


## Nutrition-Sensitive Extension



### WORKBOOK

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# Nutrition-sensitive extension

## Pre-assessment

After reading through the module overview and introduction, complete the following pre-assessment in order to determine how experienced or comfortable you are with the topic of supporting nutrition via advisory services. You will be asked to complete a post-assessment after you have worked through the learning content. Rate your knowledge on the topics on a scale of 1 to 5 by circling the corresponding number.

	Question	Self-assessment				
		Low			High	
1	How confident are you in your ability to explain nutrition to others?	1	2	3	4	5
2	How confident are you in your ability to identify how local gender norms affect nutrition outcomes?	1	2	3	4	5
3	How capable are you of addressing nutrition in designing and delivering rural advisory services?	1	2	3	4	5
4	How well can you use your role(s) in extension to support food systems change that will improve human health and nutrition?	1	2	3	4	5

# Study unit 1: What is nutrition?

## Session 1.1 The basics of nutrition

### Activity 1.1 Individual activity: Personal reflection on food

A food diary is a detailed daily record of the food and drink someone consumes over a certain period of time. Think back to yesterday and try to remember what you ate from the time you woke up until the time you went to sleep. Sometimes it is easier to remember what you ate if you also recall where and with whom you ate your meals. Answer the questions below to create your own food diary.

What did you eat for breakfast, lunch or dinner?

Did you eat any food between these meals? If so, describe what you ate between meals.

What or who influenced your choices about the food you ate?

How does the diet you consumed yesterday compare to a recommended diet, like the Benin Food Guide?

If the foods you ate yesterday did not reflect a recommended diet, like the Benin Food Guide, what made it difficult for you to eat a healthy diet?

## **Activity 1.2 Individual activity: Important nutrients**

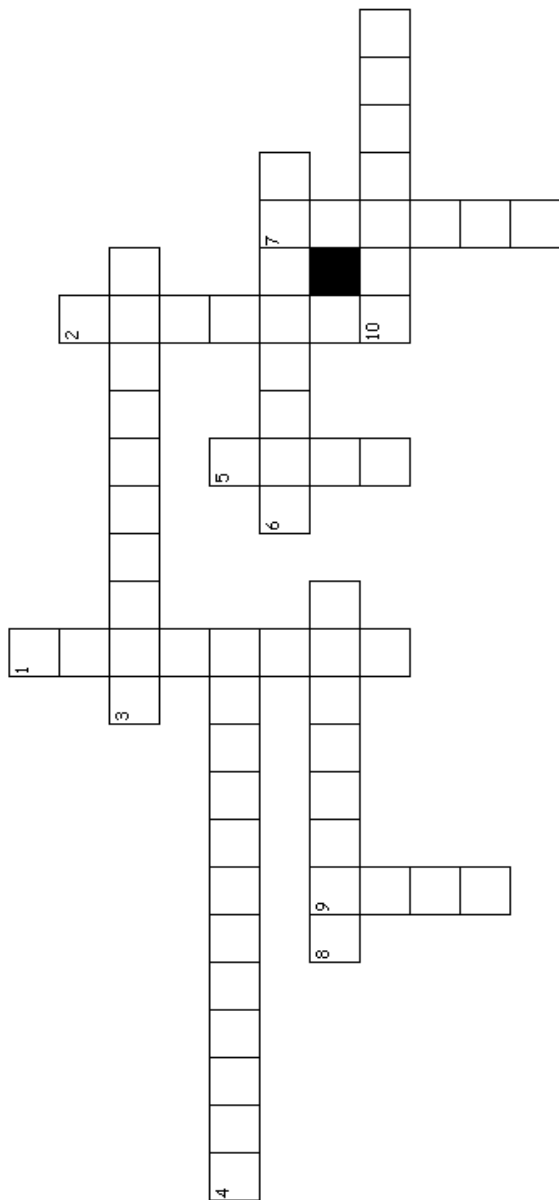
Using the clues provided below solve the following crossword puzzle.

### **Across**

3. Visual representations of food-based dietary guidelines. (10 letters)
4. A macronutrient that provides energy to the body to move and perform daily activities. (13 letters)
6. A vitamin that is important for wound healing. (8 letters)
8. A vitamin associated with eye health. (8 letters)
10. Bread, grains and rice. (7 letters)

### **Down**

1. A macronutrient that helps to build muscle. (8 letters)
2. Cowpeas, kidney beans and black beans. (7 letters)
5. This mineral is important for growth and brain development. (4 letters)
7. Also known as Vitamin B3. (6 letters)
9. A mineral that helps to provide oxygen to cells. (4 letters)



## Session 1.2 Nutrition for All: Who needs what?

### Activity 1.3 Individual activity: Commonly used nutritional indicators

Using the clues provided to look for the words hidden in the block below. (7)

1. When someone weighs more than what is considered normal for their age, height and build.
2. \_\_\_\_\_ people have a high risk of developing Type 2 Diabetes.
3. (a)\_\_\_\_\_ is a form of (b)\_\_\_\_\_ malnutrition characterised by sudden, drastic weight loss caused by inadequate dietary intake.
4. Long term malnutrition that causes reduced growth rates, especially in children.

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5. When someone weighs less than what is considered normal for their age, height and build.

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6. Long term or constantly recurring.

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L B A Y W L J X A D C Q H B A F Y N L C  
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## Session 1.3 Motivating people to make healthy choices

### Activity 1.4 Group activity: Helping people to make better food choices

Together with two or three of your colleagues, study the following scenario and then answer the questions below.

In a low-income community, two labourers working at a medium size farm attended an information session on nutrition hosted by their local extension service. After the session they approach several extension professionals and asked the following question: "We are lucky. We can afford to eat three meals of maize a day. Why should we change the way we eat?". The extension professionals gave the following replies:

**Reply 1:**

That is not a good diet for an active adult man!

**Reply 2:**

If you eat like that, you will not be healthy. Do you want to be healthy or risk your health?

**Reply 3:**

If you eat like this, you will have low immunity and that will lead to opportunistic infections.

**Reply 4:**

Eating like that will give you kwashiorkor!

**Reply 5:**

Eating this way you risk poor health, poor mental and physical growth, illness and death. If you want to have good physical and mental growth, enough energy and weight and a strong immune system, you need to eat better.

(FAO. 2017. Education for Effective Nutrition in Action. The ENACT Course - Student's version. Rome." <http://www.fao.org/3/a-i4952e.pdf>)

1. Discuss what you think of these replies and use the table below to indicate whether they are incorrect, too general or not very motivating, or have too much technical information and are too hard to understand.

<b>Reply</b>	<b>Comment</b>
Example: Reply 1	Too general and not very motivating.
Reply 2	
Reply 3	
Reply 4	
Reply 5	

2. You need to take care not to use complicated terms that people may not understand. Using the table below, see if you can replace these technical terms with descriptions that are easier to understand.

Technical term	Easier term or description
Example: Suffer from disease	Get sick
Strong immune system	
Opportunistic infections	
Adequate physical energy	
Macronutrients	
Inhibited nutrient absorption	

3. Based on these guidelines, what would your own answer be to the two labourers who eat three maize meals every day?

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# Summative assessment: Unit 1

## Theoretical assessment

Answer the following questions in your own words.

1. Define the following terms (10)

a. Macronutrient (2)

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b. Micronutrient (2)

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c. Stunting (2)

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d. Wasting (2)

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e. Obese (2)

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2. Match the nutrients and food groups in Column A with the descriptions in Column B. (6)

Column A	Column B
1. Fruit and vegetables	a. Provides energy and protects certain organs.
2. Vitamin K	b. Helps protect the body from diseases.
3. Vitamin C	c. A fat soluble vitamin
4. Minerals	d. A water soluble vitamin
5. Dairy	e. Supports nerve functions and helps regulate heartbeat
6. Fats and oils.	f. Supports bone growth

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3. Name 3 factors that determine a person's nutritional needs. (3)

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4. Briefly discuss the difference between food-based dietary guidelines and food guides. (4)

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5. List and briefly discuss the 3 elements that determine nutritional status. (6)

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6. Different life stages have different nutritional needs. Briefly explain why infants, young children and pregnant women are more vulnerable to malnutrition? (4)

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7. Food choices are sometimes affected by how a person sees themselves, or how they think others see them. Using an example, explain how these perceptions can affect food choice. (4)

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8. A person's diet and the food that they choose to eat is affected by many factors.

a. Briefly explain external factors affecting food choice. (4)

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b. Name 4 factors that affects people's food choices. (4)

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**Total: 45 marks**

## Study unit 2: Ways that agriculture can impact nutrition

### Session 2.1 Understanding food systems

#### Activity 2.1 Individual activity: Food systems, diets and nutrition

Read the following scenario then respond to the questions to reflect upon how food systems influence diets and nutritional status.

Mr Otieno and Mrs Otieno are a young couple who farm a parcel of land in the country. They have two young children, ages 6 and 2, and Mrs Otieno is three months pregnant with her third child. Every year, the family grows maize and groundnuts on the same small, rainfed plots. The family consumes the field crops and relies on the small income they earn from raising chickens and goats to purchase fresh fruits and vegetables at the local market. The chicken's eggs, goats' milk and fresh meat are sometimes consumed by Mr Otieno and the children, but Mrs Otieno always ensures that her husband and oldest son get enough food to eat before she and her daughter are served.

For the past two years, the community where they live has suffered from severe rains. Heavy rains washed away seeds and drowned the small plants that did survive. The family sold their flock of chickens to purchase more seed, but the seed did not germinate. Mr Otieno does not think yields will last for more than six months. The granaries – made of mud and thatch – were damaged in the rains. Mr Otieno and Mrs Otieno have been storing the field crops on the floor of their small kitchen, where it has been exposed to rodents and insects.

The rains also damaged the roads, making them impassable to the traders who used to travel to the family's rural community to sell fruits and vegetables at market. What little fruits and vegetables the family can find are expensive. Mrs Otieno knows

fruits and vegetables are important for her children's health and nutrition, so she will start working in her neighbour's fields to earn the extra money needed for these nutritious foods.

Use the table below to respond to the following two questions related to the Otieno family's situation.

1. Identify factors related to each function of the food system, which could affect the diets and nutrition of this household.
2. Then, describe how these factors may affect the family's diet and nutritional status.

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Functions of food systems	Factors related to each function	Impact on family diet and nutritional status
Food production		
Food handling, storage and processing		
Markets and trade		
Consumer demand, food preparation and preferences		

## Activity 2.2 Group Activity: Gender roles in agriculture

1. Pick a crop that you are most familiar with and, together with two or three of your colleagues, describe all the activities involved in the production of this crop from land clearing to marketing. Discuss whether men or women are mostly responsible for these activities.

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2. Do you think there is difference in how men and women obtain permission (from spouses, other family members, local officials, etc.) to access land, labour and capital they use in agricultural activities?

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3. How do these gendered activities affect nutrition within a household?

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## Summative assessment: Unit 2

### Theoretical assessment

Answer the following questions in your own words.

1. Define the following terms (6)

a. Gender (2)

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b. Gender lens (2)

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c. Gender roles (2)

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2. Food systems directly affect the diet quality of a community and the diversity, quantity and safety of the foods people eat. (12)

a. Explain what is meant by the term food system. (4)

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b. Name and briefly discuss the functions of a food system. (8)

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3. There are 3 major pathways that explain how agriculture can influence nutrition. (7)

a. Name 3 Agriculture-Nutrition pathways. (3)

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b. Why does empowering woman in a community lead to improved nutritional status of the community. (4)

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**Total: 25 marks**

# Study unit 3: Actions that extensionists can take to improve nutrition

## Session 3.1 Nutrition-sensitive rural advisory services

### Activity 3.1 Individual activity: List of tasks

Consider the tasks that you are expected to carry out throughout the year. List them, then review your list and assign numbers to the tasks by their level of importance. Which tasks are absolutely essential to your role as extension agent? Which are things that you do only if you have time?

Now identify one task that is particularly relevant to the nutrition-sensitive actions listed above. Describe how you could change the way you perform this activity so that it would better support nutrition.

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**Activity 3.2 Individual activity: Ways to improve nutrition**

Study the following scenarios and identify (1) how the interventions in each scenario support improved nutritional status and (2) ways you as an extension professional might further strengthen the interventions for greater nutrition impact.

**Scenario 1: Postharvest handling improvement, Cambodia**

As in much of the world, farmers in Cambodia lose much of their harvest due to inadequate storage and transport infrastructure. A local NGO is collaborating with a research institution outside of the country to implement a three-year project that will subsidise postharvest technologies and improve access to low-interest loans. The technologies promoted include solar dryers, inexpensive refrigeration units, and hermetic bags. Hermetic bags are an inexpensive technology to maintain grain quality for up to 12 months. The project is currently in year one of implementation. One project objective is to increase market share of horticultural crops, but to date demand is greatest for the hermetic bags used for rice storage.

(Inspired by efforts of the Horticulture Innovation Lab and the MALIS project implemented by FAO.)

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**Scenario 2: Smallholder Market Access**

A five-year agricultural development project in Zambia aims to improve smallholder productivity by increasing access to inputs and markets. The activity also has an objective of increasing private-sector investment in agriculture. The project operates by training Community Agro-Dealers to sell inputs supplied by private companies to their community members. About 70% of Zambia's agricultural production is made of maize, and the prevalence of stunting among children under 5 years of age is very high (>40%). Currently in its inception, the project is identifying ways to ensure strong participation among women, not only as Community Agro-Dealers, but also as potential buyers of the marketed inputs.

(Inspired by PROFIT+, a project implemented by ACDI/VOCA and funded by USAID Zambia)

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**Scenario 3: School Feeding Programme**

School meals programmes in Haiti used to largely rely on donated commodities, but new funding has allowed them to procure food from local producers. School cooks are now tasked with developing seasonal menus instead of cooking a daily porridge. Supply chains are not yet reliable, and food safety concerns threaten to undermine continuation of the project. This pilot project has five years' funding to demonstrate successful models for local procurement while meeting the nutritional needs of school-aged children.

(Inspired by the World Food Programme's Home Grown School Meals initiative)

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**Scenario 4: Women’s Empowerment for Child Health and Nutrition**

A donor-funded project in Bangladesh is designed to improve women’s and children’s nutrition outcomes with activities focused around homestead food production. Women are encouraged to produce nutrient-rich indigenous vegetables, raise local chickens, and market products for income. However, because most women do not have input into decision-making around agricultural production and are, therefore, not engaged in the economic life of the households, the project is not realizing the intended impact. To address this challenge, the project team designs an approach to addressing gender norms and building constructive communications skills with the whole household.

(Inspired by Helen Keller International’s Nurturing Connections curriculum)

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# Summative assessment: Unit 3

## Theoretical assessment

Answer the following questions in your own words.

1. Fill in the missing words. (5)

Nutrition-sensitive actions aim to improve the underlying causes of poor (a) \_\_\_\_\_. As an extensionist, you can aim to increase the production of more (b) \_\_\_\_\_ and nutritious foods that people do not eat enough of and that address local nutrient (c) \_\_\_\_\_. These foods typically include (d) \_\_\_\_\_ crops like orange-fleshed sweet potato and iron-rich beans; animal husbandry for (e) \_\_\_\_\_, eggs and meat; fruits, vegetables and legumes. By supporting farmers and other value chain actors to produce more of these foods, they will become more available.

2. Explain what is meant by nutrition-sensitive agriculture. (4)

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3. Discuss 2 examples of nutrition-sensitive actions an extension professional can take to improve the underlying causes of poor nutrition. (8)

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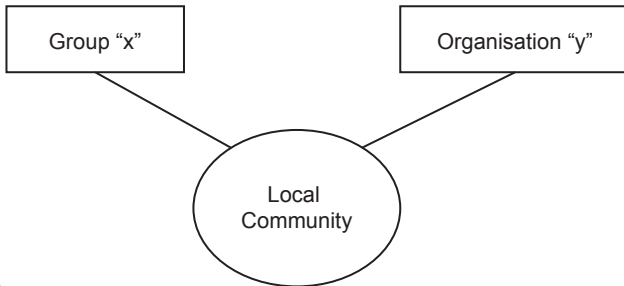
**Total: 18 marks**

# Study unit 4: Establishing partnerships across sectors for better nutrition

## Session 4.1 Partnerships and collaborations

### Activity 4.1 Individual activity: Reflection on Partners and Collaborators

1. Many people or groups usually operate in intervention communities. Think of all the individuals, groups and organisations in the local area where you work that interact directly or indirectly with the community and develop a diagram showing all the relationships at the local levels where you work (start with the template below). Label the various role players as either being positive or difficult relationships (this information is just for you).



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2. For those relationships that you labelled as difficult, think about what they want or need and what you want and need in a potential collaboration. Using the principles of negotiation, state in clear terms how you would approach one organisation or person with whom you have a difficult relationship.

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**Activity 4.2 Group Activity: Negotiation skills**

Can you think of any groups or organisations in your area that you might want to collaborate with? Write down one or two possible people or organisations and use the basic principles of negotiation to clearly state what you would want from the proposed relationship. Together with a partner, roleplay how you will approach the organisation or person you are seeking a collaborative relationship with.

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### Activity 4.3 Individual Activity: Action Plan

1. Revisit your list of tasks you identified in activity 3.1 and answer the following questions:

a. Which of your current activities already contributes to nutrition?

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b. Which activities could be shifted slightly so that they contribute more to nutrition?

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c. Are there activities that may be impeding nutrition?

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2. Based on your answers to the questions above, complete a two to three month 'Action Plan' to detail the actions you will take to improve nutrition in your community, provide some dates by which you will do it and name a person or people that will be able to help you to make it happen.

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## Summative assessment: Unit 4

### Theoretical assessment

1. Indicate whether the following statements are true or false. If you answer false, correct the statement. (4)

- a. Communication barriers are a common challenge faced by extension agents who want to collaborate with other professionals. (2)

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- b. In order to form collaborations and partnerships with other organisations in your community, you need to have a paid professional coordinator on your team. (2)

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2. Discuss 2 potential challenges faced by extension professionals who collaborate or form partnerships. (4)

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3. Effective negotiation skills can improve any relationship. (8)  
Discuss the four principles of basic negotiation skills.

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## Post-assessment

Now that you have gone through the learning content, complete the following post-assessment.

	Question	Self-assessment				
		Low			High	
1	How confident are you in your ability to explain nutrition to others?	1	2	3	4	5
2	How confident are you in your ability to identify how local gender norms affect nutrition outcomes?	1	2	3	4	5
3	How capable are you of addressing nutrition in designing and delivering training programmes?	1	2	3	4	5
4	How well can you use your role(s) in extension to support food systems change that will improve human health and nutrition?	1	2	3	4	5





Global Forum for Rural Advisory Services (GFRAS) is about enhancing the performance of advisory services so that they can better serve farm families and rural producers, thus contributing to improved livelihoods in rural areas and the sustainable reduction of hunger and poverty. Rural advisory services help to empower farmers and better integrate them in systems of agricultural innovation.