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2. Food Consumption Score – Nutrition (FCS-N) [REVISED]

VERSION	V4.0 – 2024.03
INDICATOR CODE	2
INDICATOR TYPE & AREA	**Type:** Outcome corporate indicator (In Annex II of the CRF) Reported in ACR 1. Food security and essential needs
INCLUDED IN CSP LOGFRAMES	Yes
APPLICABILITY	**Mandatory:** Under the relevant outcomes for interventions targeting direct/Tier 1 beneficiaries that are nutrition sensitive, irrespective of the transfer modality.
TECHNICAL OWNER	Research, Assessment and Monitoring – Needs Assessment & Targeting (RAM-N)
ACTIVITY TAGS	*General Distribution (GD)
UNIT OF MEASUREMENT & ANALYSIS	• Percentage of households that **never** consumed **Protein-rich food** • Percentage of households that **never** consumed **Vitamin- A rich food** • Percentage of households that **never** consumed Hem **Iron-rich food**
DEFINITION	The Food Consumption Score Nutritional Quality Analysis (FCS-N) is a tool derived from the Food Consumption Score indicator, that looks at three main nutrients (**Vitamin A**, **Protein** and **Hem Iron**) of the food items consumed.
RATIONALE	The data gathered from the FCS-N module is useful for understanding the nutritional health and well-being of households; it attempts to improve the link between household food access/consumption and nutritional outcomes. FCS-N goes a step further than FCS and takes a closer look at the consumption of protein-rich, iron-rich or Vitamin A-rich foods. The selection of the three nutrient-rich groups of interest is supported by research and based on: **Protein-rich foods**: protein plays a key role in the growth and is crucial for the prevention of wasting as well as stunting which take place largely within the first 1,000 days. **Hem Iron**: Iron deficiency, one of the main causes of anaemia, affects approximately 25 percent of the world's population, mainly pre-school children and women. The Lancet series (2008 and 2013) has documented long-term impacts on productivity and quality of life. **Vitamin A**: Vitamin A deficiency, if tackled before the age of five, can reduce mortality and infectious diseases such as measles, diarrhoea, and malaria by up to a third. Going beyond the FCS, the FCS-N provides the following benefits: • Indicates nutrient inadequacies at the household level; • Can show trends in nutrient inadequacy at the household level; • Provides a useful indicator for monitoring nutrient-sensitive programme outcomes;

- Alongside other indicators and process tools, outputs from this innovative analysis can help select the appropriate food transfer modalities (food, cash, or vouchers).

DATA SOURCE	Household surveys conducted face-to-face. Possibly remote surveys (e.g., mVAM) through live calls, but well-trained operators are required. In most cases, FCS-N module is collected through Post Distribution Monitoring or Food Security Outcome Monitoring questionnaires.

DATA COLLECTION TOOL

The same module used to calculate FCS is applied for FCS-N – however, the expanded module must be applied. Some of the food groups are split into sub-groups to facilitate differentiation of the consumption of nutrient-rich foods from other less nutrient-rich items belonging to the same general food group:

The **vegetables group** is sub-divided into dark green leafy vegetables (iron-rich) and deep yellow/orange vegetables (Vitamin-A rich) and less nutrient rich vegetables such as onions, white cabbage, etc.

For the **fruits group**, it is important to distinguish between fruits rich in vitamin A – the deep yellow/orange ones – and less nutrient rich fruits such as apples, lemons, and oranges.

It is important to distinguish the consumption of different types of flesh meats, rich in **protein** and **iron**, or organ meats that are also rich in **Vitamin A** from those that are less nutrient rich.

Fortified foods (including CSB and Super Cereal) are of specific interest for FCS-N analysis and supplementary questions should be asked about consumption of these specific food groups as part of the food consumption module.

1. FOOD SECURITY AND ESSENTIAL NEEDS

FCS: How many days over the last 7 days, did most members of your household (50% +) eat the following food items, inside or outside their home, and what was their source? ***Note for enumerator:*** *Determine whether the consumption of food items (e.g., fish, milk) was only in small quantities and should be recorded as a condiment.*		Number of days eaten in past **7 days.**	Variable names	How was this food acquired? **Write the main source of food for the past 7 days.** *If not eaten, do not specify the main source.*
1.	**Cereals, grains, roots, and tubers:** Rice, pasta, bread, sorghum, millet, maize, potato, yam, cassava, white sweet potato, taro, plantain	|___|	FCSStap	|___|
2.	**Pulses, legumes, nuts and seeds:** beans, cowpeas, peanuts, lentils, soy, pigeon pea and/or other nuts	|___|	FCSPulse	|___|
3.	**Dairy**: milk, yogurt, cheese, and other dairy products (Exclude margarine/butter or small amounts of milk for tea/coffee)	|___|	FCSDairy	|___|
4.	**Meat, fish and eggs:** goat, beef, chicken, pork, fish, including canned tuna, escargot, and/or other seafood, escargot, insects, eggs (Exclude meat and fish consumed in small quantities)	|___|	FCSPr	|___|
If 0, skip to question 5				
4.1	**Flesh meat:** beef, pork, lamb, goat, rabbit, chicken, duck, other birds	|___|	FCSNPrMeatF	|___|
4.2	**Organ meat:** liver, kidney, heart and/or other organ meats		FCSNPrMeatO	
4.3	**Fish/shellfish**: fish and other seafood, including canned tuna (fish in large quantities and not as a condiment)	|___|	FCSNPrFish	|___|
4.4	**Eggs**	|___|	FCSNPrEggs	|___|
5.	**Vegetables and leaves:** spinach, onion, tomatoes, carrots, peppers, green beans, lettuce, etc	|___|	FCSVeg	|___|
If 0, skip to question 6				
5.1	**Orange vegetables:** carrot, red pepper, pumpkin, orange sweet potatoes	|___|	FCSNVegOrg	|___|
5.2	**Green leafy vegetables:** spinach, broccoli, amaranth, cassava leaves, and/or other dark green leaves	|___|	FCSNVegGre	|___|
6.	**Fruits:** banana, apple, lemon, mango, papaya, apricot, peach, etc	|___|	FCSFruit	|___|
If 0, skip to question 7				
6.1	**Orange fruits:** mango, papaya, apricot, and peach	|___|	FCSNFruiOrg	|___|

	(Exclude oranges which are not rich in vitamin A)			
7.	**Oils, fats, and butter:** vegetable oil, palm oil, butter, margarine, other fats or oils	|___|	FCSFat	|___|
8.	**Sugar and sweets:** sugar, honey, jam, candy, chocolate, biscuits/cookies, pastries, cakes, ice cream, and other sweets, including sugary drinks	|___|	FCSSugar	|___|
9.	**Condiments/spices:** tea, coffee/cocoa, salt, garlic, spices, yeast/baking powder, tomato paste, meat or fish as a condiment, condiments including the small amount of milk/tea coffee.	|___|	FCSCond	|___|

Food acquisition codes (Source of food, SRf)
100 = Own production (crops, animal husbandry)
200 = Fishing / Hunting
300 = Gathering
400 = Loan/borrow
500 = Purchase with cash
600 = Purchase on credit
700 = Begging or scavenging for food
800 = Exchange labour or items for food (barter)
900 = Gift (food) from family relatives or friends
1000 = Food assistance (in-kind or value voucher) from WFP, civil society, NGOs, government, etc.

The module must be designed carefully based on knowledge of local diets and typical food items consumed. The above list can help the designers to group different food items correctly by sub-group. Extensive training of enumerators using visuals such as sample foods or pictures is essential. This XLSForm will help in designing forms in Excel which can be converted to a MoDA or ODK form data collection software. The form can also be self-generated by selecting the sub-module *Combined (FCS/FCSN)* in the module *Food Consumption* in WFP Survey Designer.

SAMPLING REQUIREMENTS

Sample size: The recommended sample size is 270 per stratum per round of data collection, with consideration given to the parameters below.

Population size (beneficiaries per stratum): at least 20,000

Desired level of confidence: 90%

Acceptable margin of error: 5%

Response distribution: 50%

Simple random sample (**design effect**): 1

If cluster sample used, sample size should increase by at least 50% (at least 405 households).

If the prevalence is lower or higher than 50%, or the beneficiaries per stratum less than 20,000 then sample size could be lower than 270, use the sample size tool for calculation.

Mandatory stratification:

- Programme activity
- Transfer modality

Optional stratification: Beneficiaries/non-beneficiaries (when relevant)

Guidance is available here

Sample size tool: Raosoft sample size calculator

INDICATOR CALCULATION

To analyse the FCS-N (Vitamin A rich, Protein-rich, Hem iron-rich), please consider the following calculation steps:

1. **Aggregate the individual food groups into nutrient rich food groups:**

Vitamin A rich foods: Dairy, Organ meat, Eggs, Orange vegetables, Green vegetables and Orange fruits.

Protein-rich foods: Pulses, Dairy, Flesh meat, Organ meat, Fish and Eggs.

Hem iron-rich foods: Flesh meat, Organ meat, and Fish.

2. **Sum up the frequency of consumption of each food group to calculate the aggregated frequency of consumption by nutrient-rich food groups**

Example of calculating the Vitamin A rich group**:**

Vitamin-A rich foods	Frequency (days consumed 7 days before the interview)	Sum of frequencies
Dairy	3	13
Organ meat	4	
Eggs	1	
Orange veg.	3	
Green veg.	2	
Orange fruits	0	

Note: this same process should be repeated for Protein-rich foods & Hem iron-rich foods

3. Build categories of frequency of food consumption groups

For analysis, the consumption frequencies of each nutrient-rich food group are recoded into three categories:

1 = 0 times (Never consumed)

2 = 1-6 times (Consumed sometimes)

3 = 7 times or more (Consumed at least 7 times)

Following the example above, the frequency of a household's consumption of Vitamin-A rich foods is 13. Thus, the household falls under the third group: '7 times or more'.

4. Calculate the percentage of households by frequency of consumption category ('never', 'sometimes' and 'at least 7 times') for each one of the three nutrient-rich food.

NOTE: *If any disaggregation of the food groups is to be carried out by Country Offices for specific information needs, then only the main food groups included in the standard module will be considered in the calculations of both FCS-N and FCS. For example: if the 'Milk & other dairy products' is broken down into detailed food items, such as powder milk, and liquid yoghurt, then only direct responses to the main food group 'Milk & other dairy products' will be part of the calculation. Information on disaggregated food items outside the standard food groups should not be aggregated.*

For more details and syntax, please refer to Food Consumption Score Nutritional Quality Analysis - Data Analysis - WFP VAM Resource Centre Scripts in R, STATA and SPSS and sample data are also available on github for calculating this indicator.

DATA ENTRY IN COMET

Results generated will be entered into COMET.

DISAGGREGATION FOR DATA ENTRY IN COMET (MANDATORY)

Mandatory disaggregation:

- Programme activity

Optional disaggregation (when sample size allows):

- Sex of household head
- Transfer modality
- Rural/urban
- Admin and livelihood zone
- Displacement status

For COMET reporting: If the sample size is not representative of the mandatory disaggregation groups, please include a note indicating that the results are indicative for that specific group in both COMET and ACR note sections.

For regular reporting: Ensure that the reporting accurately reflects categories with a representative sample size.

FREQUENCY OF DATA COLLECTION/DATA ENTRY IN COMET	Minimum: twice/year It is strongly recommended that data collection for follow-ups happens in the same period to the baseline. In addition, all follow-ups are to be conducted within the same period/number of days after food distributions. For years when a baseline is conducted, only one follow up is required.
BASELINE ESTABLISHMENT	Baseline values should be established within three *(3) months before and no later than three (3) months* from the start of activity implementation. However, it is strongly recommended to collect FCS-N baseline values within one month before the start of the activity implementation. The baseline could also be determined from a relevant WFP assessment conducted within the three months prior to the start of a programme activity.
TARGET SETTING	**Annual target:** • Reduced prevalence of beneficiaries **never** consuming protein-rich foods compared to the pre-assistance baseline value; • Reduced prevalence of beneficiaries **never** consuming Hem iron-rich foods compared to the pre-assistance baseline values; • Reduced prevalence of beneficiaries **never** consuming Vitamin A-rich foods compared to the pre-assistance baseline values. **End of CSP Target:** • Reduced prevalence of beneficiaries **never** consuming protein-rich foods compared to the pre-assistance baseline value; • Reduced prevalence of beneficiaries **never** consuming Hem Iron foods compared to the pre-assistance baseline value; Reduced prevalence of beneficiaries **never** consuming Vitamin A compared to the pre-assistance baseline value.
RESPONSIBLE FOR DATA COLLECTION	• M&E Officer, with technical support from the Nutrition Unit
INDICATORS COLLECTED & ANALYSED AT THE SAME TIME	Household level indicators: • 1. FCS • 3. rCSI • 4. LCS-FS OR • 5. LCS-EN and

- 6. ECMEN
- Individual level indicators: MAD, MDD-W (if applicable)

COMPLEMENTARY QUALITATIVE RESEARCH

Focus group discussions can be conducted in addition to the household level data collected to triangulate the information about dietary habits and the regular consumption of (1) Vitamin A-rich foods, (2) Protein-rich foods and (3) Hem iron-rich foods.

Example questions for a focus group discussion:

- Can you describe the typical foods consumed by households in your community? What are the three main staple food commodities consumed in your community?
- From your own perspective, how would you define a nutritious diet?
- Are there any specific foods that you consider to be important for meeting the nutritional needs of households in your community? Why are these foods important?
- Are there any specific challenges or barriers people in your community face in accessing and consuming a diverse range of foods?
- Are there any cultural or traditional practices that influence the food consumption choices in your community? Can you provide examples?
- What is their general perception of the assistance people receiving in your community?
- Etc.

DECISIONS DATA CAN INFORM

The three indicators (Protein-rich food, Vitamin A-rich food, Hem Iron-rich food) calculated from the FCS-N questionnaire module are essential for assessing the effectiveness of a WFP's nutrition-sensitive intervention in meeting the nutrient needs of assisted households. These indicators provide valuable insights into the nutritional quality of the assistance provided and can help identify any gaps or areas for improvement in the intervention design.

This analysis can help select the appropriate food transfer modalities (food, cash, or vouchers) and feed into decisions on nutrition-sensitive programming. Furthermore, it can provide information to stakeholders in the nutrition sphere for analysis regarding the population's nutritional intakes, such as REACH and SUN.

INTERPRETATION

Results should be analysed and reported over space and time and across relevant sub-groups. It is expected that the consumption of protein-rich, iron-rich and Vitamin A-rich foods will increase if food assistance programmes are designed in a nutrition-sensitive way in terms of food composition, modality and nutrition-messaging. During the analysis, it is important to consider the possible influence of bias, as certain food items may only be consumed on a seasonal basis (e.g., during the mango season). Furthermore, under each of the three nutritional groups, it is important to pay close attention to the frequency of individual item consumption, as high consumption of protein could be driven by pulses from WFP in-kind assistance. Findings should be shared and discussed with the nutrition team.

REPORTING EXAMPLE(S)

Example from Goma AO (DRC):

Les bénéficiaires du PAM ont une bonne consommation quotidienne des aliments riches en protéines (19%) que les non bénéficiaires (5%). Cependant, aucune amélioration n'a été observée dans la consommation quotidienne des aliments riches en Fer (1%) pour les bénéficiaires. Des disparités sont observées selon que le ménage est dirigé par un homme

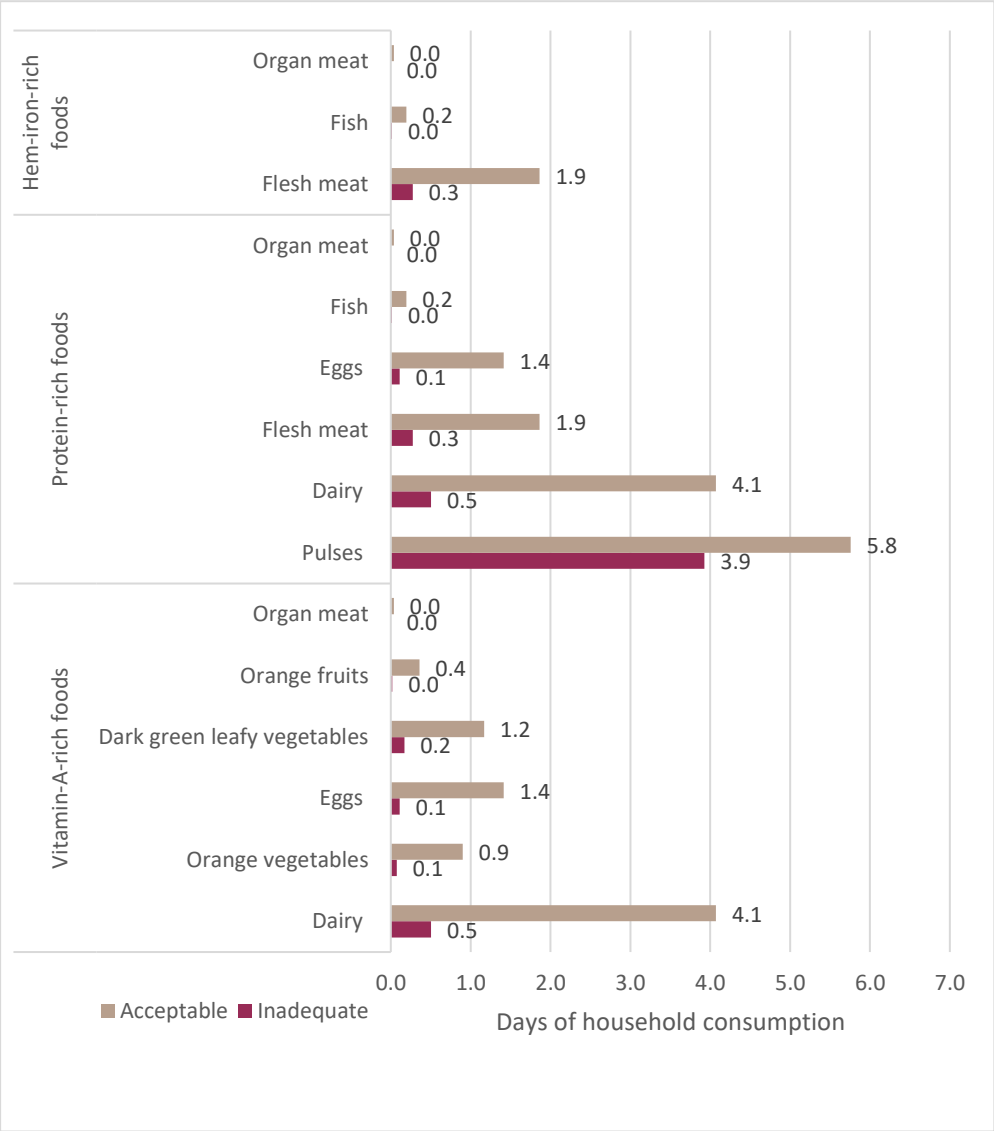
ou une femme concernant les aliments riches en protéines, en fer et en vitamine A pendant la période de la collecte des données. Ci-dessous les tendances:

WFP beneficiaries have a higher daily consumption of protein-rich foods (19%) than non-beneficiaries (5%). However, no improvement was observed in the daily consumption of iron-rich foods (1%) for beneficiaries. Disparities are observed between male and female headed households regarding protein-rich, iron-rich and vitamin A-rich foods during the data collection period. Below are the trends:

Score de Consommation Alimentaire Nutrition selon le sexe du chef de ménage (% des ménages)

Type d'enquête		Genre du CM	PROTEINES			FER			VITAMINE A		
			0 jour	1-6 jours	Chaque jour	0 jour	1-6 jours	Chaque jour	0 jour	1-6 jours	Chaque jour
PDM février 2023	Bénéficiaires	Masculin	4%	79%	18%	50%	49%	1%	17%	72%	10%
		Féminin	6%	72%	22%	48%	52%	0%	8%	80%	12%
		Ensemble	4%	77%	19%	49%	50%	1%	15%	74%	11%
	Non Bénéficiaires	Masculin	7%	89%	4%	75%	25%	0%	20%	63%	18%
		Féminin	33%	56%	11%	100%	0%	0%	22%	56%	22%
		Ensemble	11%	85%	5%	78%	22%	1%	20%	62%	18%
	Ensemble	Masculin	4%	80%	15%	54%	46%	1%	18%	71%	11%
		Féminin	9%	70%	21%	53%	47%	0%	10%	78%	13%
		Ensemble	5%	78%	17%	53%	46%	1%	16%	72%	12%

VISUALIZATION



LIMITATIONS	FCS-N is a household-level indicator and does not provide information about individual level intake or the consumption of different nutritionally vulnerable groups within the household such as infants, young children, pregnant & lactating women.
FURTHER INFORMATION	Refer to the FCS-N page on the VAM Resource Centre or contact the Needs Assessments and Targeting Unit in HQ RAM (RAM-N) at global.assessmentandtargeting@wfp.org.