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Optimizing Diets by Using Local Foods for Improved Nutrition for Women and Children

A Guide for Resilience Food Security Activity Partners

Overview



October 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.

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Glossary

Acceptability and willingness to pay (AWP)	Consumers' acceptance of a product (e.g., will they buy it as presented?) and how much will they pay for it. This is a crucial component of market research when designing a new product.
Break-even point	The level of production at which the SME is able to profit from the sale of the EFB and is considered commercially viable (profitable).
Enriched flour-based blend (EFB)	For the purposes of this guide, an EFB is primarily composed of locally available cereals that are blended and to which other ingredients/foods are added. This increases the nutritional value of the blend and responds to local food and flavor preferences and availability of the various ingredients that make up the blend. It does not include the use of fortificant pre-mixes.
Food-based approach	Includes food production, dietary diversification, and food fortification, which are seen as sustainable strategies for improving nutrition. ¹
Food-based recommendation (FBR)	A dietary recommendation to promote consumption of a particular food or food group for members of a specific group. May include the recommended frequency of consumption of the foods or food groups in a 1-day or -week period (Food and Agriculture Organization of the United Nations/World Health Organization 2001). ²
Food composition table (FCT)	A list of foods that have been chemically analyzed and for which we have a verifiable understanding of nutritional content. Not all countries have a recently produced food composition table. There may be regional options that can be useful for identifying similar ingredients.
Food safety	Conditions and practices that preserve the quality of food to prevent contamination and food-borne illnesses. ³
Healthy profit margin	What an SME needs to make enough profit to ensure that it can continue to operate and, ideally, grow. Yet an SME should not make so much profit that the EFB becomes unaffordable for poorer households. The guideline in the Business Model Calculator Tool and Market Pathway Workbook is that a healthy profit margin is between 15 and 30 percent.
Key foods ID list	For the purposes of this guide, this refers to the surfaced foods (up to 30) that can be used in either the menu of key foods or the nutrition calculator.
Nutrient composition	The unique caloric density, macronutrients (fat, protein, carbohydrates), and micronutrients (vitamins and minerals) of a food.
Nutrients of concern	The top micronutrients that are missing in the specific population, based on primary or secondary data.
Nutrient-dense foods	All vegetables, fruits, whole grains, fat-free or low-fat milk and milk products, seafood, lean meats and poultry, eggs, beans and peas (legumes), and nuts and seeds that are prepared without added solid fats, added sugars, and sodium' as

	defined by the 2010 Dietary Guidelines for Americans. ⁴
Nutrient-rich foods	Are those from 4 or more foods groups (breast milk; grains, roots, and tubers; legumes and nuts; dairy products; flesh foods; eggs; vitamin A-rich fruits and vegetables; other fruits and vegetables). These are consistent with the food groups in the children’s minimum dietary diversity indicator.
Retention factor	Adjusts the level of each vitamin or mineral in an ingredient as a result of the preparation and cooking process undertaken. Each method of cooking, and the time for which the food is cooked, may affect individual nutrients to different extents. ⁵
Small and medium enterprises (SME)	Non-subsidiary independent firms with fewer than a given number of employees. This number varies between countries, with the most frequent upper limit being 250. Small enterprises generally have fewer than 50 employees (those with fewer than 10 are micro-enterprises).
Trials of Improved Practices (TIPs)	A core method in consultative research. Feeding recommendations are tested in homes by discussing possible improved practices, negotiating specific practice changes, and following up to record the mothers’ and children’s experiences with and reactions to the new practices. This method is also referred to as household trials. ⁶

Sources: 1. FAO (United Nations Food and Agriculture Organization). 2014. *Improving Diets and Nutrition: Food-Based Approaches*. Ed. Brian Thompson, Leslie Amoroso. Rome: FAO. 2. FAO/WHO (Food and Agriculture Organization of the United Nations/World Health Organization). 2001. *Human Vitamin and Mineral Requirements: Report of a Joint FAO/WHO Expert Consultation*. Bangkok, Thailand and Rome: FAO. 3. <https://ask.usda.gov/s/article/What-does-food-safety-mean> 4. U.S. Department of Agriculture and U.S. Department of Health and Human Services. 2010. *Dietary Guidelines for Americans, 2010. 7th Edition*, Washington, DC: U.S. Government Printing Office. 5. <https://www.foodstandards.gov.au/science/monitoringnutrients/ausnut/foodnutrient/pages/recipecalculators.aspx> 6. <https://manoffgroup.com/wp-content/uploads/Designing-by-Dialogue.pdf>

Introduction

Who is this guide for?

This guide is for the United States Agency for International Development's (USAID) Bureau for Humanitarian Assistance (BHA)-funded Resilience Food Security Activity (RFSa) Implementing Partners (IPs). Specifically, it is intended for use by a multi-disciplinary RFSa team that includes but is not limited to nutrition advisors, social behavior change advisors, strategic learning leads, gender advisors, agriculture and livelihoods advisors, private sector engagement advisors, and local partners.

How can this guide help you?

This guide provides resources, workbooks, templates, and tools with instructions on how to optimize the use of local foods to improve women and children's nutrition and dietary diversity in your program area. It describes two pathways to consider to optimize the use of local foods. Depending on your program context, you could opt to use a household food-based approach for complementary foods, or a market-driven approach for the production of enriched blended complementary foods. A food-based approach is defined as including food production, dietary diversification and food fortification, which are seen as sustainable strategies for improving nutrition (FAO/CABI 2014). The household food-based approach focuses on identifying local nutrient-rich foods that can be promoted and are produced or purchased by households. A market-driven approach in this context is also a local food-based approach as it relies on local foods produced in the program area to develop enriched blended complementary foods.

Why use this guide in your nutrition programming?

Most nutrition programs focus on improving women's and children's nutrition outcomes, specifically through dietary diversity. Improving complementary feeding by increasing children's dietary diversity is often quite challenging and identifying which local nutrient-dense foods to offer children in which quantities and frequencies is not always clear. At the same time, households can face challenges in access, affordability, and availability of complementary foods. This guide and its components aim to mitigate some of these challenges by providing two pathways RFSa IPs can consider. This guide is also timely because there is greater recognition of the need to use local foods to optimize diets. The most recent World Health Organization Guidelines on the prevention and management of wasting and nutritional oedema (acute malnutrition) in infants and children under five years of age notes the importance of using local foods to prevent malnutrition.¹

What is this guide?

BHA funds multi-year non-emergency RFSAs in highly vulnerable regions of low-income developing countries. These activities often focus on strengthening resilience and improving food security and nutrition among highly vulnerable populations. A majority of RFSAs emphasize improving women and children's nutritional status, with a focus on the first 1,000 days from conception to the first two years

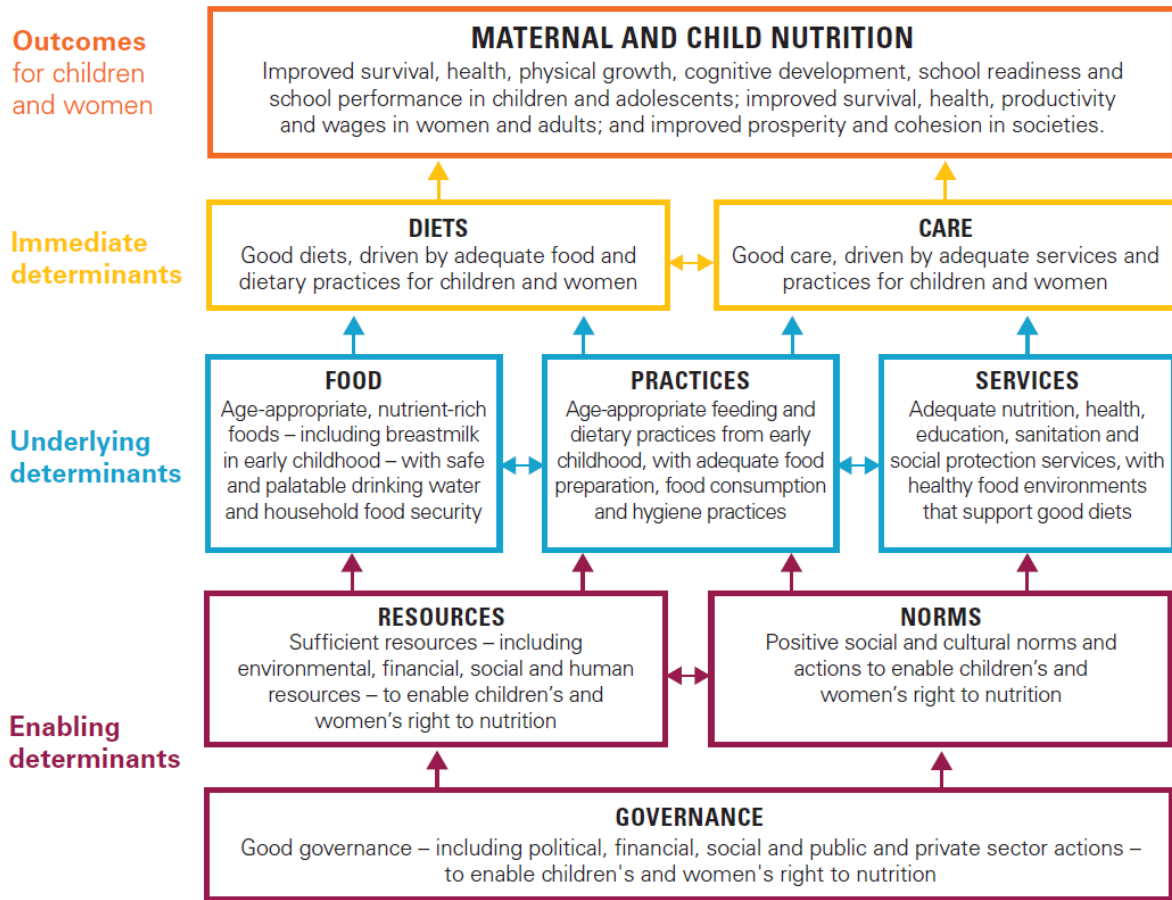
The Optimizing Diets Guide includes 7 components:

1. Overview
2. Optimizing Local Diets Tool (OLDT)
3. Instruction Manual for OLDT
4. Household Pathway Workbook
5. Market Pathway Workbook
6. Business Model Calculator Tool (BMCT)
7. Instruction Manual for BMCT

¹ World Health Organization. 2023. *Guidelines on the prevention and management of wasting and nutritional oedema (acute malnutrition) in infants and children under five years of age*. Geneva: WHO.

of life. The first 1,000 days are considered a window of opportunity to reduce child mortality and morbidity, prevent malnutrition, and support optimal child growth and development. The framework (UNICEF 2021) presented in figure 1 provides a clear overview of the interplay between consumption behaviors, access to income and care practices, and the pathways through which these influence nutrition outcomes.

Figure 1. UNICEF Nutrition Framework



UNICEF Conceptual Framework on the Determinants of Maternal and Child Nutrition, 2020. A framework for the prevention of malnutrition in all its forms.

RFSAs typically include a resource transfer component. A key benefit of resource transfers, whether cash, vouchers, or in-kind food assistance, is that they may be intended to support age-appropriate complementary feeding of children 6–23 months of age and improve women’s or household dietary diversity. However, to sustain the benefits for children 6–23 months and households in the long-term, RFSAs often look to transition to using local alternatives. This guide has been developed to support RFSAs’ transition from providing resource transfers to using locally available, accessible, and affordable alternatives to sustain nutrition outcomes for women and children under age two. The processes described in this guide rely on using local food-based approaches, which the Food and Agriculture Organization (FAO) defines as including food production, dietary diversification, and food fortification, which are seen as sustainable strategies for improving nutrition. Within this, the focus is on promoting the consumption of nutrient-rich foods, defined as foods from 4 or more food groups (breast milk for children; grains, roots, and tubers; legumes and nuts; dairy products; flesh foods; eggs; vitamin A-rich fruits and vegetables; other fruits and vegetables).

Objectives of This Guide and Related Tools

This guide has two objectives:

1. Support RFSA IPs in developing local food-based approaches for complementary feeding and dietary diversity of children 6–23 months of age.
2. Support RFSA IPs with the development of a menu of nutrient-rich food options based on locally available foods to promote the dietary diversity among adolescent girls, pregnant and lactating women (PLW), women of reproductive age, and vulnerable households.

Background

As a part of USAID Advancing Nutrition’s demand-driven technical assistance (TA) mechanism, a common request from RFSA IPs has been to provide TA on how to transition from providing resource transfers to local alternatives. Most often, RFSA IPs selected food-based recommendations (FBRs) for foods that could be prepared in the home, or the development of an enriched flour-based blend (EFB) for complementary (children 6–23 months) or supplementary (PLW) feeding purposes. Recognizing that resource transfers are not sustainable approaches, RFSA IPs sought TA from USAID Advancing Nutrition to move from BHA-supported transfers to locally available alternatives.

We provided TA to RFSA IPs in Madagascar, Zimbabwe, and Niger. We also consulted other RFSA IPs to determine their TA needs. Based on the lessons from TA provided to RFSA IPs and feedback received from others, we developed a few guiding principles that RFSA IPs should consider when planning this type of transition.

Guiding Principles

1. Transitioning from BHA-supported transfers is **complex** and potentially time consuming, so the planning process should begin in the project design stage with the development of the initial theory of change and draft sustainability and exit strategy.
2. **A sound and thorough understanding of the local context is critical for success.** IPs may look to situational assessments, market analyses, and/or pilot and feasibility studies to determine approaches to transition from resource transfers.
3. **The process and tools outlined in this guide assume a food security programming context that is International Phase Classification (IPC) 2 or IPC1.** If a program context deteriorates to IPC 3, 4, or 5, the need for external transfers becomes significant. In such contexts, RFSA IPs should consider if it is feasible and viable to continue the process of transitioning from external resource transfers to local alternatives that may be unsustainable during food security crises. If situations stabilize, RFSA IPs can revisit the feasibility of implementing local food-based approaches.
4. Use of this guide **relies upon a multi-disciplinary team of RFSA staff and external partners collaborating and coordinating throughout the various steps.** This is critical for success as the approaches that may be selected will rely on different sectors and expertise, such as the private sector engagement, agriculture and livelihoods development, social and behavior change communication, gender, food safety, nutrition, and water, sanitation and hygiene.
5. **Food safety and hygiene are critical aspects of household food-based and market-driven approaches given the vulnerable age group being targeted.** In the case of a household food-based approach, food safety, storage, and hygiene at both the marketplaces (where caregivers in households buy their food) and households where food is stored, processed, and prepared, are key considerations. Consider whether households have the

resources and capacity to store, process, and prepare foods safely, and if they are able to follow basic food hygiene principles. In the case of a market-driven approach, RFSA IPs should be aware of the need for their efforts and those of any partners to adhere to national standards, policies, and regulations concerning food processing, manufacturing, and distribution. Therefore, it is essential that local experts be engaged and consulted early in the process of applying either approach to mitigate risks and ensure compliance with national standards and regulations.

The Importance of Food Safety

- Foodborne illnesses contribute to malnutrition. Contaminated foods perpetuate cycles of disease and malnutrition that are particularly harmful to vulnerable populations, including infants, young children, the elderly, and the sick.
- Foodborne illnesses can have lifelong negative effects. Inadequate nutrition and repeated bouts of infection during the first 1,000 days affects approximately 162 million children under the age of five and can permanently hinder their cognitive and physical development.
- Foodborne illnesses are preventable and can be reduced, managed, and mitigated by safe handling of food on farms, during transport, throughout processing, in markets, and in the home.
- Food safety removes barriers to economic growth. Food safety policies and practices enable food producers and processors to reach new local and global markets that adhere to international food safety standards.



Source: Feed the Future Food Safety Innovation Lab

The Importance of Food Hygiene

- Keep clean:
 - Set up a tippy tap hand washing station near latrine and cooking areas; maintain with soap and water.
 - Wash hands with soap before and during food preparation.
 - Wash hands with soap after going to the toilet, and after cleaning baby and disposing of feces.
 - Wash and sanitize all equipment and food preparation area.
 - Protect kitchen area from animals, pests, and insects.
 - Treat water if giving to baby or mixing with food.
 - Regularly wash child's hands with soap and water, particularly before feeding.
 - Keep areas where baby sleeps, sits, plays, and eats clean of animal and human feces.
- Separate raw and cooked foods:
 - Keep meat, poultry, and seafood separate from other foods.
 - Use container to store cooked and raw foods separately.
 - Use separate equipment, knives, and cooking utensils for cooked and raw foods.
 - Cook foods thoroughly, especially eggs and other animal foods.
 - Keep food at safe temperatures, serve food hot, and do not leave out at room temperatures for longer than 2 hours.
 - Use safe water and fresh foods.



Source: FANTA 2016

How to Use This Guide

Process and Pathways

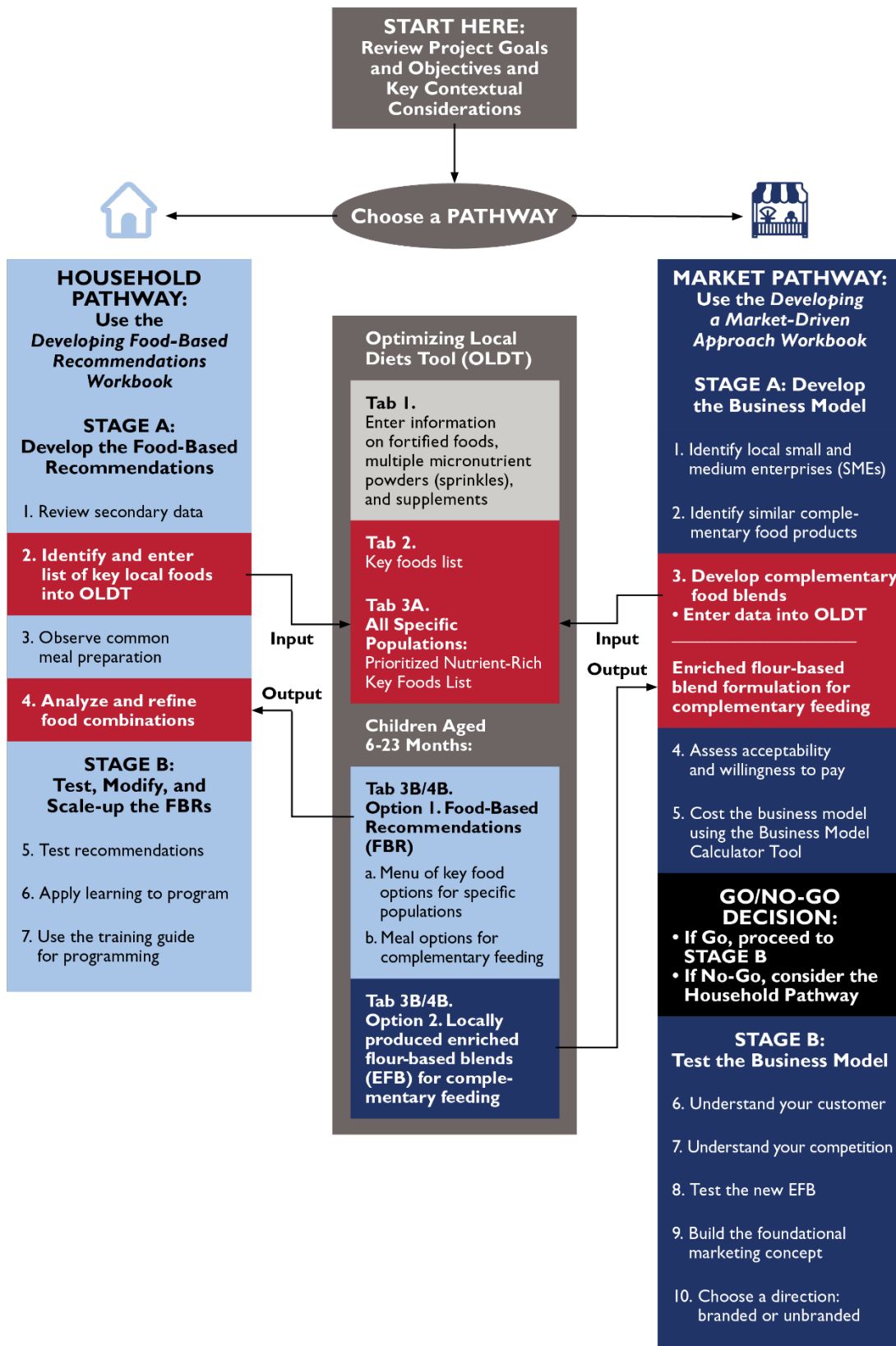
This guide presents a **stepwise process** for your RFSA team to apply and has **two pathways and two tools**. Start by undertaking a contextual analysis to ensure your team has a sound understanding of the local context and to decide whether and how your program aims to improve nutrition outcomes for children aged 6–23 months and the dietary diversity of women of reproductive age, or households. If a primary objective is to improve infant and young child feeding practices, your team should consider which pathway to pursue based on your understanding of the local context: either the household food-based approach (**Household Pathway**) or the market-driven approach (**Market Pathway**).

Both pathways use the Optimizing Local Diets Tool (OLDT) to facilitate dialogue with your multi-disciplinary team and identify locally available, nutrient-dense foods to use in programming. This user-friendly tool helps you: 1) identify up to 30 of the most nutritious foods in a given context, which can be used to determine which foods to promote (Option 1), and/or 2) develop FBRs or EFBs for complementary feeding based on the nutrient composition of locally available foods (Option 2). **The Household Pathway**, involves reviewing existing data, collecting primary data on current dietary practices for children under age two, and developing and testing FBRs using local foods to promote in your program area.

The Market Pathway requires engagement with local private sector entities (e.g., small and medium enterprises [SMEs]). The stages and steps in this pathway include developing a business model (**Stage A**), which requires the identification of local SMEs and similar complementary food products; developing complementary feeding blends; assessing EFB acceptability and willingness to pay (AWP) by the intended consumer; and costing the business model using the Business Model Calculator Tool (BMCT). **Stage B** of this pathway involves testing the business model to support the production, marketing, and promotion of an EFB for complementary feeding in your program area.

In the sections that follow, we briefly describe the process, pathways, and tools, and provide the hyperlinks to the tools, instructions, and workbooks for each. Toward the end of the document are lessons from our past TA efforts to illustrate some of the nuances and outcomes of using the household food-based and the market-driven approaches.

Figure 2. Process for Optimizing Diets by Using Local Foods



Reviewing Project Goals and Objectives and Key Contextual Considerations

Determining When, Whether, and Why to Use This Process

Your RFSA IP team should review your intended project goals and objectives for nutrition outcomes in your theory of change and assess whether the purpose of your activities is to improve dietary diversity generally, or to improve the dietary diversity and/or nutrition outcomes of specific sub-groups. If the former (e.g., to improve household dietary diversity), you may not need to complete the process outlined in this guide, but rather aim to understand which nutrient-dense foods are available locally by season, and identify and promote those that may be most affordable for vulnerable households. Following the process outlined in this guide can be extremely useful if the project objectives and sustainability and exit plans include the aims of—

- improving the dietary diversity and/or nutrition outcomes for specific vulnerable groups (such as children under two, PLW, adolescent girls, and women of reproductive age)
- sustainably transitioning from distributing Title II commodities or BHA-supported transfers
- promoting specific nutrient-dense foods or blends by servings per week for specific age groups.

The materials in this guide start broad and become more specific with each subsequent step. Because this is a complex process, we invite RFSA teams to think through each step carefully and consider the following questions:

1. For what reason would you like to undertake this process? (Purpose, objective, and rationale: e.g., transitioning from Title II foods, promoting sustainability and/or diet diversity)
2. What are the current resource transfer modalities? Who is the specific audience and what is the intended outcome? (Current resource transfers: e.g., in-kind food assistance, children under age two, improved young child nutrition)
3. What do you know about your context? What are the nutrition, food security, and poverty concerns? How do they affect different segments of the population? (Context analysis: e.g., climate change, markets, purchasing power by sex, food production, livelihoods, income, women's time and age)
4. Are there national policies on micronutrients and fortified foods? If yes, are fortified foods or multiple micronutrient powders or supplements available in your program area based on these national policies? If yes, consider promoting these first.
5. Do households have adequate access to staples, but children or women need greater dietary diversity? If yes, identify ready-to-use, affordable, nutrient-rich foods (e.g., fruit, vegetables, dark green leafy vegetables, eggs, nuts, seeds, beans, lentils, dairy) that could be promoted as an addition to the usual diet. You can use the Optimizing Local Diets Tool (OLDT) to develop lists of local foods to promote based on the nutritional needs of your specific population, with suggestions for the number of servings per week by age. Also see the [Food Environment Assessment Package](#) for additional guidance in developing the key foods ID list.
6. If the option of promoting a nutrient-rich food (e.g., an egg a day) as an addition to the usual diet is infeasible or inadequate, and the focus is on children under age two, there are two options for which you can use the tools in this guide to support complementary feeding: 1) in the household pathway, you can use the workbook and the OLDT to develop FBRs for household preparation; and/or 2) in the market pathway you can use the OLDT to develop a commercial blend (using both the nutrition composition and the business model calculators). These options will enable you

to identify a wider set of foods that are locally available that could be promoted alone or in combination with other local foods to optimize the diet. If multiple micronutrient powders are available and can be promoted, these should be promoted alongside local foods and blends to further support optimal diets for children 6–23 months, as nutrient gaps may remain even with the use of a mix of local foods.

7. Whether you opt for a fortified or enriched blend or FBRs for household preparation, plan to undertake some testing after the FBR or blend formulation is completed to assess affordability, acceptability, feasibility, and willingness to pay (in the case of purchasing certain foods or blends).
8. Whether you opt for a fortified or enriched blend or FBRs for household preparation, carefully consider the risks associated with food safety and storage and hygiene practices. For example, households may harvest crops for consumption that are high in aflatoxins or may face challenges with preparing food hygienically.
9. Certification and registration of foods sold through a market-driven approach on a commercial basis are generally required. It may be challenging to certify an EFB to meet food safety standards in a country; standards for certification and registration of consumable products and the process involved differ greatly from country to country. It is therefore important for the RFSa IP to work closely with the selected SME to understand the certification/registration requirements and timeline. It can be difficult for producers to identify reliable analytical and reference labs in their country, which makes food safety and certificate of analysis compliance a major challenge. Ascertaining the existence of these capabilities as soon as possible will help you avoid compliance challenges. As the EFB is selected and the SME identified, start this process as soon as possible and have it coincide with the start of Stage B of the market-driven approach.
10. Choosing which pathway is best for your RFSa:
 - a. Deciding whether to use the household food-based approach depends on: 1) project objectives, goals, and overall design; and 2) whether the conditions (e.g., land access/tenure, size of landholdings, soil and climate conditions, market access, household income and purchasing power, migration) in your program area are conducive to increasing food production and/or household income based on the activities you have planned in your RFSa (e.g., graduation approach, improved post-harvest processing). If your project does not plan to improve household food production, post-harvest processing, or income, it may be difficult to apply the household food-based approach to promote the consumption of local nutrient-dense foods, as households may not be able to afford or consume them.
 - b. Deciding whether to use the market-driven approach depends on: 1) project objectives, goals, and overall design; 2) whether the conditions (e.g., food processors, household income and purchasing power, migration) in your program area (e.g., availability of raw ingredients, adequate household income and purchasing power to purchase the blend) are conducive to developing a local EFB; and 3) whether there are pre-existing SMEs engaged in food processing in or near your program area.² If there are no local food processing SMEs in your project area, it may be difficult to apply the market-driven approach to producing a local EFB for complementary feeding.

² Local SMEs can include food processors/millers, agriculture cooperatives, trade aggregators, and food manufacturers in your program area.

Potential Impact Pathways for RFSAs

The table below illustrates the potential impact of each pathway. It will help guide you based on the intended goals and objectives for your RFSAs. For the Market Pathway, note that the distribution of commodity transfers such as corn-soy blends can be a barrier to the volume of sales of a local EFB. This can discourage SMEs from continuing to produce and sell a local EFB. Carefully planning a transition for households receiving commodity transfers to purchasing a local EFB is an important consideration to support the sustainability of a local EFB produced by an SME.

Household Pathway: Household Food-Based Approach to Develop Food-Based Recommendations	Market Pathway: Market-Driven Approach for the Production of Enriched Blended Complementary Foods
<ol style="list-style-type: none"> Improved nutrition for children under age two through the consumption of targeted and diverse nutrient-dense foods with greater frequency. 	<ol style="list-style-type: none"> Improved nutrition for children under age two through the stable and consistent consumption of EFB products.
<ol style="list-style-type: none"> Increased caregiver skills and knowledge to prepare and integrate nutrient-dense foods in complementary feeding in appropriate quantities, consistency, and frequency. 	<ol style="list-style-type: none"> Increased income for small-holder farmers through the sale of agricultural commodities produced at household level to SMEs.
<ol style="list-style-type: none"> Increased household dietary diversity through increased household income to purchase and/or household production and processing of specific nutrient-dense foods that are locally available and acceptable. 	<ol style="list-style-type: none"> Increased caregiver time and labor-saving due to a readily available nutritious complementary food product.

Optimizing Local Diets Tool (OLDT)

Essential Tools

[Excel and Instructions](#)

The OLDT helps you identify locally available nutrient-dense foods. It also accounts for factors that may influence the effectiveness or uptake of identified foods, including food safety, cultural acceptability, the availability of fortified foods/supplements, and sustainability considerations. This tool is a part of the set of resources presented in this guide.

The OLDT allows you to two things:

Option 1: Develop a prioritized list of key foods (Tab 3A) based on your context’s specific nutrition needs. This list can be used to promote key foods and food groups, based on nutrient needs for any population at the household level.

Option 2: Develop nutrient-rich FBRs or EFB formulations for children under two (Tabs 3B–4B) for use by RFSAs that work with:

- households to support complementary feeding and preparation and consumption of more nutritious meals. In this case, the FBRs can be considered a meal option for food preparation or key nutrient-rich local food options suitable for children under age two.
- SMEs to develop an EFB that can be made commercially available to intended consumers (e.g., sold in single serving size or larger 1-kilogram package, depending on consumer preference).

As a part of the overall guide, the OLDT can be used at the beginning of a RFSA award³ (i.e., the refine and implement period) to identify the most suitable key foods menu, FBRs, or EFBs. This tool:

- Is appropriate for use by a variety of stakeholders and applications.
- Relies on data sourced from publicly available food composition tables as close to the geographic context as possible.
- Can consider available fortified ingredients and supplements (e.g., multivitamin mixes) that are available and can be promoted or that the specific populations regularly consumes.
- Produces outputs that take into account food safety, cultural appropriateness, seasonality, and nutrient density.
- Can and should be used iteratively to refine FBRs and EFBs.

Outputs should be designed to consider various factors to ensure the appropriateness of ingredients and fortificants when incorporating local raw materials.



Household Pathway: Developing Food-Based Recommendations for Complementary Feeding Using Local Foods

Essential Tools

[Workbook](#)

The process of determining whether and how to apply a household food-based approach to develop FBRs is designed to be rapid and iterative. Data collection is kept to a minimum and phased: only relevant data are collected. The need for additional data to be collected is based on a careful review of existing secondary data and the results from refine and implement studies at the start of the process. If information gaps are identified after this first review, then the RFSA team may collect additional targeted data. This helps limit the time and resources RFSA teams have to invest. The process has two stages and seven steps.

Steps 1–4 (Stage A) aim to gather all the information needed to develop the FBRs. Steps 5–7 (Stage B) aim to test, modify, and scale up use of the FBRs. The first step should take a month or two to complete, and can be undertaken alongside the broader review of secondary data as part of the refine and implement process. A key task during program design and start-up is for the RFSA team to determine whether the household food-based approach is suitable for its context. USAID Advancing Nutrition’s experience applying this process through its technical assistance indicates that Steps 2 and 3

³ This tool can be applied at any stage of a RFSA, but we strongly recommended to do so during the refinement and implementing period as its results will likely require adjustments and iteration to arrive at a set of viable foods to promote or EFB to produce.

will require three to four months to complete; Step 4 one month; Steps 5 and 6 three months; and Step 7 approximately three months.

Stage A: Develop the FBRs

The Stage A steps help identify nutrient-dense and underutilized local foods, understand current infant and young child feeding practices, and develop FBRs based on this information.

The **first step** is to identify and review secondary data to understand sub-optimal dietary and caring practices that may affect the priority behavior the program hopes to address.

The **second step** is to develop a list of key foods available in the community; develop or use an existing seasonal availability calendar; use market mapping to identify the types of foods that are locally available; and conduct focus group discussions to obtain details about available foods, including those commonly eaten in the community.

The **third step** is to observe the preparation of common meals intended for the specific population, gather data to use in the analysis, and identify modifications to current feeding practices. Working with caregivers, you should pile sort and rank the foods identified in the second step by their key characteristics as consumed food (using a visual representation such as pictures or picture cards).

The **fourth step** is to use the foods identified in Steps 1–3 to run scenarios using different combinations of foods from different food groups relevant for your specific population(s) to develop FBRs.

Stage B: Test, Modify, and Scale-up the FBRs

This stage is meant to test the FBRs using Trials of Improved Practices (TIPs) to determine if the FBRs are feasible, acceptable, and affordable. Once the FBRs have been tested, they may need to be modified before using them in nutrition social and behavior change activities.

The **fifth step** is to test participants' responses to the FBRs and determine which are most feasible and acceptable; and investigate the constraints on participants' willingness to change behaviors and motivations for trying and sustaining new practices.

The **sixth step** is to apply the learning to the program by reviewing the results of the TIPs and assessing if any modifications are required for the FBRs. If feasible and acceptable, develop a plan to integrate and scale up FBR use.

The **seventh step** is to use the training materials (provided in the Household Pathway workbook) for programming, to train and prepare group activity leaders (e.g., care group leaders and farmers group leaders) to demonstrate and promote FBRs using locally available nutritious foods.

Stage A: Develop the Food-Based Recommendations (FBRs)

1. Review secondary data
2. Enter list of key local foods into OLDT
3. Observe common meal preparation
4. Analyze and refine food combinations

Stage B: Test, Modify, and Scale Up the FBRs

5. Test recommendations
6. Apply learning to program
7. Use the training guide for programming

Lessons from Providing TA for a Household Food-Based Approach to Develop Food-Based Recommendations to a Zimbabwe RFSA IP

The USAID funded Amalima Loko program, a five-year (2020–2025) RFSA operating in five districts of Zimbabwe’s Matabeleland North province, aims to improve the nutritional status and practices among women of reproductive age and children under five (CU5). As part of a package of multi-sectoral efforts to improve nutrition indicators, Amalima Loko envisioned developing local FBRs to use locally available foods and support caregivers in changing suboptimal feeding practices building from previous program experience. The Amalima Loko program is operating in a new geography and the team wants to ensure it develops context-specific materials for program use. Amalima Loko asked USAID Advancing Nutrition for TA to help its field team apply an approach to developing tailored FBRs using locally available foods that caregivers can use at home to improve young and child feeding practices. This specific work contributed to the achievement of one of Amalima Loko’s priority behaviors: caregivers feed CU5 (aged 6–59 months) an adequate quantity (amount/meal and frequency) and variety of nutrient-rich foods for both meals and snacks.

This approach consists of a number of steps including reviewing secondary data sources and identifying sub-optimal dietary factors relevant to program objectives. Next, we developed a key foods ID list drawing on a number of resources including seasonal availability calendars, market surveys, and community focus group discussions to identify foods that are locally available. Using the list, we observed the preparation of typical meals and gathered data to recommend modifications to current feeding practices. Through pile-sorting exercises, we explored food preparation and feeding practices and perceptions to develop new and modified dietary practices. We then analyzed specific types and amounts of foods and adjusted them according to facilitators and barriers indicated by the secondary data review and pile-sorting exercise to improve their nutrient content, particularly addressing key nutrients of concern. Finally, using the TIPS methodology, households tried new or modified behaviors related to dietary diversity, frequency of feeding, amount of food, and caregiver roles in young child feeding to determine which were most feasible and acceptable. We also investigated constraints on participants’ willingness to change behaviors and their motivations for trying and sustaining the new practices.

We found that this approach worked to identify and tailor FBRs to the local contexts. The results from the TIPS indicated that many of the recommendations were feasible and acceptable. However, caregivers require continued support from household and community actors to sustain these practices, and the enabling environment needs improving to make it easier for caregivers to adopt these improved practices. Importantly, providing caregivers with a menu of locally available nutrient-rich foods enabled them to try the FBRs without having to adhere to a fixed recipe for which they may have lacked ingredients. Amalima Loko could use a number of program platforms, such as care groups, community health and nutrition dialogues, male champions, and farmer’s groups, to promote the FBRs and address determinants of young child feeding.



Market Pathway: Developing a Market-Driven Approach for the Production of Enriched Blended Complementary Foods

Essential Tools

[Excel, Instructions, and Workbook](#)

The process to determine whether to apply a market-driven approach for the production of an EFB through the support of a local SME is designed to be rapid and iterative. Data collection is kept to a minimum and phased—only relevant data are collected at each step in the process, rather than being “front-loaded” with extensive assessments at the start. This enables the RFSA team to understand how the potential business model evolves, rather than work off a predetermined model. It is also a risk mitigation strategy for the RFSA team, with the investment of time and money to gradually increase as the concept is validated. Part 4 has two stages and 10 steps. Between Stages A and B there is a go/no-go decision point based on findings from the five steps in Stage A. The RFSA team should plan to complete all steps in Stage A to determine if it is feasible and viable to proceed to Stage B. Although this requires time and resources, the level of investment is still far lower in Stage A than in Stage B. But completing all the steps in Stage A is necessary to determine if the RFSA team in partnership with a local SME can proceed to Stage B.

Stage A

Stage A's five steps are used to determine the break-even point, at which it would become financially viable for the SME to produce an EFB. *Stage A should take about one month to complete.*

The **first step** is to identify SMEs in the RFSA implementation area that are manufacturing food products. These are SMEs that the RFSA would consider supporting for the production of an enriched blended complementary food.

The **second step** identifies fortified or enriched blended flours available on the (local) market. This information is used to determine the market price for EFBs to potentially be promoted by the SME the RFSA will support. The market price is a key input into the development of the business model and the profit and loss statement, which will be further reviewed and calculated in Step 5.

The **third step** requires developing and analyzing formulations of EFB options. The OLDT allows the user to compose up to four blends using different locally available foods (e.g., ingredients that make up the blend). Once a few potential blends are composed using this tool, there will also be a need to test

Stage A: Develop the Business Model

1. Identify local SMEs
2. Identify similar complementary food products
3. Develop complementary food blends
4. Assess acceptability and willingness to pay
5. Cost the business model

Go or No-Go Considerations

Stage B: Test the Business Model

6. Understand your customer
7. Understand your competition
8. Test the new enriched flour-based blend
9. Build the foundational marketing concept
10. Choose a direction: branded or non-branded

the acceptability of the blend with the intended consumer (Step 4). Step 3 is designed to ensure that the EFB to be manufactured by the SME meets the nutritional requirements of and appeals to its intended consumer (e.g., children aged 6–23 months).

The **fourth step** is used to assess consumers' AWP for the enriched food blends, considering factors such as taste, smell, color, and texture. The AWP process also benchmarks the price of the proposed blends.

The **fifth and final step** in this stage involves developing a costed business plan that identifies the break-even point the SME must achieve to become profitable. The business modeling, planning, and projecting process uses the BMCT to develop a series of scenarios that analyze the effect of changes in sales prices and volumes on the bottom-line product profitability.

Go or No-Go Considerations

After completing the various steps in Stage A, the RFSA IP should be able to assess whether it is operationally feasible and economically viable for one or more local SMEs to manufacture an EFB for children aged 6–23 months. This assessment is based on the five “Go or No-Go” criteria:

1. Local presence of SME
2. Local availability of similar enriched food products
3. Nutrition requirements
4. AWP
5. Price analysis.

These criteria should be given equal weight and considered in combination, and are suggested to guide the decisions rather than serve as hard and rigid rules. If the majority of the criteria are “Go” and/or “Maybe,” then the final decision is likely to be “Go.” If there is more than one “No Go,” there will need to be a strong justification for proceeding to Stage B.

Stage B

Stage B involves five steps (6–10) to develop a promotion and marketing strategy for the SMEs selected to produce the chosen EFB. For help in addition to these steps, see [Generating Demand for Healthy Diets: A Guide to Social Marketing in Nutrition](#).

Step 6: Understand your customer. Develop an understanding of the potential customers for the enriched blended complementary foods. It is important to consider that there may be more than one customer and that the RFSA beneficiaries may not be the only or even primary customers. Having different customers can be a strength because it can provide stability and resilience by ensuring that the SME can maintain profitability and therefore continue to produce the EFB. A focus only on the RFSA's beneficiary may lead to a low demand, which could ultimately undermine the viability of the business. It is also important to differentiate between the customer who purchases the product and the beneficiary who uses or consumes the product, since they may not be the same.

Step 7: Understand your competition. Develop an understanding of other complementary foods available on the market and identify potential gaps in the market that these existing products are not serving. This could include products that directly target RFSA beneficiaries and those that target different customers.

Step 8: Test the new product. Test new products to fill market gaps identified in step 7. Testing involves selling the product among a small number of retailers for a month and monitoring revenue and customer profiles to determine if the *actual* customer is the same as the *intended* customer identified in step 6.

Step 9: Build a foundational marketing concept. Build your marketing strategy on a base of consistent foundational information. This includes the insight, benefit statement, reason to believe, and call to action. Work with internal creative staff or external stakeholders and behavior change experts to ensure a marketing campaign that is likely to be noticed, remembered, and processed.

Step 10: Choose a direction: branded or unbranded. Determine if your campaign needs a brand and begin implementing accordingly. While not every marketing campaign needs one, successful brands can build trust and loyalty in your product.

Three Lessons from Providing TA for a Market-Driven Approach

1) Madagascar RFSA IP

ADRA Madagascar's FIOVANA RFSA sought TA from USAID Advancing Nutrition to determine the feasibility, viability, sustainability of a market-driven approach to introduce local commercial fortified food products for children under two (CU2) and PLW, as a means of phasing out and replacing the distribution of Title II commodities to households in the Astimo-Atsinanana and Vatovavy-Fitovinany regions of Southeastern Madagascar. In Madagascar, Nutri'Zaza, a subsidiary of the French NGO GRET produces two commercial blends: Koba Aina, a complementary food blend for CU2, and Koba Hery,* a supplementary food for PLW. However, these products are sold in largely urban markets. The FIOVANA team selected these two nutrient-rich products, which seemed most appropriate for their specific population, and their nutrition-related activities, RFSA objectives, and project implementation pillars.

TA to FIOVANA consisted of two field assessments: one focused on product acceptability and stated willingness to pay; the other on product availability and market feasibility. Depending on the results of these assessments, FIOVANA and USAID Advancing Nutrition would decide if a planned activity to pilot a market-based approach should proceed or if other approaches should be considered.

Because of the high prevalence of malnutrition among the people served by FIOVANA and continued droughts and COVID-19-related hardships in the regions, there was a clear need for and benefit to nutritious complementary food products. While AWP assessments indicated that caregivers found Koba Aina and Koba Hery acceptable and would be willing to consume them if they were available and affordable, neither product was available in rural areas. The product availability and market feasibility assessment, in contrast, found that the sale and marketing of these products in rural areas was unlikely to be commercially viable. It is also important to note that no products similar to Koba Aina or Koba Hery (i.e., food products specifically developed for CU2 and PLW) were available on the local market.

FIOVANA planned to pilot a commercial market-based approach to give households the opportunity to purchase these two products, but the following challenges undermined the feasibility of such a pilot:

- Unavailability of products in rural areas made them unknown to intended consumers.
- Nutri'zaza did not prioritize product promotion or demand creation in rural areas. It would have required considerable effort and resources with relatively high opportunity cost given the limited and small consumer base for these products in the FIOVANA implementation area.
- Rural commercial distribution of these products was not a viable business opportunity for wholesalers or retailers, nor could it sustain market-based availability in the FIOVANA implementation area.

- While potential consumers looked favorably at these two products from a taste/acceptability perspective, actual AWP to pay for commercially available fortified food products needed more research.
- Various development partners continued distribution of free food rations (such as CSB+) that were similar to the assessed and proposed commercial products.

Based on the findings of these assessments, and considering that FIOVANA was at the mid-point of its project, USAID Advancing Nutrition recommended that the development of a market-based pilot as previously planned *not* be considered at the time. Instead, FIOVANA considered other local food-based approaches to improve the diets and nutrition outcomes for CU2 and PLW.

*Koba Aina is a fortified flour to supplement breast milk for children over 6 months. Koba Hery is an energy porridge fortified with minerals and vitamins, intended for adults over 18 years old (including PLW).

2) Zimbabwe RFSA IP

CARE Zimbabwe's Takunda RFSA aims to increase the reach of locally available and ready-to-cook enriched porridges for complementary feeding in southeastern Zimbabwe's Masvingo and Manicaland provinces. During the life of the project (October 2020–September 2025), Takunda intends to reach 61,400 PLW, mothers, and caregivers of CU2 with nutritious cereal-based blends, also known as enriched porridges. These enriched porridges were initially developed and produced under the USAID-funded Enhancing Nutrition, Stepping Up Resilience (ENSURE) Development Food Security Activity, which was implemented by World Vision across four districts and ended in May 2020. CARE Takunda seeks to build on ENSURE's efforts and requested TA from USAID Advancing Nutrition to determine: 1) the nutrient composition of selected enriched porridges; and 2) the commercial viability of these formulations for primary caregivers of children 6–23 months. USAID Advancing Nutrition was asked to apply a market-centered approach to identify and assess the entry points for commercial scaling up as well as business models to give local producer groups income-generating opportunities. These efforts will not only contribute to the project's objective of feeding CU2 with nutritious cereal blends, but should also provide Takunda with key components for developing its sustainability and exit strategy.

The Takunda team planned to assess the acceptability and affordability of five enriched porridges on palatability, texture, and color with intended consumers; determine the factors influencing availability and affordability of the raw materials needed to produce these blends; and engage a laboratory to conduct shelf-life assessments. To complement this work, USAID Advancing Nutrition supported Takunda by calculating the nutrient composition of five enriched porridges. Each blend included a combination of the following key ingredients: a cereal (maize, finger millet, or sorghum); at least two legumes (ground nuts and cowpeas); and pumpkin leaves. The Takunda team made a conscious decision to ensure that the blends would have a limited number of ingredients that would generally be available year-round in the local market. In addition, consumers favor groundnuts, pumpkin leaves, and sugar because they add flavor to a porridge blend and contribute to the nutrition value. As such, these three ingredients were included in all five blends in the same quantities. The assessment for the commercial production took these five blends as a basis for calculations considering the two porridge blend meals a day to meet the minimum recommended dietary needs for children 6–23 months.

Next we assessed the commercial viability of the five selected enriched porridges with two community-based cereal blend producer groups and their members, as well as potential cereal-blend producers and processors in Buhera and Chivi. This assessment focused on the capacity of the existing and potential producers and processors to safely produce, package, store, and market the selected blends, and was based on Section VII of the Public Health Art (Ch.15:17) in Zimbabwe. We found that the two community-based cereal-blend producer groups interviewed had storage facilities, as did some of the

millers, retailers, and wholesalers. However, the storage facilities were not ideal and would need improvements to ensure that products were stored in an environment that minimizes pest, disease, moisture levels, encroachment, spillage, and losses incurred as a result of poor storage, sanitary regimens, and practices. Up-to-date and appropriate packaging and labeling are inconsistently available and would require investments in materials that are branded and/or have ingredient and nutrition information. In addition, proper sealers are required to ensure packing is airtight and contamination risk avoided. While a number of urban entrepreneurs and millers have easy access to storage space, the rent and security costs would be considerably higher than rural production operations.

We also found that none of the business model operators interviewed kept financial or operational records, which indicates that business operation planning and costing is a weakness across the board. Operations that are not documented are rarely cost-efficient. The community-based producer groups did not have a marketing strategy or sales network, and only produced based on a demand and cash-transfer basis. Transforming their operations into a model that produces throughout the year would require financial and operational planning; equipment and storage upgrades to improve operational efficiencies; product safety and year-round productivity; as well as enhanced market linkages with distribution channel actors to expand their sales network. While the sole entrepreneurs and millers were not involved in the processing and packaging of the targeted enriched cereal blends, they were well-connected to a network of wholesalers and retailers for input supply and product distribution. In addition, they appeared more market savvy, given that their main occupation involved the production, sales, and marketing of goods, including milled grains, unlike the majority of the members of the two community-based producer groups. However, entrepreneurs and millers would require specific training in cereal-blend milling.

We found that in both districts, the top three viable business models were rural sole entrepreneurs, community-based producer groups, and rural millers. Key considerations for the Takunda team based on these assessments were the need to focus on:

- Improving the production of raw materials by promoting and improving farming practices to increase yields for there to be adequate quantities of raw materials to produce enriched porridge.
- Improving post-harvest storage-related activities and training, which should include basic storage practices and maintenance of existing structures.
- Adhering to government guidelines for safe food handling, storage, and processing.
- Improving the packaging practices and processing procedures of producers.
- Improving marketing, including the implementation of a social and behavior change strategy to influence potential consumers, parents, and caregivers and increase awareness of and demand for the enriched porridges.

Strengthening the skills and capabilities of local producers to develop and implement viable commercial business plans.

3) Niger RFSA IP

The Catholic Relief Service (CRS) Girma program is a RFSA in Niger that aims to strengthen food and nutrition security of extremely vulnerable households in Magaria and Dungass, two departments of the Zinder region. The Girma program started in October 2018 for an initial duration of five years (2018–2023) but has been extended to seven years. The extension design is directly linked to the Girma program’s sustainability strategy, which in turn is rooted in the selection of key intermediate outcomes to be sustained after the program’s end. One key intermediate outcome states, “Households increase access to safe and nutritious food according to their nutritional needs, especially through the

development of a sustainable local market for locally produced enriched flour blend(s) for children 6–23 months.” The EFB would be a new nutritious cereal-based blend meant to serve as a complementary food to improve children’s dietary intake. CRS requested TA from USAID Advancing Nutrition to review and assess the composition of an EFB and support the implementation of various assessments to understand factors relating to its acceptability, affordability, business viability, and marketability.

The Girma team identified and hired local food processing enterprise Sawki Agro to produce the EFB. Sawki Agro manufactures and markets a flour blend called Rawdha. For the nutrient composition analysis and costing of the new potential EFBs, the teams compared data against Rawdha. When possible, Sawki Agro was also directly engaged in the various steps of the TA process. The Girma program and USAID Advancing Nutrition teams used the following criteria to determine the most appropriate complementary EFB recipes:

- **Nutrition composition:** Macronutrients: carbohydrates, fat, protein, fiber, added sugars; micronutrients: vitamins, minerals (zinc, vitamin A, iron, folic acid).
- **Raw ingredients:** Availability, cost, seasonality (year-round availability), access, climate-resilience, and effect on soil health.
- **Acceptability:** Taste, preference, cultural, religious, and social context (status).
- **Gender considerations:** Time to produce/collect/prepare; roles of families (men, women, youth); consumption patterns.
- **Storage considerations:** Shelf life, packaging and storage options, and requirements.

USAID Advancing Nutrition supported the nutrient composition analysis, which Girma used to select its top two EFB formulations, taking into account the nutrition composition of specific ingredients and other selection criteria mentioned above. The top EFB would provide over 30 percent the daily values of the following nutrients for infants 6–12 months of age: protein, calcium, iron, magnesium, potassium, zinc, and folate.

The Girma team completed an AWP assessment and tested both EFB blends with participants. It found that participants appreciated both based on the four key acceptability criteria applied: taste, smell, color, and consistency, and would be willing to purchase them. This represented an important “Go” decision point. The blends were similar, and assessment participants had only a slight preference for the one that included peanuts, which add to the taste and smell. However, beyond acceptability, for final selection on the blend to produce, more specific costing considerations were needed to enable Sawki Agro to earn a healthy profit margin to remain sustainable and viable. The findings from the AWP assessment suggested that Girma and Sawki Agro should select the favored blend for registration, certification, and future production. The assessment findings also suggested that Sawki Agro consider producing the selected blend in different package sizes and apply a maximum price of 600 CFA per kilogram (e.g., 300 CFA per 500-gram package) to the consumer/buyer when reviewing different scenarios of the costed business model.

The review of different scenarios based on sales price and sales volumes, combined with findings from the AWP, showed that the production of the selected blend was a viable business opportunity that could become more profitable with an expanding consumer base. Girma program focus consumers, as well as those in other (peri-) urban centers, are an important marketing and promotion consideration for Sawki Agro as it develops its marketing strategy.

Following the results of these initial assessments, USAID Advancing Nutrition recommended that the Girma team and Sawki Agro develop a marketing and promotion strategy that focuses on consumers in different geographic locations (e.g., those within the Girma implementation area and beyond). In addition, USAID Advancing Nutrition recommended that the teams consider different package sizes

(single serving size and 500 gr packages) to expand their consumer base and increase sales volumes, while tapping into existing product distribution networks.



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