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FOOD AND NUTRITION TECHNICAL ASSISTANCE

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Tufts UNIVERSITY

Household Hunger Scale: Indicator Definition and Measurement Guide

August 2011

Terri Ballard
Jennifer Coates
Anne Swindale
Megan Deitchler

fhi360
THE SCIENCE OF IMPROVING LIVES

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Contents

Acronyms

EC	European Commission
EU	European Union
FANTA	Food and Nutrition Technical Assistance Project
FANTA-2	Food and Nutrition Technical Assistance II Project
FAO	Food and Agriculture Organization of the United Nations
HFIAS	Household Food Insecurity Access Scale
HHS	Household Hunger Scale
U.S.	United States
USAID	United States Agency for International Development
USDA	United States Department of Agriculture

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Foreword

This document is the third in a series on the Household Hunger Scale (HHS).

The first document, *Validation of a Measure of Household Hunger for Cross-Cultural Use*, provides a detailed description of the methods used to develop the HHS and the analyses undertaken to assess its internal, external, and cross-cultural validity.

The second document, *Introducing a Measure of Household Hunger for Cross-Cultural Use*, is a technical brief, highlighting the relevance of the HHS for informing food security program and policy decisions.

This third document focuses on operational issues concerning the use of the HHS. The document is targeted specifically to HHS users and potential users.

SECTION 1

Introduction

Despite long-standing efforts to improve the food security situation of populations globally, food deprivation and its physical consequences remain a continuing problem in resource-poor areas throughout the world. The Food and Agriculture Organization of the United Nations (FAO) estimated that, in 2010 alone, 925 million people worldwide did not have access to sufficient food to meet their dietary energy requirements.[1]

Arguably, one of the first steps to effectively addressing food insecurity is to establish reliable methods for measuring it. In the absence of reliable measurement, it is not possible to target interventions appropriately, to monitor and evaluate programs and policies, or to generate lessons learned to improve the effectiveness of these efforts in the future.

This document provides operational guidance for collection and tabulation of the Household Hunger Scale (HHS)—a new, simple indicator to measure household hunger in food-insecure areas. The HHS is different from other household food insecurity indicators in that it has been specifically developed and validated for cross-cultural use.[2] This means that the HHS produces valid and comparable results across cultures and settings so that the status of different population groups can be described in a meaningful and comparable way—to assess where resources and programmatic interventions are needed and to design, implement, monitor, and evaluate policy and programmatic interventions.

1 FAO. 2010. "The State of Food Insecurity in the World: Addressing food insecurity in protracted crises." Accessed June 24, 2011. http://www.fao.org/docrep/013/i1683e/i1683e.pdf.

2 As of 2010, the HHS has been shown to have cross-cultural validity for seven datasets collected in diverse settings: Kenya, Malawi, Mozambique (2), South Africa, West Bank/Gaza Strip, and Zimbabwe. (Deitchler et al. 2010).

SECTION 2. Background

The HHS is a household food deprivation scale, derived from research to adapt the United States (U.S.) household food security survey module for use in a developing country context and from research to assess the validity of the Household Food Insecurity Access Scale (HFIAS) for cross-cultural use. The approach used by the HHS is based on the idea that the experience of household food deprivation causes predictable reactions that can be captured through a survey and summarized in a scale. This approach, sometimes referred to as an "experiential" or "perception-based" method of collecting data, was first popularized in the mid-1990s, when the United States Department of Agriculture (USDA) adopted the approach for routine measurement of household food insecurity in the United States. Since then, the approach has been more widely adopted by other food insecurity measurement tools, including the HFIAS.

Because the HHS has its origins in the HFIAS, it is important that HHS users and potential users be familiar not only with the HHS but also with the HFIAS. This section of the guide provides relevant background information about the HFIAS and explains the relationship between the HFIAS and the HHS.

The Food and Nutrition Technical Assistance Project (FANTA) developed the HFIAS in 2006 with an aim to provide a valid tool for use in a developing country context that would be capable of measuring food insecurity in a comparable way, i.e., with cross-cultural equivalency (Coates et al. 2007). The tool consists of nine occurrence questions and nine frequency-of-occurrence questions. The HFIAS occurrence questions ask whether or not a specific condition associated with the experience of food insecurity ever occurred during the previous 4 weeks (30 days) (Table 1).[3]

3 The way a population conceptualizes time may vary by culture; therefore, the decision about whether to use a 4-week or 30-day recall period for the purpose of data collection should be determined during the translation and adaptation of the HHS (refer to Section 5).

Table 1. HFIAS Occurrence Questions

Q1. In the past 4 weeks (30 days), did you worry that your household would not have enough food?

Q2. In the past 4 weeks (30 days), were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?

Q3. In the past 4 weeks (30 days), did you or any household member have to eat a limited variety of foods due to a lack of resources?

Q4. In the past 4 weeks (30 days), did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food?

Q5. In the past 4 weeks (30 days), did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?

Q6. In the past 4 weeks (30 days), did you or any household member have to eat fewer meals in a day because there was not enough food?

Q7. In the past 4 weeks (30 days), was there ever no food to eat of any kind in your house because of lack of resources to get food?

Q8. In the past 4 weeks (30 days), did you or any household member go to sleep at night hungry because there was not enough food?

Q9. In the past 4 weeks (30 days), did you or any household member go a whole day and night without eating anything because there was not enough food?

These questions were designed to represent varying levels of food insecurity while also reflecting three domains perceived as central to the experience of food insecurity cross-culturally: 1) anxiety about household food supply; 2) insufficient quality, which includes variety, preferences, and social acceptability; and 3) insufficient food supply and intake and the physical consequences.

The HFIAS frequency-of-occurrence questions ask how often a reported condition occurred during the previous 4 weeks (30 days): rarely, sometimes, or often (see Example 1).

Example 1

Q1. In the past 4 weeks (30 days), did you ever worry that the household would not have enough food?

0 = No (skip to Q2)
1 = Yes

Q1a. How often did this happen?

1 = Rarely (1–2 times)
2 = Sometimes (3–10 times)
3 = Often (more than 10 times)

Data from the nine occurrence questions, along with data from the follow-up frequency-of-occurrence questions, were intended to provide a single, cross-culturally equivalent measure of a household's ability to access food.

To empirically explore the extent to which this objective of cross-cultural comparability was achieved with the HFIAS, in 2008, FANTA collaborated with the European Commission (EC)-FAO Food Security Information for Action Programme and Tufts University to organize and carry out a validation study using secondary HFIAS data from a set of diverse country settings. The purpose of the study was to assess the cross-cultural performance of the HFIAS and to use information from the validation analyses to revise and improve the HFIAS if necessary.

Upon analysis of the HFIAS data collected in different country settings, two main findings emerged:

1. The four frequency categories referenced above (i.e., "no (never)," "rarely," "sometimes," "often") did not produce an efficient scale in most settings. The use of three frequency categories, with the "rarely" and "sometimes" responses combined for data tabulation (i.e., "no (never)," "rarely or sometimes," "often"), produced consistently more robust results.
2. The nine HFIAS occurrence questions were not cross-culturally comparable. Across countries, several of the occurrence questions were observed to relate to different levels of food insecurity. Only the last three occurrence questions of the HFIAS (Q7, Q8, and Q9) were observed to be comparable across country settings. These three questions appeared to be interpreted the same way and to have the same meaning across countries. They were also observed to be the questions in the HFIAS that dealt with the most severe food insecure experiences. These three questions, along with the follow-up frequency-of-occurrence questions, constitute the HHS described in this guide.[4]

4 While the HHS has the advantage of having been validated for cross-cultural use, the HHS also has the limitation of reflecting the more severe range of household food insecurity, which is characterized by food deprivation and actual hunger. The HFIAS, in contrast, is not valid for cross-cultural use, but does reflect a broader range of household food insecurity, and has been shown to produce psychometrically valid results in several contexts, when the four frequency categories (i.e., "no (never)," "rarely," "sometimes," and "often") are combined into three frequency categories (i.e., "no (never)," "rarely or sometimes," and "often") for tabulation purposes. The choice about whether to use the HHS or an expanded household food insecurity scale, such as the HFIAS, should be based on a number of considerations, including the purpose for which the data are being collected, as well as the technical and economic resources available for adaptation and administration of the tool and validation research.

SECTION 3.

General Guidance for Use of the HHS

The HHS is most appropriate to use in areas of substantial food insecurity. In those settings, the HHS can be used for a variety of objectives, including to:

- Monitor the prevalence of hunger over time across countries, or regions, to assess progress towards meeting international development commitments
- Assess the food security situation in a country, or region, to provide evidence for the development and implementation of policies and programs that address food insecurity and hunger
- Monitor and evaluate the impact of anti-hunger policies and programs, including those that are funded by a specific donor across a number of cultures and countries
- Provide information for early warning or nutrition and food security surveillance
- Inform standardized food security/ humanitarian phase classifications[5]

The recommended format for the HHS questionnaire is shown in Table 2. To collect HHS data, it is very important that this full set of HHS questions be used. Project staff should not pick and choose certain HHS questions for inclusion in the questionnaire, because it is the set of HHS questions—not the use of each HHS question independently—that has been validated as a meaningful measure of household food deprivation.

In addition, a 4-week (30-day) recall period should always be used for collecting HHS data. It is not recommended to use a different recall period for several reasons. Longer recall periods pose a risk of measurement bias due to problems with accurate recall over an extended period of time, and a recall period shorter than 4 weeks (30 days) may not capture the full extent of the deprivation experience, since fluctuations of food accessibility are common within a month.

It is important to note that the HHS focuses on the food quantity dimension of food access and does not measure dietary quality. Additionally, because the HHS is a household level indicator, it does not capture data on food availability or food utilization, which are other components of food security typically measured at the national level (availability) and individual level (consumption/utilization).

The HHS is intended to be used as a small module within a larger, more comprehensive food security and nutrition questionnaire administered to a representative population-based sample of households. Ideally, the HHS should not be used as a unique, stand-alone measure of food insecurity but instead as one of a suite of tools to measure complementary aspects of food insecurity. Other components of a household food insecurity assessment toolkit might include anthropometric data on women and children; measures of household income, expenditure, and food production and consumption; and information on coping strategies and household and individual dietary diversity.

5 IPC. Accessed June 24, 2011. http://www.ipcinfo.org/.

Because the HHS questions cover topics about which respondents may be sensitive, it is recommended that the HHS module be placed towards the end of the survey instrument, to be administered after a certain degree of rapport has been established between the enumerator and the respondent. If dietary diversity or food consumption data are being collected in the survey, the HHS module might be well placed immediately following this section. Involving the respondent in describing the diet through an active recall is an excellent way for the enumerator to build a rapport with the respondent, and can pave the way for asking more personal or potentially embarrassing questions.

The most appropriate time of year to administer the HHS should be determined by the intended use of the scale. If the HHS is used to assess the change in the household food insecurity situation between years, or to measure the impact of an intervention, it is important to administer the HHS at the same time of the year. When using the scale to measure the prevalence of food deprivation or for establishing a baseline prevalence estimate, it is advisable to administer the HHS during or directly after the worst of the lean season, as this is when the greatest number of households is likely to be affected by food insecurity. However, if the aim is to use the HHS for geographic targeting, the height of the lean season may not be the optimal time to administer the HHS, as the results will not distinguish those who are chronically food insecure from those who are only episodically food insecure, such as during the lean season.

SECTION 4.

HHS Module

Table 2 shows the recommended format for the HHS module.

Table 2. HHS Module

No.	Question	Response Option	Code
Q1	In the past [4 weeks/30 days], was there ever no food to eat of any kind in your house because of lack of resources to get food?	0 = No (Skip to Q2) 1 = Yes	|___|
Q1a	How often did this happen in the past [4 weeks/30 days]?	1 = Rarely (1–2 times) 2 = Sometimes (3–10 times) 3 = Often (more than 10 times)	|___|
Q2	In the past [4 weeks/30 days], did you or any household member go to sleep at night hungry because there was not enough food?	0 = No (Skip to Q3) 1 = Yes	|___|
Q2a	How often did this happen in the past [4 weeks/30 days]?	1 = Rarely (1–2 times) 2 = Sometimes (3–10 times) 3 = Often (more than10 times)	|___|
Q3	In the past [4 weeks/30 days], did you or any household member go a whole day and night without eating anything at all because there was not enough food?	0 = No (Skip to the next section) 1 = Yes	|___|
Q3a	How often did this happen in the past [4 weeks/30 days]?	1 = Rarely (1–2 times) 2 = Sometimes (3–10 times) 3 = Often (more than 10 times)	|___|

SECTION 5.

Preparation of the HHS Module for Use in a New Setting: Translation and Adaptation

The HHS questions have been worded to be as universally relevant as possible; however, in most circumstances, the questions will need to be translated into another language for use in a particular survey setting. This can be challenging because certain concepts expressed in English are not easily communicated in other languages. As a result, some phrases included in the HHS may require clarification or "adaptation" to the local context.

Adaptation of the HHS is carried out through consultations with different people, such as key informants and focus groups composed of typical respondents. The purpose of these consultations is to identify the key terms and concepts expressed in the HHS that may need to be clarified with appropriate terminology and phrasing. In many cultures there is more than one way to express a concept, so the term closest to the original intention of the HHS wording is what needs to be identified. Often, there are local variations in terminology even within the same language. A concerted effort should be made to identify these variations in terminology during the translation and adaptation process and verify that the questions have retained their original meaning even if worded differently.

The recommended steps for undertaking translation and adaptation of the HHS are described in detail in the following pages. The general procedures described here are not unique to the HHS. These same translation and adaptation steps should be followed for any data collection instrument that is being implemented in a new survey setting.

Step 1: Conduct Initial Translation

If the HHS module will not be administered in English, an initial translation of the module will need to be carried out in writing. This is ideally done independently by at least two people. Once each translator has completed a draft translation, the translators should meet to discuss their different versions and arrive at a decision about the best translation for each question. The translated module can then be presented to a third party for review, to determine if any further revisions are necessary to ensure the questions are communicated clearly while also retaining the original meaning.

Step 2: Identify the Terms and Phrases to Be Adapted and Clarified

Next, the translated HHS module should be reviewed for clarity. Certain questions may contain terms or phrases that need to be worded differently, or defined specifically for the setting in which the module will be administered. The process of clarifying potentially ambiguous phrases and terms is referred to here as "adaptation."

Table 3 highlights the specific phrases in each HHS occurrence question that might require adaptation and provides information about the intended meaning of each question.

Table 3.
Intended Meaning of Excerpts from HHS Questions That May Require Adaptation

HHS Question	Intended Meaning of HHS Question
Q1: No food of any kind in the house	This question asks about a situation in which there is no food to eat of any kind in the house because food was not available to household members through usual means (e.g., through purchase or barter, gifts, from the garden or field, from storage structures).
Q2: Go to sleep hungry because there was not enough food	This question asks whether the respondent or other household members felt hungry at bedtime because they did not have enough food to eat during the day and evening.
Q3: Go a whole day and night without eating	This question asks whether any household member did not eat from the time they awoke in the morning to the time they awoke the following morning because there was not enough food. A person who chooses not to eat for a whole day for reasons other than lack of food (for example, if fasting or on a diet) should not respond affirmatively to Q3.

The specific HHS terms that may require adaptation are highlighted in bold below. Table 4 provides information about the intended meaning of each of these terms and potential challenges associated with respondents' interpretation of the term.

1. Was there ever no **food** to eat of any kind in your **house** because of **lack of resources** to get **food**?
2. Did you or any **household** member go to sleep at night **hungry** because there was not enough **food?**
3. Did you or any **household** member go a whole day and night without eating anything because there was not enough **food**?

Table 4.
Intended Meaning of HHS Terms and Phrases That May Require Adaptation

Term	Intended Meaning of Term
Food (Q1, Q2, Q3)	The word "food" may be synonymous with the major staple food in some cultures (bread, rice, maize [*ugali, nshima, mealie mealie*], etc.). For example, *ugali* is so representative of the Kenyan national diet that the Swahili word for food, *chakula*, is commonly used as its synonym. The use of the word "food" in the HHS, however, means all foods, i.e., anything that is edible, not just the staple starch. If you have difficulties getting this concept across in the culture you are working in, it may be possible to use the word in the plural "foods"—to make the distinction.
House (Q1)	Q1 asks about the availability of food in structures belonging to the household (i.e., the house itself and any storage structures). We recommend that the term household be defined first (see below), and that you then try to identify the most appropriate word to define the physical structure where the household resides, be it "house," "compound," or another word, and then define any other physical structures associated with that household where food might be stored.

Table 4.
Intended Meaning of HHS Terms and Phrases That May Require Adaptation *(continued)*

Term	Intended Meaning of Term
Lack of resources (Q1)	"Lack of resources" refers to the lack of money to buy food or the inability to produce or barter for food.
Household (Q2 and Q3)	It is very important to select the most appropriate word to use to identify the individuals constituting a household. A "household" is usually defined as a group of people living together, even if not relatives of each other, who share food from the same pot and are answerable to the same household head. A household is therefore positively identified if the answer to all of the following questions is "yes." 1. Do the individuals under consideration reside in the same compound/structure(s)? 2. Are they answerable to the same head? 3. Do they share the same pot of food? If the answer is "no" to any of these questions, then the individuals do not comprise a single household. It is possible that a language has more than one way to describe a household (e.g., house, compound, family). The adaptation process should be used to identify the word that most closely matches the description of household given above.
Hungry (Q2)	To be "hungry" is to have a compelling need or desire for food, to have a painful sensation, or to be in a state of weakness caused by the need for food. A hungry person is not necessarily one who has not eaten at all; food eaten may not have been enough to fill the belly.

Step 3: Review the HHS Module with Key Informants

After the phrases and terms requiring adaptation have been identified, the translated HHS module should be reviewed with a group of key informants who speak the language in which the module will be administered. The key informants selected to participate in the consultation could be government officials, academics, prominent community members, or other individuals who are familiar with the conditions and experiences of household food insecurity in the area where the survey will be conducted. It should be explained to the key informants that they are being consulted to ensure that the HHS questions are well understood in their country or culture. They should also be given the option to participate or not, and should be informed that they can choose to leave or refuse to answer a question at any time. When possible, the key informants should be consulted as a group, so that any discrepancies in their suggestions can be clarified at the same time.

It is recommended that the person conducting the key informant interviews (the "interviewer") follow a process similar to that presented in the example Key Informant Interview Guide found in Appendix 1. The interviewer should read each question to the key informants and then read the probes listed below that question. For instance, the interviewer reads:

Q1. Was there ever no food to eat of any kind in your house because of lack of resources to get food?

Then the interviewer reads the following probe:

- We would like to add a phrase here that clarifies the meaning of "no food to eat."
- By "no food to eat" we mean that the food was not available in the house and could not be accessed by usual means (e.g., through purchase or barter, from the garden or field, from storage).
- What are the terms that best describe the concept of not having food on hand and not being able to access food through the usual channels?

All three HHS occurrence questions should be adapted using this same procedure. All of the discussions with the informants should be recorded by a note-taker.

At the conclusion, the key informants' suggestions for adapting phrases and examples should be incorporated into the HHS module. The final product of this step should be a draft module, with locally relevant phrases and examples where necessary, that can be tested with a group of respondents in Step 4.

Step 4: Refining the HHS Module

To ensure that the HHS module prepared in Steps 1–3 is understood by respondents as intended, the HHS questions should then be reviewed with a group of individuals who represent potential survey respondents. This step, which is very important in any survey context, enables further refinement of the questions based on insights into how the questions are actually being interpreted.

To carry out this step, select 6–8 individuals who are similar to the survey population (but who will not be part of the survey sample) to participate in the consultation. As with the key informants, the individuals should be informed of the option to participate or not, and should be informed that they can choose to leave or refuse to answer a question at any time.

The individuals can be consulted individually, but experience has shown that a group consultation enhances the ability to reach consensus about how certain phrases should be worded. As with the key informant interviews, designate one person to lead the discussions in the language that will be used for administering the HHS module and another person to take notes of what was discussed.

The purpose of the focus groups is to learn from potential respondents how the questions, as refined in previous steps, are understood. This can be done by asking each question to the respondents, then asking them what they thought the question meant, for example, asking "when I said 'no food at all,' what did you think?" or "what did that mean to you?" It is also an opportunity to verify the use of specific wording or terms that were suggested by key informants.

Based on information obtained during this process, further modifications may be made to the HHS questions. These may take the form of "phrases" (where the context-specific words are added directly in the body of the question), "definitions" (to be added directly after the question the first time a term, like "household," is used), or "examples" (to be added in italics after the question), which can be used by interviewers to assist respondents in understanding the question.

Step 5: Back-Translation of the HHS Module

Once a translated and adapted HHS module has been prepared, it is recommended that the module be translated back into English, to make sure that the original meaning of the questions did not get lost during the adaptation process. Back-translation of the module is preferably undertaken by an independent translator who has no prior knowledge of the HHS questions. The goal should be to obtain conceptual equivalence not linguistic equivalence, as no translation can be expected to convey perfectly the "meaning" of the phrases and terms used in another language.

The final product of the translation and adaptation process described above will be a translated version of the HHS module that is ready to be pre-tested in the field.

SECTION 6.

Enumerator Training

Before administering the HHS module to survey respondents, the enumerators should be very comfortable with the HHS questions and the intended meaning of each term and phrase. To facilitate this, enumerator training for the larger survey instrument should include a review of the HHS questions and the definitions of key terms and concepts identified during the translation and adaptation process.

If enumerators were not part of the HHS adaptation process, 2–3 hours may be required to familiarize them with the HHS questions and the correct technique for administering them. As with any survey module, the process of training enumerators to administer the HHS should ideally include classroom instruction, discussion, role play, and field practice.

SECTION 7.

How to Ask the HHS Questions and Record Answers

The HHS questions should be directed to the person in the household who is most involved with the food preparation and meals. Most of the questions require the respondent to answer on behalf of the household and all its members. The HHS questions do not distinguish adults from children or adolescents. Therefore, if any household member experienced the condition referred to, an affirmative response should be recorded.

Context-specific definitions for certain terms (e.g., "household," "lack of resources") should have been developed during the survey instrument adaptation phase and added to the survey instrument. Some questions may require that the interviewer read the locally appropriate definition of certain words (e.g., "household") the first time these words are used in a question. Other questions may require that the interviewer provide locally relevant examples when the respondent requires further prompting.

Although there are pre-coded response options, these should be read only for the first HHS question, as suggested response options. The respondent should be allowed to answer in his or her own words. The enumerator will then select the most appropriate response

option based on the respondent's reply. For instance if, after asking an occurrence question, the respondent says "no," but adds that it only happened a few times, then the correct code is "1" (yes). The frequency-of-occurrence question should then be asked. If the respondent describes a frequency that would translate to "3–10 times" in the past 30 days, the correct response selection for the frequency-of-occurrence question is "sometimes," and the correct response code is "2." If the respondent has difficulty replying, then the interviewer can encourage a response by listing the set of options again. Table 5 illustrates the example described above.

Table 5. Coding Occurrence and Frequency-of-Occurrence Responses

No.	Question	Response Options	Code
Q1	Was there ever no food to eat of any kind in your house because of lack of resources to get food? Respondent Answer: No. Well, just a few times.	0 = No (skip to Q2) 1 = Yes	1
Q1a	How often did this happen in the past 30 days? Respondent Answer: Four, maybe five times	1 = Rarely (once or twice in the past 30 days) 2 = Sometimes (3–10 times in the past 30 days) 3 = Often (more than 10 times in the past 30 days)	2

Administration of the HHS module requires approximately 3–5 minutes per household. After having administered the full survey instrument and before leaving the household, enumerators should check over the survey instrument, including the HHS module, to ensure that all questions have been asked and that the responses are complete and legible.

SECTION 8.

Indicator Tabulation

Data collected with the HHS can be analyzed to construct two types of indicators: a categorical HHS indicator and a median[6] HHS score for the sample of data collected. Both types of indicators can be used for assessment, monitoring, and evaluation purposes. However, in many circumstances, categorical variables are easier to interpret and therefore are often preferred for informing program and policy design and monitoring and evaluation.

To tabulate both indicators, it is first necessary to compute an HHS score for every responding household. This requires some recoding of the data collected. Instructions for recoding the HHS data and tabulating the HHS indicators are given on the next page. Additional details about the logic used to recode the HHS data and programming syntax are provided in Appendix 2.

6 Because the HHS score is generally not normally distributed, reporting or using the mean HHS score for analysis (e.g., in t-tests) is not recommended.

Recoding of the HHS Data Collected

Step 1. The first step is to recode the responses to each frequency-of-occurrence question from three frequency categories ("rarely," "sometimes," "often") into two frequency categories ("rarely or sometimes" and "often").[7]

To avoid losing the original data collected, create a new variable for each frequency-of-occurrence question. Do not overwrite the original data. Here, we refer to the new variables created for each frequency-of-occurrence question as NewQ1, NewQ2, and NewQ3.

For each of the new variables created, a frequency response of "rarely" (originally coded as "1") is coded as "1"; a frequency response of "sometimes" (originally coded as "2") is coded as "1"; and a frequency response of "often" (originally coded as "3") is coded as "2".

Step 2. Next, add a code of "0" for households that replied "No" to each corresponding occurrence question. Once this step is completed, all households should have a value of 0, 1, or 2 for each of the three new variables created, NewQ1, NewQ2, and NewQ3.

Step 3. The values of NewQ1, NewQ2, and NewQ3 are then summed for each household to calculate the HHS score. If the tabulation has been carried out correctly, each household will have an HHS score between 0 and 6. These values are then used to generate the HHS indicators.

7 Although the "rarely" and "sometimes" frequency categories are combined for the purpose of data analysis, it is important to keep the categories separate for data collection, as field experience has shown that it is easier for respondents to indicate frequency if the three different frequency-of-occurrence response options (i.e., "rarely," "sometimes," and "often") are included in the questionnaire.

Tabulation of the Categorical HHS Indicator

To tabulate the categorical HHS indicator, two different cutoff values (> 1 and > 3) are applied to the HHS scores that were generated in Step 3 above. The three household hunger categories are shown below.

Table 6. HHS Categorical Indicator

Household Hunger Score	Household Hunger Categories
0–1	Little to no hunger in the household
2–3	Moderate hunger in the household
4–6	Severe hunger in the household

Tabulation of the Median HHS Score

The median value is the value that falls at the 50th percentile of the score distribution for the sample. This value can be identified by most data analysis software programs by producing summary statistics for the variable of interest.

An alternative method of finding the median HHS value is to order all HHS values in the sample in ascending or descending order and find the HHS value that falls in the middle of all ordered values.

9. SECTION References

Coates J.; Swindale, A.; and Bilinsky, P. 2007. *Household Food Insecurity Access Scale (HFIAS) for Measurement of Household Food Access: Indicator Guide* (v3). Washington, DC: FHI 360/FANTA-2.

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FAO. 2010. "The State of Food Insecurity in the World: Addressing food insecurity in protracted crises." Accessed June 24, 2011. http://www.fao.org/docrep/013/i1683e/i1683e.pdf.

Mwangi, A. and Mbera, G. 2006. *Report of the Adaptation and Pre-Testing of Household Food Security Monitoring Tools: The Kenya Experience.* Rome: FAO. http://www.foodsec.org/fileadmin/user_upload/eufao-fsi4dm/docs/kenya_adapt_hfias.pdf.

APPENDIX

Example of a Key Informant Interview Guide for Adaptation of the HHS[8]

The key informant interview guide describes the type of discussion that is required to identify words/phrases, definitions, and examples to be adapted to the local context so that questions are understandable to survey respondents. Each question below should be reviewed with key informants. Based on information from the key informants, modifications may be made to the HHS module. Modifications may either be "phrases" (where the context-specific words are added directly in the body of the question), "definitions" (to be added directly after the question the first time a term, like "household," is used), and "examples" (to be added in italics after the question).

8 Adapted from a guide used by FAO in Kenya. Mwangi et al. 2006. http://www.foodsec.org/fileadmin/user_upload/eufao-fsi4dm/docs/kenya_adapt_hfias.pdf.

Table 1. HFIAS Occurrence Questions

We are in the process of adapting survey instruments to assess food insecurity in the local context. We would like to consult with you to ensure that the questions contained in these survey instruments are understandable by respondents in this area and culture.

Therefore, I will ask you some questions to help us clarify some of the phrases used in the survey instrument for respondents in this area/culture. Please participate in this discussion freely. You may decline if you wish not to participate in the discussion and you may also choose to leave or not to answer a question at any time.

1. We would like to clarify the way that a **"household"** is described in this culture/area. For instance, in some cultures "household" might be defined as "people who live together and share food from a common pot." Can you tell us how people here would commonly describe a household?

2. We would like to understand how people here describe **"lack of resources."** By lack of resources, we mean not having money or not having the ability to grow or trade for food. How do people here usually talk about a "lack of resources"? **(Note for interviewer: Probe to find out how a household that lacks adequate resources is described in the area.)**

3. We need to find a way to ask questions about **"food"** using the best term or phrase to mean any type of food. What would be the best term that would be understood to mean this? If we asked, "Was there ever no food to eat of any kind in your house because of lack of resources to get food?" do you think people would understand that we mean anything that can be eaten or drunk, and not just [the major staple, such as maize, rice, or cassava]? Are there different words or terms for food in your community?

4. We would like to add a phrase in our survey instrument that clarifies the meaning of **"no food at all."** By "no food at all" we mean that the food was not available in the household and could not be accessed by the household's usual means (e.g., through purchase, from the garden or field, from storage, gifts). What are the terms that best describe the concept of not having food at hand and not being able to access food through the usual means and channels?

5. What do you understand the following question to mean? "Did you or any household member go to sleep at night hungry because there was not enough food?" Is there a specific way to say this in the local language that makes the meaning clear?

6. What do you understand the following question to mean? "Did you or any household member go a whole day and night without eating anything because there was not enough food?" When I say **"whole day and night,"** what do you think I mean? Is there a specific way to say this in the local language that makes the meaning clear?

APPENDIX 2.

Recoding the Ocurrence and Frequency-of-Occurrence Responses for Creating the HHS Score

As described in Steps 1 and 2 of the recoding instructions (page 13), the two parts of each HHS item (i.e., the occurrence question and the frequency-of-occurrence question) need to be recoded into a single variable so that an HHS score for each household can be tabulated. The example below uses Q1 and Q1a from the HHS to demonstrate how to create and recode the data collected from Q1 and Q1a into a single variable. The table below describes the logic behind the creation of the NewQ1 variable.

	Code for original variable	**Code for new variable (NewQ1)**
Q1. Was there ever no food to eat of any kind in your house because of lack of resources to get food?	0 (no)	0
	1 (yes)	*Code according to frequency:*
Q1a. How often did this happen in the past 30 days?	1 (rarely)	1
	2 (sometimes)	1
	3 (often)	2

The procedure illustrated above, should be repeated for Q2 and Q2a, and Q3 and Q3a, to create a NewQ2 and a NewQ3 variable.

Once the three new variables have been created, NewQ1, NewQ2, and NewQ3 can be summed to generate an HHS score for each household in the sample.

The Stata syntax associated with the above recoding process and the tabulation of an HHS score for each household is shown below. This code can easily be adapted for use with other statistical software packages.

Stata Programming Syntax	
Generating new variables	generate NewQ1 = . generate NewQ2 = . generate NewQ3 = .
Recoding of Q1 and Q1a	replace NewQ1 = 1 if Q1a == 1 replace NewQ1 = 1 if Q1a == 2 replace NewQ1 = 2 if Q1a == 3 replace NewQ1 = 0 if Q1 == 0
Recoding of Q2 and Q2a	replace NewQ2 = 1 if Q2a == 1 replace NewQ2 = 1 if Q2a == 2 replace NewQ2 = 2 if Q2a == 3 replace NewQ2 = 0 if Q2 == 0
Recoding of Q3 and Q3a	replace NewQ3 = 1 if Q3a == 1 replace NewQ3 = 1 if Q3a == 2 replace NewQ3 = 2 if Q3a == 3 replace NewQ3 = 0 if Q3 == 0
Generating a new variable for the HHS score	generate HHSscore = .
Tabulating the HHS for each household	replace HHSscore = NewQ1 + NewQ2 + NewQ3