INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
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UFED
Urban Food Environments and Diets Tool

FOOD ENVIRONMENT ASSESSMENT

In-Depth Vendor Assessment – Food Costs and Affordability

Overview

The In-Depth Vendor Assessment Tool is used to gather detailed information on multiple dimensions of the food environment among market vendors and in other retail outlets. This guidance describes its specific use for gathering price data to assess food costs and affordability. Depending on study design, the tool can enable:

1. Estimation of the cost of a healthy diet (CoHD) and comparison with household income to identify affordability gaps that limit food access among the study population;
2. Monitoring of trends in cost and affordability through different times of the year if regular monitoring takes place, in addition to comparison between different types of neighborhoods (e.g., by urbanicity or socio-economic makeup);
3. Comparison of the cost of healthy foods versus unhealthy foods; and
4. Exploration of possible links with food purchases and diet outcomes.

This guidance is adapted from The Food Environment Toolbox[1] – Cost of a Healthy Diet Data Collection Protocol (Downs, Staromiejska, et al., 2024; A. Herforth, Gilbert, Sokourenko, & Downs, 2024). In addition to gathering food prices, the In-Depth Vendor Assessment Tool can be used to measure food availability and advertisement (see In-Depth Vendor Assessment – Food Availability and Food and Beverage Promotion tools for guidance on those dimensions)[2].

Note on assessment of vendor characteristics and other food environment dimensions, including food safety

The guidance provided here does not include assessment of vendor characteristics, such as opening hours, level of permanence (e.g. type of roof), payment methods accepted, or food safety and hygiene practices. However, food environment assessment typically includes many of these other dimensions, depending on research objectives. Examples of survey questions to measure food safety, level of permanence vs. informality, adequacy or water access or waste management in markets, among others, can be found in The Food Environment Toolbox (Community Mapping Tool for level of permanence, and In-Depth Vendor Assessment for vendor hygiene and food storage practices) (Downs, Staromiejska, et al., 2024). USAID and GAIN have also developed an observational checklist of assessing food safety as part of the EatSafe project (GAIN, 2024).

1 The Food Environment Toolbox encompasses a suite of assessments designed to measure different dimensions of the food environment in LMICs. The toolbox is available through the Rutgers University website (https://sites.rutgers.edu/food-environment-Toolbox/), and was funded through the Innovative Methods and Metrics for Agriculture and Nutrition Action (IMMANA) program.

2 Note that The Food Environment Toolbox includes separate tools for Cost of a Healthy Diet and In-Depth Vendor Assessment, however provides guidance on how these can be integrated, similar to the recommendation here.

Rationale

Food costs and affordability are among the most frequently reported drivers of food choices and diets, both motivating less healthy food consumption while presenting barriers to healthy food consumption (Parkes et al., 2025). Low-income consumers are more vulnerable to price shocks, initially substituting lower cost unhealthy foods for more expensive nutrient-rich foods and eventually reducing quantity of food consumed if shortfalls continue (Bloem et al., 2010; Brinkman et al., 2010). Food price shocks also increase risk of child wasting and stunting, and while farming households may be somewhat protected, children from landless households (the typical case in urban and peri-urban (UPU settings) are worse off (Headey & Ruel, 2023). Cost and affordability analysis is to generate information on population-level economic access to healthy foods and diets, for identifying vulnerable UPU groups, and to guide action on best ways to enhance purchasing power for different population groups.

In-depth vendor assessment – similar to market surveys or market basket analysis – is an enumerator observation-based method for gathering food prices that is adaptable to different UPU contexts, outlet types, and food groups. Qualitative methods may be utilized to explore consumer perceptions of food affordability; these are complementary to quantitative methods such as in-depth vendor assessment and may yield important insights into how prices influence decision-making of consumers.

Type of data

Data are gathered using an observational checklist consisting of a pre-specified list of food items, which enumerators must attempt to locate and record the prices for[3] . In addition to prices, datasets often include the unit types and quantities associated with the specified price. If foods are sold in non-standard units (e.g., bunches of leafy greens, pieces of fruit), enumerators may need to carry scales and weigh items for later conversion to standard units (e.g., kilograms, pounds). Food lists are typically organized into food groups, which can be chosen based on those recommended in food-based dietary guidelines (FBDG), those included in diet quality indicators (e.g. Global Diet Quality Score (GDQS) or Global Dietary Recommendations (GDR) score), or according to other specific research objectives of the assessment, which may focus on a narrower set of healthy or unhealthy foods (Bromage et al., 2020; A. W. Herforth et al., 2020).

Food costs and affordability analysis may require additional data from other sources, as detailed in the table below.

Data type	Source	Use
Energy density, nutrient contents, and edible portions of foods	Food composition tables	Food prices are often converted to prices per kilocalories, grams, servings, or nutrient quantities, and are often adjusted for inedible portions.
Poverty, income, and/or expenditure data	Household surveys	Affordability analysis is typically conducted by comparing food or diet costs to income available for food (e.g. the cost of a healthy diet as a percent of income available or prevalence of the population with insufficient income available for the cost of a healthy diet).
Conversion factors for non-standard units	Conversion factor database	If enumerators cannot gather weights at the time of the price data collection, standardized conversion factors may need to be attained from secondary source (perhaps maintained by a national statistical agency) or through a one-time data collection of all possible item-unit combinations. It should be noted, however, that unit conversions may vary by location, vendor type, and season.

3 Guidance provided in The Food Environment Toolbox Cost of a Healthy Diet protocol also includes advice on gathering food prices without a pre-specified food list. Using this approach, enumerators gather prices on all food items that are available in the outlet at the time of data collection (A. Herforth, Gilbert, Sokourenko, & Downs, 2024). This approach may be advantageous in contexts where there is uncertainty prior to data collection over what seasonal food items might be available or the extent to which underutilized fruits, vegetables, or other items may be available for sale; however, this could add substantially to the time of data collection in large format outlets such as supermarkets and open-air traditional markets.

Indicators

Analysis of food price data should aim to estimate the cost of food and diet patterns, depending on research objectives. These cost indicators can be tracked over time to understand month-to-month variation, seasonal variation, or how food costs respond to shocks, like other prices indexes. However, their usefulness in shedding light on food access can be more fully realized when they are compared with income standards, especially from groups of different socio-economic backgrounds, recognizing that food insecure households are most vulnerable to price increases due to the large portion of their total income that is allocated to food expenditure (Brinkman et al., 2010).

Below is a non-exhaustive list of cost and affordability indicators, including suggested comparisons that can be made between healthy and less healthy foods and diet patterns:

Cost of a healthy diet (CoHD)

CoHD represents the minimum daily cost of purchasing food that meets healthy diet recommendations. Standardized methods for constructing the indicator have been developed by the Food Prices for Nutrition Initiative and tools are available on their website (Food Prices for Nutrition, 2024). Global monitoring of CoHD and its affordability is now included in the FAO State of Food Security and Nutrition in the World (SOFI) reports, which use a standard food basket, known as the Healthy Diet Basket, to reflect common dietary guidelines around the world (A. Herforth et al., 2022). However, national FBDG can also be used if available and quantifiable.

- By extension, there may be interest in comparing healthy versus "unhealthy" diets. Though there is no indicator for the cost of an "unhealthy" diet, if dietary data from the study population is available (or national data by urban/rural), the cost of a "less healthy" diet, based on current average intakes, can be estimated and compared to CoHD (Lee et al., 2013). In many LMIC contexts, current diets are likely to feature excess intake of energy-dense foods and/or foods that are high in sugar, salt, or saturated or trans fats, which are unlikely to be included in national FBDG, thus making them 'less healthy'.

CoHD food group sub-metrics

CoHD can also be broken down into food group specific sub-metrics to measure the cost of, for example, fruit, animal source foods, or legumes, nuts, and seeds, which represent the daily cost of purchasing the quantity and variety of those foods recommended in FBDG.

- Additionally, where food expenditure or budget survey data are available for the study population, the gap between what the FBDG would cost for a given food group and what households are currently spending could be calculated. While households may underspend on food groups like fruits, vegetables, and animal source foods, they may overspend on groups like grains, roots, and tubers. This analysis may lend insight into how existing budgets can be re-allocated even while advocating for the important role of social safety nets.

Affordability of CoHD

A healthy diet is unaffordable to those whose income is lower than the CoHD. Herforth et al 2024 recommend comparing CoHD to total income minus the sub-national non-food poverty line, which should approximate the leftover income available for food purchases (A. Herforth, Gilbert, Sokourenko, Fatima, et al., 2024). For UPU assessments, researchers may instead want to compare CoHD to income and expenditure data from their specific study population. If a household expenditure survey has been conducted, total expenditure can serve as a proxy for total income, and the income available for food can be approximated by subtracting non-food expenditure from total expenditure. Results are typically reported as the percent of respondents that cannot afford a healthy diet in each study cluster/neighborhood.

Cost per serving of healthy versus unhealthy foods

Comparisons of the cost of unhealthy versus less healthy foods face various methodological challenges, including the need for a unit of comparison. Prices per kilocalorie (or caloric prices) have been used, but healthier foods like fruits and vegetables are often low in calories, so always appear expensive; an alternative approach has been to compare costs per serving (Rao et al., 2013). While recommended serving sizes for healthy foods are provided in FBDG, serving sizes for less healthy or unhealthy foods may require examining nutrition labels, if available. Definitions of what are considered "healthy", "less healthy" or "unhealthy" foods may also vary, and classifying foods into these groups may add complexity[4]. Another approach used mainly in high-income countries has been to compare healthy versus less healthy versions of the same food (e.g. refined versus whole grain bread) (Glanz et al., 2007).

A note on level of analysis for availability indicators

Cost indicators can be calculated for individual markets and food outlets, but policymakers and other data users may also like to aggregate measures over a neighborhood or other geographic delineation. Additionally, while supermarkets or traditional wet markets offer a wide variety of foods, very small outlets like kiosks, street stalls, or mobile vendors are unlikely to offer the range of food groups needed for estimation of indicators like CoHD. Several options are available for aggregating cost indicators:

1. taking the average of the indicator values from each outlet or market in the neighborhood/area;
2. taking the average of all prices observed for each food item in the neighborhood/area, then calculating the indicator value for the area;
3. taking the lowest prices observed from among all the sampled outlets in the neighborhood/area and calculating the indicator value based only on those lowest cost items.

Option 1 has the previously mentioned drawback of potentially including many missing indicator values for outlets with insufficient foods available. Options 2 and 3 avoid this issue and assume that consumers may utilize multiple vendors in their neighborhoods to source foods, and in the case of Option 3, 'shop around' for lowest cost items[5].

When analyzing how cost and affordability indicators affect food purchases or diets, different approaches for linking markets and outlets with consumers are possible. Options for defining the boundaries of a household's food environment include, but are not limited to:

1. all outlets in the same census tract as a household (taking the median of the indicator values from all sampled outlets in this area)
2. only the closest outlet to the household; and
3. all outlets within a specified distance of the household (taking the median of the indicator values from all sampled outlets in this buffer).

These approaches may yield different findings, as each is likely to link a different set of outlets to individual households, therefore changing the denominator of indicators. Approaches 2 and 3 may be less appropriate than Approach 1 when sampled outlets for In-Depth Vendor Assessment are only a small percentage of the total number of outlets present at cluster level or are not randomly sampled. In these scenarios, the nearest sampled outlet to a household may not be the outlet that is actually nearest, and sampled outlets within the specified buffer of households may not be adequate to accurately reflect the food environment in that area. Approach 2 may be only appropriate if applied to outlets such as supermarkets or open-air traditional markets, as costing can require data collection on a wide range of foods or diets that smaller outlets, such as shops or kiosks, are unlikely to offer in the full range needed. Approach 1 will also have limitations for households that reside on or near administrative borders.

4 The challenge of healthy versus less healthy food classification is common to most of the food environment tools included in UFED. On the far end of complexity, nutrient profile modeling has been used to classify unhealthy versus healthy based on scoring systems that assign numerical values to various nutrients included in foods. A lighter approach could assign healthy foods to the food groups mentioned in national food-based dietary guidelines (FBDG) (i.e. 'core' foods), while assigning energy-dense, nutrient poor foods to the less healthy ('non-core') category (Kelly et al., 2013).

5 It may be difficult for enumerators to observe true lowest cost prices that are, for example, attained through negotiation or through purchasing in bulk, which is not likely possible for low-income consumers in particular. Still an approximation of the range of prices on offer can be sought by sampling different outlet types. Indicators such as CoHD and its sub-metrics could also be generated using average, minimum, and maximum prices for the most common 'low-cost items' to assess how these price variations can affect overall diet costs.

Pros

- Can be combined with assessment of food availability (e.g. diversity of fruits or vegetables offered) and marketing aspects
- CoHD is a powerful advocacy tool, shedding light on affordability gaps in UPU areas and motivating the strengthening of social protection programs
- Sampling can include a variety of outlet types in order to compare price levels between them (e.g. supermarkets versus traditional wet markets) and get a sense for the distribution of prices available in the studia area, allowing for the reporting and analysis average prices, but also minimum and maximum prices observed

Cons

- Food price data collection is resource-intensive and complex – if data is accessible through national statistical agencies, it may be preferable to analyze that data, especially if it covers UPU areas of interest
- There is a lack of standardized methods to compare costs of healthy and unhealthy foods
- Longer food lists may be time consuming and disruptive to vendors if enumerators are present for an extended period of time
- Indicators do not account for food preparation costs (fuel and additional ingredients that may be needed to prepare the food)

Tool and indicator validation

Similar tools as that described have been tested in urban, peri-urban, and rural settings of India and Cambodia as part of the development of the Food Environment Toolbox, and by USAID Advancing Nutrition in Honduras, Liberia, Nigeria, and Timor-Leste (Downs et al., 2025; Downs, Warne, et al., 2024). These pilot experiences did not formally assess validity or reliability, but gauged feasibility based on field experiences of enumerators and refined the tools accordingly. Validity and reliability studies are lacking. Studies that include a very short pre-specified food list may risk overestimating indicators like CoHD (if foods missing from the list are low-cost). Headey, Hirvonen, and Alderman find that ensuring food lists adequately represent low-cost items can reduce the estimated number of people that cannot afford a healthy diet in cross-country comparisons (Headey et al., 2024). They identify even larger reductions in unaffordability when analysis accounts for the different energy requirements of households, based on demographic factors (since younger children require fewer calories), and when estimation of the income available for food is adjusted to varying levels of non-food related expenses in different contexts (though it is unclear whether these non-food expenses – e.g., heating – would vary substantially within UPU areas of a single country).

Lower-resource adaptations

In settings with limited resources, adaptations to the GDQS tool and data collection methods can help maintain data quality while reducing costs and logistical burdens.

- Constrain food list to a smaller set of sentinel food items, including items within food groups that account for higher percentages of household expenditure, or food groups that are of specific research interest based on study objectives. Note however that if the goal is to assess diet indicators like CoHD, sentinel foods must cover all of the food groups needed.
- Purposively sample a smaller set of contrasting urban communities (e.g. middle-income vs. low income).
- Limit sampling of vendors and markets only to those most frequently used by communities (though this may preclude assessment of the range of prices available by vendor type).

Higher-resource adaptations

Conversely, in high-resource contexts, expanded data collection and broader geographic coverage can enhance the depth and utility of GDQS findings.

- Can use representative neighborhood sampling
- Can sample different types of vendors to represent both formal and informal food environments
- Can use more extensive food lists, including neglected or underutilized crops, or carry out an open audit of all food items offered

Sampling and data collection considerations

Sampling procedures should address selection of communities (the primary sampling unit) and food outlets within the communities. If including wet markets or farmers markets, researchers must also decide how to sample individual vendors within these markets. For researchers interested in school food environments, primary sampling units may instead consist of schools and their surrounding geographic areas; this may also apply to other types of institutional food environments.

Selection of communities can be random or purposive. A random sample could be drawn from all urban and peri-urban areas of interest, while a purposive sample could focus on specific areas of interest – such as those where a program is being planned or areas of contrasting income levels. The definition of "community" may vary by setting, and may often consist of smaller geographic areas than those delineated by the lowest administrative units, especially in densely populated urban areas.

Gathering prices on individual items to represent a healthy diet, in addition to potentially other types of data (e.g. storage and display methods, infrastructure, advertisements), may result in a lengthy questionnaire, therefore it may not be feasible to conduct In-Depth Vendor Assessment among all vendors in the study area. Therefore, additional sampling may be needed to select individual vendors for inclusion in the study. Formative information gathering in the study area with key informants and community members may help to identify specific outlet types that are most frequently used by the target population (e.g. wet markets, small retail shops, or mobile vendors), or are the most common access points for specific food groups of research interest. For example, if a study is interested in fruit and vegetable consumption and formative research indicates that 90% of purchases are from wet markets, data collection may take place exclusively in wet markets, seeking to sample all of such markets in the study area of interest. If only half of fruit and vegetable purchases are from wet markets and the remaining share are from specialty fruit and vegetable stalls or mobile vendors, sampling could include a fixed percentage of those outlets.

A sampling frame, or complete listing of vendors in the study area, can be attained from the Community and Market Mapping Tool if a census has been previously carried out, or if local government maintains registries of vendors (though these may not include all informal vendors). Census and In-Depth Vendor Assessment can be carried out simultaneously by programming survey software to randomly select a specified percentage of outlets identified in the census for immediate in-depth assessment.

If it is not possible to carry out a census and no public registries are available, other methods such as random-walk sampling can be used to select vendors for inclusion in the assessment, though these are not probability-based samples (Milligan et al., 2004).

If wet markets, farmers markets, or other multi-vendor outlets are included in the assessment, sampling of vendors in these locations can use one of two approaches:

1. the market is treated as a single location and enumerators seek to locate each food item on this list by examining all vendors' offerings;
2. the enumerator samples only a sub-set of market vendors in the data collection and limits data collection to that sub-sample of vendors.

The second method may be appropriate if there is reasonable uniformity in the range of food items and price levels offered by vendors (e.g. fruit vendors offer the same 4-5 fruits, grain vendors offer the same varieties of grains, etc.); this method may also allow the enumerator to gather additional information on vendor characteristics and include short interviews with those vendors if desired. This vendor-specific information is more difficult to attain through the first method, however that approach may be more appropriate if capturing the full range of food items available requires visiting a large number of vendors in the market.

If the second approach is used, it is recommended to stratify sampling of vendors by the food groups they specialize in, adhering to food group classifications included in FBDG, the Healthy Diet Basket (HDB), DQQ, or GDQS (Bromage et al., 2020; A. Herforth et al., 2025; A. W. Herforth et al., 2020). While vendors may have a specialization in a certain type of food (e.g. legumes), it is not uncommon for them to offer other groups as well (e.g. grains or vegetables) – therefore, enumerators should include all items offered by the vendors in the data collection. This could still be limited to a pre-specified food list, but may consist of an open audit of all items as well.

Price levels may vary by location of the market as well. For example, vendors near the entrance may have higher prices, while vendors located outside of official market areas (e.g. along the road) may have lower prices. Selection of vendors should reflect average prices in the market – it is therefore advantageous to collect several price observations per food item, gathered from different areas of the market if possible.

Assembling a pre-specified food list

Deciding on which food items to gather prices for is another key step in planning the assessment, and will depend on study objectives. For CoHD assessment, it is important to include a range of food items from within the various food groups included in FBDG. Items in the list should include both low-cost and commonly consumed foods within each food group. The table below provides a guideline for researchers interested in estimating the cost of the Healthy Diet Basket, which is a food basket developed to represent the commonalities of FBDGs around the world for global monitoring (A. Herforth et al., 2025). While the Healthy Diet Basket requires only 1-3 items within each group to calculate CoHD, spatial variation in CoHD estimates across different urban areas and over time may be better captured if more items are monitored, as different items may be selected as the "low cost items" included in CoHD in different areas and different times.

Main food group	Sub-category of food group	# of items to include in food list
Starchy staple foods		**12**
Vegetables		**9 – 12**
Also including:	Dark leafy green vegetables	2 – 3
	Vitamin-A rich orange vegetables and tubers	2 – 3
Fruit		**6 – 10**
Also including:	Vitamin-A rich orange fruits	2 – 3
Animal-source foods		**10 – 12**
Also including:	Milk and dairy products	1 – 2
	Fish and seafood	1 – 2
	Eggs	1 – 2
	Meat	1 – 2
Legumes, nuts, and seeds		**5 – 6**
Also including:	Legumes	2
	Nuts and seeds	1 – 2
Oils and fats		**3 – 4**

Table adapted from (A. Herforth et al., 2024)

Food groups and items included in the list can also be selected based on national FBDG, or aligned with the GDQS (see GDQS tabulation guidelines) or DQQ (see DQQ indicator definitions) food lists, which may be useful particularly if a parallel diet assessment will take place using those tools. While most FBDGs do not include unhealthy or less healthy food groups, they are included in GDQS and DQQ, so if research objectives encompass these groups, or include comparisons of healthy and less healthy foods, building food lists around GDQS or DQQ good groups would make sense.

If study objectives are focused on a narrower set of food groups, the food list could instead be limited to items in those groups, possibly oversampling in the case of fruits and vegetables or other perishables, recognizing the increased potential of seasonal variation in availability of these items. One tool that can help in the selection of seasonal items is the Seasonal Food Calendar, which uses a participatory method to identify which foods are available during different months of the year, using focus group discussions among community member (Downs, Staromiejska, et al., 2024; Lochetti et al., 2020). Additional guidance on this tool is available in the Food Environment Toolbox[6]. Repeated assessments may be needed to capture seasonal items.

6 https://sites.rutgers.edu/food-environment-toolbox/seasonal-calendar-of-food-availability/

Researchers may also be interested in assessing how the cost of unhealthy foods influences food purchases and diets, so may choose to include commonly consumed discretionary foods in the list. These may be identified through formative market visits, focus group discussions with the community, or by examining national household expenditure data. For packaged items, food lists may also include examples of common brands to aid enumerators.

Collecting food prices

Once the food list is assembled, enumerators should consider the following when gathering food prices in UPU areas:

- While supermarkets tend to display prices, this is rare in informal food environments, so enumerators will need to inquire with vendors. In addition to asking permission from vendors to gather prices, enumerators should be considerate of their time and make efforts to minimize disruption of their business;

- Prices should be recorded in the quantities and units they are sold in. Requiring vendors to report prices in standardized (e.g. metric) units may result in errors (Oseni et al., 2017). If prices are reported in non-standard units, enumerators should have scales to weigh those items;

- For fresh fruits and vegetables, prices should be gathered for items of average quality. Discounted prices for items that are damaged should not be included, unless there is specific interest in comparing these, in which case food lists can include varying levels of quality for food items (further guidance available in the Food Environment Toolbox Cost of a Healthy Diet protocol (A. Herforth, Gilbert, Sokourenko, & Downs, 2024);

- In general, discounted prices or promotional prices (buy 1 get 1 free) should not be included (unless comparisons of regular versus sale prices is a stated research goal);

- For packaged items that may include different brands (e.g. milk, tinned fish, pasta, instant noodles, biscuits, sweets), enumerators should gather prices for the most common-sized item, choosing the lowest-cost brand available; and

- As a general rule of thumb, it is recommended to collect a minimum of three price observations for each food item per sampling unit. Additionally, if gathering prices in multi-vendor outlet types, such as wet markets and farmers markets, prices from at least three different vendors should be sought. Depending on study objectives and resources, more rigorous population-based methods can be used to determine larger numbers of samples needed for each item, in order to be representative of study clusters where vendors are densely populated, and possibly representative of different type of vendors or outlets as well.

Other data sources

Secondary data sources	Pros	Cons	Indicators
Consumer price index (CPI) data	-Routinely collected, covering a range of food items -UPU areas are typically well covered, and urban-specific CPIs are occasionally available -The preferred secondary data source for CoHD monitoring	-Focus is typically on food items that account for significant household expenditure, which may not include all food groups that make up a healthy diet	-Many national statistical offices (NSOs) are beginning to monitor CoHD on their own, alongside CPI -Variables need to be constructed from raw price data
Agricultural market information systems	-Routinely collected	-Focus on agricultural commodities that are important to producers, which may not reflect all groups that make up a healthy diet	-Many national statistical offices (NSOs) are beginning to monitor CoHD on their own, alongside CPI -Variables need to be constructed from raw price data

Food and Agriculture Organization (FAO) Cost and Affordability of a Healthy Diet repository on FAOSTAT	-Calculated CoHD indicators and sub-metrics are readily available, along with affordability indicators -Routinely reported (however, with some delay – the most recent year currently available is 2022) -Makes cross-country comparisons possible	-FAOSTAT provides one value for each indicator for the country, which is not disaggregated by urban/rural or by administrative division, thus the indicators do not reflect UPU food environments specifically	-CoHD -CoHD food group sub-metrics -Prevalence of unaffordability -Number of people unable to afford a healthy diet

Illustrative papers that have used similar methods and indicators

- Cost and affordability of a healthy diet for urban populations in Thailand and the Philippines before and during the COVID-19 pandemic (Mwambi et al., 2023)
- Beyond the consumer food price index: Measuring the cost of a healthy diet in India (Narayanan et al., 2024)
- Healthy food prices increased more than prices of unhealthy options during the COVID-19 pandemic and concurrent challenges to the food system (Lewis et al., 2023)

What are possible research questions that could be answered with the In-Depth Vendor Assessment-Food Costs and Affordability Tool?

- What is the cost of a healthy diet (CoHD) and how does its affordability vary across different types of UPU settings? Are there pockets of very high unaffordability?
- What is the cost of individual food groups within the Healthy Diet Basket or national FBDGs? How does this cost compare to the amount that households typically spend on those food groups? (requires data on household expenditures)
- How does CoHD (or relative cost of healthy and unhealthy foods) vary through different months of the year? (requires follow-up surveys)
- Is CoHD (or relative cost of healthy and unhealthy foods) associated with food purchases or diet outcomes? (requires data on household expenditures and/or diet)

Urban considerations for the In-Depth Vendor Assessment-Cost and Affordability Tool

- Urban contexts may feature a greater diversity of vendors, some of which very specialized in their food offerings. Sampling should consider the types of outlets that urban consumers use most often, but also that they may rely on different vendors for different types of food. Additionally, in comparison with rural settings, traditional open-air or wet markets may not account for as high of a percentage of households' food purchases in urban areas.

- Urban consumers may be more likely to procure food from outlets outside their neighborhoods if they work away from home or are highly mobile. Formative information gathering should assess the extent to which geographically proximate areas accurately reflect target population 's food environments and adapt sampling strategies accordingly.

- Mobile vendors and food delivery services are more common in urban areas and may account for larger portion of the local food supply, however, due to their dynamic nature, moving around locations and having hours that can vary from day to day. Knowledge of the level of utilization of these vendors among the target population will enhance study design as well as interpretation of findings. Additional guidance on collecting data from mobile vendors is available in The Food Environment Toolbox Community Food Environment Mapping: Mobile Vendor Census instructions. Recommended strategies include stationing enumerators at key thoroughfares (main streets or junctions, administrative buildings, etc.) during a time known to be active for mobile vendors, asking them to stop so the data collection can be carried out, and offering an incentive if necessary (Downs, Staromiejska, et al., 2024).

Resources related to In-Depth Vendor Assessment-Cost and Affordability Tool

Food Prices for Nutrition. 2024. *Technical assistance tools for Calculating the Cost of a Healthy Diet, Version 7.0*. Tufts University. Available at: https://sites.tufts.edu/foodpricesfornutrition/tools/

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