Global Food Security 2 (2013) 30–40

Contents lists available at SciVerse ScienceDirect

Global Food Security

journal homepage: www.elsevier.com/locate/gfs

Towards better measurement of household food security: Harmonizing indicators and the role of household surveys

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ARTICLE INFO

Article history:
Received 9 April 2012
Accepted 6 November 2012

Keywords:
Food security
Household surveys
Measurement
Monitoring

ABSTRACT

A variety of indicators are currently used for food security analysis, monitoring, and programming, and most agencies have their preferred variant on methods of data collection, aggregation, and analysis. This lack of consensus is reflected in an inefficient multiplicity of survey instruments collecting information on various dimensions of food and nutrition security, with tremendous variation in the content, quality, and quantity of the information collected. No single existing survey instrument will ever be able to collect all needed indicators at the desired periodicity, and no single institution has either the mandate or the ability to measure and monitor food security in its many dimensions on a global scale. However, with better coordination across institutions and survey efforts, the state of food security measurement worldwide can be greatly improved. This paper attempts to identify the elements of a strategy, built around a combination of short-term fixes and long-term methodological advancements, to reverse the existing trends of poor coordination and slow methodological innovation in food security measurement and monitoring. International focus on a small dashboard of indicators, collected on a regular basis by different stakeholders through a number of available data collection options, is feasible and can be partially achieved by repurposing existing surveys to better suit food security monitoring goals.

1. Introduction

As global food prices have spiked in recent years, the international community has paid increasing attention to prospects for the world food situation, particularly in light of global climate change, population and income growth, and the evolution of dietary habits. Despite the importance of the topic, however, the international community currently lacks any form of a consensus on the core household food security indicators that are needed in order to properly measure and monitor food security around the world, partly due to a lack of global coordination and consensus on methodology across institutions and various survey efforts. As a result, the degree to which household food security has been affected by these trends remains as yet unclear, nor can we easily identify in a consistent manner the areas where food security has been most seriously affected.

The Food and Agriculture Organization of the United Nations (FAO) estimate for global undernourishment is the officially recognized indicator for monitoring progress towards achieving one of the targets of the first Millennium Development Goal (MDG), which commits to halving poverty and hunger by 2015. The annual release of this estimate routinely attracts worldwide media and expert attention, but also serves to expose the FAO to criticism from a variety of sources for its methodological choices in the calculation of this data.

While the existing literature has established that the FAO numbers present much scope for improvement, it is far from clear what approaches would work best as complementary or alternative international household food security indicators, particularly if the objective is to produce updates on an annual basis with the data that are currently available. Complicating things further is the fact that food security is a multidimensional concept, and data on all of its dimensions are seldom available and often unreliable.

In practice, a variety of indicators are currently used for food security analysis and monitoring, and most agencies have their preferred variant on methods of data collection, aggregation, and analysis. Sifting through this cloud of indicators, several could reasonably serve as candidates for household food security analysis and monitoring on a global scale. However, the variation among indicators is significant: some focus on specific dimensions of food security while others are multi-dimensional, some are quantitative while others are qualitatively based on perception and self-assessment. The indicators also vary on level of analysis, ranging from the regional or national level to the household or individual level, depending on the survey. While some indicators are clearly comparable over time

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http://dx.doi.org/10.1016/j.gfs.2012.11.006

and space, others are not well-suited for such comparisons. Furthermore, the quality also varies tremendously across indicators: there are indicators that fail to reliably capture their intended object of measurement, those that have been tested and validated in the field for years, and emerging indicators that may still require further validation.

Most importantly, the intended purpose of the available indicators varies widely. Some are used in the context of targeting emergency projects, whereas others were developed for monitoring and/or evaluation purposes; some play a role in the advocacy of certain key issues, and others contribute to the global monitoring of progress towards international policy objectives. While this heterogeneity in purpose necessarily leads to variation in methodological choices, for the specific purpose of global monitoring, the various stakeholders involved should recognize that a small set of indicators that satisfactorily capture each requisite dimension of food security and that are relatively easy to collect with different types of household surveys can be identified and adopted at little detriment to a broader agenda.

The aim of this paper is therefore to propose some concrete steps for moving towards a widely shared strategy to reform the international approach to multidimensional household food security monitoring and measurement by focusing on the potential for enhancing and harmonizing the use of household survey-based food security indicators. Towards this end, we first review the most common definitions and indicators used to measure food security. We then examine the major international data collection initiatives and survey instruments currently available as possible platforms for enhancing our ability to monitor food security, after which we offer practical suggestions on the way forward. The focus of the paper is limited to the potential for household survey data to contribute to monitoring food security on a global scale, so we will not consider here other methods of food security monitoring, such as sentinel systems and early warning systems (for instance, the Integrated Phase Classification (IPC) methodology and its applications).[1]

The remainder of the paper is organized as follows: Section 2 reviews issues with definitions, concepts and indicators; Section 3 reviews the potential, challenges and opportunities of various data collection instruments; Section 4 proposes a strategy that separates potential quick wins from medium- and long-term plans, and Section 5 concludes.

2. Definitions, conceptual framework, and indicators

An initial step in creating any strategy is to define its intended scope. With this in mind, we clarify here a few definitions, concepts, and indicators that will be useful in the discussion of food security measurement that follows.

2.1. Definitions

"Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life." This widely accepted definition agreed upon at the 1996 World Food Summit (FAO, 1996) points to the four key dimensions of food security:

1. Food **availability**: The availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports (including food aid).
2. Food **access**: The access to adequate resources (entitlements) to acquire appropriate foods for a nutritious diet. Entitlements are defined here as the set of all commodity bundles over which a person can establish command, given the legal, political, economic and social arrangements of the community in which he or she lives (including traditional rights such as access to common resources).
3. Food **utilization**: The utilization of food through adequate diet, clean water, sanitation, and health care, to reach a state of nutritional well-being in which all physiological needs are met. This highlights the importance of non-food inputs in food security. For example, it is insufficient for an individual to receive an adequate quantity of food, if he or she is unable to make use of the food due to illnesses resulting from inadequate sanitation or poor sanitary practices.
4. Food **stability**: The stability of access to adequate food at all times, independent of shocks (such as economic or climate-related crises) or cyclical patterns. This includes issues of seasonal food insecurity, such as the agricultural period before harvest known as 'the hunger season'.

This definition stresses food availability and access at the individual level, as well as food quality and cultural preferences. It highlights the fact that food security is a multidimensional concept, the assessment of which requires the measurement of several indicators that can together capture the various dimensions of food security. A clear hierarchy is evident across these dimensions; availability is necessary for food security, but is not sufficient to ensure access, whereas food access is similarly necessary but insufficient to ensure proper utilization of food (Barrett, 2010). Meanwhile, the concept of stability cuts across the first two dimensions, and can refer to variability and uncertainty in both availability and access. As recognized by the international community of practice (FIVIMS, 2002; Hoddinott, 1999), no single indicator has the capacity to capture all four dimensions of food security. Therefore, a combination of measures and indicators is needed to fully reflect the complex reality of food insecurity in any given context.

2.2. Conceptual framework

In many ways, this consensus on the need for a suite of indicators reflecting an agreed list of dimensions raises the problem to a new level. In fact, dozens of indicators are currently used by analysts and practitioners in the attempt to capture the various dimensions of food security. A useful way to organize the thinking about the variety of indicators is to relate them to the specific dimension(s) of food security they capture and the level of analysis to which they refer (i.e., global, national, household, and/or individual). Fig. 1 depicts this conceptualization; the figure is borrowed from Smith et al. (2000), on which the discussion below also draws.

At the global level, the crucial issue is global food availability, which depends on food production and stocks in any given year. Meanwhile, national food security depends on a country's food production and stocks, and on its food imports. Schematically, a country's capacity to produce food depends on its resource endowments, climate, capital of all types, policies, and on the productivity with which the available resources are employed. The ability to import food depends on a country's national income, the availability of foreign exchange, and the conditions and prices on international markets. Food aid may also be an external addition to national food supply.

National food availability, together with household incomes, determine household and individual access to food. Such access may be obtained either through direct production of foodstuffs,

[1] For details on the IPC background, methodology and country applications, see www.ipcinfo.org.