

# ROSA Focus

## This Month's Highlight: Improving the Use of Indicators in the Management of EC Food Security Programs

The FOODSEC (Food Security Assessment) action of the Joint Research Centre (JRC) has been working with AIDCO E6 to improve the use of indicators in the management of food security actions. The objective is to produce recommendations that guide the choice of indicators in the definition of strategic and program priorities and in the assessment of impact on targeted populations. An essential part of this process will be consulting with EC Delegation staff working on food security and other relevant stakeholders<sup>1</sup>. This article presents the main elements of the debate, based on a draft working paper being prepared by the JRC for further discussion.

### Addressing the Multiple Dimensions of Food Security

Food security, as defined at the World Food Summit of 1996, is a multidimensional concept. The so called food security pillars or dimensions: availability, access, utilization and stability, group a wide range of factors that relate to broad information fields such as national food supply, markets, income levels, health, hazards, structural issues, livelihoods, among others. Many of these factors often interact with each other making it difficult to establish simple cause - effect relationships. In addition, the relative influence of these factors in the food security status of the unit considered for analysis (be it country, livelihood zone, village or city, household or individual) varies from one context to another. Therefore, food security analysis can potentially turn to be a highly complex task in itself, since it requires looking at numerous variables in each particular context.

An additional difficulty faced when carrying out this type of analysis, is the fact that, often, timely measures of adequate food security indicators are unavailable or too costly to obtain. This is particularly frequent in developing countries where information systems often are inexistent or perform poorly due to different factors including insufficient resources, political bias, inaccessibility to the area analyzed and lack of adequate technical capacity.

### Determining Criteria for Selecting Indicators

Selecting indicators for supporting analysis in different stages of program/project's cycle is essential when managing food security operations. **Criteria** such as: availability, timeliness, validity, reliability, sensitivity, comparability and cost of measurement should be considered when it comes to selecting indicators (cf. Box No. 1). In practice, it is very difficult to find indicators that perform equally well against all these criteria. The following, very general, rule applies: the more emphasis is placed on the relevance of the indicator (this is on its validity, reliability, sensitivity and comparability) the more costly will be to collect it in a timely manner. Therefore, a compromise must be found when selecting indicators.

<sup>1</sup> An online forum organized through ROSA and a workshop at the JRC in Ispra will take place in the coming months.



**Box No. 1: Possible Criteria for Selecting Indicators**

**Availability** of necessary data for measuring or estimating the indicator. This means that information is collected with the adequate level of aggregation and coverage and can easily be accessed by its users.

**Timeliness** refers to how rapidly the indicator can be updated and made available at the appropriate time.

**Cost of measurement.** Information systems based on indicators that are expensive to measure may not be sustainable or feasible to implement.

**Validity** for measuring food security. Indicators must be conceptually close to the definition of food security and distinct from factors that determine food security or determined by it.

**Reliability.** It results from the methodology used for measuring the indicator. Each methodology is associated with a number of sources of error and bias that affect its precision, undermining the indicator's reliability.

**Sensitivity.** It refers to the ability of the indicator to capture the changing conditions of stress for households and its effects on their food security. Sensitive indicators are identified on the basis of a good understanding of the local conditions leading to food insecurity in the area of focus.

**Comparability.** If the methodology for measuring an indicator is standardized, regardless of where and when it is applied, then, under certain assumptions, it allows better comparison between countries, social groups and over time.

The selection of indicators must be guided by the **specific purpose** for which they are intended. Whether they are meant for formulating programs or projects, designing country or regional strategies, setting up a monitoring system, or for evaluation, will determine which criteria should be prioritized for an appropriate selection of indicators. The Table No. 1 proposes criteria to be privileged for a given purpose. It should not be considered as blueprint and other settings are possible according to the criteria of those responsible for the selection. It should be clear that criteria not marked as prior must not be interpreted as criteria that need not to be considered or that are not of interest. It only intends to serve as a support for making the necessary trade-off. It points out which criteria should be looked at in first place when selecting indicators.

As an example of how this table can be used, consider the selection of indicators for monitoring a project. The availability of updated information is crucial since project activities are normally implemented in a time frame of two to three years. This allows a reduced margin for implementing corrective actions if monitoring detects a problem. For this particular purpose, it would be advisable to choose an indicator that can be obtained quickly at relative low cost even if its reliability or comparability is less satisfactory.

**Table No. 1: Priority criteria for selection of indicators according to purpose**

CRITERIA	PURPOSE				
	Early warning	Context analysis	Program targeting	Program monitoring	Impact evaluation
Availability	*	*			
Timeliness	*			*	
Cost	*	*	*	*	*
Validity				*	*
Reliability			*		
Sensitiveness	*			*	*
Comparability		*			

### Evaluating Strengths and Weakness of Indicators

In order to complete selection, a good understanding of how food security indicators perform against these criteria is required. The number of indicators that could possibly be used in food security is very large. In spite of the existing wealth of possible indicators, all of them present trades off between their adequacy for measuring food security and the time-skill intensity of their measuring method.

Some of the indicators generally in use by international organizations and research institutions working in food security are listed in the table No. 2. For each indicator, a definition is provided along with the main strengths and weakness based on the literature and expert consultation.

This table cannot be considered as a comprehensive review of all possible food security indicators. However, it may be useful when trying to assess how indicators perform against the different selection criteria.

Indicator ( <i>source</i> )	Description	Strengths	Weakness
Dietary energy supply ( <i>FAO</i> )	Average daily quantity of food energy available divided by country's population	<ul style="list-style-type: none"> <li>- It informs on food availability at national or more aggregated level.</li> <li>- Relatively recent estimates are available for most developing countries.</li> </ul>	<ul style="list-style-type: none"> <li>- Poor disaggregation.</li> <li>- Low reliability when national statistics are poor.</li> </ul>
Prevalence of undernourishment ( <i>FAO</i> )	Percentage of the population whose dietary energy consumption (kcal/day) is below a minimum dietary energy requirement	<ul style="list-style-type: none"> <li>- Good for global long-term trend assessment and international comparison.</li> <li>- "Eye catching" tool for advocacy.</li> <li>- Full availability and quasi global coverage.</li> </ul>	<ul style="list-style-type: none"> <li>- It is not available at sub-national level.</li> <li>- Its methodology is based on certain assumptions and data that undermine its reliability.</li> </ul>
% energy deficient households ( <i>National statistics</i> )	Prevalence of households that acquire insufficient food to meet the minimum energy requirements of all of their members. Household surveys are used.	<ul style="list-style-type: none"> <li>- High validity since it directly informs on the capacity for accessing food.</li> <li>- Sub-national and national representative if adequate sample is used.</li> <li>- Household expenditure surveys allow causal analysis.</li> </ul>	<ul style="list-style-type: none"> <li>- High cost.</li> <li>- Reliability affected by non-sampling errors.</li> <li>- Comparability across countries is limited since methodologies may differ.</li> </ul>
Population below poverty line ( <i>National statistics</i> )	Proportion of the national population whose incomes are below a threshold(s) set by the national Government.	<ul style="list-style-type: none"> <li>- Useful for monitoring poverty at the national and sub national level.</li> <li>- More accurate than the 1\$ poverty line.</li> <li>- Poverty mapping techniques allow geographical disaggregation.</li> <li>- National statistics office produces estimates.</li> </ul>	(Same weakness as previous indicator)
Food share	% of household's total expenditure on food.	- Valid for measuring vulnerability to food insecurity at the household level	(Same weakness as previous indicator)
Food consumption score ( <i>WFP</i> )	Composite score based on dietary diversity, food frequency and relative nutritional importance of different food groups.	<ul style="list-style-type: none"> <li>- Simple to obtain and analyze.</li> <li>- It is being systematically used by WFP in its assessments and therefore its availability at sub national level is growing.</li> </ul>	<ul style="list-style-type: none"> <li>- Its calculation/analysis introduces some subjectivity.</li> <li>- Groups presenting the same score may have important differing dietary patterns.</li> </ul>
Household Food Insecurity Access Scale ( <i>FANTA</i> )	A scale reflecting severity and prevalence of household food insecurity based on universal situations household faces when access to food is limited.	<ul style="list-style-type: none"> <li>- Simple to obtain and analyze.</li> <li>- It can provide with information on prevalence and severity of household food access at the local level.</li> <li>- It can allow for cross-country comparisons.</li> </ul>	<ul style="list-style-type: none"> <li>- Its validation process has not yet been completed.</li> <li>- Limited availability so far.</li> </ul>
Price of staple foods	Is the average price of the staple foods in the country or the region of focus	<ul style="list-style-type: none"> <li>- It may help identify difficulties in access to food.</li> <li>- It is usually available geographically disaggregated and timely.</li> </ul>	- Difficult interpretation.
Household Dietary Diversity Score ( <i>FANTA</i> )	It is the simple count on the number of food groups that a household has consumed over the reference period.	<ul style="list-style-type: none"> <li>- It is a proxy indicator of food access.</li> <li>- Questionnaires require little training and are not time consuming to answer.</li> <li>- Standardized methodology allows comparability (regions and overtime).</li> </ul>	<ul style="list-style-type: none"> <li>- It does not inform on the extent to which diets are inadequate in terms of caloric availability.</li> <li>- Food acquired outside the home is not counted.</li> </ul>
Anthropometry indicators ( <i>Anthropometric surveys</i> )	% of children under 5 years whose weight for age / height for age / weight for height is less than -2SD from the median of the reference population. Or % of adults whose weight divided by the square of the height (kg/m <sup>2</sup> ) is < than 18.5 (BMI)	<ul style="list-style-type: none"> <li>- Disaggregated data available for most countries (not for BMI).</li> <li>- Relatively updated measures (every 3 to 5 years) are available on the Web.</li> <li>- A comparison across/within countries and overtime is often possible.</li> <li>- Methods are simple, non-invasive and relatively cheap.</li> <li>- BMI is less influenced by non-food factors (more validity in adults)</li> </ul>	- Limited validity for measuring food security, since they are influenced by food and non-food factors (not so much in the case of BMI).
Coping Strategies Index ( <i>D. Maxwell et al. 1999</i> )	A sum of the frequencies individual food-consumption related coping strategies weighted according to their severity.	<ul style="list-style-type: none"> <li>- It can be obtained/analyzed rapidly, in a simple manner and at a low cost.</li> <li>- Valid measure of household's vulnerability and general adequacy of food.</li> </ul>	<ul style="list-style-type: none"> <li>- Tendency to misreport food insecure households (when compared to caloric adequacy indicators).</li> <li>- Limited availability so far.</li> </ul>
Wealth Index ( <i>WFP</i> )	It is an index composed of key assets ownership variables. It serves as a proxy indicator of household level wealth.	<ul style="list-style-type: none"> <li>- It is easier to measure than other economic status indicators.</li> <li>- It can be used as proxy for vulnerability.</li> <li>- Baseline geographically disaggregated information increasingly available.</li> </ul>	<ul style="list-style-type: none"> <li>- It does not allow comparison across countries.</li> <li>- It fails to take account shock to the household.</li> </ul>



Food availability



Food Access



Food Utilization

## Improving the Use of Indicators in EC Food Security Programs

When considering the particular case of EC actions in support of food security, two issues need to be taken into account: 1) EC commitment to adopt a Managing for Development Results Approach (MfDR) and 2) the launch of the pilot phase introducing the use of standardized indicators<sup>2</sup>.

The first issue has important implications for the use of indicators in the management of aid in support of food security. The focus with MfDR changes from monitoring inputs and outputs to measuring outcomes. Under this approach, indicators that measure outcomes should be preferred by EC aid managers.

It is necessary to clarify here that “outcome” indicators have a different meaning in the food security literature:

- The EC guidelines for use of indicators in country performance assessment (2002) refers to outcome indicators as those associated with the purpose or specific objective of a program/project.
- When speaking about food security, outcome indicator is one that informs directly or indirectly on food consumption, in opposition to “process” indicators that do it on food access or availability.

A possible confusion may arise from these different concepts. For example, if a project’s purpose is the improvement of a given process affecting food security (e.g. agricultural production), the associated indicator in the logical framework could be a process indicator using the food security jargon but an outcome indicator in the EC terminology for aid management.

Or does this mean that in a MfDR approach applied to food security, the stress should be placed in the use of indicators that reflect food consumption, both in quantitative and qualitative terms?

Implementing food security indicators is not that straightforward in practice. Even if the preferred delivery method is budget support, to which the use of direct outcome food security indicators is better adapted, the percentage of aid delivered through projects is still very significant. Project’s specific objectives are usually the improvement of processes which contribute to food security. In such cases, the use of food security outcome indicators in project’s logical framework would not be possible.

<sup>2</sup> See AIDCO Director’s General instruction note [AIDCO/JH/fn D\(2007\) 11557](#)

The use of standardized indicators has clear positive objectives such as: increased accountability of EC external aid, respect for partner countries’ strategies, gradual implementation and coordination with Member States. The instruction note for the use of standardized indicators (2007) recognized the limitations of presently selected indicators<sup>3</sup> for covering all the facets of various projects/programs and announces that supplementary indicators need to be proposed.

The pilot phase will be crucial to assess a number of questions:

- What is the efficiency and the problems related to the use of common indicators whenever this is compatible with the characteristics of the program concerned?
- What is the best way and frame to increase the choice of possible indicators and maintaining common standards?
- What are the indicators the most suitable according to specific contexts?

Country-region specific indicators should be identified taking in consideration the type of food security information that is available in-place. The use of a set of indicators would facilitate the measurement of the EC contribution to the improvement of the food security situation and would reinforce the coherence between the assessment of food insecurity problems and the adopted response.

**This article is based on a draft working paper prepared by the JRC. It is a contribution of Manuel Veiga (JRC). Thanks to him.**

<sup>3</sup> The number of meals per person per day amongst vulnerable groups and the number of targeted people to whom food aid and non food-aid is distributed.

# Current food security situation

## Urban Food Prices Growing Faster in East and Southern Africa

According to the June 2008 FEWS Net report<sup>4</sup>, the largest increases in grain prices have been observed in urban markets in East and Southern Africa (Kenya, Somalia, Ethiopia, Zimbabwe and Malawi). Increasing import prices, high costs for inputs and transportation and country specific local factors have contributed to the sharp increase in the price of staples.

In **Somalia**, the prices of grains (especially rice) have more than tripled over the last year in the markets of Mogadishu and Baidoa. This situation results from three consecutive poor crops, a significant devaluation of the local currency and growing civil insecurity. In **Kenya**, the prices of maize have sharply increased over the last months reflecting the reduced maize crop in the key producing districts in the North Rift region. Of greatest concern are the urban poor, pastoral households and farmers in the more marginal agricultural areas of the country.

## Country Overview Ethiopia

### Current Trends in Grain Markets: Upward Price Pressure Persists

In Ethiopia, prices of major food grains have shown an upward trend since the end of 2005. They reached record highs in January 2008 and continued to increase sharply during the last months. Prices of some essential cereals have almost doubled in a space of 5 months, as illustrated in Figure 1. In June, domestic prices of some grains became higher than international prices.

Comparisons of nominal grain prices collected during four seasonally different months<sup>5</sup> from some markets in Oromiya, the Southern Region, Harari and Dire Dawa show two **main developments in Ethiopian markets**.

<sup>4</sup> Since last June, the Famine Early Warning Systems Network (FEWS NET) started publishing a monthly report to more closely monitor the evolution of prices in urban markets (20 countries in West, East and Southern Africa, Asia, Central America and the Caribbean).

<sup>5</sup> March and July 2007 represent, respectively, high and leaner supply months of 2007. January and May 2008 represent, respectively, high supply time and start of leaner months of 2008.

## Regional Overview East Africa

**Table No. 3: Largest increase in staple food price in urban markets**

Urban Center	% change 1 mo	Observation	Urban Center	% change 1 yr
Harare, Zimbabwe (Maize grain)	1521	Zimbabwe prices have continuously been affected by the high inflation levels.	Harare, Zimbabwe (Maize grain)	13,505,461
Baidoa, Somalia (Rice)	44	Shortages of local cereals due to poor harvest, disruption of markets and internal trade and reduced import capacities.	Mogadishu, Somalia (Rice)	347
Mogadishu, Somalia (Rice)	35	Shortage of local cereals due to poor harvest, disruption of Bakara market, and reduced import capacities.	Baidoa, Somalia (Rice)	316
Kisumu, Kenya (White maize)	33	Maize prices increased during final months of hungry season, expected decline in the coming months as harvesting begins.	Blantyre, Malawi (Maize)	250
Blantyre, Malawi (Maize)	27	General rise in prices in the south as a result of stiff competition among traders.	Bahir Dar Ethiopia (White maize)	182

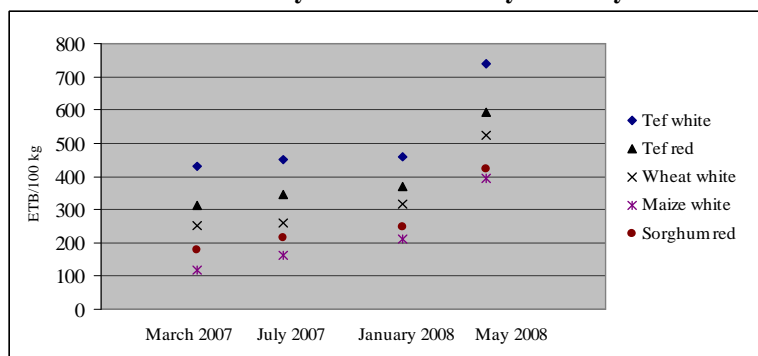
Source: Price Watch Urban Food Markets, FEWS NET (June 2008)

The 2008 opening prices were greater than opening and closing seasons of 2007. Prices thus remained at record levels during the harvest season. On the other hand, the price difference between cereals like maize and sorghum ("relatively cheaper") and tef and wheat (considered as "expensive") has tightened, especially at the beginning of the current year. This narrows the alternative consumption choices to the urban poor and rural net grain buyers switching from tef and wheat to maize and sorghum.

In addition to high prices, **significant shortfalls** in supply were reported by grain traders and other market participants. The decline in cereal availability, in particular of good quality cereals, already started in May, long before the leaner months of July-August. It is expected that prevailing shortage will lead to further price increases during the slack months, when net buyers in rural areas rely on markets for food consumption.



**Figure No. 1: Nominal average wholesale prices of various grains in surplus markets in March and July 2007 and January and May 2008**



Source: Rapid Market Appraisal, RDFS Section of the EC Delegation to Ethiopia

### The Interplay of Domestic and International Factors

The rise in world food and fuel prices has increased inflationary pressure on Ethiopian economy. But a number of domestic factors has also played an important role in recent price developments of Ethiopian markets. **Permanent factors** like rapid urbanization, population growth, rural income diversification<sup>6</sup> and growing oilseed export trade have contributed to upward price pressures since 2005. The price hikes of 2008 are largely due to **transitory factors** of domestic origin, especially linked to production shortfalls of the 2007 harvest and poor performance of the *belg* 2008 season (short rainy season). Compared to earlier years, particularly affected cereals are maize and sorghum.

Reports also point out that the growth in money supply has played its part in aggravating inflation and are calling for appropriate measures despite those already enforced.

According to the April-May 2008 report, some big wholesalers operating in some supplier markets, a few cooperatives and numerous opportunistic unlicensed traders are supposedly holding inventory for future sales which may likely have resulted momentary decrease in market supply, hence, causing price escalations. Furthermore, informants reported that measures taken by the government to prohibit stocking and oversee prices at trader level caused further price pressures<sup>7</sup>.

### The Implications of the Increase in Prices

The rapid increase in cereal prices has had a significant impact at several levels. Reduced cereal availability and high prices have made it difficult to realize timely local procurements for food assistance. The pressure on the national level reserve stock has considerably increased resulting from subsequent borrowings for the Government's targeted subsidized sales of wheat to the urban poor, the Disaster Prevention and Preparedness Agency-DPPA and other organizations to fill part of the emergency humanitarian requirements and food needs of safety net beneficiaries. It has been reported that any delays in replenishing the food reserve stock may undermine the response capacity of the country. At the household levels, prolonged dry season has caused a depletion of livestock assets and delays in land preparation for the current season in some areas. In this context, more appropriate measures are needed to mitigate the consequences of food insecurity. In addition to measures being taken by the Government, the RDFS's reports call for a strengthening safety net and emergency programs and investment in agriculture to increase productivity.

This article is extracted from the grain market price assessment reports produced by the Rural Development and Food Security (RDFS) Section of the EC Delegation in Ethiopia.

**For more information:** RDFS Section, [Mulatu.Eshetu@ec.europa.eu](mailto:Mulatu.Eshetu@ec.europa.eu), Grain Market Price Assessment Reports, January-February and April-May 2008.

<sup>6</sup> The introduction and/or intensification of marketable commodities (khat, coffee, pepper and vegetables) for exportation and cross-border trading have decreased cereals production in certain locations. Such production system transformations brought increased dependence on markets for essential cereals.

<sup>7</sup> These measures entailed, according to informants, negative consequences like (a) lowering stocks at traders shops; (b) creation of two quality classes for most essential cereals which are sold for two different prices – one openly displayed in shops for which the price is posted (usually poor quality sold for lower prices) and the one kept aside but its availability is communicated to buyers verbally (usually good quality sold for higher prices); (c) inventory retention by some producers (RDFS's report, April-May 2008).

## Brèves internationales

### Mise en place d'une facilité de financement de réponse rapide à la flambée des prix alimentaires

Le 18 juillet dernier, la Commission Européenne a présenté une proposition de règlement portant sur l'établissement d'une facilité de réponse rapide à la flambée des prix alimentaires. Cela confirme l'annonce de la mise à disposition d'un financement d'un milliard d'euros pour la période 2008-2009. Il a été précisé que le niveau élevé des prix des denrées alimentaires a entraîné une baisse des dépenses au titre de la PAC, ce qui a permis à la Commission de proposer une réorientation des ressources vers les pays en développement les plus affectés par la hausse des prix.

Cette facilité sera complémentaire aux instruments existants de réponse aux situations de crise et de coopération au développement, tant par sa durée (elle se situera à mi-chemin entre l'aide d'urgence et la coopération au développement à long terme) que par sa spécificité (elle sera directement liée aux mesures qui visent à remédier aux causes et aux effets de la flambée des prix alimentaires).

Deux types de mesures de soutien sont identifiées comme étant susceptibles d'être mises en œuvre : a) les mesures destinées à améliorer l'accès aux intrants et services agricoles, y compris les engrais et les semences; et b) les mesures du type « filet de sécurité », visant à préserver ou à améliorer la capacité de production agricole et à satisfaire les besoins en aliments de base des populations les plus vulnérables. Selon le calendrier indicatif, la mise en œuvre des premières mesures est prévue pour janvier 2009.

*Pour en savoir plus : Communication de la Commission Européenne du 18 juillet 2008, COM(2008) 450 final*

### Retour sur les négociations commerciales multilatérales à l'OMC

Le 10 juillet dernier, l'ambassadeur Falconer a présenté un nouveau projet de texte révisé sur les modalités agricoles. Une grande partie des dispositions en matière de soutien interne et de concurrence à l'exportation sont restées inchangées par rapport au texte proposé en mai 2008. Les changements les plus significatifs ont concerné l'accès aux marchés, en particulier les dispositions relatives aux produits spéciaux (pouvant être exclus de la libéralisation par les pays en développement) et les mesures spéciales de sauvegarde (permettant d'augmenter temporairement les tarifs douaniers, lors d'une poussée des importations ou d'une brusque diminution des prix à l'importation).

Ce document a servi de base aux négociations qui se sont déroulées à Genève du 21 au 29 juillet. Des réunions informelles du Comité des Négociations Commerciales (CNC) se sont tenues tout au long de la semaine avec la participation des délégués d'une trentaine de pays. Elles se sont suivies des consultations en groupes plus restreints (réunions dites du « salon vert »). Aucun consensus n'a toutefois pu être dégagé. D'importantes divergences continuent à diviser les pays Membres de l'OMC sur les grandes questions visées par les négociations agricoles (et non agricoles). La reprise des négociations est prévue pour le mois de septembre mais la conclusion d'un accord en 2008 semble compromise.

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