



Fill the Nutrient Gap Assessment

Using multisectoral data to prevent malnutrition

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Key messages

- > The Fill the Nutrient Gap (FNG) assessment brings together information from multiple sectors to inform the prevention of malnutrition.
- > Integral to the assessment are food price information and data on the economics of households, such as income and expenditure.
- > A food systems approach is used to contextualize information on dietary intake considering production, processing, transport, marketing and consumption.
- > Lack of data and uncertain quality are important challenges in the assessment.
- > The assessment also highlights the informative value-add that nutrition data has for other fields, such as agriculture, education, the private sector or the supply chain, which can help to identify opportunities for making them more nutrition-sensitive.

Aim of the FNG

The Fill the Nutrient Gap (FNG) assessment is an innovative methodology that brings together information from multiple sectors to inform evidence-based interventions and policy changes to prevent malnutrition.¹ It takes a life-cycle approach in esti-

imating barriers to having a nutrient intake that is in line with recommendations on an individual level and identifying solutions for improvement. Across the process, the analysis makes use of quantitative as well as qualitative data with information coming from many sectors and sources, including grey literature, formative research and peer-reviewed articles, as well as local and national studies and surveys.

“The Fill the Nutrient Gap assessment is an innovative methodology that brings together information from multiple sectors”

This more traditional approach to a situation analysis – i.e., using literature review and analysis of cross-sectional survey data – is enhanced by the integrated Cost of the Diet analysis. This analysis, which uses data on food prices and food expenditure, estimates the cost of a nutritious diet and the affordability of this expenditure for a household,² provides an indication of likely nutrient gaps, and is also used to model the potential impact of different interventions that improve the nutrient content or affordability of nutritious foods.^{3,4} The other characteristic that sets the FNG apart from other situation analyses is the multisectoral approach across all phases, with stakeholders from different sectors identifying the scope of the analysis, contributing relevant information and data, and formulating priorities for policies and programming based on the analysis. The cross-sectoral, evidence-based systems approach of the FNG towards addressing malnutrition is highly appreciated by countries' stakeholders.

“Data for the Fill the Nutrient Gap assessment comes from a wide range of sources”



Stakeholders suggest secondary data sources for Fill the Nutrient Gap assessment, Dhaka, Bangladesh, April 2019

What data are used?

As mentioned above, data for the FNG assessment comes from a wide range of sources and covers multiple sectors. For the Cost of the Diet part, the two main data needs of food price and household expenditure information can be met by several sources. For the 25 FNG assessments that have been carried out or are currently ongoing, the majority (15) have made use of existing food price data, and all have used existing expenditure data.

For food prices, the most frequently used data sources are surveys of, or designed in reference to, the Living Standards Measurement Study (LSMS) by the World Bank. For several other countries (Ghana, Lesotho, Tajikistan, Sri Lanka and Myanmar), food prices from Consumer Price Index (CPI) data collection were used. Only the FNG in the Philippines made use of food price data that had been collected by a designated nutrition survey (the National Nutrition Survey by the Food and Nutrition Research Institute in the Philippines). Food price data is therefore one example of data from outside nutrition that becomes very relevant when conceptualizing nutrition from a food environment perspective. The food environment refers to the physical, economic, political and sociocultural context in which consumers engage with the food system to make their decisions about acquiring, preparing and consuming food.⁵

Similarly, for expenditure on food, data from outside the nutrition and health sector are used to estimate the proportion of households that are unable to purchase a nutritious diet (non-affordability), such as the LSMS, panel surveys or income

and expenditure surveys specific to the country. In most cases, the FNG uses per capita estimates adjusted for inflation and household size differences. Additional time adjustments, using CPI data, may be made if data sources do not date from the same point in time.

“Multisectoral information is used to contextualize the findings and inform the discussion on possible interventions”

How are the different data points brought together?

Once cost and non-affordability are estimated, the second level of inquiry begins, which utilizes multisectoral information to contextualize the findings and inform the discussion on possible interventions. In this analytical step, secondary data and Cost of the Diet results are combined to forge a multisectoral lens on nutrition.

Market data, such as the price fluctuation of staple foods over time, and retail or supply chain information, can be used to estimate both the commercial feasibility of interventions as well as their potential nutrition impact. In the FNG analysis in Uganda, estimates of postharvest losses across the value chain^{6,7} were used to estimate different levels of improved earnings for small-



Food price data collection at Medine Market, Bamako, Mali, April 2019



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World Food Programme and partner enumerators collecting food price data during a pilot market survey in Bujumbura, Burundi, November 2018

holder farmers and to quantify the impact for household staple supply and subsequently their food security if these losses could be reduced. Information on locally produced fortified foods were used in the Philippines to test products' potential cost-effectiveness in filling the estimated nutrient gap.

Information on the nutrient composition and consumption of biofortified foods, such as the International Food Policy Research Institute (IFPRI) and HarvestPLUS research carried out in Uganda,⁸ can be used to approximate the impact that consumption of improved varieties can have on the nutrient intake of individuals.

Program information, both *ex ante* and *ex post*, was used in several countries to show the impact that agriculture, education and social protection interventions could have on the affordability of nutritious foods both for individuals and for households. Consumer purchasing information from cash safety nets (as available through post-distribution monitoring surveys) can identify behavioral barriers to having a nutritious diet, which may complement the analysis on economic barriers. Production information from smallholder agricultural programs, such as Helen Keller International's home gardens,⁹ is used to calculate the potential impact of these interventions on the nutrient gap, taking both a view of the increased availability of micronutrient-rich foods and an economic perspective evaluating reduced cost to the household.

Challenges and limitations

Limited availability, uncertain quality and restricted access to data are challenges to this type of analytical work. One key

aspect in confirming the quality of data is to triangulate data sources, whenever possible. For example, comparing consumption information to production or import/export data can highlight discrepancies between data sources. Similarly, in the absence of consumption information, production and import data can serve as a rough proxy to estimate per capita intake.

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In many cases, there are no extensive datasets that reliably report on both food expenditure and market prices, disaggregated to subnational administrative units. Proxies for food expenditure can be based on a ratio applied to income information (e.g., the poor often spend 60–70 percent of their income on food). In most cases, market price data is only available for a limited number of foods, precluding estimation of the cost of a nutritious diet. Information on consumption and money spent on specific food items, in particular from household income and expenditure surveys, has been a good alternative source in several countries. Where that is also not available, we have resorted to the primary collection of food prices from markets.

Another issue arises from the lack of information on household composition that is available at a population or geographic

level. As individual nutrient needs vary according to age, sex and health status, a population-level estimate cannot do full justice to the individual situation, and vice versa. While overall costs are necessarily driven by a specific set of individual costs, expenditure is often reported as a household total. Therefore, the estimated proportion of non-affordability might either fall short of, or else lie above, the actual non-affordability. With the increasing availability of more nuanced datasets that include information not only on a household's number of members but also on their sex and age, expenditure for specific individuals can be estimated more precisely, allowing for increased accuracy of estimated non-affordability.

Outlook

In recent years, the relationship between the cost and the affordability of foods and their consumption has become more recognized and understanding more nuanced. This has resulted in an increased readiness to collect food prices for a larger variety of foods, particularly fresh foods, more regularly. One example is the expansion of the food list in government or WFP-organized data collection.

From a data perspective, much has happened since 2015, when the first FNG analysis was conducted. One of the biggest opportunities has come with automated analysis, which has the potential to eradicate large portions of the manual labor associated with data processing and to provide more up-to-date, granular and frequent information. Making sure that the analytical tools are fit for purpose and accessible to a large variety of users is important and can include sharing of software code to expert users to invite them to develop additional features to meet specific analytical needs.

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The FNG work has also been able to demonstrate the usefulness of including nutrition data in other sectors: within WFP, working with the Supply Chain Planning Unit, nutrition information such as food composition tables, recommended nutrient intake levels, portion sizes and nutrient indicators were integrated into a supply chain planning tool (OPTIMUS). The OPTIMUS tool brings together information across the supply chain (procurement, logistics, nutrition, etc.) to optimize the distribution and implementation of interventions. This development of multisectoral engagement on data not only shows the use case of multisectoral data for nutrition, but also demonstrates how other sectors can use nutrition data to im-

prove their programming, i.e., making programming more nutrition-sensitive.

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