

## **Workshop Report**

### **Food Based tools in food and nutrition security assessments**

**9-11 April, 2013**

**MJ Grand Hotel**

**East Legon, Accra, Ghana**



Organized by the University of Ghana and the Food and Agriculture Organization of the United Nations with financial contribution from the European Union and FAO.

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## Table of Contents

Accronyms.....	Error! Bookmark not defined.
Introduction .....	5
Workshop summary.....	6
Day 1 – Classroom.....	6
Day 2 – Field work in Otinibi village .....	9
Day 3 – Classroom.....	10
Concluding summaries.....	13
Closing of workshop.....	13
Annex 1 .....	14
Annex 2 Participants List .....	17

## **Acronyms**

DHS	Demographic and Health Surveys
DD	Dietary Diversity
DDS	Dietary Diversity Score
FAO	Food and Agriculture Organization of the United Nations
FS	Food Security
FI	Food Insecurity
FIES	Food Insecurity Experience Scale

## **Introduction**

Valid and timely nutrition assessment is the foundation on which effective interventions and programmes can be built to improve the food and nutrition situation of people. Standardized indicators are crucial for making cross-country comparisons, for estimating trends, and for evaluating programmes and policies for improving food and nutrition security and nutritional status.

The University of Ghana and the Food and Agriculture Organization of the United Nations (FAO) held a three day workshop on food-based tools in food and nutrition security assessments. The main purpose of the workshop was to build capacity to validly and accurately assess the impact of actions for improving food and nutrition security through the use of simple and valid food-based tools.

The workshop was focused on providing training and practical experience with using two food and nutrition security tools, the Dietary Diversity (DD) tool and the Food Insecurity Experiences Scale (FIES). Dietary diversity is defined as the number of food groups consumed over a given reference period. The DD tool uses a qualitative open recall method to gather information on all the foods and drinks consumed over the previous 24 hours, which are then classified into standard food groups. It can be administered either at the household or individual level. The dietary diversity tool is particularly useful for ensuring that agricultural development, food security and nutrition education programmes effectively lead to more nutritious diets.

The FIES is an 8 item scale that captures individual's experiences with food insecurity, i.e. not having the (economic or other) means to get food, which leads to anxiety over feeding the household, reduction in the quality of diet (diversity, nutritious foods) and the quantity (skipping meals, going all day with eating 0–1 meals). This indicator has been proposed as one of three monitoring indicators for the FAO Strategic Objective 1 on food security (along with stunting and the prevalence of undernourishment), and as such will be used for monitoring progress across time and across countries.

These tools, being easy to implement and analyze, are very relevant in countries for the national as well as the decentralized level (e.g. they can be used by extension workers). The workshop combined lectures, group and individual exercises and field work (See Annex 1 for the workshop Agenda). The first and last day of the workshop took place in the conference room of the MJ Grand hotel where lectures and group exercises covered the basic concepts of impact assessment and monitoring, types of food-based indicators used in food and nutrition security assessments and in monitoring and evaluation frameworks, use of the tools in surveys and assessments and how to analyze, interpret and report on the data. During the second workshop day the participants conducted a field test and learned how to adapt and administer the dietary diversity and FIES questionnaires.

The workshop was attended by participants from Angola, Ethiopia, Ghana, Malawi and Niger. Participants were from Ministries of Agriculture, Health, National Statistics Office, Research Institutes and FAO country offices.

## **Workshop summary**

### **Day 1 – Classroom**

#### *Opening Session and Introductory presentations*

The workshop was opened by Professor Matilda Steiner-Asieodu, Associate Professor and Head of Department of Nutrition and Food Science, University of Ghana. She provided a warm welcome to Ghana and wished all a successful workshop. Dr. Warren Lee, Senior Nutrition Officer of the Nutrition Assessment and Nutrient Requirements Group, FAO reviewed the workshop objectives and training plan.

The first presentation was an overview of the nutrition situation in Africa provided by Mohamed AgBendeck, Senior Nutrition Officer, FAO Regional Office for Africa. The presentation summarized the level of nutrition problems in the region, mentioning the prevalence of stunting, underweight, wasting and overweight in children under five as well as the growing burden of overweight and non communicable diseases among adults. The presentation highlighted the need for a co-ordinated approach across sectors of agriculture, health and others to achieve reductions in hunger and food insecurity.

Dr. Terri Ballard presented an overview of the Food Insecurity Experience Scale (FIES). A review of the history of food security experience scales was provided and examples of the use of the scale in many different countries was reviewed. The FAO Voices of the Hungry project was explained. The Voices of the Hungry project is an initiative being piloted in Angola, Ethiopia, Malawi and Niger using the FIES. The pilot test is being undertaken in collaboration with the Gallup World Poll, with the expectation that after the pilot testing phase FIES will be integrated into the Gallup World Survey in approximately 140 countries.

Dr. Gina Kennedy gave a presentation on the dietary diversity score (DDS). The history of the development of the DDS was reviewed and an overview of the FAO booklet “Guidelines of measuring dietary diversity at household and individual level” was presented.

#### *Group Exercise*

Participants broke into small groups to discuss the strengths and weaknesses of the two indicators and answer the following questions.

- What do you think are the main advantages of these indicators?
- What are the disadvantages?
- What can they tell you about food security or nutrition?

The following points were noted for dietary diversity:

#### Advantages

- Helps one to understand the types of foods household are consuming and what impact this could have on their nutritional status

- It is simple to collect and could be collected often, maybe twice per year and compared also to DHS
- The methodology is simple and results can be obtained quickly, it is less time consuming than other methods
- Participants liked the flexibility of being able to administer the questionnaire at either household or individual level
- The method has been validated as a proxy for micronutrients
- Respondent burden is low

#### Disadvantages

- If measured at household level then misses intra-household distribution of food
- Risk that some foods consumed may not be captured
- Not easy to determine food security from this indicator
- Does not necessarily capture seasonal variation
- FG count may not adequately reflect diet quality e.g. iron intake and inhibitors of iron intake

#### Uses

- Monitoring FS, nutrition education interventions and advocacy

The following points were noted for the FIES:

#### Advantages

- Easy to administer, quick, valid. Good for early warning system
- Flexible and can be included in different surveys
- Provides an all year round picture
- Captures info from hh members and individuals
- Captures the real aspect of experiences of food security (FS). Capturing FS as an experience is different than other indicators and these other indicators could be less direct measure of food insecurity (FI).
- This indicator goes more to the point of the FI experience and so is more direct
- Provides levels of FI – mild, moderate, severe this is good for targeting
- Scale provides a standard for comparability across zones (e.g. urban/rural) across countries
- Most countries already use some of these questions and so putting this in place would not be something new – Malawi, Ethiopia use something similar – basic framework is already in place
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#### Disadvantages

- Underlying causes of FS are not revealed
- Some questions are difficult to interpret meaning (e.g. 1 and 2)
- Recall bias for length of recall period
- Questions are mainly economic access (\$\$)
- Captures experience could also be a disadvantage because summarizing the details that could be a sign or symptom of other causative agents. A tool is needed that can capture more details of the experience
- The scale can be improved to capture some more details by asking sub-questions but it is not easy to have nutrition specific questions e.g.. what is a healthy or unhealthy food
- Does not give a clear nutrition specific picture – more to do with FI

#### Uses

- Planning interventions

- Early warning systems
- Can identify vulnerable communities and be used for targeting
- Can be used to evaluate impact of programs
- Identify who is on the brink of becoming FI

Discussion:

There was discussion surrounding the 12 month recall period which will be used in a pilot of the Gallup Poll. Some participants were concerned that the 12 month recall period was too long of a recall and ran the risk of participants giving inaccurate answers due to poor memory. Others saw the advantage in smoothing across seasonal variations within regions of the same country. It was restated that the 12 month recall period will be used in the Gallup World Poll but that if countries had funding to conduct more frequent monitoring then a shorter recall period such as the past 3 months could be used.

Participants felt that the two tools were synergistic and that the combination of the two pieces of information, one more on food insecurity and the other on diet were complementary. The decision when to employ them individually or together would depend on the objective of the survey, the context and the money available.

#### *Adaptation exercises for DD and FIES*

The afternoon of the first day was spent discussing the adaptation procedures for each tool. For the DD questionnaire it is important to have discussions on the local food systems, including traditional and indigenous food availability, commonly prepared mixed dishes and foods consumed in very small quantities. Participants broke into groups by country and worked on the following questions:

What are the most commonly eaten foods in this area?

What are the most common mixed dishes and what are the ingredients which go into this dish?

What are the foods which will be seasonally available during the data collection period?

What are the most common foods gathered from the wild? Think of green leafy vegetables, wild fruits, fish, insects, other small animals.

Are there any vegetables or roots/tubers which have a dark yellow, or orange coloured inside flesh?

Are there any fruits available with dark orange, inside flesh?

A brief presentation was given by Terri Ballard on the purpose of adaptation for FIES. It was explained that the goal of adaptation is to assure a common meaning of the questions and that the meaning is similar across cultural groups. The first step in the process is to identify terms and phrases which may need clarification. For example many of the questions in the FIES ask about food. In some cultures the word "food" is associated mainly with having eaten a large meal that contains the staple food of the area, such as maize in Malawi. This would not be the desired interpretation of the term food for the



context of the FIES. The correct wording for the questions needs to be reviewed for cultural context and interpretation. Participants broke into small groups by country and worked on the following questions.

Identify terms words and phrases for clarification and discuss with each other how they could be expressed better in your culture, for example

- ❖ *Food*
- ❖ *Lack of resources*
- ❖ *Eating only few kinds of foods*
- ❖ *Healthy and nutritious food*
- ❖ *Ran out of food*

Review the questions in your group to discuss their meanings and search for more appropriate wording to convey the meaning

Rewrite the questions as indicated **while maintaining the original meaning.**

Before closing the first day of the workshop, logistics for the field testing were discussed and participants were assigned into smaller groups for focus group discussions (FGD) to take place the following day.

## **Day 2 – Field work in Otinibi village**

Conducting focus group discussions (FGD) in areas which will be part of survey data collection is a recommended procedure for refining both the DD questionnaire and the FIES questions. The second day of the workshop was dedicated to “hands on practice” in a village setting so that participants could practice skills related to conducting focus groups and gain practice with administering the two questionnaires in a household setting. Activities of the second day consisted of FGD in the morning and practice household interviews in the afternoon. The field work was designed only as a simulation and practice exercise and the results did not have any statistical validity. Workshop participants were divided into smaller groups composed of one FGD leader (Ghanaian for reasons of local language ability) and notetakers. Only one theme per group was discussed, either adaptation of food lists and getting to know local foods and mixed dishes or adaptation of terms and words used in the FIES. After the focus group sessions the workshop participants were able to tour a feeding center for school children and needy elderly persons.

In the afternoon small teams of about five to seven persons each conducted household interviews, where the DD and FIES questionnaires were administered to one woman of reproductive age living in each household.

### Day 3 – Classroom

Day three of the workshop began with a recap of impressions and observations from the field work. To stimulate the discussion, some of the comments and questions arising from the fieldwork were posed to participants.

Participants were asked to reflect individually and then discuss in small groups the following questions:

- Was the exercise we did yesterday the recommended procedure for adaptation and pretest of the tools? What would you do differently and why?
- What is the best time frame to use for IDDS and FIES and why?
- In the DDS questionnaire, where would you classify hot pepper and why?
- For the FIES question about healthy and nutritious foods, is it important that the respondent has the same definition of “health and nutritious” as a nutritionist would recommend?

The following points were mentioned in group discussion:

Participants observed that the FGD became too large, some groups had over 20 participants while the ideal size would be 8-10 persons. This is likely to be an issue with most field work if the focus group discussions take place outdoors. It will often be the case that villagers who were not specifically invited to take part in the group are curious and decide to join in the group. Holding the discussions indoors in a private venue could help to minimize this from happening.

To obtain more accurate records of foods consumed a nutritionist should be part of the FGD team. Some common local foods could be on display. Different age groups with different knowledge of local foods should be involved. The FGD should take place in different localities to get a wider range of views.

Translators should not be used at household level when administering the questionnaire, the enumerator should speak the same language as the respondent and the questions on the questionnaire form should be translated into the local languages spoken.

Clarification was given that the field day was practice for the participants and thus was collapsed into one day. The survey adaptation process requires many days with focus group discussions in different communities with different age groups to gather diverse perspectives as well as consultation with experts. Time is needed after the FGD to synthesize the information and incorporate these changes into the questionnaire forms. Prior to conducting a pretest or beginning data collection the questionnaire forms need to be translated into all of the major local languages. The enumerators who will be responsible for data collection should speak the main local languages in the area – spontaneous translation from one language to another and/or use of interpreters should be avoided.

In relation to the time frame for measuring IDDS and FIES, most felt that 24 hours was an adequate time frame for IDDS. Some participants wondered if IDDS should be measured over one week.

For FIES some felt the timeframe was fine and experiences during the pretesting revealed that respondents were able to recall certain events accurately, such as a day when the mother consumed less food so that she could provide enough for her children during a time when resources to obtain food were limited. Some participants felt that the previous 6 months could be a better time frame.

Clarification was given that DDS is normally based on recall of one day and that it provides a picture of the population not an individual. The number of days of data collection can be planned to cover proportional numbers of week days and weekend days to gain a better picture of the dietary diversity at population level, the dietary diversity tool is not meant for individual nutrition or diet assessment. For the FIES, the timeframe is more flexible. The 12 month recall period is being used for the purposes of the Gallup World Poll and is important within this context to smooth out seasonal fluctuations in food security. Users of the FIES can choose different recall periods, for example the past three months if they have as an objective measuring seasonal fluctuations in food security.

There was not sufficient time to discuss group views on the food group in which to classify hot pepper. Dr. Kennedy provided the clarification that the most important aspect was to have agreement amongst the entire survey team (supervisors and enumerators) on where to place food items which could potentially be classified into more than one group. Hot pepper is a food which frequently needs to be discussed within the cultural context and eating habits of the population. In some areas it is consumed as a dried spice or condiment and the most appropriate food group on the DD questionnaire would be “Spices, condiments and beverages” while in other areas, particularly in Asia, significant amounts of fresh hot pepper can be consumed and it could be recommended in these contexts to classify hot pepper in one of the vegetable categories such as “Other vegetables”.

The most active debate surrounded the FIES question on healthy and nutritious foods and whether or not it was important that the respondent has an accurate personal definition of healthy and nutritious foods. Some participants felt that it was necessary to test the knowledge of the participant related to nutritious foods, others felt that the question was just meant to reflect the respondents own perspective which may or may fit a nutritionist definition of healthy. Clarification was given that FIES is designed to reflect the respondents’ perspective and experiences, it is not designed as a test of the persons knowledge on nutrition, there are different tools which can be designed if one wants to assess nutrition knowledge. Therefore the meaning of this question needs to be understood in a very specific way, which is it measures the feeling of the respondent and does not measure whether or not the respondent can correctly name foods which are healthy or nutritious.

During the afternoon of the third day participants practiced analyzing and interpreting data generated from the two indicators. After this exercise the participants were asked to discuss how they would use the indicators in their own countries and how to integrate them into national data collection systems.

Where and how to you think these indicators could be used in your own country?

- In **Ghana** they felt there was an opportunity to add these tools into National surveys – for example DHS and MICS, Annual Agriculture Survey, Ghana Living Standard Survey, and other surveys such as Nutrition surveillance survey in 3 Northern Regions ongoing twice yearly June and November conducted by Ghana Health Service – WFP FS surveys and monitoring systems.
- Participants from **Niger** mentioned their Annual national survey of vulnerability and FS (SAP), annual national level survey. Second opportunity is the National Survey of Nutrition (SMART survey) this is an annual national level survey. Add IDDS into the surveys that already collect IYCF indicators – the constraint is the budget considerations for adding these indicators.
- In **Ethiopia** there is EHNRI – Dietary consumption, Early Warning System, Central Statistics Agency, Household economic survey (Poverty index), Ethiopia DHS
- Participants from **Malawi** mentioned using the indicators in rapid FS assessments and to monitor FSN programs and government policies as well as inclusion into DHS and other data collection mechanisms for surveillance and vulnerability assessment.
- In **Angola**, the tools can be used for assessments in rural and peri urban communities and in future in urban areas because information on food is often missing. These indicators should be collected twice per year, not only annually, especially post-harvest season so that you can have a better idea of the food security in the community. There is also potential to integrate these indicators into the PESA program – which is a FS program

In response to how can the indicators become used in your country responses included:

- Write letters to key people to incorporate these indicators into ongoing systems
- Integrate teaching on how to use them into University Teaching Curriculum and Organize Short Courses for NGOs and other potential users
- Approach the key persons/institutions who finance the surveys and convince them to integrate the tools.
- The women's DDS could be included for women in the national MN survey.
- Students can use them in their research, to help to link agriculture and health. In Universities the MSc agriculture and health students can be encouraged to have joint research projects
- Need to give information to the community about FS – and pass more information to them about FS and their diet – National FS strategy program has agriculture, health and others, but the information on food security does not reach rural communities

The final question asked participants what additional support is needed in order to be able to better utilize these indicators?

- Many participants felt that software for analyzing the data would be very useful
- A cut-off for poor or adequate dietary diversity needs to be defined .
- Capacity building on data analysis and interpretation is needed.
- Technical and financial assistance is needed, also assistance to government field level staff and NGOs

## **Concluding summaries**

Before closing the workshop the participants were asked to summarize one aspect of the workshop that they particularly appreciated or one action that they would follow up on in their country.

- Many of the participants expressed that the indicators were useful and should be incorporated into upcoming surveys, for example;
  - There is an opportunity in Ghana to incorporate the Women's Dietary Diversity indicator into the upcoming Ghana DHS. Mr. Peter Peprah with the Ghanaian National Statistics Office will follow up on this.
  - Also in Ghana Ms. Ewura Pobilla will try to get the indicators into the nutrition surveillance system in three northern regions
  - In Ethiopia, Eleni Asmare will continue to discuss incorporation of dietary diversity into CAADP and Ministry of Agriculture work. More attention will also be given on how results from these indicators can fit into policy dialogues.
- Many participants appreciated the day of field work in Otinibe village where focus group discussions and household interviews were conducted.
- Country group discussions were very useful for helping to put the tools into our own context
- Many participants expressed that they learned about how to better link agriculture and nutrition and how these two indicators if used together can help to strengthen understanding of agriculture-nutrition linkages and could be useful in contexts of both food security and nutrition assessments.

## **Closing of workshop**

Dr. Warren lee (FAO, Rome) and Mr. Mohamed Ag-Bendech (FAO, Ghana) closed the training. They expressed gratitude to the participants for their corporation and to the host institution, University of Ghana, for collaborating with FAO to make this training possible.

## Annex 1

### AGENDA

9-11 April, 2013

Training course on food-based tools in food and nutrition security assessments

Tuesday 9 April, 2013			
	Topic	Speaker	Materials
0900-09:05	Welcome	Professor Matilda Steiner-Asieodu	
09:05-09:15	Introductions and Administrative matters	Anna Larrey	
09:15-09:30	Nutrition situation in SSA	Mohamed AgBendeche	
09:30-09:40	Workshop Objectives	Warren Lee	
09:40-10:00	Overview: of dietary diversity indicators	Gina Kennedy	PPT #1
10:00-10:30	Overview of Food Insecurity Experience Scale (FIES)	Terri Ballard	PPT #2
10:30-11:00	Coffee Break		
11:00-12:00	Group Exercise: - What do you think are the main advantages of these indicators? What are the disadvantages? - What can they tell you about food security or nutrition?	Anna Larrey and Mohamed AgBendeche	Flipchart Markers Large papers for responses
12:00-12:30	Groups report back to all		Pinboard
12:30-13:30	Lunch		
13:30-13:50	Review the DD questionnaire, rational for food groups, including micronutrient rich food groups, hh or individual, eating out Role Play with the questionnaire	Gina Kennedy	PPT # 3
13:50-14:30	Group exercise: Discuss food groups and local dishes for DD Prepare questions for focus group discussions (e.g.. Discussion about the meaning of “meal” Discussion of the most common local dishes and their ingredients)	Groups by Country for this exercise	
14:30-14:50	Review of the FIES questions and discussion on adaptation considerations	Terri Ballard	PPT #4
14:50-15:30	Group exercise: Adaptation of FIES : First translation of FIES and questions for FGD on FIES	Groups by Country for this exercise	

15:30-16:00	Tea Break		
16:00-16:30	Questions on group work and explanation of field work	Terri Ballard/ Gina Kennedy	
16:30-17:00	Logistics and planning for field work -assign teams -discuss translation arrangements - gather copies of questionnaires and other supplies needed for field work	Anna Larney	
Wednesday 10 April, 2013			
09:00	Transportation to village		<b>Materials</b>
10:00	Introduction to village		
10:30-12:30	Adaptation exercise in focus groups		FGD Guides Notebooks Pens
12:30-13:00	Debriefing on Focus group discussions		
13:00-14:30	Lunch		
14:30-16:30	Interview households		Blank questionnaires Pens
17:00	Transportation back to hotel		
Thursday 11 April, 2013			
09:00-10:00	Discussion of pre-test and lessons learned		
10:00-11:00	Group Exercise: Analysis of results from field work		
11:00-11:30	Coffee break		
11:30-12:00	Group exercise continued		
12:00-12:30	Analysis and interpretation of DD information - - MN rich food groups, cross-tabs, - Albania - Mozambique - Philippines - Feed the future	Gina Kennedy	PPT # 5
12:30-13:30	Lunch		
13:30-14:00	Examples of how to analyze and interpret FIES	Terri Ballard	PPT # 6
14:00-15:00	Group work by Country team: Taking the information home Where and how do you think these indicators could be used in your country? Integration into national data collection	Anna Larney and Esi Colecraft	

	Other data collection mechanisms What additional support is needed in order to be able to better utilize these indicators?		
15:00-15:30	Tea Break		
15:30-16:00	Each group gives 5 minute presentation to larger group on group exercise		
1630-1645	Wrap up and conclusions	Gina Kennedy	
1645-1700	Evaluation of workshop		Evaluation form
1700	Closing of workshop	Anna Lartey	



## Annex 2 Participants List

	Name	Affiliation
Angola	Elsa Hermínia Alba Doris dos Anjos Gaspar	Ministry of Agriculture
	Augusto Guimbi	Instituto de Desenvolvimento Agrário (IDA)
Ethiopia	Afewerk Mulugeta Bezabih	Mekele University
	Eleni Asmare Jenberie	FAO
	Alemtsehay Sergawi	Ministry of Agriculture
	Masresha Tessema	Food Science and Nutrition Research Directorate of EHNRI, Ethiopia
Malawi	Peter Nkhoma	Ministry of Agriculture, Department of Agricultural Extension Services
	Evance Kazembe	Ministry of Agriculture, Department of Agricultural Extension Services
	Andrew Jamali	Agriculture Statistician
Niger	Adamou Nafoga	Système d'Alerte Précoce et de Prévention des Catastrophes (SAP/PC) au Cabinet du Premier Ministre
	Maman Williams Massaoud	Direction Générale de la Statistique (INS) au Ministère des Finances
Ghana	Eloi.Ouedraogo	FAO, Accra
	Sophie.Tadria	FAO, Accra
	Peter Takyi Peprah	Ghana Statistical Service
	Ewura Porbilla	Ghana Health Service-Nutrition Dept
	Martha Adimabuno Awo	ISSER
	Peter Aboagye	WiAD
	Godwin Banini	SRID
	Lillian Selenje	UNICEF
	Esi Colecraft	University of Ghana
Organizers and resource persons	Anna Lartey	University of Ghana
	Gina Kennedy	FAO, Rome
	Terri Ballard	FAO, Rome
	Warren Lee	FAO, Rome
	Giorgia Nicolo	FAO, Rome
	Mohamed Ag-Bendeck	FAO, Accra