

**Supplemental Table 1** Modules and topics to be covered in the adolescent nutrition education in the MEGA project, 2022

Week	Topic	Module	
Week 1	The Dimensions of Health	Module I: Health and nutrition	
Week 2	Overview of Good Nutrition		
Week 3	Nutrition Through Life		
Week 4	Fundamental Conditions for Good Nutritional Status		
Week 5	Nutritional Needs of Adolescents		
Week 6	Malnutrition: Poor Nutritional Status (Part I)		
Week 7	Malnutrition: Poor Nutritional Status (Part II)		
Week 8	Problems of Undernutrition		
Week 9	Problems from a Lack of Vitamins and Minerals (Part I)		
Week 10	Problems from a Lack of Vitamins and Minerals (Part II)		
Week 11	Problems from a Lack of Vitamins and Minerals (Part III)		
Week 12	Vitamins: Their Functions and Good Food Sources (Part I)		
Week 13	Vitamins: Their Functions and Good Food Sources (Part II)		
Week 14	Minerals: Their Functions and Good Food Sources (Part I)		
Week 15	Minerals: Their Functions and Good Food Sources (Part II)		
Week 16	Problems of “Overnutrition”		Module II: Agriculture and school gardening
Week 17	Eating Habits and Healthy Diets (Part I)		
Week 18	Eating Habits and Healthy Diets (Part II)		
Week 19	Introduction to School Gardening		
Week 20	Fertilizer Management		
Week 21	Pesticides and Compost		
Week 22	Activities Involved in School Gardening (Part I)	Module III: Health benefits of vegetables	
Week 23	Activities Involved in School Gardening (Part II)		
Week 24	Health Benefits of Vegetables (Part I)		
Week 25	Health Benefits of Vegetables (Part II)		
Week 26	Health Benefits of Vegetables (Part III)	Module IV: Physical activity and body size	
Week 27	Identifying Common Vegetables		
Week 28	Vegetable Planting Calendar in Tanzania	Module V: Water, sanitation, and hygiene	
Week 29	Achieving and Maintaining a Healthy Body Size (Part I)		
Week 30	Achieving and Maintaining a Healthy Body Size (Part II)		
Week 31	Being Fit and Active		
Week 32	Overview of Water, Sanitation, and Hygiene (WASH)		
Week 33	Food Quality and Safety in the Shops, Markets, Streets (Part I)		
Week 34	Food Quality and Safety in the Shops, Markets, Streets (Part II)		
Week 35	Protecting the Quality and Safety of Food at Home		
Week 36	Personal Hygiene: Keeping Our Bodies Clean (Part I)		
Week 37	Personal Hygiene: Keeping Our Bodies Clean (Part II)		
Week 38	Disease-Causing Microorganism		
Week 39	Clean and Safe Water (Part I)		
Week 40	Clean and Safe Water (Part II)		
Week 41	Clean Living Conditions		

**Supplemental Table 2** Topics and activities to be covered in the community workshops in the MEGA project, 2022

Month	Visit #	Review	Nutrition Messages	Agriculture Messages	Activities
Month #1	1	Introduction and answer questions about the study	Food and water safety and hygiene; Food preservation and storage	Describe homestead gardening: economical, nutrition, and social aspects	<ul style="list-style-type: none"> <li>Treated water demonstration</li> </ul>
	2	Review food and water safety and hygiene messages	Deworming	Nursey preparation  Keyhole garden	<ul style="list-style-type: none"> <li>Draft deworming schedule for children and adolescents</li> <li>How to make vegetable nursery seedbed preparations</li> </ul>
Month #2	3	Review deworming messages	Handwashing	Fertilizer management and different types of fertilizer	<ul style="list-style-type: none"> <li>Demonstrate appropriate handwashing techniques</li> <li>Preparing land (Clearing, destumping, cultivating, main bed preparation, and organic manure application)</li> <li>Seed sowing/planting of different types of seeds to the main field or direct sowing or container plants</li> </ul>
	4	Review handwashing techniques	Key nutrition terms and importance of human nutrition	Irrigation	<ul style="list-style-type: none"> <li>Review <i>MyPlate</i> Graphic</li> <li>Demonstration of irrigation techniques</li> </ul>
Month #3	5	Review key nutrition terms and importance of human nutrition	Balanced diet + food examples	Agronomical practices	<ul style="list-style-type: none"> <li>Create a healthy meal plan with participants</li> <li>Management of vegetable crops</li> </ul>
	6	Review balanced diet and food examples	Food equivalents to Meet Energy Needs	Pests and disease management  Harmful effects of pesticides	<ul style="list-style-type: none"> <li>Ask participants to identify how many calories each household member needs</li> <li>Look at the garden to identify diseases and insects of crops</li> <li>Uproot and destroy the stalk/plants affected by diseases</li> </ul>

Month #4	7	Review Food equivalents to meet energy needs	Causes and consequences of malnutrition	Farm progress	<ul style="list-style-type: none"> <li>• Create homemade ORS</li> <li>• Walk through the garden and identify plants suffering from mineral deficiency</li> <li>• Signs of vegetable maturity</li> </ul>
	8	Review causes and consequences of malnutrition	Advantages of vitamin supplements, iron and folic acid supplementation, deworming	Crop harvesting	<ul style="list-style-type: none"> <li>• Review if adolescents have been dewormed and received any vitamin supplement/iron and folic acid supplementation</li> <li>• Demonstrate proper harvesting</li> </ul>
Month #5	9	Review Vitamin supplement, iron and folic acid supplementation, deworming	Anemia: signs, symptoms, management	Grading/ packaging of vegetables/ Marketing of vegetables	<ul style="list-style-type: none"> <li>• Demonstrate signs and symptoms of anemia</li> <li>• Preserving and marketing vegetables</li> </ul>
	10	Review signs and symptoms of anemia	Menstruation and hygiene	Composting and keyhole garden	<ul style="list-style-type: none"> <li>• Demonstrate heap composting</li> <li>• Review how to create a keyhole garden</li> </ul>
Month #6	11	Review menstruation and hygiene	Food preservation and storage  Importance of good health-seeking behavior	Nursery Preparation	<ul style="list-style-type: none"> <li>• Show women how to make homemade oral rehydration salts</li> <li>• How to prepare a nursery</li> </ul>
	12:	Review Health Seeking Behavior	Importance of anthropometric measures	Raised bed preparation	<ul style="list-style-type: none"> <li>• Main bed preparation</li> </ul>
Month #7	13	Review importance of anthropometric measures	Importance of iodized salt	Transplanting	<ul style="list-style-type: none"> <li>• How to transplant vegetable crops and management</li> </ul>
	14	Review importance of iodized salt	Food preservation and storage	Controlling harmful insects and vegetable diseases  Harmful effects of pesticides	<ul style="list-style-type: none"> <li>• Go over proper preservation and storage techniques</li> <li>• Look at the garden to identify diseases and insects of crops</li> <li>• Uproot and destroy the stalk/plant affected as control measures</li> </ul>
Month #8	15	Review food preservation and storage	Key nutrition terms and importance of human nutrition	Farm progress	<ul style="list-style-type: none"> <li>• Review <i>Healthy Eating Plate</i></li> <li>• Walk through the garden and identify plants suffering from mineral deficiency</li> <li>• Signs of vegetable maturity</li> </ul>

	16	Review key nutrition terms and importance of human nutrition	Physical activity	Harvesting	<ul style="list-style-type: none"> <li>• Demonstrate activities that can be considered physical activity such as walking, household chores</li> <li>• Demonstrate proper harvesting</li> </ul>
Month #9	17	Review physical activity	Causes and consequences of malnutrition	Grading/ packaging of vegetables/ Marketing of vegetables	<ul style="list-style-type: none"> <li>• Treated water demonstration</li> <li>• Preservation of vegetable crops for future use</li> <li>• Marketing of vegetables</li> </ul>
	18	Review Causes and Consequences of malnutrition	Handwashing	Nursery preparation	<ul style="list-style-type: none"> <li>• How to prepare a nursery (review)</li> </ul>
Month #10	19	Review handwashing	Cooking Demonstration	Raised bed preparation	<ul style="list-style-type: none"> <li>• Conduct cooking demonstration on site</li> <li>• Main bed preparation</li> </ul>
	20	Review cooking demonstration	Balanced diet	Transplanting	<ul style="list-style-type: none"> <li>• How to transplant vegetable crops and management</li> </ul>