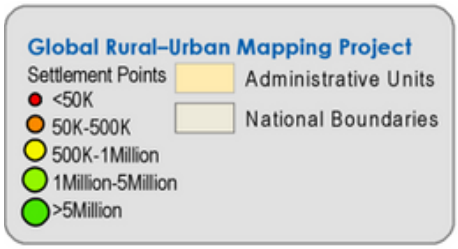
The evidence on urban food environments in Ghana covers diverse external and individual factors such as food availability, affordability and desirability, vendor and product properties, and marketing, and notes significant disparities in food safety and accessibility within urban settings. Studies show the presence of UPFs near schools and in markets, poor adherence to food safety standards, and consumer preferences for taste and affordability over healthiness. Marketing heavily influences unhealthy food consumption, particularly in low-income areas. National-level policies, such as the taxation of unhealthy foods, are promising but more interventions are needed along with rigorous evaluations to document impacts.



Endnotes

[i] Includes cocoyam, cassava and amaranth leaves, ademe/ayoyo (jute mallow), and other dark green leafy vegetables.
[ii] Includes carrots or sweet potatoes with a yellow or orange interior, ripe mango or papaya, and African star apple.
[iii] Sweet beverages defined by the DHS as fruit juice, fruit-flavored drinks, sodas, malt drinks, sports drinks, energy drinks, sweetened tea, coffee, herbal drinks, and other sweetened liquids.
[iv] Combined risk factors for cardiovascular disease include current daily smoking, fewer than five servings of fruit and/or vegetables per day, failing to meet WHO recommendations for physical activity (<150 minutes of moderate activity per week or equivalent), being overweight or obese (BMI = 25 kg/m²), and having elevated blood pressure (systolic blood pressure = 140 mmHg and/or diastolic blood pressure = 90 mmHg, or currently on medication for elevated blood pressure).

Map (page 1): Urban Settlement Points: Ghana. Center for International Earth Science Information Network (CIESIN), Columbia University, CUNY Institute for Demographic Research (CIDR), International Food Policy Research Institute (IFPRI), The World Bank, and Centro Internacional de Agricultura Tropical (CIAT). 2017. Global Rural-Urban Mapping Project, Version 1 (GRUMPv1): Settlement Points, Revision 01. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). Accessed 2024.



ABOUT THE AUTHORS

Amy Margolies is a Research Fellow at the International Food Policy Research Institute. Dorcas Amunga is a Nutritionist at the International Potato Center. Hope Craig was an independent consultant at the time this work was conducted. Gloria Folson is a Research Fellow in at the Department of Nutrition, Noguchi Memorial Institute for Medical Research. Deanna Olney is the Unit Director, Nutrition, Diets and Health, at the International Food Policy Research Institute.

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IFPRI is a CGIAR Research Center
1201 Eye Street, NW, Washington, DC 20005 USA | T. +1-202-862-5600 | F. +1-202-862-5606 | Email: ifpri@cgiar.org | www.ifpri.org | www.ifpri.info
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