Program No. SY(T6)22-1

Healthy Diets Symposium

Sunday, December 11, 2022

Program No. SY(T6)22-1

Introduction

Ingrid Weiss
USAID Bureau for Resilience and Food Security

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Advancing Methods and Tools to Assess and Monitor Healthy Diets

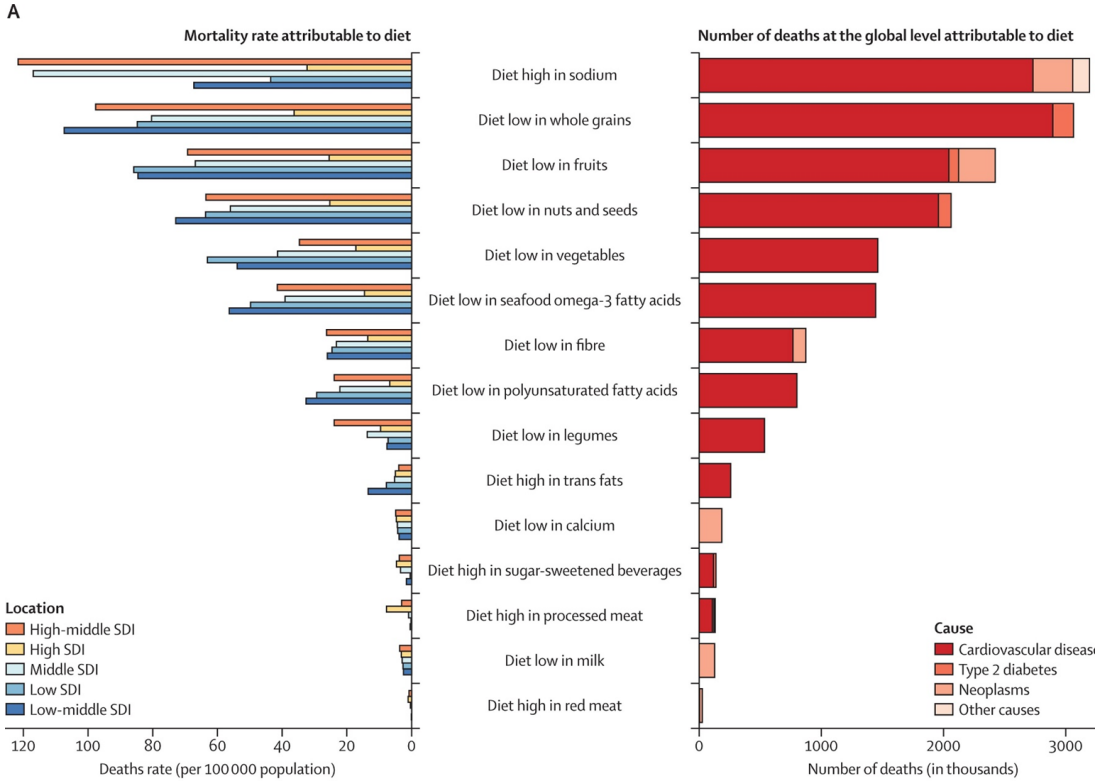
Edward A. Frongillo
University of South Carolina

Program No. SY(T6)22-1

Conflict of Interest Disclosure

I have no conflict of interest to report in relation to this presentation.

Unhealthy diets a common cause of all forms of malnutrition and major risk factor for mortality (similar for Disability-Adjusted Life Years)



(GBD 2017 Diet Collaborators. 2019, 1965)

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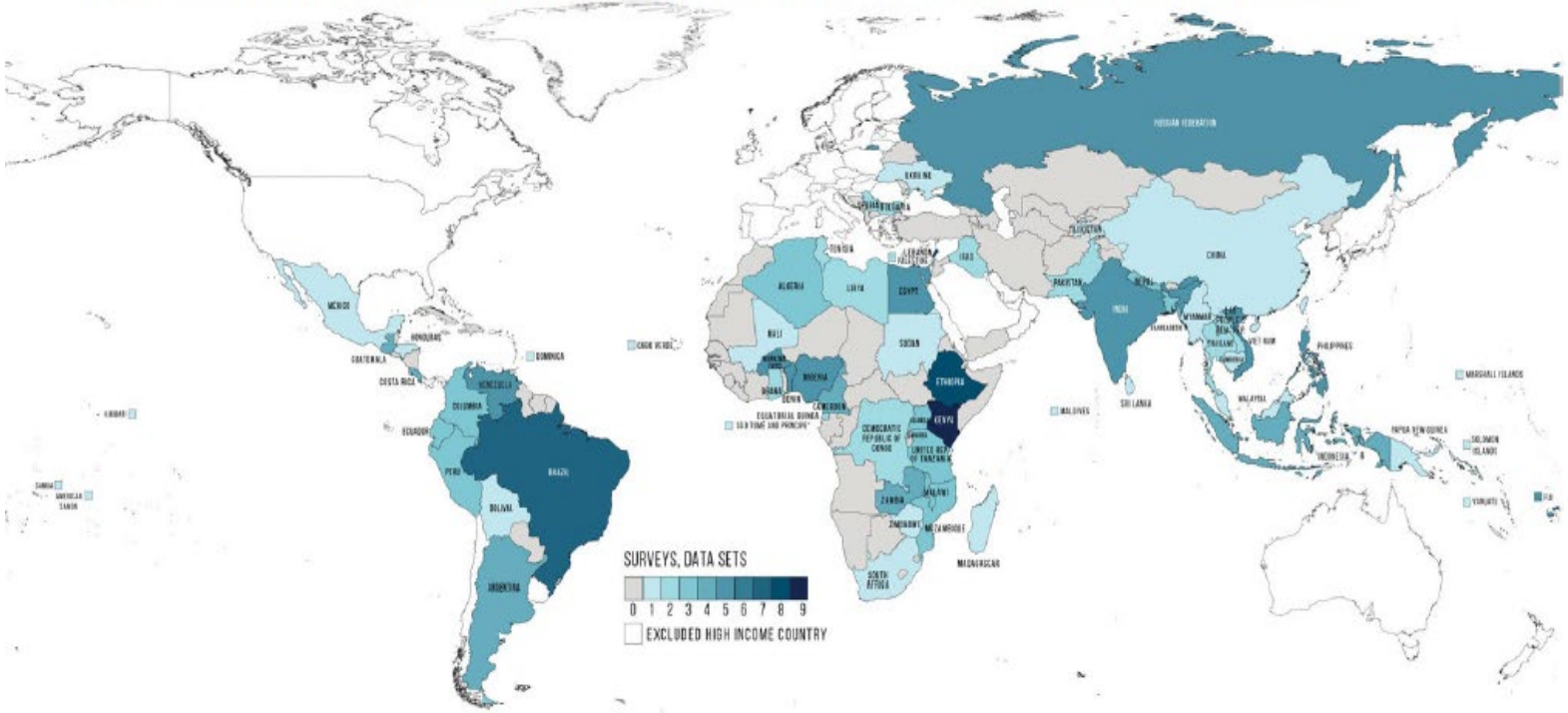
Large Gaps in the Data of What People Eat

Figure 1. Map of dietary surveys carried out in low- and middle-income countries from 1980 to 2019



(FAO and Intake 2022, 4)

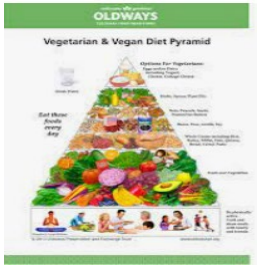
Why so little data?

Poorly articulated business case for investment in data

Lack of consensus on what constitutes a healthy diet and how to measure it

From Lynnette Neufeld

Lots of references…are they are equally healthy?



From Lynnette Neufeld

Challenge for Global and National Assessment and Monitoring of Healthy Diets

- Achieve consensus on sub-constructs, methods, measures, and indicators best suited for global assessment and monitoring.
- Have measures and indicators collected in data systems
- Ensure that these are used by countries and adopted in Sustainable Development Goals and other global commitments.

Constructs, Measures, Indicators

Construct	Phenomenon of theoretical interest that is real but may be observable or unobservable (i.e., latent)
Measure	Assigns numbers to people or things to represent the relations existing among them to reflect a specific construct
Indicator	Derived from measure(s) to demonstrate something about a specific construct; implies understanding what is better and worse

Edwards and Bagozzi (2000)

Important to Distinguish

“Healthfulness of diets”

- A set of core underlying construct and sub-constructs of what constitutes *healthy* for the human body
- Universal (for humans)

“Dietary pattern”

- Way in which foods are combined over a time period
- Highly contextual
- Influenced by access, culture, traditions, etc.
- May be motivated by factors other than (or in addition to) *healthfulness* for humans

From Lynnette Neufeld

Sub-Constructs of the Construct of Healthy Diets

1. **Nutrient intake is adequate:** requirements (for age, gender, life stage etc.) are met for all nutrients, without excess
2. **Macronutrients are in balance:** energy from carbohydrates, proteins, and fats are balanced as per recommendations
3. **Foods are nutrient-dense:** they are rich in nutrients per their energy content
4. **Foods are of a wide variety:** because nutrients and bioactive components vary in foods from different food groups
5. **Moderation:** in the intake of foods and nutrients that are associated with chronic diseases
6. **Safety:** free of microbial pathogens, food-borne macro-parasites, toxins, and chemicals

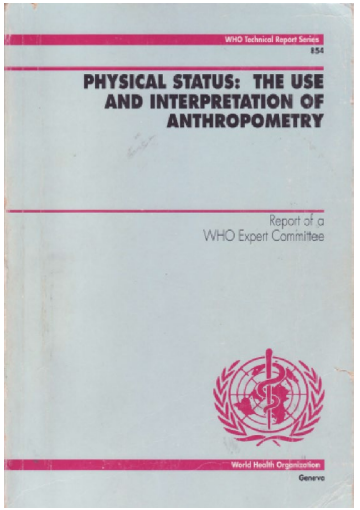
Arimond and Deitchler (2019); Seligman et al. (submitted)

Data Produce Visibility and Inform Action

- Nutritional problems invisible without established targets or standardized data collection systems to produce data
- Examples:
  - Food Insecurity Experiences Scale (Food and Agriculture Organization [FAO], via Gallup World Poll)
  - Family Care Indicators and Early Childhood Development Index (UNICEF, via Multiple Indicator Cluster Surveys)
  - Individual Water Insecurity Experiences Scale (Gallup World Poll)
- Population purposes:
  - estimating prevalence or burden
  - monitoring
  - targeting.

Getting on Global and National Action Agendas

- What is needed?
  - Clarity about constructs and sub-constructs, purposes, and suitability for purposes
  - Suitable measures and indicators that reflect construct and sub-constructs (valid and cross-context equivalent)
  - Instruments to feasibly obtain the measures and indicators
  - Data systems in which to apply the instruments
  - Establish link to health
  - Identify effective interventions
- Child undernutrition vs. healthy diets



Credit: Fintrac, Inc.

Food Choice

Processes by which individuals and households decide—

- what, how, and why
- to acquire, store, prepare, distribute, and consume food.

Social and Cultural Values

- Previously, food choice thought to be largely driven by considerations such as cost, taste, convenience, health
- Basic values rooted in cultural context shape how considerations defined and negotiated
- Dramatic changes in social, cultural, and environmental contexts alter basic values with implications for demand
- Understanding basic values in context important for aligning policies and interventions for successful promotion of sustainable healthy diets

Wertheim-Heck and Raneri, 2020; Stokes-Walters et. al., 2021; Flax et. al, 2020; Samaddar et. al., 2020; Thakwalakwa et. al., 2020

Basic Human Values Important for Food Choice

High-Order Domain	Domain Description	Basic Value
Conservation	Self-restriction, order, avoiding change	• Security: personal and societal • Conformity: rules and interpersonal • Tradition • Humility
Openness to change	Being accepting of change in a variety of context and situations	• Self-directed thought and action • Stimulation • Indulgence
Self-enhancement	Pursuing one's own interest	• Achievement • Power-dominance and resources • Face
Self-transcendence	Transcending one's own interests for the sake of others	• Benevolence: dependability • Benevolence: caring • Universalism

Blake et al. submitted (from Hofstede, 2011 and Schwartz, 2012)

Policy Stakeholders in Tamil Nadu, India

- Nutrition-related policies not oriented to addressing the double burden of malnutrition
- Wide variation within the frame of nutrition-related noncommunicable diseases (NCDs)
- Three challenges evident—
  - Issue not yet a priority or urgent
  - Little coherence about what to prioritize and why, how, and for whom to reduce nutrition-related NCDs
  - Lack of convergence from stakeholder disciplines and agencies to work across sectors to reduce nutrition-related NCDs.

(Constantinides et al. 2021)

Frames and Constructs

- Healthy diets (not diet quality)
- Sustainable healthy diets or human and planetary health
- Double burden of malnutrition
- Obesity prevention
- Chronic disease prevention
- Prevention of non-communicable diseases
- Healthy lifestyles
- Nutrition security

Process for Moving Forward

- World Health Organization (WHO)-UNICEF Technical Advisory Group on Nutrition Monitoring (TEAM), Diet Quality Working Group
- Technical consultation, May 2021
  - Virtual, support by USAID
  - Attended by about 80 experts
  - Report
- Interviews of experts by Rockefeller Foundation, 2022
- Strategic Planning Group jointly led by WHO, UNICEF, and FAO
- Operational planning by TEAM co-chairs and WHO and UNICEF representatives with support from the U.S. Agency for International Development

Process for Moving Forward

- Analysis produced by Institut de Recherche pour le Développement (IRD), October 2022
  - Healthy diet metrics
  - Analysis of suitability of measures and indicators for assessment and monitoring globally and nationally
- Workshop convened in late November 2022 at Bellagio Center supported by Rockefeller Foundation
  - Participants: global and country experts, United Nations agency officials, IRD, and USAID Advancing Nutrition representative, donors, metric developers
  - Roadmap developed for guiding learning and decision making over the next 2–3 years

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The Global Diet Quality Project: Measuring What the World Eats

Dr. Anna Herforth

Harvard T.H. Chan School of Public Health

Conflict of Interest Disclosure

I have no conflict of interest to report in relation to this presentation.

AIM OF GLOBAL DIET QUALITY PROJECT

Enabling **diet quality monitoring** through the collection of data using a standardized tool (DQQ) that produces a suite of diet quality indicators comparable across time and geographies.

- standard tool
- suite of indicators
- data across countries

For more details, visit dietquality.org

GALLUP

HARVARD T.H. CHAN SCHOOL OF PUBLIC HEALTH
Department of Global Health and Population

gain Global Alliance for Improved Nutrition

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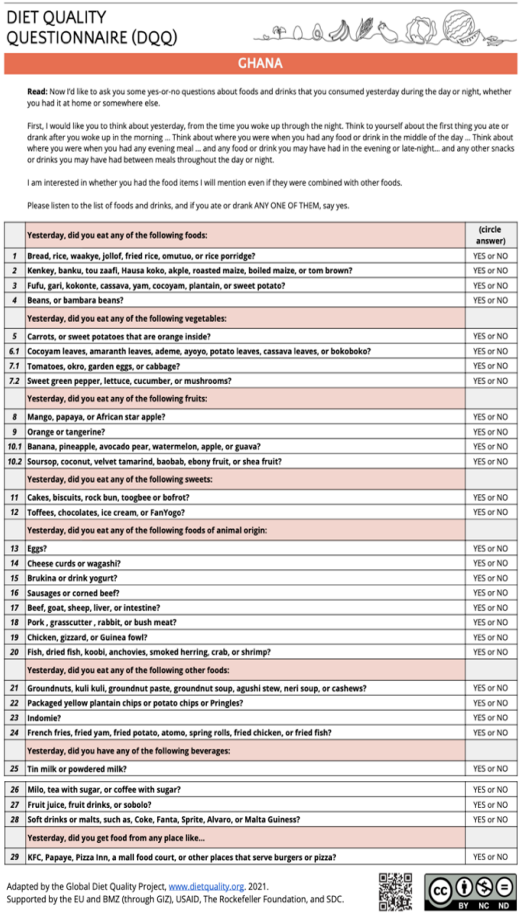
Diet Quality Questionnaire (DQQ) was developed as a tool to rapidly assess diet quality at population level.



DIET QUALITY QUESTIONNAIRE (DQQ)

GHANA

Read: Now I'd like to ask you some yes-or-no questions about foods and drinks that you consumed yesterday during the day or night, whether you had it at home or somewhere else.

First, I would like you to think about yesterday, from the time you woke up through the night. Think to yourself about the first thing you ate or drank after you woke up in the morning ... Think about where you were when you had any food or drink in the middle of the day ... Think about where you were when you had any evening meal ... and any food or drink you may have had in the evening or late-night... and any other snacks or drinks you may have had between meals throughout the day or night.

I am interested in whether you had the food items I will mention even if they were combined with other foods.

Please listen to the list of foods and drinks, and if you ate or drank ANY ONE OF THEM, say yes.

	Yesterday, did you eat any of the following foods:	(circle answer)
1	Bread, rice, waakye, jollof, fried rice, omutuo, or rice porridge?	YES or NO
2	Kenkey, banku, tou zaafi, Hausa koko, akple, roasted maize, boiled maize, or tom brown?	YES or NO
3	Fufu, gari, kokonte, cassava, yam, cocoyam, plantain, or sweet potato?	YES or NO
4	Beans, or bambara beans?	YES or NO
	Yesterday, did you eat any of the following vegetables:	
5	Carrots, or sweet potatoes that are orange inside?	YES or NO
6.1	Cocoyam leaves, amaranth leaves, ademe, ayoyo, potato leaves, cassava leaves, or bokoboko?	YES or NO
7.1	Tomatoes, okro, garden eggs, or cabbage?	YES or NO
7.2	Sweet green pepper, lettuce, cucumber, or mushrooms?	YES or NO
	Yesterday, did you eat any of the following fruits:	
8	Mango, papaya, or African star apple?	YES or NO
9	Orange or tangerine?	YES or NO
10.1	Banana, pineapple, avocado pear, watermelon, apple, or guava?	YES or NO
10.2	Soursop, coconut, velvet tamarind, baobab, ebony fruit, or shea fruit?	YES or NO
	Yesterday, did you eat any of the following sweets:	
11	Cakes, biscuits, rock bun, toogbee or bofrot?	YES or NO
12	Toffees, chocolates, ice cream, or FanYogo?	YES or NO
	Yesterday, did you eat any of the following foods of animal origin:	
13	Eggs?	YES or NO
14	Cheese curds or wagashi?	YES or NO
15	Brukina or drink yogurt?	YES or NO
16	Sausages or corned beef?	YES or NO
17	Beef, goat, sheep, liver, or intestine?	YES or NO
18	Pork , grasscutter , rabbit, or bush meat?	YES or NO
19	Chicken, gizzard, or Guinea fowl?	YES or NO
20	Fish, dried fish, koobi, anchovies, smoked herring, crab, or shrimp?	YES or NO
	Yesterday, did you eat any of the following other foods:	
21	Groundnuts, kuli kuli, groundnut paste, groundnut soup, agushi stew, neri soup, or cashews?	YES or NO
22	Packaged yellow plantain chips or potato chips or Pringles?	YES or NO
23	Indomie?	YES or NO
24	French fries, fried yam, fried potato, atomo, spring rolls, fried chicken, or fried fish?	YES or NO
	Yesterday, did you have any of the following beverages:	
25	Tin milk or powdered milk?	YES or NO
26	Milo, tea with sugar, or coffee with sugar?	YES or NO
27	Fruit juice, fruit drinks, or sobolo?	YES or NO
28	Soft drinks or malts, such as, Coke, Fanta, Sprite, Alvaro, or Malta Guiness?	YES or NO
	Yesterday, did you get food from any place like...	
29	KFC, Papaye, Pizza Inn, a mall food court, or other places that serve burgers or pizza?	YES or NO

Adapted by the Global Diet Quality Project, www.dietquality.org. 2021.
Supported by the EU and BMZ (through GIZ), USAID, The Rockefeller Foundation, and SDC.

CC BY NC ND

DQQ approach:

"Yes or No" questions about foods consumed in the previous day.

29 universal food groups, country-adapted items

Read aloud the same way each time in person or by phone

Takes 5 minutes to administer

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The DQQ is a standardized, ready-to-use tool designed to gather valid comparable data for—

- Minimum Dietary Diversity—Women
- World Health Organization (WHO) healthy diet recommendations
- WHO and UNICEF infant and young children indicators

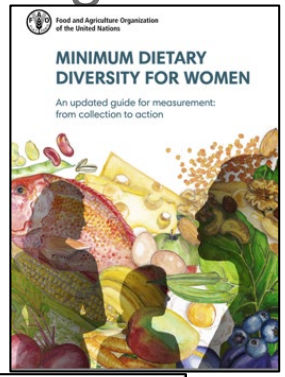
World Health Organization

FACT SHEET N°394 UPDATED AUGUST 2018

Healthy diet

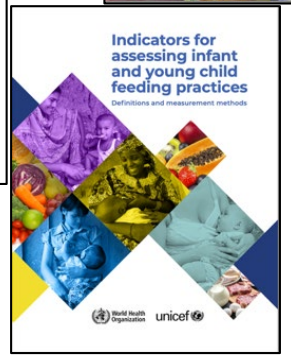
KEY FACTS

OVERVIEW


Food and Agriculture Organization of the United Nations

MINIMUM DIETARY DIVERSITY FOR WOMEN

An updated guide for measurement: from collection to action


Indicators for assessing infant and young child feeding practices

Definitions and measurement methods

World Health Organization unicef

Country-Specific Adaptation: A Global Effort

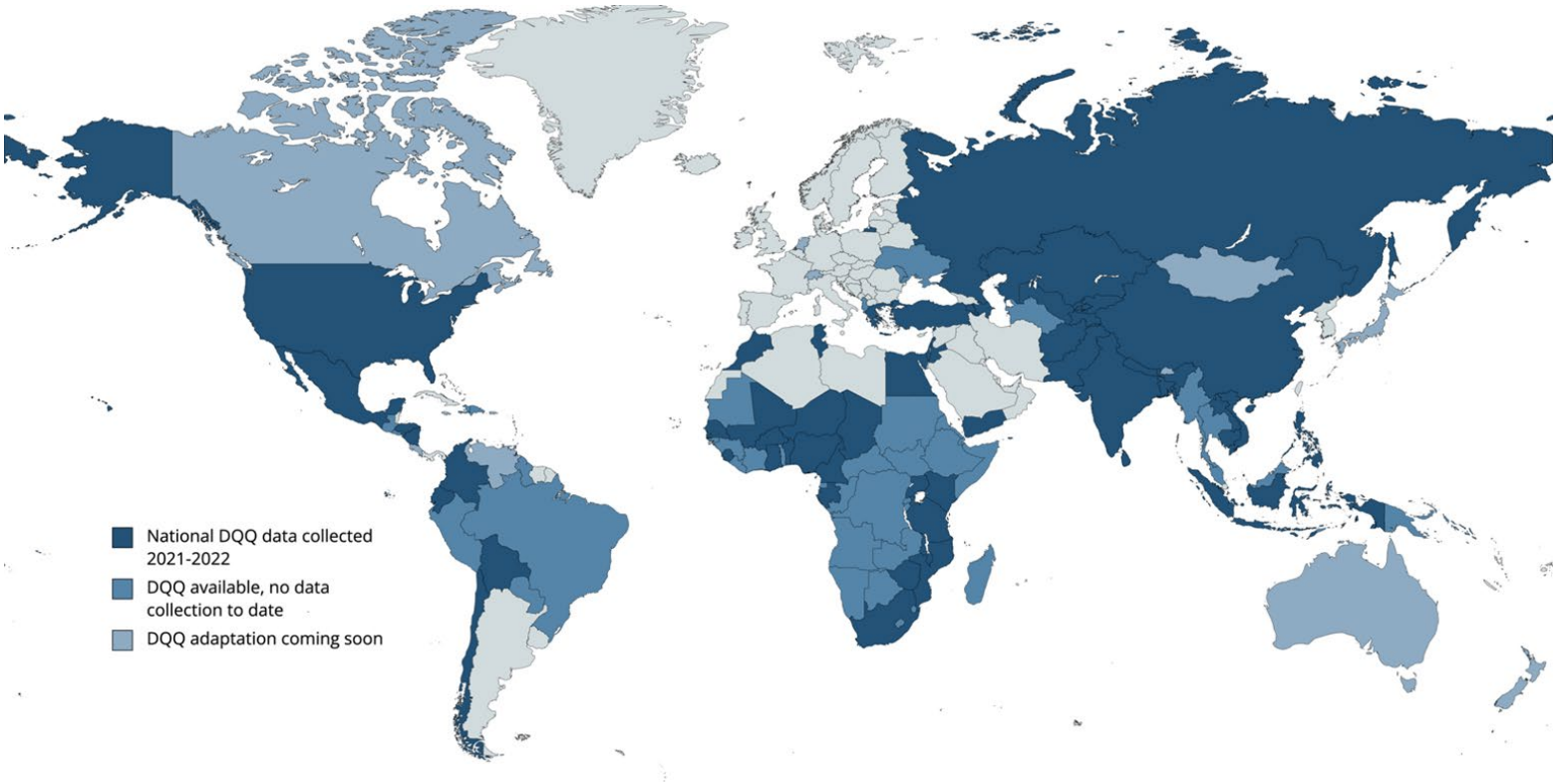
- More than 1,000 hours of interviews with >750 key informants
- Support from Food and Agriculture Organization; WHO; UNICEF; World Food Program, Scaling Up Nutrition secretariat; International Union of Nutritional Sciences; Gesellschaft für Internationale Zusammenarbeit; European Union Food Local, Agriculture, and Nutritional Diversity; DHS; and many others
- Adaptations used in DHS for women and young children

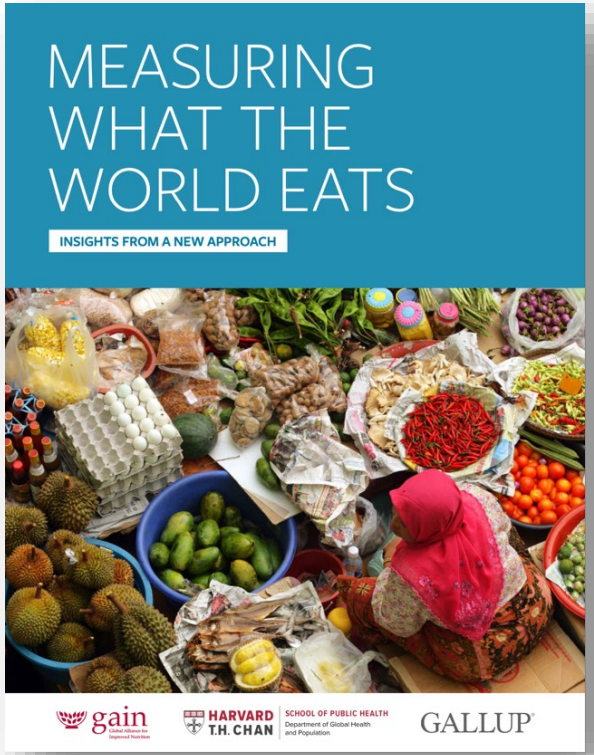
Photo: Farmer in Kiambu, Kenya taken with permission by A Herforth

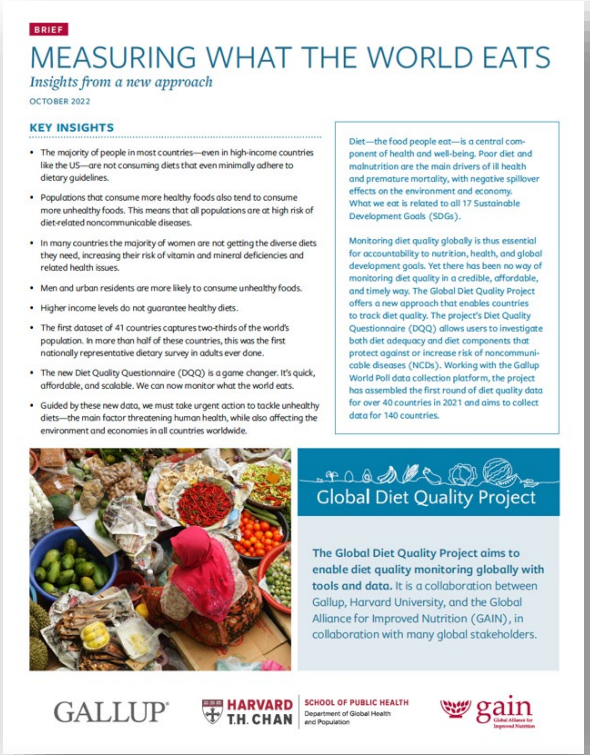
Adaptation team: Chris Vogliano, Cecilia Gonzalez, Betül Uyar, Andrea Spray Bulungu, Kristina Sokourenko

Country-adapted DQQs and Infant and Young Child Feeding (IYCF)-specific DQQs are available at dietquality.org

Data across Countries







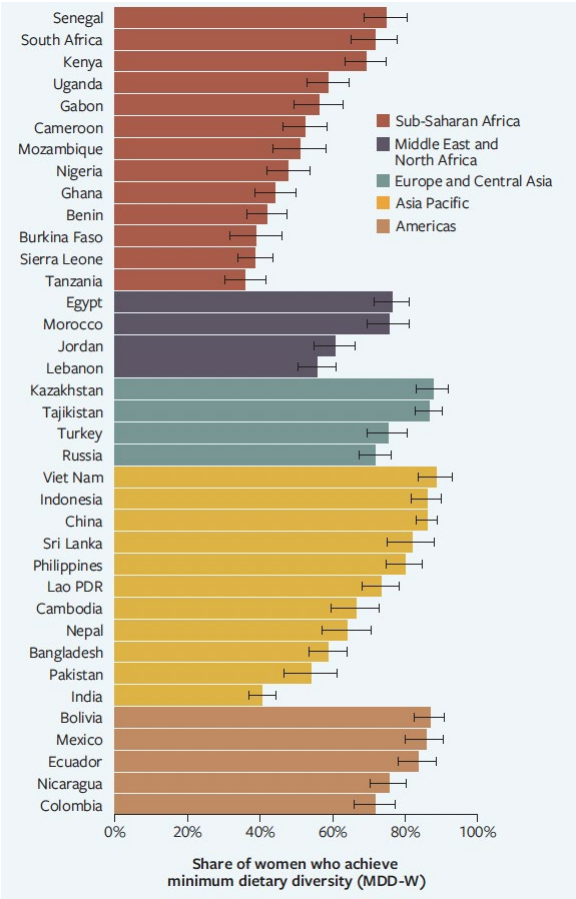
Results from first 41 countries, covering two-thirds of the global population.

In more half of these countries, these are the first national diet data in the total population ever collected.

▶ **dietquality.org**

Food and Agriculture Organization of the United Nations

MINIMUM DIETARY DIVERSITY FOR WOMEN



- First MDD-W database
  - Less than half of women are consuming Minimum Dietary Diversity—Women (MDD-W) in India and much of sub-Saharan Africa
- Country-adapted DQQ addresses issues of data quality and capacity hampering previous efforts to scale up measurement
  - “Measurement errors were an issue. We need to not only to promote the indicator but ensure there is adequate capacity at country level to measure it well”
- Question adaptations used in Demographic and Health Surveys (DHS)

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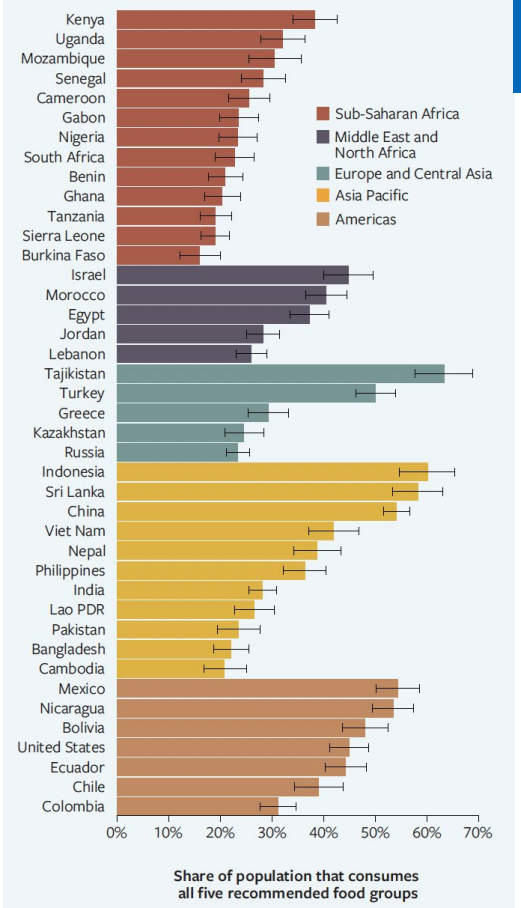
All-5

Legumes, nuts & seeds | Starchy staples | Fruits | Vegetables | Animal-source foods



- Most people are not eating diets that would even minimally follow Food-Based Dietary Guidelines.
  - If no amount consumed…definitely didn't meet recommended amount.
- 3 billion cannot afford a healthy diet
  - How many are not consuming one?
- The All-5 indicator is globally comparable; countries can adapt it to reflect their own dietary guidelines
  - In India, 12% of people are consuming all food groups recommended in India's "My Plate for the Day"

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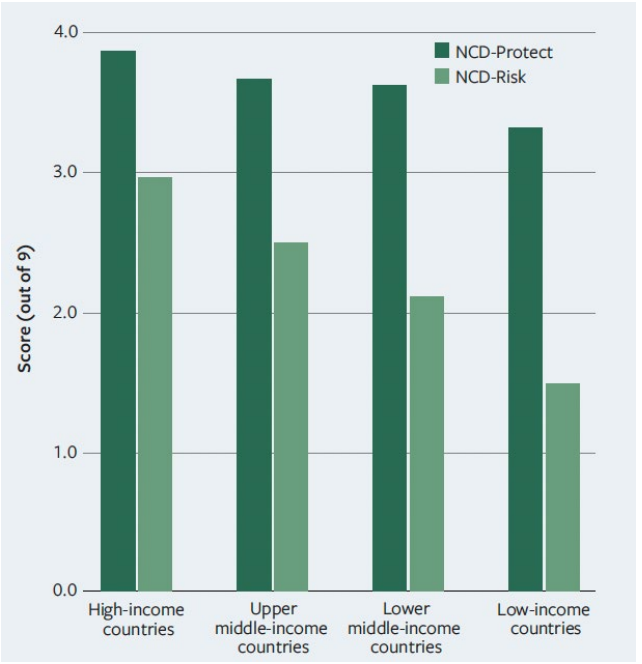
NCD—Protect and NCD—Risk

Dietary risk factors for noncommunicable diseases (NCDs) increase quickly with income, while health-protective factors increase slowly with national income

- New indicators allow tracking of trends related to public health risk from diet-related NCDs
- NCD—Risk is also correlated with ultraprocessed food intake



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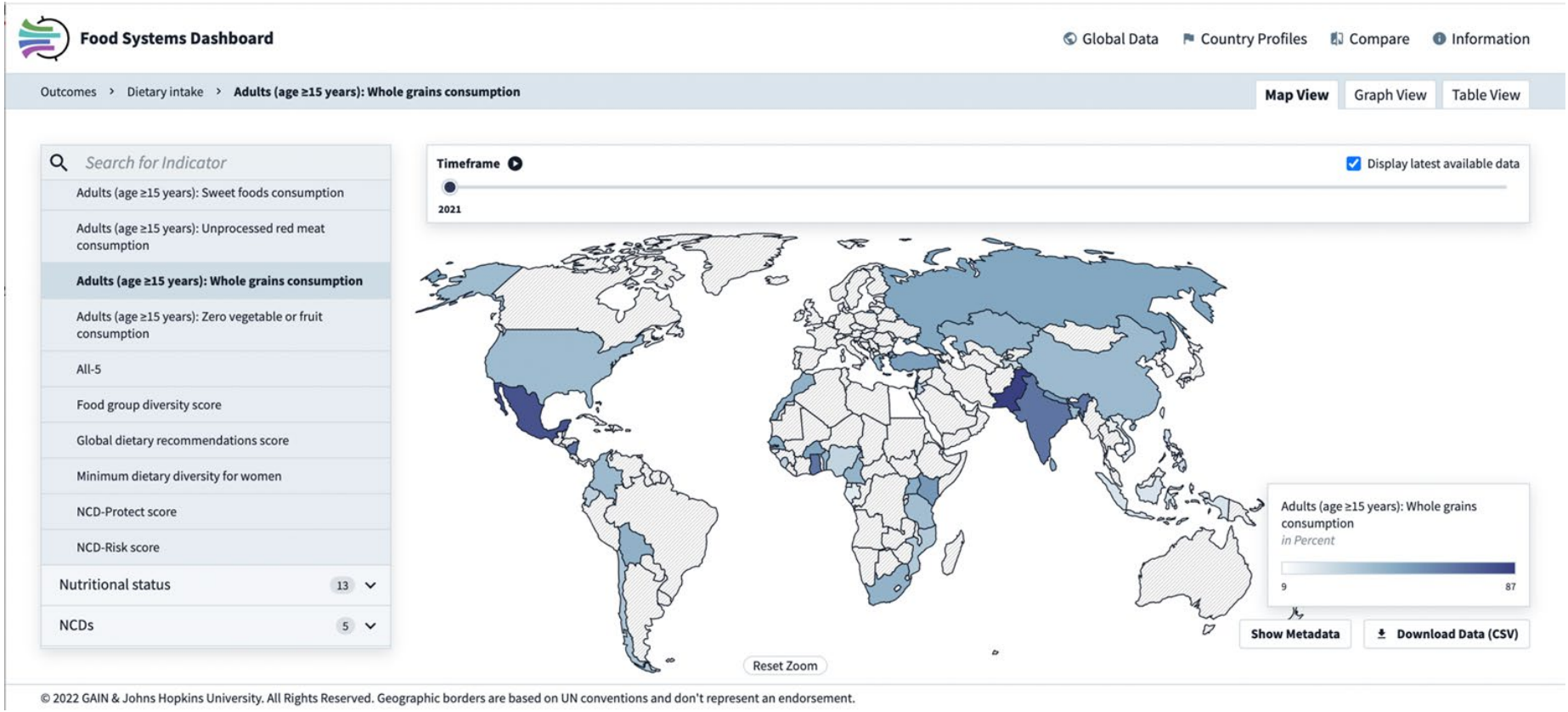
Indicators Available on the Food Systems Dashboard

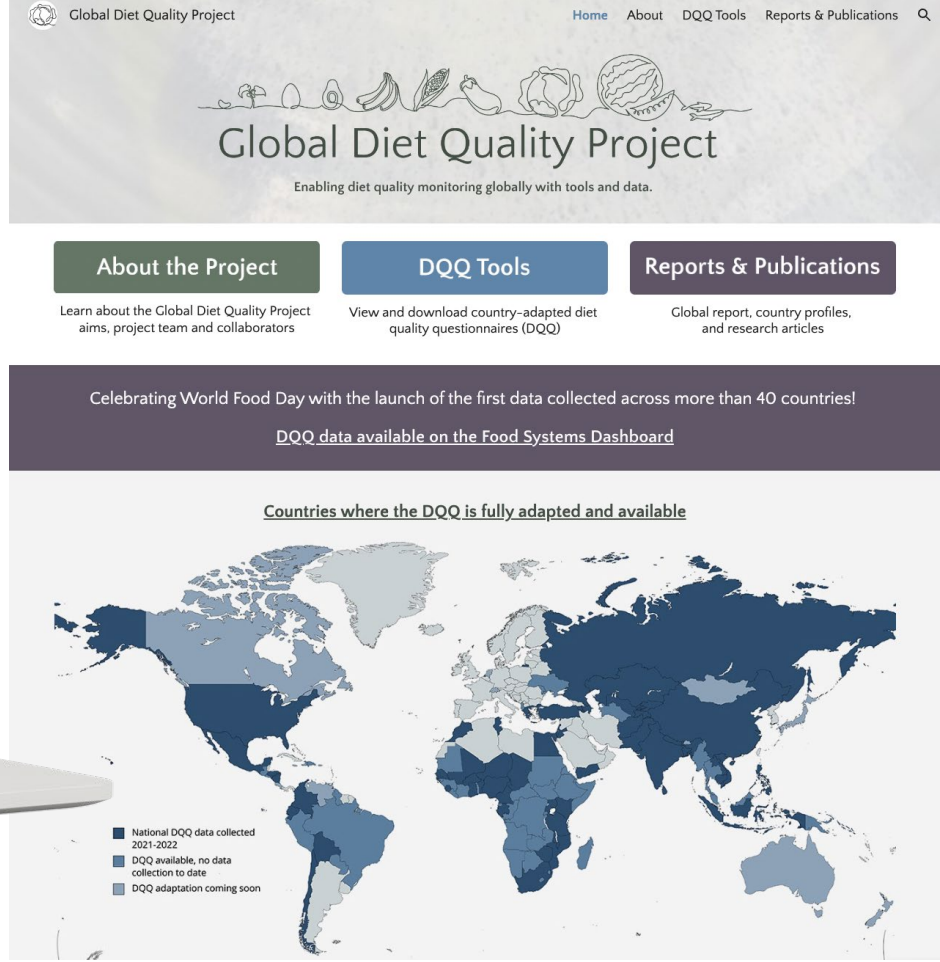


Results Demonstrate a Feasible Monitoring System

- Results and data are publicly available less than 1 year after data collection was completed.
- DQQ costs <1% the cost of a national quantitative dietary intake survey.
- Requires very little training; simply read aloud verbatim
- No further adaptation required
- Offers other actors a way to collect comparable data.
  - Multi-topic surveys (Gallup World Poll, DHS)
  - Other national surveys/surveillance systems
  - Pathway toward sustained global data on diets
- Data offer actionable insights toward improved diets, nutrition, and health

Of the 110 countries that prepared a United Nations Food Systems Summit paper, 79 listed healthy diets from sustainable food systems as one of their top priorities.

▶ dietquality.org



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Thank you!

dietquality.org

Global Diet Quality Project

Photo: Administering the DQQ in Ethiopia, taken with permission by A Herforth

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Food Environment Assessments

Shauna Downs

Rutgers School of Public Health; USAID Advancing Nutrition

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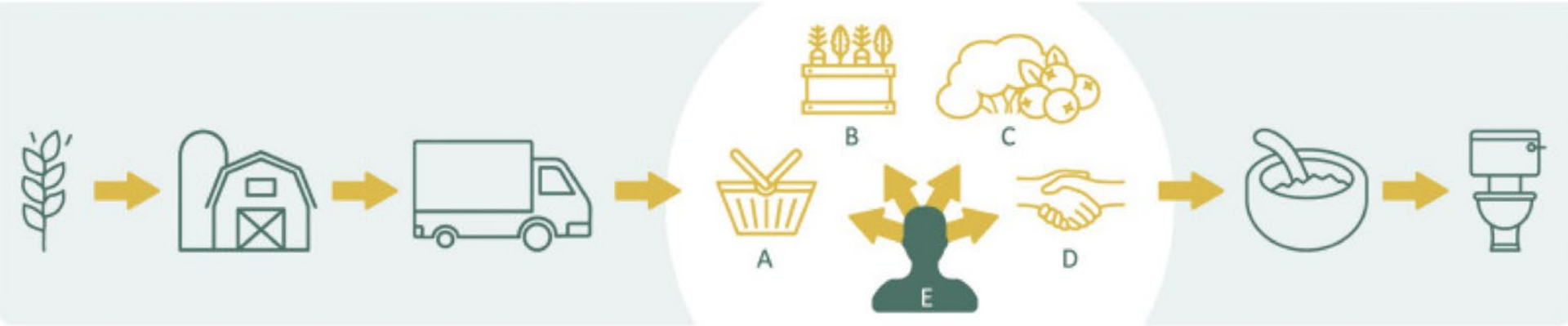
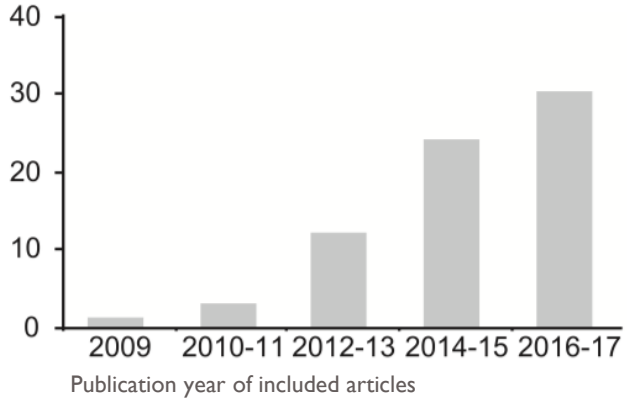
Food environments are the space in the food system where people procure food

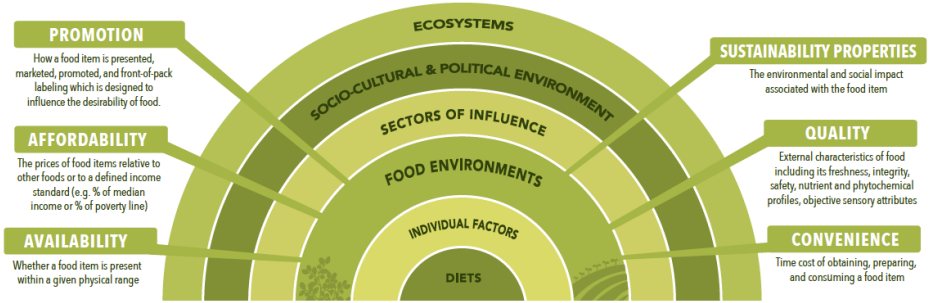


Source: Turner et al. 2018

Food environment research is increasing in low- and middle-income countries (LMICs) but standardized assessments across different dimensions are needed

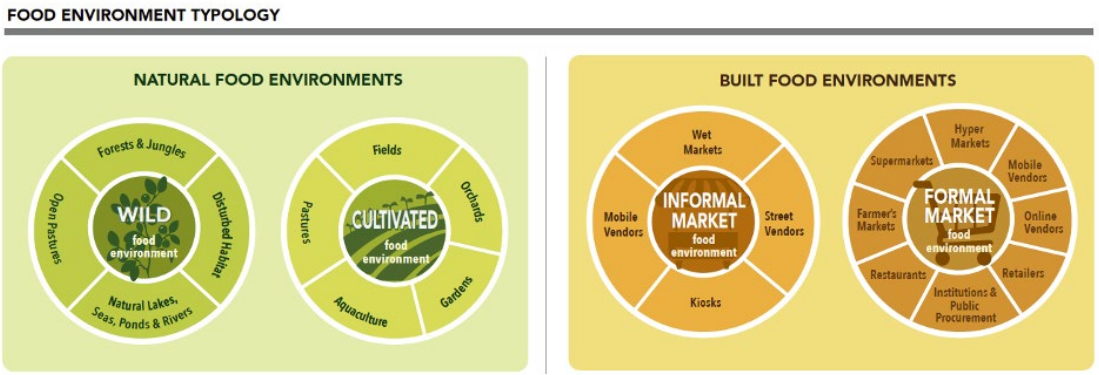


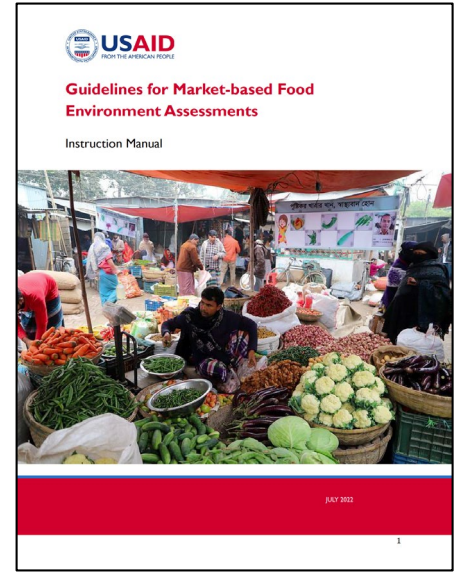
Source: Turner et al. 2020



Source: Downs et al., 2020

USAID Market-Based Food Environment Assessments





- **Pilot test food environment assessments in four countries**
  - 12 markets per country (six daily and six weekly markets)
- **Iterative process to adapt tools with each pilot informing improvements to increase the ease of implementation and analysis in a range of low- and middle-income countries settings**

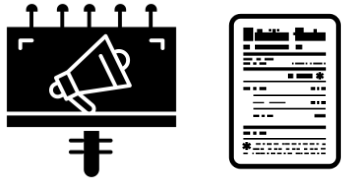
Overview of Food Environment Assessments

Assessments	Assessment	Assessment	Assessment
1. Community and Market mapping 2. Seasonal Food Availability Calendar 3. Market Food Diversity Index (MFDI) 4. Healthy Eating Index of food supply (HEI)	5. Cost of a Healthy Diet (CoHD)	6. Environmental Profile of Community's Health (EPOCH)	7. Pro Desirability tool (ProDes)
Outcomes	**Outcomes**	**Outcomes**	**Outcomes**
• Proportion of healthy to total vendors/markets (modified Retail Food Environment Index [mRFEI]) • Diversity of foods available within markets (including foods to limit) • Availability of food to meet quantitative recommendations of food-based dietary guidelines (FBDG) for family of five for one week	• Minimum cost of meeting overall FBDG and lowest cost commonly consumed items for meeting dietary recommendations	• Frequency of food advertisements, frequency of types of locations of the advertisements, and food labeling properties	• Sensory properties (overall desirability, visual appeal, touch, aroma, size) of fruits and vegetables

How can food environment assessments help support healthy diets?

Availability

Affordability



Promotion and labeling

Quality

- Identifies the signals that consumers are exposed to in their environments that influence their food choices
- Highlights foods that should be promoted (or limited) within a given context based on their availability, affordability, promotion, and quality to improve diet quality
- Identifies points for intervening with policies or programs to ensure that food environments better support healthy diets

Thank you!

Photo credit: Shauna Downs/Rutgers

Email:
sd1081@sph.rutgers.edu

References

Downs, S.M., S. Ahmed, J. Fanzo, and A. 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*(4):532. https://doi.org/10.3390%2Ffoods9040532

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Turner, Christopher, Sofia Kalamatianou, Adam Drewnowski, Bharati Kulkarni, Sanjay Kinra, Suneetha Kadiyala, 2020. "Food Environment Research in Low- and Middle-Income Countries: A Systematic Scoping Review," *Advances in Nutrition*, 11(2): 387–397. https://doi.org/10.1093/advances/nmz031

Program No. SY(T6)22-1

Understanding Diets and Micronutrient Adequacy at Sub-National Scales using Household Consumption and Expenditure Survey Tools

Kevin Tang

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Ph.D. Candidate | Faculty of Epidemiology & Population Health, LSHTM

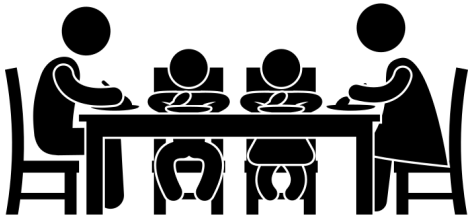
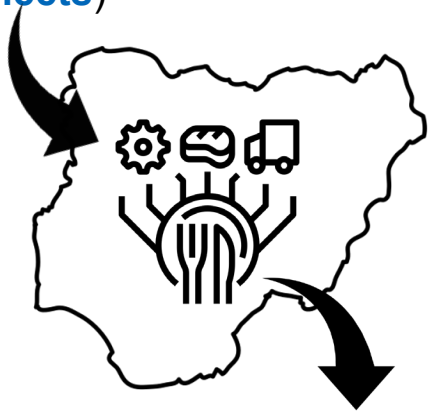
Nutrition Data Analyst | World Food Programme

USAID Advancing Nutrition

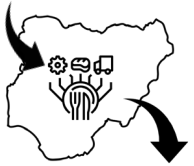
Conflict of Interest Disclosure

I have no conflict of interest to report in relation to this presentation.

Decision-Making for Micronutrient Policies Benefits from Several Types of Dietary Data

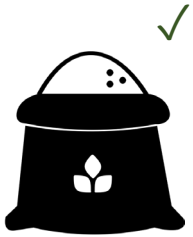
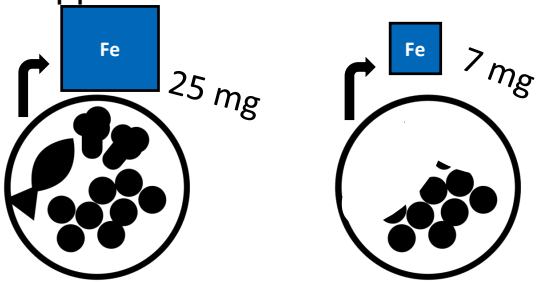
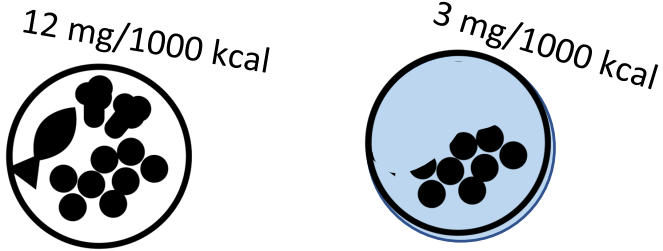
Individual-Level Dietary Data	Household-Level Dietary Data	National-/Regional-Level Data
Population individual-level dietary intake surveys using various methods (e.g., **24-hour recall,** observed-weighed food records, food diaries)	**Household consumption and expenditure surveys** (e.g., living standards surveys, household budget surveys) 	National administrative accounts (e.g., **food balance sheets**) 

Different Dietary Data Reveal Unique Perspectives



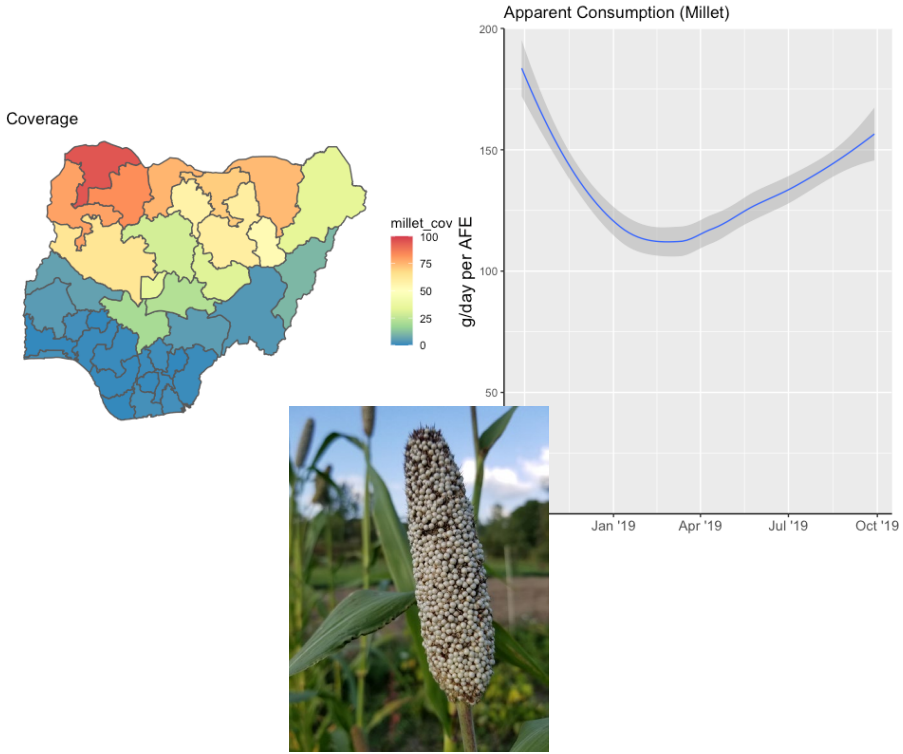
	Food Intake of Individuals within A Populations	Food Consumption/Acquisition /Expenditure by Households within a Population	Food Supply in the National Food System
What is measured?	24-hour open recall of the target demographic (e.g., age, sex, life course)	Household recall over a predefined time horizon using a **fixed food item list**	Standardized analysis of secondary data, review of national accounts, and key informant interviews
How is the data collected?	Daily intake calculated and compared to an age-/sex-/life course-specific nutrient intake reference value	Household nutrient supply converted into various proxy metrics to adjust for number of household members (e.g., apparent intake), energy intake (e.g., nutrient density), or other diet quality proxies	National micronutrient supply presented per capita of the estimated national population then compared to a nutrient intake reference value
How is micronutrient adequacy measured?	• **Precise measure** of what and how much an individual consumes • Measures food intake of vulnerable demographics	• Large, **nationally** and often **seasonally representative** microdata • **Subnational analyses** of several populations of increased vulnerability • **Greater precision** with potential to model large interventions	• Widely available for 181 countries providing **national-level perspectives** • Longitudinal analyses possible with annual data available for many countries since 1961
What are the strengths of the approach?	• Nationally representative samples expensive and rare • Often no data on certain demographics (e.g., adult men) • Actual intake ≠ usual intake	• Poor understanding of intrahousehold variability in intake • Higher measurement error compared to individual intake methods • Data availability depends on context (at best every 5 years)	• No account of small-scale production, foraging, or hunting • No potential for subnational analyses • Sensitive to United Nations population estimates □ higher uncertainty in some countries
What are the limitations of the approach?			

Micronutrient Metrics Derived from HCES

	Estimates Quantity	Does Not Estimate Quantity
Food-Based	Apparent food consumption quantity (among consumers) 	Coverage (also known as reach) 
Micronutrient-Based	Apparent micronutrient intake 	Micronutrient density 

What relevant insights about the foods in a diet can be drawn from HCES?

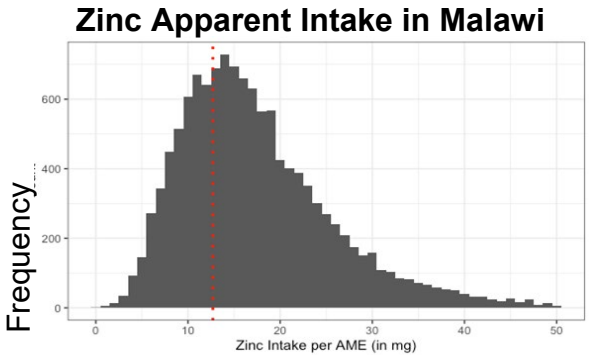
- Food consumption data from HCES can **describe key metrics** (e.g., coverage, apparent consumption quantity) of **particular foods of interest** to national micronutrient policy discussions (e.g., pearl millet biofortification).
- Insights are often descriptive in nature, but often these information are most relevant to national policy discussions.

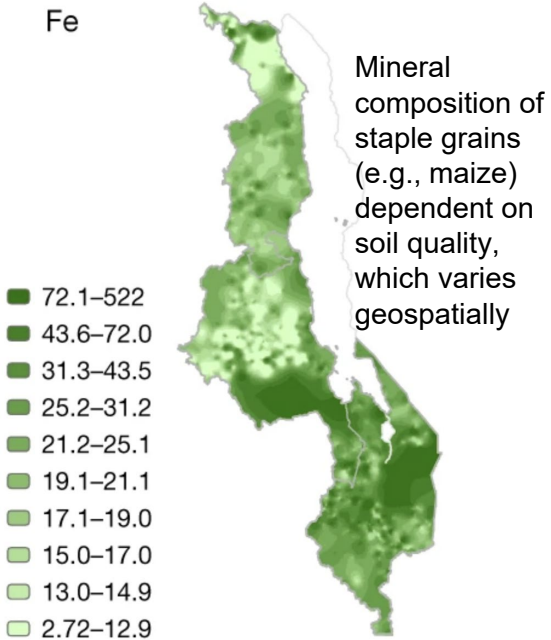


National Bureau of Statistics. 2021. *Nigerian Living Standards Survey 2018/19.* Abuja: NBS.

What relevant insights about micronutrients supplied through the diet can be drawn from HCES?

- Matching food consumption data with **food composition data** (describing nutrient values of foods) can estimate total per capita household supply of various micronutrient, and potential of the diet to meet micronutrient requirements.
- Important to keep data inputs **geographically relevant** (i.e., Malawian food composition data for Malawian analyses).
- HCES analyses can help understand **how variations in diets sub-nationally** can contribute to **variations in apparent intake** and risk of inadequacy across populations, geographies and time.





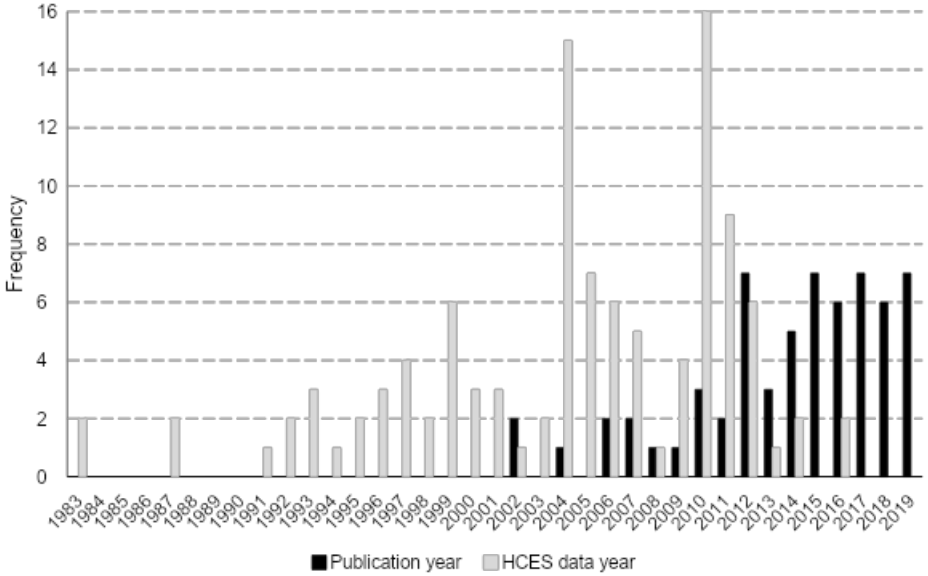
Mineral composition of staple grains (e.g., maize) dependent on soil quality, which varies geospatially

Gashu, D., P.C. Nalivata, T. Amede, E. L. Ander, E. H. Bailey, L. Botoman, C. Chagumaira, et al. 2021. "The Nutritional Quality of Cereals Varies Geospatially in Ethiopia and Malawi." *Nature* 594, 71–76. https://doi.org/10.1038/s41586-021-03559-3

HCES data is being increasingly used as a proxy to estimate micronutrient intake.

59

Studies used HCES food consumption data as a diet proxy to estimate MN/energy supply



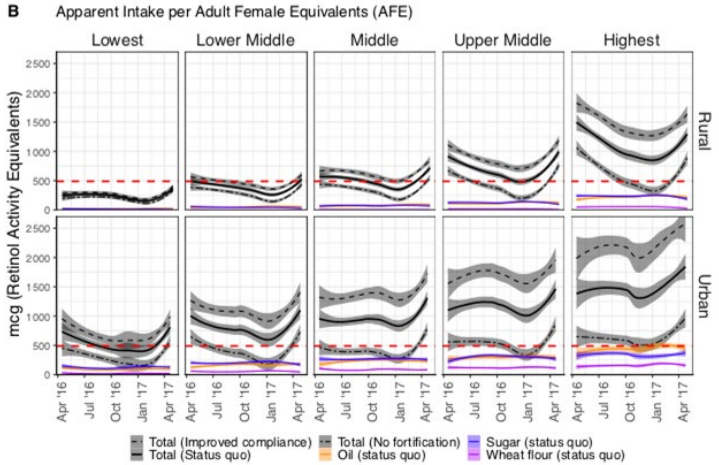
Tang, K. K. Adams, E. Ferguson, M. Woldt, J. Yourkavitch, S. Pedersen, M.Broadley, et al. 2022. “Systematic Review of Metrics Used to Characterise Dietary Nutrient Supply from Household Consumption and Expenditure Surveys.” *Public Health Nutrition.* 25(5), 1153–1165. http://www.doi.org/10.1017/S1368980022000118

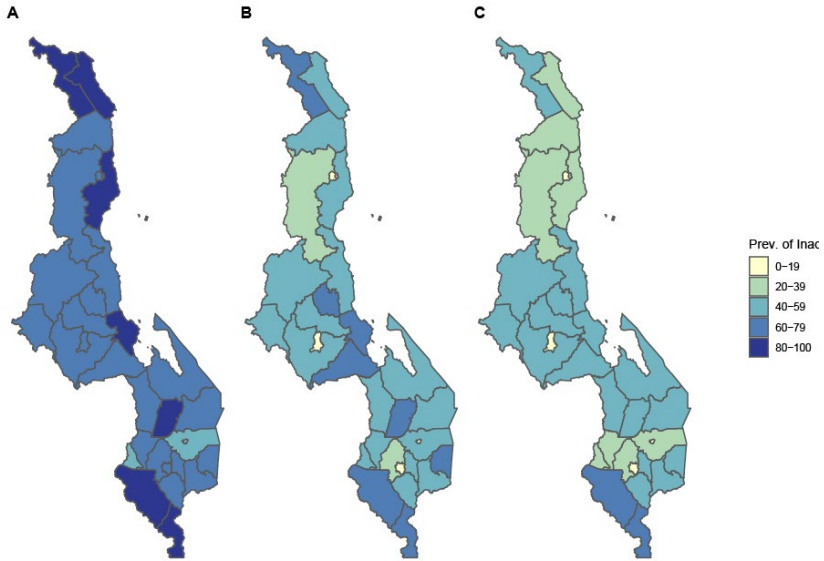
Evaluating Existing Policies: Large-Scale Vitamin A Fortification in Malawi

- Emerging evidence from **vitamin A biomarker analyses** from the Malawi Micronutrient Survey 2015–16 indicated a **reduced prevalence of vitamin A deficiency** in pre-school children and women of reproductive age.
- **Several vitamin A policies are in place in Malawi** (e.g., large-scale food fortification, vitamin A supplementation, dietary diversity programs), where each is intended to reach different parts of the population.
- The Government of Malawi's Policy Advisory Team and international experts from the Global Alliance for Vitamin A expressed **interest in research describing the contributions of vitamin A LSFF programmes** to total vitamin A intake across subpopulations.

Large-Scale Vitamin A Fortification in Malawi

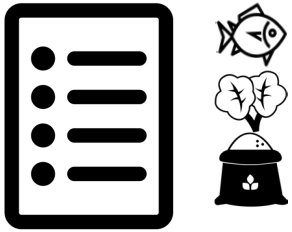
- Modeled the **potential vitamin A contributions of fortified edible oil, sugar, and wheat flour** using the Fourth Integrated Household Survey of Malawi.
- Defined **three LSFF scenarios**: “no fortification”, current “status quo” fortification levels, and “improved compliance” to industry standards.
- Current strategy had broad impact, but **gaps exist**.

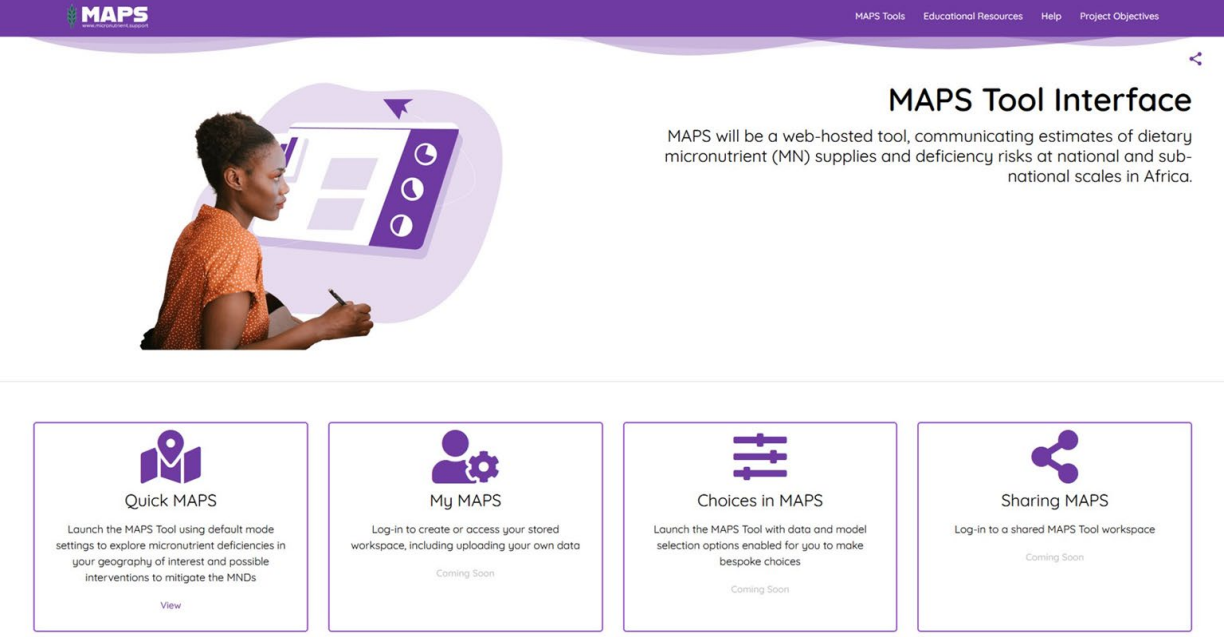


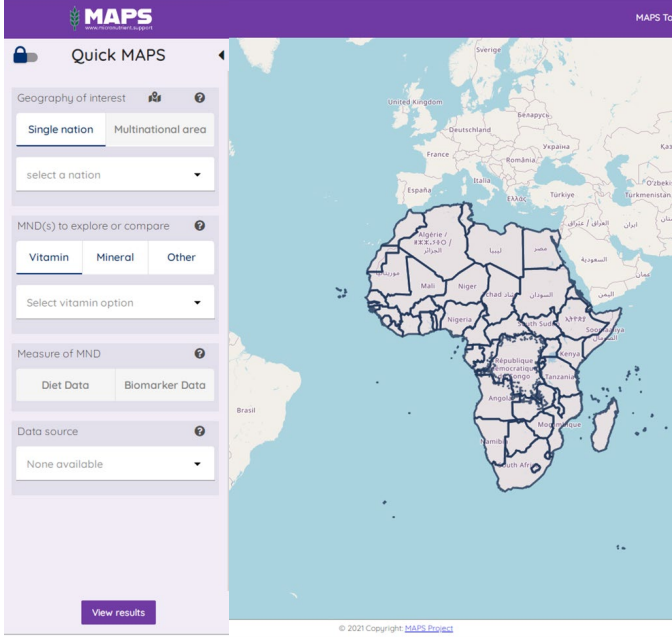


Tang, K., K.P. Adams, E.L. Ferguson, M. Woldt, A.A. Kalimbira, Blessings Likoswe,Jennifer Yourkavitch, et al. 2021. “Modeling Food Fortification Contributions to Micronutrient Requirements in Malawi Using Household Consumption and Expenditure Surveys.” 1508(1):105–122 *Annals of the N.Y. Academies of Science.* https://doi.org/10.1111/nyas.14697

What Do We Need to Facilitate Further Use of HCES Tools?

Improvement of Quality of HCES Food Consumption Data	Advancements in Micronutrient Metrics and Analytics for Policy Relevance	Furthering Partnerships to Exchange Knowledge across Specialties
		
• Further **refinements** in the composition and relevance of national **food item lists** • Smart **standardisation of** HCES food consumption data collection **methods** across countries	• Further research in the **development and linking of metrics** relevant to micronutrient policy and programmes • **Facilitate feedback loops** between data analysts and decision-makers	• Enabling wider use of HCES data for **nutrition-related applications** • **Support appropriate use of data and encourage innovation** through development and sharing of best practices, applications, and challenges.





Micronutrient Action Policy Support (MAPS) project

MAPS
www.micronutrient.support

British Geological Survey

London School of Hygiene & Tropical Medicine

The University of Nottingham

International Food Policy Research Institute

UC Davis University of California

IUNS 2022 ICN Tokyo

Prog. SY(T6)22-1

Thank you ☺

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Program No. SY(T6)22-1

Large-Scale Food Fortification Diagnosis

Monica Woldt
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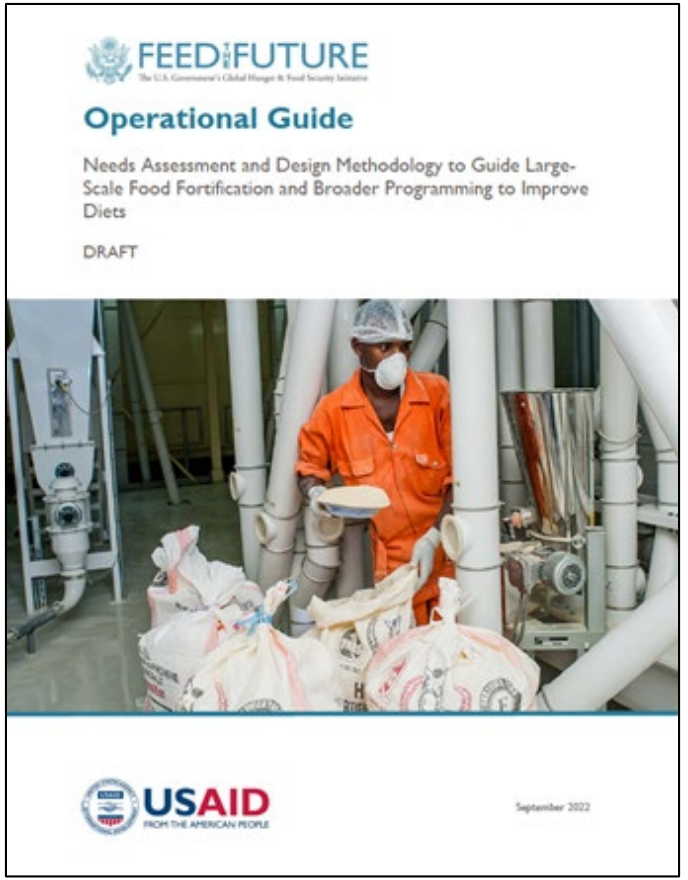
Large-Scale Food Fortification Diagnosis

Methodology to Assess Needs and Use Data to Design Large-Scale Food Fortification (LSFF) Programs to Improve Diets

Photo Credit: JSI/SPRING Project

LSFF Operational Guide

- **Purpose**: Describe methodology steps to identify and use **existing data** to conduct—
  - a needs assessment
  - design/redesign LSFF programs to improve diets.
- **Aim:** Improve diet intake and adequacy
- **Audience**: Implementers of USAID-supported LSFF programming



Rationale for Operational Guide

- LSFF is cost effective:
  - No need to change dietary habits.
  - No need to change food delivery systems.

BUT:

- LSFF is not reaching its potential
  - Low adoption
  - Poor effective implementation
- **One key problem:** Methods not applied to collect, use, or interpret data for decision making

WHO (World Health Organization) and FAO (Food and Agriculture Organization). 2006. *Guidelines on Food Fortification with Micronutrients.* Geneva: WHO/FAO. https://www.who.int/publications/i/item/9241594012

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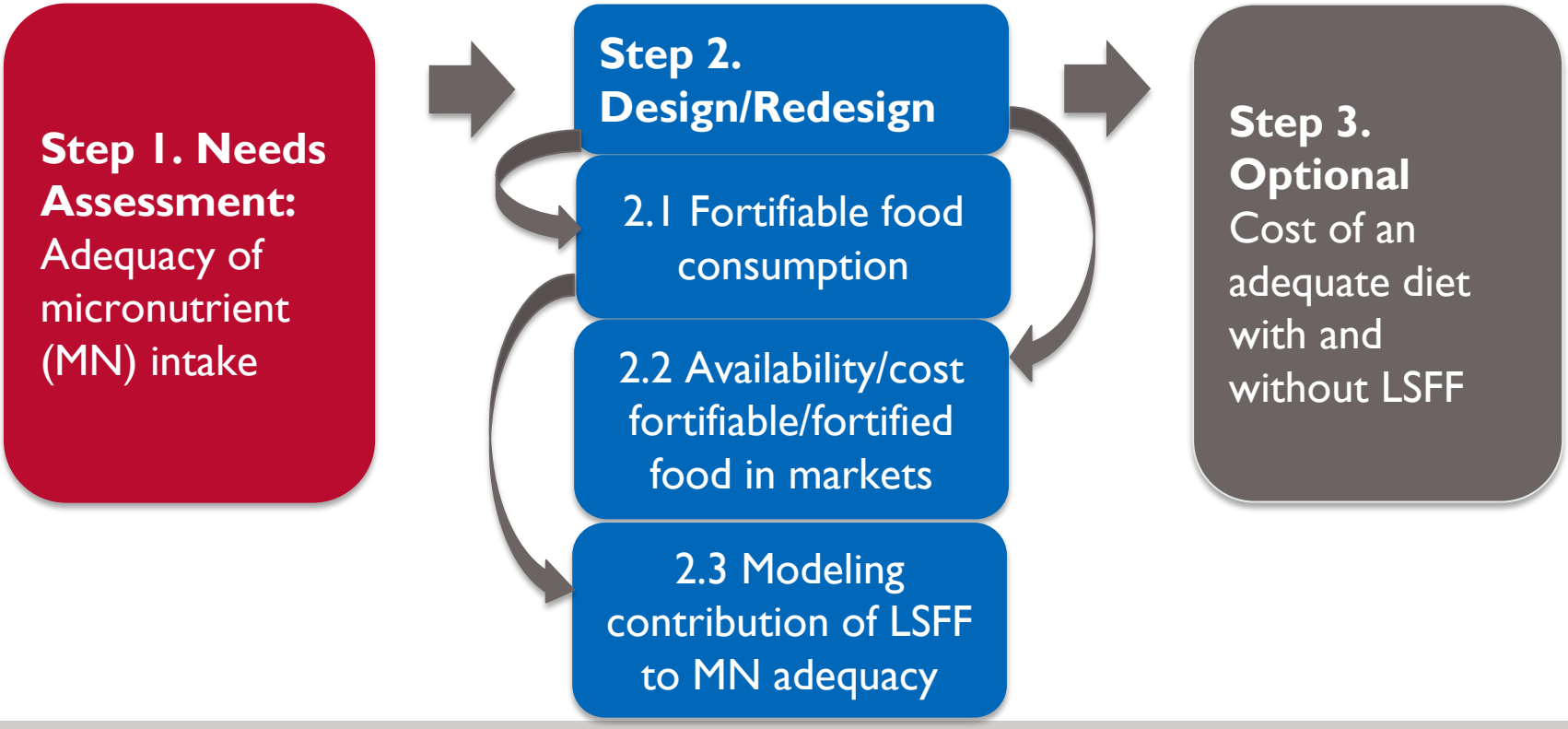
Osendarp, Saskia J.M, Homero Martinez, Greg S. Garrett, Lynnette M. Neufeld, Luz Maria De-Regil, Marieke Vossenaar, Ian Darnton-Hill. 2018. "Large-Scale Food Fortification and Biofortification in Low- and Middle-Income Countries: A Review of Programs, Trends, Challenges, and Evidence Gaps." *Food and Nutrition Bulletin* 39(2): 315–31. https://doi.org/10.1177/0379572118774229.

Photo Credit: Daniel Cothran, JSI

Operational Guide—Steps in the Methodology



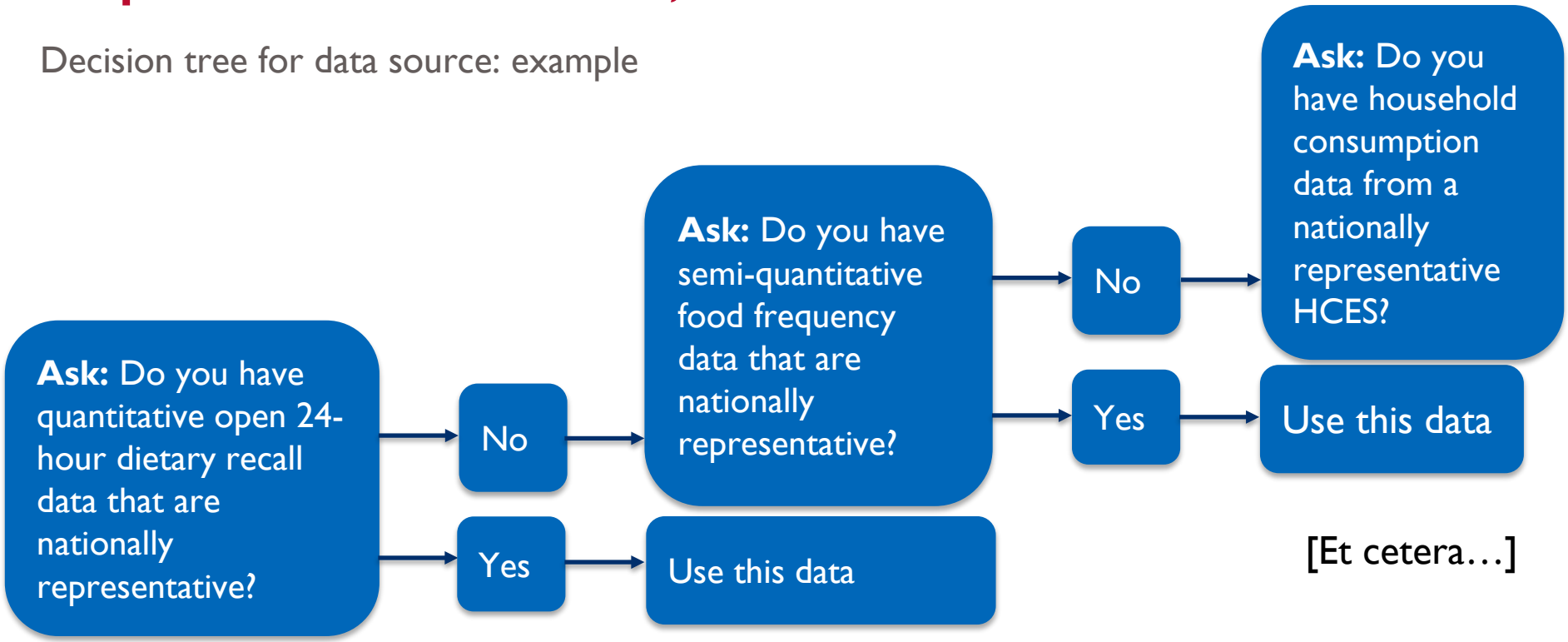
Step 1. Needs Assessment

- **Information need**: Adequacy of micronutrient intake or household supply
- **Questions answered in this step:**
  - Which micronutrients are consumed in—
    - inadequate amounts?
    - amounts above the tolerable upper intake level for safe consumption?
  - Which population strata are most affected?
- **Method**: Estimate current micronutrient adequacy of diets using the estimated average requirement cut-point method
  - Use the full-probability method when intake requirements are skewed/not normally distributed

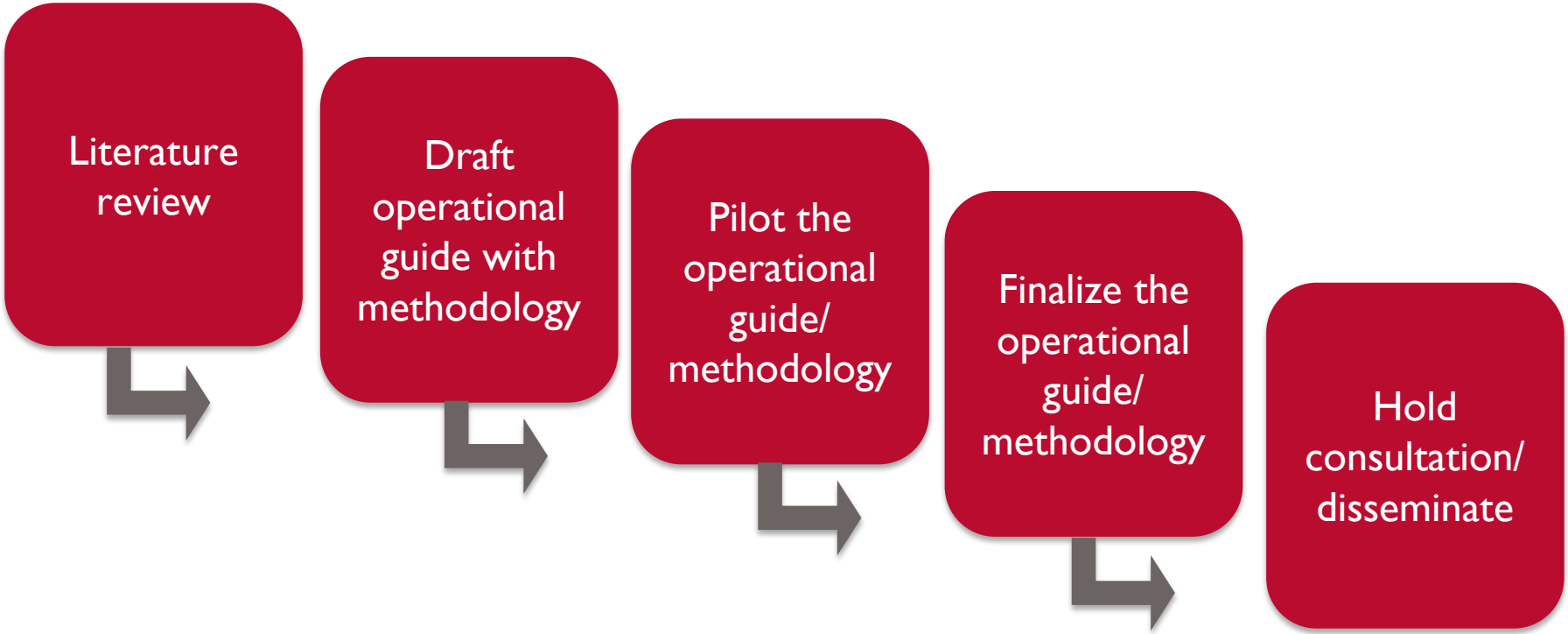
Photo Credit: Agnes Kyotalengeieire, New Vision

Step 1. Needs Assessment, continued

Decision tree for data source: example



Operational Guide and Methodology Development Process



Operational Guide: Next Steps

- Piloting the guide (October 2022–March 2023)
  - Nigeria
  - Zambia
- Revise the guide based on the piloting results (June 2023)
- Consultation to share the guide and methodology (August 2023)
- Support incorporation of the guide into USAID's global fortification implementation efforts (September 2023)

Operational Guide Contribution to Healthy Diets

- The methodology bridges information gaps:
  - what methods to apply with existing data to answer key LSFF needs assessment and design questions
  - how to apply the methods to answer the LSFF questions
  - how to interpret the results to improve LSFF policy and programs.

Photo credit: TechnoServe

Thank you!

Monica_Woldt@jsi.com

Photo credit: USAID

Panel Discussion

Chris Vogliano, Technical Advisor, USAID Advancing Nutrition
Jennifer Crum, Director, Food Systems, USAID Advancing Nutrition
Gareth Osman, Lilongwe University of Agriculture and Natural Resources; USAID Advancing Nutrition

Diet Quality Questionnaire: Chris Vogliano

1. Many countries already want to measure diet quality and associated indicators (e.g., Minimum Diet Diversity-Women) in their monitoring systems, but it has previously been too challenging.

2. Regular diet quality data collection can capture long term and short term diet shifts, and are complementary to quantitative dietary intake surveys.

3. These novel national diet monitoring tools, funded in part by USAID, can be used for assessing the diet quality of adults and IYCF in 105+ countries.

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Market Food Environment Assessments

What Have We Learned?

- Adaptations improved implementation suitability and feasibility
- Context determines use of specific assessments

What's Next?

- Provide streamlined tools and guidance that allows for contextual adaptation.
- Consider non-market assessment tools.

ADARA, MYPE Consultores, Ipsos; USAID Advancing Nutrition

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The Agency's Flagship Multi-Sectoral Nutrition Project

Household Consumption and Expenditure Survey Micronutrient Action Policy Support

Experiences?

- Data harmonization based on standard procedures
  - Metadata

Lessons Learnt?

- Reproducibility of the tools and methods

Way Forward?

- LSMS for Nutrition: Learning Hub

LSMS
Living Standards Measurement Study

MAPS
www.micronutrient.support

Program No. SY(T6)22-1

Closing

Rebecca Egan
USAID Bureau for Resilience and Food Security

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USAID ADVANCING NUTRITION

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