

# Title

**ASSESSING FOOD ENVIRONMENTS IN LOW- AND MIDDLE-INCOME COUNTRIES—UNLOCKING THE POTENTIAL TO IMPROVE DIETS, NUTRITION, AND HEALTH OUTCOMES**

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22ND IUNS-ICN INTERNATIONAL CONGRESS OF NUTRITION IN TOKYO, JAPAN  
DECEMBER 6-11, 2022

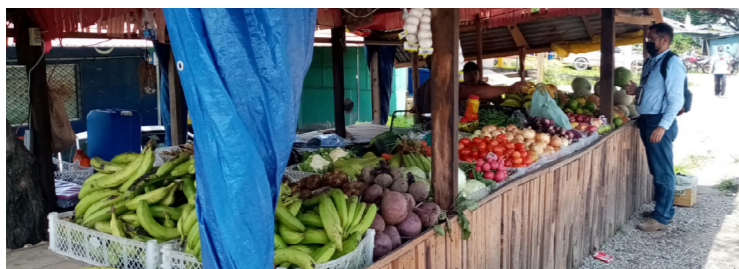
**Poster No. PAB(T6)-36**

## KEY TAKE-AWAY

**An adapted package of existing food environment assessments can gather data on multiple market dimensions in low- and middle-income country contexts to guide programs for improving diets.**

## THE PROBLEM

Poor diets are a major contributor to the global burden of disease.<sup>1</sup> Within food systems, food environments are the interface between food supply and the consumer, thus are critical spaces where consumers decide which foods to acquire and consume. In LMIC contexts, in both urban and rural areas, households increasingly purchase foods from markets,<sup>2</sup> but few existing methods, tools, and metrics (assessments) are suitable for assessing multiple dimensions of market food environments in LMIC contexts.<sup>3</sup>



Credit: USAID Advancing Nutrition

## METHODS

USAID Advancing Nutrition is identifying and adapting assessments to fill this gap, to support data collection that identifies possible food environment interventions for healthy diets across diverse contexts. We aimed to identify and adapt a set of food environment assessments that simultaneously captures data on food accessibility, affordability, availability, and desirability in LMICs by—

- Conducting a review of existing assessments
- Surveying experts with research and/or program experience
- Identifying a set of seven existing assessments for adaptation and testing
- Collecting primary data through market vendor interviews and focus group discussions
- Gathering qualitative data on implementers' experiences conducting assessments to understand how feasible they are to implement
- Analyzing data to understand if the set of assessments can capture market data that could aid the design and monitoring of programmatic actions.

## RESULTS

In Liberia, we found that modifying existing assessments, such as market mapping, enhanced their suitability for use in the LMIC market contexts of those assessed. We successfully collected data on vendor characteristics, diverse food availability, and costs of nutritious foods in rural and peri-urban market settings. We found that a more complex assessment, such as the Healthy Eating Index, may not be suitable across contexts, and can be replaced with a simpler validated assessment to gather data on nutritious food availability. Through qualitative assessment of implementation experiences, we identified

additional modifications that will further support the feasibility of researchers and practitioners implementing the assessments in markets in LMIC contexts. Data from these assessments can identify opportunities to shift market food environments toward nutritious foods, which can positively influence diet, nutrition, and health outcomes.

Table 1. Assessment Questions

ASSESSMENT	PRIMARY QUESTION ANSWERED
1. Market Mapping *	What foods are vendors selling in each market, and what types of food environments exist around the market?
2. Seasonal Calendar of Availability	Which foods (species) are available in each market throughout the year?
3. Market Diversity Index *	Which food groups are represented and/or missing at each market?
4. Healthy Eating Index of Food Supply *	Are sufficient quantities of each food group available to meet recommended intakes?
5. Cost of a Healthy Diet *	What does it cost to meet dietary recommendations?
6. Environmental Profile of a Community's Health	How prevalent are food advertisements and what types of foods are they promoting?
7. Produce Desirability Tool	Are select fruits and vegetables for sale in the markets high quality and appealing to consumers?

\*Adapted for use in LMICs

## THE WAY FORWARD

We are testing the set of assessments in market food environments in three additional countries. We will summarize learnings across all countries in a set of evidence-based tools suitable for use in diverse contexts. These assessments will equip practitioners with a suite of tools to more comprehensively understand market food environments in LMICs, unlocking the potential for food environments to enhance nutritious food availability, affordability, and desirability and improve diets, nutrition, and health.

<sup>1</sup> Global Burden of Disease 2017 Diet Collaborators. 2019. "Health Effects of Dietary Risks in 195 Countries, 1990–2017: A Systematic Analysis for the Global Burden of Disease Study 2017." *The Lancet* 393(10184): 1958–72. [https://doi.org/10.1016/S0140-6736\(19\)30041-8](https://doi.org/10.1016/S0140-6736(19)30041-8)

<sup>2</sup> Tschirley, David, Thomas Reardon, Michael Dolislager, and Jason Snyder. 2015. "The Rise of a Middle Class in East and Southern Africa: Implications for Food System Transformation." *Journal of International Development* 27, 5: 628–646. <https://doi.org/10.1002/jid.3107>

<sup>3</sup> Downs, S., Selena Ahmed, Jessica Fanzo, and Anna Herforth. 2020. "Food Environment Typology: Advancing an Expanded Definition, Framework, and Methodological Approach for Improved Characterization of Wild, Cultivated, and Built Food Environments toward Sustainable Diets." *Foods* 9, 532. <https://doi.org/10.3390/foods9040532>