



Food and Agriculture
Organization of the
United Nations



Milan Urban Food Policy Pact Monitoring Framework

July 2018 version

Indicator 9: Costs of a nutritious food basket at city/community level

MUFPP framework of actions' category: Sustainable diets and nutrition

The indicator measures a medium cost of a diet meeting minimum requirements of macro- and micronutrients or food based dietary guidelines based on a weighted food price index.

Overview table

MUFPP Work stream	Sustainable diets and nutrition
MUFPP action	Promote sustainable diets (healthy, safe, culturally appropriate, environmentally friendly and rights-based) through relevant education, health promotion and communication programmes, with special attention to schools, care centres, markets and the media.
What the indicator measures	The minimum cost of a diet meeting minimum requirements of macro and micronutrients or food based dietary guidelines.
Which variables need to be measured / what data are needed	The following data are needed: -List of main food markets -List of food items to be included in a nutritious food basket -Unit costs/Prices of selected nutritious and healthy foods in local markets -Data on food requirements for specific age/sex groups of reference households
Unit of measurement (i.e. Percentages, averages, number of people, etc.)	Average costs of specific food items in local currency unit per person per day
Unit(s) of Analysis (i.e. people under 5 years old, etc.)	Food items that make up a nutritious food basket
Possible sources of information of such data	-Statistics Office, Health Department -Food price monitors -Surveys among different market outlets
Possible methods/tools for data-collection	-Market/price information where they exist -Market surveys
Expertise required	Food costs surveying
Resources required/ estimated costs	

Specific observations	<p>There are in many cities ongoing efforts and data on food basket (consumption) monitoring (Statistics Office, Health Department). Often the price of a basic food basket is tracked, but typically not based on nutritious diets.</p> <p>Also, this indicator looks at food offers in the markets (focus on outlets, rather than on what/how much is consumed). Other consumption focused food security indicators are suggested in addition to this specific indicator.</p>
Examples of application	<p>Every two years, the Provincial Health Services Authority (PHSA) works with the Ministry of Health and the five regional health authorities to monitor the cost of a nutritionally adequate diet in British Columbia, Canada. Data is collected every two years using Health Canada's National Nutritious Food Basket (NNFB) tool, which includes 67 food items that are minimally processed, require preparation, and are considered to be commonly eaten by most Canadians in amounts that provide a nutritionally adequate, balanced diet. Data collection is implemented by the regional health authorities (RHAs) and occurs in the last week of May and the first week of June. A sample of approximately 220 full-service grocery stores were randomly selected and stratified by the health service delivery areas (HSDAs) of the RHAs. Complete data for 196 stores was obtained and used to determine the average cost of the NNFB. The surveillance team at PHSA analysed the data submitted by the RHAs using algorithms and information received from Health Canada. The average cost in each food category is weighted by purchase popularity and the amount of food that each person needs, adjusted by sex and age. Then the total cost was adjusted based on the size of family using the Household Size Adjustment Factor to account for the economies or diseconomies of scale¹.</p> <p>Save the Children, an NGO, piloted an approach "to quantify the extent to which households could afford to feed their children under the age of 2 and a whole family of 5 people, with a diet meeting minimum requirements of macro and micronutrients." The cost of the cheapest adequate diet was based on household surveys and calculated using a linear programming tool and a spreadsheet model built in Microsoft Excel 2000.²</p> <p>Note that several cities already collect food price data that are needed for calculating this indicator. For example, the municipality of Curitiba, Brazil, through a programme called Disk Economy collects daily data on the price of food³.</p>

Rationale/evidence

Consumption of sufficient, safe, and nutritious food is critical to the health and well-being of any urban household. One of the food security indicators used is the average monthly cost of a nutritionally adequate, balanced diet, e.g. a **nutritious food basket**. Food costing is used to monitor both affordability and accessibility of foods by relating the cost of the food basket to individual/family incomes. It will help (i) determine the minimum cost of a nutritious food basket (healthy diet), (ii) to determine the affordability of a healthy diet by household type. This indicator may provide direction to a city's health department in regard to fulfilling the requirement of monitoring food affordability and consequently supporting and promoting access to nutritious, safe, personally acceptable foods through policy and programme planning, and by targeting specific priority populations. Note that such

¹ 2015 findings are documented in the following report: <http://www.phsa.ca/population-public-health-site/Documents/2015%20Food%20Costing%20in%20BC%20-%20FINAL.pdf>

² <https://resourcecentre.savethechildren.net/sites/default/files/documents/3841.pdf> (accessed 29-01-2018).

This paper presents the results of piloting a new method for estimating the cost and affordability of the diet in four study locations (villages in Bangladesh, Ethiopia, Myanmar and Tanzania). This method –based on household rather than market surveys- is one of the fewer attempts conducted in the developing world.

³ See: <http://www.curitiba.pr.gov.br/servicos/cidadao/disque-economia/162>

policies and programmes should take into account that decreasing food costs cannot come at the expense of farmers.

The cost of a Nutritious Food Basket, using a list of food items, can be priced to estimate the average cost of feeding –on the basis of a healthy diet- different age (for example children) and sex groups or household compositions (for example a reference family of four including a man and woman, each aged 31–50 years; a boy, 14–18 years of age; and, a girl, 4–8 years old). The basket is designed to reflect an example of an eating pattern that meets local (or international) nutrition and dietary recommendations and eating behaviours of the average urban population. Items in the Nutritious Food Basket reflect the lowest price available in a specified purchase size, regardless of brand. The resulting food basket cost is based on the average cost of each food item from all surveyed market stores.

Glossary/concepts/definitions used

A **Nutritious Food Basket** (NFB) is a survey tool that is a measure of the cost of basic healthy eating that represents current nutrition recommendations and average food purchasing patterns. Current nutrition recommendations or dietary guidelines are available for specific countries based on types and quantities of food that are recommended for different age and sex groups.

Healthy diet: A diet is considered healthy for an individual when it covers both its micro- and macronutrient requirements.

Preparations

A meeting should be organised with all staff who will be involved in this activity to:

- Familiarise them with the methodological guidelines
- Agree on the objectives and scope of the analysis and data collection requirements
- Draft a list of food items to be included in the nutritious food basket
- Train food surveyors
- List and sample market stores/outlets to be surveyed
- Agree on frequency and period of data collection.

The list of food items that make up a nutritious food basket can be taken from available dietary guidelines or obtained from the Ministry of Health.

Food surveyors should understand the entire process of food costing. To ensure they have received a full explanation of their role, food surveyor training should include:

- Reviewing the procedures;
- Providing examples of common problems encountered;
- Practising food costing at a store (if possible); and
- Completing sample calculations.

To be sure the data is collected in the same way, all food surveyors must receive the same instructions and follow the same procedures. It is strongly recommended that food surveyors be trained in-store whenever possible to provide realistic hands-on experience. Training conducted in-house should try to mimic in-store training as closely as possible. When training surveyors, remind them to handle all items with care while costing food (Training Handouts are provided in:

http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/guidance/nutritiousfoodbasket_gr.pdf).

It is strongly advised to run full length trial surveys in order to gauge amount of time needed, review quality of recordings and usability of the resulting data and decide on any adaptations needed.

Sampling

To account for seasonal differences in food offers and food prices, food costing should preferably be done each main production season.

If seasonal (or monthly) is not possible, annual sampling is suggested. Note that in the latter case, data collection is a one-time snapshot event that may not necessarily reflect the average annual cost estimate.

Food costing may focus and be limited to specific areas in the city only, notably lower income areas.

Food prices vary across markets (varying from informal street markets to open markets, supermarkets, grocery stores, neighbourhood shops). It is recommended to purposively sample 10% of each main type of food markets.

To be included in the list of market stores/outlets, the following could be taken into account (adapted from Ministry of Health Promotion Canada, 2010. Nutritious food basket-Guidance Document):

- The market store must offer a major part or full line of products. Any store that does not have the capacity to have the full range of items in the NFB would not qualify (e.g. many convenience stores, drug stores, and department stores would not meet this criterion).
- The final list of markets should include representation from each of the major chains operating in the city/selected area; include both premium and discount stores from any of the major chains above; as well as any independent market stores.
- Exclude stores such as: Warehouse-type stores which may not regularly have food basket items in the specified sizes; Stores that require membership for shopping privileges, because membership is not accessible to the entire population and it is not possible to attribute the membership cost to the food items; and Convenience stores.
- Stores should be representative of the types of stores in which individuals in the city/selected area typically shop. The store selection strategy includes sampling at least one store from each major chain operating within a specific area. Not sampling from a range of stores could skew food prices. The relative importance (i.e. market share) of any store is not a factor in store selection strategy.

Note that when sampling includes high-end “health food” grocery stores, the inclusion of these stores may disproportionately influence food costs. Costs may be calculated, including or excluding such specific stores.

Food costing should be conducted for all major market outlets in the city/neighbourhood. A list of all market outlets (including informal markets and convenience stores) should be drawn up and a random sample made. Review the list of selected stores on an annual basis to consider whether different stores or any new major chains/groups or independents need to be included.

Data Collection

Once stores have been identified, the surveyors should make contact with the stores to request permission and thank them for their cooperation. Note that store managers who have a better understanding of how the information is used are more likely to participate. Send a letter of confirmation timed to arrive about a week prior to survey dates, and take a copy of the letter to the store manager on the day that food costing is completed to help remind the store manager about your communication. Follow up with a letter of thanks after the surveys have been completed. If a store that was selected does not permit to carry out in-store costing, consider if the remaining stores accurately represent the region. If not, store selection will need to be revisited.

Survey selected stores within the set time-period. Complete the costing in any given store in a single visit. Review all food costing forms to ensure purchase units are correct and enter the information into a cost averaging spreadsheet.

Data Analysis and Disaggregation

Ensure that in-store costing forms are complete for each store surveyed. Review prices to ensure they are in a form that can be entered into a cost averaging spreadsheet. The person coordinating the NFB data collection needs to check the following:

- Where the specified purchase unit is not available and prices for alternative-size products have been recorded, the price needs to be calculated for the preferred purchase unit.
- Are prices for fresh produce in a per kilogram format? If not, the price per item should be converted to a per kilogram price.
- For produce priced in multiple formats, has a lowest price per kilogram been calculated?
- Are there missing values? Note: Do not enter anything (including “0”) in the cost averaging spreadsheet for these items where there are missing values (e.g., when a food item is not available). The cost averaging spreadsheet will calculate the average cost of the food item from stores for which there is data. If “0” is entered, the average will include the price of \$0 for the store for which there is no data, lowering the apparent average cost of the food item.
- Food prices from each store must be entered into a cost averaging spreadsheet.
- Calculate the cost of the food basket for specific age/sex groups or reference households.

Costs of a nutritious food basket can be mapped for specific areas/districts in the city or for specific households or population groups (e.g. pregnant women, children). In this way, mapping can focus on low-income areas/neighbourhoods to analyse food costs in relation to average household income levels.

Generally, inflation rate is also not considered when comparing prices over time. Such data analysis limitations should be clearly reported.

More detailed guidelines and reporting formats can be found here:

http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/guidance/nutritiousfoodbasket_gr.pdf

References and links to reports/tools

Ministry of Health Promotion Canada, 2010. Nutritious food basket-Guidance Document.

http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/guidance/nutritiousfoodbasket_gr.pdf

See further: <https://www.canada.ca/en/health-canada/services/food-nutrition/food-nutrition-surveillance/national-nutritious-food-basket.html>

Save the Children The Minimum Cost of A Healthy Diet. Available at:

<https://resourcecentre.savethechildren.net/sites/default/files/documents/3841.pdf> (accessed 29-01-2018) . This paper presents the results of piloting a new method for estimating the cost and affordability of the diet in four study locations (villages in Bangladesh, Ethiopia, Myanmar and Tanzania). This method –based on household rather than market surveys- is one of the fewer attempts conducted in the developing world.