

Overview of Modules 5, 6, and 7 in the Monitoring Manual



Sweetpotato
Profit and Health
Initiative

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Module 6: Household Food Security

- Food security is defined as a state in which “all people at all-time have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life”
- There are many, many indicators of Household Food Security
- Selected Household Food Insecurity Access Scale (**HFIAS**), which focuses on the access component of food security.
 - Households experience food insecurity in varied forms:
 - i) the feeling of uncertainty or anxiety over food ,
 - ii) the perception that the food is of insufficient quantity and quality (e.g
 - iii) reported reduction of food intake
 - iv) reported consequence of reduced food intake
 - vi) reported socially undesirable means of coping with unavailability of food (e.g., eating foods that are really unwanted)

Example of Filled in Form

Household Food Insecurity Access Scale

Each of the questions in the following table is asked with a recall period of four weeks (30 days). The respondent is first asked whether the condition in the question happened at all in the past four weeks (yes or no). If the respondent answers "yes", then she/he is asked to determine whether the condition happened rarely (once or twice), sometimes (three to ten times) or often (more than ten times) in the past four (4) weeks. Explain to the respondent our definitions of rarely, sometime

Codes for How often: 0 - Never; 1 - Rarely (1-2 times); 2 - Sometimes (3-10 times); 3 - Often (>10 times) during the past 4 weeks		0-No	How
		1-Yes	often?
M05_01	In the past 4 weeks, did you worry that your household (HH) would not have enough food?*	1	3
M05_02	In the past 4 weeks, were you or any household member not able to eat the kinds of foods you preferred due to lack of resources? **	1	1
M05_03	In the past 4 weeks, did you or any household member have to eat a limited variety of foods due to lack of means to buy them?	1	1
M05_04	In the past 4 weeks, did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food? **	0	
M05_05	In the past 4 weeks, did you or any HH member have to eat a smaller meal than you felt because there was not enough food?***	0	
M05_06	In the past 4 weeks, did you or any other household member have to eat fewer meals in a day because there was not enough food?***	1	3
M05_07	In the past 4 weeks, was there ever (a day when there was) no food to eat of any kind in your HH due to lack of resources to get food?***	0	
M05_08	In the past 4 weeks, did you or any household member go to sleep at night hungry because there was not enough food?***	1	2
M05_09	In the past 4 weeks, did you or any HH member go a whole day and night without eating anything because there was not enough food?***	0	

Domains: * Anxiety and uncertainty about the HH food supply

** Insufficient Quality

*** Insufficient food intake and its physical consequences

Analysis

4 indicators derived from data on form:

i) Households Food insecurity Access related *Conditions*: For example, the percentage of households those were worried because they thought they run out of food in the past four weeks is the sum of “yes “responses to Q#1 divided by the total number of households included in the survey.

ii) Households Food insecurity Access related *Domains*: Percentage of households experiencing any of the anxiety or uncertainty, insufficient quality, insufficient quantity, and the consequences of food insecurity e.g.

percentage of households with insufficient food quality can be computed as:

$$\frac{\text{Number of households with response} = 1 \text{ to } Q\#2 \text{ or } 1 \text{ to } Q\#3 \text{ or } 1 \text{ to } Q\#4}{\text{Total number of households responding to } Q\#2 \text{ or } Q\#3 \text{ or } Q\#4} \times 1$$

iii) Household Food Insecurity Access Scale Score. The HFIAS score variable is generated by summing up all the frequency-of-occurrence for all the occurrence questions for each household. Maximum value 27. Reflects Intensity.

Analysis, cont.

iv) Household Food Insecurity Access Prevalence (HFIAP):

categorizes households into four levels of food insecurity (access).

a. **Food secure households (HFIA=1)** (households who those experience none of the food insecurity (access) conditions, or just experience worry):

If [(Q#1a=0 or Q#1a=1) and Q#2=0 and Q#3=0 and Q#4=0 and Q#5=0 and Q#6=0 and Q#7=0 and Q#8=0 and Q#9=0]

b. **Mildly food insecure households (HFIA=2)**: Calculation: *if [(Q#1a=2 or Q#1a=3 or Q#2a=1 or Q#2a=2 or Q#2a=3 or Q#3a=1 or Q#4a=1) and Q#5=0 and Q#6=0 and Q#7=0 and Q#8=0 and Q#9=0]*

c. **Moderately food insecure households (HFIA=3)** sacrifices quality more frequently, but it does not experience any of running out of food. *If [(Q#3a=2 or Q#3a=3 or Q#4a=2 or Q#4a=3 or Q#5a=1 or Q#5a=2 or Q#6a=1 or Q#6a=2) and Q#7=0 and Q#8=0 and Q#9=0]*

d. **Severely food insecure households (HFIA=4)** cutting back on meal size or number of meals eaten often. *if [Q#5a=3 or Q#6a=3 or Q#7a=1 or Q#7a=2 or Q#7a=3 or Q#8a=1 or Q#8a=2 or Q#8a=3 or Q#9a=1 or Q#9a=2 or Q#9a=3]*

Divide each category by total sample size, then times 100, to get prevalence.

Capturing Seasonality of Hunger...

M05_10 What months of the year do you consume sweetpotato in your meals at least twice a week?

(enumerator, **please record a 1 on the month mentioned and a 0 if a month is not mentioned**)

January	February	March	April	May	June	July	August	September	October	November	December
0	0	0	0	0	0	0	1	1	1	1	1

M05_11 In the **last 12 months**, which months did you have **less than two meals a day** from your own resources (purchases and production)?

(enumerator, **please record a 1 on the month mentioned and a 0 if a month is not mentioned**)

March	April	May	June	July	August	September	October	November	December	January	February
1	1	1	0	0	0	0	0	0	0	0	0

M05_12 In the **last 12 months**, which months did the household receive **relief food or food from an external source**?

(enumerator, **please record a 1 on the month mentioned and a 0 if a month is not mentioned**)

March	April	May	June	July	August	September	October	November	December	January	February
0	0	1	0	0	0	0	0	0	0	1	0

M05_13 In the **last 3 years**, has there been a **particularly difficult situation** in order to have food you were **forced to sell or rent out assets to buy food**? 0-No 1- Yes

1

By assets, I mean furniture, tools, land, large animals like goats or cows....

Module 7: Diet Diversity

- Quantitative data on nutrient intakes are expensive and difficult to gather.
- At the household level, diet diversity is a low-cost measure of access to food
- At the individual level, it has been validated as a proxy for assessing the adequacy of micronutrient intakes of women and children.
- *Household Dietary Diversity Score (HDDS)* is the number of unique food groups consumed by **household members** over a given period. It measures, in a snapshot form, the economic ability of a household to access a variety of foods. Thus, items that require resources to obtain such as condiments, sugar and sugary foods, and beverages, are included in the score.

Meaning of the Different Measures

Table 1. Simple food group diversity indicators currently in use or advocated for use at population level

	HDDS^a	IYCF MDD^b	WDDS^c	MDD-W^d
Population sampled/unit of analysis	Households	Infants and young children aged 6–23 months	Women aged 15–49 years	Women aged 15–49 years
Validated against	Kilocalorie availability as assessed in household-level consumption surveys	Micronutrient density compared with desirable density for complementary foods, assessed by 24-hour recall or weighed food records	Micronutrient adequacy assessed by multiple 24-hour recalls	Micronutrient adequacy assessed by multiple 24-hour recalls
Meaning	Proxy for household-level access to kilocalories (dietary energy),	Proxy for the adequacy of the micronutrient density of infant and young child	Proxy for the probability of micronutrient adequacy of women's diets	Proxy for the probability of micronutrient adequacy of women's diets

Example of filled in form!

Note special attention to Biofortified crops

The Reference woman (age 15-49 years) should be interviewed. Now we would like to ask you questions about the type of foods you ate in you household yesterday during the day and during the night, and also by your child [NAM] Yesterday, did your household consume at least a tablespoon (15 gm minimum) per person of any of the following kinds of food? I am interested in whether you had the items I mention even if they were mixed with other food: For example, if you had a soup made with carrots, potatoes and meat, you should reply “yes” for each of these ingredients when I read you the I However, if you consumed only the broth of a soup, but not the meat or vegetable do not say “yes” for the meat or vegetable. As I ask you about foods and drinks, please think of foods and drinks you had as snacks or small meals as well as during any main meals.

First ask the question for woman's consumption for a category of food.

		Woman		Reference Child				Woman		Reference Child	
		0-No	1-Yes	0-No	1-Yes			0-No	1-Yes	0-No	1-Yes
M06_01	Any foods made from grains (like maize, rice, wheat, sorghum, millet, noodles, bread)	1		1		M06_11	Any eggs	1		0	
M06_02	Any biofortified crops (orange-fleshed sweetpotato, orange maize, iron rich beans)	0		1		M06_12	Any fish or seafood, fresh or dried	0		0	
M06_03	Any vegetables or roots that are orange-colored inside (OFSP, pumpkin) <i>(show pictures)</i>	1		1		M06_13	Any beans or peas (fresh or dried deans, soybean, lentils)	0		1	
M06_04	Any white roots and tubers or plantains (white potatoes, manioc, white-fleshed sweetpotato)	0		0		M06_14	Any nuts or seeds (groundnuts or cashew-- whole or "butter", egusi, sunflower seeds)	1		1	
M06_05	Any dark green leafy vegetables (sweetpotato leaves, cassava leaves, pumpkin leaves)	1		1		M06_15	Any milk or milk products (such as chees or yogurt, but NOT butter, or ice cream)	1		1	
M06_06	Any fruits that are dark yellow or orange inside (ripe mango, ripe papaya, passion fruit)	1		1		M06_16	Any palm oil	0		0	
M06_07	Any other vegetables (like eggplant, okra, tomatoes)	1		0		M06_17	Any foods made with any other type of oil, fat, or butter	1		0	
M06_08	Any other fruits	0		1		M06_18	Any sweets and sugar (Like sugar, honey, sweetened soda, candies, cookies)	1		1	
M06_09	Any meat made from animal organs (like liver,heart, kidney, blood-based foods)	0		0		M06_19	Any condiments or seasonings (used in small amounts for flavoring)	0		0	
M06_10	Any other types of meat or poultry (like beef, pork, goat, chicken, duck, wild birds)	1		0		M06_20	Any other beverages and foods (tea, coffee, alcohol, olives, etc.)	1		0	

Analysis

Items in the HDDS compared to the IDDS applied to Children Source: Swindale and Bilinsky, 2006.

Minimum Dietary Diversity --Women (Maximum Score: 0-10 or 131)

1. Cereals, while roots and tubers
2. Pulses/legumes
3. Nuts and Seeds
4. Milk and milk products
5. Meat, poultry, fish
6. Eggs
7. Dark green leafy vegetables
8. Other vitamin A rich fruits & vegetables
9. Other vegetables
10. Other fruit

IDDS (Children) Food Groups (Score: 0-7 or 8):

1. Grains, roots or tubers
2. Vitamin A-rich plant foods
3. Other fruits or vegetables
4. Meat, poultry, fish, seafood
5. Eggs
6. Pulses/legumes/nuts
7. Milk and milk products
8. Foods cooked in oil/fat



Example estimates of amount of OFSP consumed.

M06_21A	Yesterday, how many times did the adults and older children (>13 years old) in this household eat OFSP?	<input type="text" value="3"/>	M06_21B	the children 6 to 13 years old?	<input type="text" value="2"/>	M06_22	the reference child?	<input type="text" value="3"/>	(enter # or 88=N/A)				
M06_23	Approximately how much OFSP did the reference child eat during the entire day?	M06_23A	No. of very small roots	<input type="text" value="0"/>	M06_23B	No. of small roots	<input type="text" value="3"/>	M06_23C	No. of medium roots	<input type="text" value="0"/>	M06_23D	No. of large roots	<input type="text" value="0"/>
M06_24	Where did you get the OFSP? 1- Your field; 2- the market; 3- relative / neighbor; 4- Current Project 5- Other ; 7- Doesn't know / remember 8-N/A	<input type="text" value="3"/>	M06_24A	Specify other	<input type="text"/>								

Root size estimates: very small: 50 gms; small: 100 gms; medium: 250 gms; large 500 gms.

Module 8: Frequency of Consumption of Vitamin A Rich Foods

- Helen Keller International (HKI) invested in developing a semi-quantitative, food frequency method that looked at the frequency of intake of vitamin A rich foods and validated these results against serum retinol values in Tanzania (Rosen *et al.*, 1993).
- This method is used to assess whether a given population is at risk of VAD, and focuses on foods eaten during the past 7 days.
- If repeated seasonally, It can help monitor which vitamin A-rich foods, such as OFSP, are coming into the diet by season and over time.

Example of filled in form!

Now we have a few more questions regarding your child (*name*) and how often he/she has eaten certain foods during the past week.

We are also interested in learning if you ate those foods as well.

M07A: Name of the Reference child Susan Banda 0 3

M07B: Is the reference child still breastfeeding? 0- No 1- Yes 0

M07C19: *If no: At what age (in months) did the child stop breastfeeding?* 1 1

Explain to the participant that you want the number of DAYS, not the number of times.

During the past 7 days, how many days did the *child* eat (name of the food)?

Meaning, how many days, starting with the last day (*specify the day*), did the child eat (*food*)

remembering that if the child, for instance, ate the food at lunch and at dinner on the same day,

that counts as 1 day. Remember for the child, the food can be part of the porridge, e.g. milk added to maize flour. (NOTE: includes foods not prepared in the household)

NUMBER OF DAYS THE FOOD WAS CONSUMED OVER THE PAST 7 DAYS

Num.	NAME OF THE FOOD	CHILD ID	CAREGIVER ID
M07_01	Main staple (maize, rice, cassava, etc.)	7	7
M07_02	Whole chillies or hot pepper	0	3
M07_03	Dark green leaves (of all kinds)	5	7
M07_04	Pumpkin leaves #	2	2
M07_05	Sweetpotato leaves	1	0
M07_06	Amaranth leaves #	0	2
M07_07	Red Palm Oil	0	0
M07_08	Milk or milk product (cheese, yoghurt)	3	5
M07_09	Carrots	0	0
M07_10	Ripe mango, fresh or as juice	3	2

Num.	NAME OF THE FOOD	CHILD	CAREGIVER
M07_11	Pumpkin or orange squash	2	2
M07_12	Ripe papaya, fresh or as juice	2	2
M07_13	Wheat/Biscuits/Cookies/Bread	1	6
M07_14	White-fleshed sweetpotato	0	2
M07_15	Orange-fleshed sweetpotato (OFSP)	4	4
M07_16	Yellow-fleshed sweetpotato	1	1
M07_17	Eggs with yolk	0	1
M07_18	Any fish FRESH (with intact liver)	2	2
M07_19	Liver - from any animal or bird (e.g. chicken) or fish	1	0
M07_20	Meat from cow/pig/sheep/rabbit/rat, chickens or wild game	0	2
M07_21	Butter	0	0
M07_22	Cod liver oil	0	0
M07_23	Food fried in oil or with oil	6	6
M07_24	Passion fruit (or other fruit rich in vitamin A)	0	0
M07_25	Vitamin A fortified margarine (BLUEBAND) or oil	0	0
M07_26	Chicken or other fowl	1	1
M07_27	Weaning food fortified with vitamin A, like Cerelac	0	0
M07_28	Infant formula (e.g. NAN, etc) fortified with vitamin A	0	0
M07_29	Coconut milk or oil, cooking oil, ghee	0	0
M07_30	Any sugar to which Vitamin A has been added	0	0
M07_31	Lentils, Beans (all kinds), peas, other legumes	2	2
M07_32	Groundnut, cashew nut or any other nut	0	3

This food item can be replaced with similar foods that are locally available.

Plant sources of vitamin A are *in italics*.

Animal or industrially fortified sources of vitamin A are **bolded**.



Analysis: Community Level Indicator

Whether or not a community has a vitamin A deficiency problem is determined by two threshold values:

≤4 days per week for mean frequency of consumption of animal sources of vitamin A

≤6 days per week for mean frequency of consumption of animal and plant sources of vitamin A (weight by source).

Animal Score = Eggs + Fish with Liver intact + Liver + Butter + Cod Liver Oil + Fortified Weaning Foods + Fortified Margarine + Fortified Sugar + Fortified Infant Formula

Plant Score = (Dark Green Leafy Vegetables + Carrots + Ripe Mango + Pumpkin or Orange Squash + Ripe Papaya + Yellow Sweetpotato + Orange-fleshed Sweetpotato + Red Palm Oil + Passion Fruit)/6

Total Score = Animal Score + Plant Score.

10.5 is the maximum possible score.



Quantity Estimates of OFSP Intakes & When it is consumed

M07_33 : FOR THE CHILD IF CONSUMED ANY TYPE OF SWEETPOTATO:				(Show picture of root sizes)						
On a typical day, how much sweetpotato does (name) eat during the entire c				M07_33A: Number of roots	<input type="text" value="2"/>	M07_33B: Size 1-Very Small 2-Small 3-Medium 4- Large	<input type="text" value="2"/>			
M07_34 FOR THE CHILD IF CONSUMED SP:										
On a day when [NAME] eats SP, is it for...		0- No 1- Yes 8- Don't know	M07_34A- Snack:	<input type="text" value="1"/>	M07_34B- Breakfast	<input type="text" value="1"/>	M07_34C- Lunch	<input type="text" value="0"/>	M07_34D- Supper/Dinner	<input type="text" value="0"/>
M07_35 : FOR THE MOTHER IF CONSUMED ANY TYPE OF SWEETPOTATO:										
On a day when you eat sweetpotato, how much do YOU typically eat during the enti				M07_35A	Number of roots	<input type="text" value="1"/>	M07_35B: 1-Very Small 2-Small 3-Medium 4- Large	<input type="text" value="3"/>		
M07_36 FOR THE WOMAN, IF CONSUMED SP										
On a day when you eat SP, is it		0- No 1- Yes 7- Don't know	M07_36A- Snack	<input type="text" value="0"/>	M07_36B- Breakfast	<input type="text" value="1"/>	M07_36C- Lunch	<input type="text" value="1"/>	M07_36D- Dinner	<input type="text" value="0"/>
M07_37 If ate SP: Was it available from: 1- Your field 2-Market 3-relative/neighbor 4-Current Project 5-Other 7-Don't kno				<input type="text" value="1"/>	M07_37A Specify other				<input type="text" value=""/>	

Obrigada

