



Interagency Workshop
Report WFP - FAO

Measures of Food Consumption – Harmonizing Methodologies

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Acronyms

CFSVA	Comprehensive Food Security and Vulnerability Analysis
CHS	Community and Household Survey
DD	Dietary Diversity
DHS	Demographic and Health Survey
EFSA	Emergency Food Security Assessment
EWS	Early Warning System
FANTA	Food and Nutrition Technical Assistance
FAO	Food and Agriculture Organisation
FC	Food Consumption
FCG	Food Consumption Group
FCS	Food Consumption Score
FEWSNET	Famine Early Warning System Network
FF	Food frequency
FFE	Food For Education
FFQ	Food Frequency Questionnaire
FG	Food Group
FI	Food Insecurity
FSAU	Food Security Analysis Unit
FSMS	Food Security Monitoring System
HDDS	Household Dietary Diversity Score
HFIAS	Household Food Insecurity Access Scale
HH	Household
ICRC	International Committee of the Red Cross
IDDS	Individual Dietary Diversity Score
IDP	internally Displaced Persons
IFPRI	International Food Policy Research Institute
INCAP	Instituto de Nutrición de Centro América y Panamá
IPC	Integrated Food Security and Humanitarian Phase Classification
JAM	Joint Assessment Mission
MDAT	Mozambique Diet Assessment Tool
OMXF	Food Security Analysis Service
OXFAM	Oxford Committee for Famine Relief
PER	Protein Efficiency Ration
R ²	R squared
SCUK	Save the Children United Kingdom
USAID	United States Agency for International Development
VAC	Vulnerability Assessment Committee
WFP	World Food Programme

Background and expected outcomes of the workshop

Many agencies use information on household or individual food consumption as one measure of food security assessment. There is variation in data collection methods as well as construction of food consumption indicators used as part of these assessments. This variation is influenced by the objective of the assessment. FAO and WFP are working together to identify similarities and differences in the food consumption indicators currently in use by each organization, with an overall aim to provide guidance on the settings in which each indicator is most useful.

Toward this aim a workshop on measures of food consumption and harmonizing methodologies was organised by WFP and FAO to reach the following objectives:

To reach a consensus on the specific information provided by various food consumption indicators and their methods of data collection;

To define the conditions (context, resources) under which each indicator and data collection and analysis method are most appropriate;

To identify ways to compare results of various assessments using the different methodologies/indicators, and to try to compare different indicators used in the same context.

To identify ways to combine various consumption indicators, consumption data collection and data analysis methodologies, where possible, so that different objectives can be met at the same time.

WORKSHOP PROCEEDINGS

Introduction

During the introduction, participants were asked to express their expectations for the workshop. Most hoped harmonization and consensus of different methods would be possible and that workshop results would provide guidance to those using these tools in the field. Two areas for potential harmonization were highlighted. These include, aspects related to data collection and harmonization of the tools (questionnaires) used in the field to collect information on food consumption and secondly, harmonization of aspects related to construction of each indicator.

Session 1- Setting the stage: Key food consumption indicators

The objective of the session was to reach consensus on the specific information provided by various food consumption indicators (what they measure, for which purpose, how they are constructed and how are data collected).

The session hosted three presenters who described different approaches to measuring food consumption and dietary diversity.

Presentation 1 - Food consumption score (FCS)

Presenter: Jan Delbaere – WFP Food Security analysis service (OMXF)

Jan Delbaere talked about the construction of the Food Consumption Score (FCS). The FCS is a composite score based on dietary diversity, food frequency and relative nutritional importance of different food groups. Respondents are asked about frequency of consumption of different food items over the past seven days by any household member. The food items are aggregated

into eight standard groups and the number of days each food group is consumed is multiplied by an assigned weight based on the nutrient content of a typical portion.

The individual food items (for example maize, rice and bread/wheat) are re-aggregated into the appropriate food group for purposes of calculating the FCS.

The following table presents an EXAMPLE of the WFP Food Consumption module. The list of food items is adapted to capture the differences in diet pattern in various countries with specific cereal consumption (rice vs. maize vs. sorghum vs. wheat...).

	Food Item	Number of days eaten last 7 days	Main Source over the past 7 days	Food Source codes
				1 = Own production (crops, animals)
a	rice	__	__	2 = hunting, fishing
b	Maize	__	__	3 = gathering
c	Cassava	__	__	4 = borrowed
d	Other roots and tubers (potatoes, yam)	__	__	5 = purchase
e	Fish	__	__	6 = exchange labor for food
f	White meat - poultry	__	__	7 = exchange items for food
g	Pork	__	__	8 = gift (food) from family relatives
h	Red meat	__	__	9 = food aid (NGOs etc.)
i	Wild meat	__	__	10 = Other specify:
j	Eggs	__	__	
k	Pulses/Lentils/ Bean curd	__	__	
l	Vegetables (carrots, onions, tomatoes, etc.)	__	__	
m	Green, leafy vegetables	__	__	
n	Oil/Butter	__	__	
o	Fresh fruits	__	__	
p	Sugar / sugar products	__	__	
q	Milk/milk products	__	__	
r	Condiments	__	__	

The following table explains the weights applied to each of the eight food groups used in the construction of the FCS. After construction of the score, there are three cut points which serve to categorize households by their level of food consumption: poor food consumption (FCS ≤ 21), borderline food consumption (FCS 21.5-35), or acceptable food consumption (FCS > 35).

Even though these thresholds are standardized there is always room for adjustments based on evidence.

Food groups	Weight	Justification
Main staples	2	Energy dense/usually eaten in larger quantities, protein content lower and poorer quality (PER ¹ less) than legumes, micro-nutrients (bound by phytates).
Pulses	3	Energy dense, high amounts of protein but of lower quality (PER less) than meats, micro-nutrients (inhibited by phytates), low fat.
Vegetables	1	Low energy, low protein, no fat, micro-nutrients
Fruit	1	Low energy, low protein, no fat, micro-nutrients
Meat and fish	4	Highest quality protein, easily absorbable micro-nutrients (no phytates), energy dense, fat. Even when consumed in small quantities, improvements to the quality of diet are large.
Milk	4	Highest quality protein, micro-nutrients, vitamin A, energy. However, milk could be consumed only in very small amounts and should then be treated as condiment and therefore re-classification in such cases is needed.
Sugar	0.5	Empty calories. Usually consumed in small quantities.
Oil	0.5	Energy dense but usually no other micro-nutrients. Usually consumed in small quantities
Condiments	0	These foods are by definition eaten in very small quantities and not considered to have an important impact on overall diet.

Discussion

Two clarifications were requested after the presentation. It was clarified that the food consumption score does not take into consideration the consumption of food outside the household by a household member. Only if the entire household eats outside, this is taken into account. If one member would eat outside, the consumption of those left behind at home is considered relevant for the purpose for the FCS (food security analysis).

The second question of clarification was related to the aggregation of individual food items into food groups and count of number of days of consumption. For example, if both fish and meat were consumed on the same day, how does this get counted in the score. The score for each food group is truncated to one for each day even if both foods of the group are consumed, and the total seven day score is a maximum of seven if one or the other or both are consumed each day.

Presentation 2 – Dietary diversity at household and individual levels

Presenter: Marie Claude Dop - FAO Nutrition and Consumer Protection Division
Gina Kennedy, Terri Ballard, Amélie Solal-Céline

This presentation reviewed the method of collecting of information on dietary diversity and construction and meaning of two indicators derived from information collected on dietary

¹ PER Protein Efficiency Ratio, a measure of protein quality of food proteins.

diversity; the Household Dietary Diversity Score (HDDS) and the Individual Dietary Diversity Score (IDDS). The different purposes for measuring dietary diversity at the level of the household or individual were described. HDDS is considered a proxy of food access but does not include foods eaten outside the home. The IDDS is meant to measure the nutrient adequacy of the diet, especially related to micronutrient-rich foods. Use of dietary diversity as a measure of food security (household-level) and nutritional adequacy of the diet (individual-level) has been validated through a number of studies conducted by IFPRI, universities, international organizations and research institutions.

FAO promotes the use of a standardized questionnaire and standardized data collection technique where the respondent is first asked to recall all foods and drinks consumed in the previous 24 hours. This open recall is then followed by probing for consumption of individual food groups not previously mentioned by the respondent.

The questionnaire form is presented below. The examples used in column three of the bottom section of the questionnaire need to be adapted to locally available foods. The list of 16 food groups does not vary by context as does the data collection tool used by WFP.

Standardized Dietary Diversity Questionnaire

Please describe the foods (all meals and snacks) that you ate yesterday during the day and night, whether eaten at home or outside the home. Start with the first food you ate yesterday morning. Write down in the boxes below, all food and drinks mentioned by the respondent. When a mixed dish is reported, ask about and write down all of the ingredients used in the dish

Breakfast	Morning snack	Lunch	Afternoon snack	Dinner	Snack

Check the appropriate food groups consumed using the information recorded above. For any food groups not mentioned, clarify with the respondent whether or not a food item from this group was consumed yesterday

Q. no.	Food group	Examples of foods in this group (These lists should be adapted to reflect foods available in the survey area)	Yes=1 No=0
1	Cereals	bread, noodles, or any other foods made from millet, sorghum, maize, rice, wheat + <i>insert local foods e.g. ugali, nshima, porridge or pastes or other locally available grains</i>	
2	White roots and tubers	white potatoes, white yams, cassava, or foods made from roots	
3	Vitamin A rich vegetables and tubers	pumpkin, carrots, squash, or sweet potatoes that are orange inside + <i>other locally available vitamin-A rich vegetables(e.g. red sweet pepper)</i>	
4	Dark green leafy vegetables	amaranth, kale, spinach, baobab, onion leaf, drumstick leaf	
5	Other vegetables	tomato, onion, eggplant, squash, peppers, okra, cauliflower, broccoli	
6	Vitamin A rich fruits	ripe mangoes, cantaloupe, dried apricots, dried peaches and other locally available vitamin A rich fruits	
7	Other fruit	banana, orange, papaya, wild fruits and 100% fruit juices	
8	Organ meat	liver, kidney, heart or other organ meats or blood-based foods	
9	Meat and Poultry	beef, pork, lamb, goat, rabbit, wild game, chicken, duck, other birds	
10	Eggs	eggs of chicken, eggs of duck or eggs of other fowl	
11	Fish, fresh, dried and other seafood	fresh or dried fish and shellfish	
12	Legumes, nuts and seeds	beans, peas, lentils, peanut and pumpkin seed, sunflower seed	
13	Milk and milk products	milk, cheese, yogurt	
14	Oils and Fats	vegetable oils, ghee, butter, lard	

15	Sweets	sugar, honey, sweetened soda and fruit drinks, chocolate, candies and cookies	
16	Miscellaneous (spices, condiments and beverages)	coffee, tea, spices such as black pepper, salt, MSG. Condiments such as ketchup, soy sauce, chilli sauce	

The necessity of adapting the questionnaires to include examples of local foods was emphasized during the presentation. Both the HDDS and IDDS are calculated based on a simple sum of the number of food groups consumed. The HDDS includes 12 food groups, while the IDDS includes 14 food groups. The difference in food groups counted in the HDDS and IDDS is due to the different focus of each indicator. Results can be presented as frequency consuming each food group of interest and also by using means and terciles of the scores and analyzing differences in dietary patterns by score terciles. Current challenges of using the scores include, many different versions of DD questionnaires and food groups being used to construct DD scores and no identified universal cut- off point.

Discussion

Clarification was given that the reference period for both the HDD and IDD method is 24 hours, this is different than the seven day reference period used in the food consumption method.

The recommended way to collect information on HDD or IDD is by using first an open recall, where respondents are asked to recall all foods eaten by any household member over the previous 24 hours, including snacks and beverages. The open recall is followed by list based probing for food groups not mentioned in the open recall. This combination of techniques has been shown to be more accurate than only list based recall and helps to capture all ingredients used in mixed dishes.

A participant from FANTA, clarified that, HDDS is a proxy for economic access to food and FANTA does not recommend using it to obtain information on the nutrient quality of the household diet. Because HDDS is a measure of access, even minimum quantities of foods should be counted as their consumption is a reflection of the ability to obtain those foods.

Presentation 3 - Food Consumption Methodologies and Indicators - INCAP Perspectives

Presenter: Odilia I. Bermudez, Tufts University School of Medicine / INCAP
Gabriela Mejicano, INCAP

Odilia Bermudez talked about the development of food consumption indicators in Central American countries. The Institute of Nutrition for Central America and Panama (INCAP) has been involved in the development and application of methodologies and tools for dietary assessment since its creation in 1949. INCAP's early efforts focused on gaining knowledge about food patterns of the Central American population and also on identifying changes, trends and periods of crisis, particularly focussed on dietary deficiency. Currently, the focus of food assessment has shifted from problems of deficits and deficiencies to a more inclusive one that covers the whole malnutrition spectrum, from under nutrition and deficits to malnutrition due to excesses in energy intake and nutrient imbalances.

INCAP has been working on the development of a modified food consumption methodology based on a food frequency questionnaire (INCAP-FFQ) with a list of 45 food items. The amount consumed by the household is quantified in standardized measurement units. This information is entered into a database and matched with information on the nutrient composition of the foods consumed as well as the dietary recommended intakes.

Results of using this seven day Food Frequency Questionnaire (FFQ) were compared with a 24 hour household dietary recall with direct food weighing, conducted over several non-consecutive days, to evaluate the dietary diet of households were compared during the presentation. The purpose of the research was to identify a simpler method of assessing household dietary

adequacy than weighed food consumption surveys. The results of the validation seemed to suggest that the FFQ lead to over-reporting of foods. The total energy levels for cereals were the same using both methods but total energy from all food groups was higher using the FFQ method compared to the 24 h recall with food quantities (gold standard). There were good correlations for most nutrients across the two methods. Two issues to consider when using this FFQ in urban areas are a) the limitations of capturing information about food eaten away from home by any household member, as the respondent would not necessarily have accurate information on other people's consumption; and b) if the use of dietary supplements is high among the members of the study families because that will modify micronutrient adequacy of the diets.

Discussion

45 food items were included in the scoring of the FFQ but these were aggregated into a variable number of food groups across the countries. Mixed dishes were included in the FFQ lists and respondents were asked specifically about oil consumption.

Concern was expressed regarding the need of university level technicians to run the questionnaires which are not available for these surveys in each country.

General discussion on Session 1

The following topics and issues were discussed:

- Some participants felt that it is possible to assess in a qualitative way, the nutrient quality of households' diet using a household dietary diversity tool because the food groups can be disaggregated to include micronutrient rich food groups. While it would be possible to see what variety of foods households had access to, no conclusions on nutrient adequacy of each individual in the household could be drawn since this tool does not look at intra-household food distribution.
- Concern was expressed about the use of weights in the FCS methodology, especially since fruits and vegetables have low weights. This goes against the scientific evidence that fruits and vegetables add value to a diet. Concerns were also raised about the high weighting of meats which contain much saturated fat, because these are foods which may contribute to obesity and nutrition-related chronic diseases, as in some cases like in Latin America, overweight is a concern which WFP will also have to take into consideration. WFP explained that the FCS focused on households on the lower end of the consumption scale whose diets are inadequate and may be associated with undernutrition. The FCS is a proxy measure of the intake of the macronutrients, mainly energy and protein, this information is of utmost importance to WFP.
- While household measures cannot indicate whether some household members are more food insecure than others, they can be a measure of the diet quality of the household as a whole.
- Concerns were raised that some oils are rich in essential fatty acids, and giving oil a weight of 0.5 in the FCS would not take into account the nutrient value of these oils.
- Oil intake can be a reflection of economic access, as oil consumption often increases with wealth, and the poorest households may not be able to have oil as part of their daily diet. Oil has a high value in nutrition. But according to WFP this was country specific as in some countries that produce vegetable oils everyone has access.
- It was mentioned that it is better to have separate tools to measure access and dietary diversity.
- Important to define the use of the different indicators, for example, the FCS is mostly used in emergencies where food distributions may be planned. In other cases it would

be important to measure quantities of food and their relative nutrient value to address the obesity issue.

- One participant mentioned, that although WFP focus on the lower end of the food consumption scale, WFP should not overlook the quality of food people are eating, including micronutrient rich foods.
- The FCS thresholds are not standardized for all countries/contexts. It could be useful to consider region or context specific cut-offs.
- In reference to the HDDS, it was clarified that the food groups are universal but the food items under each group are locally specific, and there are no standardized cut points for the HDDS or IDDS below which the dietary diversity is considered poor.
- The main purpose of the FCS is to measure food access, and if this is so, some problems with using the food group weights can occur. Access can also be a function of choice and culture (for example in vegetarian communities), so the weighting could be inappropriate in some cases. This is true at the upper end of the score, but the FCS is not usually used to measure at that end.
- Another point of discussion was the options for data collection: 1 day is less prone to recall bias, and 7 day gives more information to work with. In addition, the open recall method used with HDDS is probably more accurate but it cannot be adapted to the 7-day recall for the FCS.

SESSION 2- FIELD EXPERIENCES

The objective of this session was to provide concrete illustrations on how the indicators have been used in the field through case studies and to describe their strengths and limitations, and any lessons-learned.

Presentation 4 - Field experiences with HDDS - Results from Mozambique and Somalia

Presenter: Terri Ballard - FAO Nutrition and Consumer Protection Division

Results obtained from using HDDS in Mozambique and Somalia were presented. In Mozambique two survey rounds were conducted one during the pre-harvest season and another during post harvest season, covering two districts. There were differences in mean HDDS noted between seasons, particularly in one district. There was also a significant change in prevalence of households consuming less than four food groups in one district. HDDS was able to capture seasonal variation in intake of different food groups in both districts. For example, the prevalence of households consuming fruit was nearly 100 percent during one round (mango season) and fell to below 25 percent during the second round (post-harvest season). The results from these two survey rounds indicate that HDDS can be used to detect seasonal changes in food consumption as well as changes in consumption which may be due to other factors, such as increasing prices of certain foods. Associations between HDDS and other food security and nutrition variables revealed that higher HDDS was associated with higher women's education levels, greater wealth and improved nutritional status of women (BMI<18.5).

Information on household dietary diversity has also been collected in Somalia as part of the Food Security Assessment Unit (FSAU). HDDS from one survey in Somalia was used to define characteristics of households with higher and lower diversity. Households with higher dietary diversity were those in urban areas, those where the majority of the food was purchased, instead of own production, and where the main source of income was trade. Households in which livestock was the main source of income had the lowest mean HDDS.

The presentation concluded with slides showing the differences in dietary patterns between terciles of diversity in Mozambique and Somalia. This was useful in highlighting the ability of analytical methods which can be used with HDDS to capture differences in dietary patterns between countries. This type of information can then help to identify which food groups can be promoted within the context of a certain areas, to help improve nutrient adequacy at population level.

Presentation 5 - Food consumption score - Use in Food Security Monitoring Systems (FSMS)

Presenter: Jan Delbaere – WFP Food Security analysis service (OMXF)

Jan Delbaere explained the objectives and characteristics of the Food Security Monitoring System (FSMS) and took the example of the FSMS in Burundi to illustrate the data it provides and the lessons learned.

The objective of WFP's food security monitoring system is to improve the food security situation by informing decision-makers, so they can take further action.

Some characteristics of the FSMS include:

- regular data collection and timely analysis
- focus on vulnerable households and communities
- pre-defined geographic scope
- contextualized interpretation of the trends, risks, threats
- regular report dissemination to the users of the system,
- enables decision makers to take further action

In Burundi the FCS and coping strategies index (CSI) showed good correlation, with both measures going in the same direction as the food security situation changed over time. Using the cut-off point of $FCS \leq 21$ and tracking regional patterns over time within Burundi, was useful in identifying regions where the situation was particularly urgent. The CSI and FCS identified the same regions as most food insecure, although the CSI seemed to be an earlier indicator of warning.

The strengths and limitations of the FCS based upon repeated use and experience in several different assessments were summarized as:

Strengths:

- The FCS is a well defined indicator, and cut-offs are standardized and used across regions and livelihood groups.
- Reflects the "current" food security situation well: ideal to track over time; objectively verifiable.
- The FCS can clearly indicate severe situations.
- The FCS is in line with other indicators of food security.

Weaknesses:

- o The FCS is not an early indicator (but is "earlier" than anthropometric indicators).
- o The FCS gives only a "snapshot" of the last week and more information is required to be forward looking.

Discussion

The following topics and issues related to this presentation were discussed:

- One participant pointed out that coping behaviours of the Coping Strategy Index are related to household Food Consumption. There is now also a reduced CSI which is similar to Household Food Insecurity Access Scale (HFIAS).

- FCS is not an early indicator but earlier than anthropometric indicators. However, wasting can theoretically already be noted 7 days after an acute crisis. The experience of the Zambia monitoring system did not show such expected patterns.
- A participant asked if data were collected in the same HH each month? They are generally the same HH, although in each round some households may be missing. The prevalence per round displayed in the presentation are based on the averages of all households interviewed during that round. If we would just retain in the analysis those households who were always present during all the rounds under study, similar trends as the ones for the entire sample are observed..
- The FSMS not tied to food aid.
- FCS is not well known and complicated, hence households probably cannot predict how they will be scored and not manipulate the responses.
- CSI is based on 30 days and is the same for the whole country. The reduced CSI is 5 questions which are more or less the same worldwide. Repeating the analysis for each region, gives the same patterns as the ones observed for the entire country.
- Individual sites are selected as sentinel sites based on communities identified with high prevalence of borderline food security during the baseline study, since it is expected that these communities will be sensitive to changes in the food security environment.
- In the presentation of results, there should be error bars for different livelihood groups to account for the sample sizes.
- It is important to understand which occurs first: reductions in meal/food consumption frequency or dietary diversification.
- The Coping Strategy Index gives an indication of the trends. The next action proposed, after such decline is to conduct an assessment.

Presentation 6 - Food Consumption Score - Field Experience CFSVA HAITI

Presenter: Peter Horjus – WFP Food Security analysis service (OMXF)

Peter Horjus talked about the experience of using the Food Consumption Score within the context of Haiti.

The FCS and FCGs are being used currently in Haiti in making the following conclusions:

1. As a proxy for 'current' food security (access), to provide an operational estimate, mainly at the 'low end'.
 - This prevalence, while subject to discussion, is relatively standardized, highly repeatable, and easy to monitor over time.
2. Used in conjunction with other indicators to help describe who has poor consumption (poor food security), and to direct food security related interventions.
 - Multivariate analysis is used to determine underlying causes/associations of poor food consumption.
3. As an independent variable in nutrition analysis.
4. As part of predictive analysis (risk analysis) to make qualitative statements about effects of potential future shocks to certain groups of households.

The weaknesses of using the FCS in Haiti were described as:

- Slightly more time consuming in Haiti than in other countries to collect in the field.
- Cut-offs are hard to justify and bring partners into consensus without information of how FCS relates to kcal and nutrient quality.
 - o Dietary pattern analysis allowed for better consensus building.

- In analysis, the FCS works better as a HH indicator. When used in individual-level analysis (such as nutritional analysis), it is less reliable (this is generally true).
- The FCS may not work well at the high extreme (in Haiti, and in general)- however, in the context of the survey, bias at the high extreme of the score was not of concern.

The strengths of using the FCS in Haiti were described as:

- With adequate enumerator training and time in the field, the data appear to be relatively un-biased.
- The FCS was well-associated with other proxies of food security.
- The range of values (0-112) allowed for a careful exploratory analysis to define appropriate thresholds.
- The Government partners are using the FCS as a proxy of food security in their survey report.
- The FCS has been used in Haiti for the past two years as one of a set of food security monitoring indicators in the Nord and Nord-Est Departments.

Discussion

- Regarding the determination of thresholds WFP want to try and limit the range of options available for thresholds, as it would be too easy to move the threshold to justify programming. As was seen in the Haiti example, even the very poor have sugar five times per week and therefore easily reach a higher FC score so some adjustments does have to be made.
- WFP should not be concerned about lack of correlation between FCS and anthropometry as a weakness.
- Clarification was requested as to how WFP uses the FCS. The scores from individual households are not used as such as the FCS is not an individual household targeting tool – it is only used to give an overall picture of the proportion of households falling within each category. It could, however, be used to give statements like 'households with poor consumption are like' which in itself can be used for targeting.
- In the example of Haiti, WFP already had good idea what 'poor consumption' was and could therefore 'match' the FCS analysis with other information to check it, but this is not same for all countries.

Presentation 7- Field experiences of use of IDDS in rural & urban Burkina Faso

Presenter : Elodie Becquey – IRD (Institut de Recherche pour le Développement) - UR106-Nutrition, Alimentation, Sociétés

Yves Martin-Prével – IRD

The presentation focussed on results from two surveys, a Complementary Nutrition Survey (CNS) conducted in rural Burkina Faso in August 2006 and a survey conducted within the activities of the Urban Food Vulnerability Project (UFVP) in urban Burkina Faso in June 2007. The objective of the CNS was to estimate the feasibility and the potential added value of integrating nutritional information into the National Agricultural Survey (NAS). The objective of the UFVP was to characterize and better understand HH food vulnerability in urban areas, with the ultimate goal of developing urban-adapted tools for food monitoring and targeting of intervention.

In both surveys a standardized questionnaire tool with twenty one food groups was used. The data collection method was an open recall of all foods and beverages consumed over the past 24 hours, followed by list based probing.

A comparison of results between IDDS and other food security indicators, showed mean IDDS decreasing with increasing household food security as measured by the Household food insecurity access scale (HFIAS). IDDS also demonstrated a linear relationship with

economic level, where mean IDDS increased with increasing economic level of the household. The relationship between IDDS and women's body mass index was not linear.

Example : Part of the questionnaire Form

We are interested in all what you have eaten or drank yesterday, from the time you woke up yesterday morning until that of this morning. What have you consumed ?

Wakin up/breakfast	morning	lunch	afternoon	dinner	evening/night

Did what you eat and drink yesterday, at home or elsewhere, at anytime, include... ?

			YES	NO	DNK*	in case there is a doubt, specify
QD01	CEREALS	White sorghum, red sorghum, millet, rice, maize, pasta (macaronis..), wheat (couscous, bread, round flat cake/biscuit...), fonio...	1	2	3	
QD02	ROOTS AND TUBERS	White sweet potato, potato, yam, cocoyam, other tubers , cassava (attiéké -dried and cooked cassava, Ivorian speciality-gari), + plantain (fried plantain)	1	2	3	
QD03	HIGH PROTEIN CROP	Beans (cowpea), Bambara groundnut /voandzou (Voandzeia subterranea), garden pea, chick pea, lentil, other grain legumes	1	2	3	

The strengths of the IDDS were the following:

- Field aspects : the survey took only 10-20 minutes to administer, it was easy for the survey team to collect the required information and also easy for the respondent to understand the nature of the questions being
- Analytical aspects : entering the information collected on the survey form is very quick, taking approximately two minutes per questionnaire, the calculation (1/2 day of work) and interpretation of the score is also easy
- Results showed strong relationships between IDDS and HFIAS and household socioeconomic characteristics

The limitations of the IDD method were the following:

- The enumerator needs to be well trained in how to conduct the interview and should be familiar with local recipes and ingredients used to prepare local dishes. The use of the questionnaire requires strong supervision and a systematic review of questionnaires by the supervisor, explanation of recipes...
- Another question to be answered when using the IDD method is whether to count foods used as condiments or foods used in very small amounts (for example a small amount of milk added to coffee or tea)
 - Based on experience with the method in Burkina Faso, it was felt that very small amounts should not be counted. This needs to be covered during training, with enumerators taught to make a comment on the questionnaire in case of doubt
- It is also very important for items which will not be counted to be standardized across different teams administering the IDD questionnaire
- Another limitation of the IDDS was that it was sometimes considered to too simple of an indicator when results were presented to local administrators

Based on experiences in Burkina Faso, the following recommendations were made when using IDDS:

- The questionnaire should begin with a written open recall followed up by a list based probing.
- When HFIAS is administered along with IDDS to the same person: start with IDDS

- The questionnaire needs to be adapted to the local context. Before beginning the survey, foods that may be difficult to classify should be identified and discussed.
- Enumerators should ideally be familiar with cooking patterns and local ingredients. In the case of enumerators who are not familiar with cooking, they need to receive extra training in local cooking methods and recipes.

Discussion

A point was raised during the presentation that local officials had criticized the IDDS and felt that it was not a precise enough indicator. A workshop participant made the comment that the level of precision required for the IDDS depends on the use of data and that a high degree of precision is not always necessary as data collection also depends on time and resources available.

Clarification on the relationship between IDDS and BMI in pastoral population groups was requested. In the presentation, the dietary diversity was low, but the BMI was high.

The presenter responded that in the pastoral strata there were obese populations and whilst the mean BMI was not high there were some very high levels which pulled the mean higher.

Presentation 8 - Food Consumption Methodologies and Indicators-INCAP Experiences

PRESENTER: ODILIA I. BERMUDEZ, TUFTS UNIVERSITY SCHOOL OF MEDICINE / INCAP

GABRIELA MEJICANO, INCAP

The results of dietary intake surveys conducted in Guatemala (2000), Honduras (2004) and Nicaragua (2004) were presented. As described in the earlier presentation, the methodology used by INCAP collects more detail and is more comprehensive than the DD or FC methods. Estimates of quantities and costs of food consumed are measured, allowing for a more detailed analysis of dietary adequacy. The method used by INCAP allows for calculation of percent of total dietary energy from different food items, calculation of expenditure on different food items and percent of the population above and below recommended intake of different micronutrients. Comparison of dietary patterns by SES showed that households classified as very poor had a higher percentage of monthly food expenditure on staples than did households classified as poor or non poor. The INCAP results concluded that low dietary diversity was associated with poverty and high rates of underweight and stunting in children. Another aspect of the INCAP method which was highlighted during the presentation was the ability to monitor foods/food groups of interest, both with respect to under and over nutrition. The example of sugar consumption was used to illustrate the high percent of total dietary energy derived from this one item. Changes in intakes can be monitored over time to assess changes in intakes.

SESSION 3 - COMPARISONS BETWEEN INDICATORS AND AREAS OF DATA COLLECTION HARMONIZATION

The objectives of this session were to make a comparison in a cross-sectional survey of the FCS and the DDS by FAO and WFP and look at a potential dual indicator data-collection module; to have a comparison in a cross-sectional survey of the FCS and kcal; and other examples of comparisons.

Presentation 9 – WFP/ FAO joint: Comparative Analysis of HDDS and FCS - Analysis from seven countries

PRESENTERS: ANDREA BERARDO (WFP) & GINA KENNEDY (FAO)

This presentation focused on the similarities and differences between the food consumption and household dietary diversity methods of data collection, indicator construction and compared interpretation of results from surveys which collected information on both food consumption and household level dietary diversity.

Some of the main differences in data collection techniques between the HDD and FC method are:

- **Recall period.**
 - o FC uses a recall period of the past seven days
 - o DD is based on 24 hour recall
- **Technique used to gather information.**
 - o The FCS uses a list based recall technique. Even though, it seems difficult to use an open recall method where the respondent would be asked to recall all foods and beverages consumed by the household over the previous seven days In practical terms the open recall is the approach commonly used to start the FC interview talking about the food eaten in the previous day. From that, it expands to the last 7 days.
 - o An open recall is recommended for use with the HDD method, followed up by list-based probing for any food groups not mentioned in the open recall
- **Standardization of the data collection tool.**
 - o The HDD method collects information on a standardized set of sixteen food groups
 - o Food groups and food items are selected for localized contexts in the FCS and the number of food items and food groups included in the questionnaire differs from country to country.

The table below provides a summary of the standardized set of sixteen food groups used in the HDD questionnaire and the set of food groups and the weights applied to construct the FCS and HDDS.

FCS		HDDS		
Food group	Weight	As in questionnaire	Re-aggregated to compute HDD Score	Weight
Cereals and Tubers	2	Cereals	Cereals	1
		White roots and tubers	White roots and tubers	1
Meat and Fish	4	Organ Meat	Meat	1
		Flesh Meat		
		Fish	Fish	1
		Eggs	Eggs	1
Milk	4	Milk and dairy	Milk and dairy	1
Oil/fats	0.5	Oils and fat	Oils and fat	1
Fruit	1	Vit. A rich Fruits	Fruits	1
		Other Fruits		
Vegetables	1	Vit. A rich Vegetables and Tubers	Vegetables	1
		Dark Green Leafy Vegetables		
		Other Vegetables		
Pulses	3	Pulses, legumes and nuts	Pulses, legumes and nuts	1
Sugar	0.5	Sweets	Sweets	1
Condiments (not	0	Spices, condiments and	Spices, condiments and	1

counted in FCS)		beverages	beverages	
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In terms of what each indicator tries to measure, the philosophy behind each methods is slightly different although the scores themselves (HDDS and FCS) are both ultimately trying to measure HH food access as one proxy indicator of food security

- The FC method looks at consumption from a food security perspective, particularly focussing on those with very poor consumption. FCS of ≤ 21 is meant to represent very poor food consumption. Additionally, consumption of single food items can be analysed separately.
- The HDD method tries to consider consumption from a food access perspective while including some additional information on diet quality (micronutrient rich food groups can be analyzed separately from the HDDS)
 - o No uniform cut-point for poor (or optimal) dietary diversity had been established for HDDS

Analysis of seven datasets which collected information on both food consumption and household dietary diversity were presented. It was pointed out before discussing results that none of the seven studies in the analysis used an open recall as recommended to collect information for household dietary diversity, all were list based. For some studies the HDDS had to be constructed from 9 or 11 food groups instead of 12.

Main summary points of the comparison of results from these seven countries were that:

- Despite differences in magnitude, the mean scores were similar in four out of six countries.
- Correlation co-efficients between the two scores were high (.5-.76) explaining 30-60 percent of variability
- Both HDDS and FCS were also correlated with other FS indicators
- At sub-national level the ranking of mean scores for the best and worst off areas were generally the same, with areas in the middle range showing the most variation in classification
- The prevalence of households with FCS ≤ 35 fell between HDDS prevalence ≤ 2 and ≤ 3 in five out of seven countries
- There were considerable differences between FCS and HDDS in identification of regional areas falling below a defined prevalence cut-off. The cut-off chosen also had a large influence. For example, classification of a region as food insecure using a cut-off of $\geq 20\%$ of households falling below FCS ≤ 35 or HDDS ≤ 3 , resulted in nine regions selected using HDDS and five regions selected using FCS, only four of these regions were the same. In the same analysis, using a cut-off of $\geq 30\%$ of households falling below FCS ≤ 35 or HDDS ≤ 3 , resulted in six regions selected using HDDS and two regions selected using FCS, only one of these regions was the same.

Discussion

One participant suggested comparing the two indicators without assigning the FCS weights. It was mentioned that doing this would imply the creation of a different indicator. The non-correspondence may be due to the weights, but the choice of weights is part of the logic of the FCS.

There was a suggestion to compare the thresholds (poor, borderline and acceptable) of FCS with HDDS 3 or less food groups, using only the datasets that include 12 food groups in the HDDS. However it was pointed out that due to HDDS shorter range, it is more difficult to play with tentative thresholds to identify prevalence's.

Yellow roots are classified in different groups in the FCS and the HDDS, this can cause a problem in the interpretation.

Discussion of the FCS weighting system continued and whether or not the weighting system currently in use increases the indicator's utility as an indicator of household access to food. It was mentioned that the use of weights strengthen the potential of the FCS as an access indicator, since the food groups having a higher weight are very often the more expensive ones. It was pointed out that the FCS cannot only be considered an access indicator because its primary role is to identify households with poor macronutrient and inadequate food consumption.

Presentation 10 – WFP Food Consumption Score and Calorie Consumption: Preliminary Results from Burundi and Haiti

PRESENTER: MARY ARIMOND – IFPRI (INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE)

Authors: Doris Wiesmann, Lucy Bassett, Todd Benson, John Hoddinott

Simple food security indicators are needed for assessment, targeting, planning and monitoring. Indicators reflect different dimensions of food security including; availability of and access to, "sufficient, safe and nutritious food". No single indicator can meet all needs or capture all dimensions.

Dietary diversity (DD) is defined as the number of foods or food groups consumed over a reference period by a household or individual. Food frequency (FF) is the number of day/times a food or food group is consumed over a reference period. There are various indicators which incorporate DD or FF to be used as a proxy for dietary energy intake or diet quality. The best proxy indicator for quantity (calories) is not likely to be same as best indicator for diet quality

WFP and IFPRI have been collaborating since 2006 to review the relationships between various proxy indicators and HH dietary energy intake (HH consumption). The proxy indicators tested included dietary diversity, food frequency and an experiential measure. All proxy indicators tested were correlated with HH dietary energy intake (kcal). The FF indicators performed slightly better than did DD. However, the conclusion was that indicators worked best in combination.

A second study was undertaken in 2007-2008 with data on quantitative seven day recall from Burundi and Haiti, to assess the ability of FCS to proxy HH dietary energy intake, assess existing FCS cut-off's and consider improvements in the current weighting of food groups. This study did not look at the relationship between FCS and diet quality. FCS was found to have a moderate correlation with HH dietary energy (kcal) intake. The FCS cut-offs for poor ($FCS \leq 21$) and borderline ($FCS \leq 35$) food consumption did not identify the majority of per capita intakes below the 'gold standard' cut-off of 1500 kcal and underestimated the prevalence of low calorie consumption. The study did not recommend use of a universal cut-off point for identifying the prevalence of low calorie consumption. The predictive power of FCS was similar to, but marginally lower than using an untruncated and unweighted score.

Discussion

During the discussion on this presentation, it was pointed out the FCS cut-off points had a very high specificity, but low sensitivity. Perhaps per capita kcal consumption was not the best gold standard to use for comparison. A participant suggested validating FCS against micronutrient intake instead. There was also concern expressed about the accuracy of a seven day quantitative recall to estimate energy intake. It was pointed out that for calorie consumption, in areas where staple supplies the majority of kilocalories, the seven day recall is probably ok. But for micronutrients, it may not be the ideal method.

The daily consumption of oil and sugar increase the standard cut-offs.

Intra-HH variation in intake will vary a lot depending on the region.

Presentation 11- Comparing indicators used to assess household food consumption: Evidence from Mozambique

PRESENTER: DIEGO ROSE - TULANE UNIVERSITY, SCHOOL OF PUBLIC HEALTH & TROPICAL MEDICINE

The presentation reviewed that both simple summed and weighted scores derived from consumption of either individual foods or food groups have been used to assess household food consumption. The main focus of the presentation involved comparison of the performance of five different food consumption and dietary diversity indicators with a 'gold standard'. The original data was collected in Mozambique in 2004, from the *Analise de Vulnerabilidade Corrente nas Seta Provincias de Mocambique* (Mozambique vulnerability analysis survey). The data were from a detailed quantitative 24-hour recall survey designed to assess adequacy of household dietary energy consumption.

The gold standard used was Household food energy intake (kcal)/sum of recommended energy intake for each household member present at the meal. The five comparison indicators were:

- Simple count of the number of meals consumed
- Simple count of the number of food groups consumed
- Simple count of the number of food items consumed
- Weighted sum of the consumption of four food groups multiplied by a weight for each food group
- Predicted energy ratio – based on nine food groups, multiplied by a computer generated regression co-efficient based on a prediction model using household intake data

Mozambique MOH diet assessment tool

Food group weights

Weights	Food items in each food group
1	Vegetables, fruits, juices, other beverages (excluding water, coffee, tea), oils, sugars, butter, jam, mayonnaise, tomato sauce, condensed milk
2	Cereals, tubers, bread, spaghetti, cookies, cakes
3	Beans, ground nuts, coconuts, other nuts
4	Meats, fresh and dried fish, shellfish, eggs, fluid milk, cheese, yogurt, milk and egg custard

The predicted energy ratio, based on using coefficients from a prediction model performed the best, followed by the weighted food groups, simple count of food items then simple count of food groups. However, it was stressed that the differences in the performance of the indicators were not large and therefore the presentation concluded that existing systems should be left in place, while if considering a new indicator, the weighted scoring system seemed to perform better.

Discussion:

Although the indicator using the prediction model was the best performer, this type of indicator construction is not considered feasible on a large scale, as not all countries will have the type of data required to build such a model. Additionally, it is unknown whether a standard set of co-efficients could be derived for international use. This idea would need to be tested using data from different regions. It was pointed out that in the case of Mozambique, the coefficients were derived nine years ago and they still perform well.

Several participants indicated that the results of this study were similar to those found in other studies (for example research undertaken at Tufts and IFPRI).

SECTIONS 4, 5, 6 WORKING GROUP SESSIONS AND PLENARY DISCUSSION

Participants were divided into three working groups and tasked with completing sections of the matrix (see below).

Before beginning group work it was reiterated that the purpose of the matrix was to have a summary of pros and cons of each indicator. It was hoped that this summary would be a useful tool and reference for quick identification of the appropriate meaning and use of different food consumption/dietary diversity indicators.

One of the objectives of the workshop was to try to harmonize methods and indicators. Two aspects for potential harmonization, were identified, harmonization of the data collection tool and harmonized indicator construction.

- Harmonization of data collection tools implies development of a questionnaire which makes it possible to collect information which could then be used to construct both the FCS and the HDDS.
- Harmonizing indicators is more difficult as currently the FCS and HDDS use a different number of food groups in the scores, over a different recall period and the FCS assigns different weights to food groups, while in the HDDS there is only one weight (1) for every food group.

Matrix comparing indicators

	Key Questions	Explanation	Food Consumption Method/Score	Household Dietary Diversity	Individual Dietary Diversity
1	CONSTRUCTION What information is collected in the method?	What data are required to construct the indicators?	7 day recall of the number of days several food groups/items were eaten inside the household. (score based on weighted sum of 8 food groups)	24 hour recall of the consumption of 16 food groups eaten by the household inside the home (score based on simple sum of 12 food groups).	24 hour recall of the consumption of 16 food groups eaten by an individual, often vulnerable groups (women). (score based on simple sum of 14 food groups)
2	MEANING What is the meaning of the indicators derived from this method?	What information does the indicator reflect? To what extent does the method provide information on energy intake, food security, nutrient adequacy?	Proxy indicator of HH food security (access) /consumption, focusing principally on macronutrients and energy. "Weights designed to reflect macro-nutrient density of typical quantity consumed (caution in extrapolating from HH to individual)	Proxy indicator of HH food access/consumption, including access to Vitamin A and iron rich foods (caution in extrapolating from HH to individual). Weights are not optimized for any single purpose.	Proxy indicator of micronutrient/dietary adequacy (research looking at micronutrient adequacy ongoing), also a proxy for food security/ access/consumption
3	REQUIREMENTS What are the practical requirements to use the method?	Adaptation, training, specific skills... what is required to use the indicator and analyze the data?	Adaptation (local foods and local food names need to be included as examples of foods for each food group in the questionnaire. Enumerator training required. Basic analytical skills required to calculate score and calculate prevalence. More advance skills to do further analysis. Time to administer: 10 min	Adaptation (local foods and local food names need to be included as examples of foods for each food group on the questionnaire form) . Enumerator training required. Basic analytical skills required to calculate score and calculate prevalence. More advance skills to do further analysis. Time to administer: 5-10 min	Adaptation (local foods and local food names need to be included as examples of foods for each food group on the questionnaire form) Enumerator training required. Basic analytical skills required to calculate score and calculate prevalence. More advance skills to do further analysis. Time to administer: 5-10 min
4	Units What is the unit of observation?	Unit of data observation.	Household Households used to describe groups	Household Household level used to describe groups	Individual Individual – data collection and used to describe groups
5	REFERENCES How are the indicators/scores interpreted?	Cut-points, means, terciles? Are there standardized thresholds?	Usually cut-points of 21 and 35 to make prevalence for baseline or monitoring. Use cut points 21-35 unless oil and sugar are consumed in the area. Use a mean for monitoring. Interpretation: Prevalence of 21: very poor consumption,	No standard cut-point. Means or terciles used for comparison between areas/groups, and trends over time. Interpretation: lowest terciles reflects the lowest diversity for that area. Best used to follow trends over time. Individual food groups also	No standardized cut-point for IDDS in adults. Same as HDDS (adults), can analyse by distribution of scores into terciles (or quartiles) and also by prevalence of consumption of individual food groups. A cut-off for minimum acceptable

			minimal. It is used to come out with prevalence for baseline or monitoring. When FCS is 21 and lower, this means there is poor food consumption. Different thresholds (21-35) define when the FCS has to be considered poor, bad or adequate.	used.	diversity has been defined for children 6-23.9 months of age as 4 or more food groups (out of a total of seven food groups)
6	<u>INFLUENCING FACTORS</u> What contextual information is needed for interpretation ?	Events/facts that can have an influence on the results, such as seasonality, market or unusual day (celebration or fasting?) Health status, Level of out of home food consumption	Out of home food consumption (particularly in urban areas). Seasonality. Seasonality and pre/post harvesting, can influence dietary diversity. A FCS of 21 might mean something different in 2 different periods of the year. Influence of food aid? → A food security indicator should be based on the FCS, adjusted for a particular food access situation FCS is not a good indicator if used alone on places where population rely on food aid.	Out of home food consumption (particularly in urban areas). Market days, feast/special days. Market day: important but should average out for the population mean, if observations are collected over a long enough period Including Feast/special day: depends on survey purpose. Seasonality. Seasonality and pre/post harvesting, can influence dietary diversity. Fortified food and food aid can influence the HDDS.	Illness (either acute or chronic such as HIV/AIDS) Seasonality and pre/post harvesting, can influence dietary diversity. Market day: important but should average out for the population mean, if observations are collected over a long enough period Inclusion of Feast/special day: depends on survey purpose. Fortified food can influence also similarly as food aid
7	<u>COMPARABILITY</u> Can situations be compared using different indicators	How valid are comparisons of the situation using different indicators collected over different time periods?	Time comparisons possible (with seasonal baseline) (same indicator). Between regions usually possible (same indicator). Indicator allows only for imperfect comparison between countries. Hard to compare same indicator between countries.	Time comparisons possible (with seasonal baseline) (same indicator). Between regions usually possible (same indicator). Hard to compare with indicators that are different. Indicator allows only for imperfect comparison between countries. For cross-country comparisons better to triangulate scores and their distributions with analysis of the types of food groups most prominent in the diet.	Time comparisons possible (with seasonal baseline) (same indicator). Between regions usually possible (same indicator). Hard to compare with indicators that are different. Indicator allows only for imperfect comparison between countries. For cross-country comparisons better to triangulate scores and their distributions with analysis of the types of food groups most prominent in the diet.

8	<u>LIMITATIONS</u> What are the main limitations of the method?	What are the main weaknesses and constraints to using the indicator? What the indicator cannot evaluate?	Does not capture quantities. Works less well in urban areas. Does not capture intra-HH distribution. Questionable standard cut-offs. Communication of results is harder than with HDDS. Potential double counting of groups when food items are aggregated into food groups. There is a moderate correlation with energy intake Thresholds: for some it is a strength for other it represents a weakness. Interpretation needs expertise. Works less well for the upper end of the spectrum. More recall bias due to recall period of 7 days. Does not capture the food eaten outside home.	Does not capture quantities. Works less well in urban areas. Does not capture intra-HH distribution. Currently no standard cut-offs. Less information captured due to shorter recall period. There is only a weak correlation with energy intake Does not capture the food eaten outside home.	Does not capture quantities. Less information on household food consumption. Can not extrapolate individual consumption to household level. No universal threshold for adults.
9	<u>STRENGTHS</u> What are the main strengths of the method?	What are the main positive qualities of the indicator?	There is a positive correlation with energy and other HH FS indicators. Allows for a good description of dietary patterns. Works better at the lower end of the spectrum (which is the group of interest). Lots of experience in the field, wide use in assessments and countries. Technical guidance available. Wide range of possible values Recall covers a longer period, hence more information is provided.	There is a positive correlation with energy and other HH FS indicators. Allows for a good description of dietary patterns. Captures access to vitamin A and iron rich foods. Easy to explain the score. Less recall bias than scores derived from longer recall periods. Technical guidance available. Simple and quick to administer and easy to calculate the score.	Works well in urban and rural areas. Can account for food eaten outside of home. Can capture Intra-HH distribution of food. Correlated with micronutrient intake/adequacy. Easy for respondent and interviewers. Provides a good description of diet patterns.
10	<u>CONTEXT/USES</u> In which context is the indicator most appropriate?	In which type of situation (sudden onset crisis, slow onset crisis, post-crisis, 'stable')	Food security baselines, food security monitoring (FSMS) and early warning, emergency assessments (EFSA) and programme monitoring.	Monitoring and evaluation (impact of programs on diet). Food security baselines, Early warning. EWS (HDDS or IDDS) USAID funded programs require	Nutrition/dietary indicator within a food security assessment, and Timely warning systems (EWS), monitoring and evaluation (needs further testing). Monitoring

		situation) is the indicator most suitable?	Used for comparisons within country, not so much between countries (but could be with further work). Primarily used by WFP and its partners. Acute and chronic food security. Adapted to rural areas, further testing needed for peri-urban and urban. Used as core indicator for FS analysis in CFSVAs and EFSAs for the identification and description of vulnerable groups. Population level targeting/geographic targeting but not for individual or HH targeting	HDDS for program evaluations (FANTA recommended). Chronic food insecurity, slow-onset emergency. Post crisis and acute situations if baseline information is available Population level targeting, no individual or HH targeting identifying groups to target. Use variables collected as part of IDDS/HDDS, to look specifically at indicators of interest.	policies. DHS uses it in their surveys- but results are not yet published. Population level targeting/geographic targeting, no individual or HH targeting. Identification and description of vulnerable groups. Urban (food away from home is captured) and Rural. Chronic food insecurity, Post-crisis, Slow onset emergency.
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Discussion on the matrix

Indicator Construction

There should be some rational scientific evidence behind the weighting system of all indicators (FCS/HDDS/IDDS). Weights should be tailored according to what the indicator is designed to measure (for example, household economic access to food, energy intake or micronutrient intake). Based on the intended meaning of the indicator, the weights should then be chosen in an evidence based way.

For FCS, the weights are meant to reflect the nutrient density meaning the food group's quality in terms of caloric density, macro and micro nutrient content taking into account the actual quantities typically eaten.

Areas mentioned for further research on the topic of weighting include:

- o Are certain weights better than others?
- o If yes, which ones.
- o Is the weighting system comparable across countries?

Meaning of the indicators

The question "what is the meaning of each indicator" was discussed before being finalized in the matrix. Participants agreed that all of the indicators measure an aspect of food access. It was felt that they were an entry point into food security analysis, and describe the nature and magnitude of problems related to food intake such as low level of diversity and low prevalence of households or individuals consuming certain food groups. They do not however, provide information on the causes and whether the results are driven by lack of food availability or lack of access to food. For causal analysis of this type, these indicators should be used in combination with other types of information.

Participants agreed that the results from household level should not be extrapolated directly to individuals and vice versa. Household Food Security status as assessed by FCS or HDDS does not translate directly to Individual Food Security Status

Neither the FCS or HDDS are able to capture out of home food consumption, this can potentially lead to underestimation of dietary diversity or food consumption. The IDD method and IDDS does not have this drawback.

There was further discussion on the weighting system used to construct FCS and whether this enhanced or detracted from the meaning of the indicator. The weights are meant to enhance the performance of the indicator in predicting energy and macronutrient intake. Someone mentions that FCS should not be considered as a proxy for macronutrients intake. However, others disagree.

References

The cut-points or other means of analysis used for each indicator were also discussed. For HDDS and IDDS there is not a cut-point which has been validated and can be recommended for standardized use even if terciles are used to describe the indicator. Cut-points have been determined for the FCS to capture the HH with inadequate food consumption. It was pointed out that there could perhaps be an easier way to measure households with extremely poor consumption. This could be done, for example, by identifying households where only a staple and vegetable were eaten.

Cluster analysis used to describe typical diet patterns.

Both FCS and HDDS are proxy indicators.

Influencing factors

Regarding seasonality and feast days or special days such as week-end days:

Holidays and seasonality have an influence on all indicators. Weekends have no influence on the FCS, as it is a 7-day recall, so regardless of which day you measure, weekend will be captured. HDDS, however, is influenced by variation within a week. The inclusion of feast days, or other special days will depend on the survey purpose. However it was pointed out that feast days are part of the normal life of people and hence should be considered. Food aid was also mentioned as a factor that will influence FCS, HDDS and IDDS. In the questionnaires used by WFP a question on source of food is included, so WFP can monitor the influence of this factor. For IDDS the health and pregnancy status of the individual is important as illness affects appetite. For FCS and HDDS the prevalence of out of home food consumption is also quite important to consider.

Wild food: is it a normal part of the diet? There is a matter of availability.

Comparability

Participants felt that comparisons within the same indicator could be made over time and over different geographic areas. Different indicators can not be used to evaluate changes over time or differences between geographic areas.

Limitations/Strengths

Many of the strengths and limitations for FCS and HDDS are the same. Because of its wider range, FCS is more suitable to be used in causal analysis (regression). If cut-off points would be indicated and used to convert both scores into categorical variables, both could be used in logistic regression for causal analysis.

Context/Uses

Participants were asked to describe the types of situations which were most suitable for each indicator. In terms of using as a proxy indicator of food access, all indicators were considered useful, but this relationship may not hold in special situations like camps with fixed rations.

The best indicators for assessment of nutrient adequacy are the IDDS or INCAP methods. The INCAP method is particularly useful because quantities of food consumed are measured.

SESSION 7 - SPECIAL ISSUES

Harmonization of Food Groups in the data collection tools

The number and definition of food groups in the data collection tool used by WFP could be modified to cover the 16 food groups recommended when collecting information on HDDS or IDDS without altering the core methodology of the FCS. Likewise, the questionnaire used to create HDDS and IDDS could be modified to also capture information required to construct the FCS.

One of the main points for consideration is the food group classification for tubers and orange or yellow fleshed vegetables. For the FCS, all tubers, regardless of color are in the food group 'Main staples'. In the HDDS and IDDS questionnaire there is a food group called "vitamin A rich vegetables and tubers" and another food group "white tubers and roots". In order for each respective questionnaire tool (either FCS or HDDS/IDDS) to allow the necessary flexibility for reconstruction of the other indicator, there would need to be separate categories for a food group called 'yellow or orange tubers' that would include yellow or orange sweet potato and another food group called 'vitamin A-rich orange and yellow vegetables' that would include carrots, pumpkin, squash and other locally available vitamin A rich vegetables.

FANTA could consider putting the tubers into the staple-category. Collection of food groups is easy to harmonize but the recall periods (24 hours vs 7 days) is not.

If the WFP data collection tool were modified in the interest of harmonization, there would be a need to spend more time in the local areas to define and include as examples for recall lists of locally available vitamin A rich vegetables, tubers and fruits.

Since FCS is constructed based on eight food groups and the current questionnaire collecting data on HDDS and IDDS includes sixteen food groups, it is possible to reaggregate the information to construct FCS. The only modification required would be the one described above.

Harmonization of data collection tools was identified as the most feasible first step. Harmonization of indicators is not in the agenda.

WFP has already moved forward with recommending optional collection of HDDS and IDDS in food security assessments when feasible.

Modification of the data collection tool is not a large barrier, since it is relatively simple to collect information used to construct HDDS when collecting information to construct FCS. In situations where both indicators are constructed, the issue of interpretation is raised. Participants had the following suggestions related to interpretation.

- Information used to construct both FCS and HDDS can be collected, but it would only be necessary to report on one indicator depending on the purpose of the assessment
- When FCS is available from previous surveys, FCS should be used to compare results over time
- When HDDS is available from previous surveys, HDDS should be used to compare results over time
- If FCS is the most frequently used and reported indicator in a given country or region, FCS should be reported
- If HDDS is the most frequently used and reported indicator in a given country or region, HDDS should be reported
- The choice of indicator also lies with the organization leading the survey, and their future data goals/desires.
- Collection of information which can be used to construct either FCS or HDDS is not useless because it provides countries with more information and adds flexibility to the types of comparisons which can be made, depending on information available from previous assessments
- There is a need of clarification in countries where we use both indicators for collection and interpretation
- Some participants felt it would be useful to pilot test a harmonized data collection questionnaire
- No need to change weights at this stage, maybe after the pilot to harmonize the questionnaire

Participants felt that FAO and WFP should continue to work together to prepare a guidance on the potential food groups/items that can be in the same data collection, and will continue this partnership.

Harmonization

Participants discussed further the risks and opportunities related to harmonization. One of the opportunities provided by harmonization is the ability to analyze certain food groups of interest such as consumption of dark green leafy vegetables, organ meat or vitamin A rich fruits, these food groups are currently available with HDD method, but not consistently included in the FC method.

Given the WFP programmatic mandate to conduct food security assessments, many of the surveys and experiences at harmonization of the data collection tool will begin with WFP, when possible and if it does not cause interpretation issues. FAO does not conduct independent assessments and is more involved with promotion of different food security assessment tools for monitoring and evaluation purposes. It would be good to collect first the 7 days and then the 24 hours (in the module of the questionnaire).

If we modify the module for FCS, there might be more double counting, because the longer the list of items, the bigger the bias. But if the list is kept rather low, influence will be minimal. But usually WFP collects most of the food groups already so the difference will be minimal. Harmonisation is needed in collection.

One of the risks mentioned was related to confusion surrounding how to construct and interpret the different indicators in local situations. In the past there have been experiences where the analyst became confused and did not construct either indicator properly. There is also the risk of comparing one indicator with the other, this should not be done. Clear and consistent guidance from both WFP and FAO can help to minimize these risks, while maximizing the value added from collection of additional information.

HDDS does not use thresholds and does not have indications of cut offs.

Integrated food security and humanitarian phase classification (IPC)

PRESENTER: GRAINNE MOLONEY – FAO SOMALIA

Grainne Moloney provided a summary presentation for participants not familiar with the IPC. The presentation began with describing the need for a common classification system so that humanitarian interventions could be seen as more needs based, strategic and timely. A common classification system would also increase comparability over time and space (geography) and increase transparency, accountability and improve strategic response.

The IPC was developed over the past three years, originally by FSAU Somalia, now with global partnership for roll out with FAO/WFP/FEWSNET, SCUK, Oxfam among others.

The IPC is a set of protocols for consolidating and summarizing Situation Analysis, a distinct, yet often overlooked (or assumed) stage of the food security analysis-response continuum.

In summary the IPC is:

- A tool for summarizing and communicating Situation Analysis, based on common standards, that links complex information to action
- A technical 'forum' for enabling technical consensus

The IPC is not:

- A method—it draws from multiple methods
- An information system—it is a complimentary 'add-on'
- Response analysis—this is the next step, which is based on sound situation analysis

The IPC consists of four components including a **Reference Table, Analysis Templates, Cartographic Protocols** and **Population Tables**. The IPC **Reference Table** guides analysis for both the **Phase Classification** and **Risk of Worsening Phase**. The Phase Classification is divided into five **Phases - Generally Food Secure (1A and 1B), Moderately/Borderline Food Insecure, Acute Food and Livelihood Crisis, Humanitarian Emergency, and Famine/Humanitarian Catastrophe**. The five phases are general enough to accommodate a wide range of causes, livelihood systems, and political/economic contexts - yet their distinction captures essential differences in implications for action.

Discussion

The issue of the prevalence cut-off point to apply for purpose of IPC classification was mentioned. WFP is currently working on trying to determine thresholds of prevalence for 10 countries.

SESSION 8 - WRAP UP AND PROPOSALS FOR FUTURE RESEARCH AND PARTNERSHIPS

Recommendations / Propositions

One of the main recommendations of the workshop was a harmonized data collection module to allow construction of both FCS and HDDS.

- IDDS is an alternative giving information at a different level and with different results as compared to household results, like in settings where individuals have more meals on their own such as urban settings.
- Collection of information to allow construction of HDDS/IDDS provides more flexibility and more options to government to choose which indicator is best for which purpose. Users in the field may choose one or the other.
- It was reiterated that collection of information to construct more than one indicator could cause confusion for analysts in the field and that it should be stressed that only one indicator should be used in any given context.

Future Research:

One participant suggested looking at a new indicator similar to the FCS, but which does not use differing weights for the different food groups.

Testing HFIAS/FCS/HDDS with a combination of indicators (Expenditure, Market) was also proposed.

It was suggested that a simpler indicator based on the number of times staple foods were consumed or the number of meals per day could be tested and compared to the performance of FCS or HDDS

The issue of cut-points for the HDDS was mentioned as another area where research is needed. It was mentioned that FANTA or IFPRI might be able to consider this type of work.

The issue of the 'gold standard' used to validate indicators was also discussed with the need to have accurate 'gold standards' for nutrients, including total energy intake and intake of micronutrients as well as standard for food access. Without precise measures for validation, it is difficult to determine what each indicator is a proxy measure for.

There is a need to examine the performance of FCS in various settings/contexts (camps, seasons, countries)

Future Partnerships: FAO, FANTA and WFP should continue to work toward harmonization of a single tool for data collection

Interested organizations should also work toward enhancing food consumption/dietary diversity indicators

- CILSS/WFP/FAO/IRD

Annex 1: Agenda

Session	Time	Topics	Lead / Presenter	Objectives / Key Questions
Day 1: Wednesday 09 April 2008:				
	09:00 – 09:15	Welcome note, introduction by participants, agenda review, expected outcome of the workshop	Facilitator (Mr Jeff Klenk)	
Session 1	09:15 – 10:45	Setting the stage: Key food consumption indicators 1) FCS 2) HDDS/IDDS – 3) INCAP approach -	WFP FAO INCAP	1. What information do they aim to provide (what do they measure, for which purpose)? 2. How they are constructed 3. How the data are collected?
	10:45 – 11:00	Coffee/Tea		
Session 2	11:00 – 13:00	Field experiences- Presentations: 1) HDDS: Mozambique experience in MONITORING, and HDDS: Food Security Assessment in Somalia 2) FCS: Burundi experience in MONITORING. 3) FCS: Baseline survey - Haiti 4) IDDS: Burkina Faso 5) INCAP method	FAO WFP WFP IRD INCAP	1. Concrete illustrations of how the indicators have been used in the field, case studies. – 2. Strengths and limitations of the indicator 3. Lessons-learned
	13:00 – 14:00	Lunch break		
Session 3	14:00 – 15:30	Comparisons between indicators and areas of data collection harmonization- Presentations of results: 1) WFP/FAO joint: FCS, HDDS 2) IFPRI/WFP: FCS and kcal comparison 3) Diego Rose – Tulane University	WFP/FAO IFPRI/WFP Tulane	1. WFP/FAO- comparison in a cross-sectional survey of the FCS and the DDS. Potential dual indicator data-collection module. 2. WFP/IFPRI- comparison in a cross-sectional survey of the FCS and kcal. 3. Other examples of comparisons.
	15:30 – 15:45	Coffee/Tea		
Session 4	15:45 – 17:45	Working groups and plenary discussion on CONSTRUCTION, MEANING, REQUIREMENTS, TARGET (for details see also Matrix)	All	What information is collected in the method? What is the meaning of the indicators derived from this method? What are the practical requirements to use the method? What is the target population? (for details see also Matrix)

Day 2: Thursday 10 April 2008				
	09:00 – 09:15	Review of previous day	Jeff Klenk	
Session 5	09:15 – 10:45	Working groups and plenary discussion on REFERENCES, INFLUENCING FACTORS, COMPARABILITY (for details see also Matrix)	All	How are the indicators/scores interpreted? What contextual information is needed for interpretation? Can situations be compared using different indicators (for details see also Matrix)
	10:45 – 11:00	Coffee/Tea		
Session 6	11:00 – 13:00	Working groups and plenary discussion on LIMITATIONS, STRENGTHS, CONTEXT (for details see also Matrix)	All	What are the main limitations of the method? What are the main strengths of the method? In which context is the indicator most appropriate? (for details see also Matrix)
	13:00 – 14:00	Lunch break		
Session 7	14:00 – 15:30	Working groups and plenary discussion on SPECIAL ISSUES	All	1. Integration of Food Consumption measures into the IPC 2. Can the data for different indicators be collected in one assessment? Is it useful to use more than one of these indicators in the same analysis? In interpretation and recommendation-making? 3. Classification of food items into food groups, fortified foods, foods used in small amounts 4. Other special issues identified
	15:30 – 15:45	Coffee/Tea		
Session 8	15:45 – 17:45	Wrap-up and proposals for future research and partnerships Summary presentation of findings and conclusions of the workshop.	All	1. Are there areas where additional research will be helpful? 2. In what ways can the different institutions work together and partnerships be strengthened? 3. What are the steps to produce a technical guidance based on the outcome of the meeting?

Annex 2: List of participants

	Name	Organization
1	Joyce Luma	WFP
2	Jan Delbaere	WFP
3	Peter Horjus	WFP
4	Cinzia Papavero	WFP
5	Andrea Berardo	WFP
6	Sabine Bongi	WFP
7	Marie-Claude Dop	FAO
8	Amelie Solal-Celigny	FAO
9	Gina Kennedy	FAO
10	Terri Ballard	FAO
11	Megan Deitchler	FANTA
12	Mary Arimond	IFPRI
13	Diego Rose	Tulane
14	Jennifer Coates	Tufts
15	Yves Martin-Prevel	IRD
16	Elodie Becquey	IRD
17	Gabriela Mejicano	INCAP
18	Odilia Bermudez	INCAP/Tufts
19	Jeff Klenk	(facilitator)
20	Grainne Moloney	FAO, Somalia
21	Kathryn Ogden	WFP
22	Valerie Ceylon	WFP
23	Calogero Di Gloria	WFP

ANNEX 3: References

Further information on the FCS, HDDS and IDDS can be found on the following links:

Guidelines

WFP Technical Guidance sheet on Food Consumption Analysis.

http://vam.wfp.org/MATERIAL/FCS_Guidance

FAO Guidelines for measuring household and individual dietary diversity.

<http://www.foodsec.org/tr/nut/guidelines.pdf>

FANTA Household Dietary Diversity Score (HDDS) for Measurement of Household Food

Access: Indicator Guide, Version 2

http://www.fantaproject.org/publications/hdds_mahfp.shtml

Additional Resources available from WFP

<http://www.wfp.org/fsavam>

Additional Resources available from FANTA

Dietary Diversity as a Household Food Security Indicator

<http://www.fantaproject.org/publications/dietdiversity1.shtml>

Dietary Diversity as a Measure of Women's Diet Quality in Resource-Poor Areas:
Results from Rural Bangladesh Site

<http://www.fantaproject.org/publications/bangladesh2007.shtml>

Additional Resources available from EC/FAO Food Security Information for Action Programme

Report of the International Workshop Simple Tools for Measuring Household Access to Food and Dietary Diversity

http://www.foodsec.org/tr/nut/nut_report.pdf

Report of the Kenyan National Stakeholders Workshop on Monitoring Tools for Assessing Food Access and Dietary Diversity

http://www.foodsec.org/tr/nut/kenya_wkshp_report.pdf