



Food and Agriculture
Organization of the
United Nations

Designing nutrition-sensitive agriculture investments

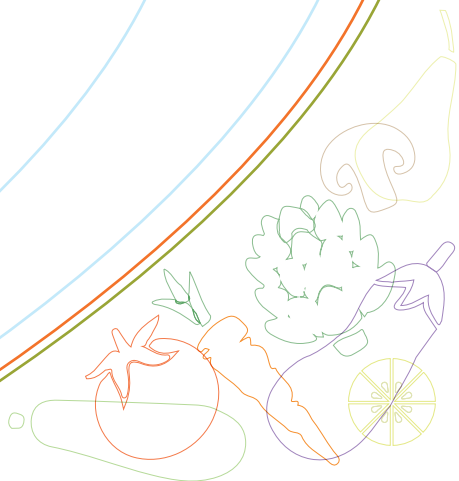
Checklist and guidance for
programme formulation



Designing nutrition-sensitive agriculture investments

Checklist and guidance for programme formulation

Food and Agriculture Organization
of the United Nations
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Foreword

Economic growth and social protection mechanisms have helped pull many out of poverty in recent decades, and this was accompanied by a marked reduction in food insecurity. However, the prevalence of child undernutrition remains unacceptably high and is compounded by rising levels of obesity and diet-related chronic diseases.

In November 2014, during the Second International Conference on Nutrition (ICN2) organized by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO), over 170 member countries acknowledged that malnutrition, in all its forms (including undernutrition, micronutrient deficiencies, overweight and obesity), negatively affects people's health and well-being and poses high economic and social costs for individuals, communities and nations. The two ICN2 outcome documents: the *Rome Declaration on Nutrition* and its *Framework for Action*, recognize that food systems should be at the heart of efforts to combat all forms of malnutrition.

Current food systems are increasingly challenged to provide adequate, safe, diversified and nutrient-rich food that make up healthy diets due to constraints posed by resource scarcity and environmental degradation, as well as unsustainable production and consumption patterns, food losses and waste, and inequitable distribution.

Investments in agriculture and food systems are therefore essential to improve the availability, accessibility and consumption of nutritious foods. These investments come from international financing institutions, public resources at the country level and, most importantly, from farmers themselves and the private sector in general. They can be leveraged in favor of nutrition but doing so requires explicitly considering the nutritional implications of investments. Efforts should be made to: diversify production and diets; improve processing methods to make healthy foods available longer and convenient to prepare; and ensure that investments are equitable and mindful of the environment. Furthermore, resources should be invested in nutrition education in order to empower consumers to make healthy food choices.

FAO member countries and their development partners are increasingly seeking to meet national and international commitments and are therefore looking to concrete tools and field experiences. Since 2011, FAO's Nutrition Division (ESN) and Technical Cooperation and Investment Center (TCI) have been increasingly working together to respond to this need and enhance the nutrition sensitivity of FAO's investment support. The purpose of this collaboration is to assist governments and international finance institutions in ensuring that their investments are "nutrition-sensitive" and maximize impact on human well-being while being mindful of environment.

This collaboration has led to the development of tools to guide the design of nutrition-sensitive programmes including the present guidelines. This document is based on a thorough review of experience on nutrition-sensitive agriculture. It was developed through extensive consultation within FAO and with its development partners, and has been field-tested in several countries. It is a living document and so we look forward to continued collaboration with our partners in learning how to improve the contribution of agriculture investments to better nutrition.

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This guidance checklist has been developed jointly by FAO's Nutrition Division (ESN) and Investment Centre (TCI). The main authors are Anna Herforth (FAO consultant), Charlotte Dufour (FAO Nutrition Policy and Programme Officer, ESN), and Anna-Lisa Noack (FAO Nutrition-sensitive investment consultant, TCI). The checklist builds on group work guidance developed for the African Union (AU) and New Partnership for African Development (NEPAD) CAADP *Nutrition Capacity Development Initiative* regional workshops. It was reviewed through several consultation processes with FAO's Investment Centre, FAO's Nutrition Division and the Ag2 Nut Community of Practice. The authors particularly acknowledge contributions from Johanna Jelensperger (FAO Agriculture Economics Division), Benoist Veillerette (FAO TCI), Pamela Pozarny (FAO TCI), Domitille Kauffmann (ESN), Ruth Charrondière (ESN), Yenory Hernandez Garbanzo (ESN), Florence Tonnoir (ESN), Nomeena Anis (FAO Pakistan), Lalita Bhattacharjee (FAO Bangladesh), Heather Danton (USAID SPRING) and Andrea Spray (World Bank Group). Finally, the support of Jayne Beaney, editor, Juan Luis Salazar, graphic artist, and Chiara Deligia, communication officer (ESN) are warmly acknowledged.

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Introduction

The persistence of high levels of undernutrition – manifested in high rates of chronic and acute undernutrition as well as micronutrient deficiencies – combined with an increasing prevalence of overweight and chronic disease, has led to unprecedented political commitment to address malnutrition through multisectoral and multistakeholder efforts.

In November 2014, during the Second International Conference on Nutrition (ICN2), FAO and WHO Member States reaffirmed their commitment to combat all forms of malnutrition through the adoption of the Rome Declaration on Nutrition and its Framework for Action. The ICN2 Framework for Action emphasizes the importance of *“reviewing national policies and investments and integrating nutrition objectives into food and agriculture policy, programme design and implementation”*.

Food systems are indeed primarily responsible for feeding people well by increasing availability, affordability and consumption of diverse, safe, culturally appropriate, nutritious foods and diets without harming the environment. A growing number of institutions investing in food systems have committed themselves to ensuring their investments are *“nutrition-sensitive”*, but many professionals from the food and agriculture sector seek guidance on what this entails in terms of programme design and implementation.

FAO, in consultation with Civil Society Organizations (CSOs), Non-Governmental Organizations (NGOs), government staff, donor organisations, UN agencies, and particularly the Agriculture to Nutrition Community of Practice (Ag2Nut), has developed a set of 10 Key Recommendations for Improving Nutrition through Agriculture (see below). These recommendations have been formulated following an extensive review of available guidance on agriculture programming for nutrition conducted by FAO and summarized in the *“Synthesis of Guiding Principles on Agriculture Programming for Nutrition”*, and through consultation with a broad range of partners (CSOs, NGOs, government

staff, donors, UN agencies) and in particular through the Ag2Nut Community of Practice. They are also referred to as “*guiding principles*” by some partners, and are in use by other agencies.

The present document is designed to serve as a tool to guide programme planners who are aiming to apply these recommendations in the design of agricultural investments and programmes. It is structured around the first phases of the programming cycle (situation appraisal, programme design and programme review) and includes key questions, accompanied by tips and references, that can assist programme design missions in:

- Identifying the information needed during situation appraisal to plan the design of a nutrition-sensitive agriculture programme;
- Guiding the definition of objectives, target groups, choice of interventions and implementation modalities;
- Critically reviewing programme and strategy documents with a “nutrition lens” after the design has been completed.

This guidance checklist has been developed with the notion that the strategies that will enable an agriculture investment to be “nutrition-sensitive” are context-specific and require continuous revision. The checklist does not, therefore, provide “answers” but questions and tips, which can guide practitioners in finding the most locally appropriate solutions to complex challenges. Tips are primarily sourced from the “*Synthesis of Guiding Principles on Agriculture Programming for Nutrition*” (FAO, 2013). Key questions listed in the checklist arose from multiple inputs from stakeholders, including some questions sourced from the World Bank publication *Prioritizing nutrition in agriculture and rural development: Guiding principles for operational investments* (Herforth et al. 2012).

This guidance checklist is complemented by two other FAO publications (to be published early 2016):

- The *Compendium of Food and Agriculture Actions for Nutrition*: this compendium provides a list of interventions related to crop production, horticulture, livestock, fisheries, food processing, forestry and nutrition promotion, which can contribute to improving nutrition as part of a multisectoral strategy;

- The *Compendium of Indicators for Nutrition-Sensitive Agriculture*: this document describes a range of indicators, which can be used to monitor and evaluate the nutrition-related impacts of investments in agriculture and rural development. It provides guidance on what each indicator measures and key features of data collection, as well as references to relevant manuals.

We hope this guide will assist you in identifying creative, unique and sustainable solutions that help families improve their nutrition by making the most out of available resources.

KEY RECOMMENDATIONS FOR IMPROVING NUTRITION THROUGH AGRICULTURE AND FOOD SYSTEMS

Food systems provide for all people's nutritional needs, while at the same time contributing to economic growth. The food and agriculture sector has the primary role in feeding people well by **increasing availability, affordability, and consumption of diverse, safe, nutritious foods and diets** aligned with dietary recommendations and environmental sustainability. Applying these principles helps strengthen resilience and contributes to sustainable development.

Agricultural programmes and investments can strengthen impact on nutrition if they:

1

Incorporate explicit nutrition objectives and indicators into their design, and track and mitigate potential harms, while seeking synergies with economic, social and environmental objectives.

2

Assess the context at the local level, to design appropriate activities to address the types and causes of malnutrition, including chronic or acute undernutrition, vitamin and mineral deficiencies, and obesity and chronic disease. Context assessment can include potential food resources, agro-ecology, seasonality of production and income, access to productive resources such as land, market opportunities and infrastructure, gender dynamics and roles, opportunities for collaboration with other sectors or programmes, and local priorities.

3

Target the vulnerable and improve equity through participation, access to resources, and decent employment. Vulnerable groups include smallholders, women, youth, the landless, urban dwellers, the unemployed.

4

Collaborate and coordinate with other sectors (health, environment, social protection, labour, water and sanitation, education, energy) and programmes, through joint strategies with common goals, to address concurrently the multiple underlying causes of malnutrition.

5

Maintain or improve the natural resource base (water, soil, air, climate, biodiversity), critical to the livelihoods and resilience of vulnerable farmers and to sustainable food and nutrition security for all. Manage water resources in particular to reduce vector-borne illness and to ensure sustainable, safe household water sources.



FAO. 2015. Key Recommendations for Improving Nutrition through Agriculture and Food Systems.
Available at: www.fao.org/3/a-i4922e.pdf

6

Empower women by ensuring access to productive resources, income opportunities, extension services and information, credit, labour and time-saving technologies (including energy and water services), and supporting their voice in household and farming decisions. Equitable opportunities to earn and learn should be compatible with safe pregnancy and young child feeding.

7

Facilitate production diversification, and increase production of nutrient-dense crops and small-scale livestock (for example, horticultural products, legumes, livestock and fish at a small scale, underutilized crops, and biofortified crops). Diversified production systems are important to vulnerable producers to enable resilience to climate and price shocks, more diverse food consumption, reduction of seasonal food and income fluctuations, and greater and more gender-equitable income generation.

8

Improve processing, storage and preservation to retain nutritional value, shelf-life, and food safety, to reduce seasonality of food insecurity and post-harvest losses, and to make healthy foods convenient to prepare.

9

Expand markets and market access for vulnerable groups, particularly for marketing nutritious foods or products vulnerable groups have a comparative advantage in producing. This can include innovative promotion (such as marketing based on nutrient content), value addition, access to price information, and farmer associations.

10

Incorporate nutrition promotion and education around food and sustainable food systems that builds on existing local knowledge, attitudes and practices. Nutrition knowledge can enhance the impact of production and income in rural households, especially important for women and young children, and can increase demand for nutritious foods in the general population.



Situation appraisal

The first step in designing a nutrition-sensitive intervention consists of a thorough analysis of the context, in particular of the nutritional problems that affect different parts of the population, their multiple causes, and the social and institutional contexts that shape the food and nutrition security situation. This first section therefore corresponds to the application of Key Recommendation 2. The situation appraisal should also include information that facilitates the application of the other nine key recommendations.

Key recommendation 2:

Assess the context at the local level, to design appropriate activities that address the types and causes of malnutrition

Institutional, policy and programme context

Improving nutrition requires investing in different sectors, including food and agriculture, health, water and sanitation, education and social affairs. Interventions in the food and agriculture sector need to be coordinated with those in other sectors to meet the various basic needs of vulnerable populations.

Identifying which institutions are responsible for, or involved in, food and nutrition security interventions is the first step of a situation analysis, as it enables the programme formulation team to identify sources of information and partners. Furthermore, in most – if not all – contexts, many interventions have already been implemented and any new programme should build on lessons learnt and complement those already on the ground.

Questions:

- Which are the main ministries and other governmental institutions involved in food and nutrition security policies and programmes, at the central, district and local level?
- Which are the main development partners - donors, UN, NGOs, academia, CSOs - involved in food and nutrition security and what are their areas of work?
- Which are the main private sector entities (including farmers' organizations) involved in food and nutrition security interventions and how are they engaged?
- Which are the main guiding policy and programming frameworks related to food and nutrition security? What is their status of application and implementation?
- Which coordination mechanisms deal with food and nutrition security-related issues?

Tips

- Ministries that are usually involved in food and nutrition security include: Ministry(ies) of Agriculture, Livestock, Fisheries, Forestry; Health; Social Affairs, Women's Affairs; and Education.
- Where the Renewed Efforts Against Child Hunger (REACH) partnership and/or Scaling Up Nutrition (SUN) Movement are present, the facilitator(s) are useful key informants as they support the mapping of who does what in nutrition.

The nutritional situation in the country/programme area

Understanding the nutrition profile of an area is essential to define programme objectives related to nutrition

Questions:

- What is the prevalence of malnutrition in the country/programme area?
 - Acute malnutrition/wasting (severe and moderate);
 - Chronic malnutrition/stunting;
 - Micronutrient deficiencies among preschool-age children and women, especially iron (anaemia), iodine, vitamin A and zinc;
 - Overweight among children and adults;
 - Underweight among women.
- Are there any seasonal or gender patterns in rates of acute malnutrition? How are these explained?
- Are certain geographical areas more affected by malnutrition than others? (If so, which ones and why?)
- Are certain livelihood groups and/or socio-economic groups, such as smallholders, landless, urban residents, unemployed, ethnic minorities, more affected by malnutrition than others? What forms of malnutrition, and why?

Once rates of malnutrition are identified, it is important to determine its major causes in the area or population group that may be targeted by the project. These may be related to diet and food access, but also to issues of infectious diseases or feeding and caring practices. They could be related to women's workload. Ideally, a nutrition situation report would already be available and the project team could refer to it. If not, addressing the questions presented in the following sections may help determine some of the major determinants of malnutrition.

Where to find the information

- Nutrition surveys, disease surveillance, nutrition policy and strategy documents, and attendance records of nutrition rehabilitation centres, usually available from the Ministry of Health, the United Nations Children's Fund (UNICEF) and/or the World Health Organisation (WHO)
- The following websites:
 - The Global Nutrition Report: globalnutritionreport.org
 - UNICEF ChildInfo: www.childinfo.org/malnutrition_nutritional_status.php
 - World Bank World Development Indicators: <http://data.worldbank.org>
 - WHO nutrition databases: www.who.int/nutrition/databases/en/index.html
 - WHO Non-Communicable Diseases country profiles (2011) www.un.org/en/ga/ncdmeeting2011/pdf/ncd_profiles_report.pdf
 - UNICEF Tracking Progress on Child and Maternal Undernutrition (2009) www.unicef.org/publications/files/Tracking_Progress_on_Child_and_Maternal_Nutrition_EN_110309.pdf
 - World Bank Nutrition Country Profiles (2010-2011) www.worldbank.org/nutrition/profiles
 - FAO (2014) Food and nutrition in numbers - pocketbook (www.fao.org/3/a-i4175e.pdf)
- Key informant interviews with professionals from the Ministry of Health, UNICEF, NGOs working in nutrition programmes; local clinics; professionals from the Ministry of Agriculture, FAO, the Famine Early Warning Systems Network, and the World Food Programme's Vulnerability Assessment and Monitoring units may also have information on livelihood zones and groups which susceptible to malnutrition.
- Consultation workshops with stakeholders working in food and nutrition security. Refer to the FAO guidelines and e-learning module on *Agreeing on Causes of Malnutrition for Joint Action* (www.fao.org/3/a-i3516e.pdf) and <http://www.fao.org/elearning/#/elc/en/course/ACMJA>

Health and sanitation environment, including food safety

Questions:

- What are the most prevalent diseases (e.g. malaria, HIV/AIDS, diarrhoeal diseases, acute respiratory infections (ARI), chronic diseases)? Specify the prevalence and severity of major diseases, if possible.
- Where do households access drinking water? Is there a piped water supply? Is the water clean or contaminated (with biological or chemical contaminants)?
- Who collects water, for agricultural and household use?
- Do agricultural or agro-industrial activities influence the water supply, either in quantity or quality?
- Do animals live in or near the household (especially where young children may be playing)?
- Are there risks of zoonotic disease?
- Do households have access to and practice regular deworming?
- Do households have access to latrines? Do households use the latrines?
- Do households have access to soap? Is hand washing practiced, i.e. before handling, preparing and eating food, feeding children, using the latrine, touching and handling animals?
- Are there differences between localities, socio-economic status or gender?
- Are there any food safety issues, such as chemical or microbiological contaminants, in the food supply?

Where to find the information

- Demographic and Health Surveys (DHS) or Multiple Indicator Cluster Surveys (MICS) or other health surveys that include data on water supply.
- Depending on the strength of surveillance and monitoring systems, data on zoonotic diseases and food microbiological and chemical contamination at the national or regional level may be found from the World Health Organization Global Environment Monitoring System on Food Contamination Monitoring and Assessment Programme.
- Observation.
- Key informant interviews, with Ministry of Health personnel, NGOs, local research institutes, and focus group discussions.
- UN-Water Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS) www.who.int/water_sanitation_health/glaas
- WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation www.wssinfo.org

Food consumption patterns and dietary needs

Questions:

- Does the local diet allow people to meet their nutritional needs, in terms of diversity, energy, protein and micronutrients? If not, which foods, food groups or nutrients seem to be lacking in the local diet?
 - What are the most commonly eaten foods in the local diet?
 - What does the typical local food plate look like? For instance, how much of it is taken up by cereals, and how does it compare to the local dietary guidelines?
 - Are specific foods processed and consumed (including cultivars, varieties or breeds, or wild or underutilized foods), which could be used to solve existing nutritional problems, especially if produced in greater quantities? Are they accessible to the population? Can they be grown in the area or transported into the area?
- Are there disparities among sub-populations in terms of meeting nutritional needs?
 - Are there geographic or ethnic differences in food consumption? Gender differences? Which are the vulnerable groups in the population in terms of nutrition?
 - Are breastfeeding and complementary feeding practices for children under two years of age adequate, in terms of frequency of feeding, energy density and diversity?
 - Are pregnant and lactating women able to meet their heightened dietary needs?
 - Do any cultural practices and food taboos limit consumption of certain foods by particular groups or individuals?
- Are food consumption patterns changing? If so, in what way: for example increasing demand due to population increase; changes in diet linked to urbanization and growing reliance on markets, increased consumption of imported foods?

- What proportion of the diet is composed of industrially processed ultra-processed foods like soft drinks and refined starch-based snacks or alcoholic beverages?

Where to find the information

- National, regional or local dietary guidelines (if available).
- Surveys: Household Consumption and Expenditure Surveys, other dietary surveys that may have been conducted by local or regional universities or other researchers. Note that the type and quality of information available will depend on the survey methodology.
- DHS or MICS or other nutritional surveys that include data on child feeding practices.
- Food composition tables and databases - repository on the International Network of Food Data Systems (INFOODS) website www.fao.org/infoods/infoods/tables-and-databases
 - Does a national or regional food composition table exist? Is it up-to-date and of good quality? Does it contain all foods consumed by the population including wild foods or frequently consumed varieties?
- Nutritional requirements: www.fao.org/ag/humannutrition/nutrition
- Key informant interviews and focus group discussions.
- Information on demographic trends - increase rate, composition, urbanization, migration - can usually be collected from a national institute of statistics.
- Research reports on local food consumption patterns.

Tips

- Information on food consumption patterns is often unavailable. In such cases, it may be relevant to include a study of food consumption patterns in the project area during project preparation or as part of the project inception to establish a baseline, in view of future impact evaluations, and to inform the implementation of certain project activities like choice of crops to be promoted; content of nutrition education, etc.
- Often food consumption surveys do not include questions on foods consumed in small quantities, infrequently or by certain cultural groups. If so, data on their consumption may not exist, although such foods may be important sources of nutrients and dietary diversity. Keep in mind that wild or underutilized foods may be under-reported in existing data.

Food availability and seasonality

Questions:

- What foods are produced in the country/programme area, and during which season? Are foods from all food groups produced: cereals, tubers/ starchy roots, fruits, vegetables, legumes, nuts, dairy products, eggs, meat and fish, oil and fat? What are the seasonal patterns of food availability? Are there times of food scarcity; if so, for which foods and for how long?
- Are produced foods mostly consumed by the household, sold, or both?
- What kinds of foods can be produced in local agro-ecological conditions, considering climate, soil health, rainfall, etc.? What are the most climate-resilient crops that can be grown? What are the main constraints to food production?
- What foods are most commonly available in the markets, stores and from street vendors? How does availability vary by season?
- What foods are typically purchased and what are the main constraints to accessing them (income, distance, scarcity, etc.)? How does this vary by season?
- Are foods stored and/or processed to increase availability throughout the year? If so, which ones? Is food stored or processed at household, community or industrial level? What are the major challenges to storing and preserving foods?

Where to find the information

- Reports of crop assessments and livestock censuses.
- Market price data collected periodically by agricultural extension agents, department of agriculture marketing, or the bureau of statistics.
- Visits to local markets.
- Key informant interviews with local producers, processors and retailers.
- Comprehensive Food Security and Vulnerability Assessments.

Tips

- Use existing charts or prepare an agricultural calendar with local agronomists and a calendar of local food availability (including both local production and market availability) through a participatory exercise with local professionals or communities.
- Compare the calendars with seasonal patterns of acute malnutrition and/or illness, if available.

Household access to food

Questions:

- How do households access food: through homestead production, purchase, collection, barter, gifts and food aid? What is the relative importance and reliability of each source?
- Do middle- and low-income households have sufficient purchasing power to buy sufficient food and other essential items?
- What are the prices of the major food items? Are there differences by location and season?
- Are certain food groups, such as animal products, fruits and vegetables, too expensive for middle- and low-income households? Are food prices increasing or likely to increase?
- What are the main sources of income of local households: e.g. employment, sale of own production, remittances, loans, income-generating programmes, etc., and how reliable are they?
- Do households have safe access to food markets in terms of distance, transportation means and cost?
- Are household strategies for accessing food changing? If so, how: for instance, increasing reliance on purchased foods and supermarkets?

Where to find the information

- Surveys: Household Consumption and Expenditure Surveys, Comprehensive Food Security and Vulnerability Assessments and other food security or livelihoods assessments. Note that many food security assessments primarily track the quantity of staple grains or dietary energy. Other information sources are needed to track availability and affordability of particular varieties of foods.
- Key informant interviews and focus groups with local community members and professionals from the food and agriculture sector.

Gender and care practices

Questions:

- How do women compare with men regarding educational status, rights, access to resources and decision-making power?
- What are the roles and responsibilities of different household members?
- Related to agricultural work, what is the largest labour burden for women? What are the opportunities for, or obstacles, to increasing their income and reducing drudgery?
- What constraints do women face in securing adequate food for their family?
- Who takes care of dependents - children, the elderly, the sick - in the household, and at community level: community structures and kinship networks?
- How much time do mothers devote to child care and feeding?
- Do women have access to reproductive health services and family planning?
- Which households face problems providing adequate care for all family members: for example, households with a high number of dependents compared to the number of working or able individuals?

Tips

- Women's workload often constrains the quality of care they are able to provide (e.g. it is difficult to feed children frequently if busy in the fields, fetching water, etc.). ► It is useful to construct a daily or weekly agenda of women's activities. This helps assess the risk of a project potentially increasing women's workload which could have negative impacts on care, and to identify opportunities for reducing workload, such as labour-saving technologies.

Where to find the information

- Gender studies.
- Key informant interviews and focus groups.

Access to productive assets and marketing opportunities: equity issues

Questions:

- Do identified vulnerable households or groups have access to productive assets, namely land, water, agricultural inputs and extension services?
- Do they have the possibility to engage in small-scale gardening or small livestock-raising or pond aquaculture/fish ponds?
- Do they have the opportunity to engage in off-farm activities, such as food processing and retail?
- What are the constraints to market access among various population groups?
- Does the existing infrastructure and security enhance or hinder access to productive assets, income-generation activities or marketing of foods?
- Note: the answers to these questions may vary by group or community.

Where to find the information

- Food security surveys and studies.
- Key informant interviews and focus groups.

Policy frameworks and regulations

Note: Many of the following questions may be very difficult to answer, as there are very few studies on the nutritional impact of food and agriculture policies, and even limited data, notably on food consumption, that would make such analyses possible. However, it can be useful to have these questions in mind and there may be rare cases where such research has been carried out!

Questions:

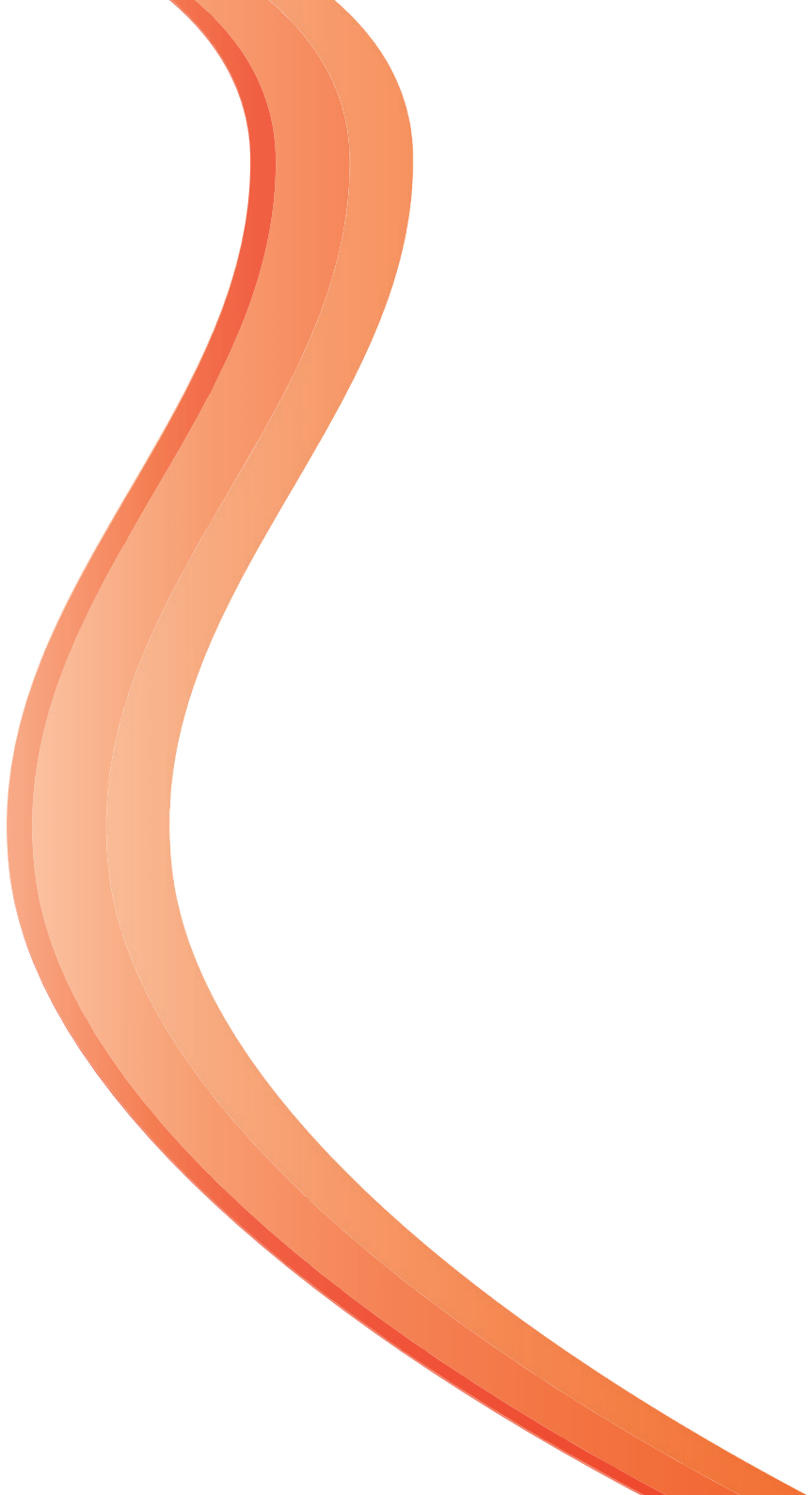
- Which policies exist in nutrition, food, agriculture or other sectors that mention explicitly nutrition as target, means or as entry point for policies?
 - Are policy frameworks designed to increase the production of a wide variety of micronutrient-rich foods, make them available at affordable prices and/or increase intakes of micronutrient-rich foods?
 - Are policy frameworks designed to support informed food choices, namely nutrition labelling, school meal standards, national dietary guidelines, nutrition education for the public and schoolchildren?
- Do any policy frameworks or regulations have a significant impact on household food consumption patterns and strategies for accessing foods? If so, which ones? Examples may include food subsidies, agricultural input subsidies, social protection programmes - in the form of vouchers, cash and/or food - trade policies, regulations on food quality and safety or absence thereof. What are the positive and negative impacts of these policies on household consumption patterns?
- Are there any major policy issues (e.g. food safety regulations; nutrition composition of food rations given through social protection programmes) that are not addressed by current policy frameworks?
- What implications may these policies - or lack thereof- have for programme formulation?
- How will the programme interact with existing policies?
- How can programmes influence the policy and decision-making process? What are the most pertinent arguments that policy-makers may raise to change national or international policies?

Tips

- It is often the case that policies and regulatory frameworks have both positive and negative impacts, and/or have different impacts on various population groups. For example, subsidies on staple foods can lighten household expenditures but lower dietary diversity as households increase the proportion of carbohydrate-rich foods at the expense of other food groups. The balance of positive/negative impacts should be evaluated taking into account a variety of issues such as economics, environmental implications, etc., including the major nutrition and health problems of the population.
- If projects are to be scaled up or become sustainable, they may need a policy framework.

Where to find the information

- Review of major policy documents.
- Key informant interviews with policy-makers, professionals from the food and agriculture sector, civil society, consumer organizations and local households.



Programme Design: Operationalizing the Key Recommendations

This section provides guidance on how to design a nutrition-sensitive agricultural investment: definition of objectives, impact indicators, operations and how they are implemented in regard to nutrition. Guidance is provided for each of the 10 Key Recommendations.

Defining project objectives and impact indicators

Key recommendation 1:

Incorporate explicit nutrition objectives and indicators into their design, and track and mitigate potential harms

Questions:

- What is/are the programme's main objective(s)?
- Is nutrition considered as part of the objective(s)? How?
- Which determinants of nutrition is the project most likely to impact?
- What is/are the impact pathway(s) through which the programme is likely to impact nutrition - in particular, links between increased production and income, and household food access and food consumption, including biodiversity?
- What specific nutrition objectives are relevant to the nutrition problems that have been identified during the situation appraisal, and are realistic based on programme impact pathways?
- What nutrition indicators can be used to measure the achievement of these objectives?
 - Are baselines available that allow you to set realistic targets?
 - Which factors, if measured, would help to attribute any changes in nutrition to project activities?

Tips

- On the use of nutritional status as an impact indicator: considering that health and care have a strong influence on nutritional status, it can be difficult to aim for improvements in nutritional status unless an agricultural intervention is part of a wider, multisectoral programme.
- Food and agriculture interventions can aim to improve the quality of diets (in adequacy, diversity, moderation, and safety), but the impact pathways describing how this will be achieved need to be clear.
- Nutrition-relevant impacts may occur in non-food outcomes, such as women's empowerment, reduction in disease risk or improved care practices. Monitoring and evaluation should include at least a qualitative assessment of these to ensure no harm.
- Several indicators may be needed to measure impact and understand impact pathways. Information on feeding behaviours, especially of young children, is particularly important.
- It is recommended to call upon evaluation experts to determine the choice of indicators, methods of data collection and sampling, and to assist in setting targets.

Commonly-used indicators

Note: see FAO Compendium of Indicators for Nutrition-Sensitive Agriculture (2015) for further information.

Diet and food consumption

- **Individual Dietary Diversity Scores** to assess dietary quality. These are commonly collected for women and children.
 - New validated indicator for minimum dietary diversity for women: www.fao.org/food/nutrition-assessment/women
- **Household Dietary Diversity Score** to assess household access to food
 - www.fao.org/fileadmin/user_upload/wa_workshop/docs/FAO-guidelines-dietary-diversity2011.pdf
- Frequency of consumption of target foods, i.e. number of days in the previous week where any amount of a particular food was consumed.
- Infant and Young Child Feeding (IYCF) indicators
 - www.who.int/maternal_child_adolescent/documents/9789241596664
- Consumption of vitamin A-rich foods for young children or women.
- Consumption of iron-rich foods for young children or women.
- Food Insecurity Experience Scale (FIES) (FAO).

- Household Hunger Scale (HHS) (Food And Nutrition Technical Assistance, FANTA) – only for highly food-insecure/hungry areas.
- Months of adequate household food provisioning (MAHFP) (FANTA).

Sickness and health

- Sanitation, health, home facilities.
- Water quality.
- Incidence, prevalence and severity of illness.

Gender

- Gender of project participants.
- Women's access to land and other productive assets.
- Women's control over cash from agricultural activities and intra-

household allocation of income between men and women, or the extent of women's ability to make decisions about purchases.

- Women's Empowerment in Agriculture Index (WEAI) (USAID, IFPRI, *et al.*).
- Qualitative assessments of gender equity and norms.

Other

- Changing seasonality of income, labour use and micronutrient-rich food availability.
- The Nutritional Functional Diversity Index, developed by the Earth Institute at Columbia University (Remans *et al.*, 2011), which quantifies the depth and breadth of agro-biodiversity according to dietary usage.

Nutrition-sensitive agricultural investment programmes should not only seek to improve nutritional outcomes, they should, at the very least, ensure that they *do no harm* to the nutritional status of the project stakeholders, including producers and consumers.

Types of harm that may arise from agricultural interventions:

- Giving priority to particular staple foods or cash crops may lead to a decrease in the production of other, micronutrient-rich crops, and thus to a loss of dietary diversity and over-consumption of carbohydrate-rich foods (see section 6 on diversification).
- Over-burdening women who are also responsible for the care of young children, can have negative effects on optimal infant feeding (see section 3 on gender).
- Projects that require participants to make an initial investment may exclude smallholders and widen the resource gap between wealthy and poor farmers (see section 2 on equity).

- Agrochemicals can have serious health consequences. Danger could be mitigated through the use of protective gear and training, or agro-ecological methods (see section 5 on natural resources).
- Agrochemicals may also reduce biodiversity, decreasing opportunities for agro-ecological soil and pest management and with potential consequences to productivity.
- Water use for agriculture can increase the risk of disease, such as malaria transmission, microbes and pollutants in wastewater, and zoonotic disease and parasites. These risks could be mitigated with bed nets, improved wastewater management, and veterinary services (section 5 on natural resources).
- Some agricultural interventions can negatively affect soil quality, biodiversity and water availability. Such harmful impacts could be mitigated by sustainable production techniques (see section 5 on natural resources).
- Depending on the variety chosen, cultivation of single varieties could reduce consumption of cultivars otherwise beneficial for various reasons, including nutrient content (see section 5 on natural resources).

Tips

Overall strategies to avoid causing harm:

- Go through a systematic process in the planning phase to identify potential unintended negative impacts on nutrition, based on the context within which the programme is operating, and develop a mitigation plan.
- Have a well-functioning monitoring system to detect negative effects, to ensure timely mitigation solutions to unforeseen negative impacts.
- Have a clear, nutritional goal to start with.
- Collaborate with health officials to provide information on health risks and solutions (which could be considered a specific type of mitigation plan).

Additional information

- FAO impact evaluation course: www.fao.org/spfs/learning-from-results/e-learning
- report by the Centre de coopération International en Recherche Agronomique pour le Développement (CIRAD): *“What risks do agricultural interventions entail for nutrition?”* www.spring-nutrition.org/publications/resource-review/updates/what-risks-do-agricultural-interventions-entail-nutrition
- IYCN *“Nutritional impact assessment tool”* www.manoffgroup.com/4IYCN_Achieving-nutritional-impact-and-food-security_0211.pdf.pdf

Target areas and populations and equity considerations

Key recommendation 3: Target the vulnerable and improve equity

Questions:

- Who will benefit from the programme?
- If vulnerable households are not the main beneficiaries, are there possibilities for them to benefit indirectly from the programme? (e.g. more food may be available at reduced prices at local markets; there may be employment opportunities along the value chain)
- How is the project or investment expected to reach women of childbearing age and young children?
- Is it possible that the intervention may benefit one group while harming another?
- Are there special considerations for indigenous peoples? Tribal communities?
- Are target groups also part of other programmes or interventions in the area? Could group meetings be combined or synergized in any way?

Tips:

Types of groups targeted may be:

- urban and peri-urban food producers to increase access to nutritious diets ;
- smallholder farmers, possibly through promoting appropriate, such as micro-irrigation;
- poor and/or food-insecure households;
- landless labourers, by avoiding labour displacement and increasing job opportunities along the value chain;
- marginalized groups, such as indigenous and nomadic peoples;
- youth, by training in new technologies and gender role;
- women (see Key recommendation 6).

Programmatic approaches to improved equity include:

- credit and financial services, including insurance;
- increasing smallholders' - and women's in particular - access to markets through transport, information and farmers' organizations or cooperatives;
- increasing access to productive assets such as livestock, seeds and storage facilities;
- improved access to water resources ;
- facilitating access to extension services and technology, especially for women;
- social protection measures such as cash, food transfers and child care services;
- investment in agricultural research that reflects the interests of smallholders, particularly women;
- land tenure rights and policies;
- water policies;
- policies to increase extension services, financing, access to inputs and appropriate technologies for smallholders;
- creating decent employment opportunities for landless and food insecure households.

Linking to other programmes and sectors

Key recommendation 4:

Collaborate and coordinate with other sectors

Impact on nutritional status cannot necessarily be achieved by food and agriculture programmes alone. Access to health, water and sanitation, education and social protection programmes are usually required. It is therefore important to seek synergies with operations from other sectors, for example by targeting the same areas, or harmonizing activities such as purchasing from local farmers to supply local school canteens, school feeding/midday meal programmes.

Questions:

- Is it possible to link activities with existing programmes and ongoing work of groups?
- Are existing or proposed mechanisms for facilitating coordination and communication among stakeholders available? At what level do they operate? Who is involved in this process?
- Could agricultural investment take place in the same geographic area as other health, water and sanitation, and social protection programmes which are also important for reducing malnutrition?
- Could staff in the agriculture project refer clients to those other resources, and vice-versa? Would it be possible for agriculture, health, and social protection staff to combine field visits?
- Are there any opportunities for public-private partnerships to address food and nutrition security?
- Could the project include alternative income-generating activities or link with social safety nets for hungry seasons?

Tips:

Multisectoral linkages may be strengthened through:

- shared indicators and accountability mechanisms;
- shared funding for co-implemented projects;
- multisectoral structures such as a national nutrition council or a multisectoral, multi-institution task force for joint investment planning;
- consultation with nutrition or water and sanitation colleagues for technical expertise or collaboration on a baseline survey;
- improved professional training through problem-based learning, i.e. building capacity for multisectoral assessment and activities among sector staff;
- overlapping sector programmes in the same geographic area;
- linking smallholder production to social protection schemes, for example through involving local producers in food-based safety nets;
- specifying cross-sectoral collaboration as a condition in requests for proposals, and requiring identification of potential collaborators in the field;
- multidisciplinary extension teams, and increased communication among nutrition, home economics and agricultural extension staff: through workshops, for example.

Maintaining and improving the natural resource base

Key recommendation 5:

Maintain or improve the natural resource base

Activities should use natural resources in a sustainable way, contribute to climate change adaptation, and take measures to ensure that wild biodiversity is maintained and neither crops nor agricultural practices degrade the natural resource base. Water, soil, air, climate and biodiversity are critical to the livelihoods and resilience of vulnerable farmers and to sustainable food and nutrition security for all. Water resource management is of particular importance to reduce vector-borne diseases and ensure sustainable, safe household water sources.

Questions:

- Does the project include measures to protect or improve soil quality and biodiversity? (see tips below)
- Is the project likely to affect the quantity and quality of water available to households with malnourished individuals?
- Are increases in water use sustainable, without harming water supply for neighbours or future generations?
- How will the project affect women's workloads related to water procurement and use?

Tips:

Examples of natural resource management methods relevant to nutrition include:

- **Improving soil health** through soil fertility and control of erosion. Suggested mechanisms include legume production and intercropping, integrated crop-livestock systems, economic support for inputs such as fertilizers, organic manure

and composting that improve soil organic carbon and biodiversity, and sustainable land management techniques. Iodine, zinc and iron fertilizers can improve soil fertility and increase micronutrients in food crops grown in the soil, if soils are deficient in those nutrients. These measures can be a triple win for environment (better soil health), economics

(greater yields), and nutrition (better nutritional content of foods).

- **Equitable access to water** and sustainable, pro-poor management of water resources. Micro-irrigation, such as rainwater harvesting, low-cost drip systems and treadle pumps, may be useful.
- **Biodiversity conservation** is an ecosystem service for nutrition. Wild foods may contribute significantly to nutritional needs and income, and also to risk reduction and resilience. Multiple varieties of the same species can also differ significantly in nutrient content and preferences that affect consumption. Conservation activities include agroforestry, using locally adapted varieties, promoting the use of multiple varieties, and strengthening indigenous food systems and the use of underutilized foods. Efficient cooking stoves, or the use of biogas for cooking and other purposes, can reduce the need for wood-gathering, thereby conserving trees and forests.
- **Risks** to water quality and biodiversity **from pesticides** can be reduced through pest bio-control using natural pesticides like neem leaves or slaked lime, and natural predators or parasitoids.
- Some possibilities for **natural resource conservation incentives** include pricing and distributing inputs according to local conditions and natural capacity of ecosystems; paying farmers for ecosystem services they provide; and well-functioning governance of land, plant genetic resources, irrigation and fisheries.

Additional resources:

- *Voluntary Guidelines for Mainstreaming Biodiversity into Policies, Programmes and National and Regional Plans of Action on Nutrition* adopted by the Commission on Genetic Resources for Food and Agriculture (CGRFA) (CGRFA-15/15/ Report Appendix C. www.fao.org/nr/cgrfa/cgrfa-meetings/cgrfa-comm/fifteenth-reg).

Gender considerations and women's empowerment

Key recommendation 6: Empower women

Women's income and decision-making power is linked to improved nutrition for household members because of the role women play across cultures as providers and gatekeepers of household nutrition, child care, and health. Furthermore, gender equity takes into account women's central role in translating agricultural inputs and outputs into nutrition impacts, and most fundamentally is a basic human right.

Questions:

- How will women be involved/benefit from the programme?
 - Are they likely to control income generated by the programme?
 - How is the project expected to influence gender-specific time demands?
 - Are time demands for women likely to reduce the quality of child care?
 - Are time demands for women likely to result in their increased income and decision-making power?
 - Are there labour-saving technologies for women's tasks that could be included in the project to reduce the time women spend on agricultural or household tasks?
- How are men included in discussions to ultimately allow for changes to take place?

Tips:

Ways to enable women's empowerment through agricultural programmes.

- In the planning stages of a programme, assess the trade-offs between child care and agricultural

production. Time and labour demands should be evaluated.

- Specific agricultural activities to reach women include:

- Focusing on food crops grown by women. Non-staple minor crop production, including vegetables, fruit, legumes and traditional and indigenous food crops, and/or animal husbandry may be more likely to be female-controlled, depending on the local context. Home gardens are usually looked after by women and can therefore increase women's decision-making power about food consumption. *Caution: experience shows that when minor crops become a source of income, men may seek to control these resources. Involving men and women together in the process through a comprehensive community-based approach, and empowering women through strengthening women's producer groups, for example, can help ensure that both men and women benefit from these activities.*
 - Training and market opportunities for crops and animal products that women sell.
 - Improving women's access to extension services, technology, inputs, markets and information.
 - Investing in technologies to reduce labour and time costs, especially for typically women's tasks such as weeding, harvesting, processing and food preservation. Some examples include lighter farm tools, drum seeders that allow for mechanized weeding, mechanized mills and water-harvesting technologies such as treadle pumps.
 - Strengthening women's income control through the above activities.
 - **Other potential components** of agricultural programmes related to women's empowerment:
 - Creating an enabling environment for child care. Consider child care during training for women: this would include breastfeeding spaces for lactating women, the engagement of fathers, senior female family members and other authority figures, and support to day care centres or the like for working women, especially urban women. Support men to increase their participation in care-giving.
 - Improving access to financial services.
 - Including gender-sensitive social protection measures, such as providing extra food rations or coupons, vouchers for services and multiple micronutrient sachets.
- Strategies to engage women in activities such as those listed above:
- Involve women at the design stage, and continue working with them directly during implementation. That way, women can identify appropriate mechanisms for addressing labour and other time constraints.
 - Positive deviance as an approach to empower women directly through confidence in their own knowledge and abilities, so that they can translate opportunity into action (www.positivedeviance.org).

Programme options to increase access to diverse and nutritious foods

Key recommendation 7:

Facilitate production diversification, and increase production of nutrient-dense crops and small-scale livestock

Diversified production systems can be important for vulnerable producers to ensure resilience to climate and price shocks, more diverse food consumption, reduction of seasonal food and income fluctuations, and greater and more gender-equitable income-generation.

Questions:

- Would diversification at household, community and/or market level improve access to nutritious diets?
 - Do farmers reside close enough to their fields that diversifying production is likely to influence own-consumption?
 - Do farmers reside close enough to markets that they would be able to purchase all foodstuffs, including perishables, on a regular basis?
 - Do farmers have access to markets/traders where they would be able to sell perishable foods?
- Are there specific micronutrient-rich foods that are unavailable or too expensive?
 - How is the programme expected to influence the absolute and relative prices of the foods available to the target group(s)?
- If they are available, are they given to young children (6 to 23 months)?
- What local resources or underutilized foods could be grown to improve diets and nutrient intake?
- How can market access to nutritious food be increased for both local rural and urban populations?

Note on biodiversity:

- There can be significant variation between varieties of the same species in macro- and micronutrients and other beneficial bioactive constituents. Data show that intraspecific differences in nutrient content are sometimes as high as 1 000-fold; for example, one banana can provide between 1 percent or 200 percent of the RDI for vitamin A. High nutrient-content varieties can be selected, if they are known; but because nutrient content of each variety is not often known, it can also be nutritionally advantageous to promote the use of multiple varieties.

Where to find information on intraspecies nutrient content:

- The INFOODS website is a repository of food composition tables and databases. Some of these tables have information on nutrient content by variety www.fao.org/infoods/infoods/tables-and-databases
- Scientific journal articles can be searched for information on nutrient content of specific varieties within a species, for example those published in the *Journal of Food Composition and Analysis*.

Tips:

Agricultural interventions that aim to achieve the following outcomes are recommended as means to improving access to nutritious foods:

- **Diversify production and livelihoods** for improved food access and dietary diversification, natural resource management and other purposes.
- **Increase production of nutrient-dense foods**, particularly locally-adapted varieties rich in micronutrients and protein, chosen on the basis of context assessment and local nutrition issues.
 - **Horticultural crops** are highly recommended to improve micronutrient intakes and dietary diversity, to increase income and women's income control, and to reduce seasonality; options include homestead and market-oriented production.
 - Produce **animal-source foods on a small scale** to improve intake of micronutrients, protein and fat; keep production small-scale to avoid harm to the natural resource base and loss of control by women.
 - Promote the use of nutritious, **underutilized foods** to address malnutrition.
 - Increase production of **legumes** for their nutritional value: they are rich in energy, protein and iron, and for their attribute of

nitrogen fixation, which can improve soil fertility and yield and reduce inputs.

- Invest in **biofortification**, especially through natural breeding, as a complement to other strategies.
- Staple crop production may be necessary but insufficient because

of its limited ability to improve dietary diversity.

- Cash crop production carries the risk of unintended consequences, including a possible reduction in food security and dietary quality throughout the year and gender inequity; mitigation strategies can reduce these risks.

Improving processing, storage and preservation

Key recommendation 8:

Improve processing, storage and preservation

Appropriate processing, storage and preservation are essential to reduce post-harvest losses and improve or prolong access to and consumption of micronutrient-rich foods. Processing and storage techniques can preserve the nutrient content of food, and certain processing techniques can even increase it, e.g. roasting, germination and fermentation. Processing, storage and preservation can add value to crops and also increase income and profit margins, reduce seasonality of food insecurity, and improve food safety. Food processing and preservation can also help reduce food waste.

Questions:

- Does the programme change the quality, food safety or nutrient content of the food(s) targeted by the project?
- What crops might be appropriate for enhanced preservation?
- Are there entry points in the value chain for aflatoxin control?

Notes:

- The higher the initial nutrient content of the raw foods, the higher it is in processed food.
- Vitamin content diminishes through storage and cooking.
- Milling reduces nutrient contents, for instance, that of fat, fibre, minerals and vitamins, but often extends shelf life.
- Fermentation and germination can help enhance nutrient bioavailability.

Tips:

Types of techniques relevant to nutrition:

- Controlling pests and diseases, including aflatoxins, during post-harvest management.
- Harvesting and handling
 - efficiency in post-harvest handling;
 - other “healthy harvesting” techniques, such as harvesting at maturity, avoiding damage and bruising, and not consuming or selling crops recently sprayed with pesticides.
- Preservation and processing
 - solar drying or shed-drying, with vegetables blanched before drying;
 - fortification or reduced milling;
 - pressing oilseeds;
 - roasting and grinding of cereals to reduce bulk and improve digestibility;
 - fermentation of flour, porridge and milk;
 - choice of processing method which conserves best micronutrient content.
- Transport and storage
 - washing and drying fresh produce before storage, where applicable;
 - using cool, dark, well-ventilated facilities protected against insects and rodents;
 - storage of seed and planting materials;
 - assuring sufficient and timely post-harvest transportation ;
 - exploring possibilities of better *in situ* storage to allow sale over a longer period after harvest to increase farmer’s income and food availability, through cooperatives, for example.

Programmes can also invest in research to improve post-harvest management, including improved processing, storage and preservation techniques.

Conversely, food processing may sometimes also be detrimental to nutritional quality when the end products are high in added sugar, fat and salt/sodium.

Making value-chains nutrition-sensitive and increasing market access

Key recommendation 9:

Expand markets and market access for vulnerable groups, particularly for marketing nutritious foods

When working with individual value chains focused on products destined for markets, leeway for diversification is usually more limited. In some situations, however, market opportunities may be an incentive for farmers to produce and potentially consume nutritious foods they otherwise would not.

Value chain and marketing strategies usually target farmers, producers and retailers with sufficient assets for them to invest, produce at scale and be more competitive, and who are therefore not the most vulnerable population groups. This said, measures can be taken to enhance the nutritional contribution of investments in specific value chains, by making them nutrition-sensitive and yield nutritional benefits both for food suppliers - producers, processors and retailers - and consumers. Overall, it is important to consider individual value chains as part of the wider food system to determine how they can contribute to improving local diets.

Tips:

The following actions may be taken to enhance the nutritional impact of a value chain:

- Production:
 - choice of varieties that maximize nutritional content;
 - biofortification;
 - generation of on-farm employment for vulnerable groups.
- Processing:
 - choice of processing methods that enhance shelf-life with minimal nutrient loss;
 - fortification (e.g. of cereal flours);
 - generation of off-farm employment in processing.

- Marketing and retailing:
 - increased market availability of the goods produced can reduce their prices for consumers;
 - increased market access and opportunities;
 - generation of employment for vulnerable groups, particularly women.
- Nutrition education and consumer awareness:
 - social marketing and creation of demand for foods among smallholders can be a powerful tool. Promote the purchase and consumption of nutritious foods and good health practices, so that income is used to improve household health and nutrition.
 - food-based dietary guidelines can serve as a useful planning tool in agriculture, health and education to sensitize and enhance supply and demand for healthy foods.

An important contribution that investments in agricultural value chains can make to nutrition is by improving market access:

- for producers, processors and retailers, to help them sell their products and generate income which can be invested in better health, care and food consumption; and
- for consumers, to improve availability and affordability of nutrient-dense foods.

Tips:

Ways to increase market access:

- Farmers' associations, business training and inventory credit schemes to help smallholders attain better prices, gain bargaining power and participate in decision-making processes.
- Small-scale processing and micro-enterprises, particularly for women; for example : jams, juices and dried fruits.
- Produce marketable foods, as market viability is central to meeting needs for income as well as food. Assess the market potential for wild and underutilized foods, especially of high-quality nutrient composition, and the domestication potential for wild foods.
- Market viability for nutritious foods that smallholders may have a comparative advantage in producing (e.g. low input) can be increased

through promotion and social marketing to increase demand.

- Improve infrastructure: . roads, irrigation, storage facilities, wholesale markets and electrification, to improve market access.
- Expand market information systems.
- Identify intra-household factors and bottlenecks to marketing and income for smallholders.
- Meet quality standards, such as through improved food safety (e.g. reducing aflatoxins).
- Food procurement operations by governments for stockholding or food aid as a potential market.
- Explore new markets through policies and programmes. For example, some school meal programmes include a certain percentage of locally produced foods.
- Strengthen functional linkages between farmers, food traders and processors, for instance, through enforceable contract farming systems.

Incorporating nutrition education and consumer awareness

Key recommendation 10:

Incorporate nutrition promotion and education into food and sustainable food systems that build on existing local knowledge, attitudes and practices

Nutrition education encourages people to adopt healthy diets, and is also a way to increase demand for local agricultural produce and encourage local suppliers, such as producers, processors and retailers, to supply nutrient-rich foods.

- Could the programme be combined with nutrition education and dialogue to help assure that improved nutrition is given high priority by household decision-makers and individuals?
- Who controls and influences decision-making on food and child care, and are all relevant decision-makers included in nutrition education?
- What resources, knowledge, skills and support do programme staffs require to be successful agents of change?

To ensure effective nutrition education, the following factors should be taken into consideration:

- Nutrition education should use behaviour change theory, formative assessment and specific needs of the target population to design nutrition education strategies.
- Nutrition education should clearly identify the factors influencing eating behaviour, namely who in the family takes decisions about food, food traditions or feeding processes between mother and child, and make these factors the direct target of nutrition education rather than providing nutrition information in general.
- Nutrition education should include a systematically planned set of activities, which can be implemented using a combination of educational strategies such as cooking activities and school gardens, with the ultimate goal of promoting motivation and personal skills towards healthy eating practices.

- Nutrition education activities can also influence public policies and promote an enabling environment that makes it easier for people to adopt a healthy diet.

It is important to include measures in programme design to build capacity of local institutions working in the food and agriculture sector - government, non-governmental and private sector - to address nutrition issues. This can be done through pre-service and in-service training and on-the-job learning and mentoring, during the programme.

Key features to consider in the design of nutrition education activities:

Potential target groups for nutrition education include women, men, and children.

What important topics education or training could address:

- awareness-raising on food handling and food safety;
- healthy food choices and balanced diets;
- nutritional requirements of different family members;
- encouraging cultivation and consumption of locally-available nutrient-dense food, even if available nutritious foods are low status;
- food preparation and storage, including cooking demonstrations;
- reduction of post-harvest losses and long-term storage to maintain nutrient content;
- strategies to increase and diversify family food supplies;

- encouraging environmentally sustainable food consumption patterns;
- health risks of highly processed foods and of obesity and chronic disease; and
- care practices, breastfeeding and addressing food taboos.

Note: The focus and content of messages should be determined through an assessment of local knowledge, attitude and practices related to food and nutrition security.

(See: www.fao.org/docrep/019/i3545e/i3545e00.htm)

How to achieve success in education and behaviour change:

- Base messages and strategies on an understanding of local perceptions about diet and nutrition, reasons for current behaviour and barriers to and opportunities for behaviour change. Positive deviance approach is one option.

- Have a concise set of clear, actionable messages.
- Build on existing messages and guidelines in-country, such as essential nutrition actions (ENAs) or national food-based dietary guidelines.
- Relate messages closely to the agricultural intervention, such as nutrition information about crops produced and ways of preparing and preserving them.
- Release information simultaneously through multiple channels.
- Build an enabling environment for nutrition education through: investing in capacity-development for nutrition education, including nutrition training for agriculture, health and education extension agents; nutrition curricula in primary schools, which may include school gardens; and increasing the availability of recommended foods such as fruits and vegetables.

Where to gather target communities:

- group-based activities like women's groups, marketing associations, microfinance clubs;
- schools;
- home visits;
- community gardens or other gatherings specifically organized for training sessions ;
- market days; religious centres; performances (e.g. dramas, storytelling); and mass media: radio, television, billboards and posters, etc.;
- social marketing and social networks.

Who could give nutrition education training sessions:

- programme staff;
- agricultural extension agents;
- collaboration with nutrition volunteers or health staff, such as community health workers, auxiliary nurses and birth attendants.

Tips:

- Ministries of health, agriculture and education and their development partners may be consulted to see which nutrition education programmes and materials already exist. If there is a need to develop new materials, it is important to do so with all three ministries and their partners to ensure participation by all sectors in designing context-relevant nutrition education strategies and messages.
- Nutrition education programmes and materials can be implemented through agriculture extension systems (including

Farmers' or Pastoral Field Schools), women's groups, producer organizations, primary and secondary schools, the health system and the media.

- School-based nutrition education activities including school gardens, nutrition education curricula, standards for school menus, and linking school meal programmes with local farmers are important ways of sensitizing children to the importance of diversified food production and consumption, and are key to reaching households and communities.

Additional information:

- *The Family Nutrition Guide:*
<ftp://ftp.fao.org/docrep/fao/007/y5740e/y5740e00.pdf>
- *A New Deal for School Gardens:*
www.fao.org/docrep/013/i1689e/i1689e00.pdf
- *Complementary Feeding:*
www.fao.org/ag/humannutrition/nutritioneducation/70106
- Many additional resources are available at: www.fao.org/ag/humannutrition/nutritioneducation
- Hawkes, C., 2013. *Promoting healthy diets through nutrition education and changes in the food environment: an international review of actions and their effectiveness.* Rome: Nutrition Education and Consumer Awareness Group, Food and Agriculture Organization of the United Nations. Available at www.fao.org/ag/humannutrition/nutritioneducation/69725

Programme document review

This section aims to provide guidance to professionals responsible for doing a peer review or providing technical clearance of a programme document once the programme has been designed, and who may be asked to assess whether it adequately addresses nutrition issues. If a reviewer feels the design does not sufficiently address nutrition, s/he can refer to the section on programme design to seek ideas for recommendations.

Nutrition situation

- What are the main nutrition problems in the country or area which should be addressed by the programme? Are the key nutrition problems of the country or area discussed in the programme document?

Vulnerable populations/target beneficiaries

- Are the vulnerable populations or target beneficiaries identified and targeted?
- If yes, who are they? Is information provided on their geographical location in the country? Is information provided on their numbers, such as a percentage of total population? Do they correspond to groups that are most vulnerable to malnutrition? Are their dietary habits known as well as the composition of food consumed?

Nutrition goals/objectives/activities

- Are goals specific to food and nutrition security stated in the programme document? If yes, please state them.
- Are specific nutrition activities or best practices identified that will be implemented to achieve the nutrition objectives and mitigate potential harm to nutrition? If so, which ones? Do they effectively enhance the programme's nutritional impact? (Refer to the Key Recommendations for Improving Nutrition through Agriculture and guidance provided in the Programme Design section for more detail.)

Institutional arrangements, partnerships and coordination

- Have existing or appropriate institutions for implementing nutrition activities been identified?
- Have the partners/stakeholders/change agents, such as governmental ministries and agencies, NGOs and international donor agencies that will collaborate in implementing nutrition activities or best practices been identified?
- Have existing or proposed mechanisms to facilitate coordination and communication among stakeholders been discussed? At what level do they operate? Who is involved in this process?
- Have any opportunities for public-private partnerships to address food and nutrition security been discussed?
- How could these partnerships be improved?

Nutrition capacity-development

- Have nutrition capacity-development needs (of governmental organizations, NGOs, policy-makers...) been discussed? If so please describe them.
- Have activities to develop nutrition capacity been identified in the plan? If so, please describe them.
- How else could this capacity be improved?
- Are there adequate capacity-building tools available in the country or at international level that could be used?
- Is there technical and operational guidance to strengthen nutrition investments?

Monitoring and evaluation

- Have indicators that measure the performance of nutrition activities been identified in the plan? If so, which ones?

- Has the existing capacity in the country - within government, NGOs, etc. - for data collection and analysis been discussed? If so, which institutions are responsible for monitoring and evaluation?
- Is there an interagency mechanism to track investments and ensure coordination?
- Have strategies been put forward to strengthen this capacity, if needed?

Resource implications

- What resources have been allocated for nutrition-related activities in the programme document? If none, what additional resources would be needed to achieve the stated objectives, outcomes and targets - for example: staffing, technical assistance, IT, capacity development, etc.?
- What are possible sources of financing including government budget, international donors (grant and loan, pooled funding), PPPs, and other innovative mechanisms? Community-based revolving fund?



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