

Improving Diets and Nutrition by Strengthening Food Systems

Why We Need to Improve Diets

Improving the accessibility and affordability of nutritious and safe diets is critical to reducing the global burden of malnutrition. Every country is currently affected by malnutrition, a situation exacerbated by poor quality diets. In 2020, 690 million people around the world were chronically undernourished, and nearly 3 billion people were unable to afford a healthy diet (GLOPAN 2020). Poor-quality diets are linked to 11 million deaths per year and the progress in addressing malnutrition and diet-related ill health is stalling (GLOPAN 2020).

Food system imbalances are major drivers of these dietary and nutrition problems, and poorly functioning food systems restrict access to healthy diets or promote low-quality diets (Global Nutrition Report 2022). The food system includes all the elements and activities involved in the production, processing, distribution, preparation, consumption and waste of food. Food systems are under increasing pressure from climate change, competition for natural resources, and population growth, especially in urban areas. These pressures will continue to challenge our ability to produce the foods we need for high-quality diets (GLOPAN 2020).

In 2019, an estimated 26 percent of the world's population experienced hunger or did not have regular access to nutrient-rich and sufficient food. Sub-optimal diets are now responsible for 20 percent of premature mortality worldwide (GLOPAN 2020).

Inequities in food systems have numerous interconnected causes and therefore require a multi-sectoral, systems approach at global, national, and local levels. The USAID Advancing Nutrition Project (2018-2023) took a multi-sectoral approach to address the many forms of malnutrition, worked to sustain improved diets, and supported the USAID Bureau for Resilience and Food Security (RFS) goals of reducing hunger, malnutrition, and poverty while building resilience to shocks and stressors. Our work explored why the food system is vital to improving diets; we developed a number of resources to guide activities that improve diets and nutrition through the food system.

The Food System Matters—Using the RFS Food Systems Conceptual Framework to Guide Our Actions

Household-level actions can improve diets and nutrition through women's empowerment, agricultural production, and income generation. However, without considering the food system, household actions alone are insufficient to reduce malnutrition (Meadows 2008). There are many factors that influence nutrition outcomes, including types of foods produced, access to markets, inclusion of nutrition-related social and behavior change (SBC), and societal gender norms (Ruel et al. 2018). Any household-level investments in women's empowerment, agricultural production or income generation should consider how elements of the food system can influence and strengthen intended impacts. Programming that targets systemic changes can result in measurable improvements in diets and nutrition for households and individuals.

The food system comprises the interrelated parts of a food’s journey from seed to table. Local, regional, and international food systems are crucial to achieving diet and nutrition outcomes. Food systems consist of a variety of actors, including individuals, communities, organizations, governments, and institutions. Engaging with these actors is vital to the sustainability of any development activity, as is understanding the way that actors interact with components of a system. Development activities could apply food systems thinking by using a set of analytic approaches and associated tools that seek to understand how systems behave, interact with their environments, and influence each other.

RFS developed a food systems conceptual framework (figure 1) to provide high-level operational guidance to USAID staff globally, in line with their strategy to build more resilient communities and sustainably reduce hunger, malnutrition and poverty. The framework illustrates how key elements of the agency’s work come together as part of the food system, specifically: agriculture-led economic growth, water, nutrition, and resilience (USAID 2021).

The framework illustrates three main components representing food system supply and demand: the food supply, the food environment, and food and water utilization. Food system supply and demand are

Food systems are made up of interrelated components of people, behaviors, relationships, and material goods that interact in the production, processing, packaging, transporting, trade, marketing, consumption, and use of food, feed, and fiber through aquaculture, farming, wild fisheries, forestry, and pastoralism. The food and agriculture system operates within and is influenced by social, political, economic, and environmental contexts.

—*The U.S. Global Food Security Strategy*

affected by, and also affect, external drivers both negatively and positively. External investment levers are the actions of actors, such as USAID and other donors, and of public and private sector entities, that can influence food system transformation positively and affect development outcomes of diets, income, health and nutrition, and environmental sustainability. Though not explicitly highlighted in the framework, gender roles, gender norms, and gendered resource allocations significantly affect food system drivers, supply and demand, and outcomes (USAID 2022).

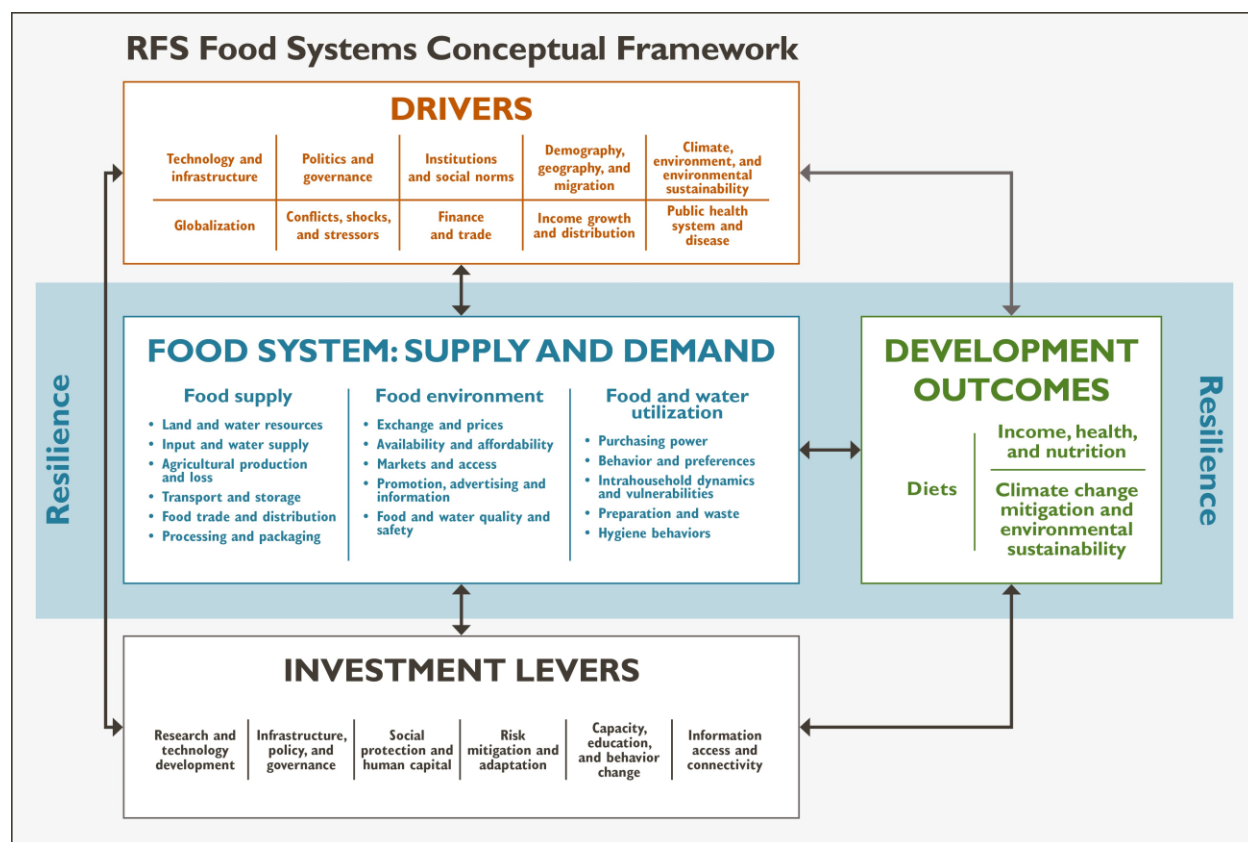
Effective programs do not need to interact with all of the food system elements. Instead, practitioners should prioritize opportunities for improving diets and nutrition based on program context and objectives. The framework illustrates three main components representing food system supply and demand: the food supply, the food environment, and food and water utilization. Food system supply and demand are affected by, and also affect, external drivers both negatively and positively. External investment levers are the actions of actors, such as USAID and other donors, and of public and private sector entities, that can influence food system transformation positively and affect development outcomes of diets, income, health and nutrition, and environmental sustainability. Though not explicitly highlighted in the framework, gender roles, gender norms, and gendered resource allocations significantly affect food system drivers, supply and demand, and outcomes (USAID 2022).

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How to Take Action in the Food System

USAID Advancing Nutrition developed a set of tools and other resources that helps USAID and partners apply a food systems lens when programming. These resources are organized by key components of the food system. This section briefly describes each resource and provides a link. Where resources fit under more than one category, it is noted below. All resources can also be found on the USAID Advancing Nutrition Food Systems [webpage](#).

Figure I. Food Systems Conceptual Framework



Food Supply

- [Operational Overview: Needs Assessment and Design Methodology to Guide Large-Scale Food Fortification and Broader Programming to Improve Diets](#)—This Operational Overview describes the steps to identify and use existing data to conduct an assessment that informs the design or redesign of large-scale food fortification (LSFF) programs as well as broader programming to improve diets. The overview includes a data decision tree to identify the most suitable existing data to conduct the analyses. The Operational Overview is the first part of a package of tools for need assessment and design of LSFF programs for improved diets. (This resource also fits under the food environment.)
- [Methods Guide: Needs Assessment and Design Methodology to Guide Large-Scale Food Fortification and Broader Programming to Improve Diets](#)—This is the second part of the LSFF programs tools package and it provides detailed instructions on how to conduct the analyses for the needs assessment and design. (This resource also fits under the food environment).
- [Case Study: Nigeria and Zambia Large-Scale Food Fortification Needs Assessment and Design Pilot: Challenges and Lessons Learned](#)—In this third part of the LSFF programs tools package includes examples of results of the needs assessment and design analyses and their interpretation and application for LSFF decision making. The primary audience includes people seeking to assess and design or possibly re-design an LSFF program, such as USAID Mission staff overseeing the Feed the Future (FTF) initiative and USAID partners, including Feed the Future implementing partners, national offices/bureaus of statistics, universities, and national institutes/centers. (This resource also fits under the food environment).

- [Designing Effective Nutrition-Sensitive Agriculture Activities](#)—This guide provides all the materials needed (facilitator’s guide, two slide decks, and workshop handouts) to facilitate a nutrition-sensitive agriculture program design workshop. The Design Guide provides instructions for a team of facilitators to walk their peers through a four-step strategic planning process to select contextually appropriate nutrition-sensitive agriculture outcomes, strategies, practices, interventions, and indicators. Workshop participants would discuss outcomes to consider that will lead to improved nutritional status and develop interventions to contain underlying contributors to malnutrition. This workshop is intended for anyone involved in designing, implementing, monitoring, and managing agriculture led economic growth activities that aim to increase production, income, resilience, and/or market competitiveness, while also seeking to improve the nutrition of low- and middle-income households vulnerable to malnutrition. The output of the design guide workshop is a completed matrix of nutrition-sensitive activities that teams can incorporate into their work plans, results frameworks, or performance monitoring plans. (This resource also fits under the food environment, and under food and water utilization).
- [Technical Brief: Food Processing to Improve Diets](#)—This technical brief orients USAID and its implementing partners when designing and implementing food processing activities for improved diets and nutrition. The brief describes how food processing can improve diets, how it fits within USAID’s multi-sectoral food security and nutrition strategies, and what to consider when implementing food processing activities to improve diets and nutrition. (This resource also fits under the food environment).
- [Landscape Assessment: Food Processing in Feed the Future Investments](#)—This landscape assessment helps USAID to better understand how food processing has been included in Feed the Future programming and provides recommendations for improving food processing programming to increase year-round access to and consumption of foods that form part of a safe, nutritious diet. The assessment presents opportunities in food processing interventions within Feed the Future projects that could be exploited to improve diet quality, including key recommendations for USAID and implementing partners. (This resource also fits under investment levers).

Food Environment

- [Methods, Tools, and Metrics for Evaluating Market Food Environments in Low- and Middle-Income Countries](#)—This report presents findings from a landscape assessment, a ranking exercise, and a survey that led to a priority list of methods, tools, and metrics for evaluating informal and formal market food environments in low- and middle-income countries (LMICs). The methods, tools, and metrics identified through the landscape assessment, ranking exercise, and survey were organized on the basis of four dimensions of the external domain (availability, price, vendor and product properties, and marketing and regulation) and four dimensions of the personal domain (accessibility, affordability, convenience, and desirability) of food environments.
- [Food Environment Monitoring and Evaluation Guidance and Tools](#)—This package helps global development partners in working in LMICs to collect data that assess the food environment. The package includes documentation of a multi-year pilot study in Liberia, Honduras, Nigeria, and Timor-Leste that evaluated seven food environment assessments for their feasibility and acceptability. Findings from the pilots informed this package of data collection tools intended to be used by practitioners to inform the design and implementation of market-based interventions within food systems to support healthy diets.
- [Generating Demand for Healthy Diets: Social Marketing Guide](#)—This guide supports nutrition program planners by defining, describing, and explaining the process of developing high-quality programs to market healthy diets. The guide enables teams to make informed marketing decisions,

create strong marketing campaigns, and diagnose and solve marketing challenges. It combines social and commercial marketing best practices with firsthand experience—challenges and solutions—from partners who are working to improve nutrition outcomes by creating demand for healthy diets. This guide is meant for program planners, managers, and implementing teams whose activities aim to promote healthy diets. Sections of the guide teach users how to get to know their audience, how to develop a campaign, and how to create a brand identity. It is useful for newly awarded activities in the design phase, and for more mature activities that are undergoing mid-project adaptations.

- [Suitability of Data-Collection Methods, Tools, and Metrics for Evaluating Market Food Environments in Low- and Middle-Income Countries](#)—This open access article shares the findings from a study that evaluated the suitability of data-collection assessments (including methods, tools, and metrics) for multiple dimensions of external and personal domains of market food environments in informal and formal markets in LMICs. The findings can be used to inform the monitoring and evaluation of market food environments in LMICs through identification of suitable data-collection assessments and to inform the development and validation of new assessments where gaps currently exist.

Food and Water Utilization

- [Social and Behavior Change Resources for Women's Healthy Diets: 5 Gaps and Recommendations](#)—This brief outlines gaps and recommendations in SBC resources for women's healthy diets. It first identifies quality SBC tools and resources through expert consultations and document reviews and discusses which existing resources programs can adapt and use immediately. It then identifies five key gaps in existing SBC resources, and five recommendations for future research and SBC resource development. SBC nutrition programmers, planners, and researchers can use the findings and recommendations to design, implement, and monitor current and future research and SBC programming to improve women's diets.

Drivers

- [Engaging Youth in Food Systems](#)—This concept note describes evidence and opportunities for programmatic approaches to engage young people (between 10 and 29 years of age) in food systems activities for improved diet and nutrition outcomes. Based on a desk review of existing literature and a short series of key informant interviews, it proposes a categorization of food systems approaches to engage youth, briefly summarizes the state of evidence, and highlights opportunities and knowledge gaps to begin to inform and inspire programming. Finally, the concept note proposes entry points and opportunities for USAID and its partners to continue to contribute to the evidence base supporting effective youth engagement in food systems approaches to improve diet and nutrition outcomes.
- [Working within the Food System: Gender Considerations for Achieving Improved Diets](#)—This technical brief suggests how to take evidence-based actions that consider gender when designing and implementing approaches to improve diets through the food system. It offers ideas across the food system for promoting gender equality while improving diets. The brief reinforces the importance of considering the programming context to prioritize actions that address barriers and support practices most likely to affect diet and nutrition outcomes. It is part of a series of technical briefs that provide guidance for developing and implementing multi-sectoral nutrition programming across agriculture and food systems in support of the U.S. Government Global Food Security Strategy (GFSS) and USAID's plan under the strategy. It is designed to be used by agriculture and nutrition staff, both within and outside USAID, to apply technical guidance to practice.

- [Working Within the Food System: Agriculture-to-Nutrition Pathways for Achieving Improved Diets and Nutrition](#)—The brief provides guidance on how to take evidence-based actions that consider the Agriculture-to-Nutrition Pathways when designing and implementing approaches to improve diets through food systems programming. The brief reinforces the importance of working across the food system and prioritizing pathways that lower barriers to improved nutrition and support practices most likely to strengthen diets and nutrition. It is also part of a series of technical briefs that provide guidance for developing and implementing multi-sectoral nutrition programming in support of the GFSS and USAID’s related plan under the strategy. It is designed to be used by agriculture and nutrition staff, both within and outside USAID, to apply technical guidance to practice.
- [Illustrative Behaviors to Improve Nutrition-Sensitive Agriculture Tool](#)—This tool provides a list of evidence-based nutrition-sensitive behaviors to spark ideas and discussion among activity designers and implementers. This list can help to identify food system actors and nutrition-sensitive behaviors across the food system to support an activity’s nutrition outcomes. It is intended to help activity designers and implementers design more effective approaches to increase the uptake and adoption of behaviors to improve nutrition outcomes. While this list can be used as a standalone resource, it also serves as a companion piece to the [Designing Effective Nutrition-Sensitive Agriculture Activities Guide](#). (This list could fit under any food system component.)
- [Focusing on Social Norms: A Practical Guide for Nutrition Programmers to Improve Women’s and Children’s Diets](#)—This guide includes tips and tools to improve program outcomes by understanding and responding to social norms at key points in the program cycle. It incorporates background on how to identify norms and monitor and measure normative change. The guide also helps to create enabling environments for greater and sustained change once an activity ends, and was updated in 2023 after user testing. This guide is for nutrition program planners and implementers planning norm-responsive activities within nutrition-sensitive or nutrition-specific programming. Any activity that aims to improve diets can use this guide, whether working at the market, community, household, or other level. The guide provides examples, tools, and links to current “how-to” resources. Worksheets and a social norms checklist included in this guide link to editable versions you can download for direct use. (This resource also fits under food and water utilization.)

Investment Levers

- [Food Systems and Nutrition E-Consultation Report](#)—This report describes key findings and takeaways from a USAID e-consultation held in November 2019, with support from USAID Advancing Nutrition and Agrilinks. The e-consultation consisted of a webinar to share findings from an evidence review by the Feed the Future Innovation Lab for Nutrition at Tufts University. The review analyzed recent research on how agriculture and food systems affect diets and nutrition and where work is needed to guide policies and investments in evidence-based programs in low-income countries. The e-consultation also included a week of online discussions and a survey to validate the online discussions and prioritize research opportunities. Academics, donors, implementers, private-sector actors, and other stakeholders were invited to participate.

Development Outcomes

- [Diet Assessment Decision Tool](#)—This decision tool helps practitioners and decision makers understand dietary patterns and nutrient intake. It supports design, monitoring, and evaluation efforts to improve diets. It provides existing data sources and data collection tools related to five target groups including: children 6 to 23 months of age, women 15 to 49 years of age (non-pregnant, non-lactating), pregnant women 15 to 49 years of age, lactating women 15 to 49 years of age, and men. It can be used to discover existing tools that are available to identify dietary

patterns or gaps and excesses in nutrient intake among target groups.. Additionally, the decision tool helps to find resources that identify indicators to evaluate the effect of interventions on dietary intake. (This resource also fits under food and water utilization.)

- [Assessing the Performance of National Sentinel Food Lists at Subnational Levels in Six Countries](#)—This paper assesses how well national sentinel lists of the most frequently consumed foods in each food group capture data at subnational levels to measure minimum diet diversity. It found that national sentinel food lists can provide reliable data at subnational levels for most food groups, with some variability by country and sub-region.

Where to Start?

Food systems programming adds value and improves outcomes related to quality of diets and nutrition. When deciding where to begin, it is important to consider where you are in your program cycle. The earlier a food systems lens can come into the cycle (e.g. design), the more a food systems approach can be effective. USAID Advancing Nutrition has had a number of key learnings over five years of research and implementation that can be applied to programs that work within the food system to improve diet and nutrition outcomes:

- If your program is designed to improve availability of selected crops, consider assessing the food environment to identify barriers to ensure that increased availability also leads to increased food purchase and consumption. ([Food Environment Monitoring and Evaluation Guidance and Tools](#)).
- If your program seeks to increase consumption of safe and nutritious foods, consider the most significant demand generation strategies for your population of interest. ([Generating Demand for Healthy Diets: A Guide to Social Marketing in Nutrition](#)).
- If your program works on LSFF, consider barriers related to the legal and regulatory environment and opportunities to work with partner governments to encourage fortification activities. ([Operational Guide Needs Assessment and Design Methodology to Guide Large-Scale Food Fortification and Broader Programming to Improve Diets](#); [Methods Guide: Needs Assessment and Design Methodology to Guide Large-Scale Food Fortification and Broader Programming to Improve Diets](#); and [Case Study: Nigeria and Zambia Large-Scale Food Fortification Needs Assessment and Design Pilot: Challenges and Lessons Learned](#)).
- To ensure programming that considers marginalized groups and how they engage with food systems, think about how gender considerations might affect the quality of diets consumed, and how to engage youth in food systems work ([Working within the Food System: Gender Considerations for Achieving Improved Diets](#) and [Engaging Youth in Food Systems](#)).

Recommendations for Priority Areas of Inquiry for Research and Resource Development

Even with the breadth and depth of work related to food systems, there remain numerous priority areas of inquiry for future research and resource development. Following on from the work of USAID Advancing Nutrition, a number of “next step” resources emerge as priorities:

New/Enhanced Tools and Guidance

- Updating the Nutrition-Sensitive Design Guide to include a more holistic food systems lens, instead of focusing primarily on household level agriculture-nutrition pathways
- Developing tools that implementing partners can use to assess and increase consumer demand for nutritious foods

- Drafting guidance for designing programs that improve diet diversity, including messaging for promoting fortified foods as part of a healthy diet
- Connecting climate change with nutrition outcomes. Limited data exist connecting these two areas, and more investment is needed to understand the challenges and opportunities that exist to mitigate and adapt food systems
- Creating tools that help USAID partners align market systems approaches to facilitate food system change and improve diets.

Metrics

- Developing training materials for staff at national statistics offices to conduct data analyses that estimate micronutrient inadequacies in household diets using Household Consumption and Expenditure Surveys and national Data Quality Questionnaire data.
- Using these materials to conduct training
- Building on the food environment assessment package to go beyond vendors and markets, and including assessment methodology for consumer demand. This would provide a more complete food environment toolkit.

Enhanced Partnership

- Applying tools for engaging the private sector to improve diets. Specifically, drafting guidance that helps USAID Missions know how and when to engage the private sector, developing a resource for “how to talk to the private sector” that addresses misconceptions about the potential benefits of working with private sector actors and shares language to help find common ground, and documenting examples of successful strategies for private sector engagement. Additionally, there is a need for a set of diet and nutrition indicators that can be used by market-based programs, and a need for tools that help USAID Missions identify and address knowledge and capacity gaps across sectors to better understand who should engage the private sector and how each sector could play a role.
- Working with marginalized and underrepresented groups (individuals or established organizations) in program design, implementation, monitoring, evaluation, and learning.

In addition to the specific resources listed above, there are a number of areas requiring further research and data that emerge in global literature as priority areas. As the authors of the *Global Nutrition Report* noted, there is a need for more and better food environment data that help us to understand what people are eating and how they make food choices. There are still large gaps in knowledge about diets, food sourcing and costs, especially at national levels and in low-income countries (Development Initiatives 2022). Furthermore, rural food environments and protracted crisis situations are two contexts with insufficient information about food environments. There is a great need for standardized metrics and tools for use in those settings (Development Initiatives 2022).

The Nutrition Innovation Lab conducted an evidence review of food systems and nutrition in 2019 and also highlighted a number of priority areas for further research and action. Some of the areas that USAID Advancing Nutrition also sees priority for more research include:

- How market actors in the private and public sectors can improve rural household access to nutritious diets
- Which successful policies and programs best impact the affordability of nutrient rich foods relative to starchy staples, and the affordability of healthy diets across seasons and years

- How market information systems can provide accurate information to farmers, and how this information can encourage production of nutritious foods
- The best ways to provide information about nutritious foods to populations with little formal schooling
- The dietary consequences of exposure to food safety issues that happen during production, and how to decrease the risks
- How different interventions have different effects on energy expenditure, time use, and opportunity costs for women, and how this information can affect the cost-effectiveness of interventions within households
- How to measure potential resilience building components of food-based interventions, especially taking into account long term sustainability
- How to design interventions throughout the food system that can build resilience to protect diets and nutrition in response to shocks and climate change (Cliffer et al. 2019).

References

- Cliffer, Ilana, William A. Masters, Johanna Andrews Trevino, Patrick Webb, and Shibani Ghosh. 2019. *Food Systems and Nutrition: Emerging Evidence and Research Opportunities, Nutrition Innovation Lab.* USAID Feed the Future Innovation Lab for Nutrition. https://pdf.usaid.gov/pdf_docs/PA00W5W7.pdf
- Development Initiatives. 2022 *Global Nutrition Report: Stronger Commitments for Greater Action*. Bristol, UK: Development Initiatives, 2022. <https://globalnutritionreport.org/reports/2022-global-nutrition-report/>
- GLOPAN (Global Panel on Agriculture and Food Systems for Nutrition). 2020. *Future Food Systems: For People, Our Planet, and Prosperity*. London, UK. <https://foresight.glopan.org/>
- Meadows, Donella H. 2008. *Thinking in Systems: A Primer*. White River Junction, VT: Chelsea Green. <https://wtf.tw/ref/meadows.pdf>
- Ruel, Marie T., Agnes R. Quisumbing, and Mysbah Balagamwala. 2018. “Nutrition-Sensitive Agriculture: What Have We Learned So Far?” *Global Food Security* 17:128–153. doi.org/10.1016/j.gfs.2018.01.002
- USAID (United States Agency for International Development). 2021. *RFS Food Systems Conceptual Framework*. Washington, DC: USAID. <https://www.usaid.gov/sites/default/files/2022-05/RFS-Food-Systems-Conceptual-Framework-Summary-Guidance.pdf>
- USAID (United States Agency for International Development). 2022. *Working Within the Food System: Gender Considerations for Achieving Improved Diets*. Washington, DC; USAID. [https://www.usaid.gov/sites/default/files/2022-12/USAID_Gender_Considerations_Brief_2022_Final_\(3\)_1.pdf](https://www.usaid.gov/sites/default/files/2022-12/USAID_Gender_Considerations_Brief_2022_Final_(3)_1.pdf)



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