USAID
FROM THE AMERICAN PEOPLE

Women's Diets Learning Agenda

Key Learning and Future Directions

SEPTEMBER 2023

About USAID Advancing Nutrition

USAID Advancing Nutrition is the Agency's flagship multi-sectoral nutrition project, led by JSI Research & Training Institute, Inc. (JSI), and a diverse group of experienced partners. Launched in September 2018, USAID Advancing Nutrition implements nutrition interventions across sectors and disciplines for USAID and its partners. The project's multi-sectoral approach draws together global nutrition experience to design, implement, and evaluate programs that address the root causes of malnutrition. Committed to using a systems approach, USAID Advancing Nutrition strives to sustain positive outcomes by building local capacity, supporting behavior change, and strengthening the enabling environment to save lives, improve health, build resilience, increase economic productivity, and advance development.

Disclaimer

This document is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of JSI Research & Training Institute, Inc. (JSI), and do not necessarily reflect the views of USAID or the United States government.

Recommended Citation

USAID Advancing Nutrition. 2023. *Women's Diets Learning Agenda: Key Learning and Future Directions.* Arlington, VA: USAID Advancing Nutrition.

Photo Credit: Liam Wright/Smart Food/ICRISAT

USAID Advancing Nutrition

JSI Research & Training Institute, Inc.

2733 Crystal Drive

4th Floor

Arlington, VA 22202

Phone: 703–528–7474

Email: info@advancingnutrition.org

Web: advancingnutrition.org

Contents

Acronyms

DQQ	diet quality questionnaire
FAO	Food and Agriculture Organization
IFA	iron-folic acid
IYCF	infant and young child feeding
LMIC	low- and middle-income countries
MDD-W	Minimum Dietary Diversity for Women
MIYCN	maternal, infant, and young child nutrition
MMS	multiple micronutrient supplementation
SBC	social and behavior change
TFNC	Tanzania Food and Nutrition Centre
WFP	World Food Program
WHO	World Health Organization

Executive Summary

In 2020, USAID Advancing Nutrition developed a learning agenda to document global learning, evidence, and innovative practices on how to improve women's diets, with a focus on pregnant and lactating women. This focus on women's diets responds to the need to ensure that women and adolescent girls can consume healthy diets and access high-quality health services. This work also addresses gaps in implementation experience and evidence on women's diets identified in the USAID Advancing Nutrition *Maternal, Infant, and Young Child Nutrition (MIYCN) Strategic Planning Document,* which we developed in collaboration with USAID (USAID Advancing Nutrition 2020b). Through the learning agenda, we synthesize learning across over 50 activities related to women's diets from 2018–2023 through 12 learning questions across five areas of inquiry—improving women's diets through market food environments, demand creation, family diets, counseling and other health service delivery, and policies and policy implementation. These activities included primary studies, literature reviews, guidance and toolkit development, and Mission-funded direct implementation and nutrition governance activities. Each year, a project working group tracked learning for relevant activities, reviewed project documents, and interviewed country staff to document and synthesize learning. We also held a convening with USAID in 2023 to review learning to date and discuss future learning priorities. This report summarizes the learning from across the project years and learning priorities to inform future USAID and implementing partner work.

Across the areas of inquiry, we found interconnected factors that influence women's diets; the solutions to barriers and constraints must be similarly connected. The structure and functioning of market food environments are an important determinant of food availability and affordability, while both shaping and adapting to consumer demand. Social and gender norms often constrain women's participation in food markets; decision-making related to production, purchases, and consumption; and access to food within the household. At the same time, harnessing the influence of family members and communities has the potential to improve women's diet quality and positively shift social and gender norms over time. High-quality health services, including counseling and micronutrient supplementation, are needed to ensure adequate nutrient intake for women, and family support is needed for access to and adherence to those services. Finally, policies that explicitly prioritize women's diets and policy implementation backed by high-quality data, planning, budgeting, and accountability mechanisms provide the enabling environment needed to maintain and accelerate progress.

Future Directions

While the same types of factors influence women's diets across many contexts, the implications of how they influence women's diets varies across and within contexts and depend on women's socio-economic and demographic characteristics. When implementing partners do not have sufficient information about how these factors influence women's diets in a particular context, they should use expert and community consultations, formative research, or other approaches to gather this information to inform their activity design. When key questions remain about how to improve women's diets, implementing partners can use learning and adaptive management approaches to improve intervention design and implementation during the activity period.

Continued evidence generation from research and implementation is needed to fully answer the questions in this learning agenda. There are several learning priorities for USAID and implementing partners to consider following this work:

- Given the many factors—socio-cultural, economic, food market environment, among others—that influence women's diets, studies should assess a combination of interventions to improve diets. Implementation research with quasi-experimental or experimental designs that test the effectiveness and cost-effectiveness of different packages of approaches is needed in these areas:

  - reducing barriers to women's participation in food markets and their influence on women's diets, particularly for low-income consumers
  - increasing social and family support and using social marketing techniques to generate demand for nutritious foods for women
  - tailoring approaches for adolescent girls, particularly those who are pregnant and lactating
  - approaches to strengthen the quality of counseling
  - developing additional micronutrient delivery strategies, including the use of SBC approaches to improve social and family support for supplementation.
- Develop and test simplified approaches and measures to assess and monitor nutrition-related social norms for use by implementing partners.
- Develop and test a toolkit on supporting women's diets through policy, planning, budgeting, monitoring, and accountability frameworks that practitioners can adapt and apply in different countries at the national and sub-national levels.
- Address data gaps on adolescent girls' consumption and nutrition status through data collection and testing dietary intake and nutrition status measurement approaches for this population.
- Conduct or support research on understudied topics about the relationship between women's diets and social support and mental health.

Chapter 1. Introduction

In 2020, USAID Advancing Nutrition developed a learning agenda to document global learning, evidence, and innovative practices on how to improve women's diets, with a focus on pregnant and lactating women specifically. The following learning questions cut across the five areas of inquiry—improving women's diets through market food environments, demand creation, family diets, counseling and other health service delivery, and policies and policy implementation.

1. What are the primary barriers related to market food environments that contribute to suboptimal women's diets (e.g., socio-cultural norms, market access, economic constraints, food availability, women's time burdens)? What are mechanisms that programs can use to overcome those barriers?
2. How can programs influence food markets in ways that support quality diets for women in contexts where there are high time burdens on women?
3. How and to what extent can programs effectively influence and increase women's consumption of animal-source foods, fruits, and vegetables during pregnancy and lactation by increasing consumer demand for these foods? How can family and community members support women's consumption of these foods?
4. What are examples of norms-responsive interventions to improve women's diets? How can programs identify and address the social and gender norms that influence women's diets?
5. How can programs improve the dietary behaviors of adolescent girls and young women in the preconception period, given its importance for their health and optimal birth outcomes? How does this vary depending on the local context and household socioeconomic status?
6. How can programs improve equitable impact of interventions that aim to improve family diets, such as through influencing community influencers or intrahousehold food allocation? How can these interventions be scaled?
7. How can food baskets be designed to meet pregnant and lactating women's needs and to promote equitable intra-household distribution?
8. How can interventions, including multiple micronutrient supplementation (MMS), be effectively implemented to meet women's increased dietary needs during pregnancy and lactation?
9. What is the comparative effectiveness of individual micronutrient delivery strategies (e.g., MMS vs. fortified foods) or packages of interventions, especially for pregnant and lactating women?
10. How can programs improve the delivery of effective counseling on healthy maternal diets to women and their family members? This may include—
    a. How can programs identify appropriate health workers, strengthen their capacity to provide counseling, and provide ongoing support to maintain effective counseling?
    b. What are successful approaches to integrate counseling on maternal or family diets during existing health services, such as acute illness visits or child wellness visits?
    c. How can dietary guidance be tailored to local contexts and lactating women's specific health status (e.g., overweight/obese, chronic conditions) to help meet their dietary needs?
    d. How do maternal mental health and well-being affect women's diets and nutritional status and vice versa? How can these linkages be addressed through counseling or other services?
11. How can considerations about women's diets be integrated into policies across sectors?

a. How can improved data measurement, monitoring, and use inform integrating women's diets into policies?

12. How can programs better support the translation of policy into action in low- and middle-income countries (LMICs), such as how to incorporate nutrition into antenatal care or improve accountability and resource mobilization?

This report summarizes learning on women's diets from USAID Advancing Nutrition's work and suggests future research and learning priorities to strengthen the evidence base supporting women's diets. The primary audiences for this learning are USAID and implementing partners, to help inform decision-making about the design and implementation of interventions and products targeting women's diets.

Background

USAID Advancing Nutrition's focus on women's diets responds to the need to ensure that women and adolescent girls can consume healthy diets and access high-quality health services and to address gaps in implementation experience and evidence on women's diets. We developed the learning agenda with the USAID Bureaus for Global Health, Resilience and Food Security, and Humanitarian Assistance through a collaborative, iterative process. First, we identified USAID's learning needs and goals based on the evidence gaps identified in the *Maternal, Infant, and Young Child Nutrition (MIYCN) Strategic Planning Document* (USAID Advancing Nutrition 2020b). We decided to broaden the initial focus from pregnant and lactating women to women's diets to encompass work across our multi-sectoral project. Secondly, we developed learning questions related to evidence gaps that constrain the design of women's diets programs based on a rapid desk review and consultations with USAID. Lastly, we determined the approaches we would use to generate learning.

Learning Approaches

We synthesized learning across project activities related to the learning questions. Each year, we reviewed the approved work plan and identified activities that had the potential to generate relevant learning within each area of inquiry. The project convened an internal working group on women's diets to track and share learning from these activities on a quarterly basis. Towards the end of each fiscal year, we developed a brief to synthesize learning and held a pause and reflect session with USAID and project staff to share and discuss learning and identify persistent evidence gaps to consider in the next year. In 2022–23, our country programs expanded significantly, so we also conducted interviews with those staff to document their learning from implementing interventions related to women's diets. Finally, in 2023, the last year of the project, we held a convening with USAID to review learning to date and invited external experts to share their perspectives on recent learning and evidence gaps, including Dr. Deborah Ash (FHI Solutions), Ms. Pooja Pandey Rana (Helen Keller International), Dr. Gargi Wable Grandner (ACDI/VOCA), and Dr. Stephanie Martin (University of North Carolina at Chapel Hill). USAID identified future learning priorities during the convening which the recommendations in this brief reflect.

USAID Advancing Nutrition implemented and tracked 50 activities related to women's diets across the life of the project. Some activities responded to multiple learning questions and the extent to which these activities focused on women's diets varied. While there were relevant activities for all areas of inquiry, activities were primarily related to the demand creation, family diets, and policies and policy implementation. The core-funded activities were largely primary studies, literature reviews, and guidance or toolkit development implemented by teams across the project. The country-funded activities included some primary studies but were largely implementation efforts by our country teams in Tanzania, Ghana, Burkina Faso, Kenya, Niger, Nigeria, India, and the Kyrgyz Republic.

Chapter 2. Learning Summary and Evidence Gaps

For each area of inquiry, we provide background on the theme from the current evidence base, summarize key learning from the project, and present continued evidence gaps. We did not have activities related to learning question 9, so do not include it below.

Area of Inquiry A: Market Food Environments

Background

Local food markets are a critical source of food for many households in LMICs. Market food environments, including food availability, price, marketing, and food characteristics, influence household food access and shape consumer preferences and ultimately influence women's diets (HLPE 2020; GloPan 2020). Women also shape market food environments through paid and unpaid roles in the food system, such as in production, post-harvest processing, and marketing (Njuki et al. 2023).

USAID Advancing Nutrition Resources: Food Market Environments

- Agriculture in Complex Emergencies: Exploring the Association between Agriculture Programs and Dietary Diversity among Women and Children in South Sudan
- Methods, Tools, and Metrics for Evaluating Market Food Environments in Low- and Middle-Income Countries
- Rapid Assessment of Contextual Needs to Target Social and Behavior Change (SBC) Approaches
- Working within the Food System: Gender Considerations for Achieving Improved Diets

Learning Question 1: What are the primary barriers related to market food environments that contribute to suboptimal women's diets? What are mechanisms that programs can use to overcome those barriers?

Women often have limited access to markets with nutritious foods due to social norms around women's mobility according to a scoping review on gender issues in food systems (Njuki et al. 2023). Our work exploring consumer demand in Bangladesh and India aligns with existing evidence showing that social and gender norms on women's mobility can constrain women's physical access to markets. We tested measures of consumer demand with the Feed the Future Bangladesh Nutrition Activity through their annual household survey. We found that women were more likely to purchase foods from a village market or shop rather than other locations or vendor types, suggesting greater physical access to points of purchase near their homes. In Bangladesh, women have limited mobility due to social norms, so the location of vendors and markets influences their ability to purchase food. Our findings were similar in Assam, India, from formative research on consumer demand social and behavior change activities. We found that women preferred to purchase food in their village, given their mobility constraints as well as time and energy burdens (USAID Advancing Nutrition 2022f). These findings point to the importance of nutritious food availability in village shops and markets to enable women to purchase food in contexts where women have constrained mobility.

Beyond physical access to markets, **women often have limited purchasing power in food markets.** In market food environments with high food prices, women's ability to purchase food is further constrained by their often limited access to and control over income. Evidence indicates women are less likely than men to be able to afford a nutritious diet, because they receive lower wages than men, have less control over household finances, or have no income—this is coupled with high food

prices that make diets in many parts of the world unaffordable for women (Njuki et al. 2023). Women in India reported that legumes and animal-source foods were unaffordable due to high market prices. Further, control over income affected what women could purchase for household consumption. Respondents reported that men purchased staple food items and must give their approval for women to purchase more expensive, higher value foods, such as animal-source foods. While men and women thought that nutrition outcomes and quality of life would improve if women played a more active role in household decision-making, neither men nor women felt confident in women's ability to adequately contribute to household decisions. Some were also concerned that women's increased involvement could lead to increased conflict in the family and community (USAID Advancing Nutrition 2022f).

Evidence suggests that **shocks to the food system, including political, economic, conflict, and weather-related shocks, disproportionately affect women's diet quality** and ultimately their nutrition outcomes (Njuki et al. 2023). In the consumer demand testing in Bangladesh, we found that market shocks from COVID-19 pandemic restrictions likely shifted women's food access and consumption patterns. Just after the Delta variant wave in 2021, during which the country experienced a high caseload and imposed nationwide lockdowns, women reported limited access to markets across food groups and high prices for eggs and vitamin A-rich fruit and vegetables. Likely due to constrained access, a lower proportion of female respondents consumed eggs and vitamin A-rich fruit and vegetables compared to 2020 when case rates were lower and nationwide lockdowns were much shorter in duration. At the time of the survey, consumers had significant concerns about contracting COVID-19 at markets and reduced shopping even once nationwide lockdowns were lifted (EatSafe 2021). However, women's access to and consumption of green leafy green vegetables was not negatively affected by the pandemic-related restrictions. More women reported sourcing green leafy vegetables close to home from village shops or gathering in 2021 than 2020, and likely due to this accessibility, a higher portion of female respondents consumed dark leafy green vegetables in 2021 compared to 2020.

Programs can assess market food environments to identify barriers to availability and cost of nutritious foods for women. We piloted approaches to assess market food environments to determine their suitability for use in low- and middle-income countries (USAID Advancing Nutrition 2021c). One approach we tested was the Market Food Diversity Index to assess the current availability of food groups sold in a market. We also used the Minimum Dietary Diversity for Women (MDD-W) indicator (FAO 2021) to determine how many of the ten nutritious food groups were available in a market. Across Bauchi, Sokoto, and Kebbi States in northern Nigeria, eight of the 12 markets assessed had all 10 food groups. Missing food groups were dark green leafy vegetables, eggs, and vitamin A-rich fruits and vegetables. This approach allowed us to assess whether a market food environment can provide the diversity of foods needed to meet women's nutrient requirements. Additionally, we measured the cost of a healthy diet and found that the cost of the diet for foods "commonly purchased" was $3.27, which is well over the cost of the Food and Agriculture Organization (FAO) threshold of a minimally nutritious diet at $1.20 (Herforth et al. 2020). These findings—that availability and price are influencers of women's diets—mirrored those from our 2022 consumer demand research in the same geographies in Nigeria.

Learning Question 2: How can programs influence food markets in ways that support quality diets for women in contexts where there are high time burdens on women?

Interventions should be designed to address the food market constraints that women face in their specific contexts. The **relationship between women's diets and distance to markets differs by context**. In South Sudan, when examining the influence of agriculture interventions on women's dietary diversity, we found that MDD-W was higher for women who lived farther from markets. This may have been because those living farther away from a market were more likely to depend on their own production, and thus may have benefited more from the agriculture interventions. We also found that

the highest prevalence of MDD-W were among those who reported that 50–75 percent of their food came from their own production compared to those who reported less or more of their food came from their own production. While we were not able to assess on-farm diversity, our findings are somewhat in line with evidence showing that market access can modify the association between on-farm diversity and dietary diversity (USAID Advancing Nutrition 2022c). On-farm diversity typically has a larger effect on dietary diversity when households live farther from markets or there are market imperfections or failures (Ruel et al. 2018). In Tanzania, the association between food crop diversity and women's dietary intake was strengthened by proximity to markets (Madzorera et al. 2021).

Projects need to **tailor interventions to the time constraints women face**. In contexts where women have high time burdens, interventions may want to address particular aspects of the food environment, such as food availability and product characteristics, to help improve women's diets. As previously noted, our SBC formative research in India found that women's high time burdens and mobility constraints affected their purchasing decisions. Specifically, if foods were not available in their local village, they were less likely to buy them—as there are constraints on their mobility and time make it difficult to travel to more robust markets. Other research in India has found that food systems actors can make food more convenient, or take less time to prepare, to increase purchasing and consumption for women (Grude 2020). In Nigeria, our consumer demand research found that groundnuts and other legumes are sometimes too labor and time intensive to prepare—pointing to opportunities for the food system to make more convenient legume-based food items.

Our technical brief on **gender considerations when working in the food system** outlines how activities should prioritize gender equality when working in food systems. Within the market food environment, the brief recommends promoting gender equality and women's empowerment by facilitating increased women's control over resources, especially decision-making power over income to support access to and affordability of safe and nutritious foods. When contextually appropriate, activities can reduce barriers to women's market participation by supporting changes to market layouts and vendor engagement such as addressing proximity, safety, and sanitation facility constraints that limit women's participation as consumers and market actors. Facilitating increased access to multimedia SBC messages can also help ensure access to accurate information and motivate behavior change (USAID 2022). Activities can also consider using the project-level Women's Empowerment in Agriculture Index, which has been adapted to identify women's barriers to market access (IFPRI 2020).

Evidence Gaps

There is limited evidence about what aspects of local market food environments in rural, emerging, and transitioning food systems most influence women's diets. The International Initiative for Impact Evaluation's evidence map on food systems and nutrition found few studies have evaluated interventions to improve women's diets through improved food availability and affordability, promotion and labeling, or social marketing campaigns (Moore et al. 2021). More evidence is needed on how programs can help strengthen market food environments in rural areas of LMICs in a way that improves women's diets (e.g., by increasing availability to affordable and nutritious foods, supporting, and promoting healthy food choices, improving women's access to and participation in market foods) (IFPRI 2015; Development Initiatives 2020). Further, the role of gender norms in market food environments is largely absent in current frameworks (Herforth and Ahmed 2015).

Area of Inquiry B: Improving Women's Diets through Demand Creation

Background

Influencing consumer demand and ultimately food purchases and consumption is important to increase women's consumption of diverse diets. Consumer demand is influenced by multiple domains—access, affordability, convenience, and desirability (Turner et al. 2018).

USAID Advancing Nutrition Resources: Consumer Demand

- Agriculture in Complex Emergencies: Exploring the Association between Agricultural Programs and Dietary Diversity among Women and Children
- Engaging Family Members in Maternal, Infant, and Young Child Nutrition Activities in Low- and Middle-Income Countries: A Systematic Scoping Review
- Factors Influencing the Use of Iron and Vitamin A Supplementation and Improved Dietary Practices
- Family Inclusion in Nutrition through Engagement (FINE) Community of Practice
- Focusing on Social Norms: A Practical Guide for Nutrition Programmers to Improve Women's and Children's Diets
- Generating Demand for Healthy Diets: A Guide to Social Marketing in Nutrition
- Mixed-Methods Systematic Review of Behavioral Interventions in Low- and Middle-Income Countries to Increase Family Support for Maternal, Infant, and Young Child Nutrition during the First 1,000 Days
- Rapid Assessment of Contextual Needs to Target Social and Behavior Change (SBC) Approaches

Learning Question 3: How and to what extent can programs effectively influence and increase women's consumption of animal-source foods, fruits, and vegetables during pregnancy and lactation by increasing consumer demand for these foods? How can family and community members support women's consumption of these foods?

Multiple actors along the food supply chain can drive demand for healthy diets for women. Private sector actors have expertise in effective demand generation for food and food products, but often focus efforts towards higher-income consumers (Nordhagen and Demmer 2023). We developed a guide on marketing healthy diets to support USAID implementing partners (USAID Advancing Nutrition 2022d) to **apply private sector social marketing techniques** in their program contexts. The guide discusses the importance of understanding the primary audience and the need to consider gender when designing interventions to generate demand for healthy diets. In addition to lessons from the private sector, there may be lessons for USAID implementing partners and civil society to learn from government efforts to reduce overweight/obesity, including through improved food-based dietary guidelines, taxes, and subsidies, and regulating advertising and marketing (GloPan 2020).

In addition to the private sector, **family members can drive demand for healthy diets for women.** We found that men were key in making food purchasing decisions in Bangladesh when testing measures of consumer demand with a USAID implementing partner, including measures related to availability, affordability, and desirability (USAID Advancing Nutrition n.d.[c]). Men primarily purchase food in Bangladesh, while women only purchase certain foods like legumes. Similarly, through formative research in India, we found that women are often unable to make food purchasing decisions for higher priced yet more nutritious foods, such as animal-source foods, without the approval of their husbands (USAID Advancing Nutrition 2022f). In the Kyrgyz Republic, our formative research found that usually men, sometimes mothers-in-law, and rarely mothers, purchase food, and mothers can influence food budget decisions by asking that certain foods are considered for purchase (USAID Advancing Nutrition 2022g).

In Nigeria, our consumer demand research found that while men traditionally are responsible for food purchases, gender roles are becoming less rigid in the study areas and women increasingly decide what to buy and cook for their families, presenting an opportunity for shifts in consumer demand. Additional

factors that influenced purchase of the selected value chains in Nigeria included personal preferences, specifically familiarity and taste, social norms, convenience, affordability, and availability. Respondents characterized foods as more desirable for purchase if they were available, affordable, acceptable, and felt satisfying when eaten.

In Niger, formative research on micronutrient intake through diverse diets confirmed major access barriers, but also limited demand. Increasing women's diets in that context requires both improved access and shifts in family support for women to eat more—via husbands, mothers-in-law, and sisters-in-law through social and gender norms change. The findings suggest that increasing demand for green vegetables, wild fruits, nuts, and seeds women grow and source for the family meals may be a feasible first step to improving women's diets (USAID Advancing Nutrition 2022a).

USAID Advancing Nutrition published two reviews on engaging family members. We found that interventions engaging family members can increase awareness and build support for maternal nutrition, but more rigorous study designs are needed (Martin et al. 2020). Delivery channels used to engage fathers, grandmothers, and other family members in these SBC interventions include facility-based counseling and support groups, home-visits, community-based support groups, community mobilization, mHealth, and mass media. In the reviewed studies, few interventions addressed gender norms, decision-making, and family dynamics and most were inconsistently based on SBC theory and formative research, which may have limited their effectiveness. Better data is needed to understand the experience of mothers, family members, and program implementers and how to implement interventions to engage family members (Martin et al. 2021).

In USAID Advancing Nutrition's Family Inclusion in Nutrition through Engagement community of practice, participants shared the importance of **creating culturally relevant concepts to translate key points and model practices** (e.g., considering "key behaviors" and "**we behaviors**" [as a family] and **positive modeling for SBC and family communication**, both verbal and non-verbal). USAID Advancing Nutrition in Ghana responded to the findings by creating father support groups to engage men to support improved women's nutrition.

Beyond family support, improving broader social support for women's healthy diets may be useful, however study findings from Cameroon (mixed methods) and South Sudan (quantitative) indicate that **the relationship between social support and women's diets needs further exploration**. In a small sample of project participants in Cameroon, social support was positively associated with MDD-W. In a nationally representative survey in South Sudan, social support was not associated with MDD-W, but women reported low levels of social support. In protracted emergency contexts, when usual community and familial support may be eroded, social support may affect women's diets (USAID Advancing Nutrition 2022c). With Breakthrough ACTION, we used advanced audience segmentation techniques to develop a survey module to identify audience segments based on attitudes and practices to be able to better tailor consumer demand generation for improved women's diets in Mozambique. The quantitative results informed qualitative research that was used to identify audience segments with different needs, allowing partners working on improving women's diets in Mozambique to ensure that their programming is addressing the range of needs of the various segments. In that context, social support is a driving factor to improving women's diets.

Learning Question 4: What are examples of norms-responsive interventions to improve women's diets? How can programs identify and address the social and gender norms that influence women's diets?

Social norms and gender inequities shape women's consumption and those related to diets are often enforced by husbands, elders, and community members. These norms vary by and within contexts (e.g., factors such as religious identity and social class) and influence women's empowerment. Social norms, usually gendered, influence women's demand for high-quality diets in multiple ways from roles and

expectations around who makes decisions about food purchases, who eats what, and how the household allocates food. Identifying and analyzing social norms—both supportive and harmful—that influence women's diets, as well as programs, policies, and services that take norms into account for improved outcomes can help improve nutrition program design. However, research and programs have typically focused on women's roles as consumers, food preparers, and work within the home (Njuki et al. 2023). Missing social factors in a program's design contributes to reduced impact of programs. Programs also often do not sufficiently consider the incentives and disincentives for different sub-populations and actors when trying to increase demand for healthy foods (UNICEF and GAIN 2019).

USAID Advancing Nutrition developed and tested a **guide for nutrition programs to understand and respond to social norms that influence women's diets** based on a systematic review of the literature and experience in the reproductive health sector (USAID Advancing Nutrition 2022b). Three USAID implementing partners tested the guide in their program context. The testing improved the guide and generated learning on how to support programs to address social and gender norms. Nutrition practitioners, as consumers and community members themselves, are aware of norms that influence women's diets, but often accept these as commonplace or too difficult to address. Asking questions helped open discussions and considerations for program design or adaptation. A critical learning, shared with partners, is that any program can use a stepwise process to understand the norms, strength of the norms in a context, and respond to the norms in new or adjusted activities.

A USAID project in Burkina Faso, Yidgiri, conducted rapid consultations with communities to better understand the norms that influence women's diets during pregnancy. They identified restrictions on what foods women can eat, which varied by family totems, that mothers-in-law decide what and how much married women can eat and that brothers decide what unmarried women can eat. The findings also showed that women take control over growing and providing greens, nuts, and seeds, all nutrient-rich foods, for the family pot. Some women also earn income from processing these foods. They found differences in urban and rural areas around who purchases food; men purchase food in rural areas whereas women also purchase food, such as greens, in the urban areas. These findings helped to shape demand generation efforts for promoted foods. The demand generation efforts promote foods that women can eat, engage men and mothers-in-law in food purchase and allocation decisions, and elevate attention for foods women control.

Another partner in Niger integrated social norms into their SBC strategy development. They identified husbands' traditional roles to provide food for the family as supportive and aim to elevate this norm in demand generation efforts in markets and in communities. Community radio and events will engage religious leaders and mothers (of husbands) as the influencers of men.

In India, USAID Advancing Nutrition is implementing norm-responsive activities that aim to increase family support for improved diets for women. Specifically, we are working through local extension agents to support women and men in household visits to adopt more equitable food allocation behaviors. Additionally, we are promoting community-wide behavior change through multimedia channels, such as community videos showing all family members consuming healthy foods together.

Evidence Gaps

Evidence gaps for generating consumer demand for quality diets are prominent. A recent study confirmed the lack of evidence on increasing demand for quality diets among lower-income consumers to reduce undernutrition (Nordhagen and Demmer 2023). There may be learning to draw from unpublished formative research and program experience. In particular, these may reveal insights about how frontline workers, such as community health workers and family members, can be effectively engaged in a gender-transformative way without creating unintended consequences, such as disempowering women.

USAID Advancing Nutrition conducted a review that found few published studies that looked at research or programs to increase demand for women's diets by addressing social norms, especially for non-pregnant women (USAID Advancing Nutrition n.d.[b]). Easier to use measures of social norms would help researchers and programs better understand, track normative change, and assess incremental program impact pathways.

Area of Inquiry C: Improving Pregnant and Lactating Women's Diets through Improved Family Diets

Background

Women's diets in general, and pregnant and lactating women's diets specifically, are influenced by family diets. A complex interaction of household food access, affordability, intrahousehold decision-making and food allocation, and dietary practices and preferences shape what women eat. These interactions and dynamics vary by context. Women often have less control over household food access, particularly food purchases and sales, than adult male decision-makers in the household. Women are typically responsible for food preparation and cooking in households and make day-to-day decisions about what families eat (WFP 2015; FAO n.d.; HLPE 2020; Njuki et al. 2023), and adolescent girls often contribute to these tasks (Neufeld et al. 2022). However, sociocultural and gender norms influence, and often constrain, these decisions and practices. Evidence shows that women and adolescent girls often have the lowest entitlement to food (quality and quantity) in the household and have less access to food outside of the home than some family members (WFP 2015; FAO n.d.; HLPE 2020; Njuki et al. 2023). These inequalities contribute to higher rates of malnutrition among women (Development Initiatives 2020).

USAID Advancing Nutrition Resources: Family Diets

- Agriculture in Complex Emergencies: Exploring the Association between Agricultural Programs and Dietary Diversity among Women and Children
- Conducting Formative Research on Adolescent Nutrition: Key Considerations
- Determinants of Maternal Diet Quality in Winter in the Kyrgyz Republic
- Factors Influencing Iron and Vitamin A Supplementation and Improved Dietary Practices: Formative Research Findings from Maradi and Zinder, Niger
- Food Taboos and Preferences in Women of Reproductive Age and Children Under Two in Mainland Tanzania
- Modeling Food Fortification Contributions to Micronutrient Requirements in Malawi using Household Consumption and Expenditure Surveys
- Social and Behavior Change Resources for Women's Healthy Diets: 5 Gaps and Recommendations

Learning Question 5: How can programs improve the dietary behaviors of adolescent girls and young women in the preconception period, given its importance for their health and optimal birth outcomes? How does this vary depending on the local context and household socioeconomic status?

School meals that adhere to nutrition standards, the creation of healthy school food environments, and nutrition education have the potential to support healthy adolescent diets. Interventions to improve adolescent nutrition are more effective when they account for adolescents' emotional and identity development and social influences, resonate with their values and social context, and are multi-sectoral (Hargreaves et al. 2022).

To respond to the need for better programming to improve adolescent diets in the context of family diets, USAID Advancing Nutrition developed a **guide on how to conduct formative research with**

adolescents. The guide includes ways to involve adolescents throughout the design process—empowering them to make decisions about their own well-being and ensuring the applicability of results in communities (USAID Advancing Nutrition 2021b). The guide informed our formative research with adolescents in Niger and Nigeria.

In formative research, we found that **adolescent girls have relatively little agency in household and personal food choices**, and that is modified by marriage and pregnancy in Nigeria and Niger. In Nigeria, we found that adolescent boys and girls in rural and urban areas reported consuming diverse foods; however, there was significant variation within age and gender categories, with some pregnant girls consuming as few as one or two food groups the previous day. Adolescents were primarily reliant on consuming food in the house, but across age and gender groups, they purchased ready-to-eat and prepared foods for snacks or meals when away from home. Pregnant adolescent girls aged 15–19 years, many of whom were married, had less mobility and control over income to purchase food compared to boys and non-pregnant girls. Taste was a key driver of food choice for adolescents and they primarily associated nutritious foods with feeling full or satisfied after eating. In Niger, adolescent girls and young women primarily access food in the home that is family-produced or purchased by fathers. **Family members and community leaders did not consider adolescent girls as nutritionally vulnerable,** and these girls do not have family support to consume nutritious foods. Health workers and community health volunteers rarely provide adolescent girls with nutrition advice (USAID Advancing Nutrition 2022a). In qualitative research supported by USAID Advancing Nutrition, the Tanzania Food and Nutrition Centre (TFNC) found that social norms constrained adolescent girls' consumption of certain types of animal source food, such as chicken thighs, which community members reserve for parents (TFNC 2023b). Ease of preparation, availability, affordability, as well as the socio-economic status associated with certain foods, all shape the food preferences of adolescent girls. Norms-responsive and gender-transformative SBC approaches can help reduce barriers girls' face consuming healthy diets and increase girls' agency over their food choices.

Our research findings support and implementation experiences suggest that **adolescent girls can benefit from tailored approaches**, rather than solely being included in activities for pregnant and lactating women. Our training for community health workers in the Kyrgyz Republic incorporated counseling on adolescent nutrition into home visits. However, the team noted a missed opportunity—to work with adolescent girls through existing after-school classes. Our program in India hosted cooking competitions for and judged by adolescents, which helped promote their consumption of vegetables and fish. Centering adolescents in this activity was the idea of the community and local stakeholders, as they felt that adolescents' diets are monotonous and rely too heavily on processed, convenient foods. The activity also aimed to combat findings from the SBC formative research that men and mothers-in-law believe that women and adolescent girls require less food than men and boys, both quantity and quality.

Learning Question 6: How can programs improve equitable impact of interventions that aim to improve family diets, such as through influencing community influencers or intrahousehold food allocation? How can these interventions be scaled?

There is growing evidence that women's participation in household decision-making and women's empowerment can be associated with household and individual dietary diversity, although which components of women's empowerment are related varies (Myers et al. 2023). Age, social status, and family size can also play a role in the decision-making power of women (Amugsi et al. 2016; Sariyev, Loos, and Khor 2021). A multi-country study looking at the effect of women's empowerment across domains on household, women's, and child nutrition noted that household wealth and country-specific societal norms affect both household and women's nutrition. Ultimately, women's empowerment and gender equality alone are not enough to improve nutrition for women; programs must also address the underlying determinants of poor nutrition (Quisumbing et al. 2021).

Our formative research in Niger found that **women are dependent on male decision-making and income to access food for the family**, and prepare and serve what is made available to them. Gender and social norms, as well as perceptions of health and food, influence food allocation for women and adolescent girls. **Family members see women as a nutritionally vulnerable group, but also expect them to serve themselves last at mealtimes**. In a context of scarcity, this means they are not always able to access enough food (USAID Advancing Nutrition 2022a).

SBC is critical to ensuring the equitable impact of interventions that aim to improve family diets. Our review of SBC resources for women's diets found that many materials focus on diet facts, rather than tips for how to integrate a healthier diet for women or families. **Research is needed to better design interventions to convey these messages to the family, community members, and other influencers surrounding women.** There is a need to develop more SBC resources to engage the people who influence and support women's healthy diets, and to support women's diets through, for example, working with husbands and mothers-in-law during counseling and home visits (USAID Advancing Nutrition 2021d). USAID Advancing Nutrition programs in the Kyrgyz Republic and India filled this gap by training community volunteers, who incorporated counseling and messages on family diets into home visits. In Ghana, we included chiefs in cooking demonstrations, who then encouraged men to support improved women's nutrition, such as providing women with liver to eat. We learned the importance of involving authority figures to reinforce positive nutrition behaviors. However, research is needed to better understand what market actors, including vendors, are willing and able to do, and how SBC resources can engage these influencers.

There is evidence that women benefit from some types of household-level nutrition-sensitive agriculture interventions (Ruel et al. 2018). In our studies in South Sudan and Cameroon, we found that **agricultural interventions in protracted emergency contexts aimed at improving family diets can improve women's dietary diversity** through both production for consumption and income generation. Findings suggest that addressing context-specific constraints and social support and cohesion are important in project design (USAID Advancing Nutrition 2022c).

Interventions that improve household food preservation have the potential to improve women's diets. We conducted a study **in the Kyrgyz Republic that found that food preservation and storage was positively associated with women's dietary diversity**. In winter, when families expect increased food insecurity, women who had preserved food at the time of the survey and stored more than four different types of food in the fall, were more likely to have consumed a minimally diverse diet, compared to women who had not done so. Where seasonality affects food availability (i.e., access and cost), promoting culturally-appropriate home processing and storage of a variety of foods in the fall may improve foods available for the family diet, and thus women's dietary diversity, in winter (Mukuria-Ashe et al. 2022).

While a population-based intervention, large-scale food fortification can improve the micronutrient and health status of women. However, the potential for this intervention varies by context (Keats et al. 2019). USAID Advancing Nutrition modeled the contribution of fortification of oil, sugar, and wheat flour to micronutrient adequacy of the family diet in Malawi using household food consumption data from Malawi's Fourth Integrated Household Survey. We found that **large-scale food fortification could contribute to reducing vitamin A inadequacies, but not among those in rural areas who are poor,** who remain at risk for inadequate vitamin A intake (Tang et al. 2021). In a similar modeling exercise using the 2018/2019 National Living Standards Survey, we found that **without large-scale food fortification in Nigeria, a high proportion of family diets do not meet micronutrient requirements** (USAID Advancing Nutrition n.d.[a]). With fortified foods, there is a modest reduction in micronutrient adequacy, but gaps still remain, especially among families in the lowest socio-economic groups. Although large-scale food fortification would be beneficial, other

interventions would be needed to meet micronutrient needs of families and women in households with low incomes.

Learning Question 7: How can food baskets be designed to meet pregnant and lactating women's needs and to promote equitable intra-household distribution?

Fill the Nutrient Gap analysis is a useful advocacy tool for determining the required cost of meeting women's and adolescent girls' high nutrient needs. The output of this analysis is used by the World Food Program (WFP) and others when designing food baskets (WFP 2020). Fill the Nutrient Gap analyses in El Salvador, Ghana, Madagascar, and Lao People's Democratic Republic has shown that the **cost of the diet for an adolescent is one of the highest in the household** (Bose et al. 2021). USAID Advancing Nutrition found similar findings when assessing the analytical process used by the WFP in their Fill the Nutrient Gap methodology in Nepal and Niger (NPC and WFP 2021). In Nepal, WFP found that more than half the household cost of a nutritious diet is needed to meet nutrient requirements of the breastfeeding woman and the adolescent girl, reflecting the high requirements during these life stages. In Niger, WFP found that a little less than half of the household's nutritious diet cost is needed to meet the nutrient requirements of a breastfeeding woman and an adolescent girl, and **current food assistance was not sufficient to meet household, and therefore, women's nutrient needs**. In both countries, complementary nutrition-specific and/or nutrition-sensitive interventions would be needed to ensure adequate family and women's nutrient intake, considering the lean and non-lean seasons. The analysis is useful for advocacy, but additional steps and tools are needed to determine the most cost-effective combination of interventions suitable to each country and sub-population.

Evidence Gaps

More evidence is needed on how household food security is related to poor nutrition outcomes (Maitra 2018), how to tailor interventions to improve adolescent girls' nutrition (WHO 2018), and what household-level nutrition-sensitive approaches or combination of approaches are most likely to improve women's diets in different contexts (Ruel, Quisumbing, and Balagamwala 2018; Krebs et al. 2017). There is also insufficient evidence about dietary intake of adolescent girls and how to reach them through platforms besides schools (Hargreaves et al. 2022). Finally, experimental and quasi-experimental studies on the relationship between different aspects of women's empowerment and dietary diversity are needed to strengthen the evidence base (Myers et al. 2023).

Area of Inquiry D: Improving Pregnant and Lactating Women's Diets through Counseling and Other Health Service Delivery

Background

High-quality antenatal, perinatal, postnatal, and community health services are an important part of ensuring quality diets for pregnant and lactating women. World Health Organization (WHO) antenatal care guidelines recommend counseling on healthy eating and physical activity to all pregnant women (WHO 2020) and USAID has prioritized counseling on healthy diets and increased nutritional needs during the postpartum period and lactation (USAID 2015).

USAID Advancing Nutrition Resources: Counseling and Health Services

- Factors Influencing Iron and Vitamin A Supplementation and Improved Dietary Practices: Formative Research Findings from Maradi and Zinder, Niger
- Food Taboos and Preferences in Women of Reproductive Age and Children Under Two in Mainland Tanzania

- Nourishing Connections: Job Aid and Tools
- Strengthening Counseling Capacity through Supportive Supervision and Mentorship
- Strengthening Maternal Nutrition in Health Programs: A Guide for Practitioners

Learning Question 8: How can interventions, including multiple micronutrient supplementation, be effectively implemented to meet women's increased dietary needs during pregnancy and lactation?

We developed **guidance** **on how to strengthen maternal nutrition interventions in the health sector.** Maternal diets and supplementation have received less attention in nutrition programs than infant and young child nutrition. The guidance outlines a three step-process to use when designing or adapting maternal nutrition interventions—complete a situation analysis; identify maternal nutrition health sector priorities to develop an implementation plan; and lastly, implement, monitor, and adapt programs (USAID Advancing Nutrition 2021a).

According to the 2021 *Lancet Series on Maternal and Child Undernutrition Progress*, there is moderate to strong evidence for replacing iron-folic acid (IFA) with MMS, for using maternal calcium supplementation, and providing balanced energy–protein supplementation for undernourished women (Keats et al. 2021).

In formative research, we explored **barriers related to IFA supplementation in Niger and Nigeria**. In Niger, we found that women face access constraints, including limited and inconsistent supply of IFA and distance to health centers, and do not always adhere to the full course of IFA due to side effects. Strengthening supply chains would help improve access to IFA and improved social support may help women to improve adherence (USAID Advancing Nutrition 2022a). In Nigeria, we found that not all pregnant adolescent girls were aware of IFA and some did not take it. In contexts where adolescent pregnancy is common, raising awareness about IFA supplementation and providing social support for girls to access and adhere to IFA supplementation may be useful. Our findings align with evidence on generating demand for use and adherence to micronutrient supplementation among pregnant women, including using adherence partners (Martin et al. 2017; Nguyen et al. 2017).

Learning Question 10: How can programs improve the delivery of effective counseling on healthy maternal diets to women and their family members?

A gap analysis conducted by Kavle (2022) suggests delivering maternal nutrition counseling through a combination of platforms (individual, group, facility, and community) is important to successfully promote adoption of targeted consumption behaviors. Additionally, addressing health providers' time constraints, supporting their counseling skills, and obtaining support from family and community members can improve maternal nutrition counseling (Kavle 2023).

Our implementation experiences reinforce the evidence base showing that providing **quality nutrition counseling is a complex task.** We synthesized lessons learned across the project's counseling activities. Quality counseling involves tailoring to the individual, sharing doable actions, and access to a safe and private space. This requires sufficient staff skills and adequate time on the part of health workers (USAID Advancing Nutrition 2022i). Supportive supervision and mentorship are capacity strengthening approaches that can help improve the quality of counseling that the project has employed. We saw these approaches improve supervisor/supervisee relationships and help supervisors understand and address barriers counselors face. Successful supportive supervision and mentorship requires a supportive environment, sufficient time, resources for supervisors and counselors, local ownership, and working through local systems (USAID Advancing Nutrition 2023).

As seen in our country programs, a **combination of technical assistance and capacity strengthening approaches can help improve the quality of counseling** on maternal diets,

particularly for pregnant and lactating women. In the Kyrgyz Republic, we supported counseling on maternal nutrition, which included content on improving dietary diversity and preventing anemia through the health system. We updated existing supervision tools, provided training to local supervisors, and provided supervisors with coaching. During the COVID-19 pandemic, we conducted supportive supervision over Zoom and WhatsApp and found that, while connectivity can be a challenge, health workers can use online platforms to deliver supportive supervision and mentorship. This support resulted in an improvement in counselor assessment scores between two rounds of supervision. To help address the limited time supervisors have, we successfully advocated for the inclusion of supportive supervision within certain primary health care level job descriptions and created a new clinical mentor role (USAID Advancing Nutrition 2023).

In Ghana, we found that a combination of classroom instruction, group work, and hands-on practice in health facilities was a useful way to deliver health worker training on how to provide counseling. Topics in the training included anemia prevention and control, such as how to provide counseling on locally available iron-rich foods, such as moringa leaves and liver. However, our team recognized that projects need to also address the demand for nutritious foods, including influencing norms around certain foods, to facilitate uptake of counseling messages.

In Nigeria, we helped update the infant and young child feeding (IYCF) training package to be a MIYCN training package that included maternal nutrition following a national policy and strategy update. We also provided training to health workers on how to improve counseling skills, including how to conduct counseling in group settings as individual counseling sessions are typically not realistically feasible for health workers. We also provided training on using behavior change counseling tools to help build empathy between health workers and mothers and collaboratively developing an action plan or checklist of what she has committed to doing before her next visit (USAID Advancing Nutrition and Breakthrough ACTION 2023). We also translated a local recipe book developed by the Government of Nigeria into Hausa and validated the recipes for use in Kebbi State for use in counseling and food demonstrations.

We assisted TFNC with conducting a qualitative study of food preferences and taboos among pregnant women and found some persistent beliefs about unfavorable outcomes associated with consumption of some healthy foods such as eggs and lemons. They also found that positive social norms against consuming junk food had a positive effect on women's consumption during pregnancy, and as the social pressure relaxes after birth, women reported consuming more unhealthy convenience foods (TFNC 2023b). These findings led to **policy recommendations to ensure that nutrition counseling for pregnant women addresses taboos against healthy foods** in addition to reinforcing those discouraging consumption of unhealthy foods.

Evidence Gaps

Despite recommendations, antenatal counseling on maternal diet and weight gain is seldom provided and there is limited evidence on quality (Kavle 2023). Most nutrition programming targets infants and young children rather than women (Kavle and Landry 2018), so there is limited program experience and data on effective implementation, counseling content and quality, and how to support women's varied circumstances and needs. There is no evidence about the effectiveness of nutritional counseling for adolescent girls (10–19 years) (Keats et al. 2021). There is more to learn about who can effectively provide nutrition counseling, at what opportunities and frequency, and how to best support lactating women's diets during the perinatal and postpartum period. In addition to the content and quality of information provided through counseling, these interactions provide an opportunity to assess a mother's mental well-being, which influences how well mothers can care for their health and nutritional needs, as well as those of their children. The frequency of counseling and consistency of messaging across information sources that women interact with is vital, but evidence is lacking on which specifics matter

most. Maternal mental health and caregiver well-being are often overlooked in child health and nutrition programming.

WHO and the 2021 *Lancet Series* call for implementation research on MMS to support its use during pregnancy and to assess outcomes, benefits, and costs (WHO 2016; Keats et al. 2021). There are important evidence gaps on how to effectively implement MMS. A team of experts used the Child Health and Nutrition Research Initiative methodology to prioritize 35 questions related to maternal MMS implementation, including improving attendance, adherence, and access; service delivery; formulation and dosage; priority target populations/sub-populations; among other topics (Gomes et al. 2020).

Area of Inquiry E: Improving Pregnant and Lactating Women's Diets through Improved Policies and Policy Implementation

Background

A range of agriculture, health, trade, and consumer policies influence nutrition and diets, although this influence is often not an important consideration during policy formulation (Shankar 2017). Other policies, such as those affecting gender equality, social protection, and land tenure, also indirectly affect nutrition and diets. There is growing recognition of the need to promote healthy diets through policies affecting food availability and affordability, food markets, food marketing and advertising, taxes, product formulation, food safety, food and agriculture subsidies, and social safety nets, among others. Policy reforms targeting equitable nutrition outcomes should be accelerated and their implementation supported (including governance, accountability, financing, and resource mobilization). The FAO 2021 *State of Food Security and Nutrition in the World* report indicates that policy responses should consider women's many roles in food systems—keepers of household food security, food producers, farmers, processors, wage workers, and business owners (FAO et al. 2021).

USAID Advancing Nutrition Resources: Policy

- Assessing the Performance of Nationally Adapted Diet Quality Questionnaire (DQQ) Sentinel Food Lists at the Subnational Level in Six Countries
- Nurturing Young Children through Responsive Feeding
- Review of Methods to Assess Diets, Markets, and Cost of an Adequate Diet
- Supporting the Development of Tanzania's National Resource Mobilization Strategy for Nutrition
- Transitioning Nutrition Financing from USAID to Domestic Resources

Learning Question 11: How can considerations about women's diets be integrated into policies across sectors?

Our findings from interviews on improving nutritional care for children with disabilities suggest **a critical need to address maternal nutrition to prevent developmental delays and disabilities** (USAID Advancing Nutrition, UNICEF, and WHO 2023). Policies that provide for maternal nutrition assessment, counseling, and safety net programs during antenatal care can address this need, in addition to current policies promoting iron, folate, or multiple micronutrient supplements. As a result of a consultative process across USAID bureaus, **maternal nutrition is a priority area for USAID programming in the prevention and management of child wasting** (USAID 2023).

Additionally, **greater support of breastfeeding** through maternal nutrition support and lactation support, particularly for small and sick newborns, is essential. These specific recommendations to

support maternal nutrition are embedded in broader recommendations to support mothers', and other caregivers' overall well-being (USAID Advancing Nutrition, UNICEF, and WHO 2023). Policies recognizing maternal and newborn nutrition as key components of facility-based newborn care can also address this need, along with policies that support skilled counseling and lactation support training for health workers providing care for mothers and newborns in facilities and communities.

Countries can expand nutrition policies beyond infant and young child nutrition to include maternal nutrition as a vital component. In Tanzania, we supported policymakers to shift the *National Multi-Sectoral Nutrition Action Plan* II from a 1,000 days approach to a lifecycle approach with women at its center. Nigeria's work to adapt the *National Multi-Sectoral Plan of Action for Food and Nutrition* to the state level included USAID Advancing Nutrition support to a State Committee on Food and Nutrition to shift from a focus on infant and young child feeding to a broader focus on maternal, infant, and young child nutrition.

Learning Question 11a: How can improved data measurement, monitoring, and use inform integrating women's diets into policies?

Accurate data on and factors affecting women's diets is needed to develop, advocate for, and monitor policies. **Low-cost approaches to monitoring and analysis** and prioritizing nutrition indicators can help policymakers make better use of data in decision-making. Relatively low-cost approaches can be used to assess diets, markets, and the cost of an adequate diet to inform large-scale food fortification programs (USAID Advancing Nutrition 2022e).

Nationally adapted DQQ sentinel food lists can provide accurate diet quality data for women at the subnational level for most food groups. Our study of the applicability of national sentinel foods lists as used with Diet Quality Questionnaires found variations in food group consumption captured by the lists in different subnational areas and countries, and underestimations of MDD-W. Subnational adaptations of DQQs, especially for fruit and vegetable food groups, could improve the accuracy of indicator estimation and provide information about consumption of nutrient-dense foods at local levels (USAID Advancing Nutrition 2022h). Policymakers in Tanzania, Nigeria, and Burkina Faso are **using MDD-W to monitor progress** of policies and interventions to improve women's diets. For example, in Burkina Faso, we developed a simplified, Excel-based dashboard for the government to use to monitor progress on the *Multi-Sectoral Nutrition Strategic Plan* 2020–2024 objectives. We held consultative workshops with stakeholders to identify a subset of the 52 indicators in the strategic plan to include in the dashboard. MDD-W was chosen as the indicator to monitor progress on women's diets.

We supported TFNC to collect and analyze data on women's diets in Mbeya Region. They found a high prevalence of inadequate intake for all micronutrients except copper (TFNC 2023a). With our support, TFNC staff learned how to prepare for and conduct a survey of dietary data, and how to clean, prepare, and analyze dietary data to estimate adequate and inadequate intake. This information will inform programs and policy in Tanzania.

Learning Question 12: How can programs better support the translation of policy into action in LMICs, such as how to incorporate nutrition into antenatal care or improve accountability and resource mobilization?

In our country programs, we found that efforts to translate nutrition policy into action often encompassed multiple nutrition objectives, and were still able to support women's diets despite this broad focus. Translating policy into action requires planning and budgeting and collaboration between governments and implementing partners. We developed **guidance to support integration of USAID activities and interventions in domestic nutrition plans and budgets**. USAID activities can help ensure the translation of policy into action by aligning activity designs and interventions with national and subnational nutrition plans (USAID Advancing Nutrition 2020a). In Tanzania, we supported

the government to develop a domestic resource mobilization strategy and reviewed sectoral plans for nutrition activities (USAID Advancing Nutrition 2021e). We used a capacity strengthening approach throughout to ensure government ownership and strengthen government capacity to complete resource mobilization strategies in the future.

Our country teams have found that **subnational level planning is critical to ensure implementation of national nutrition policies**. In Ghana, we are supporting the integration of food and nutrition security actions into district annual action plans through a collaborative approach. In Nigeria, we supported the translation or domestication of the *National Food and Nutrition Policy* and the *Multi-Sectoral Plan of Action* at the state level. We also helped to reactivate State-level Committees for Food and Nutrition, which helped make resources for nutrition available at the local level. In Kenya, we supported development of county-level nutrition action plans and integrated development plans, which include prioritizing women's diets. These plans are blueprints for government priorities and set the foundation for sustainability and future government action. We found that advocacy, such as through nutrition champions like governor's wives, can be an effective way to help decision-makers understand the importance of nutrition and prioritize it in plans.

Translating policy into action also requires **functional and accountable government bodies.** In Burkina Faso and Uganda, we are strengthening the functionality of national food fortification bodies and supporting policy implementation including by developing plans for monitoring and evaluation. In Burkina Faso, we supported the development of a strategy document on food fortification and regulatory surveillance which has generated interest and investments in the food fortification body. In Kenya, we worked with three county governments to develop two nutrition accountability tools—a financial tracking tool and multi-sectoral nutrition scorecards. The county government reviews progress on spending and indicators on a quarterly basis to determine what progress has been made and what further investments are needed. Our team has seen the scorecard used with internal accountability tools as chief officers seek to understand why there has been little progress when indicators remain unchanged or below targets. In addition, these tools allow the government to see how every sector contributes to nutrition. We have used the scorecard meetings to foster discussions on how multiple sectors can address nutrition. For example, it has prompted discussions that the Department of Agriculture prioritize production of iron-rich crops in addition to the Department of Health supplying IFA in order to take a more holistic approach to improving women's iron intake.

Evidence Gaps

More attention is needed to determine which policy reforms or set of complementary reforms should be prioritized to improve the quality of women's diets, especially during the antenatal, perinatal, and postpartum periods, in different LMIC contexts as well as how to effectively advocate for those policy reforms (Development Initiatives 2020; GloPan 2016; HLPE 2020). There is also insufficient understanding of the role that institutions and institutional support (e.g., workplaces, markets, health centers, other social services) play in women's nutrition in different contexts.

Chapter 3. Future Directions

Across the areas of inquiry, it is clear how interconnected the factors are that influence women's diets; the solutions to barriers and constraints must be similarly multifaceted. The structure and functioning of market food environments are an important determinant of food availability and affordability, while both influencing and adapting to consumer demand. Social and gender norms often constrain women's participation in food markets; decision-making related to production, purchases and consumption; and access and entitlement to food within the household. At the same time, harnessing the influence of family members and communities has the potential to improve women's diet quality and positively shift social and gender norms over time. Quality health services, including counseling and micronutrient supplementation, are needed to ensure adequate nutrient intake for women and family support is needed for access to and adherence to those services. Finally, policies that explicitly prioritize women's diets and policy implementation backed by quality data, planning, budgeting, and accountability mechanisms provide the enabling environment needed to maintain and accelerate progress.

While the same types of factors influence women's diets across many contexts, the implications of those factors and how they influence women's diets varies across and within contexts and depending on women's socio-economic and demographic characteristics. When implementing partners do not have sufficient information about how these factors influence women's diets in a particular context, they should use expert and community consultations, formative research, or other approaches to gather this information to inform their activity design. When key questions remain about how to improve women's diets, implementing partners can use learning and adaptive management approaches to learn from and improve intervention design and implementation during the activity period.

Lessons Learned

Learning from research, guidance development and piloting, and implementation experiences on USAID Advancing Nutrition point to key lessons learned that implementing partners can use when designing and implementing activities to improve women's diets. We also developed tools and guidance documents that implementing partners and stakeholders can use, which we link in text boxes in each area of inquiry above.

- Social and gender norms structure (and often limit) how women participate in or access **food markets** to meet their nutritional needs. Assessments of market food environments and consumer demand should continue to explore the availability of nutritious foods and mobility constraints for women in accessing nutritious foods.

- Implementers should consider the range of factors that may promote or constrain **consumer demand** for nutritious foods for women. Specifically, implementers should consider social and gender norms, which research points to is a missed area of intervention. Activities should explicitly understand and respond to social and gender norms that influence demand, including building family and social support for women's consumption of nutritious foods, and monitor and assess these efforts. Many implementers can adjust their activities to do this without substantial resource implications.

- While approaches to improve **family diets** can have a positive influence on women's diets, improving household food access does not necessarily translate into equitable improvements in diets for women or adolescent girls. Activities should incorporate gender transformative and SBC approaches tailored to the needs of pregnant and lactating women and adolescent girls in specific contexts.

- High-quality **health services** provide an important avenue to fill maternal dietary gaps, including through micronutrient supplementation and counseling on women's diets. To improve

micronutrient supplementation, activities need to address supply and demand side constraints at the systemic and individual levels. Activities should strengthen counseling on women's diets as part of antenatal care and IYCF services and provide multifaceted support to improve the quality of counseling.

- The inclusion of women's diets in national and subnational nutrition **policies**, plans, and budgets is needed to create a sustainable enabling environment. Implementing partners can support this through advocacy, facilitating multi-sectoral coordination and collaboration, supporting budgeting and planning processes, developing or adapting tracking and monitoring frameworks and tools, and generating **high-quality data** on women's diets for use in planning and monitoring. Implementing partners should use capacity- and system-strengthening approaches throughout.
- Activities and studies should develop **theories of change** and **conceptual frameworks** respectively that detail the multiple pathways that affect women's diets to design, monitor, and evaluate activities (see example in annex 1).

Learning Priorities

Continued evidence generation from research and implementation is needed to fully answer the questions in this learning agenda as highlighted in the evidence gaps for each area of inquiry. There are several learning priorities for USAID and implementing partners to consider based on learning from USAID Advancing Nutrition and our stakeholder consultation with USAID staff and experts:

- Given the complexity of women's diets, a combination of interventions is needed to improve diets. **Implementation research** with quasi-experimental or experimental designs that test the effectiveness and cost-effectiveness of different packages of approaches is needed related to—
  - reducing barriers to women's participation in food markets and their influence on women's diets, particularly for low-income consumers
  - increasing social and family support and using social marketing techniques to generate demand for nutritious foods for women
  - tailoring approaches for adolescent girls, particularly those who are pregnant and lactating
  - approaches to strengthen the quality of counseling
  - developing additional micronutrient delivery strategies, including the use of SBC approaches to improve social and family support for supplementation to help improve adherence.
- Develop and test simplified approaches and measures to assess and monitor nutrition-related **social norms** for use by implementing partners.
- Develop and test a **toolkit** on supporting women's diets through policy, planning, budgeting, monitoring, and accountability frameworks that practitioners can adapt and apply in different countries at the national and sub-national levels.
- Address **data gaps** on girls' consumption and nutrition status through data collection and testing dietary intake and nutrition status measurement approaches for this population.
- Conduct or support research on understudied topics about the relationship between women's diets and **social support and mental health**.

References

Amugsi, Dickson, Anna Lartey, Elizabeth Kimani-Murage, and Blessing Mberu. 2016. "Women's Participation in Household Decision-Making and Higher Dietary Diversity: Findings from Nationally Representative Data from Ghana." *Journal of Health, Population, and Nutrition* 35:16. doi.org/10.1186/s41043-016-0053-1

Baye, Kaleab, Arnaud Laillou, and Stanley Chitekwe. 2021. "Empowering Women Can Improve Child Dietary Diversity in Ethiopia." *Maternal and Child Nutrition* e13285. doi.org/10.1111/mcn.13285

Bose, Indira, Giulia Baldi, Lynnda Kiess, Janosch Klemm, Amy Deptford, and Saskia de Pee. 2021. "The Difficulty of Meeting Recommended Nutrient Intakes for Adolescent Girls." *Global Food Security* 28:100457. https://doi.org/10.1016/j.gfs.2020.100457

Development Initiatives. 2020. *2020 Global Nutrition Report: Action on Equity to End Malnutrition.* Bristol, UK: Development Initiatives.

EatSafe (Evidence and Action Toward Safe, Nutritious Food). 2021. "COVID-19 Impacts on Traditional Food Market Bulletin Summaries: September 2020–December 2021." *Global Alliance for Improved Nutrition.* Accessed August 29, 2023. https://www.gainhealth.org/sites/default/files/publications/documents/eatsafe-covid-19-response_bangladesh-bulletin-summaries_sept.-2020-dec.-2021_0.pdf.

FAO (Food and Agriculture Organization of the United Nations). 2021. *Minimum Dietary Diversity for Women: An Updated Guide for Measurement: From Collection to Action.* Rome: FAO. https://www.fao.org/3/cb3434en/cb3434en.pdf

FAO (Food and Agriculture Organization), IFAD (International Fund for Agricultural Development), UNICEF, WFP (World Food Program), and WHO (World Health Organization). 2021. *The State of Food Security and Nutrition in the World 2021: Transforming Food Systems for Food Security, Improved Nutrition and Affordable Healthy Diets for All.* Rome: FAO. https://doi.org/10.4060/cb4474en

FAO (Food and Agriculture Organization). n.d. *Gender and Nutrition.* Rome: FAO.

GloPan (Global Panel on Agriculture and Food Systems for Nutrition). 2016. *Food Systems and Diets: Facing the Challenges of the 21st Century.* London: Global Panel on Agriculture and Food Systems for Nutrition.

GloPan (Global Panel on Agriculture and Food Systems for Nutrition). 2020. *Future Food Systems: For People, Our Planet, and Prosperity.* London: GloPan. https://www.glopan.org/foresight2/

Gomes, Filomena, Megan W. Bourassa, Seth Adu-Afarwuah, Clayton Ajello, Zulfiqar A. Bhutta, Robert Black, Elisabete Catarino, et al. 2020. "Setting Research Priorities on Multiple Micronutrient Supplementation in Pregnancy." *Annals of the New York Academy of Sciences.* 1465 (1):76–88. doi.org/10.1111/nyas.14267

Grude, Alysa. 2020. "Food Environment Analysis: APFMRP 2." *ACDI-VOCA.* Accessed August 29, 2023. https://www.acdivoca.org/wp-content/uploads/2021/05/India-FEA-Report.pdf

Hargreaves, Dougal, Emily Mates, Purnima Menon, Harold Alderman, Delan Devakumar, Wafai Fawzi, Geva Greenfield, Weeam Hammoudeh, Shanshan He, Anwesha Lahiri, et al. 2022. "Strategies and Interventions for Healthy Adolescent Growth, Nutrition, and Development." *Lancet* 399:198–210. doi.org/10.1016/S0140-6736(21)01593-2.

Herforth, Anna, and Jody Harris. 2014. "Understanding and Applying Primary Pathways and Principles." *Improving Nutrition through Agriculture Technical Brief No. 1*. Arlington, VA: USAID Strengthening Partnerships, Results, and Innovations in Nutrition Globally project. https://www.springnutrition.org/sites/default/files/publications/briefs/spring_understandingpathways_brief_1_0.pdf.

Herforth, Anna, and Selena Ahmed. 2015. "The Food Environment, its Effects on Dietary Consumption, and Potential for Measurement within Agriculture-Nutrition Interventions." *Food Security* 7: 505–520. doi.org/10.1007/s12571-015-0455-8.

HLPE (High Level Panel of Experts). 2020. *Food Security and Nutrition: Building a Global Narrative Towards 2030.* Rome: HLPE on Food Security and Nutrition of the Committee on World Food Security.

Ickes, Scott, Michael Wu, Maia Mandel, and Alison Roberts. 2018. "Associations between Social Support, Psychological Well-Being, Decision Making, Empowerment, Infant and Young Child Feeding, and Nutritional Status in Ugandan Children Ages 0 to 24 Months." *Maternal and Child Nutrition* 14(1): e12483. doi.org/10.1111/mcn.12483.

IFPRI (International Food Policy Research Institute). 2015. *Global Nutrition Report 2015: Actions and Accountability to Advance Nutrition and Sustainable Development.* Washington, DC: International Food Policy Research Institute.

IFPRI (International Food Policy Research Institute). 2020. *Pro-WEAI for Market Inclusion.* Washington DC: International Food Policy Research Institute.

Innovation Lab for Nutrition. 2020. "Markets and Infrastructure: The Roles of Market Access in Shaping Diets in Bangladesh, Uganda, and Nepal." Webinar from USAID Advancing Nutrition, July 15. Accessed September 1, 2023. https://www.advancingnutrition.org/sites/default/files/2020-07/July%2015_Markets%20and%20Infrastructure_slides.pdf.

Kavle, Justine A. 2023. "Strengthening Maternal Nutrition Counseling during Routine Health Services: A Gap Analysis to Guide Country Programmes." *Public Health Nutrition*, 26(2): 363–380. doi.org/10.1017/S1368980022002129

Kavle, Justine A., and Megan Landry. 2018. "Addressing Barriers to Maternal Nutrition in Low- and Middle-Income Countries: A Review of the Evidence and Programme Implications." *Maternal and Child Nutrition.* 14:1–13. doi.org/10.1111/mcn.12508

Keats, Emily C., Jai K. Das. Rehana A. Salam, Zahra S. Lassi, Aamer Imdad, Robert E. Black, and Zulfiqar A. Bhutta. 2021. "Effective Interventions to Address Maternal and Child Malnutrition: An Update of the Evidence." *Lancet Child and Adolescent Health* 5:367–84. doi.org/10.1016/S2352-4642(20)30274-1.

Keats, Emily C., Lynnette M. Neufeld, Greg S. Garrett, Mduduzi N. N. Mbuya, and Zulfiqar A. Bhutta. 2019. "Improved Micronutrient Status and Health Outcomes in Low- and Middle-Income Countries following Large-Scale Fortification: Evidence from a Systematic Review and Meta-Analysis." *American Journal of Clinical Nutrition* 109(6):1696–1708. doi.org/10.1093/ajcn/nqz023.

Krebs, Nancy, Susan Bagby, and Zulfiqar A. Bhutta, Kathryn Dewey, Caroline Fall, Fred Gregory, William Hay Jr., et al. 2017. "International Summit on the Nutrition of Adolescent Girls and Young Women: Consensus Statement." *Annals of the New York Academy of Sciences* 1400(1):3–7. doi.org/10.1111/nyas.13417

Madeghe, Beatrice, Wambui Kogi-Makau, Sophia Ngala, and Manasi Kumar. 2021. "Nutritional Deficiencies and Maternal Depression: Associations and Interventions in Lower and Middle-Income Countries: A Systematic Review of Literature." *Global Social Welfare* 9:11–25. doi.org/10.1007/s40609-020-00199-9.

Madzorera, Isabel, Mia M. Blakstad, Alexandra L. Bellows, Chelsey R. Canavan, Dominic Mosha, Sabri Bromage, Ramadhani A. Noor et al. 2021. "Food Crop Diversity, Women's Income-Earning Activities, and Distance to Markets in Relation to Maternal Dietary Quality in Tanzania." *The Journal of Nutrition* 151(1): 186–196. doi.org/10.1093%2Fjn%2Fnxaa329

Maitra, C. 2018. "A Review of Studies Examining the Link between Food Insecurity and Malnutrition." *Technical Paper.* Rome: FAO.

Martin Stephanie L, Juliet K McCann, Emily Gascoigne, Diana Allotey, Dadirai Fundira, and Katherine L. Dickin. 2020. "Mixed-Methods Systematic Review of Behavioral Interventions in Low and Middle-Income Countries to Increase Family Support for Maternal, Infant, and Young Child Nutrition during the First 1,000 Days." *Current Developments in Nutrition*. doi.org/10.1093/cdn/nzaa085

Martin Stephanie L, Juliet K McCann, Emily Gascoigne, Diana Allotey, Dadirai Fundira, and Katherine L. Dickin. 2021. "Engaging Family Members in Maternal, Infant, and Young Child Nutrition Activities in Low- and Middle-Income Countries: A Systematic Scoping Review." *Maternal & Child Nutrition* 17(S1):e13158. doi.org/10.1111/mcn.13158.

Martin, S.L., M.O. Omotayo, G.M. Chapleau, R.J. Stoltzfus, Z. Birhanu, S.E. Ortolano, G.H. Pelto, et al. 2017. "Adherence Partners are an Acceptable Behaviour Change Strategy to Support Calcium and Iron-Folic Acid

Supplementation among Pregnant Women in Ethiopia and Kenya." *Maternal and Child Nutrition.* 13(3):e12331. doi.org/10.1111/mcn.12331

Matare, Cynthia, Joice Tome, Rachel Makasi, Katherine Dickin, Gretel Pelto, Mark Constas, Bernard Chasekwa, et al. 2020. "Maternal Decision-Making Autonomy, Mental Health, Gender Norm Attitudes, and Social Support During Pregnancy Predict Child Care-Giving and Stunting in Rural Zimbabwe." *Current Developments in Nutrition* 4 (Suppl 2): 866. doi.org/10.1093/CDN/NZAA053_071.

Moore, N., C. Lane, I. Storhaug, A. Franich, H. Rolker, J. Ferguson, T. Sparling and B. Snilstveit. 2021. "The Effects of Food Systems Interventions on Food Security and Nutrition Outcomes in Low- and Middle-Income Countries." *3ie Evidence Gap Map Report 16*. New Delhi: International Initiative for Impact Evaluation (3ie). doi.org/10.23846/EGM016.

Mukuria-Ashe, Altrena, Silvia Alayon, Tim Williams, Gulshat Sydykova, Disha Ali, and Erin Milner. 2022. "Determinants of Maternal Diet Quality in Winter in the Kyrgyz Republic." *Global Health: Science and Practice.* 10(6):e2100720. doi.org/10.9745/GHSP-D-21-00720.

Myers, Emily, Jessica Heckert, Simone Faas, Hazel Malapit, Ruth Meinzen-Dick, Kalyani Raghunathan, and Agnes Quisumbing. 2023. *Is Women's Empowerment Bearing Fruit? Mapping Women's Empowerment in Agriculture Index (WEAI) Results Using the Gender and Food Systems Framework.* Washington, DC: International Food Policy Research Institute. https://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/136722/filename/136930.pdf.

Neufeld, Lynnette M., Eduardo B. Andrade, Ahna Ballonoff Suleiman, Mary Barker, Ty Beal, Lauren S. Blum, Kathrin M. Demmler, Surabhi Dogra, Polly Hardy-Johnson, Anwesha Lahiri, et al. 2022. "Food Choice in Transition: Adolescent Autonomy, Agency, and the Food Environment." *Lancet* 399:185–97. doi.org/10.1016/S0140-6736(21)01687-1.

Nguyen P.H., S.S. Kim, T. Sanghvi, Zeba Mahmud, Lan Mai Tran, Sadia Shabnam, Bachera Aktar, et al. 2017. "Integrating Nutrition Interventions into an Existing Maternal, Neonatal, and Child Health Program Increased Maternal Dietary Diversity, Micronutrient Intake, and Exclusive Breastfeeding Practices in Bangladesh: Results of a Cluster-Randomized Program Evaluation." *Journal of Nutrition.* 147(12):2326–2337. doi.org/10.3945/jn.117.257303.

Njuki, Jemimah, Sarah Eissler, Hazel Malapit, Ruth Meinzen-Dick, Elizabeth Bryan, and Agnes Quisumbing. 2023. "A Review of Evidence on Gender Equality, Women's Empowerment, and Food Systems." *Science and Innovations for Food Systems Transformation.* 165–189. doi.org/10.1007/978-3-031-15703-5_9.

Nordhagen, Stella and Kathrin M. Demmler. 2023. "How Do Food Companies Try to Reach Lower-Income Consumers, and Do They Succeed? Insights from a Systematic Review." *Global Food Security.* 37. doi.org/10.1016/j.gfs.2023.100699.

NPC (National Planning Commission) and WFP (World Food Program). 2021. "Fill the Nutrient Gap Nepal—Summary Report." Accessed August 28, 2023. https://docs.wfp.org/api/documents/WFP-0000137064/download/

Philip, James T., Stephanie V. Wrottesley, Natasha Lelijveld, Eilise Brennan, Bridget Fenn, Rachel Menezes, and Emily Mates. 2022. *Women's Nutrition: A Summary of Evidence, Policy, and Practice including Adolescent and Maternal Life Stages.* Emergency Nutrition Network (ENN): Kidlington, Oxford, UK.

Quisumbing, Agnes R., Kathryn Sproule, Elena M. Martinez, and Hazel Malapit. 2021. "Do Tradeoffs among Dimensions of Women's Empowerment and Nutrition Outcomes Exist? Evidence from Six Countries in Africa and Asia." *Food Policy,* 100: 102001, https://doi.org/10.1016/j.foodpol.2020.102001.

Rabbani, Amna, Zahra A. Padhani, Faareha A. Siddiqui, Jai K. Das, and Zulfiqar Bhutta. 2020. "Systematic Review of Infant and Young Child Feeding Practices in Conflict Areas: What the Evidence Advocates." *BMJ Open* 10:e036757. doi.org/10.1136/bmjopen-2020-036757.

Rahman, Arif, Vikram Patel, Joanna Maselko, and Betty Kirkwood. 2008. "The Neglected 'M' in MCH Programmes—Why Mental Health of Mothers Is Important for Child Nutrition." *Tropical Medicine & International Health* 13(4): 579–583. doi.org/10.1111/j.1365-3156.2008.02036.

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.

Sariyev, Orkhan, Tim Loos, and Ling Yee Khor. 2021. "Intra-Household Decision-Making, Production Diversity, and Dietary Quality: A Panel Data Analysis of Ethiopian Rural Households." *Food Security* 13:181–197. doi.org/10.1007/s12571-020-01098-9.

Shankar, Bhavani. 2017. "The Influence of Agricultural, Trade, and Food Policies on Diets." *Trade Policy Technical Notes,* No. 18. Rome: Food and Agriculture Organization of the United Nations.

Surkan, Pamela, and Farah Behbehani. 2020. "Maternal Depression: The Potential Role of Nutrition in Prevention and Treatment." Technical Brief. *Alive & Thrive.* Accessed June 15, 2023. https://www.aliveandthrive.org/sites/default/files/attachments/Maternal-Depression-Technical-Brief_v12.pdf.

Tang, Kevin, Katherine P. Adams, Elaine L. Ferguson, Monica Woldt, Alexander A. Kalimbira, Blessings Likoswe, Jennifer Yourkavitch, Benjamin Chrisinger, Sarah Pedersen, Lucia Segovia De La Revilla, et al. 2021. "Modeling Food Fortification Contributions to Micronutrient Requirements in Malawi using Household Consumption and Expenditure Surveys." *Annals of the New York Academy of Sciences* 1508(1):105–122. doi.org/10.1111/nyas.14697.

TFNC (Tanzania Food and Nutrition Centre). 2023a. *Food Intake Survey among Non-Pregnant, Non-Lactating Women of Reproductive Age in Mbeya Region, Tanzania.* Dar es Salaam: TFNC.

TFNC (Tanzania Food and Nutrition Centre). 2023b. *Food Taboos and Preferences among Women of Reproductive Age and Children Under Two in Mainland Tanzania.* Dar es Salaam: TFNC. https://www.advancingnutrition.org/resources/food-taboos-and-preferences-women-reproductive-age-and-children-under-two-tanzania.

Turner, Christopher, Anju Aggarwal, Helen Walls, Anna Herforth, Adam Drewnowski, Jennifer Coates, Sofia Kalamatianou, and Suneetha Kadiyala. 2018. "Concepts and Critical Perspectives for Food Environment Research: A Global Framework with Implications for Action in Low- and Middle-Income Countries." *Global Food Security*. 18. doi.org/10.1016/j.gfs.2018.08.003.

Twyman, Jennifer, and Elise Talsma. 2021. "Gender Equity in the Food Environment: Considerations for Low- and Middle-Income Countries." *Research Program on Agriculture for Nutrition and Health.* Accessed March 15, 2023. https://a4nh.cgiar.org/2021/01/15/gender-equity-in-the-food-environment-considerations-for-low-and-middle-income-countries/

UNICEF and GAIN (Global Alliance for Improved Nutrition). 2019. *Food Systems for Children and Adolescents: Working Together to Secure Nutritious Diets.* New York: UNICEF and GAIN.

USAID (United States Agency for International Development). 2015. "Multi-Sectoral Nutrition Strategy 2014–2025: Maternal Nutrition for Girls & Women." *Technical Guidance Brief Series.* Washington, DC: USAID.

USAID (United States Agency for International Development). 2022. "Working within the Food System: Gender Considerations for Achieving Improved Diets." *Multi-Sectoral Nutrition Technical Guidance Brief.* Washington, DC: USAID. https://www.usaid.gov/sites/default/files/2022-12/USAID_Gender_Considerations_Brief_2022_Final%20(3)_1.pdf

USAID (United States Agency for International Development). 2023. *USAID Position Paper on Child Wasting.* Washington, DC: USAID. https://www.usaid.gov/nutrition/resources/usaid-resources/wasting-position-paper

USAID Advancing Nutrition. n.d.[a] *Piloting a Needs Assessment and Design Methodology to Inform Large-Scale Food Fortification and Broader Programming Final Report: Implementation Results in Nigeria*. Arlington, VA: USAID Advancing Nutrition. Forthcoming.

USAID Advancing Nutrition. n.d.[b] *The Influence of Social Norms on Women's Diets: Relevance for Social and Behavior Change Interventions.* Arlington, VA: USAID Advancing Nutrition. Forthcoming.

USAID Advancing Nutrition. n.d.[c] "Using Behavioral Theory Models to Determine and Test Measures of Consumer Demand for Nutrient-Rich Food in Burkina Faso and Bangladesh." *African Marketing Association Conference.* Forthcoming.

USAID Advancing Nutrition. 2020a. *Transitioning Nutrition Financing from USAID to Domestic Resources.* Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/transitioning-nutrition-financing-usaid-domestic-resources

USAID Advancing Nutrition. 2020b. *Maternal, Infant and Young Child Nutrition Strategic Planning Document*. Arlington, VA: USAID Advancing Nutrition.

USAID Advancing Nutrition. 2021a. *Strengthening Maternal Nutrition in Health Programs: A Guide for Practitioners.* Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/strengthening-maternal-nutrition-health-programs-guide-practitioners

USAID Advancing Nutrition. 2021b. *Conducting Formative Research on Adolescent Nutrition: Key Considerations.* Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/conducting-formative-research-adolescent-nutrition-key-considerations

USAID Advancing Nutrition. 2021c. *Methods, Tools, and Metrics for Evaluating Market Food Environments in Low- and Middle-Income Countries*. Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/methods-tools-and-metrics-evaluating-market-food-environments-low-and-middle-income

USAID Advancing Nutrition. 2021d. *Social and Behavior Change Resources for Women's Healthy Diets: 5 Gaps and Recommendations.* Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/social-and-behavior-change-resources-womens-healthy-diets-5-gaps-and-recommendations

USAID Advancing Nutrition 2021e. *Supporting the Development of Tanzania's National Resource Mobilization Strategy for Nutrition.* Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/sites/default/files/2021-11/sustainable_finance_guidance_note_tanzania_annexx.pdf

USAID Advancing Nutrition. 2022a. *Factors Influencing the Use of Iron and Vitamin A Supplementation and Improved Dietary Practices: Formative Research Findings from Maradi and Zinder, Niger*. Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/factors-influencing-iron-and-vitamin-supplementation-and-improved-dietary-practices

USAID Advancing Nutrition. 2022b. *Focusing on Social Norms: A Practical Guide for Nutrition Programmers to Improve Women's and Children's Diets.* Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/focusing-social-norms-practical-guide-nutrition-programmers-improve-womens-and-childrens

USAID Advancing Nutrition. 2022c. *Agriculture in Complex Emergencies: Exploring the Association between Agricultural Programs and Dietary Diversity among Women and Children: A Synthesis of Study Findings from Cameroon and South Sudan.* Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/agricultural-programs-and-dietary-diversity-synthesis-study-findings-cameroon-and-south-sudan

USAID Advancing Nutrition. 2022d. *Generating Demand for Healthy Diets: A Guide to Social Marketing in Nutrition.* Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/generating-demand-healthy-diets-guide-social-marketing-nutrition

USAID Advancing Nutrition. 2022e. *Review of Methods to Assess Diets, Markets, and Cost of an Adequate Diet.* Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/review-methods-assess-diets-markets-and-cost-adequate-diet

USAID Advancing Nutrition. 2022f. *Rapid Assessment of Contextual Needs to Target Social and Behavior Change Approaches.* Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/india-sbc-rapid-assessment

USAID Advancing Nutrition. 2022g. *Study on Gender Roles and Norms Related to Nutrition Practices Including Husbands' Engagement and Women's Empowerment.* Arlington, VA: USAID Advancing Nutrition.

USAID Advancing Nutrition. 2022h. "Assessing the Performance of Nationally Adapted Diet Quality Questionnaire (DQQ) Sentinel Food Lists at the Subnational Level in Six Countries." Presented at the International Congress

of Nutrition, Tokyo, Japan, December 6–11, 2022. https://www.advancingnutrition.org/resources/assessing-performance-nationally-adapted-dqq-sentinel-food-lists

USAID Advancing Nutrition. 2022i. *USAID Advancing Nutrition Counseling Review Discussion Paper: A Summary of Findings.* Arlington, VA: USAID Advancing Nutrition.

USAID Advancing Nutrition. 2023. *Strengthening Counseling Capacity through Supportive Supervision and Mentorship Insights from USAID Advancing Nutrition Program Experiences*. Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/strengthening-counseling-capacity-through-supportive-supervision-and-mentorship

USAID Advancing Nutrition and Breakthrough ACTION. 2023. *Nourishing Connections: Job Aid and Tools.* Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/nourishing-connections-job-aid-and-tools

USAID Advancing Nutrition, UNICEF, and WHO (World Health Organization). 2023. *Nurturing Young Children through Responsive Feeding.* Arlington, VA: USAID Advancing Nutrition. https://www.advancingnutrition.org/resources/nurturing-young-children-through-responsive-feeding

WFP (World Food Programme). 2015. *WFP Gender Policy: 2015–2020.* Rome: WFP. https://documents.wfp.org/stellent/groups/public/documents/communications/wfp276754.pdf

WFP (World Food Programme). 2020. *Fill the Nutrient Gap and Minimum Expenditure Basket: An Explanation of Approaches and Identification of Synergies.* Rome: WFP. https://www.wfp.org/publications/fill-nutrient-gap-and-minimum-expenditure-basket

WHO (World Health Organization). 2016. *WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience.* Geneva: WHO. https://apps.who.int/iris/bitstream/handle/10665/259947/WHO-RHR-18.02-eng.pdf

WHO (World Health Organization). 2018. *Guideline: Implementing Effective Actions for Improving Adolescent Nutrition.* Geneva: WHO. https://apps.who.int/iris/handle/10665/260297

WHO (World Health Organization). 2020. *WHO Antenatal Care Recommendations for a Positive Pregnancy Experience. Nutritional Interventions Update: Multiple Micronutrient Supplements during Pregnancy*. Geneva: WHO. https://apps.who.int/iris/handle/10665/333561

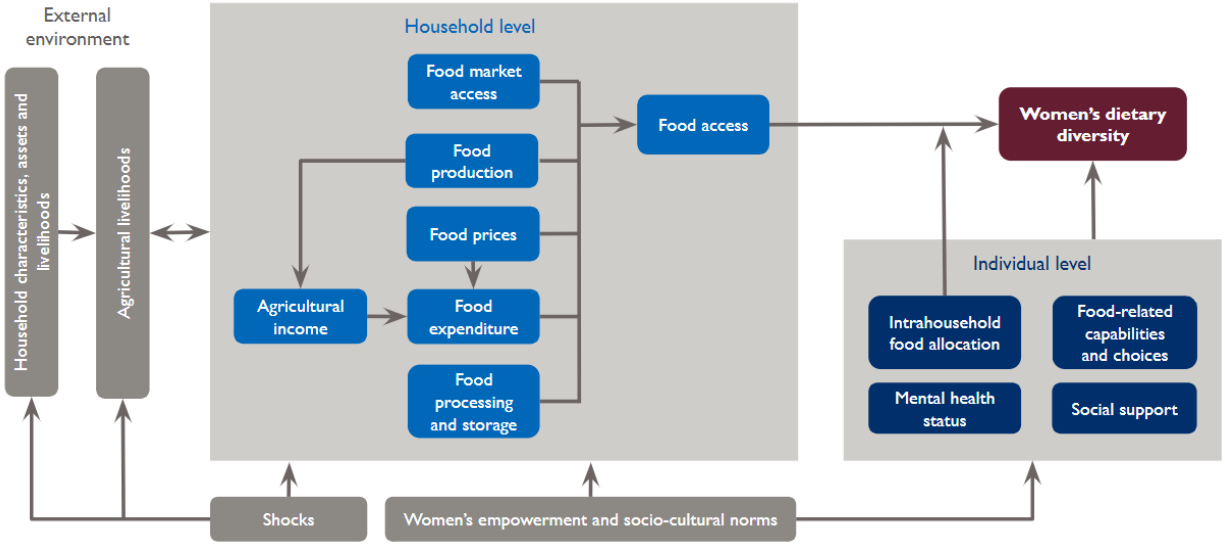
Young, Helen. 2020. "Nutrition in Africa's Drylands: A Conceptual Framework for Addressing Acute Malnutrition." *A Feinstein International Center Briefing Paper*. Boston: Feinstein International Center, Tufts University. https://fic.tufts.edu/publication-item/nutrition-in-africas-drylands-a-conceptual-framework-for-addressing-acute-malnutrition/

Annex 1. Example Conceptual Framework for Women's Diets

The factors influencing women's diets are complex. For our studies on agriculture in emergencies in South Sudan and Cameroon, we developed a conceptual framework for women's diets to inform the analytic models (USAID Advancing Nutrition 2022c).

We adjusted the Strengthening Partnerships, Results, and Innovations in Nutrition Globally agriculture-nutrition pathways (Herforth and Harris 2014) to end at our outcome of interest—women's dietary diversity. We also updated the framework to include: (1) shocks from Young's framework on acute malnutrition in Africa's drylands to account for the protracted emergencies in the study contexts (2020) and (2) additional factors that evidence shows influence dietary intake. These addition factors were food market access (Ruel, Quisumbing, and Balagamwala 2018; Innovation Lab for Nutrition 2020), food-related capabilities and choices (Herforth and Ahmed 2015), mental health status (Surkan and Behbehani 2020; Madeghe et al. 2021; Rahman et al. 2008; Rabbani et al. 2020), and social support (Matare et al. 2020; Ickes et al. 2018; Baye, Laillou, and Chitekwe 2021).

Figure 1. Women's Diets Conceptual Framework



USAID ADVANCING NUTRITION
Implemented by:
JSI Research & Training Institute, Inc.
2733 Crystal Drive
4th Floor
Arlington, VA 22202

Phone: 703–528–7474
Email: info@advancingnutrition.org
Web: advancingnutrition.org

September 2023

USAID Advancing Nutrition is the Agency's flagship multi-sectoral nutrition project, addressing the root causes of malnutrition to save lives and enhance long-term health and development.

This document is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of JSI Research & Training Institute, Inc. (JSI), and do not necessarily reflect the views of USAID or the United States government.