



Using the Food Insecurity Experience Scale to monitor the impact of COVID-19

Contact us:

Voices of the Hungry Project: Voices-Of-The-Hungry@fao.org

For all general inquiries and directions:

FAO Food Security and Nutrition Statistics Team leader

Carlo Cafiero (Mr.) (Carlo.Cafiero@fao.org)

For specific inquiries and directions in:

Asia and the Pacific: **Abdul Sattar** (Mr) (Abdul.Sattar@fao.org)

Sub-Saharan Africa: **Filippo Gheri** (Mr) (Filippo.Gheri@fao.org)

Latin America and the Caribbean and Oceania: **Veronica Boero** (Ms) (Veronica.Boero@fao.org)

Near East & Northern Africa, Eastern Europe & Central Asia: **Firas Yassin** (Mr) (Firas.Yassin@fao.org)

North America and Europe: **Meghan Miller** (Ms) (Meghan.Miller@fao.org)

Resources:

Voices of the Hungry webpage: <http://www.fao.org/in-action/voices-of-the-hungry>

E-Learning course: <https://elearning.fao.org/course/view.php?id=360>

FIES Basics: <http://www.fao.org/3/a-i7835e.pdf>

Why use the FIES to measure food insecurity?

The Food Insecurity Experience Scale (FIES) system is currently **the only household or individual food security assessment method that ensures global comparability of the measures**, thanks to the possibility of calibrating them against a global reference standard (see Cafiero, Viviani and Nord, 2018)¹. It is the official instrument used by FAO to produce estimates of the prevalence of food insecurity in the context of SDG Target 2.1 monitoring.

The typical FIES survey module contains eight questions focused on food-related behaviors and experiences associated with difficulties in accessing food due to resource constraints. These experiences or conditions can be easily self-reported by individuals reached in a survey, either in person or by telephone. The eight questions are intended to reveal conditions that cover a range of severity and **the FIES analytic protocol** (based on Rasch modeling) makes it possible to transform the qualitative information collected ("yes/no" answers) into quantitative, rigorous measures of food insecurity severity, allowing for categorization of respondents into classes of moderate as well as severe food insecurity.

The FIES can be easily applied at relatively low cost within any properly designed individual or household survey to produce **timely, reliable and meaningful information on the adequacy**

¹ Cafiero, C., S. Viviani and M. Nord (2018) "Food security measurement in a global context: The food insecurity experience scale", *Measurement*, Volume 116, February 2018, Pages 146-152.

(<https://www.sciencedirect.com/science/article/pii/S0263224117307005>)

of access to food at the individual or household level, provided the correct analytic protocol is used to process the information.

Value and Versatility of the FIES survey module

Among the various tools that have been proposed and used for household food security assessment over the years (see Cafiero, 2019, for a review)² **the FIES is ideally suited to meet the urgent challenge of measuring and monitoring food insecurity in the context of the COVID-19 epidemic and to carefully evaluating its impact.** The module presented here has been adapted from the typical FIES survey module **to respond to that challenge** while preserving all the desirable properties in terms of food security measurement rigor and reliability.

In particular, this version adds **follow-up questions** to capture the extent to which food insecurity experiences are linked by the respondent specifically to the COVID-19 crisis.

It can be administered to either:

- A respondent (older adolescent or adult) who answers on behalf of his or her household (**household referenced module**), or
- A respondent who answers on behalf of him or herself (**individually-referenced module**). If this approach is taken, results can also be disaggregated by gender.

While the typical FIES survey module recommended for SDG monitoring uses a 12-month reference period, the version presented here uses a **30-day reference period, appropriate for use in repeated surveys during a year as needed to monitor the evolution of the impact of COVID on food security.**

Choosing a survey approach

The ideal approach to using the FIES to measure the prevalence of food insecurity is by implementing it within a **well-established, ongoing, government-administered survey**, as embedding FIES measurement within an existing survey structure is generally less costly and less time-consuming than creating an ad-hoc FIES survey. Moreover, doing it would allow the study of food insecurity in relation to the other dimensions captured in the other modules integrated in the same survey.

In the context of the global COVID-19 crisis, however, the necessity of collecting timely information on the effect of the pandemic on people's access to food may mean that rapid, ad-hoc data collection becomes necessary. This may involve collection of FIES data *only* (in addition to basic demographic information) or the administration of a short, integrated survey aimed at collecting a broader range of information relevant to the COVID-19 crisis.

In the latter case, it is important to carefully consider the other variables of interest for the specific purpose of the COVID survey. The type of additional information collected should be considered with respect to how it can deepen an understanding of food insecurity's drivers and/or consequences.

²Cafiero, C. (2019) "Measuring food insecurity", chapter 17 in S. Hendricks (ed.) *Food Security Policy, Evaluation and Impact Assessment*, London: Routledge
(<https://www.taylorfrancis.com/books/e/9781351019828>)

Several points must be considered when selecting the best approach to collecting FIES data for the purpose of monitoring the effect of the pandemic:

Options for data collection

Face-to-face surveys will most likely not be feasible during the onset of the COVID-19 crisis. The most common alternatives are telephone surveys, though additional options like computer- or mobile phone- based surveys are possible and can also be explored, using also social network and instant messaging applications.

Target Population

Taken into consideration that prevalence of food insecurity can only be computed at the level of population groups that are represented in the survey, defining what is the target population at the sampling design stage is crucial.

Some considerations about sampling strategy

As mentioned above, given restrictions in place that prevent face-to-face interviews, phone surveys are probably the most appropriate vehicle to monitor the impact food insecurity using the FIES module during the COVID-19 pandemic. This could be done using mobile and/or land lines, depending on the information available on the population of interest, like mobile phones and land line coverage.

If available in the country, and to the extent that contact phone numbers have been collected and registered during the regular operation of periodic surveys such as Demographic Health Surveys (DHS), Labour Force Surveys (LFS), Household Consumption and Expenditure Surveys (HCES), Multiple Indicator Cluster Surveys (MICS), Living Standard Measurement Surveys (LSMS), etc., it is advisable to use **existing nationally representative samples** or subsamples from those surveys. The main advantages of using an existing sample or drawing a subsample from it, is that they can be considered probabilistic samples with national representation and access to the frame is available to draw subsamples if required. In addition, using an established sample will allow for the new data collected through the phone survey to be linked to the data collected previously. In this way, data on household income and other socio-economics variables can be used to better understand the impact of the COVID-19.

In the case that the country has not implemented a recent nationally representative survey where telephone numbers have been collected, the best alternative for creating a sampling frame is to use **phone number listings**, as published or available through telephone service providers or administrative registers. When **landline phone number** listings are available, geographic information may be also available to permit geographic stratification of the sample by administrative units. However, developments in phone communication over the recent years have made landlines less and less relevant, and the vast majority of phone communication now happens via personal (not household) mobile devices. Cellular service providers do provide lists of active phone numbers that can be used for **Random Digit Dialing** (RDD) or other procedures to form random samples, although representativeness can only be approximated via ex-post weighting based on collected information on relevant demographics of the respondents.

Periodicity of data collection

The periodicity of data collection should be in line with the objective of the survey. In order to monitor the impact of COVID-19 on access to food, collecting data monthly is perhaps excessive and not necessarily required, however **more than one round of data collection is certainly needed**. Data collection should be carefully timed as conditions related to the pandemic continue to evolve.

Survey context and placement of the FIES module

If additional information, beyond the FIES, will be collected in the survey, consider how the information may relate to people's ability to access food. It is important to look at food insecurity in relation to other relevant variables to better understand its drivers and consequences.

When included within a larger survey, the FIES should be placed immediately after the demographic section. If needed, other modules containing **questions on food consumption or food consumption related coping strategies** should be administered after the FIES module, and possibly separated by other sections focusing on different aspects (e.g. education, health, etc.) Failing to separate FIES from food consumption or food consumption-related coping strategies questions will be a source of confusion for the respondents.

The order in which the questions that compose the FIES module are asked in principle, should not affect the food security measure they inform, if proper analytic methods for information processing are followed, however it is highly recommended that the module is administered as provided by FAO, in which questions refer to conditions that roughly move along a continuum from less severe to more severe food insecurity.

Translation and linguistic adaptation

The FIES survey module adapted for monitoring the impact of COVID-19 is available from FAO in several languages.

In addition, the typical FIES survey module is available in over 200 languages on the Voices of the Hungry webpage³. These translations may serve as a starting point, and efforts can be made to translate and adapt the follow-up questions that are specific to the COVID-19 module to each local language.

Bear in mind that **the validity and accuracy of FIES results are highly dependent on the proper understanding of the questions by respondents**, and that careful attention should be given to conveying the intended meanings of key terminology. A guide to translation, covering the intended meanings of key phrases in the standard FIES module, is also available on the Voices of the Hungry page.

One key phrase in the FIES methodology is the conditional "because of a lack of money or other resources," used to clarify that reported experiences are not due to religious or diet-related health reasons, for example. Aside from money to buy food, "other resources" refers to the lack of other usual means for getting food, such as own production, barter, trade, small livestock for sale or own consumption, fishing, hunting or gathering, or the transfer of food from family, community members, government or donors. This conditional phrase, must be

³ <http://www.fao.org/in-action/voices-of-the-hungry/fies/en/>

carefully reviewed and adapted for clarity given the specific context and purpose of the data collection.

Preparation and administration of the interview script

When using telephone surveys, **proper design of the interview script** is of even more fundamental importance, as interviewers will lack the ability to rely on visual and full verbal interaction with the respondents. Interaction over the telephone may make it difficult to detect hesitation or uncertainty indicating problems with understanding or sensitivity about answering a question. There may be limited opportunities for call center operators to complete in-depth training to gain a comprehensive understanding of the questions included in the FIES module, however clear instructions can help interviewers to administer them accurately.

In addition to carefully following the interview script, **general guidance for interviewers** should be to:

- Read the questions as written
- Clarify the meaning and intent of the question if asked by the respondent, but refrain from spontaneously interpreting or rephrasing them
- Avoid prompting respondents for answers

To obtain valid and accurate data from the FIES survey module and minimize non-response, it is important to not only provide a well-designed script, but also guidance on the behavior of call center operators who will be conducting phone interviews. It is important that interviews are conducted in a way that is technically correct, but also fully respectful of respondents. As food insecurity is a socially and emotionally sensitive subject, interviewers must strive to be considerate and non-judgmental in their approach in order to elicit honest responses to the FIES questions. A respondent must agree to participate in the survey, however if a respondent participates but wishes not to answer "Yes" or "No" to any of the questions, a "Don't know" or "Refused" response should be recorded.

Data analysis

The Food Insecurity Experience Scale Survey Module (FIES-SM) is composed of eight question items allowing dichotomous yes/no responses. Together, these items compose a statistical scale designed to cover a range of severity of food insecurity and **must be analyzed jointly as a scale, never as separate items**.

The analytical protocol developed and maintained by FAO involves **validation of the FIES data** to ensure that all items fulfil the strict, Rasch model-based requirements for invariant measurement. Only if these requirements are satisfied, the items may be used to produce a meaningful measure of food insecurity.

The resources available through the Voices of the Hungry webpage⁴ offer guidance on the fundamental concepts needed to analyze FIES data. In case of any doubt or problem in interpreting them, **analysts are strongly recommended to seek assistance from the FAO Food Security and Nutrition Statistics team** using the contact information provided above.

⁴ <http://www.fao.org/in-action/voices-of-the-hungry/using-fies/en/>

Annex:

Voices of the Hungry

FOOD INSECURITY EXPERIENCE SCALE SURVEY MODULES

**Measure and monitor acute food insecurity
with COVID-19 follow up questions**

FOOD INSECURITY EXPERIENCE SCALE

Individually Referenced

Now I would like to ask you some questions about food.

During the last 30 days, was there a time when:

<p>Q1. You were worried you would not have enough food to eat because of a lack of money or other resources? (if "Yes", go to question Q1a)</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q1a. Was this specifically due to the COVID-19 crisis?</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q2. Still thinking about the last 30 days, was there a time when you were unable to eat healthy and nutritious food because of a lack of money or other resources? (if "Yes", go to question Q2a)</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q2a. Was this specifically due to the COVID-19 crisis?</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q3. You ate only a few kinds of foods because of a lack of money or other resources? (if "Yes", go to question Q3a)</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q3a. Was this specifically due to the COVID-19 crisis?</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q4. You had to skip a meal because there was not enough money or other resources to get food? (if "Yes", go to question Q4a)</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q4a. Was this specifically due to the COVID-19 crisis?</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q5. Still thinking about the last 30 days, was there a time when you ate less than you thought you should because of a lack of money or other resources? (if "Yes", go to question Q5a)</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q5a. Was this specifically due to the COVID-19 crisis?</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q6. Your household ran out of food because of a lack of money or other resources? (if "Yes", go to question Q6a and Q6b)</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q6a. How often did this happen?</p>					2 Rarely (1 or 2 times) 3 Sometimes (3-10 times) 4 Often (more than 10 times) 98 Don't Know 99 Refused
<p>Q6b. Was this specifically due to the COVID-19 crisis?</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q7. You were hungry but did not eat because there was not enough money or other resources for food? (if "Yes", go to question Q7a and Q7b)</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q7a. How often did this happen?</p>					2 Rarely (1 or 2 times) 3 Sometimes (3-10 times) 4 Often (more than 10 times) 98 Don't Know 99 Refused
<p>Q7b. Was this specifically due to the COVID-19 crisis?</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q8. You went without eating for a whole day because of a lack of money or other resources? (if "Yes", go to question Q8a and Q8b)</p>					0 No 98 Don't Know 1 Yes 99 Refused
<p>Q8a. How often did this happen?</p>					2 Rarely (1 or 2 times) 3 Sometimes (3-10 times) 4 Often (more than 10 times) 98 Don't Know 99 Refused
<p>Q8b. Was this specifically due to the COVID-19 crisis?</p>					0 No 98 Don't Know 1 Yes 99 Refused

FOOD INSECURITY EXPERIENCE SCALE

Household Referenced

Now I would like to ask you some questions about food.

During the last 30 days, was there a time when:

Q1. You or others in your household worried about not having enough food to eat because of a lack of money or other resources? (if "Yes", go to question Q1a)		0 No 98 Don't Know 1 Yes 99 Refused
Q1a. Was this specifically due to the COVID-19 crisis?		0 No 98 Don't Know 1 Yes 99 Refused
Q2. Still thinking about the last 30 days, was there a time when you or others in your household were unable to eat healthy and nutritious food because of a lack of money or other resources? (if "Yes", go to question Q2a)		0 No 98 Don't Know 1 Yes 99 Refused
Q2a. Was this specifically due to the COVID-19 crisis?		0 No 98 Don't Know 1 Yes 99 Refused
Q3. Was there a time when you or others in your household ate only a few kinds of foods because of a lack of money or other resources? (if "Yes", go to question Q3a)		0 No 98 Don't Know 1 Yes 99 Refused
Q3a. Was this specifically due to the COVID-19 crisis?		0 No 98 Don't Know 1 Yes 99 Refused
Q4. Was there a time when you or others in your household had to skip a meal because there was not enough money or other resources to get food? (if "Yes", go to question Q4a)		0 No 98 Don't Know 1 Yes 99 Refused
Q4a. Was this specifically due to the COVID-19 crisis?		0 No 98 Don't Know 1 Yes 99 Refused
Q5. Still thinking about the last 30 days, was there a time when you or others in your household ate less than you thought you should because of a lack of money or other resources? (if "Yes", go to question Q5a)		0 No 98 Don't Know 1 Yes 99 Refused
Q5a. Was this specifically due to the COVID-19 crisis?		0 No 98 Don't Know 1 Yes 99 Refused
Q6. Was there a time when your household ran out of food because of a lack of money or other resources? (if "Yes", go to question Q6a and Q6b)		0 No 98 Don't Know 1 Yes 99 Refused
Q6a. How often did this happen?		2 Rarely (1 or 2 times) 3 Sometimes (3-10 times) 4 Often (more than 10 times) 98 Don't Know 99 Refused
Q6b. Was this specifically due to the COVID-19 crisis?		0 No 98 Don't Know 1 Yes 99 Refused
Q7. Was there a time when you or others in your household were hungry but did not eat because there was not enough money or other resources for food? (if "Yes", go to question Q7a and Q7b)		0 No 98 Don't Know 1 Yes 99 Refused
Q7a. How often did this happen?		2 Rarely (1 or 2 times) 3 Sometimes (3-10 times) 4 Often (more than 10 times) 98 Don't Know 99 Refused
Q7b. Was this specifically due to the COVID-19 crisis?		0 No 98 Don't Know 1 Yes 99 Refused
Q8. Was there a time when you or others in your household went without eating for a whole day because of a lack of money or other resources? (if "Yes", go to question Q8a and Q8b)		0 No 98 Don't Know 1 Yes 99 Refused

Q8a. How often did this happen?	2 Rarely (1 or 2 times) 3 Sometimes (3-10 times) 4 Often (more than 10 times) 98 Don't Know 99 Refused
Q8b. Was this specifically due to the COVID-19 crisis?	0 No 1 Yes 98 Don't Know 99 Refused