

**NATIONAL  
NUTRITION-SENSITIVE AGRICULTURE  
TRAINING FOR DEVELOPMENT AGENTS**

**Facilitator's Guide**

**November  
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## **INTRODUCTION**

Agriculture is the major source of food, employment and income for the majority of Ethiopians. Families living in rural areas in particular derive means of their daily lives from direct involvement in agricultural activities. Understanding this, the government of Federal Democratic Republic of Ethiopia has developed a comprehensive Rural Development Policy and Strategy and implemented it through successive development plans for the past 15 years. Food and nutrition security have always been a challenge and are among the development targets of the five-year Second Growth and Transformation Plan GTP2. Hence, agricultural development does not only focus on increasing production but also creating access and means of improving food and nutrition security. The food that we eat needs to be in adequate quantities, safe and nutritionally diverse. In addition, there is also need to improve access to clean and safe water and health services together with women empowerment interventions.

Agriculture and nutrition are highly interrelated. Agricultural production provides the means to get food and the essential nutrients that people need. While on the other hand, as agriculture is highly labor intensive, agriculture requires well-nourished, healthy, and physically fit people. In order to improve nutritional outcomes, the agricultural strategy in Ethiopia takes on a nutrition-sensitive approach. The strategy guides planning and implementation of crop and livestock production, processing, marketing and consumption in order to address the prevailing malnutrition problem of the country.

Development agents (DAs) are at the forefront in implementing agricultural programs and supporting farmers to improve agricultural production and livelihood. Over the past five years, more than eight nutrition related DA training manuals have been prepared by various projects and development partners. None of these manuals have been endorsed due to lack of proper engagement of the MoANR and MoLF. MOANR and MOLF in collaboration with development partners developed a national harmonized nutrition sensitive agriculture training reference manual for development agents. This facilitator's guide is part of this package designed guide the trainers for effective delivery of the training.

## **Course Syllabus**

### **Training Description**

This five-day training is designed to equip development agents on basic concepts of human nutrition and the linkages of agriculture and nutrition, and how gender roles, water, sanitation and hygiene, behavior change communications, multi-sectoral coordination contribute to improved nutrition. The course will prepare DAs to effectively plan and implement NSA interventions with other relevant sectors.

### **Main Objective of the Training**

At the completion of this training, the trainee will be able to plan and implement effective nutrition-sensitive agriculture interventions to improve household access to, and consumption of adequate, safe, and diversified foods.

### **Supporting Objectives**

1. Apply basic concepts of human nutrition in achieving nutrition and food security to tackle the problem of malnutrition
2. Discuss the linkage between agriculture and nutrition
3. Demonstrate the production and consumption of variety of crops for better dietary diversification
4. Demonstrate the production and consumption of variety of animal source foods for better dietary diversification
5. Discuss WASH practices to improve nutrition
6. Discuss the concept of gender and the role of women in the family and society and its impact on nutrition
7. Apply behavior change approaches and skills related to agriculture-nutrition practices to the community
8. Apply multi-sectoral coordination for nutrition and role of DAs in coordinating implementation of nutrition sensitive agriculture.

### **Training participants**

Participants of this training are development agents (crop, livestock, natural resource, irrigation, cooperative DAs, and Kebele agriculture office heads)

### **Training Logistics**

- Duration and modality: This is a five day face-to-face training for DAs
- Venue: This course is best provided at Woreda Agriculture office/Research Centers with a nearby FTC

### **Training materials**

- Training manual, facilitator's guide (syllabus, schedule, outline, session plan, learning instruments, PPTs), posters, pictures, videos/animations in a CD,
- Computer, LCD, flipchart, flipchart markers, scotch tape, sticker notes, stationaries
- Practical learning materials for skills demonstration

### **Training methods**

- Interactive presentations
- Brainstorming and discussions
- Role plays and case studies
- Small and large group activities
- Experience sharing, reflections, debating
- Pictures and video shows
- Demonstration and guided practice
- Site visits – FTC, crop farms, livestock& poultry farms, fishing ponds

### **Training Evaluation**

- Daily evaluation (using daily evaluation format, verbal informal feedback)
- End-of-training evaluation (using evaluation format, verbal feedback/reflection)
- Outcome level evaluation – post training assessment – posttest assessment questions
- Post-training performance evaluation – DAs on job performance
- Impact evaluation – improvement in NSA practices in the community

### **Participant evaluation**

- Pre and post training assessment
- Check understanding in the course of training conduct(Question and Answer Sessions, drills etc)

### **Key for schedule:**

- IP – Interactive presentation
- D – Discussion
- SGA – Small group activity (discussion, exercise)
- LGA – Large group activity (discussion, exercise)
- RP – Role play
- CS – Case study
- Demo – Demonstration
- GP – Guided practice
- BS – Brainstorming
- R - Reflection

## COURSE SCHEDULE:

TIME	DAY 1	DAY 2	DAY 3	Day 4	Day 5
8:30– 10:30	<p><b><u>120 Minutes</u></b>  <b>Registration (30')</b>  Welcome and introduction (20')  Participant expectations (15')  Workshop goal, objectives &amp; schedule (15')  Group norm (10')  <b>Pre-course test– 30'</b></p>	<p><b><u>120 Minutes</u></b>  <b>Chapter 3: Crops, Animal Source Foods and Nutrition – 235 min</b>  Nutritional value of crops (IP and D) – 30'  Nutritional implication of crop specialization and diversification (IP, D, and CS) –60'  Explain the nutritional value of animal source foods – (IP, D, and SGA) – 30'</p>	<p><b><u>80 Minutes</u></b>  Chapter 4: Continued  Intervention Approaches for improved nutrition</p>	<p><b><u>90 Minutes</u></b>  <b>Chapter seven (continued)</b>  SBCC Approaches for Nutrition Sensitive Agriculture (IP, RP, D, SGA) -90'</p>	<p><b><u>120 Minutes</u></b>  <b>Action plan Development (240')</b>  Action Plan from the training Participants 120'</p>
	<b>Health Break</b>				
10:50- 12:30	<p><b><u>100 minutes</u></b>  <b>Chapter 1: Basics of Human Nutrition – 190 min</b>  Definition of basic terms (IP &amp; SGA)– 25'  Food groups (IP) – 15'  Dietary diversity (IP) – 20'  Malnutrition and its different forms (IP and D) – 40'</p>	<p><b><u>95 minutes</u></b>  Chapter three (continued)  Apply technologies to increase production and consumption of animal source foods (IP and D) – 50'  Analyze local animal and animal products market for better food access IP and D) – 45'</p>	<p><b><u>100 Minutes</u></b>  <b>Chapter 5: Water, Sanitation and Hygiene and Nutrition – 90 min</b>  Effect of WASH on nutrition (IP, SGA) – (35')  Key agriculture related WASH practices (IP, Video) – 35'  Importance and effect of small scale irrigation practices on nutrition (IP, LGA) – (20')</p>	<p><b><u>100 minutes</u></b>  Effective social behavior changes communication tools and job aids (IP, RP, D, SGA) – 90'  (dietary diversity and WASH related behaviors)  <b>Review of day one activities (10 min)</b></p>	<p><b><u>120 minutes</u></b>  <b>Action plan cont'd</b>  Action Plan from the training Participants 120'</p>





## Course Outline

The course out line is a guide for the trainers that helps them to align the Learning Objectives and key contents with the allocated time, the training method identified for that learning objective, and the resources material to be used for that session. The learning outcomes of each chapter are outlined below.

<b>DAY ONE-MORNING SESSION (220 minutes)</b>			
<b>OPENING AND INTRODUCTION</b>			
<b>Time (min)</b>	<b>Key Activities</b>	<b>Teaching / Learning Methods</b>	<b>Resource Materials</b>
20	Registration and distribution of training materials  Introductory Activity	Place registration desk at the entrance and register participants as they come and enter the training hall  Distribute training resources required for the day and encourage participants to review the documents	Registration form Name Tag Pen Writing pads
10	Opening	Welcome by facilitator/s Keynote speech by invited guest speaker: Brief introduction and objectives of the training	Flipchart: Welcome Message posted!
10	Participants introduction	Conduct brief introduction of participants and facilitators (use this format for introduction: full name, position, work place, work experience and one thing you would like to accomplish in life) or use other modality suited to your audience	Flipchart that guides the introduction of participants
10	Identify participant expectations	Discuss participant expectations with the group and list them on a flipchart Identify which will be met in the workshop	Flipcharts and markers
10	Provide an overview of the training course (objectives, modules and the schedule) and set group norms	Review the goals and objectives of the training and compare with participant expectations Set group norms. List on a flip chart and keep them posted throughout the training Review training schedule, training resources, available services, administrative / logistics issues	Objectives and expectation on flip chart Training packages Training schedule

20	<b>Activity:</b> Pre-Test	Conduct pre-test assessment While conducting the pre-test, a flip chart entitled ‘Parking Lot’ can be prepared and posted on the wall	Pre-test questionnaire Analysis sheet Flipchart, marker	
<b>Health Break</b>				
<b>CHAPTER ONE: BASICS OF HUMAN NUTRITION. (190 minutes)</b>				
Main Objective: at the end of this chapter trainees will be able to Apply basic concepts of human nutrition in achieving nutrition and food security to tackle the problem of malnutrition				
<b>Time (min)</b>	<b>Learning Objective</b>	<b>Key Content</b>	<b>Teaching / Learning Methods</b>	<b>Resource Materials/technology</b>
5	Introduction	-Introduction of session objectives -Background information on nutrition in Ethiopia	Brain storming	
45	Describe basic concepts of Food, Meal, Diet, Nutrient, Human nutrition, Food security and Nutrition security	-Define basic nutrition terms	-Interactive presentation -Small group discussion	
15	Differentiate the six food groups	FAO six food groups classification	Interactive presentation	FAO food groups classification
25	Describe dietary diversity	Diet diversity (how to get a diversified diet)	Interactive presentation SDA: use Exercise sheet 1.1	
40	Discuss malnutrition and its different forms	-Definition of malnutrition -Forms of malnutrition	-Interactive presentation - Discussion	-Picture on types of malnutrition - Video on different forms of malnutrition
<b>DAY ONE, AFTERNOON SESSION. (180 minutes)</b>				
<b>Time</b>	<b>Learning Objective</b>	<b>Key Content</b>	<b>Teaching / Learning Methods</b>	<b>Resource Material</b>

20	Mention causes of malnutrition	- UNICEF causal framework of malnutrition	-Interactive presentation	UNICEF malnutrition framework
30	Discuss the effects and impacts of malnutrition on the community	- Short term effect - Long term effect	-Interactive presentation -Discussion	
30	Recognize the current magnitude of malnutrition nationally and by region	-Current status of malnutrition in Ethiopia	-Interactive presentation SDA: Use Exercise sheet 1.2	

### CHAPTER TWO: AGRICULTURE-NUTRITION LINKAGE (90 minutes)

Main Objective: at the end of this chapter trainees will be able to discuss the linkage between agriculture and nutrition

Time (min)	Learning Objective	Key Contents	Teaching/Learning Methods	Resource Materials/Technology
5	Chapter introduction	Introduce chapter objectives	-Presentation -Brain storming	
25	Explain the inter-relationship between agriculture and nutrition.	-Agriculture- nutrition relationship -Food and Nutrition Security	- Interactive presentation - Discussion Use Exercise 2.1	Food and nutrition security framework gram
30	Discuss the agriculture-nutrition impact pathways	-Production for own consumption -Income and lower food price -Women empowerment	- Interactive presentation - Large group discussion - Brainstorming: on how to relate diagram 2.2.1 and 2.3.1	Ag-nut Pathways diagram
30	Discuss nutrition sensitive agriculture Discuss the guiding principles and approaches of nutrition sensitive agriculture	-Define nutrition sensitive agriculture -Principles and Concepts of nutrition sensitive agriculture -Key Guiding principles -Approaches for NSA	- Interactive presentation - Small groups discussion -Use excises 2.2 Summarize the chapter and Self-assessment	

### DAY TWO MORNING SESSION (235 minutes)

**CHAPTER THREE. CROPS, ANIMAL SOURCE FOODS AND NUTRITION.** (235 minutes)

Main Objective At the end of this chapter the trainee will be able to state nutrition values of different crops and animal source foods for improved food and nutrition security.

Time (min)	Learning Objectives	Key content	Teaching/Learning Methods	Resource Materials
10	Chapter introduction	-introduction of session objective -background information on crops, animal source foods and nutrition	Brain storming Interactive presentations	
20	Describe the nutritional value of different crops	-Nutritional value of different crops -Significance of dietary diversification for nutrition	-Interactive presentation -Discussion	Food groups Pictures
60	State nutritional implication of crop specialization and diversification	-Effect of crop specialization VS diversified production on nutrition -Emphasis on the use of agricultural income for diversification of household diet	-Interactive presentation -Discussion -Case study -Use Exercise 3.1	Case Scenario Picture/Video (specialization Vs Diversification)
50	Explain the nutritional value of animal source foods	Nutritional value of Animal source food (Meat, milk, milk product egg, fish, honey, nutrient etc.)	Interactive presentation	
50	Apply technologies to increase production and consumption of animal source foods	-Artificial insemination -Improved forage seed and seedlings -Feed processing technologies -Cage system poultry production Improved breeds(day old chicks, fertile eggs)	-Interactive presentation - demonstration	Select technologies on skill base Cage vaccination
45	Analyze local animal and animal products market for better food access	Analyze local animal and animal products market for better food access	Interactive presentation Group Discussion	
<b>DAY TWO, AFTER NOON SESSION (145 min)</b>				

**CHAPTER FOUR. INTERVENTION APPROACHES FOR IMPROVED NUTRITION. (310 minutes)**

Main Objective: at the end of this chapter trainees will be able to practice production and consumption of animal source foods for better dietary diversification.

<b>Time</b>	<b>Learning Objectives</b>	<b>Key Contents</b>	<b>Teaching/Learning Methods</b>	<b>Resource Material</b>
145	Apply intervention approaches for improved nutrition	<ul style="list-style-type: none"> <li>✓ Nutrition Education</li> <li>✓ Diversified production and consumption</li> <li>✓ Use of Bio-fortified crops and improved breads</li> <li>✓ Specialization as an option</li> <li>✓ Improved agricultural income</li> <li>✓ Pre-post-harvest handling techniques</li> <li>✓ Natural resource management</li> <li>✓ Women empowerment</li> </ul>	Interactive presentation Large group discussion Demonstration Role play Video demo Case study	Video Case study

**DAY THREE: MORNING SESSION (220 minutes)**

<b>Time (min)</b>	<b>Learning Objectives</b>	<b>Key Content</b>	<b>Teaching/Learning Methods</b>	<b>Resource Material</b>
165	Apply intervention approaches for improved nutrition	<ul style="list-style-type: none"> <li>✓ Discuss animal management and health in relation to nutrition</li> <li>✓ Apply safe handling of animal source foods</li> <li>✓ Analyze local animal and animal products market for better food access</li> <li>✓ Marketing of nutritious crop and animal source foods</li> </ul>	Interactive presentation Large group discussion Demonstration Role play USE Exercise 3.2	Role play Scenario

**DAY THREE: MORNING SESSION (180 min)**

**CHAPTER FIVE: WASH AND NUTRITION. (90 min)**

**Main Objective:** At the end of this chapter trainees will be able to discuss WASH practices to improve nutrition

<b>Time (min)</b>	<b>Learning Objectives</b>	<b>Key Content</b>	<b>Teaching/Learning Methods</b>	<b>Resource Material</b>
35	Explain the effect of WASH on Nutrition	-Diarrhea and Nutrition -Helminthes infection and Nutrition -Environmental Enteropathy	Interactive presentation Small group activity Use Exercise 5.1	
35	Discuss key agriculture related WASH practices that helps to improve nutrition	-Hygiene and Nutrition -Sanitation and Nutrition -Water access and Nutrition	Interactive presentation Video demonstration	Pictures Videos
20	Explain the importance and effect of small scale irrigation practices on nutrition	Small scale irrigation and nutrition	Interactive presentation Large group activity Self-Assessment	

**DAY THREE, AFTERNOON SESSION (220 min)**

**CHAPTER SIX: GENDER AND NUTRITION. (120 min)**

**Main Objective:** At the end of the section participants will be able to understand the concept of gender and the role of women in the family and society and its impact on nutrition

<b>Time (min)</b>	<b>Learning Objectives</b>	<b>Key contents</b>	<b>Teaching/Learning Methods</b>	<b>Resource Materials</b>
30	Define basic concept of Gender	-Gender and Sex -Gender role -Gender Equality	-interactive presentation -Use Exercise 6.1	
45	Explain the role of women and men in nutrition sensitive agriculture.	-IYCF and women -Child Caring and women	-Interactive presentation -Discussion	

		-Men involvement	- BS: Identify key action points how the DA do to improve the gender issue	
45	Discuss the importance of women empowerment to improve family nutrition	-Decision making role -Economic resource -Equal resource access	Summarize the chapter and Self-assessment	

**CHAPTER SEVEN. AGRICULTURE-NUTRITION SOCIAL BEHAVIOR CHANGE COMMUNICATION (280 min)**  
 Main Objective: at the end of this chapter trainees will be able to apply behavior change approaches and skills related to agriculture-nutrition to the community.

<b>Time (min)</b>	<b>Learning Objectives</b>	<b>Key contents</b>	<b>Teaching/Learning Methods</b>	<b>Resource Materials</b>
30	Describe stages of behavior change	-Stages of behavior change	- Interactive presentation  - BS: Ask a group to discuss and identify the challenging stage for BC and why	Diagram of behavior change
70	Describe the NAS KAP gap of the community and common barriers to behavior change.	- specific KAP in agriculture-nutrition -barriers and determinants related to NSA practices	- Use exercise 7.1	SBCC tools

**DAY FOUR-MORNING SESSION (180 minutes)**

<b>Time (min)</b>	<b>Learning Objective</b>	<b>Key Contents</b>	<b>Teaching / Learning Methods</b>	<b>Resources /Materials</b>
90	Explain behavior change approaches for agriculture-nutrition	- Ggroup discussion approach -IPC during HH visits -Negotiation	- Interactive presentation - BS: discuss on the advantage and disadvantage of Group discussion and IPC	SBCC tools
90	Apply effective social behavior change communication tools and job aids.	-Questions to bring behavior change -Examples of communication tools & job aids	- Interactive presentation - Use excises 7.2 - Summarize the chapter and Self-	SBCC tools



			assessment	
<b>DAY FOUR-AFTERNOON SESSION (190 minutes)</b>				
<b>CHAPTER EIGHT.MULTI-SECTORAL COORDINATION FOR NUTRITION.</b> (190 minutes)				
Main Objective: at the end of this chapter, the trainee will be able to apply multi-sectoral coordination for nutrition and role of DAs in coordinating implementation of nutrition sensitive agriculture.				
<b>Time (min)</b>	<b>Learning Objectives</b>	<b>Key contents</b>	<b>Teaching/Learning Methods</b>	<b>Resource/Materials</b>
35	Explain the multi-sectoral nature of nutrition and the importance of coordination at various administrative levels in the implementation of the national nutrition program (NNP)	-Multi-sectoral nature of nutrition - Ethiopian NNP II coordination and the NSA Strategy - NNP II Strategic objectives - importance of coordination	-Interactive presentation	Electronic copies of the NNPII and MoANR NSA Strategy
35 min	Explain the roles and responsibilities of various sectors for nutrition	- Roles and responsibilities of various sectors	- Interactive presentation	MoANR NSA Strategy
50	Outline and explain the roles and responsibilities of agriculture, livestock and fishery sectors in relation to the NNP and the MoANR NSA Strategy.	- Roles and responsibilities of agriculture, livestock and fishery sectors in relation to the NNP	- Interactive presentation - Discussion	
40	Discuss the roles of DAs in implementing nutrition sensitive agriculture and their planning's and coordination's with kebele actors.	- Roles of DAs in implementing NSA	- Interactive presentation - Role-play/Debate on accepting or rejecting the role of DA with checklist	
30	Post-course-Test			
<b>DAY FIVE-MORNING SESSION</b>				
240	Action Plan from training participants and Way Forward			
<b>DAY FIVE-AFTERNOON SESSION</b>				

180	<b>Field Trip: to the nearby FTC or research center</b>
<b>Evaluation</b>	
<b>Closing</b>	

## EXERCISE SHEETS

Exercise sheets are developed for chapters. Exercise sheets are guides for the facilitator in conducting small and large group exercises such as group works, demonstrations, case scenario studies, and role plays. Exercises are complementary sessions for interactive presentations. Exercise sheet describe the key activities and steps to be followed by the trainers to effectively and time efficiently lead the exercise sessions. Exercise sessions are key factors for the attainment of the desired learning outcomes of the chapters, and facilitators are expected to get well prepared to lead the exercises. Active participation of each members of the group is key for the effectiveness of the exercises and achievement of the desired objectives. If conditions and contexts forces, there will be flexibility to modify exercise activities and /or steps, but in consultation with the training coordinators from the host organization.

**General Instruction:** for all exercises the facilitator should:

- (1) Display the title of the exercise and purpose of the exercise on the flip chart/ slide/ board.
- (2) Ensure group facilitator and note taker/presenter are assigned during group discussion
- (3) Ensure active participation of all members of the group
- (4) Ensure time is managed effectively
- (5) Ensure the take-home messages are addressed (as a summary of the chapter/printed copy)

### CHAPTER ONE. BASICS OF HUMAN NUTRITION

#### Exercise sheet 1.1: Small group discussion on the six food groups

**Purpose of the Discussion:** To help participants to correlate the existing foods with healthy diet and dietary diversity

**Materials Required:**

- Marker, flipchart, scotch tap
- Total time for discussion: **35 minutes**

**Steps/rules:**

- Divide the participants into five groups
- Each group should nominate a chairperson and secretary
- Ask each group to read page 7 – 10
- Identify most available foods from each food groups
- Identify best approaches on how to insure the quality and quantity of selected diverse foods in their locality
- Let the group present to larger group within 5 minute using flipchart
- Every member should participate
- Allow question and answer session
- Facilitator should summarize key points of the presentation

## Group report formats

Food groups	Most available foods in the community	best approaches on how to insure the quality and quantity
▪	▪	▪
▪	▪	▪
▪	▪	▪

### Exercise sheet 1.2: Small group discussion on impacts of malnutrition at individual, community and country level

**Purpose of the Discussion:** To help participants understand impact of malnutrition at individual, community and country level

#### Materials required:

- Marker, flipchart, scotch tap
- Total time for discussion: **40 minute**

#### Steps/rules:

- Divide the participants into five groups
- Each group should nominate a chairperson and secretary
- Discuss the issue thoroughly for 5 minute
- Instruct participants to read the reference material (1.6 – 1.8)
- Identify and discuss the different forms of malnutrition
- Ask the group to elucidate their understanding by drawing/picture of the causes, effect (long and short term at individual & community) and status of malnutrition at national level
- Insure each group presentation should define/address malnutrition, stunting, wasting and Vitamin A deficiency, Iodine deficiency and Iron deficiency
- Let the group present to larger group within 5 minute using flipchart
- Every member should participate
- Allow question and answer session
- Facilitator should summarize key points using power point slide

Impact of Malnutrition at Individual, Community and Region/Country Level		
Individual	Community	Region or Country Level

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## **Chapter Two. Agriculture Nutrition Linkage**

### **Exercise Sheet 2.1: Explain the inter-relationship between agriculture and nutrition.**

**Purpose of the Discussion:** To help participants understand the inter-relationship between agriculture and nutrition

**Materials Required:**

Reference manual

- Total time for discussion: **20 minute**

**Steps/rules:**

- Ask each individual to read table 2.1.1 about description of the relationship between agriculture and nutrition and select their 3 preferable components.
- Ask some volunteers to explain the rational of their selection
- Encourage participates to preset their view until most components addressed.
- Probe dialogues among the class on the rationales and if their different view

### **Exercise Sheet 2.2: Guiding principles and approaches of nutrition sensitive agriculture.**

**Purpose of the Discussion:** To help participants how to implement the principles and approaches in their community context

**Materials Required:**

- Flip chart
- Total time for discussion: **30 minute**

**Steps/rules:**

- Ask each group to read table 2.3. about guiding principles and approaches of nutrition sensitive agriculture.
- Assign 3 – 4 principles to each group (if there overlapping principles is fine) to write how to implement those given principles in their contexts. Encourage innovative approaches beside the list approaches in the manual
- Ask each group to present the larger group and allow Q&A on the presentation
- Take notes specially for new ideas and approach to summarize the session

**Chapter Three. Crop, Animal Source Foods and Nutrition****Exercise Sheet 3.1: State nutritional implication of crop specialization and diversification**

**Purpose of the Discussion:** To help participants how to use best way for improvement of crop specialization and diversification in their community context

**Materials Required:**

- Pain
- Small paper (note book paper)
- Total time for discussion: 60 **minute**

**Steps/rules:**

- After your presentation, ask each group to write 3- 4 best ways for improvement of crop specialization and diversification in their community context
- Make sure one idea should write on one paper and the idea should be action oriented.
- Ask them to post on the wall
- Together with participants categorize similar ideas with explanation/discussion
- Ask participates if there any additional new ideas
- Summarize the discussion by pointing out core identified ways for improvement of the crop specialization and diversifications.

**Exercise Sheet 3.2: Animal management and health in relation to nutrition**

**Purpose of the Discussion:** To help participants identify the best ways to improve their community animal management and health in relation to nutrition

**Materials Required:**

- Flip chart
- Total time for discussion: 60 **minute**

**Steps/rules:**

- After your presentation, ask each group to discuss their community practices of animal management and safe handling of animal source foods
- Ask to write a short scenarios/ story of a successful adoption of better animal management and safe handling of foods. In the scenario each group should include:
  - Name of the family including women involvement
  - Current problem/limitation of the family including the community (if needed)
  - The DAs role (how DA support) on the adoption of better management and handling
  - The improvement/change at family level
  - The story should complete in a year time frame.
- Ask them to post on the wall and read to the bigger group
- Encourage questions from participants to elaborate more and if there any better ideas
- Take a note of action points of the scenarios for your summery of the session.
- The action points will be your summery and assignment of the participants to implement in their locality

## **Chapter Four. Intervention approaches for improved nutrition**

### **Exercise Sheet 4.1: Case scenario on the nutritional effect of specialization and diversification**

**Purpose of the exercise:** to depict effect of specialization and diversification on household nutrition

**Setting and participants:** the role will be played as in a house hold setting, and role play participants will be grouped in to two.

Narration the case scenario

Mr Tolosa and Gadise are husband and wife and they live in a rural village. Mr Tolosa produce diversified food crop varieties (like Cereals, vegetables, fruits, legumes and other root crops). In addition, he also rears small animals like chicken and goat. Mrs Gadise is a house wife. She takes care of her kids and also assist Mr Tolosa in the field. Mr Tolosa and Gadise take care of their child by providing them proper food from different food groups (meal made from cereals, legumes, vegetables, fruits and animal source food). As they follow orthodox Christianity they don't cook animal-based diets in their home during the fasting season. SO their kid also relies on the family food prepared

Ato Bedada and w/ro Biftu are neighbors Ato Tolosa's family. Following the current cluster-based farming approach of the agriculture sector, Mr Bedada practices specialized farming where he totally covers his farm land with wheat every year. He uses most of his agriculture produce to sell and gets good sum amount of money which saves it in banks. Wife of Bedad, Biftu, offers their baby usually only cereal based porridge and she adds butter to her sons porridge. As she was advised by the HEW to make heir child food more diverse, she buys her kid potato from market to make him potato past. Whenever she goes to market she also buys him some fruits.

### **Discussion Questions**

1. What difference did you see in the farming practice of the two families?
2. What effect do you think the farming practice of the two farmer would impose on the HH dietary habit?
3. How would you advise Mr Bedada to improve his family nutrition?

### **Exercise Sheet 4.2: Case scenario on Crop Calendar**

**Purpose of the Exercise:** to help trainees understand seasonal effect on food access and ways to address the problem through crop calendar

**Exercise setting:** Class room



**Materials required:**

Flip chart  
Marker

**Directions**

Group in to five  
Choose chair person and secretary from the members  
Make your group discussion participatory  
30 minutes for group discussion and 15 minutes for presentation

**Discussion Question:**

1. List all possible crops and animal source foods that can be grown or reared with in the 12 months of the year (you can divide in to the four seasons)
2. Divide the listed crops and animal source foods in to the six food groups
3. Compile a diet for a child from at least four of the six food groups
4. Identify the missing food(gap) groups from a child's meal
5. Identify ways to fill the gap to make the child food complete

## Exercise sheet 4.2. Small group exercise on Dietary Diversity Strategies

**Purpose of the Exercise:** to check the awareness and practice of trainees on dietary diversification intervention strategies

**Exercise setting:** Class room

### Discussion Question:

6. How do you think information regarding nutrition affect dietary intake of the farming households
7. Why do you think farmers need to prefer bio-fortified crops varieties to the regular crops?
8. How would women empowerment affect nutrition of a household?
9. Which of the dietary diversification strategies do you most prefer?
10. Do you think there is one single intervention strategy which capable of addressing the issue of nutrition generally?

## Exercise Sheet 4.3. Demonstration on crops Post Harvest Handling and Preservation

**Purpose of the Demonstration:** To equip trainees with the skill of tomato sun drying and preparation of tomato juice

**Demonstration setting and participants:** the demonstration will be conducted in a class room setting and all trains will participate in the demonstration.

### Procedures for tomato sun drying:

- wash hands and any exposed portion of the arms with soap and water before and after handling food
- tie hair;
- Keep fingers and nails clean and trimmed;
- Wear clean clothes;
- Do not sneeze or cough near food;
- When handling foods remove rings, bracelets which can be possible source of contamination;
- Use clean water and cleaning equipment.
- Keep away flies and insects.
- Clean hands thoroughly (including nails) before preparing food – use soap and clean running water.
- Separate raw and cooked food.
- Check that everything is clean - work surfaces and utensils (pots, pans, knives etc.).
- Wash fresh food in clean water.
- Clean everything after preparing food.

## **Preparation of sun dried tomato**

- **Ingredients**

Cutting board, knife, and cheese cloth, drying table, water and salt

- Select firm, ripe, free diseases and mold tomatoes

## **Procedures**

- Sort, discarding any that are spoiled and wash under clean tap water
- Cut the tomatoes on a cutting board, cut them in half
- Remove the seeds of the tomatoes, otherwise it slows down the drying process and effects the final quality of products
- Place the tomato halves cut-side-up on a screen and season them with sea salt to help draw moisture from the tomato flesh and speed the dehydration process
- Cover the tomatoes with cheesecloth over the tomatoes so it does not touch them. This will help to keep bugs off and birds out, as well as falling debris from trees.
- Find an area that has full sunlight for the majority of the day. Choose a really hot day.
- Check on the tomatoes every so often after two days you have to turn
- Repeat the process each day until the tomatoes are dry to the touch but still flexible.
- Check all the tomato weather dry or not after that packed in air tight materials
- Keep the sun dried tomatoes in a cool, dark place

**Sun dried tomatoes are healthy and delicious snacks that is very easy to make. You can make them into a salad or into a sauce if you like.**

## **Procedure of tomato juice**

- Total time taken 45 minute

### **Ingredients**

- Tomato, sugar, and water, soup, bottle,

### **Procedure**

- Selected ripened tomatoes, wash, cut into four or five pieces, grind (crashing) tomato by grinding machine, to remove the outer part and the seed of tomato use cotton cloth or sieve, then remove unwanted particle
- Measure the amount of tomato fluid and put in the boiling dish,
- Boil with frequent mixing which is until the foam remove it,(up to 30minite)
- Finally add sugar and well mix it after 45minite remove the tomato juice from fire and put in the clean and boil bottle then packed it.

## **Procedure**

1. Selected ripened tomatoes
2. Wash by clean water repeatedly

3. Remove the blossom ends cored and any other spot on its skin and roughly chopped grind (crashing)
4. To remove the outer part and the seed of tomato use cotton cloth or sieve, then remove unwanted particle
5. Measure the amount of tomato fluid and put in the boiling dish,
6. Put all tomato juice into a large non-reactive pot (use stainless steel, not aluminum).
7. Boil the tomato fluid which is until the foam remove it,(up to 30minite)
8. Finally, after 30 mi, add 1.5kg sugar for 10kg tomato fluid and well mix it after 15minite remove the tomato juice from fire

**Attention**

- Washing the jars /bottle:
- Remove the soap from the jars thoroughly
- Boil the jars for 10 min and lids for 5 min.
- Keep the jars in hot water until they are used
- Fill hot jars with tomatoes and liquid leaving ½ inch head space. Remove air bubbles, wipe jars and adjust lids.
- Then seal tight & turn upside down on towel.
- Turn right-side up after about 1/2 hr

**Chapter Five: WASH and Nutrition**

**Exercise Sheet 5.1: key agriculture related WASH practices that helps to improve nutrition**

**Purpose of the Discussion:** To help participants understand their role on the improvement of key agriculture related WASH practices that helps to improve nutrition

**Materials Required:**

- Small paper
- Flip chart paper
- pen
- Total time for discussion: 50 **minute**

**Steps/rules:**

- After your presentation, ask each group to discuss fill out the following forms

Activity	Current community practice	How to change	Improved practices
Hygiene and nutrition			
Sanitation and			

Nutrition			
Water access and Nutrition			

- Ask to present for the bigger group
- Probe discussions if there any differences between groups write

Take a note for more suitable approaches and summarize the session

## **Chapter Six: Gender and Nutrition**

### **Exercise sheet 6.1: Basic concept of Gender**

**Purpose of the Discussion:** To understand the workload of women in their community

**Materials Required:**

- Flip chart
- Total time for discussion: 45 **minute**

**Steps/rules:**

- Post the following flipchart on the wall

Time	Man role	Women role	Time	Man role	Women role
6am			2pm		
7am			3pm		
8am			4pm		
9am			5pm		
10am			6pm		
11am			7pm		
12noon			8pm		
1pm			9pm		

- Ask participants to come and post the role of man and women at each hour of the day
- Categorize the posts based on similarity
- Ask participants what this chart tells about the workload of man and women
- Summarize this discussion by emphasizing the difference of workload

## **Chapter Seven: Nutrition-Agriculture Social Behavior Change Communication**

**Exercise sheet 7.1: Group Exercise on KAP gap of the community and common barriers to behaviour change.**

**Purpose of the exercise:** To help the participants understand the community/individual barriers for behavioral change.

Steps of the activity:

1. Ask each groups to read 7.3 & 7.3.1 and discuss about the concept of knowledge, Attitude and Practice
2. Ask each group to select 2 most common barriers for behavioral challenge in their locality and to add one which is not mentioned in the list.
3. Ask each group to identify the root cause of the selected barriers
4. Summarize this discussion by focusing on the root causes.

### **Exercise Sheet 7. 2: Role play on SBCC skills**

**Purpose of the activity:** To expose participants to real situation on SBCC skills application through practice of sessions.

**Steps of the activity:**

1. After your presentation, ask each group to read 7.5 about Using Social behavior change communication
2. Make them a pair and select topics or units from chapter one to six for their practice in the class by considering learning styles and adult learning principles
3. Give them 20m' of preparation and 15m' to conduct a session
4. Ensure each team properly reflect, the visuals, skill-based practice (kinesthetic) and clear instructions/information (Audio) including the adult learning principles.
5. Encourage a discussion on their facilitation skills after each practice
6. Summarize the sessions by pointing out key points from their practice with community examples

## **Chapter Eight. Multi-Sectoral Coordination for Nutrition**

### **Exercise Sheet 8.1. Group discussion on multisector coordination for improved nutrition with other NNP II actors.**

**Purpose of the Discussion:** To help participants understand multisector coordination to improve national

**Materials Required:** Marker, flipchart, scotch tap

- Total time for discussion: **40 minute**

**Steps/rules:**

- Divide the participants into four groups based on the region they are from
- Each group should nominate a chairperson and secretary
- Discuss the issue thoroughly for 15 minute
- Instruct participants to read the reference material
- Define and identify different forms of malnutrition
- Make summary notes as stated in the reporting format
- Let the group present to larger group within 5 minute using flipchart
- Every member should participate
- Allow question and answer session
- Facilitator should summarize key points using power point slide

**Discussion questions**

1. How do you see multisectoral coordination for nutrition with respect to UNICEF conceptual framework for undernutrition?
2. Which sectors do you think need to engage in the fight against under-nutrition in Ethiopia?
3. Is there coordination of BoA where you are from with other NNP II implementing organizations like BoH?
4. How often do you meet?
5. Do you have joint planning, implementation and monitoring?
6. What is the challenge in working together?
  1. What were the attempted solutions?

**Exercise Sheet 8.2. Group discussion on the role of DAs in implementing nutrition sensitive agriculture.**

**Purpose of the Discussion:** To help participants understand the role of DAs in implementing nutrition sensitive agriculture

**Materials Required:** Marker, flipchart, scotch tap

- Total time for discussion: **40 minute**

**Steps/rules:**

- Divide the participants into five groups
- Each group should nominate a chairperson and secretary
- Discuss the issue thoroughly for 5 minute
- Instruct participants to read the reference material
- Define and identify different forms of malnutrition

- Make summary notes as stated in the reporting format
- Let the group present to larger group within 5 minute using flipchart
- Every member should participate
- Allow question and answer session
- Facilitator should summarize key points using power point slide

### 8.1.1 Reporting format for role of DAs

S.No	Role and responsibility in implementing NSA				
	Crop DA	Natural resource DA	Livestock DA	Cooperative DA	Irrigation DA
1					
2					
3					
4					
5					



## **Annex I: Course Pre-Post Assessment question**

### **National Harmonized Nutrition-Sensitive Agriculture Training for Development Agents**

#### **Pre and Post Course Assessment Questions**

1. What is the food group which contains pulses such as beans, peas, peanut etc. ?
  - A. Staples
  - B. Legumes and nuts
  - C. Fats
  - D. Carbohydrate
2. What do you call the consumption of a wide variety of foods across nutritionally distinct food groups?
  - A. Food security
  - B. Nutrition security
  - C. Dietary diversification
  - D. Nutritious food
3. Which of the following explains being too short for age?
  - A. Wasting
  - B. Underweight
  - C. Stunting
  - D. Over weight
4. Which one of the following is categorized under the underlying causes of malnutrition?
  - A. Political and ideological structures
  - B. Maternal and child feeding and caring practices
  - C. Infrastructures (roads, communications, etc.
  - D. Lack of dietary intake by individuals
5. Which of the following is a short term effect of malnutrition?
  - A. Susceptibility to infections
  - B. Impaired mental development
  - C. Poor ability to learn in childhood
  - D. Reduced work productively in adulthood
6. Which of the following are components of food-based approach?
  1. Bio-fortification
  2. Iron supplement
  3. Dietary diversification
  4. Increased food production
  - A. 1, 2 and 3
  - B. 1, 3 and 4
  - C. 2, 3 and 4
  - D. 1, 2 and 4
7. Which of the following statement describes the Agriculture-nutrition linkage?
  - A. Increasing household food production through agriculture guarantees nutrition security
  - B. Household food security ensures nutrition security
  - C. Nutrition security involves access to food, health care and environment aspects
  - D. Increasing household income directly translates in to dietary improvement
8. Which component of food security is designed to enhance the contribution of food security for nutrition? links
  - A. Food access
  - B. Food utilization
  - C. Food availability
  - D. Food Stability

9. Which of the following is preferred and effective approach for household dietary diversity for smallholder farmers specially in Ethiopia?
- Commercialization and clustering of crop production
  - Homestead production for own consumption
  - Cash crop production for export
  - Commercial and state farming system
10. Which of the following food group is a good source for plant based protein?
- Legumes
  - Fruits
  - Vegetables
  - Cereals
11. Which of the following can be considered recommended intervention approach to improve nutrition of farming households engaged in specialized crop production?
- Practice Homestead gardening around their home
  - Use of SBCC approach for positive dietary behavior
  - Stop specialization and switch to diversified production
  - Nutrition Education
- 1, 2 and 3
  - 1, 2 and 4
  - 1, 3 and 4
  - 2, 3 and 4
12. Which of the following is a recommended approach to get good quality nutrition?
- Consuming good quality cereal based foods
  - Consuming foods prepared from at least four of the six food groups
  - Consuming majorly animal based diets
  - Consuming majorly vegetable based foods
13. How can post harvest management contribute for nutrition?
- Ensuring improved productivity
  - Producing diversified crops
  - Increasing shelf life of different foods/value addition
  - Ensuring specialized crop production and increased income
14. How can water shade management contribute to improved nutrition?
- Being source for multipurpose trees
  - Being means for intercropping
  - Being means for specialized production
  - Being suitable for mechanized agriculture
15. Which of the following is considered a key issue with regard to gender
- Equal access to land and other resources
  - Sex
  - Production and productivity
  - Water shed management.



22. Which of the following is a component of the stages of behavior change?
- Identification
  - Maintenance
  - Creativity
  - Resistance
23. What is the main role of Social Behavior Change Communication (SBCC) in NSA
- Increases knowledge on Nutrition Sensitive Agriculture (NSA) issues
  - Teaches communication skills to improve social interaction and public speaking
  - Addresses the community's knowledge, attitude and practice related to NSA to influence change
  - Identifies the impact of agriculture to improve nutrition education
24. Which one of the following is an SBCC approach in Agriculture-Nutrition
- Explanation
  - Contemplation
  - Visualization
  - Communication
  - Negotiation
25. Which of the following SBCC tools can we use to determine the community's current behavior?
- Determine who needs to change their behavior and what behavior needs to change
  - Determine why the behavior needs to change
  - Determine the extent of the behavior change and the implications of not changing behaviors
  - Determine what behavior change we would like to see and how we can see the desired change
- 1, 2 & 3
  - 2, 3 & 4
  - 1, 2 & 4
  - 1, 3 and 4
26. Which of the following does not explain about multi-sector nature of nutrition?
- The multi-sectoral nature of nutrition requires individual, institutional and system level capacities.
  - The need for collaboration with other sectors is not important as long as the health sector implemented all nutrition interventions effectively.
  - Nutrition intervention requires collaborative engagement both vertically and horizontally across sectors and stakeholders.
  - Nutrition has a multi-dimension and multi-sectoral nature in terms of both effect and outcome
27. Which one of the following sector is responsible for promoting school health and nutrition intervention?
- Labor and social affair
  - Education
  - Women and children
  - Youth and sport

28. Which one of the following is SBCC approach in Agriculture-Nutrition?
- a. Explanation
  - b. Contemplation
  - c. Visualization
  - d. Communication
  - e. Negotiation
29. All of the following SBCC tools can we use to determine the community's current behavior **Except**
- a. Determine who needs to change their behavior and what behavior needs to change
  - b. Determine why the behavior needs to change
  - c. Determine the extent of the behavior change and the implications of not changing behaviors
  - d. Determine what behavior change we would like to see and how we can see the desired change
30. Which of the following does not explain about multi-sector nature of nutrition?
- a. The multi-sectoral nature of nutrition requires individual, institutional and system level capacities.
  - b. The need for collaboration with other sectors is not important as long as the health sector implemented all nutrition interventions effectively.
  - c. Nutrition intervention requires collaborative engagement both vertically and horizontally across sectors and stakeholders.
  - d. Nutrition has a multi-dimension and multi-sectoral nature in terms of both effect and outcome

**Annex II: Daily and end of course Evaluation forms**

1. Was the training content consistent with the stated objectives?	<b>Not at all</b>	<b>Completely</b>
	1    2    3	4    5
2. To what extent did the training provide the following?	<b>Very poor</b>	<b>Excellent</b>
a. Applicable theoretical information	1    2    3	4    5
b. Ways to apply the new information to your job	1    2    3	4    5
c. Practical examples	1    2    3	4    5
d. Time for discussion	1    2    3	4    5
3. To what extent do you expect this training will make a difference in the way you do your job	<b>Not at All</b>	<b>Big Difference</b>
	1    2    3	4    5
4. Overall, how would you rate the usefulness of this training	<b>Not Useful</b>	<b>Very Useful</b>
	1    2    3	4    5
5. Overall, how would you rate the following aspects of the training	<b>Very Poor</b>	<b>Excellent</b>
a. Organization	1    2    3	4    5
b. Time allocation	1    2    3	4    5
c. Trainers	1    2    3	4    5
6. What did you like most about this training?	_____	
	_____	
	_____	
7. What did you like least about this training?	_____	
	_____	
	_____	
8. If you were given the task of redesigning the training what would you change?	_____	
	_____	
	_____	

**Thanks for your feedback**

