Volume II

Resources

Nutrition-sensitive value chains

A guide for project design

Isabel de la Peña, IFAD
James Garrett, Bioversity International

IFAD
Investing in rural people

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Contents

Acronyms

CFSVA	Comprehensive Food Security and Vulnerability Assessments
CIAT	International Center for Tropical Agriculture
CSI	Coping Strategies Index
DHS	Demographic and Health Survey
FAO	Food and Agriculture Organization of the United Nations
FBDG	food-based dietary guideline
FBFI	Food Basket Foundation International
FCA	Four-cell Analysis
FCS	Food Consumption Score
FGD	focus group discussion
FIES	Food Insecurity Experience Scale
GALS	Gender Action Learning System
HDDS	Household Dietary Diversity Score
HH	household
IFAD	International Fund for Agricultural Development
INFOODS	International Network of Food Data Systems
IYCF	infant and young child feeding
KAP	knowledge, attitudes and practices
KII	key informant interview
KIT	Koninklijk Instituut voor de Tropen (Royal Tropical Institute)
MAD	Minimum Acceptable Diet
MDD	Minimum Dietary Diversity
MDD-W	Minimum Dietary Diversity for Women
MIC	Multiple Indicator Cluster Survey
NHS	nutrition and health survey
NRM	natural resource management

NSVC	nutrition-sensitive value chain
RDA	recommended daily allowance
SECAP	Social, Environmental and Climate Assessment Procedures
SMART	Standardized Monitoring and Assessment of Relief Transitions
SNV	Netherlands Development Organisation
SUN	Scaling Up Nutrition
SWOT	strengths, weaknesses, opportunities and threats analysis
UNICEF	United Nations Children's Fund
VC	value chain
VCD	value chain development
WASH	water, sanitation and hygiene
WFP	World Food Programme
WHO	World Health Organization

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Introduction

In order to address the need for providing evidence- and field-based guidance for the design of nutrition-sensitive value chains (NSVCs), IFAD, with principal financing from the Government of Germany, undertook the project Support of Development of Nutrition-Sensitive Value Chains (NSVCs) in Middle-Income Countries.[1]

The resulting *Nutrition-sensitive value chains: A guide for project design* comprises two volumes produced as a package to be used in tandem. Volume I provides guidance for how to design an NSVC project. This Volume II, its companion, describes and presents samples of the practical resources needed at each step of the design process.

Volume I presents the approach developed for designing an NSVC project for smallholders – a process of four steps, each with related diagnostic studies needed to identify the appropriate activities and interventions to support NSVCs.

- Step 1: Nutrition situation analysis. Identify nutrition problems faced by the project's target population.
- Step 2: Commodity selection. Identify the commodities that can address the nutrition problem while also making business sense.
- Step 3: NSVC analysis. Undertake VC analyses of the selected commodities using a nutrition lens, in order to identify constraints in supply, demand and nutrition value.
- Step 4: Identification of intervention options. Identify the intervention options that respond to the nutrition problem and its context and that the NSVC project can invest in.

The diagnostic study associated with each of these four steps adds a level of information needed for designing an NSVC project. Although the preferred approach would be to carry out the steps sequentially, they can be conducted independently or adapted for specific situations, as there may be certain project situations where some steps will not be needed.

In addition to presenting detail on the specific features of the diagnostic studies associated with each of the four steps, Volume I also includes a Step 5: Putting the project together. This step, which is only covered in Volume I, describes how the information collected in each of the diagnostic studies fits into the overall design for an NSVC project.

Volume II provides tips and a collection of sample resources needed to conduct the diagnostic studies (Steps 1 to 4) described in Volume I. Specifically, Volume II provides sample terms of reference for each step, tables with a summary of research questions and data collection methods/tools, as well as specific tools and templates for data collection.

1. Volume I describes the approach and phases of the overall project, which included fieldwork in Indonesia in collaboration with SNV-Indonesia and the International Center for Tropical Agriculture (CIAT), and in Nigeria in collaboration with Food Basket Foundation International (FBFI) and the Royal Tropical Institute (KIT).

How to use Volume II of the NSVC guide for project design

It is essential to read Volume I in order to understand how best to use Volume II. Part I of Volume I explains the overall NSVC analytical framework, including a description of strategies and impact pathways for NSVC projects. Part II of Volume I provides detailed guidance for conducting the diagnostic studies associated with Steps 1 to 4, the rationale behind each of them and examples drawn from the field experience. Volume I also introduces Step 5: Putting the project together, which explains how the findings from each diagnostic study fit into the project design, and reflects on their implications for key elements of project design, such as: setting objectives, developing an intervention strategy, selecting the target group, developing implementation arrangements and project budget, and setting up a monitoring and evaluation system. The figure below presents an overview of the steps in NSVC project design, highlighting the key elements of each one.

Volume II is structured specifically to support the undertaking of diagnostic studies (Steps 1 to 4) described in Volume I, Part II. For each of the four steps, it provides: i) sample terms of reference for the diagnostic study for that particular step; ii) a summary table indicating the research questions, information needs, and a menu of potential sources of information and data collection methods to choose from (also found in Volume I); and iii) detailed guidance and examples of tools and templates.

i) **Terms of reference.** These define the overall objectives, key questions and scope of the assignment, suggested methods, expected duration and deliverables, and qualifications and expertise needed to conduct the study associated with that step. They can be adopted or adapted as needed to guide the organization selected to conduct the assignment, such as a consultancy firm, independent experts, a non-governmental organization (NGO) or a government department.

Overview of the nutrition-sensitive value chain project design process

	Diagnostics				
	STEP 1: Nutrition situation analysis	**STEP 2: Commodity selection**	**STEP 3: NSVC analysis**	**STEP 4: Intervention options**	**STEP 5: Putting the project together**
Key elements of each step	• Nutritional status • Causes of malnutrition • Diet characterization and identification of diet gaps	Selection criteria: • Nutrition-improvement potential • Market potential • Income-generation potential • Gender • Environment and climate	• VC mapping and characterization • Analysis of constraints and opportunities in: - Supply - Nutrition value - Demand	• Types of intervention • Cost-effectiveness • Target group • Tensions and trade-offs	Objective Intervention strategy Targeting strategy Implementation arrangements M&E Budget

ii) **Summary table of research questions, information needs and suggested data sources and data collection methods.** This table provides detailed research questions, specific information needs, and suggestions for where to find information using secondary data or how to obtain information using primary data collection methods. In terms of secondary data, the table notes the main sources (existing studies, surveys or databases) required to guide the desk review prior to the fieldwork. For primary data collection, the table lists the tools that can be used to collect data for each of the research questions, such as key informant interviews (KIIs), focus group discussions (FGDs) or seasonal food calendars. The list of tools should be considered a menu – from which to select the appropriate tools and templates pertinent to a specific context.

iii) **Detailed guidance on tools, methods and templates.** This section contains detailed information on proposed tools and methods indicated in the summary tables for each step, along with sample templates (for KIIs or FGDs, for example).

The tools, methods and templates proposed in this guide have been tested and validated through fieldwork in Nigeria and Indonesia. As described in Volume I (Operational considerations on conducting the diagnostic studies), the approach to select tools is both practical and design friendly, taking into consideration the time and resource limitations typical of project design. Aside from following the common principles of quality research (feasibility, reliability, validity, replicability), they are conceived as tools that allow for triangulation of findings and can trigger thought on the key elements that need to be covered in the design of an NSVC project.

Tips and recommendations for conducting the diagnostic studies (Steps 1 to 4)

1. **Devote enough time to the secondary data review**
   Resources available for project design are often scarce, which means extensive primary data collection may not be possible and a thorough secondary data review will be needed. The field experience in Nigeria and Indonesia showed that devoting enough time to the desk review is essential to inform and make the best use of the time in the field. The summary tables (Tables 1, 2 and 3) provide a discussion of each step and include potential references and sources that can guide the desk reviews. As the sources will vary from one country to the next, the literature review will need to be adapted to the specific literature, surveys and databases available in a given country. Primary data collection can then be used to contextualize, validate and triangulate the findings from the desk review.

2. **Be flexible in applying Steps 1 to 4**
   Although the steps are presented as sequential, they should be considered adaptable to the specific situation of a given project. In some cases, a specific step may not be needed at all, as when commodities have already been selected.[2] In other cases, some steps can be carried out simultaneously. For example, Steps 1 and 2 may be conducted jointly in cases where the desk review already highlights major dietary gaps, which would indicate the commodities with potential to address the nutrition problem and, thus, are good

2. See Volume I: Box 15 for tips on "What if the commodity is predefined or is not selected during the design phase?".

candidates for the commodity selection process. Steps 3 and 4 may also be conducted jointly, as the identification of intervention options heavily relies on the constraints and opportunities identified during Step 3: NSVC analysis. In the case of projects funded by multilateral development institutions, such as IFAD, Step 4: Identification of intervention options can be left to be conducted by the design mission itself.

3. **Manage data collection well and avoid duplication**
   Steps 1 to 4 are interconnected and should be considered holistically as part of an NSVC design process. Information collected in each step should be documented and managed well so it can inform the subsequent steps. For example, findings from the nutrition situation analysis (Step 1) can and should be applied when selecting the commodities (Step 2), when analyzing VC with a nutrition lens (Step 3) and when identifying intervention options (Step 4). The gender and environmental considerations used to select commodities (Step 2) can also provide relevant information for the NSVC analysis (Step 3) and for the identification of interventions (Step 4). Therefore, documenting the fieldwork, and organizing and sharing the data, are key, especially in cases where the different steps are carried out by different teams. It is also critical to avoid duplicating the collection of information and overburdening the communities where the fieldwork takes place.

4. **Select and adapt the tools for fieldwork**
   Enough time should be devoted to prepare for fieldwork, and to select and adapt tools for primary data collection. The selection of tools will largely depend on the results of the secondary data review, since the fieldwork will focus on filling the gaps from the desk review.

   From the tools included in the summary table of each step, select and adapt those that are pertinent and feasible given the context. The questions contained in the tools must be adapted to account for: i) the local context and knowledge, using terminology that will be understood by community members; ii) the locally available food groups and food products; iii) the locally appreciated or used commodities, recognizing that additional questions may sometimes be needed, as when analyzing non-timber forest products collected from the wild or when considering a fish VC; iv) the capacity of the informant, which calls for eliminating questions that may not be relevant or that the informant may not understand; and v) the information already available from previous steps. When possible, use examples to illustrate the questions in cases where there may be misunderstanding, or ask the respondents to provide examples.

5. **Carefully select sites for fieldwork**
   Site selection for fieldwork must be guided according to the purpose of the primary data collection in each step. In general, fieldwork is needed to contextualize and fill in information gaps that remain after doing the secondary data analysis. It is likely that primary data collection will need to be done to provide an indication of the main characteristics of the project area and of project beneficiaries, as well as the similarities and differences among the communities. These characteristics and conditions will then need to be taken into account in the identification and design of specific project interventions and the approach of the project as a whole.

The following are useful tips for addressing some of the typical challenges of site selection.

- Be cognizant of time and resources limitations when selecting sites for primary data collection, and prioritize sites that are representative of the project area or ensure the range of diversity is captured. Be clear of any remaining weaknesses in the totality of information collected, and devise ways to address the gaps.
- Include sites with different levels of malnutrition prevalence and different types of nutrition problems.
- Incorporate a diverse set of sites that cover the multiplicity of factors that may affect the household or community, such as access to key infrastructure (a main road or dam), differential market access, presence or absence of an international donor or NGO projects, presence of major government programmes, presence of minority population groups (religious, ethnic, migrant), distance to a border, coastal or inland settings, and variations in production systems or agroecological zones.
- Consider practical aspects, such as the site's remoteness, the security situation, and the availability of contact persons, such as staff from previous projects who can provide an introduction to the community.
- Build flexibility into the fieldwork schedule in order to allow last-minute changes and adaptation of the fieldwork plan during the time in the field.
- Consult with the country programme offices, project staff, government authorities (at different levels) or other well-informed individuals when selecting the sites for fieldwork. Having an in-country contact is essential – for identifying appropriate key informants, key firms to interview, or arranging logistics. In cases where the team is not familiar with the area, allow time at the beginning to meet in-country contacts and discuss the site selection for feedback and advice.

6. **Adequately prepare for collecting data in the field**

   The instructions and tips below apply to the different primary data collection tools included in the summary tables of Steps 1 to 4, such as KIIs, FGDs, institutional meetings or direct observation.

   - Ensure sufficient time for training and pre-testing of tools if needed.
   - Decide on the number of FGDs/KIIs. The number of FDGs and interviews will depend on the data gaps to fill from the desk review, the sites selected and the resources available.
   - Select adequate participants. The summary tables suggest potential participants for each tool. Work with project staff and/or community leaders beforehand to explain the purpose of the visit, and to have their help in getting the right people and the right numbers of people to the site. Carefully consider the composition of the group and whether a homogenous or heterogeneous group will provide the best answers. In many contexts, it may be worth conducting separate FGDs for men and women or dividing by other characteristics, such as production methods or crops.
   - Plan in advance what is needed for the specific tool: facilitator, note taker, translator, materials such as flipcharts, markers or Post-its, a recorder and refreshments.
   - Ensure that an appropriate space – such as a schoolroom or a community hall – is available for the required time.

- Study and revise the questions prior to conducting an interview/meeting/FGD, adding or deleting as appropriate for the specific interviewee/participants. Obtain appropriate ethical review and clearance for the study, such as informed consent from the participants. Explain the nature and purpose of the study at the start of the interview/meeting/FGD, indicate the voluntary nature of participation, note that the participants can end their participation at any time, and note the expected duration of the interview/meeting/FGD. Obtain the specific agreement of the participants. Depending on the nature of the data or the way it will be used, determine any additional precautions needed, and include them in the research protocol.
- For FGDs, consider starting with a brief introduction of each participant. Take note of the number of participants, their age, sex and any other relevant information.
- For KIIs, note respondent's position, number of years in position, and his/her age and gender.
- For direct observation, explain the method to the relevant stakeholder (community leader, market leader, lead farmer, etc.), obtain permission and ask for a guide to accompany you. Record observations and, if allowed, take pictures.
- At the end of each interview/meeting/FGD, thank the participants for their time, and ask if they have any questions.

Step 1:
Nutrition situation analysis

	Diagnostics			
	STEP 1: Nutrition situation analysis	**STEP 2: Commodity selection**	**STEP 3: NSVC analysis**	**STEP 4: Intervention options**
Key elements of each step	• Nutritional status • Causes of malnutrition • Diet characterization and identification of diet gaps	Selection criteria: • Nutrition-improvement potential • Market potential • Income-generation potential • Gender • Environment and climate	• VC mapping and characterization • Analysis of constraints and opportunities in: - Supply - Nutrition value - Demand	• Types of intervention • Cost-effectiveness • Target group • Tensions and trade-offs

Sample terms of reference – Step 1: Nutrition situation analysis

These terms of reference have been developed to be used for studies conducted as part of the design of a nutrition-sensitive value chain (NSVC) project. Prior to conducting the study, please refer to *Nutrition-sensitive value chains: A guide for project design – Volume I* for guidance on the NSVC framework and overall approach, and to *Nutrition-sensitive value chains: A guide for project design – Volume II: Resources*, which offers guidance on the tools and templates to employ during the fieldwork. The NSVC approach identifies four steps for project design: Step 1: Nutrition situation analysis; Step 2: Commodity selection; Step 3: Nutrition-sensitive value chain analysis; and Step 4: Identification of intervention options.

These terms of reference are for Step 1: Nutrition situation analysis.

Objectives of the assignment

The assignment entails conducting a nutrition situation analysis to inform the design of an NSVC project. The analysis will identify the nutrition problem in the target population, specifically in terms of dietary gaps, and identify foods that can address these gaps and, thus, contribute to improving nutrition.

The overall aim of this assignment is to provide information on the relative contribution of key foods to the overall diet, and highlight any specific nutrient or dietary gaps by comparing food consumption patterns with nutritional needs. It will estimate the existing diet gap (poorly consumed foods that affect diet quality) and provide a list of food groups and food items that have potential to address the dietary gap in the target population, in terms of both macronutrients and micronutrients.

The situation analysis will also provide information on the causes of malnutrition. An NSVC will contribute to improving nutrition primarily through improving dietary quality so the focus of this study should be on the food-related causes of malnutrition. However, the analysis should also review causes of malnutrition not related to diets. This gives an idea of the relative importance of the different categories of determinants and how they relate to one another, including if one poses a constraint to alleviating the other. Taking this more holistic view of the importance of improving nutrition, an NSVC project can then work to address these non-food-related determinants through complementary activities or through coordination with other organizations or sectors.

Specifically, the nutrition situation analysis should examine the following points.

1. *Characterize the nutritional status of the target population in project areas.* This would include a summary of the following nutritional status indicators, with particular attention to women and children under 5.
   - Prevalence of child malnutrition, including stunting, wasting, underweight and overweight.
   - Prevalence of malnutrition among women, including underweight and overweight.
   - Prevalence of micronutrient deficiencies among children and women, including iron, iodine, vitamin A and zinc.

2. *Analyze the causes of malnutrition*. The analysis will focus on the food-related causes of malnutrition, but will also provide a brief characterization of the status of basic, underlying and immediate causes.
   - Basic causes: i) policies and programmes related to food and nutrition security, ii) prevalence of poverty, and iii) status of women's empowerment and control over resources. It is suggested to limit the analysis of basic causes to those directly relevant to NSVCs.
   - Underlying causes: i) food security, ii) childcare and feeding practices, iii) environmental health (water and sanitation), and iv) access to health services.
   - Immediate causes: i) dietary intake, and ii) health status. Dietary intake is covered in the characterization of diets (explained in Point 3). Hence, only a brief indication of major health issues would be needed.

3. *Characterize diets in the population and factors influencing diets.* This would include an analysis of: i) food consumption patterns, ii) food availability and sources of food, including from markets, own production or social programmes, iii) food stability (ability to obtain food across seasons), iv) food affordability, v) food preferences, cultural norms and taboos, and vi) intra-household dynamics and decision-making power related to food allocation and consumption, especially of women and children, and to food production, sales and expenditures.

Scope and methodology of the study

The study will rely largely on secondary data, which include locally available information sources, databases and research studies, especially for the characterization of the nutritional status and causes of malnutrition (see Points 1 and 2 above). Primary data collection will focus on characterization of diets (see Point 3 above), as well as on the contextualization and gap-filling of the secondary data review.

With regard to primary data collection and analysis, the selection of communities and geographical areas should adequately reflect nutrition problems and factors influencing nutrition. The overall process should follow a participatory and consultative approach, actively engaging communities and relevant stakeholders in problem and solution identification, and ensuring that findings are locally validated and owned. All primary data collection should follow international guidelines for ethical conduct of research, including informed consent.

Deliverable

The findings of the study should be presented in a concisely written report, which should be informative as well as analytical. Findings should therefore include the following.

- *Explanation of identified nutrition problems.* From the analysis of the nutritional status and the causes of malnutrition, the report will determine the most significant nutrition problems in the target population.

- *Identification of major diet gaps.* The identified dietary gaps and problems will form the basis of the next step, Step 2: Commodity selection. The report must include a list of food groups and food items that hold potential for addressing the dietary gaps of the target population, indicating the specific macronutrients and micronutrients they contain (see Tool 1.7).
- *Identification of vulnerable groups.* The analysis will identify key nutritionally vulnerable population groups, such as migrants, ethnic groups or young women, in terms of age, gender and location.
- *Identification of non-dietary problems.* Although NSVCs will mainly contribute to improving diet quality, the analysis should also indicate any major problems in non-dietary causes of malnutrition, such as water, sanitation and hygiene (WASH), health or gender.
- *List of data sources and documentation.* The study will list the secondary data sources consulted, primary data collection methods used, and the communities and individual people or organizations interviewed, as they constitute key inputs for the remaining steps of the NSVC project design.

Qualifications and expertise

The assignment should be conducted by a team with relevant qualifications and expertise in nutrition, nutrition-sensitive agriculture, and analysis of food consumption and dietary patterns. Prior experience and knowledge of the country context and project area is strongly desirable.

Duration

The assignment should be completed in 6 to 9 weeks. With attention to the overall parameters of the assignment, the indicative timeline, set out below, may be adjusted as deemed necessary.

1. Desk review and preparation for fieldwork: 2 to 3 weeks
    - Work plan development and design of preliminary research questions
    - Secondary data review
    - Fieldwork preparation: site selection, fieldwork plan, and selection and adaptation of tools and methods for primary data collection

2. Fieldwork: 2 to 3 weeks
3. Data analysis and report writing: 2 to 3 weeks

TABLE 1: Summary of research questions, methods and tools – Step 1: Nutrition situation analysis

Section 1: Nutritional status indicators

Research question	Information needs	Data collection methods/tools		Tool
		Secondary data	Primary data	
What is the prevalence of malnutrition?	• Prevalence of child malnutrition: stunting, wasting, underweight, overweight and obesity • Prevalence of maternal malnutrition: underweight, overweight and obesity • Prevalence of micronutrient deficiencies among children and women: iron, iodine, vitamin A and zinc	• Demographic and Health Surveys (DHS), nutrition and health surveys (NHS), Standardized Monitoring and Assessment of Relief Transitions (SMART) surveys, Multiple Indicator Cluster (MIC) surveys, reports and data from ministries of health, UNICEF, WHO, Global Nutrition Report	• KIIs with: nutrition officials at province/local level, nutrition experts, Scaling Up Nutrition (SUN) focal points, development partners working on nutrition (WFP, UNICEF, FAO, NGOs, bilateral assistance organizations)	1.1

Section 2: Causes of malnutrition

Research question	Information needs	Data collection methods/tools		Tool
		Secondary data	Primary data	
What are the basic causes of malnutrition?	• Policies and programmes related to food and nutrition security • Prevalence of poverty and economic, social and political conditions • Status of women's empowerment, education and control over resources	• National nutrition strategies and programmes, relevant studies, socio-economic surveys and databases, Women's Empowerment in Agriculture Index (WEAI)	• KIIs with: government officials from ministries of health, agriculture, rural development and women's affairs, SUN focal points, development partners	1.1
What are the underlying causes of malnutrition?	FOOD SECURITY • Prevalence of food insecurity	• Food Consumption Score (FCS), Food Insecurity Experience Scale (FIES), Coping Strategies Index (CSI), Comprehensive Food Security and Vulnerability Assessments (CFSVA), other food security studies	• KIIs with: food and agriculture sector professionals, development partners, researchers, community leaders	1.1

Section 2: Causes of malnutrition

Research question	Information needs	Data collection methods/tools		Tool
		Secondary data	Primary data	
What are the underlying causes of malnutrition?	CARE AND FEEDING PRACTICES • Prevalence of poor child feeding and other care practices, specifically breastfeeding and complementary feeding practices • Women's time use, men's support role	• MIC surveys • Infant and young child feeding (IYCF) data and studies • Gender studies	• KIIs with: professionals from the health sector, gender experts, development partners, UNICEF, WHO, NGOs	1.1
	ENVIRONMENTAL HEALTH AND ACCESS TO HEALTH SERVICES • Access to safe drinking water • Access to improved sanitation facilities (or open defecation rates) • Access to or use of health services	• MIC surveys, DHS, NHS, health surveys, WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, Global Nutrition Report	• KIIs with: professionals from the health sector, development partners, WHO, NGOs	1.1
What are the immediate causes of malnutrition?	DIETARY INTAKE • Prevalence of inadequate food consumption	• See Section 3: "Diet characterization and identification of diet gaps"	• See Section 3: "Diet characterization and identification of diet gaps"	1.1
	HEALTH STATUS • Prevalence of illness, such as malaria, HIV/AIDS, diarrheal diseases	• Secondary data: DHS, NHS, MIC surveys, other health surveys and reports	• KIIs with: professionals from health sector	1.1

Section 3: Diet characterization and identification of diet gaps

Research question	Information needs	Data collection methods/tools		Tool
		Secondary data	Primary data	
What are the food consumption patterns and the main dietary problems or gaps?	FOOD CONSUMPTION • Food consumption patterns: commonly and poorly consumed food groups and food items • Food availability and sources of food: own-production, market, collected from the wild, social assistance programmes • Food stability: seasonal patterns affecting year-round availability • Food affordability: food expenditure and household purchasing power • Food preferences: norms and taboos, intra-household food distribution dynamics, especially food intake of children and women DIETARY PROBLEMS • Nutrient content of commonly/poorly consumed foods • Optimal dietary intake • Existing diet/nutrient gaps	• Food security data: household consumption and expenditure surveys, food price data, cost-of-diet studies • Household diets: food consumption surveys, Food Consumption Score (FCS), Household Dietary Diversity Score (HDDS), Fill the Nutrient Gap studies, other reports • Children's diets: DHS or MIC surveys, Minimum Dietary Diversity (MDD), Minimum Meal Frequency, Minimum Acceptable Diets (MAD) • Women's diets: Minimum Dietary Diversity for Women (MDD-W) • Food composition tables and databases (INFOODS) • Dietary recommendations: food-based dietary guidelines (FBDGs), recommended daily allowances (RDAs)	• Minimum Dietary Diversity for Women (MDD-W)	1.2
			• Four-cell Analysis (FCA)	1.3
			• Seasonal food calendar	1.4
			• Focus group discussions (FGDs) with: women, men (covering needs of all household members)	1.5
			• Observation: community transect walk, observation of meal preparation and hygiene	1.6
			• KIIs with: nutrition professionals, development partners	1.1

Note: The list of primary and secondary data collection methods and tools included in the table is not exhaustive, but contains the most typical data sources.

Tools and methods – Step 1: Nutrition situation analysis

Tool 1.1. Prevalence and causes of malnutrition

Purpose: This interview guide is used to validate, contextualize and triangulate findings from the secondary data review on prevalence and causes of malnutrition, with a special focus on analyzing the food-related factors affecting nutrition, and especially dietary quality. It will provide an overview of factors affecting nutrition, which will then be further explored and contextualized by additional tools (such as the MDD-W, FCA or seasonal food calendar).

Method: Key informant interview (KII)

Participants: Potential key informants, identified in Table 1, include nutrition officials and nutrition experts, as well as other food security and nutrition professionals working for the government (Ministries of Health, Agriculture, Rural Development, Women's Affairs, etc.), development partners (WFP, UNICEF, FAO, NGOs, bilateral assistance organizations, etc.), research centres and SUN focal points.

Additional resources: Useful publications that provide specific guidance on qualitative research, particularly interviews and focus groups, include: DiCicco-Bloom, B. and Crabtree, B. F. 2006. The qualitative research interview. *Medical Education* 40 (4): 314-321; Turner III, D. W. 2010. Qualitative Interview Design: A Practical Guide for Novice Investigators. *The Qualitative Report* 15(3): 754-760; Seidman, I. 2013. *Interviewing as Qualitative Research. Fourth edition*. Teachers College Press: New York; and Krueger, R. A. and Casey, M. A. 2014. *Focus groups: A practical guide for applied research*. Fifth edition. Thousand Oaks, CA: Sage Publications. IIED has an online archive of documents from its Participatory Learning and Action (PLA) series, covering four decades of learning and experience in qualitative methods.

Questions:

Prevalence of malnutrition

1. What is the prevalence of child malnutrition in *(location)*: stunting, wasting, underweight and overweight?
2. What is the prevalence of malnutrition among women: underweight, overweight?
3. What is the prevalence of micronutrient deficiencies among children and women: iron, iodine, vitamin A and zinc?
4. How does the local situation compare with the subnational/national situation?
5. Are any groups especially vulnerable: women, ethnic minorities, etc.?
6. Do community members consider malnutrition, and specifically poor quality diets, to be a problem?

Causes of malnutrition

7. What factors most affect nutritional status, particularly of women and children, in *(location)*?

   Ask about factors related to:
   - *Health services*
   - *Safe water and environmental sanitation*
   - *Childcare and feeding practices*

8. What are the main policies/programmes for food and nutrition security that are being implemented in *(location)*?

   Ask about the name, objectives, activities, organizations involved, duration, target groups, and the expected outcomes of these policies/programmes.

9. How active and effective are these programmes in the area of intervention? What factors make them effective, or not?
10. How do women's and men's status in society and in the household compare (regarding rights, access to political and economic resources, decision-making power, etc.)?
11. What are the general levels of education in the community for women and men?
12. In general, how are women and men involved in activities across the value chain or, more broadly, in agriculture and food systems, including selection of crops and inputs, production, processing, and marketing and sales (activities, decision-making, control of resources and income)?
13. In general, how are women and men involved in household activities related to food choices and preparation, and childcare and feeding (activities, decision-making, control of resources and income)?
14. What is the largest labour burden for women engaged in agriculture?
15. How do women get their knowledge about nutrition, including about maternal nutrition and childcare, care and feeding practices, water and sanitation, diets for the household and for each member, food preparation and storage, etc.?

Food-related factors affecting nutrition

16. *Food availability.* What foods *(crops, livestock, fish)* are commonly available in *(location)*? Which foods are produced in the area? Which are produced by smallholders? Are these foods also available in the market? What other foods are commonly available in the market *(including processed foods)*? Has there been any change in recent years?

    Note: Questions 17 through 23 may call for distinguishing by commodity.

17. *Food sources.* Where do households get their food: from own production, from markets, from kiosks or restaurants, from the wild, from food assistance programmes, from others (e.g. neighbors)? Has there been any change in recent years?
18. *Relationship between food production and consumption.* Are the foods produced by smallholders mostly consumed by the household or sold?

19. *Food affordability.* Are poor rural households able to purchase foods that they need to complement their own production? Are certain food groups or food items too expensive for poor rural households to purchase? How does this vary between seasons? Has there been any change in recent years?
20. *Food stability.* How does availability and consumption of foods vary across the year, by season? Is climate change affecting the year-round availability of food? In what way?
21. *Food preferences.* What key beliefs, socio-cultural norms or taboos affect food choices and diets, especially for pregnant and lactating women, and child feeding practices?
22. *Food distribution.* How is food distributed among household members, especially women, adolescents and children?
23. *Food preparation and storage.* Do households mostly prepare their food, or do they purchase it already prepared? How do households store their food? How hygienic are the conditions for food storage and preparation? Could any of the preparation methods used (over-boiling, use of citrus) affect nutrient retention or bio-availability?
24. *Current consumption patterns.* What are the most commonly consumed food groups and food items? What food groups and food items are consumed insufficiently? What key factors affect the consumption of these foods? What foods should the communities consume more of to improve their diets? Please explain why.
25. *Trends in consumption.* How has the situation in terms of consumption patterns/diets changed in the past five years? Why? How do you think the situation will change in the next five years? Why?

Tool 1.2. Minimum Dietary Diversity for Women

Purpose: Often secondary data do not provide specific enough information on consumption patterns in the project area. Minimum Dietary Diversity for Women (MDD-W) is a validated and fairly easy-to-use method that captures information on micronutrient adequacy and dietary patterns at the population level. Women have been chosen for this indicator since they are typically among the most vulnerable family members and can serve as "sentinels" of micronutrient adequacy among other household members.

Method: Minimum Dietary Diversity for Women (MDD-W) individual questionnaire

MDD-W is a food-group diversity indicator that reflects one key dimension of diet quality – micronutrient adequacy – among women 15 to 49 years of age. Groups of women that have consumed a higher proportion of foods from at least 5 of the 10 defined food groups in the previous 24 hours are likely to have a higher level of micronutrient adequacy than groups with lower proportions. The results can give some broad indication of dietary patterns for women.

The 10 defined food groups are:

1. Grains, white roots and tubers, plantains
2. Pulses (beans, peas and lentils)
3. Nuts, seeds
4. Dairy
5. Meat, poultry, fish
6. Eggs
7. Dark-green leafy vegetables
8. Other vitamin A-rich fruits, vegetables
9. Other vegetables
10. Other fruits

Participants: Women of reproductive age, 15 to 49 years old

Additional resources: For guidance on how to apply, analyse and interpret the MDD-W, see: FAO and FHI 360. 2016. *Minimum Dietary Diversity for Women: A Guide for Measurement.* Rome: FAO. The guide provides essential, additional details and instructions that complement the guidance provided here.

Questions:

Please describe everything that you ate or drank yesterday during the day or night, whether you ate it at home or anywhere else. Please include all foods and drinks, any snacks or small meals, as well as main meals.

1. Did you have anything to eat or drink yesterday morning when you woke up? If yes, what? Anything else?
2. Did you have anything to eat or drink later in the morning? If yes, what? Anything else?
3. Did you eat or drink anything at midday? If yes, what? Anything else?
4. Did you have anything to eat or drink during the afternoon? If yes, what? Anything else?
5. Did you have anything to eat or drink in the evening? If yes, what? Anything else?
6. Did you have anything else to eat or drink in the evening before going to bed or during the night? If yes, what? Anything else?

Table 1.2.1. Template to record information for MDD-W

Location:		Date:	
No.	**Food categories**	**Description/Example[3]**	**Yes=1 No=0**
REQUIRED			
Categories required for MDD-W calculations In calculations, A and B belong to Group 1; F, G and H belong to Group 5; K and L belong to Group 8			
A.	Cereals and foods made from cereal grains	Wheat, oats, maize, rice, sorghum, millet, couscous, spaghetti, macaroni, noodles, bread, porridge	
B.	White roots and tubers, and plantains	White yam, white potato, three-leaf yam, cocoyam, taro, cassava/manioc/yuca, plantain	
C.	Pulses (beans, peas and lentils)	Peas, brown cowpeas, white beans, chickpeas, soya beans, locust beans, African oil beans, lentils	
D.	Nuts and seeds	Sesame seeds, melon seeds, almonds, pumpkin seeds, sunflower seeds, walnuts, groundnuts, cashew nuts, bush mango seeds or nut/seed "butters"	
E.	Milk and milk products	Fresh milk, yogurt, curds, ice cream, cheese, sour milk, powdered milk, condensed milk, evaporated milk, goat milk	
F.	Organ meat	Liver, kidney, heart, lung, stomach, intestine, tongue, brain, spleen	
G.	Meat and poultry (flesh foods)	Beef, mutton, goat, rabbit, chicken, goose, turkey, quail, pork, lamb, grasscutter, antelope, bat, bush rat and other bush meat, horse, camel, duck, ox tail, cow leg	
H.	Fish and seafood	Fresh fish, frozen fish, canned fish, smoked fish, dried fish, crab, crayfish, shrimp or other seafood	
I.	Eggs	Quail eggs, chicken eggs, goose eggs, turkey eggs, duck eggs, guinea fowl eggs	
J.	Dark-green leafy vegetables (DGLV)	Moringa, sorrel, soko, sweet potato leaves, spinach, cassava leaves, broccoli, amaranth leaves, kale, chicory, rocket, baobab leaves	
K.	Vitamin A-rich vegetables, roots, and tubers	Squash, pumpkin, carrot, red sweet pepper, red chili pepper, orange flesh sweet potato (biofortified), yellow cassava (biofortified)	
L.	Vitamin A-rich fruits	Ripe papaya, ripe mango, apricot, passion fruit	
M.	Other vegetables	Water leaf, oha leaf, cabbage, cucumber, tomato, onion, green beans, green pepper, radish	
N.	Other fruits	Apple, banana, lemon, watermelon, tangerine, grapes, avocado, pear, orange, melon, strawberries, guava, pineapple, grapefruit, coconut	

3. The description/examples column should be adapted to each local context. Food categories and groups always remain the same, but local examples of specific foods can be provided for the category. This template, with its specific food examples, is based on the questionnaire developed for fieldwork in Nigeria. Please refer to the *Minimum Dietary Diversity for Women: A Guide for Measurement* (FAO and FHI 360, 2016) for generic examples as well as lists of specific foods that belong in each category.

No.	Food categories	Description/Example[3]	Yes=1 No=0
OPTIONAL			
Of possible interest, but not part of the MDD-W calculation. Inclusion to be determined during adaptation process			
O.	Insects and other small protein foods	Insects, insect larvae/grubs, insect eggs, land and sea snails	
P.	Red palm oil	Red palm oil	
Q.	Other oils and fats	Vegetable oil, animal fat, butter, margarine, mayonnaise, shea butter	
R.	Savory and fried snacks	Crisps and chips, fried dough, samosas, other fried snacks	
S.	Sweets	Sugar, honey, sweets, chocolate, cakes, biscuits, jam	
T.	Sugar-sweetened beverages	Sweetened fruit juices, juice drinks, soft drinks/fizzy drinks, chocolate drinks, malt drinks, yoghurt drinks	
REQUIRED			
But not part of the MDD-W calculation			
U.	Spices, condiments	Ingredients used in small quantities for flavour, such as salt, chicken/beef cubes for broth, black pepper, chilies, herbs, garlic, fish powder, tomato paste, nutmeg	
V.	Other beverages and foods (if not covered above)	Coffee, black tea, green tea, alcohol, pickles, olives	
	Remarks		

How to collect, record and interpret information

- Make a list of all the foods and beverages that the respondent mentions. Next, underline the corresponding foods in the model questionnaire. For any food group not mentioned, ask the respondent specifically if a food item from this group was consumed.
- If at least one food in this group has been underlined, write "1" in the column next to the food group.
- If a food mentioned by the respondent is not listed in any group, write it in the space for remarks.
- If the respondent mentions a mixed dish, such as a soup or stew, ask for all the ingredients in the mixed dish. For mixed dishes where it is possible to pick out ingredients or consume only broth, ask if she herself ate each ingredient or if she only had the broth. Continue to ask about ingredients until she says "nothing else."
- For the purposes of defining "large-enough" quantities to count, consider if the food is consumed in quantities ≥15 g (about 1 tablespoon). Foods consumed in trivial quantities often belong in the "condiments and seasonings" category, and do not count in the 10 food groups that comprise MDD-W. If the population being surveyed has difficulty with envisioning that amount, consult a local nutritionist for a way to translate that amount into an easy-to-understand portion size.
- The model questionnaire, which follows the *Minimum Dietary Diversity for Women: A Guide for Measurement*, subdivides some of the food groups and provides additional categories for ease of recording and presentation of broader food consumption patterns. For example, "meat, poultry and fish" is recorded on three rows (organ meat, meat and poultry, fish and seafood). Other categories are included to help avoid misclassifying items into the 10 MDD-W food groups – for example, "condiments and seasonings", which are consumed in quantities too small to count. Since the data gathered can also be used to give an indication of overall food consumption patterns, other categories are also of interest, such as "sugar-sweetened beverages", which are useful to identify in the context of the dietary transition. However, only the 10 defined food groups are used in calculating the indicator.

Tool 1.3. Four-cell Analysis (FCA)

Purpose: Information on whether a food was consumed can be gathered relatively easily. But knowing how often a food is consumed and how many people consume it is also valuable for getting a good picture of consumption. The same can be said for production or purchases. The FCA provides a systematic but simple way to get at this information. It provides qualitative information on the amount of different foods produced, distributed and consumed, plus the frequency of consumption. It also can be adapted, for example, to collect data on seasonal fluctuations or specific dietary problems.

Method: Focus group discussion (FGD) with implementation of the FCA

The FCA is a participatory tool initially developed to identify the extent and distribution of local agro-biodiversity. The approach, however, can also be used to collect information on an array of issues, such as foods produced, purchased, sold and consumed within the community. The FCA is usually used during a focus group discussion. It requires a facilitator and a note taker, as well as a flipchart and Post-its or notecards.

Participants: Potential participants, described in Table 1, include community members representing a mix of genders, age groups, well-being levels and locations of the project. In some contexts, men and women group discussions should be conducted separately.

Additional resources: Sthapi, B., Rana, R., Subedi, A., Bajracharya, J., Chaudhary, P., Joshi, B., Sthapit, S., Joshi, K. & Upadhaya, M. 2012. Participatory Four-cell Analysis (FCA) for Understanding Local Crop Diversity. In: Sthapit, B. Shrestha P. & Upadhyay, M., eds., *On-farm management of agricultural biodiversity in Nepal Good practices.* Nepal: NARC LI-BIRD/Bioversity International.

Questions:

Food availability – by source of food: local production, from the wild, purchased or other

1. Please tell me all the crop and animal products (livestock, fish, seafood, insects, etc.) available for food in your community, whether produced locally (grown or reared), collected from the wild, purchased or obtained from other sources (food assistance, gifts, etc.)?

   The note taker should write each food on an index card or Post-it note. These will be used throughout the exercise.

2. Now that we have a complete list, I will go through each food that is included. Please tell me where households acquire the particular food, indicating whether the food is acquired from their own local production, or collected from the wild, purchased or other.
   - *The note taker should note the category (source) for each food on the respective card or note.*
   - *A chart with a column for food names and sources (see Table 1.3.1) should be drawn on a flipchart.*
   - *The note taker can put the card in the appropriate column or otherwise record the information there as the discussion continues.*
   - *The note taker should prepare a register on a separate piece of paper or in a computer spreadsheet to summarize the results of this exercise. Table 1.3.1 shows the structure of this register.*

- *After each food has been classified, and participants have confirmed its accuracy, the note taker will transfer the results to the register, adding as many rows as needed to record the full list of foods.*
- *The facilitator should then take down the flipchart to prepare for the next set of questions. The food cards or notes will be used again for the next set of questions.*

3. I will now ask you some specific questions about each of these foods. As I read the foods to you, I would like you to give me information on the characteristics of the foods in each of these categories: foods produced locally, collected from the wild or purchased.

Foods produced by the household

A diagram, such as the one shown in Figure 1, should be drawn on the flipchart before beginning the questions.

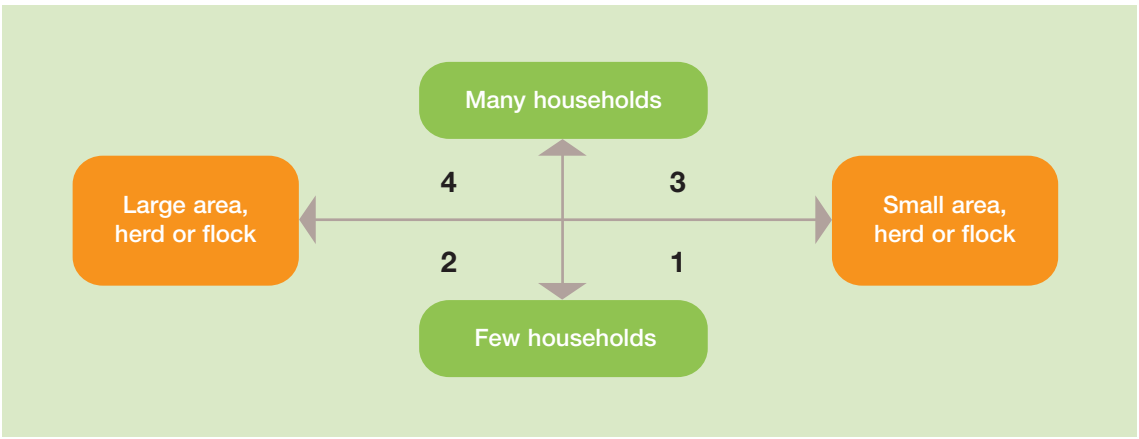
First, for foods produced by the household, I would like you to give me information on the number of households involved in production, the land area, the size of herds or flocks.

4. Is this food grown or reared by only a few households or by many households?
5. What is the average size of the area in which the crop is cultivated (large area or small area)? For animals, do people keep large herds/flocks or small herds/flocks?
6. What do you define as "few" and what do you define as "many" households? And what do you define as "large" area/herds or flocks and "small" area/herds or flocks?

This last question will be asked for the first few foods, to establish the range of sizes.
The note taker will place the cards or Post-it notes with the names of the foods (the cards used before) in the appropriate quadrant of the chart, depending on the answers received.
When completed and agreed to by participants, the note taker should transfer the results from the flipchart to the summary register of results.
If there are cards remaining – of foods that do not belong to this category because they are not produced by the household – their names should still be recorded in the register, using the "Code 0" column.

This process should be repeated for each set of foods: collected from the wild, purchased, sold, consumed.

FIGURE 1. Chart to record foods produced by the household



Foods collected from the wild

Now, for foods collected from the wild, I would like you to give me information on the number of households involved in collection and the food quantities.

7. Is this food collected from the wild by only a few households or by many households?
8. Do these households generally gather/capture large quantities, or small quantities, of this food?
9. What do you define as "few", and what do you define as "many" households? And what do you define as "small quantities" and "large quantities"?

The process followed in the previous section (for food produced locally) should be repeated.

Foods purchased

For foods purchased from the market, I would like you to give me information on the number of households that purchase each item, and the frequency of purchase.

10. Is this food purchased by many or only a few households?
11. Is it purchased frequently or not so frequently?
12. How do you define "few" and "many", and "frequently" and "not so frequently"?

The process followed in the previous sections should be repeated.

FIGURE 2. Chart to record foods collected from the wild

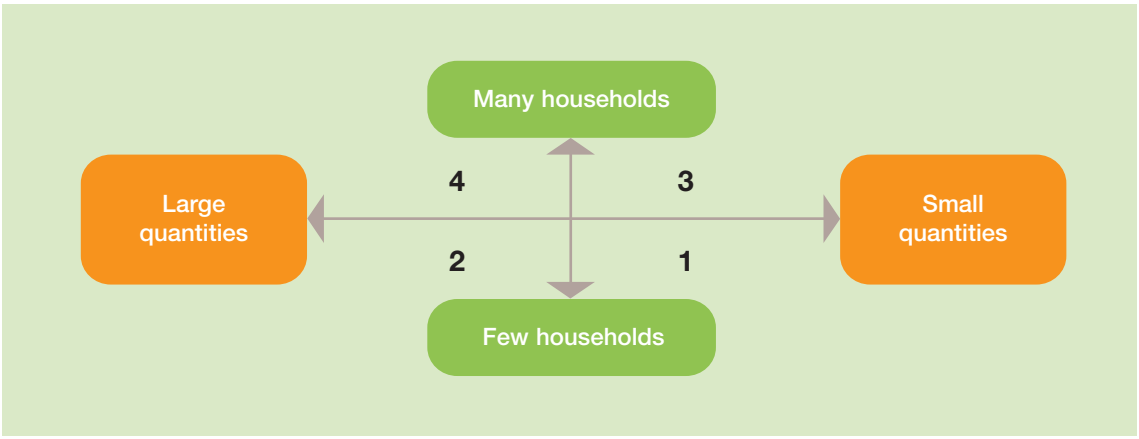
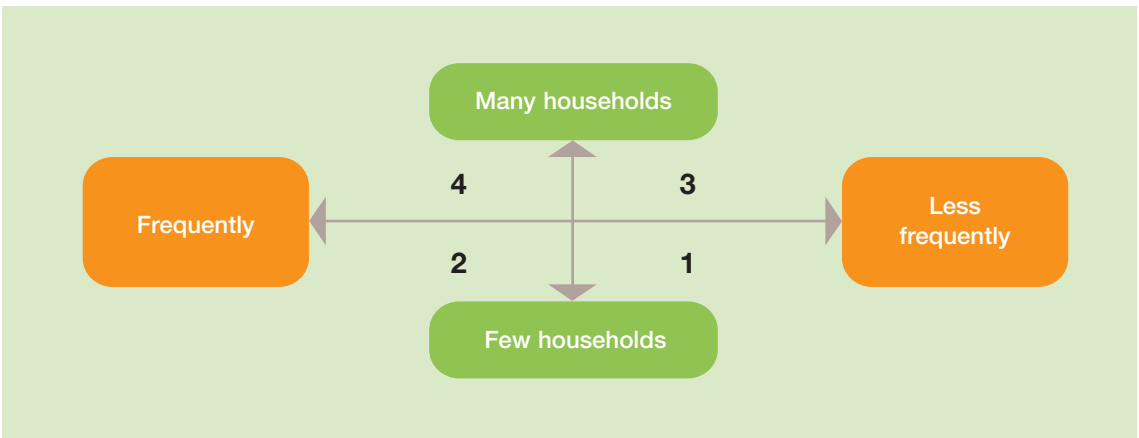


FIGURE 3. Chart to record foods purchased



Foods sold

Now, I would like you to tell me about the foods that households in the community sell to generate income. I will again read the foods to you one after the other, and as I do, I would like you to give me the following information about each food.

13. Is this food sold by "many" or "only a few" households?
14. Is a "large" or "small" quantity of this food sold?
15. What do you define as "few," "many", "large" and "small"?

The process followed in the previous sections should be repeated.

Foods consumed

Finally, I would like to ask you about the foods that households in the community consume.

16. Is the food consumed by "many" or "only a few" households?
17. Is this food consumed "frequently" or "not so frequently"?
18. What you define as "few", "many", "frequently" and "not so frequently"?

The process followed in the previous sections should be repeated.

FIGURE 4. Chart to record foods sold

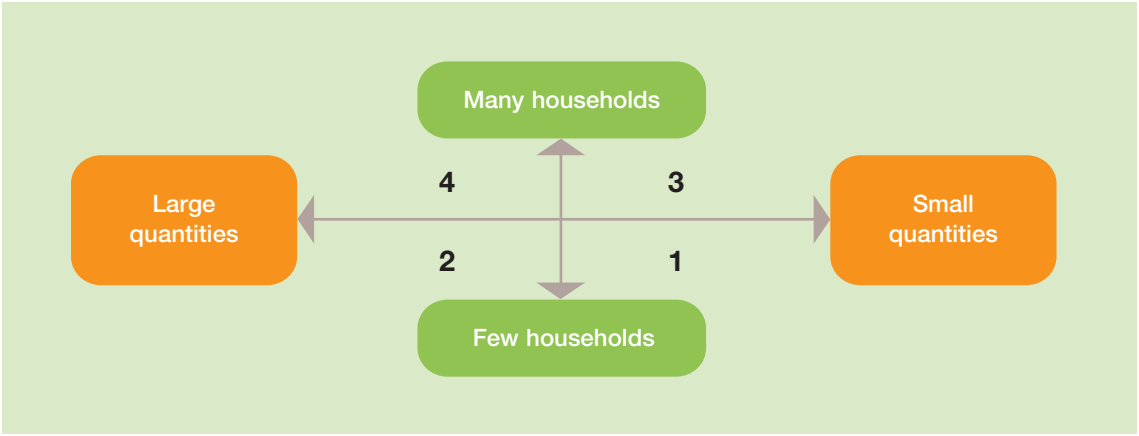


FIGURE 5. Chart to record foods consumed

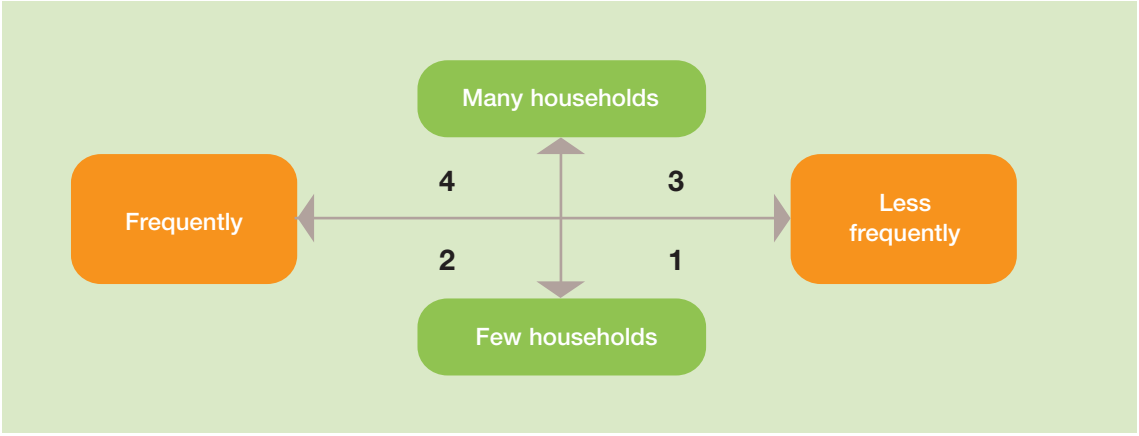


TABLE 1.3.1. Template: Summary register to record results from FCA discussions

Location: Date:

Number of participants: Gender of participants:

Record of foods available, classified by source					
Food name[4]	Produced by the household	Collected from the wild	Purchased	Other source	Remarks

Record of foods produced locally					
Food name	Code 4 Many HH/Large area, herd or flock	Code 3 Many HH/Small area, herd or flock	Code 2 Few HH/Large area, herd or flock	Code 1 Few HH/Small area, herd or flock	Code 0 Never produced

Record of foods collected from the wild					
Food name	Code 4 Many HH/ Large quantity	Code 3 Many HH/ Small quantity	Code 2 Few HH/ Large quantity	Code 1 Few HH/ Small quantity	Code 0 Never collected from wild

Record of foods purchased					
Food name	Code 4 Many HH/ Frequently	Code 3 Many HH/ Less frequently	Code 2 Few HH/ Frequently	Code 1 Few HH/ Less frequently	Code 0 Never purchased

Record of foods sold by households					
Food name	Code 4 Many HH/ Large quantity	Code 3 Many HH/ Small quantity	Code 2 Few HH/ Large quantity	Code 1 Few HH/ Small quantity	Code 0 Never sold

Record of foods consumed					
Food name	Code 4 Many HH/ Frequently	Code 3 Many HH/ Less frequently	Code 2 Few HH/ Frequently	Code 1 Few HH/ Less frequently	Code 0 Never consumed

4. For each category (foods produced, collected from the wild, purchased, sold by households, consumed), add as many rows as needed to record all foods.

Tool 1.4. Seasonal food calendar

Purpose: The seasonal food calendar is a participatory tool used to identify seasonal variations in food availability, affordability (prices), purchases and consumption. This information provides context to the data collected through other methods that primarily focus on current production and consumption. With a seasonal food calendar, data can be collected over a yearly cycle, providing insight into what challenges households may experience and where there may be gaps in availability as well as opportunities for smallholder production to fill those gaps. As with other methods, results should be triangulated as far as possible with KIIs or published data.

Method: Focus group discussion (FGD). Collection of data for a seasonal calendar requires a facilitator and a note taker, as well as a flipchart (or similar).

To help participants visualize discussion, first a calendar should be set out on a chart, with appropriate divisions of the "seasons" on the horizontal axis. Table 1.4.1 provides a template for the calendar, which can be discussed with participants. Table 1.4.2 provides a template that summarizes all the information from the discussion that can be used for later analysis.

There are various ways to undertake this exercise. In this example, questions are asked about food groups, with each food group having a row on the chart. Intensity of production or consumption is then indicated for each food group, with an indicator to show intensity (for instance, three lines for food groups that are easily available, two lines for sometimes available, one for rarely, and zero for not at all). The exercise can be carried out on a flipchart, a blackboard or a large piece of paper placed on the ground, and other markers, such as pebbles, can be used.

The "seasons" in the calendar should be adapted to the local context. Names of months may not be commonly used in the community, or there may be certain groupings of months that correspond to cultural or agricultural time periods. Consult with local experts to determine the correct terminology and adapt the questions, prior to the FGD. Further discuss and agree on the "seasons" with the participants before beginning.

If the FCA or similar tool has been used previously, a comprehensive list of foods may already be available, and would just need to be confirmed as being accurate and complete before proceeding to other questions. Categorize these foods into the food groups listed in the MDD-W methodology. If a comprehensive list of foods is not available, then ask participants to name individual foods for each group following the food groups listed in the MDD-W methodology.

Participants: Potential participants include community members who are well-informed about production and consumption and variations throughout the year. The group should represent the households that are the project's target, and contain a mix of genders, ages, well-being. The FGD may need to be carried out in various locations, and men's and women's group discussions can be conducted separately if needed.

Additional resources: Various guides on seasonal calendar methods exist. The Knowledge Sharing Toolkit, at kstoolkit.org, sponsored by various UN and other agencies, is one. Also, find information on the elements of the seasonal calendar tool, searching: Seasonal Calendar – World Bank Group.

Questions:

We have categorized the foods available in the community that come from production, from the wild or from markets into a number of groups.

With your assistance, we have drawn a chart of the seasons of the year. We will now ask a series of questions about these foods in terms of their availability, consumption, purchase and affordability throughout the year.

Food availability

Please indicate how available the foods from each of these food groups are in each (*month/season*) of the year.

- When the food is "adequately available", we will draw three lines on the chart.
- When it is "sometimes available", we will draw two lines.
- When it is "rarely available", we will draw one line.
- And when it is "not at all available", we will put a "0".

We will start with the first food group: Cereals and food made from cereal grains. Commonly consumed cereals are (*mention listed foods*).

1. What is the availability of foods in this group (cereals) in (*month/season*)?

   The questions should continue for each month/season in the calendar.
   Record the information on the chart. Table 1.4.1 provides a template.

2. Are there any foods in this group that do not follow this seasonal availability pattern?

   Write any such foods on a separate row on the chart – titled "Exceptions".

Please describe the (*months/seasons*) in which the availability of the foods just mentioned differs from the general availability of the foods in this group, and the reasons behind this variation.

Note differences and confirm the reasons behind the exceptions.
Repeat this process for all of the food groups listed.

Food consumption

Now we will do the same for food consumption. Please indicate the frequency of consumption of each of the food groups across the (*months/seasons*) of the year. For each (*month/season*), please indicate if:

- Food group is consumed 5 to 7 times a week – three lines
- Food group is consumed 3 to 4 times a week – two lines
- Food group is consumed 1 to 2 times a week – one line
- Food group is consumed less than once per week or not at all – place a zero

Again, we will start with the cereals group.

3. How frequently are cereals consumed in (*month/season*)?

   Record the information on the chart.

4. Are there any foods in this group that do not follow this seasonal consumption pattern?

   Write any such foods on a separate row – Exceptions – on the chart.

Please describe the (*months/seasons*) in which the consumption of the foods just mentioned differs from the general pattern of consumption of foods in this group, and the reasons behind this variation.

Note differences and confirm the reasons behind the exceptions.
Repeat this process for all of the food groups listed.

5. Please indicate which of the foods in this group are especially consumed and liked by women, and why. Please indicate which foods from this group are especially consumed and liked by children, and why.

   Repeat this process for all of the food groups listed.

Food purchase

6. Now we will discuss foods that are purchased. Please indicate the purchase of each of these food groups in each season of the year. For each season, please indicate how often foods from this group are purchased.
   - Often purchased – three lines
   - Sometimes purchased – two lines
   - Rarely purchased – one line
   - Not purchased at all – place a zero

7 Again, we start with the cereals group. How frequently are cereals purchased in (*month/season*)?

   Record the information on the chart.

8. Please indicate what foods in this cereal group do not follow this seasonal purchase pattern.

   Write any such foods on a separate row - Exceptions - on the chart.

9. Please describe the seasons in which purchase of the foods just mentioned differs from the general availability of the foods in this group, and the reasons behind the variation.

   Note differences and confirm the reasons behind the exceptions.
   Repeat this process for all of the food groups listed.

Food affordability

10. Finally, we will look at seasonal variation in food affordability. For each food group, please indicate how affordable the foods in that group are in each season of the year.
    - Very affordable – three lines
    - Somewhat affordable – two lines
    - Affordable with great difficulty – one line
    - Not affordable at all – place a zero

11. Again, we start with the cereals group. How affordable are cereals in (*month/season*)?

    Record the information on the chart.

12. Please indicate which foods in this cereal group do not follow this seasonal affordability pattern.

    Write any such food on a separate row - Exceptions - on the chart.

13. Please describe the seasons in which purchase of the foods just mentioned differs from the general availability of the foods in this group, and the reasons behind the variation.

    Note differences and confirm the reasons behind the exceptions.
    Repeat this process for all of the food groups listed.

TABLE 1.4.1. Template to record information collected from seasonal food calendars

Location: Date:

Number of participants: Gender of participants:

Seasonal Food Availability Calendar Template					
Food group[5]	**Month[6]/ Season**	**Month/ Season**	**Month/ Season**	**Month/ Season**	**Month/ Season**
Cereals and foods made from cereal grains					
Exceptions:					
White roots, tubers and plantains					
Exceptions:					
Pulses (beans, peas, lentils)					
Exceptions:					
Nuts, seeds					
Exceptions:					
Milk and milk products					
Exceptions:					
Organ meat					
Exceptions:					
Meat and poultry					
Exceptions:					
Fish and seafood					
Exceptions:					
Eggs					
Exceptions:					
Dark-green leafy vegetables					
Exceptions:					
Vitamin A-rich vegetables, roots and tubers					
Exceptions:					
Vitamin A-rich fruits					
Exceptions:					
Other vegetables					
Exceptions:					
Other fruits					
Exceptions:					

5. The list of food groups can be expanded to add others from the MDD-W model questionnaire if needed.
6. Add or reduce columns as needed.

How to collect, record and interpret information

- Place the seasonal food availability calendar (Table 1.4.1) on a flipchart or blackboard for the participants to see while the questions are being asked, and record their information.
- Copy or print the same table on the flipchart or blackboard to record information for the other seasonal calendars, making the following changes.
  - For the seasonal food consumption calendar template, add two columns to record foods consumed/liked by women and children.
  - For the seasonal food purchase calendar template, use the same template as for food availability.
  - For the seasonal food affordability calendar template, use the same template as for food availability.
- Note that comparing responses to the food purchased and food affordability questions provides relevant information for commodity selection. Frequent purchase of foods, even when they are not easily affordable, implies those foods have high importance in community diets and indicates opportunities for market growth.

TABLE 1.4.2. Template to summarize information on seasonal food availability, consumption, purchase and affordability

		Month/ Season	Month/ Season	Month/ Season	Month/ Season	Month/ Season	Consumed by Women	Consumed by Children
Cereals and foods made from cereal grains	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A
White roots, tubers and plantains	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A
Pulses (beans, peas, lentils)	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A
Nuts, seeds	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A
Milk and milk products	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A
Organ meat	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A

		Month/ Season	Month/ Season	Month/ Season	Month/ Season	Month/ Season	Consumed by Women	Children
Meat and poultry	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A
Fish and seafood	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A
Eggs	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A
Dark-green leafy vegetables	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A
Vitamin A-rich vegetables, roots and tubers	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A
Vitamin A-rich fruits	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A
Other vegetables	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A
Other fruits	Availability						N/A	N/A
	Consumption							
	Purchase						N/A	N/A
	Affordability						N/A	N/A

How to collect, record and interpret information

- Table 1.4.2 is a summary table that can be used to consolidate the information from the seasonal calendars on food availability, food consumption, food purchase and food affordability.
- The final two columns have been added to record foods consumed/liked by women and children. They are only relevant for the seasonal food consumption calendar.

Tool 1.5. Food consumption patterns

Purpose: Information on food consumption patterns may have already been collected through the secondary data review, KII, MDD-W, FCA or seasonal calendars. However, an additional FGD can be useful to triangulate and validate findings with community members and to collect additional qualitative information to characterize food consumption patterns.

Method: Focus group discussion (FGD)

Participants: Potential participants, described in Table 1, include women (mothers, caretakers, etc.), young women and men, who can identify the needs of all household members. Separate FGDs may bring male family members, teachers and community leaders into the consultation.

Additional resources: Additional resources on FGDs are listed under Tool 1.1.

Questions:

1. What are the typical meals taken each day? Are there other times when people usually take some food? What are the typical foods consumed at these times (likely to include breakfast, lunch, dinner, afternoon or evening breaks)?
2. What are the traditional foods?

   Ask about indigenous recipes, local varieties, etc.

3. Have consumption patterns changed in the past five years? How? Why? If not changed, why not?
4. Which foods are mainly consumed from own production?
5. Who makes decisions on what to produce?
6. Which foods are mainly bought from the market?
7. Who makes decisions on what to buy from the market?
8. What portion of the diet is made up of processed or readymade foods? Are readymade foods bought from the market?
9. Which foods come from other sources: family, gifts, food aid, government programmes?
10. Are there challenges in food availability that affect consumption patterns, such as foods that are not consumed because they are not available in local markets? What foods are mostly affected? How do these challenges vary throughout the year?
11. Are there challenges in food affordability that affect consumption patterns, such as foods that are too expensive for rural households? What foods are mostly affected? How do these challenges vary throughout the year?
12. What determines food choices: taste, price, colour, ease of preparation, availability, health, other?
13. How is food distributed in the household? Do women and men receive the same rations and at the same time? Children?
14. Who makes decisions on what is eaten and who eats what in the household?

Seek to get a full understanding of food allocation patterns: who eats more of what, how this is decided and discussed in the household, how this varies among households.

15. Are there any cultural practices or taboos that limit consumption of certain foods by a particular group?

    Ask specifically about pregnant and lactating women, and children.

16. Who is responsible for preparing food? Who decides which food is to be prepared? How often are meals prepared at home?
17. Who is responsible for feeding the children in the household? Who else is involved in taking care of the children?

Tool 1.6. Observation

Purpose: Observation and a walk through the community provide an opportunity to observe daily activities and build an informal rapport with residents. These activities can be useful for obtaining additional information on the landscape and land use, home or community gardens, infrastructure and services, water and sanitation conditions, etc. Interaction with residents provides an entry point to deepening or contextualizing other analyses.

Method: Observation and transect walk

This activity should be adapted to the specific kinds of information it will be most useful to gather. As the tool can only take into account what is observable, the results of this activity should be supported by other means, such as FGDs, KIIs or secondary data.

Observers should discuss with key informants from the area the route to take to see particular activities or people, and ask for a well-informed community member to accompany the walk and help with explanation. The observations from a transect walk depend very much on the path taken, so it should be chosen with care. It may be useful to stop at key points (for example, where neighborhoods transition or land use shifts) and discuss and record what has been observed in that zone. Conditions may also change quickly, so questions about trends or influential factors can be important parts of the discussion.

The template in Table 1.6.1 can be used to guide observations relevant for an NSVC project. It includes elements relevant for the nutrition situation analysis (Step 1), commodity selection (Step 2) and nutrition-sensitive value chain analysis (Step 3). Specific questions to be explored during the observation/walk would come from an analysis of what information is needed, and where community engagement and feedback would be particularly useful.

Additional resources: Various guides exist for how to conduct observations and transect walks, and those approaches can be adapted or adopted here. Also, find elements of the transect walk tool, searching: World Bank – transect walk.

TABLE 1.6.1. Template to record observations

Location: Date:

Domain	What to note	Observations
Family structure	*Types and prevalence of family structures:* nuclear or extended families, female-headed households, child-headed households	
Food production	*Farms:* average size, types of crops grown, land allocated to different crops, irrigation, agricultural machinery, marketing	
	Vegetable gardens: size, crops grown, people involved	
	Animal husbandry, including fish: numbers, types of animals, people involved, production system, marketing	
	Availability of fruit trees: estimated number of fruit trees seen, types of fruit, production system, marketing	
	Production technologies: machinery, equipment, irrigation, chemicals	

Domain	What to note	Observations
Food production	*Inputs:* access to inputs, such as seeds, finance, extension	
Food preparation	*Food storage:* for the household, methods	
	Meal preparation: hygiene, cooking methods, availability of electricity, type of fuel used	
Housing	*Housing:* roofs, construction materials, hygiene	
Water	*Water sources and quality:* source of water for drinking, bathing, cooking, type of activity at rivers or other water bodies, evidence of contamination	
Health	*Health facilities:* type of facilities available, distance, cost, services offered (especially concerning nutrition, and maternal or childcare)	
Sanitation	*Sanitation:* presence of latrines or toilet facilities, evidence of open air defecation, animal droppings, disposal of refuse, general cleanliness	
Education/ Training	*Schools:* type of schools, distance to schools, attendance by age, by gender	
	Nutrition: nutrition education, behavior change communications, cooking classes	
Energy and communications infrastructure	*Energy and communications infrastructure:* energy supply infrastructure (sources and reliability, including electricity, gas, solar); phone or Internet network and service	
Transportation infrastructure	*Transport:* road conditions, road network, all-year access, common modes of transportation	
Food markets	*Market infrastructure:* distance to market for purchase, for sales, type of road linking farmers to market, numbers and types (stalls, open air, wet market, kiosk, supermarket, etc.), water use and hygiene, storage and safety practices	
	Types of food being sold	
	Prices of key food items	
	Volume of food being sold: use of scales, bags	
	Buyers: number and gender of traders, buyers	
	Grades of the commodity: quality, use of tools to test quality, type, color, local versus imported	
Food storage and processing	*Storage infrastructure or equipment:* warehouse, cold chain, ice, type of bags (food safe or not)	
	Processing infrastructure or equipment: technology, machinery, electricity	
	Safety and hygiene: safe water, use of chemicals, hygiene in facilities, other aspects of food safety (testing, storage, etc.)	
	Processors: number and gender of processors	

Tool 1.7. Compilation of foods that can address the nutrition problem

Purpose: The nutrition situation analysis (Step 1) will provide a final list of food groups that are deficient in the diet, and the specific food items or commodities that should be considered for the commodity selection exercise (Step 2). A summary of the information collected on different food groups or food items lacking in the diets, as well as any other relevant remarks, can be recorded in Table 1.7.1. This long list of foods will be the basis for Step 2: Commodity selection.

Method: Identification of foods deficient in the diets

Findings from the secondary and primary data collection, carried out under Step 1: Nutrition situation analysis, will have identified: i) macronutrient and micronutrient gaps in the diets, such as insufficient energy or protein intake, or micronutrient deficiencies, and ii) vulnerable groups, such as adolescent girls, children under 2 years of age, or pregnant and lactating women.

A comparison between the dietary requirements of different population groups (based on recommended daily allowances or food-based dietary guidelines) and the consumption levels collected through primary and secondary data collection will allow for identifying key foods that are deficient in the diets.

Table 1.7.1 should be compiled by a nutrition expert, in collaboration with a production specialist (who can help to identify the range of commodities for the region). It can be used to record the long list of foods that hold potential to address the nutrition problem. It will also record their composition, through using food composition tables and databases, such as the INFOODS database.[7] Rather than recording the actual macronutrient and micronutrient content, the table can record whether the content is considered high, medium or low (as explained in the note after Table 1.7.1).

TABLE 1.7.1. List of foods that can address the nutrition problem

No.[8]	Lacking food group	Food items/ commodities to address diet gaps	Food composition			Comments
			Energy	Protein	Micronutrients	
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

7. When updated national food composition tables are not available, search for food composition tables of neighbouring countries with similar agroecological conditions and similar commodities.
8. Add one row per item and as many rows as needed.

How to collect, record and interpret information

- Lacking food group: insert the food group that is lacking in the diet, preferably using the food categories of the MDD-W model questionnaire (e.g. cereals, vitamin A-rich fruits)
- Food items or commodities to address diet gaps: list the individual foods that can address the identified gap. Add one row per food item.
- Food composition:
    - Energy: record content as high, medium or low.
    - Protein: record content as high, medium or low.
    - Micronutrient: list the food's vitamin and mineral content, and record whether the content is high, medium or low.

      Note: RDAs vary by gender and age, so the analysis should be tailored to the specific target beneficiaries (women, adolescent girls, etc.). High/medium/low classification can be determined with guidance of a nutrition expert. For example, it can be based on the contribution of consumption of 100 g of the food to the RDA (e.g. high if consumption fulfills at least 20 percent of RDA, medium if it fulfills 5 to 19 percent of RDA, or low if it fulfills less than 5 percent of RDA).
- Comments: record additional remarks, such as key vulnerable groups for this food group or food item.

Step 2:
Commodity selection

	Diagnostics			
	STEP 1: Nutrition situation analysis	**STEP 2: Commodity selection**	**STEP 3: NSVC analysis**	**STEP 4: Intervention options**
Key elements of each step	• Nutritional status • Causes of malnutrition • Diet characterization and identification of diet gaps	Selection criteria: • Nutrition-improvement potential • Market potential • Income-generation potential • Gender • Environment and climate	• VC mapping and characterization • Analysis of constraints and opportunities in: - Supply - Nutrition value - Demand	• Types of intervention • Cost-effectiveness • Target group • Tensions and trade-offs

Sample terms of reference – Step 2: Commodity selection

These terms of reference have been developed to be used for studies conducted as part of the design of a nutrition-sensitive value chain (NSVC) project. Prior to conducting the study, please refer to *Nutrition-sensitive value chains: A guide for project design – Volume I* for guidance on the NSVC framework and overall approach, and to *Nutrition-sensitive value chains: A guide for project design – Volume II: Resources*, which offers guidance on the tools and templates to employ during the fieldwork. The NSVC approach identifies four steps for project design: Step 1: Nutrition situation analysis; Step 2: Commodity selection; Step 3: Nutrition-sensitive value chain analysis; and Step 4: Identification of intervention options.

These terms of reference are for Step 2: Commodity selection.

Objectives of the assignment

The primary objective of this assignment is to select potential commodities to include in an NSVC project. Overall, the study aims to select commodities that can address the nutrition problem in the target population, while also making business sense for VC development. The study conducted for Step 1: Nutrition situation analysis will have been undertaken previously and its findings – which characterize the nutrition problem and provide a list of food groups and food items with potential to address the dietary gaps of the target population – should be made available prior to the start of this assignment.

The work to identify potential commodities for VC development will apply a "nutrition lens" to commodity selection. From the consumer side, commodities in an NSVC must respond to the nutrition needs of the target population, through making the foods that improve diets more available and affordable, either from the market or, if the consumer is also a producer, from own production. From the producer side, these commodities must also make sense from a business perspective and increase producer incomes in order to ensure the sustainability of the producers' investment.

With this in mind, the selection of commodities will be done on the basis of multiple criteria.

- *Nutrition-improvement potential* considers the potential of the commodity to address the nutrient and dietary gaps identified in the target population.
- *Market potential* considers existing and potential market demand, as well as upgrading opportunities.
- *Income-generation and poverty-reduction potential* considers the level of production that could be achieved by smallholder farmers, and the potential to generate income for them and rural populations.
- *Gender* considers the potential contribution to women's empowerment.
- *Environmental sustainability and climate resilience* considers the potential environmental impacts and the contribution to drivers of climate change, as well as the impacts of climate change on the commodity.
- *Government policy* considers that commodity selection must take into account the government's interests and priorities, in terms of programmes or policies already in place.

There are multiple ways in which these criteria can be applied for the selection of commodities. The approach included in *Nutrition-sensitive value chains: A guide for project design - Volume I* proposes a combination of quantitative scoring and qualitative information, emphasizing the selection of commodities based on their nutrition improvement potential. See Figure 7a in Volume I for further details on the scoring process.

Scope and methodology of the study

The study will rely largely on secondary data, including locally available information sources, databases and research studies. Primary data collection will focus on obtaining information to assess: i) market potential, ii) income-generating potential, iii) government interest and priorities, iv) environmental sustainability, and v) gender. Information to assess the nutrition improvement potential will largely be based on Step 1's Nutrition situation analysis, which will have been completed and made available prior to the start of this assignment. Although minor additional data collection may be needed to assess the nutrition improvement potential, the core information should have already been collected and thus need not be repeated.

With regard to primary data collection and analysis, the selection of communities and geographical areas should relate to those included in the nutrition situation analysis, but can also incorporate any additional sites that may be relevant from a market perspective. The overall process should follow a participatory and consultative approach, actively engaging communities and relevant stakeholders in the selection process, and ensuring that findings are locally validated and owned. All primary data collection should follow international guidelines for ethical conduct of research, including informed consent.

Deliverable

The findings of the study should be presented in a concisely written report, which should be informative as well as analytical, and draw relevant conclusions that can inform future NSVC project design. Findings should therefore include the following.

- *List of commodities selected.* The report will present the results of the scoring process for each commodity, plus a narrative justification of the challenges and opportunities of each commodity. From this analysis, a reduced list – of commodities that score highest – will then be suggested for Step 3: Nutrition-sensitive value chain analysis of selected commodities. Step 3 activities will explore the challenges and opportunities of developing an NSVC for these commodities in depth.
- *Food system analysis.* Information collected to score the commodities in this step provides essential data to characterize the food system. Understanding the roles of the different foods in the system should also inform the commodity selection, by determining, for example, the relative importance of a specific commodity for household consumption or for income generation.
- *List of data sources and documentation.* The study should include a list of the secondary data sources consulted and the primary data collection methods used, such as questionnaires, interview guides, or people and organizations interviewed, all of which are key for the next steps in the design process and for the NSVC project itself.

Qualifications and expertise

The assignment should be conducted by a team with relevant qualifications and expertise in: i) nutrition, ii) agricultural economics (production, marketing, etc.), iii) gender, and iv) environment. Prior experience and knowledge of the country context and project area are strongly desirable.

Duration

The assignment should be completed in 4 to 6 weeks. With attention to the overall parameters of the consultancy, the indicative timeline, set out below, may be adjusted as necessary.

1. Desk review: 1 to 2 weeks
    - Work plan development and adaptation of the selection process (criteria, sub-criteria, scoring methodology, etc.).
    - Secondary data review
    - Fieldwork preparation: site selection, fieldwork plan, selection and adaptation of tools and methods for primary data collection

2. Fieldwork: 1 to 2 weeks
3. Data analysis and report writing: 1 to 2 weeks

TABLE 2. Summary of research questions, methods and tools – Step 2: Commodity selection

Nutrition-improvement potential[9]				
Sub-criteria	Description and scoring guidance (low to high)	Data collection methods/tools		Tool
		Secondary data	Primary data	
Food consumption	Commodities that can address the diet gap with increased consumption • High (3) if inadequately consumed • Medium (2) if inadequately consumed during certain seasons or periods of the year • Low (1) if adequately consumed	• Food consumption surveys, Food Consumption Score (FCS), Household Dietary Diversity Score (HDDS), food-based dietary guidelines (FBDGs)	• Minimum Dietary Diversity for Women (MDD-W)	1.2
			• Seasonal food calendars	1.4
			• FCA	1.3
			• FGDs	1.5
Food preferences	Commodities familiar and acceptable to the target population • High (3) if a large number of households report consuming or purchasing it, either frequently or infrequently • Medium (2) if few households consume it frequently • Low (1) if few households use it infrequently or it has serious acceptability issues	• Food consumption surveys, FCS, HDDS, FBDGs	• FCA	1.3
			• FGDs	1.5
Food composition	Commodities rich in macronutrients or micronutrients,[10] including biofortified commodities, that can fill the identified gaps in the diets of the target population • High (3) if the commodity contains relatively high amounts of several nutrients lacking in the diets • Medium (2) if the commodity contains relatively high amounts of at least one nutrient lacking in the diets • Low (1) if the commodity contains relatively low amounts of nutrients lacking in the diets	• Food composition tables and databases (INFOODS), nutrient density scores, studies of biofortification potential	• KIIs with: nutrition experts	2.1 1.7

9. Note: Information to assess nutrition improvement potential of commodities may already be available from Step 1: Nutrition situation analysis, in which case it should not be collected again.
10. Include commodities or varieties that are naturally rich, as well as those that are biofortified.

Market potential				
Sub-criteria	**Description and scoring guidance (low to high)**	**Data collection methods/tools**		**Tool**
		Secondary data	**Primary data**	
Market demand	Commodities with high existing or potential market demand • High (3) if there is high local demand plus demand from provincial, national or international markets • Medium (2) if there is local demand, but little demand from provincial, national or international markets • Low (1) if local and other demand is low	• Market studies, demand trends, price fluctuations	• FCA • KIIs with: traders, lead buyers, institutional buyers • Market and price observations	1.3 2.3 1.6
Private-sector interest and upgrading potential	Commodities with strong potential for VC upgrading • High (3) if there is strong private-sector interest and sufficient services, knowledge, infrastructure or technology to upgrade production and meet market demand, or if these aspects could be easily developed by a project • Medium (2) if there is private-sector interest or sufficient services, knowledge, infrastructure and technology to upgrade production and meet market demand, or if these aspects could be easily developed by a project • Low (1) if there is no private-sector interest and if services, knowledge, infrastructure or technologies to upgrade production and meet market demand are severely limited or cannot be easily developed	• Existing VC studies, market studies	• KIIs with: lead firms, traders, service providers, lead farmers • Market and farm observations	2.3 1.6
Agroecological conditions	Commodities where agroecological conditions and climate projections allow for significant growth • High (3) if agroecological zones, agronomic conditions or climate projections favor an increase in production or productivity • Medium (2) if agroecological zones, agronomic conditions or climate projections allow for maintaining production or productivity • Low (1) if agroecological zones, agronomic conditions or climate projections do not allow for maintaining production or productivity	• Agronomic studies, volumes of production, weather and climate projections and models, Social, Environmental and Climate Assessment Procedures (SECAP notes)	• KIIs with: producers, depts. of agriculture, meteorology or environment, agronomists, environmental and climate specialists • Farm observations	2.6 1.6

Income-generation potential				
Sub-criteria	Description and scoring guidance (low to high)	Data collection methods/tools		Tool
		Secondary data	Primary data	
Level of engagement of smallholder producers	Commodities widely produced by smallholders • High (3) if many households produce the commodity or there are low barriers to entry • Medium (2) if few households produce the commodity but barriers to entry are low • Low (1) if few households produce the commodity and there are significant barriers to entry	• Production data from agriculture departments, extension agents	• FCA • KIIs with: producers, depts. of agriculture, extension officers	1.3 2.3
Margins	Commodities that consistently provide high margins to smallholders • High (3) if commodity provides high margins regardless of the season and size of the demand • Medium (2) if commodity provides moderate margins or the margins vary significantly per season or size of demand • Low (1) if commodity consistently provides low margins	• Generic commodity production models	• FCA • KIIs with: producers, dept. of agriculture, traders, extension officers	1.3 2.3
Employment generation	Commodities that provide opportunities for income generation through employment • High (3) if commodity provides opportunities for income generation through on- or off-farm employment, especially for women and youth • Medium (2) if commodity provides limited opportunities for income generation through employment on or off farm • Low (1) if commodity does not provide opportunities for income generation through employment	• Employment statistics and studies, existing VC analysis	• KIIs with: youth, farmers, processors, dept. of agriculture	2.3

Gender

Sub-criteria	Description and scoring guidance (low to high)	Data collection methods/tools		Tool
		Secondary data	Primary data	
Women's empowerment	Commodities that have the potential to improve nutrition through women's empowerment (women's time, control over income, own health) • High (3) if women significantly control certain function(s) of the VC – production, processing, sales – and benefit from their participating without negative consequences for their own health and nutrition or for that of the household • Medium (2) if women's involvement and benefit from VC activities – production, processing, sales – is limited • Low (1) if women are not involved in the VC – production, processing, sales – or there are significant negative consequences for their own health and nutrition or for that of the household	• Gender-sensitive VC analysis, gender studies	• KIIs with: gender experts • FGDs with: community members (separate men and women)	2.7

Environment and climate

Sub-criteria	Description and scoring guidance (low to high)	Data collection methods/tools		Tool
		Secondary data	Primary data	
Natural resource management and climate-smart agriculture	Production and value chain development (VCD) associated with the commodities encourage appropriate sustainable natural resource management (NRM) and climate-smart agriculture • High (3) if production and VCD of the commodity are positively associated with sustainable NRM and climate-smart agriculture • Medium (2) if production and VCD of the commodity have neutral impacts in terms of sustainable NRM and climate-smart agriculture • Low (1) if production and VCD of the commodity are associated with negative impacts in terms of sustainable NRM and climate-smart agriculture	• Reports on biodiversity, pesticide use, water use, soil erosion • Climate change risk assessments • SECAP notes	• KIIs with: environmental and climate experts, agronomists, extension agents	2.6

Note 1: The list of primary and secondary data collection methods and tools included in the table is not exhaustive, but contains the most typical data sources.

Note 2: Templates to score the commodities on each of the selection criteria are provided in Tools 2.2 – Nutrition improvement potential; 2.4 – Market potential: 2.5 – Income-generation potential; and 2.8 – Gender and environment.

Tools and methods – Step 2: Commodity selection

Tool 2.1. Nutrition-improvement potential – Review of commodity list

Purpose: Assessing the nutrition improvement potential of selected commodities will mostly rely on data collected through Step 1: Nutrition situation analysis. This tool can be used to confirm the initial list of food commodities to address diet gaps (see summarized list in Tool 1.7) and fill any gaps that may remain from Step 1 before proceeding to scoring the nutrition-improvement potential (see Tool 2.2).

As a final check, the list of food commodities that can address the nutrition problem – Tool 1.7 – should be reviewed further with key informants who have expertise in nutrition as well as agricultural production and processing. Special attention should be paid to the foods' composition (macronutrients and micronutrients) to ensure that they are likely to respond to the nutrition problem.

Method: Key informant interview (KII)

Participants: Potential key informants, as indicated in Table 2, can include local nutrition experts, food technologists and food security experts.

Questions:

The list of foods, developed at the end of Step 1 (see Tool 1.7), identifies foods lacking in the local diets and food commodities that have the potential to address diet gaps. The nutrient values of the foods have been recorded based on food composition tables. Please review the list and answer the following questions.

1. Are there any local varieties not included in the list that are high in the macronutrients or micronutrients lacking in the diet?
2. Which foods included in the list have potential for biofortification (natural breeding to increase the nutritional value of a crop)?

   Ask for reasons, experiences and key target groups.

3. Which foods included in the list have potential for fortification?

   Ask for reasons, availability, experiences and key target groups.

4. Which foods included in the list have by-products that can address other nutrient gaps (e.g. cassava, cassava leaves and cassava flour)?
5. Are there any relevant government policies/programmes or other ongoing projects promoting consumption of any of the foods included in the list?

   Ask about objectives, activities, organizations involved, duration and target groups.

6. Are there any relevant government policies/programmes or other ongoing projects promoting consumption of foods that are not included in the list?

   Ask about objectives, activities, organizations involved, duration and target groups.

Tool 2.2. Nutrition-improvement potential – Commodity scoring summary

Purpose: The output from Step 1 is a fairly long list of foods that have been identified as addressing the nutrition problem (see Step 1 and Tool 1.7). The scoring process now uses that list and the additional information gathered using Tool 2.1 to score each food in terms of its nutrition-improvement potential.

The commodities that obtain high or medium scores for nutrition-improvement potential will then pass on to be scored in terms of market and income-generation potential.

Method: Commodity scoring

Commodity scoring will be done following the guidance presented in detail in Volume I and summarized in Table 2. The following guidance applies specifically to nutrition-improvement potential.

- Each commodity is scored on a 3-point scale (1–3) for each of the three sub-criteria for nutrition-improvement potential criteria (food consumption, food preferences and food composition). The individual scores for each commodity can be recorded in a table such as Table 2.2.1.
- Scores for the three sub-criteria are totaled, to provide an overall nutrition-improvement potential score: low (3–4), medium (5–7) and high (8–9).
- Commodities with low scores (3–4) are excluded from further consideration.
- Commodities with medium (5–7) or high scores (8–9) can go on to be scored for market and income-generation potential.

TABLE 2.2.1. Template to score commodities on nutrition improvement potential

	Commodity[11]	Food consumption (1–3)	Food preferences (1–3)	Food composition (1–3)	Total score (3–9)	Justification/ Comments
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

11. Use one row per commodity and add as many rows as needed.

Tool 2.3. Market and income-generation potential

Purpose: Information useful for characterizing market and income-generational potential will have been collected in Step 1, especially through the FCA discussion and the seasonal calendar. These activities may have provided information on production and sales of foods, numbers of smallholders engaged in production or sales and, to some extent, demand. The secondary data review (market studies, sector reports, etc.) can also provide an indication of market and income-generation potential.

However, additional, specific information will likely be needed to score the commodities against the criteria for market and income-generation potential. This tool can help to collect that information, as well as contextualizing and filling the gaps from the secondary data review.

Method: Key informant interview (KII) or focus group discussion (FGD)

Participants: Potential KIIs or FG participants, as indicated in Table 2, include: i) traders, buyers, lead firms and farmers, and ii) government officials from agriculture departments, extension agents, agronomists, meteorologists and climate specialists.

Questions:

Market demand

1. What is the market demand for (*commodity*) over the course of a typical year? What factors influence demand?
2. What type of customers do you sell (*commodity*) to?

   Ask whether customers are retailers or consumers, and their location (rural, market towns, intermediate cities, large cities).

3. How would you characterize the demand for (*commodity*) from provincial, national or international markets? What have been past trends? What are your expectations for the future? Why?
4. How would you characterize the demand for (*commodity*) from institutional markets including schools, government purchasing programmes and food assistance? What have been past trends? What are your expectations for the future?
5. Do you ever face any competition for purchasing your supply of (*commodity*)? Can you please describe the competition for buying (*commodity, in terms of the level of competition, buyers, seasonal variation, etc.*)?
6. Do you ever face any competition in selling (*commodity*)? Can you please describe it in terms of *(the level of competition, other suppliers, seasonal variation, etc.)?*

Private-sector interest and upgrading potential

7. What are the months of highest supply for this commodity? What are the months of lowest supply?
8. What factors influence the variation in supply of the commodity?
9. What is the level of private-sector interest or lead buyers for (*commodity*)? Is their demand being met? Does this vary over time? Why?
10. Are there any quality differences between sourcing from local producers and from other sources?

    If the respondent says there are quality differences, ask who these other sources are, the causes of the differences, and if they affect demand from either source in any way.

11. What are the key constraints in sourcing from local producers? What advantages might sourcing from local producers have?
12. What is needed in terms of services and capacities to upgrade (for example: to increase supply, to undertake higher value-added activities and capture more of the end-price share, to increase efficiency through better vertical or horizontal coordination)?
13. What is needed to upgrade in terms of infrastructure and technology? Are there opportunities or constraints in doing so?
14. Now, let us assume that the demand for (*commodity*) has suddenly increased dramatically, what are the major constraints preventing you from doubling the amount you sell of (*commodity*)?
15. How is the price for (*commodity*) set?

    Ask whether a producer is free to sell (commodity) to whomever he/she wishes, or if there is some agreement or expectation or modality (e.g. only a few traders arrive to the area, so by default, sales are to a limited number of individuals). Ask whether a trader sets prices individually, through discussions with other traders, or whether prices are determined by the government or some other body (cooperative, commodity board, etc.).

16. How might you expect prices to change if demand for (*commodity*) increases substantially?
17. What are the months of highest price? What are the months of lowest price? Why do prices vary?

    Ask for prices per unit of sale, and determine equivalent in price per kg.

Income-generation potential

18. What crops are most commonly grown by smallholder producers in (*location*)?
19. What animals (livestock, fish, etc.) are most commonly reared by smallholder producers?

    Ask for any additional commodities included in the list of commodities with nutrition-improvement potential.

20. What are the main barriers to entry into production of commodities: land size, equipment, etc.? If smallholders want to increase or enter into production, how significant would these barriers be?
21. Are there any policies/programmes that encourage and support agricultural production by smallholders in (*location*)?

    Ask about fertilizer, input subsidies for seeds and pesticides, irrigation, credit, etc.

22. What type of markets do smallholders generally sell in?

    Ask about the kind of markets (frequency of operation, range of commodities, etc.) and their access for men and women.

23. What commodities provide high margins for smallholders? What do you consider to be a "high" margin? Why are these margins high? Are these margins consistent over time, or do they vary by season or by the size of demand? If so, how do they vary?

    Repeat question 23 for commodities that provide low margins and medium margins.

24. Which commodities provide opportunities for generation of additional employment, either on farm or off farm (processing, sales, etc.)? Would you say these are significant opportunities or limited ones?
25. Would women and youth be able to take advantage of these opportunities? Why or why not?
26. To conclude, could you indicate what commodities you would suggest for a future VC project that aims to improve food and nutrition security of smallholders in (*location*) to focus on? Why?

Tool 2.4. Market potential – Commodity scoring summary

Purpose: The tool can be used to record market-potential scores of the commodities.

Method: Commodity scoring

Commodity scoring should follow the detailed guidance presented in Volume I and summarized in Table 2. The following guidance applies specifically to market potential.

- Each commodity is scored on a 3-point scale (1–3) for each of the three sub-criteria for market potential (market demand, private-sector interest and upgrading, and agroecological conditions).
- Scores for the three sub-criteria are totaled, to provide an overall score for market potential: low (3–4), medium (5–7) and high (8–9).
- Commodities with a low total score in market potential are excluded from further consideration.
- Commodities with medium or high scores should also be scored for income-generation potential. If they also score medium or high for income-generation potential, they should go to the next stage and be scored against gender and environmental criteria.

TABLE 2.4.1. Template to score commodities on market potential

	Commodity[12]	Market demand (1–3)	Private-sector interest and upgrading (1–3)	Agroecological conditions (1–3)	Total score (3–9)	Justification/ Comments
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

12. Use one row per commodity and add as many rows as needed.

Tool 2.5. Income-generation potential – Commodity scoring summary

Purpose: The tool can be used to record commodity scores for income-generation potential.

Method: Commodity scoring

Commodity scoring should be done following the detailed guidance that is presented in Volume I and summarized in Table 2. The following guidance applies specifically to income-generation potential.

- Each commodity is scored on a 3-point scale (1–3) for each of the three sub-criteria for income-generation potential (level of engagement of smallholder producers, margins and employment generation).
- Scores for the three sub-criteria are totaled, to provide an overall score for income-generation potential: low (3–4), medium (5–7) and high (8–9).
- Commodities with a low total score in income-generation potential are excluded from further consideration.
- Commodities with medium or high scores should also be scored for market potential. If they also score medium or high for market potential, they should go to the next stage and be scored against gender and environmental criteria.

TABLE 2.5.1. Template to score commodities on income-generation potential

	Commodity[13]	Level of engagement of smallholder producers (1–3)	Margins (1–3)	Employment generation (1–3)	Total score (3–9)	Justification/ Comments
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

13. Use one row per commodity and add as many rows as needed.

Tool 2.6. Agroecological conditions, environment and climate

Purpose: Agroecological conditions and climate projections are key determinants of market growth, since they affect the potential to increase production and productivity sustainably. This interview guide collects the relevant information needed to score commodities on the sub-criteria of agroecological conditions.

At the same time, the scoring process presented in this guide considers the environmental impact of VC development. Specifically, the environment and climate criterion considers impact on natural resource management and the promotion of climate-smart agriculture. The criterion also aims to ensure that an NSVC project does not harm the natural resource base of the target population. A commodity that harms the environment will either be excluded from further consideration or flagged as needing mitigation measures to address environmental concerns. Thus, the questions in this tool also help to collect the information needed to score commodities on the specific "do-no-harm" environment and climate criterion.

Information on agroecological conditions, environment and climate has been collected in Step 1: Nutrition situation analysis using primary data collection methods (e.g. FCA and the seasonal calendar), as well as through secondary data review. Now, Tool 2.6 can be used to contextualize and complement this previously collected information and to fill in any gaps that may be needed in order to score commodities under this criterion. As noted, in addition to applying this information during Step 2: Commodity selection, it can be used during Step 3: NSVC analysis.

Method: Key informant interview (KII) or focus group discussion (FGD)

Participants: Potential participants, included in Table 2, include producers, government officials from agriculture departments, extension agents, agronomists, meteorologists, and environment and climate specialists. Since agroecological conditions can vary, even over short distances, discussions may be needed in various sites in order to reflect this variation (e.g. coastal versus inland communities).

Additional resources: IFAD. 2015. *How to do climate change risk assessments in value chain projects*. Rome: IFAD.

Questions:

Agroecological conditions

1. What crops/animals (livestock, fish, etc.) are most commonly grown/reared by smallholder producers in (*location*)?
2. What are the key challenges or opportunities with respect to production of (*commodity*) in terms of agroecological conditions or climate? How do you see agroecological conditions or climate changing in the near future in ways that will affect production?
3. Do you see any issues related to water, soils or pests that could inhibit an increase in production or productivity, if there were an increase in demand?
4. What investments or interventions would be needed if there were a decision to increase production or productivity of (*commodity*)?

Climate change and environment

5. What are the main climatic and environmental risks in (*location*)?
6. How is climate change affecting food production and seasonality?
7. What commodities have greater resilience to adverse climatic conditions?
8. What commodities have potential to increase production given the climate projections in (*location*)?
9. What commodities have potential to have negative effects on the environment and natural resource base, such as causing soil erosion, overexploitation of natural resources including water, or excessive use of pesticides?
10. What mitigation measures could be adopted?

Tool 2.7. Gender

Purpose: Women are important decision-makers and can play key roles in agricultural production, marketing and processing, as well as in feeding and taking care of the family and household. An NSVC project should ensure that women are empowered, that treatment is equitable relative to other household members, and that their roles in improving nutrition are recognized and supported. A commodity that may have negative consequences in terms of gender equality or women's empowerment will either be excluded from further consideration or flagged as needing mitigation measures to address gender concerns.

Gender information has been collected in Step 1 and completed by a secondary data review. Now, Tool 2.7 can be used to contextualize and complement the information collected, to fill in any gaps that may be needed to score commodities on the gender criterion and to increase general understanding of social norms and values. Thus, in addition to its use during Step 2: Commodity selection, it can be used during Step 3: NSVC analysis.

Method: Key informant interview (KII) or focus group discussion (FGD)

Participants: Potential key informants, as indicated in Table 2, include gender experts, gender focal points, and, of course, potential women beneficiaries themselves. In conducting an FGD, 5 to 10 members of the community should be included, with separate FGDs for women and men.

Questions:

Gender roles in the food system

1. What food production activities are usually undertaken by only men? Why?
2. What food production activities are usually undertaken by only women? Why?
3. What activities are undertaken by both men and women? Why is there no gender difference for activities?

Repeat the three questions for: food processing, food sales, food purchases and food preparation

4. Does the distribution of roles in the food system change for pregnant and lactating women? And for young women?
5. What functions of the VC do women significantly control and benefit from? (*Reference the replies mentioned to the questions above*). How do women benefit from these activities?
6. On the other hand, what activities or functions of the VC place a significant burden on women: drudgery, time, energy requirements, etc.? How do these activities burden women?
7. What opportunities exist to reduce the burden on women: labour-saving technologies, public infrastructure for childcare, community structures, kinship networks, etc.?
8. In terms of childcare and feeding, what activities are undertaken only by women? Are these women generally mothers, grandmothers, sisters, other?
9. Are any childcare and feeding activities undertaken by men? Are any of them exclusively undertaken by men? Why?
10. In a typical day, how much time do women devote to childcare and feeding?

11. How does women's engagement in different functions of the VC affect their roles as caregivers?
12. What cultural norms and values affect the distribution of roles in the food system?

Intra-household dynamics

13. Within the household, who makes the decisions on what to produce? Who decides how much is sold and how much is left for household consumption? Does this vary by commodity? If so, why?
14. How is food distributed in the household: do women and men receive the same amount and kind of foods, and at the same time? What differences are there between adults and children, and between boys and girls?
15. Do women control the income derived from sales of (*commodity*)?
16. What cultural norms and values affect intra-household dynamics?

Tool 2.8. Gender and environment and climate – Commodity scoring summary

Purpose: The tool can be used to record the scores commodities receive on gender, and on environment and climate.

Method: Commodity scoring

Commodity scoring will be done following the guidance presented in detail in Volume I and summarized in Table 2. The following guidance applies specifically to gender, and environment and climate.

- Each commodity is scored on a 3-point scale (1–3) against the gender, and the environment and climate criteria.
- In some cases, a commodity may score low because of the potential negative consequences for women or the environment. In this case, the commodity will be either excluded from further consideration or flagged as requiring specific measures to mitigate risks and ensure that investments "do no harm". Once specific mitigation measures are identified, those commodities that are flagged should be re-evaluated. If the mitigation measures are determined to be sufficient, the commodity can continue to be considered. However, if the measures are not determined to be sufficient, the commodity should be excluded from further consideration.

TABLE 2.8.1. Template to score commodities on gender, and environment and climate

	Commodity[14]	Gender (1–3)	Environment and climate (1–3)	Justification/ Comments
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

14. Use one row per commodity and add as many rows as needed.

Step 3:
Nutrition-sensitive value chain analysis

	Diagnostics			
	STEP 1: Nutrition situation analysis	**STEP 2: Commodity selection**	**STEP 3: NSVC analysis**	**STEP 4: Intervention options**
Key elements of each step	• Nutritional status • Causes of malnutrition • Diet characterization and identification of diet gaps	Selection criteria: • Nutrition-improvement potential • Market potential • Income-generation potential • Gender • Environment and climate	• VC mapping and characterization • Analysis of constraints and opportunities in: - Supply - Nutrition value - Demand	• Types of intervention • Cost-effectiveness • Target group • Tensions and trade-offs

Sample terms of reference – Step 3: Nutrition-sensitive value chain analysis

These terms of reference have been developed to be used for studies conducted as part of the design of a nutrition-sensitive value chain (NSVC) project. Prior to conducting the study, please refer to *Nutrition-sensitive value chains: A guide for project design – Volume I* for guidance on the NSVC framework and overall approach, and to *Nutrition-sensitive value chains: A guide for project design – Volume II: Resources*, which offers guidance on the tools and templates to employ during the fieldwork. The NSVC approach identifies four steps for project design: Step 1: Nutrition situation analysis; Step 2: Commodity selection; Step 3: Nutrition-sensitive value chain analysis; and Step 4: Identification of intervention options.

These terms of reference are for Step 3: Nutrition-sensitive value chain analysis.

Objectives of the assignment

The primary objective of the assignment is to conduct a value chain analysis of selected commodities with a nutrition lens. The ultimate objective of the VC analysis is to identify the constraints and opportunities in supply and demand of selected commodities, as they relate to nutrition.

The commodities for NSVC analysis were selected in Step 2, based on several selection criteria, including nutrition improvement potential, market potential and income-generation potential, as well as gender and environmental considerations.

This NSVC analysis should focus on the following commodities: (*list commodities*).

The study should identify the constraints and opportunities in the supply and demand of the selected commodities, as well as in nutrition value.[15] It should offer a comprehensive description of the value chain, paying special attention to issues relating to smallholder inclusion and engagement, especially in the context of a changing food system with both modern and traditional supply chains. The NSVC analysis for each commodity will comprise two elements:

A) Characterization of the value chain
B) Identification of constraints and opportunities across three dimensions (the core of the analysis)
   B.1: Supply
   B.2: Nutrition value
   B.3: Demand

A. Characterization of value chains

The comprehensive description of the value chains of the selected commodities should include the following aspects.

- *Structure, stages and functions in the VC.* Describe the overall structure of the VC, indicating the main functions that occur at each stage or, as relevant, across stages.
- *Map of VC actors*. Map actors in or across stages of the VC from production to consumption, as well as in the internal and external environments that affect the VC (e.g. service providers).

15. For further information on the concept of "nutrition value", or other aspects of what applying a nutrition lens to VC analysis means, refer to *Nutrition-sensitive value chains: A guide for project design – Volume I*.

- *Relationships in the VC*. Identify the most important players at key stages of the VC (e.g. lead firms or businesses), as well as existing platforms or mechanisms for coordination of VC activities (e.g. farmers' organizations or national VC associations). Pay special attention to relationships between smallholder producers and the other VC players, especially the lead players, and to the presence of contractual agreements between them.
- *Business models*. Describe the existing business models along the VC, including an indication of: i) key products, ii) profit margins (cost/benefit), and iii) end markets at local, national and international levels.
- *Enabling environment*. Analyze the enabling social, economic, institutional and policy environments, including government policies, rules and regulations (e.g. food safety) and the legal framework (e.g. taxes, import duties, subsidies, land tenure, contract enforcements and trade rules).
- *Gender and targeting*. Identify the role and factors affecting the engagement of vulnerable groups along the VC, specifically the rural poor and especially smallholders, women and youth.
- *Environmental and climate issues*. Analyze the viability under climate change, the positive and negative environmental impacts, and the sustainability of activities along the VC, particularly practices and technologies for production, processing, storage or distribution.

B. Identification of constraints and opportunities (supply, nutrition value and demand)

B.1: Supply. Identify constraints and opportunities for VC upgrading that affect the supply side of the value chain, including input markets, production, storage, distribution and output markets. The main focus should be on the situation of smallholder producers.

- *Business interest*. Explore the interest of key buyers to work with smallholders on a fair and sustainable basis in developing an NSVC. Analyze their motivations, areas of interest and concerns. Identify any actions or incentives that would be needed to promote sustainable engagement with smallholders for development of nutrition-sensitive investments along the VC.
- *Production*. Identify the potential of smallholders to increase production and have enough to sell beyond subsistence, in order to generate income. This includes assessing smallholder producers': i) average volumes of production, ii) access to and use of inputs, technologies and finance, and iii) social capital, related to the presence of associations or other groups that can facilitate integration, coordination and interaction with other VC players.
- *Capacity/knowledge*. Identify capacity development and training needs of producers to meet market requirements and integrate into the VC.
- *Potential for upgrading*. Identify the major constraints and opportunities of potential upgrading strategies (product and process upgrading, functional upgrading, upgrading of business models) relevant for nutrition, such as identification of varieties of high nutrient value, processed nutritious products and technologies available for NSVC development.
- *Constraints and opportunities*. Summarize the key supply-side constraints and opportunities among supply-side actors generally, and smallholder producers and the rural poor specifically.

B.2: Nutrition value. Identify issues along the value chain, from production to consumption, that affect the nutrition value of the commodity. This includes identifying where nutrient values could be preserved or enhanced, where food is lost or where food safety risks arise.

- *Nutrient value.* Identify the critical points along the VC where nutritional value may be lost (e.g. excessive processing or overcooking leading to nutrient loss) or where nutritional value could be added (e.g. production of biofortified varieties, nutrient-preserving processing).
- *Food safety.* Identify the main sanitary and phytosanitary food safety risks and the critical points along the VC where they arise.
- *Food loss/waste*. Identify the critical points along the VC where food may be lost or wasted and their causes, as well as the quantities of loss or waste.
- *Constraints and opportunities.* Looking across the VC, summarize the major constraints and opportunities to improve nutrition value.

B.3: Demand. Analyze existing and potential demand, both market demand in general and demand from smallholder producers, rural populations or low-income consumers.

- *Demand.* Undertake quantitative and qualitative analysis of existing and potential market demand. Analysis should include assessment of trends as well as the potential for creating markets or linking with new markets (e.g. institutional markets). Highlight principal demand-side constraints, such as lack of information or perceptions limiting demand among traders or end-consumers, or price, including competition from imports, other producers or alternative products.
- *Barriers to consumption.* Assess the factors limiting demand of the commodities, especially among smallholder producers, rural populations or low-income consumers in terms of affordability, availability and acceptability.
  - Affordability. Assess whether there are income or price constraints that limit consumption of the selected commodity.
  - Availability. Analyze the constraints that households face when acquiring the commodity, such as distance and ease of travel and transportation to the market. Differentiate in terms of market type, such as village/local or provincial, and in terms of availability through the market or other sources, such as own-production or social/food assistance programmes.

    Note: the affordability and availability analysis should consider seasonal fluctuations throughout the year, in terms of production, availability in markets, price fluctuations and changes in purchasing power at the household level.
  - Acceptability. Assess the socio-cultural factors that limit acceptability and thus consumption, including nutrition awareness, taboos, tastes and preferences, preparation and cooking time, desirability, and perceived social status. Analyze intra-household food distribution dynamics that may impact intake of the nutritious commodities from vulnerable groups: women and children.
- *Constraints and opportunities*. Summarize the key demand-side constraints among consumers generally but specifically among the populations of concern: smallholder producers and rural populations.

Scope and methodology of the study

The study will rely largely on secondary data, including locally available information sources, databases and existing VC studies. For the identification of constraints in terms of nutrition value, the desk review is especially relevant for identifying nutrient values, food safety risks and critical points for food loss, since obtaining primary data on these dimensions is challenging.

Primary data collection should focus on the contextualization and triangulation of the findings of the secondary data review. The selection of communities and geographical areas should take into consideration those areas selected for previous studies, while incorporating any additional sites that may be relevant for the specific VC (such as the location of the lead firm). The overall process should follow a participatory and consultative approach, actively engaging communities and VC actors in problem and solution identification, and ensuring that findings are locally validated and owned. All primary data collection should follow international guidelines for ethical conduct of research, including informed consent.

Deliverable

The findings of the study should be presented in a concisely written report, which should be informative as well as analytical, and draw relevant conclusions that can inform future NSVC project design. Findings should therefore include references to the following.

- *Constraints and opportunities to be alleviated in supply, demand and nutrition value.* The NSVC analysis will indicate the major constraints in supply, demand and nutrition value within the selected VC, as well as key opportunities to address these constraints. The goal is to identify constraints to be alleviated in order to contribute to nutrition.
- *Key stakeholders.* By looking along the VC and mapping actors and relationships among them, the analysis will identify key stakeholders with whom the project should engage. The analysis of the enabling environment may also highlight specific institutions to integrate into the project, such as tax authorities and health departments in charge of food safety certification.
- *List of data sources and documentation*. The study will list the secondary data sources consulted and the primary data collection methods used (e.g. questionnaires, interview guides, people/organizations interviewed) which are key for Step 4: Identification of intervention options, and for the NSVC project itself.

Qualifications and expertise

The assignment should be conducted by a team with relevant qualifications and expertise in: i) nutrition-sensitive agriculture, ii) agricultural economics and value chains, and iii) gender and environment. Prior experience and knowledge of the country context and project area are strongly desirable.

Duration

The assignment should be completed in 8 to 10 weeks. With attention to the overall parameters of the assignment, the indicative timeline, set out below, may be adjusted as deemed necessary.

1. Desk review: 2 to 3 weeks
    - Work-plan development and design of preliminary research questions
    - Secondary data review
    - Fieldwork preparation: site selection, fieldwork plan, selection and adaptation of tools and methods for primary data collection
2. Fieldwork: 2 to 4 weeks
3. Data analysis and report writing: 2 to 3 weeks

TABLE 3. Summary of research questions, methods and tools – Step 3: Nutrition-sensitive value chain analysis

Value chain mapping and characterization				
Research question	**Information needs**	**Data collection methods/tools**		**Tool**
		Secondary data	**Primary data**	
What are the main characteristics of the value chain?	Structure and functions at each stage of the VC Mapping VC actors and relationships • Product and information flows, service provision, governance, power relations, VC platforms, level of formalization in the relationships Business models and economic analysis • How producers and firms expect to create and capture value, price and profit margins Enabling environment • Regulatory framework, policies, individual and institutional capacities, food safety standards, physical access to markets Gender • Division of labour: women's roles, time use, decision-making, control over resources and remuneration, cultural norms and values Climate and environment • Climate risks, use of inputs such as pesticides and water, sustainable production practices, processing and packaging	• Existing VC analyses, market assessments, business model reviews, crop models from extension services • Policies and regulations related to trade, taxes, subsidies, labour legislation, cooperatives, food safety • Gender studies • SECAP notes, climate risk assessments, environmental impact studies • Rainfall and meteorological patterns	• KIIs or FGDs with: VC actors, including input suppliers, producers, processors, traders, retailers, wholesalers, transporters	3.1
			• FGDs or KIIs with: producers	3.2
			• KIIs or institutional meetings with: government depts. of agriculture, fisheries, nutrition, health, industry, trade, meteorology, planning and education, regulatory bodies, research organizations, producer organizations, VC platforms, project staff	3.2 3.7
			• KIIs or FGDs with: gender experts • Rapid appraisal of women's time use,[16] Gender Action Learning System (GALS) and household methodologies[17]	2.7
			• KIIs with: agriculture departments, agronomists, environment and climate experts	2.6
			• Market observation	1.6

16. Information on conducting rapid appraisal of women's time is available at Maestre, M. & Thorpe, J. 2016. *Unpaid Care Work – facilitating change towards women's economic empowerment when market systems care.* The BEAM Exchange, IDS, Oxfam.

17. GALS is a community-led empowerment methodology using participatory processes and diagram tools that aims to give women as well as men more control over their lives as the basis for individual, household, community and organizational development. More information is available at IFAD, 2014. *How to do: Household methodologies*. Rome: IFAD.

Opportunities for upgrading

Research question	Information needs	Data collection methods/tools		Tool
		Secondary data	Primary data	
What are the constraints and opportunities on the SUPPLY side of the value chain?	Interest of VC actors and lead firms • Motivation of different VC actors including smallholders themselves • Level of interest of key players in working with smallholders, incentives for upgrading Product and process upgrading • Production: product types, varieties, volumes, seasonality, pests and diseases, consistency, efficiency • Market requirements: quantity, quality, size, consistency, frequency • Access to inputs and technologies • Access to finance • Capacities/knowledge Functional upgrading • Post-harvest management, storage, processing capacities, transport Coordination and business model upgrading • Horizontal linkages: presence and role of producer organizations • Vertical linkages: degree of coordination, contractual agreements	• Existing VC analysis, market assessments, post-harvest challenges • Contractual agreements, product specifications and properties • Policies and regulations for producer organizations and cooperatives	KIIs with: lead firm	3.1
			KIIs or FGDs with: VC actors, including input suppliers, producers, processors, traders, retailers, wholesalers, transporters, service providers	3.1
			• FGDs with: men and women producers	3.2
			• KIIs or institutional meetings with: producer organizations, VC platforms, project staff, etc.	3.7
			• Market observation	1.6

Nutrition value: nutritional value addition, food loss, food waste and food safety				
Research question	**Information needs**	**Data collection methods/tools**		**Tool**
		Secondary data	**Primary data**	
What are the constraints and opportunities related to NUTRITION VALUE?	Nutrition aspects • Nutrient content: nutrient content of different varieties or species • Critical nutrient value points: points along the VC where nutrients are lost, e.g. during processing or cooking, or where nutrients can be added through fortification and biofortification Food loss and waste • Critical loss points: points along the chain where food losses[18] are most significant in terms of quantity and economic loss Food safety • Critical food safety points: points along the chain where food safety hazards and contamination are most likely to occur due to, e.g. pesticides, aflatoxins, microbes • Consequences for market access • Consequences for nutrition and health	• Food composition tables • Research papers on changes in nutrient content or contamination during production, processing, cooking • Food loss and waste studies and databases • Food safety standards and regulations	• KIIs with: VC actors: input suppliers, producers, processors, traders, transporters, lead firms, buyers with quality assurance mechanisms	3.4
			• Institutional meetings with: government extension staff, nutrition/health, industry, food safety departments, certification authorities, regulatory bodies, research organizations	3.7
			• Commodity tables	3.3
			• Observation of production, processing, marketing, cooking	1.6

18. The analysis here refers to physical loss, which relates to decrease in food quantities available due to, for example, pests, spoilage, poor storage or rotting.

Consumer and market assessment

Research question	Information needs	Data collection methods/tools		Tool
		Secondary data	Primary data	
What are the constraints and opportunities on the DEMAND side of the value chain?	Market demand • Local markets: wet markets, open air markets, kiosks • Non-local markets: urban, provincial, domestic, export • Institutional markets: public purchasing programmes, school feeding programmes, food assistance Barriers to consumption and factors affecting demand from target group • Availability: year-round availability, physical distance, time • Affordability: purchasing power, price fluctuations, willingness to pay • Acceptability and desirability: taste and preferences, level of nutritional awareness, cooking time, social status, taboos • Intra-household dynamics and food distribution	• Existing VC and market analysis, data on market demand trends, price trends • Household consumption and expenditure surveys, cost of diet studies • Knowledge, attitudes and practices (KAP) studies • Seasonality analyses	• KIIs or FGDs with VC actors: producers, processors, traders, retailers, wholesalers, lead firms	3.5
			• KIIs with institutional buyers: public purchasing programmes, schools, food assistance	3.7
			• Market and supermarket observation	1.6
			• FGDs with: producer households on consumption patterns and barriers to consumption	1.5 2.7 3.6

Note: The list of primary and secondary data collection methods and tools included in the table is not exhaustive, but contains the most typical data sources.

Tools and methods – Step 3: Nutrition-sensitive value chain analysis

Tool 3.1. VC mapping and opportunities for upgrading – VC actors' perspective

Purpose: This tool can be used to contextualize and fill the gaps from the secondary data review for Step 3: NSVC analysis of selected commodities. The guide includes questions that are relevant for elaborating a VC map and identifying opportunities and challenges for VC upgrading, particularly from the perspective of VC actors other than producers.

Method: Key informant interview (KII) or focus group discussion (FGD)

Participants: Potential key informants or participants in FGDs, as indicated in Table 3, include VC actors, such as input suppliers, processors, traders, retailers, wholesalers, transporters and lead firms. A separate tool is developed for capturing the producers' perspective.

Additional resources: Many of the issues covered in this tool are part of a typical VC analysis, so existing guidance on VC analysis can be used as a complementary tool. For example, see: Springer-Heinze, A. 2017. *ValueLinks 2.0. Manual on Sustainable Value Chain Development*. Eschborn: GTZ. CIAT's LINK Methodology highlights key issues around connecting smallholders with private-sector businesses along the value chain and provides a method for exploring them.

Questions:

VC mapping and characterization: actors and functions

1. What are the main actors and functions in the VC for (*commodity*)?

   Ask about input suppliers.
   Ask about storage and transport to the market.
   Ask about value addition: processing, packaging, etc.
   Ask about key markets: local, national and international markets, institutions, supermarkets, processors, traders, consumers.[19]
   Ask about service providers: financial and non-financial service providers.

2. Who are the main competitors? What advantages or disadvantages do competitors have?
3. Has the functioning of the VC for (*commodity*) changed in the past five years? If so, how? Why?
4. What are the roles of men, women and youth in different stages of the VC?

   Ask about reasons for the distribution of labour between men and women: socio-cultural norms and values, taboos, etc.

Relationships in the VC

5. How are relationships among actors regulated in the VC for (*commodity*): presence of formal agreements, such as contract farming, informal or verbal arrangements, short-term, long-term, etc.?
6. If agreements exist, what kind of agreement? And with which actor?

19. Additional information on assessing market demand is provided in Tool 3.5.

7. What are the details of the agreement?

   Ask whether it specifies quality of the product, quantity of purchase or sale, price, safety, nutritional quality, financing or input provision.

8. How is the value chain coordinated? Are there VC stakeholders' meetings or coordination platforms? Do they function well, or not? Why?
9. What are the market requirements in terms of specifications required: size, varieties, quantities, quality, consistency, packaging, seasonality, etc.? If different markets have different specifications, please explain how. If all markets have the same product specification, also explain how.
10. Who sets these market requirements? Who is the lead firm of the VC?
11. Are there producer organizations?
12. What is the nature and role of the producer organizations (services offered, collective sales, aggregation of produce, etc.)?
13. What are the main production, marketing and consumption challenges in the VC for (*commodity*)?
14. What are potential market opportunities for (*commodity*)?

Relationship with lead firm or key buyer in the VC

15. Does (*name of lead firm*) source (*commodity/ies*) from smallholder producers directly or indirectly?
    - If no, why?
    - Is there interest in buying (*commodity/ies*) from smallholders in the future?
    - If yes, is the produce bought directly from smallholder producers or indirectly through middlemen, traders, etc.?
    - If sales are made indirectly, why is sourcing not done from smallholder producers directly?
16. What are the main concerns or fears regarding engaging with smallholder producers (quantity of supply, quality, consistency, etc.)?
17. What needs to be done to increase smallholder producers' capacity to engage in fair and sustainable business with (*lead firm*)?
18. Are there any services, technologies or knowledge that could increase the production or quality of (*commodity*)? And that could address the variations in seasonality?
19. Are there any quality assurance mechanisms in place?

Costing and margins

20. What is the price for (*commodity*) (price per kg, per bag, etc.)?
21. How does the price fluctuate throughout the year? What causes these fluctuations?
22. How is the price agreed upon?
23. What is the average cost of production of (*commodity*) and revenue at this stage of the VC?

    Ask about cost of inputs, labour, technology, transport, storage, others.

24. How does the cost of production, price and revenue vary per season?

    Develop a table to calculate the margins for smallholders.

Tool 3.2. VC mapping and opportunities for upgrading – Producers' perspective

Purpose: This tool can be used to contextualize and fill the gaps from the secondary data review of Step 3: NSVC analysis. It includes questions relevant to elaborate a VC map and identify opportunities and challenges for VC upgrading, particularly from the producers' perspective.

Method: Focus group discussion (FGD) or key informant interviews (KII)

Participants: Potential participants, as indicated in Table 3, may include men and women producers (in some cases through separate FGDs), representing a mix of age groups, levels of well-being and locations. In case of conducting a KII, potential informants are leaders of producer organizations, departments of agriculture or fisheries, and extension workers, as well as project staff of previous agricultural projects in the area.

Questions:

Access to inputs and services

1. Where do producers source their inputs?
2. Do producers have access to nutrient-rich, drought-resistant or pest-resistant varieties? Are they affordable? Are any subsidies provided?
3. Do producers have access to fortified fertilizers? Are they affordable?
4. Do producers have access to information and services (veterinary services, extension services, etc.) to produce (*commodity*)?
5. Do producers have access to financial services to produce (*commodity*)?
6. What are the key challenges producers face in accessing financial services?

What to produce?

7. What are the main varieties of (*commodity*)? Are there any other varieties present? What are the advantages or disadvantages of the different varieties?
8. How important is (*commodity*) for local smallholder producers in terms of both income and food security?
9. If producers were to increase production of (*commodity*), how would this affect production of the other foods in the list (considering constraints in terms of land use, input use, water, time, labour, etc.)?
10. How important is income from the sale of (*commodity*)?
11. What are the other key sources of income outside of agriculture/fishing/livestock?
12. What is the average size of land owned?
13. When is the planting and harvest season of (*commodity*) in (*location*)?

    Make a crop/fishing/livestock production calendar.

14. Which commodities are produced year-round? Why?
15. What techniques or inputs do producers use to extend food production (crops, fish, livestock) across seasons (chemicals, pesticides, cropping patterns, etc.)?
16. On average, what volume of (*commodity*) do smallholders produce in (*location*)?[20]

20. Adapt as needed: per season, per month, per hectare, per acre, etc.

17. On average, what proportion of (*commodity*) is sold and what proportion is kept for household consumption?
18. Would smallholders wish to increase their production of (*commodity*)?
    - If yes, what is needed to increase production?
    - If no, why?

How to produce?

19. What are the existing production practices?
20. What are the impacts on environment and on the natural resource base of existing practices?
21. Is climate change impacting production? How?[21]
22. Do producers use inputs (hormones, growth-stimulating additives, chemicals, pesticides) to improve yields or quality of produce?
23. Are there any quality standards available for different food crops? Are the producers aware of them? How are the standards regulated and monitored?
24. Is there adequate water available to grow food? Is the water safe for human consumption and production?
25. How is the low quality produce utilized? Is it consumed at the household level, sold at a lower price (to whom?), thrown away, rejected, etc.?
26. In producer households, who decides what and how much to produce?
27. Who produces (*commodity*): men, women, any particular community or group?
28. What commodities are mainly produced by women?
29. How does women's involvement affect time spent on caregiving and household nutrition?
30. Do women control the income derived from sales of (*commodity*)?

Post-harvest handling and processing

31. What types of storage infrastructure or facilities of (*commodity*) are in place? Do they cater to smallholder producers?
32. Is there any value addition done at the producer level for (*commodity*)? If so, who does it: men or women?
33. How does women's involvement affect time spent on caregiving and household nutrition?
34. Do women control the income derived from sales of (*commodity*)?
35. What different (*commodity*) processed products are available? What processing methods are used? What is the scale of processing per commodity?
36. Is there any mandatory (or voluntary) fortification of (*commodity*) taking place? At what scale?
37. Is climate change (droughts, floods, heat waves, etc.) affecting post-harvest processing and storage?

Distribution and transport

38. How is (*commodity*) transported to the market? What transport options are available?
39. How long does it take to reach the market?
40. What is the cost of transport? Who bears this cost?
41. What are the different distribution channels in place for (*commodity*)?
42. What is the nature or condition of roads that allow physical access? How do conditions change year-round?

21. For more information on climate risk assessment, refer to: IFAD. 2015. *How to do: Climate change risk assessments in value chain projects*. Rome: IFAD.

Tool 3.3. Commodity tables: nutrition value critical points analysis

Purpose: Nutrition value, which encompasses food loss, food safety and nutritional value, is a central element of the NSVC framework. This tool identifies critical points in the value chain where a commodity's nutrition value may be affected. The template in Table 3.3.1 can be used to summarize and record the constraints and opportunities related to nutrition value for each selected commodity.

These commodity tables for nutrition value critical points analysis should be compiled during the secondary data review, working with appropriate experts on the team. They are useful to inform the fieldwork, and they identify critical points where close attention should be paid. The tables can then be validated, modified and updated as needed with the information obtained from the fieldwork, particularly through Tool 3.4: Nutrition value.

Method: For each VC, the completed commodity table flags the nutrition value critical points for nutrient loss, food loss and food safety hazards, as well as related opportunities.

- *Critical nutritional value points (CNVPs)*. CNVPs are the points along the VC where nutrients are lost (or where such losses are most likely to occur) or where nutrients can be added (e.g. through fortification).
- *Critical food loss points (CLPs)*. CLPs are the points along the VC where physical food loss has the highest magnitude, the highest impact on food and nutrition security, and the highest effect on the economic and supply result of the value chain.
- *Critical food safety points (CFSPs)*. CFSPs are the points along the VC where food safety hazards and contamination are most likely to occur.

TABLE 3.3.1. Template to identify nutrition value critical points for selected commodities

Commodity				
VC stage	**Type of critical point**	**Characteristics**	**Causes**	**Opportunities for interventions**
Primary production	*Briefly describe the critical point: CLP, CFSP or CNVP*	*Indicate any characteristics or features in the VC to look for during the fieldwork that could affect nutrition value: e.g. discoloration, loss in volume, handling processes*	*Indicate the reasons or causes for food loss, food safety hazards or nutrient value loss*	*Indicate potential intervention options. When relevant, also include gender and environment/ climate considerations*
Post-harvest management, storage and processing				
Distribution, trading and marketing				
Consumption				

Tool 3.4. NSVC analysis – Nutrition value

Purpose: Tool 3.4 should be used in conjunction with Tool 3.3, which identified critical points for nutrition value along the VC for the selected commodities. This tool presents questions about those critical points as well as more general opportunities and challenges along the VC. The fieldwork can thus be used to validate, contextualize and fill the gaps from the secondary data review on nutrition value, and to provide needed supporting data on the critical points identified by Tool 3.3. Information may also be available from diagnostic studies carried out in Steps 1 and 2. The questions should be tailored and adapted to the specific interviewee.

Method: Key informant interview (KII) or focus group discussion (FGD)

Participants: Potential key informants, as indicated in Table 3, include: i) VC actors, such as input suppliers, producers, processors, traders, retailers, wholesalers, transporters and lead firms, and ii) government extension staff, food safety departments, certification authorities, research organizations, etc.

Questions:

Nutritional value

1. What are the nutrition benefits of consuming (*commodity*)?
2. How does the nutritional value differ among varieties of (*commodity*)?
3. Are there points along the VC where nutrients are lost (e.g. during processing, storage, transport)?
4. What are the main causes of such losses?
5. Are nutrients lost at the point of consumption (e.g. through overcooking)?
6. What is the magnitude and importance of nutrient losses at each point? Is anything being done to address them? If so, how effective are those efforts, and what more, if anything, should be done?
7. Are there points along the VC where nutrients are added (e.g. fortification)? What would be the challenges or opportunities in fortifying the commodity, if appropriate?
8. Are there any biofortified varieties of (*commodity*) available in (*location*)? If not, why not? What challenges or opportunities do you see for promoting biofortified crops?

Food loss and waste

9. Are there points along the VC where physical food loss and waste, such as spoilage and spillage, occur?
10. What are the main causes of food loss and waste?
11. Does food waste happen at the household level?
12. What is the magnitude and importance of these losses along the VC or at the household level? Is anything being done to address them? If so, how effective are those efforts, and what more, if anything, should be done?

Food safety

13. Are there food safety regulations and standards for (*commodity*)? Who sets them? Do they seem appropriate and reasonable? Are they able to ensure food safety yet also allow trade?
14. How effectively are they implemented? What affects their effectiveness? What VC actors are most affected?
15. Are there points along the VC where food safety risks arise or where (*commodity*) may be contaminated?
16. What are the main causes of contamination?
17. Are there chemicals (such as pesticides) used during the production, storage or processing of (*commodity*)? Which ones, and why? Is there control in terms of their sale or use? Is there training in terms of use?
18. Is water used during production (e.g. irrigation) and/or processing? Where does the water come from?

    Ask about use of safe water and the risk of vector-borne diseases due to unsafe water management.

19. What are the consequences of contamination for human health?
20. What is the magnitude and importance of contamination? Is anything being done to address it? If so, how effective are those efforts, and what more, if anything, should be done?
21. How does contamination affect the sale or demand for this product in the market? Is the buyer (either a VC actor or the final consumer) keen on safety of the product? Please explain why and how this may affect sale or demand for the product.
22. What are the incentives or disincentives for different VC actors to preserve safety?
23. Is there an adequate level of awareness of the food safety hazards among producers and other VC actors? Please explain why or why not, providing examples if possible.
24. Is there an adequate level of awareness of the food safety hazards among consumers? Please explain why or why not, providing examples if possible.
25. What is the capacity (skills, knowledge, infrastructure) of i) producer organizations, ii) government, iii) the private sector, or iv) consumers to manage and monitor these issues of food safety and contamination?

Tool 3.5. NSVC analysis – Market demand

Purpose: Information on market demand may be available from the secondary data review, Step 2: Commodity selection, and from interviews carried out using Tools 3.1 and 3.2: VC mapping and opportunities for upgrading. This tool can be used to fill any remaining gaps, particularly on market demand from the perspective of VC actors. In addition, the perspective of consumers, both producer and non-producer rural households, can be captured with Tool 3.6, and information may also be available from diagnostic studies in Steps 1 and 2.

Method: Key informant interview (KII) or focus group discussion (FGD)

Participants: Potential key informants, as indicated in Table 3, include VC actors, such as input suppliers, processors, traders, retailers, wholesalers, transporters and lead firms.

Questions:

Market demand

1. Where is (*commodity*) mostly sold?
   - Local markets: village markets, wet markets, kiosks, household consumers, etc.?
   - Non-local markets: urban, domestic or export markets?
2. What volume of (*commodity*) is sold to whom? How often?
3. What proportion is sold in formal markets? And in informal or local markets?
4. Are there any institutional buyers for (*commodity*)? These can include school meal programmes, public purchasing programmes and food assistance programmes.
5. What are the requirements to access different markets (e.g. quality, consistency, frequency)?
6. Are there any programmes in place to create demand for (*commodity*)? These can include promotional campaigns, and campaigns on healthy eating and nutritional value of foods.
7. Are there any taboos or stigmas limiting the demand for (*commodity*)?
8. Is there demand for fortified or biofortified (*commodity*)? If yes, by whom, and in what form? If not, why not?
9. Is there potential to stimulate demand for (*commodity*)? Please explain how, in terms of both opportunities and challenges.

Consumers

10. Where do different consumer segments buy their food?

    Ask about specific commodities under study.

11. Do different consumers demand different product specifications, in terms of quality, product appearance, safety, etc.?
12. Are there consumers from rural households who come to buy (*commodity*) from this market? If not, why not?
13. What constraints and limitations do low-income consumers face in buying (*commodity*)?
    - Is (*commodity*) available in local markets throughout the year?
    - Is (*commodity*) affordable for low-income consumers throughout the year?
14. Would rural households consume more of (*commodity*) if it were made available to them? Why or why not?
15. Would a new (*commodity-based*) product, such as (*product*), be acceptable to rural households? Why or why not?

Tool 3.6. Consumption and factors affecting demand from target group

Purpose: This tool follows up on information collected in Step 1: Nutrition situation analysis and in the secondary data review. It can be used to validate and fill in gaps on food consumption patterns and to obtain more specific information on the factors limiting consumption of the specific commodities selected for the VC analysis, particularly from the perspective of rural and low-income consumers.

Method: Focus group discussion (FGD) or individual household interviews

Participants: Potential participants in the FGD, as indicated in Table 3, should be producer households as well as other rural or low-income consumers (non-producer households). In some contexts, men's and women's group discussions should be conducted separately.

Questions:

Availability, affordability and seasonality

1. Is (*commodity*) available to smallholder producers and rural populations throughout the year? If not, why not?
2. Do smallholder producers and rural populations consume (*commodity/ies*)? If not, why not?
3. Does the consumption pattern change in certain periods of the year? If yes, why?
4. Where do smallholders source (*commodity*) for household consumption: from their own production, from the market? How often? Why?
5. Would smallholders wish to increase their consumption of (*commodity*) out of their own production throughout the year?
   - If yes, what is limiting them from producing or consuming more?
   - If not, why not?
6. When buying (*commodity*) from the market, what challenges do smallholders experience (price fluctuations throughout the year, limited availability in local markets, etc.)?
7. What is the price of (*commodity*) in the market? How does it vary by location and season? How does this affect consumption or purchase by smallholders?
8. When buying from the market, how much is spent on (*commodity*) per week/month by smallholders?
9. How much would smallholders be willing to spend on food that is good for health (e.g. high nutrition value, safe, etc.)?
10. How can (*commodity*) be preserved or processed to enhance its availability and consumption throughout the year (e.g. during non-harvest seasons)?

Acceptability and desirability

11. Do smallholder producers and rural populations like consuming (*commodity*)?
12. Do women, children and men have difference preferences for (*commodity*)? Please explain.
    - If yes, why?
    - If no, why?

13. Are there cultural barriers towards consumption of (*commodity*) (taboos, social stigmas, etc.)?

    Ask whether these barriers change for pregnant women, young girls and boys, or use in complementary feeding for children.

14. What can be done to increase the acceptability and desirability of (*commodity*), including processing or preparation into different products?

Preparation and consumption

15. How often is (*commodity*) consumed in the household?
16. In what form is (*commodity*) consumed (cooked, raw, combined with other foods, processed)?
17. If cooked, how is it cooked (method of cooking, time for boiling or cooking, etc.)?
18. What are the probable safety risks/nutrition value losses of existing preparation methods (use of dirty water, unhygienic food preparation, waste of highly nutritious parts, etc.)?
19. How do consumers consciously preserve or add nutritional value to (*commodity*) at the household level?
20. How often does food spoil or go to waste in the house? What are the reasons?
21. How is food conserved in the household (storage, preservation, other ways to make it last longer, etc.)?

Nutrition information and perceptions

22. What are the nutritional benefits of consuming (*commodity*)? What are the differences in nutritional value among varieties or species?
23. Where do rural households obtain information on nutrition and diets?
24. What is considered a nutritious meal for children under 2? Children under 5? Pregnant and lactating women?

    Ask about use of selected commodities, and properties or qualities of specific food products.

25. Have smallholder producers ever received information on nutrition of any of the agricultural commodities produced (in terms of their vitamin, mineral, protein, etc. content)?
26. What level of awareness do smallholders have about biofortified and fortified crops and other foods?

Tool 3.7. NSVC analysis – Enabling environment and external elements to the VC

Purpose: This tool can be used to fill the gaps from the secondary data review of Step 3: NSVC analysis, specifically on issues related to the enabling environment and other elements that may be external to the specific commodity VC but still have relevance from a nutrition perspective. Some aspects may already be captured through the diagnostic studies in Steps 1 and 2, or through other tools used in this step.

Method: Key informant interview (KII) or institutional meetings

Participants: Potential key informants or participants in these meetings, as indicated in Table 3, include leaders of producer organizations or VC platforms, regulatory bodies, research organizations, agriculture departments, fisheries departments, extension service providers and institutional buyers (health centres, schools, food assistance organizations, etc.).

Questions:

Enabling environment/policies

1. How is the functioning of the VC influenced by the external environment (government policies, legal frameworks such as taxes, import duties, subsidies, land tenure, contract enforcement, labour legislation and trade rules, etc.)?
2. Which VC actors are most affected? Why?
3. Are there any planned or ongoing infrastructure programmes relevant for the (*commodity*) VC (dams, irrigation schemes, roads, market infrastructure, etc.)?
4. Are there any programmes relevant to (*commodity*) or their added-value products underway in the area (government programmes, development programmes, private-sector initiatives, etc.)?
5. What is the influence of the food safety standards and regulations on the functioning of the VC?
6. How are food safety regulations implemented and enforced (surveillance system, inspections, organizations in charge of conducting analysis, etc.)?
7. Which VC actors are most affected by food safety regulations?
8. What is the condition of roads needed for physical access? How is food handled or stored during transportation?

Institutional markets (health centres, food assistance programs, school meals programmes, etc.)

9. Are there any relevant nutrition programmes or activities being implemented in rural areas/villages (nutrition education for women, feeding or dietary supplementation programmes, child growth monitoring, cooking and food preparation and storage, etc.)?
10. Do any of these programmes source foods locally?
11. Is there potential to link production of (*commodity*) with any of these ongoing programmes?
12. Are there any school feeding programmes in operation? If so, how are the foods chosen, who selects them?
13. Who provides the food? Do any of these school feeding programmes source foods locally?
14. Is there any nutritional education in the school curriculum? Any nutrition-related training or education for parents, such as parent-teacher associations?
15. Are there any school garden programmes?

Step 4:
Identification of intervention options

	Diagnostics			
	STEP 1: Nutrition situation analysis	**STEP 2: Commodity selection**	**STEP 3: NSVC analysis**	**STEP 4: Intervention options**
Key elements of each step	• Nutritional status • Causes of malnutrition • Diet characterization and identification of diet gaps	Selection criteria: • Nutrition-improvement potential • Market potential • Income-generation potential • Gender • Environment and climate	• VC mapping and characterization • Analysis of constraints and opportunities in: - Supply - Nutrition value - Demand	• Types of intervention • Cost-effectiveness • Target group • Tensions and trade-offs

Sample terms of reference – Step 4: Identification of intervention options

These terms of reference have been developed to be used for studies conducted as part of the design of a nutrition-sensitive value chain (NSVC) project. Prior to conducting the study, please refer to *Nutrition-sensitive value chains: A guide for project design – Volume I* for guidance on the NSVC framework and overall approach, and to *Nutrition-sensitive value chains: A guide for project design – Volume II: Resources*, which offers guidance on the tools and templates to employ during the fieldwork. The NSVC approach identifies four steps for project design: Step 1: Nutrition assessment; Step 2: Commodity selection; Step 3: Nutrition-sensitive value chain analysis; and Step 4: Identification of intervention options.

These terms of reference refer to Step 4: Identification of intervention options.

Objectives of the assignment

The primary objective is to identify the concrete interventions that can be included in an upcoming NSVC project. The consultant should identify a menu of intervention options based on the constraints and opportunities along the selected value chains (identified in Step 3: NSVC analysis), and their potential to address the nutrition problems in the target population (identified in Step 1: Nutrition situation analysis). These previous background studies will be made available prior to the start of the assignment.

The characterization of the VC and analysis of the three core dimensions of the NSVC (supply, nutrition value and demand), including constraints and opportunities, should suggest appropriate strategies and specific actions to take to make the VC more likely to improve nutrition. Based on these, the identification of intervention options should cover the following aspects.

- *Type of interventions.* Provide a menu of intervention options, indicating their potential to address nutrition problems. Options may be commodity specific or cut across different value chains. Depending on the findings of Step 3: NSVC analysis, potential intervention options may include investments that affect:
  - Supply: through technical assistance, links with agribusiness firms, etc.,
  - Demand: through promotion of nutritious products, nutrition education, social marketing, etc.,
  - Nutrition value: through promotion of nutrient-dense or biofortified crops, use of nutrient-preserving processing, capacity-building on food safety, etc.,
  - Promotion of an enabling policy environment: through advocacy for supporting policies or for incentives to produce healthy products.

- *Business models:* For intervention options within a value chain, develop inclusive business models that aim to integrate smallholder farmers as consumers as well as producers. This calls for undertaking assessments to develop business models for local markets. For the business model to be financially viable, there may be a need to target other end-markets, such as urban and export markets. But it will also require identifying business models that can serve local and informal markets – where rural producers are also consumers. Doing so will increase understanding of the implications of VC development for a specific commodity in the local food systems of the target population.
- *Indication of cost-effectiveness.* Indicate cost-effectiveness of each intervention. The analysis should provide an indication of main areas of costs, estimating values of the main categories of expenditure along with total investment value per option. A detailed analysis of costs and benefits is not required at this stage, but, as part of effectiveness analysis, the work should indicate the outputs and outcomes that each intervention option will contribute to, and how they relate to nutrition.

- *Target groups.* Identify key target groups (e.g. smallholders, women) of each intervention option.
- *Tensions and trade-offs.* Describe tensions and trade-offs, advantages and disadvantages of each intervention option or, as appropriate, across options or across an investment strategy or business model. Suggest importance and priority of these options in terms of economic viability and of nutrition-improvement potential, and indicate actions that could be taken to mitigate tensions or enhance opportunities.

Scope and methodology of the study

The study will rely mainly on findings from previous studies, specifically Step 1: Nutrition situation analysis and Step 3: NSVC analysis. Minor additional secondary data reviews or primary data collection, such as KIIs, may be needed to fill in specific gaps during the elaboration of the intervention options, and to conduct the cost-effectiveness analysis. All primary data collection should follow international guidelines for ethical conduct of research, including informed consent.

The main activity to be held in the field is one – or several – validation meetings with local stakeholders and VC actors to present and discuss intervention options.

Specific tasks include:

- Selection and invitation of participants;
- Development of a participatory methodology to use during validation meetings;
- Organization of the meeting and dissemination of relevant documentation prior to the meeting, if needed;
- Documentation and synthesis of the results, for identification of intervention options;
- Cost-effectiveness analysis.

Qualifications and expertise

The assignment should be conducted by a team with relevant qualifications and expertise in: i) nutrition-sensitive agriculture, ii) agricultural economics and value chains, and iii) gender and environment. The same team (or at least a member of the team) engaged in the development of Step 3: NSVC analysis should be included in the assignment.

In the case of projects funded by multilateral financial institutions such as IFAD, the identification of intervention options can be carried out by the design mission itself. In this case, the participation of a member of the team that conducted Step 3: NSVC analysis in the mission is strongly desirable.

Deliverable

The findings of the study should be presented in a concisely written report, which should contain the essential information on the intervention options that a NSVC project could pursue.

Duration

The assignment should be completed in 2 to 3 weeks. With attention to the overall parameters of the assignment, the indicative timeline, set out below, may be adjusted as deemed necessary.

1. Desk review and preparation of the validation meeting: 1 week
    - Secondary data review, including review and analysis of background studies (Steps 1, 2 and 3)
    - Meeting preparation: selection and invitation of participants, methodology adaptation
2. Validation meeting/s and additional primary data collection (if needed): 1 week
3. Report writing: 1 week

Tools and methods – Step 4: Identification of intervention options

Tool 4.1. Validation meetings

Purpose: The validation meetings should use an inclusive, participatory approach to identify intervention options that can contribute to nutrition outcomes. During the meeting, the findings from Steps 1 to 3, in terms of constraints and opportunities identified along each value chain, should be presented, discussed and prioritized, and intervention options identified. Enough time should be devoted to analyzing findings from the diagnostic studies of Steps 1, 2 and 3 in order to synthesize key findings and identify potential intervention options. Depending on the specific project context, validation meetings can be held after the NSVC analysis, during a design mission (e.g. for projects funded by multilateral financial institutions or development agencies) or even during project start-up.

These validation meetings are essential to ensure relevance to and ownership by stakeholders, especially the smallholders themselves. The process should follow a participatory and consultative approach, actively engaging communities and VC actors in the identification of intervention options, ensuring that findings are locally validated and owned, and encouraging partnerships and coordination with other actors, programmes and sectors.

Method: Validation meeting

Participants: Participants should be selected based on the findings and the key stakeholders identified during the diagnostic studies. These may include VC actors, development organizations, government departments, etc. Representatives from the target group should also be represented, either through a separate community consultation or through a joint validation workshop with other local stakeholders.

Approach:

Overview of the project and findings from diagnostic studies (Steps 1, 2 and 3)

- The purpose of the meeting should be made clear to participants, including what is expected from them. The commodities that were selected, and the process by which they were selected (i.e. based on potential to address the nutrition problem, as well as market and income-generation potential) should be explained. The nutrition context should also be presented to ensure the focus on NSVCs makes sense.
- General findings from Step 3: NSVC analysis should be presented, including characterization of the VC, including VC actors, and opportunities and challenges in supply, demand and nutrition value.

Small group discussion

Depending on the number and nature of the participants, split into groups for more focused and detailed discussion. Each can be provided with cards of VC actors: producer, processor, traders, etc. Ask each group to:

- Map out and validate the characterization of the VC, adding and exchanging cards as necessary;
- Identify, validate and prioritize the key challenges along these chains related to nutrition (affordability, availability, nutrient value, food safety, etc.);
- Discuss and give feedback on the proposed interventions (likes/dislikes, pros/cons, and reasoning) or add new potential interventions relevant to an NSVC (i.e. with a view to addressing the nutrition problem);
- Prioritize proposed interventions, and identify: (i) key stakeholders; (ii) advantages and disadvantages of each intervention option, in general and for nutrition; (iii) main target group; and (iv) main outcomes, in general and for nutrition.

Results of the group discussions should be presented and discussed in plenary. Looking to the future, ensure that those who have participated are part of the discussion and decisions as to how they will continue to be engaged and involved in building and supporting nutrition-sensitive value chains.

International Fund for Agricultural Development
Via Paolo di Dono, 44 - 00142 Rome, Italy
Tel: +39 06 54591 - Fax: +39 06 5043463
Email: ifad@ifad.org
www.ifad.org
facebook.com/ifad
instagram.com/ifadnews
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