

# Development of a global standard for monitoring hunger worldwide: Voices of the Hungry

## Project summary

FAO Statistics Division  
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Optimal global monitoring of food insecurity calls for annual data at country level that is made available with a quick turnaround. This will greatly assist national policy and decision making as well as global monitoring of the development agenda objectives.

FAO’s Voices of the Hungry (VOH) project is an innovative approach to assist countries in accessing timely and valid information on the severity of food insecurity as experienced by individuals in the population. This initiative aims to establish a new global standard for measuring food insecurity experience that is valid, endorsed at the international level, and used for global and country monitoring.

**The Food Insecurity Experience Scale**

FAO has developed the Food Insecurity Experience Scale (FIES) which is modeled after the 15-item Latin American and Caribbean Food Security Scale (Spanish Acronym: ELCSA). The FIES has the potential to become the global standard by providing comparable information on food insecurity experience across countries and population groups. The FIES builds upon established tools, such as the USDA Household Food Security Survey Module and the ELCSA, both of which have been used in various parts of the world in developed and developing countries.

Experience-based food insecurity scales aim to capture household or individual food security experiences at different levels of severity. By asking a series of related questions, it is possible to classify respondents as “food secure” (i.e. those who respond “no” to all of the questions on food insecurity-related experiences ) or as “food insecure” along a continuum of food insecurity severity, shown in Figure 1.



**Collecting information on food insecurity through public opinion polls**

FAO is partnering with the Gallup® World Poll,<sup>1</sup> a branch of Gallup Inc. that has carried out nationally representative surveys in more than 150 countries annually since 2005. Using public opinion polls to explore food insecurity is not new. Experience-based food insecurity scales have been successfully included in public opinion polls in Mexico and Uruguay. In Mexico, a strong association between food security and quality of life was demonstrated,

<sup>1</sup> <http://www.gallup.com/strategicconsulting/en-us/worldpoll.aspx>

which was possible due to a broad range of variables included in the public opinion poll pertaining to social, health and well-being and nutrition<sup>2</sup>. Since 2006, the Gallup® World Poll has collected food security information in a number of countries using two questions which are analyzed and reported separately. The mutual interest of the Gallup Inc. Company and FAO to test robust and valid experience-based food insecurity scales for global monitoring has led to the Voices of the Hungry Project.

Starting in 2014, the Gallup® World Poll (GWP) questionnaire will include the FIES, modified to a 10-item survey module in order to gather information on food insecurity experiences of individuals. The data will be used to derive estimates of the prevalence of food insecurity at different levels of severity. Through this measurement approach, FAO will collect information from individuals at a relatively limited cost that is timely and comparable across cultures, which will also facilitate the study of gender disparities in food access in the population. Raw data from the scale responses as well as a detailed food security analysis report will be available to Governments and the public through an open-access platform.

### **The 2013 pilot study**

Pilot work to include the FIES in the World Poll is being carried out in 2013 in four sub-Saharan countries – Angola, Ethiopia, Malawi and Niger. Piloting will help to consolidate procedures for proper linguistic adaptation of the FIES questions, to identify the optimum set of questions that effectively cover the range of conditions from being food secure to experiencing severe food insecurity, and to develop the analytic methods required for compiling comparable indicators across nations and linguistic groups.

Several modifications to the 15-item FIES have been made to adapt it for global application within the GWP. These changes will be pilot-tested in Angola, Ethiopia, Malawi and Niger during 2013. Written modules of the FIES questions, which have undergone linguistic and cultural adaptation in national and local languages, will be included in the broader GWP questionnaire in these four countries in 2013.

The version of the FIES which will be applied in the GWP is based closely on the 15-item ELCSA but has been modified as follows for the 2013 pilot test:

1. The core scale has been limited to the first 8 questions which refer to adults in the household.
2. The questions are directed to randomly-selected adult individuals in sample households, therefore the information refers to individuals rather than to

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<sup>2</sup> Perez-Escamilla R, Parás P, Vianna, R. Food security measurement through public opinion polls: the case of ELCSA- Mexico. FAO International Scientific Symposium on Food and Nutrition Security information:from Valid Measurement to Effective Decision Making. FAO Rome, 2012.

[http://www.foodsec.org/fileadmin/user\\_upload/eufao-fsi4dm/docs/German\\_0900\\_Paras.pdf](http://www.foodsec.org/fileadmin/user_upload/eufao-fsi4dm/docs/German_0900_Paras.pdf)

households. This will enable the calculation of food insecurity prevalence of individuals and investigation of how food insecurity is experienced by gender.

3. In households where children under 5 years of age reside, two additional questions will be asked of the respondent about food insecurity experiences of these children. The information will be used to describe the context of food insecurity of children, but will not be included in the food security classification (based on the 8 individual adult questions).

The Food Insecurity Experience Scale module to be included in the 2013 pilot through the Gallup® World Poll for the Voices of the Hungry project is shown below. Replies to each item correspond to experiences occurring at some time in the past 12 months (yes/no); the frequency of these occurrences is not collected.

Table 1: the Food Insecurity Experience Scale : GWP version.

*During the last 12 months, was there a time when, because of lack of money or other resources:*

1. *You were worried you would run out of food?*
2. *You were unable to eat healthy and nutritious food?*
3. *You ate only a few kinds of foods?*
4. *You had to skip a meal?*
5. *You ate less than you thought you should?*
6. *Your household ran out of food?*
7. *You were hungry but did not eat?*
8. *You went without eating for a whole day?*

For households with children < 5 years of age.

*During the last 12 months, was there a time when, because of lack of money or other resources:*

1. *Any of the children younger than 5 years old did not eat healthy and nutritious foods?*
2. *Any of the children younger than 5 years old was not given enough food?*

### **Cross cultural comparability**

One of the key issues to be addressed by the VOH project to improve the validity of the FIES as a global measure is that of cross cultural comparability. Compiling a common set of questions that are understood similarly by all people, and creating universal cut-points for the scale that capture the different severity levels in the same way across cultures, will be a challenge for standardizing the FIES for global use. While small differences are expected in the way the scale performs across cultures, due to sampling or measurement errors,

inadequate translation, or other methodological problems, the challenge will be greater if any observed heterogeneity across cultures is also due in part to an underlying theoretical construct that is not truly universal. The Voices of the Hungry project will approach these issues directly by ensuring that the translations of the FIES into different national languages reflect the basic meaning of the items while using language that is grammatically and culturally appropriate, and by developing innovative analytical methods to equate the classification of food insecurity severity across cultures.

The FAO initiative provides a unique opportunity to explore cross cultural equivalency of the FIES. The 2013 pilot will be followed by annual global data collection through the GWP starting in 2014. The project plans to carry out extensive validation studies with the country datasets over the first two years of operation in order to understand the potential biases in its performance across different countries and cultures.

The results of these efforts will make an important contribution towards moving forward the measurement of food insecurity on a global basis and will have a significant role in monitoring the Zero Hunger Challenge set forth by the Secretary General of the United Nations in 2012, making it a prime candidate as the main food security indicator for the post 2015 Development Agenda.

### **A Brief history of the development and use of experience-based food insecurity scales**

The Household Food Security Module (US-HFSSM) has been applied annually for almost two decades in the United States to estimate the prevalence of food insecurity in the population<sup>3</sup>. This 18-item scale had its origins in two innovative studies from the early 1990s that paved the way for the development and wide use of experience-based food security scales: the Community Childhood Hunger Identification Project<sup>4</sup> and the doctoral work of Kathy Radimer at Cornell University<sup>5</sup>. For almost two decades, researchers and agencies throughout the world have been assessing the validity of translated and modified versions of the US-HFSSM. Approximately 10 years ago, researchers in Brazil and Colombia began developing food insecurity experience scales for use in their own countries (deriving from different origins), and later collaborated to create the Latin American and Caribbean Food

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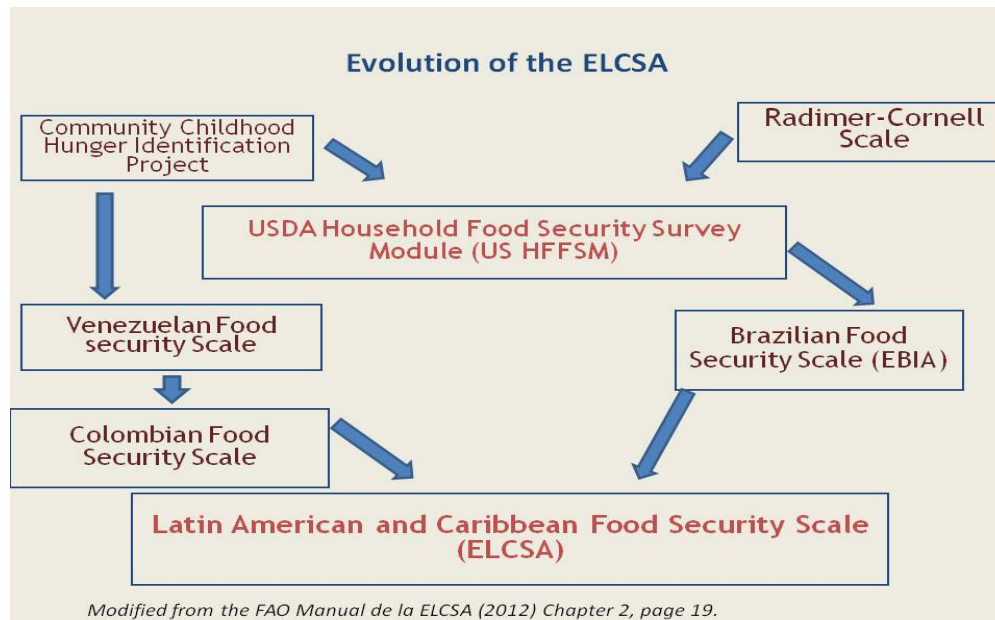
<sup>3</sup> USDA Economic Research Service. Food Security Measurement. <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement.aspx#UgORo6yrHTo>

<sup>4</sup> Wehler CA, Scott RI, Anderson JJ. 1992. *The community childhood identification project: a model of domestic hunger-Demonstration project in Seattle, Washington*. Journal of Nutrition Education, 24(1):29S-35S.

<sup>5</sup> Radimer KL, Olson CM, Greene JC, Campbell CC, Habicht JP. 1992. *Understanding hunger and developing indicators to assess it in women and children*. Journal of Nutrition Education, 24(1):36S-44S.

Security Scale (Escala Latinoamericana y Caribeña de seguridad alimentaria - ELCSA)<sup>6</sup> (See Figure 1). To date, the ELCSA and the Brazilian Food Insecurity Scale (EBIA) have been included in a number of national surveys of diverse nature (food consumption, budget and expenditures, health, and nutrition surveys) in Mexico, Guatemala, Colombia, and Brazil.

Figure 1: Evolution of the ELCSA



Since 2004, Brazil has used the Brazilian Food Insecurity Scale (EBIA) to evaluate national food security interventions that composed the Fome Zero Strategy, which has been very useful for public managers at all levels for identifying vulnerable populations, designing social programmes and adjusting them to achieve better results, thus greatly contributing to government accountability.<sup>7 8</sup>

The inclusion of the Brazilian scale in the 2004 National Household Survey clearly revealed large differences in levels of household food insecurity across the five geographical regions of the country, highlighting stark inequalities between richer and poor parts of the country. This finding was a crucial piece of information for readjusting a set of complementary food security policies aiming to improve food security for better coverage of families in highly

<sup>6</sup> FAO/Ohio State University, 2010. Informe sobre la aplicación pasada y presente de la Escala Latinoamericana y Caribeña de Seguridad Alimentaria (ELCSA) y otras herramientas similares en América del Norte, Centroamérica y El Caribe. Available at [http://www.foodsec.org/fileadmin/user\\_upload/eufao-fsi4dm/docs/elcsa\\_aplicacion.pdf](http://www.foodsec.org/fileadmin/user_upload/eufao-fsi4dm/docs/elcsa_aplicacion.pdf)

<sup>7</sup> [http://www.foodsec.org/fileadmin/user\\_upload/eufao-si4dm/docs/German\\_1400\\_J%C3%BAnia\\_Quiroga.pdf](http://www.foodsec.org/fileadmin/user_upload/eufao-si4dm/docs/German_1400_J%C3%BAnia_Quiroga.pdf)

<sup>8</sup> Segall-Corrêa AM, Marín-León L, Pérez-Escamilla R. 2010. Escala Brasileira de Medida de Insegurança Alimentar (EBIA): Validação, usos e importância para as políticas públicas. En: Fome Zero: Uma História Brasileira. Ministério do Desenvolvimento Social e Combate a Fome, Brasil.

food insecure parts of the country. Also, a comparison of levels of food insecurity between 2004 and 2009 showed significant improvements in food security as measured by the EBIA in the different states and regions, demonstrating that investments in social programmes and economic growth had a positive impact.<sup>9</sup>

The FIES is the product of this evolution and is based closely on the ELCSA. Given the extent to which the ELCSA and the EBIA has been validated for use in Latin America and the strong interest of national Governments in employing this type of tool for policy formulation and evaluation, FAO considers the FIES to be a solid starting point for developing a global standard for monitoring hunger world-wide.

### **Voices of the Hungry: Expected results**

The overall expected impact of the Voices of the Hungry project is to contribute to the reduction of hunger and food insecurity through better policies, programmes and strategies based on valid and timely information.

The project will generate global public goods, including:

- a) an innovative standard for food security measurement based on psychometric research that has been adapted and validated in all regions of the world;
- b) an extensive, publicly available dataset containing prevalence estimates of food insecurity at different levels of severity, and their evolution over a five year period in more than 140 countries; and
- c) research results regarding the link between the food insecurity situation of individuals and socio-economic-cultural conditions through the analysis of the full Gallup® World Poll datasets.
- d) the ability to estimate food insecurity prevalences at different levels of severity in a way that is comparable across nations thus facilitating its inclusion as a key component of the post-2015 development agenda monitoring framework.

The ability of institutions at sub-national, national, regional and international levels to design, formulate, monitor and evaluate policies, programs and investments to improve food security critically depends upon their having access to statistical information that is relevant, timely, accurate and provided at critical points in the decision making process.

The link to national goals in terms of improved living conditions is clear because the improved ability to understand food insecurity and to identify its socio-cultural-economic determinants and consequences can be used to better design and implement policies. The experience of various countries in Latin America that have used the experience-based food insecurity scales for this purpose serves as a model.

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<sup>9</sup> Instituto Brasileiro de Geografia e Estatística. 2010. Pesquisa Nacional por Amostra de Domicílios, PNAD 2004-09, Suplemento, Rio de Janeiro, Brasil (available at: [http://www.ibge.gov.br/home/estatistica/populacao/seguranca\\_alimentar\\_2004\\_2009/pnadalimentar.pdf](http://www.ibge.gov.br/home/estatistica/populacao/seguranca_alimentar_2004_2009/pnadalimentar.pdf) ).

In order to strengthen capacity for evidence-based policy making in support of national food security, FAO is available to provide technical assistance to countries that choose to include the FIES in their large-scale nationally representative surveys to derive disaggregated estimates of the severity of food insecurity.

**Voices of the Hungry: Work Plan 2012-2018**

<b>2012</b>
<ul style="list-style-type: none"> <li>• An expert group was established to advise the Voices of the Hungry Project. A first consultation was conducted to discuss the feasibility of the initiative from a conceptual point of view and to finalize a preliminary version of the questionnaire to be used for piloting.</li> <li>• The external members of this expert group are Lawrence Haddad and Rômulo Paes de Sousa (IDS); Mark Nord (ERS, USDA), Hugo Melgar-Quiñonez (McGill University) and Angus Deaton (Princeton University). FAO members include Carlo Cafiero and Terri Ballard. Gallup members include Andrew Rzepa and Bob Tortora.</li> </ul>
<ul style="list-style-type: none"> <li>• The project was showcased at the London Global Hunger Event in London (June 8, 2012)</li> <li>•</li> </ul>
<ul style="list-style-type: none"> <li>• The service provider, Gallup, Inc., was identified by issuance of a call for Expression of Interest.</li> </ul>
<ul style="list-style-type: none"> <li>• The preliminary version of the 15-item scale was piloted in the GWP in four countries (Germany, Democratic Republic of Congo, India and China ) without any preliminary preparation of the questionnaire other than simple translation into the survey languages.</li> </ul>
<ul style="list-style-type: none"> <li>• Data from the four 2012 pilot surveys were analyzed by Mark Nord using the Item Response Theory (Rasch psychometric models)</li> </ul>
<b>2013 – Accomplished to date</b>
<ul style="list-style-type: none"> <li>• A technical subcommittee meeting (Nord, Melgar-Quiñonez, Rzepa, Tortora, Ballard, Cafiero) for the VOH was held at Gallup Headquarters, Washington DC in January 2012 to review the 2012 preliminary pilots. The meeting resulted in a refinement of the questionnaire (reduce to 8 questions, focus on individuals rather than households) and in a protocol for questionnaire adaptation and data collection for a pilot study.</li> </ul>
<ul style="list-style-type: none"> <li>• Four sub-Saharan countries (Angola, Ethiopia, Malawi and Niger) were chosen to pilot the refined FIES. Gallup, Inc. and FAO collaborated on conducting in-depth translation/adaptation exercises in the predominant survey languages of the pilot countries to ensure that the translations and phrasing of the questions are correctly understood by the respondents while staying true to the original intent of the questions. The experiences of the pilots from 2013 will provide invaluable information on linguistic challenges and will suggest approaches for accurate, albeit less intensive adaptation and translation of the scale for global use.</li> </ul>



- The FAO Director General presented the VOH project at the June 8 Global Hunger Summit in London.

### **2013 – Plans for the rest of the year**

- Food security data from the pilot surveys will be analyzed and response patterns examined through internal validation procedures. Innovative statistical methods for scoring will be applied in order to create indicators for estimating the prevalence of food insecurity at different levels of severity.
- Results from the four pilot surveys and the raw country-specific FIES data will be made available at the VOH website, along with the translated versions of the FIES for the four countries.
- Linguistic adaptations will be carried out in Arabic and Russian in preparation for the 2014 global survey
- A second meeting of the technical subcommittee will take place in December to decide on the final version of the FIES to include in the 2014 round of GWP surveys, based on the analytic results of the pilot data. A protocol for linguistic adaptation and translation of the FIES for the global survey will be developed.
- A research strategy will be developed for use of the full GWP datasets in which the FIES is included (protocols for granting research annual licenses, call for proposals etc).

### **2014**

- Initiate the Global VOH Survey by including the FIES in all countries that are part of the GWP
- Continue linguistic adaptations in major languages
- Continue validation of FIES data with a wider range of country results
- By the end of the year, country results and raw data will be made available at the VOH website, along with the translated versions of the FIES in each country where it is administered.

### **2015-2018**

- Continue Global VOH Survey by including the FIES in all countries that are part of the GWP
- At the end of each year, country results and raw data will be made available at the VOH website, along with the translated versions of the FIES in each country where it is administered.