Food Systems under Stress in Africa

African-Canadian Research Cooperation

Proceedings of a Workshop held in Ottawa, Ontario, Canada 7-8 November 1993

Edited by Ronnie Vernooij and Katherine M. Kealey
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Peasants' Perceptions of Their Food Security: Identification of Alternative Indicators, Burkina Faso

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Abstract According to the definition accepted by the United Nations, a household is food secure when it has access to the food needed for a healthy life for all its members (adequate in terms of quality, quantity, safety, and cultural acceptability) and when it is not at undue risk of losing such access. The surveillance of household food security implies the consideration of each of these dimensions. At the same time, we should place food security within the more global context of household livelihood systems. A study carried out in Burkina Faso of household food security strategies, adaptation mechanisms in times of food insecurity, and the perception of household members on food security has allowed us to identify potential indicators of different food security dimensions. In the case of the community under study, these indicators reflect the types of access to resources based on the categories of production, trade (exchange) and claims, as well as certain aspects of food consumption or people's social behaviour. All these indicators vary according to people's feelings about and perceptions of food security.

Although food security often becomes a concern in its own right, it is worth noting that this concept emerged primarily from the concern to alleviate hunger and malnutrition, especially after the 1974 World Food Conference. At that time, concern focused on national food security. In recent years, the concern has gradually shifted to the food security of households and their individual members. The goal of this concern, nevertheless, remains one of helping to alleviate malnutrition by achieving food security and thus contributing to improving the well-being of the population.

Although not all actions that claim to improve food security necessarily have a positive impact on nutrition, activities designed to enhance food security do not always suffice to combat malnutrition. Adequate care provided to mothers and children, together with adequate health care, are also required for households to benefit fully from food security (UNICEF 1990).

Against this backdrop of the link between food security and nutrition we will:

- Draw attention to the implications of the evolution of the concept of food security for food security surveillance programs;

- Present some of the results of a study in Burkina Faso to identify potential indicators for household food security.

At the outset, we draw attention to the now widely accepted definition of "household food security," the definition promoted by the Sub-Committee on Nutrition of the U.N. Administration Committee on Coordination (ACC/SCN):
A household is food secure when it has access to the food needed for a healthy life for all its members (adequate in terms of quality, quantity, safety and culturally acceptable) and when it is not at undue risk of losing such access. (Anon. 1991)

This definition includes not only the widely accepted definition of the concepts of quantity and access, but also those of the quality, safety, and cultural acceptability of food, together with the notion of a risk, or threat, of the access being compromised. This definition of food security thus appears to be a fundamental prerequisite of adequate nutrition. In fact, some, if not all, members of food-insecure households risk seriously compromising their nutrition through an inadequate food supply.

Two Levels of Food Security

The concept of food security has evolved greatly since the 1970s. A distinction is now drawn between two main levels of food security: national food security and household food security. The shift of focus from the national to the household level has to date revealed the complexity of the mechanisms that provide household food security. This evolution of the concept of food security already seems to have significant implications for surveillance systems.

National Food Security

National food security involves an overall availability of food that is sufficient to meet the population's overall food needs. It depends largely on the combination of net national food production, imports, and food aid where applicable. National food security focuses primarily on the quantity of food available throughout the country and the population's total food needs.

Food may be available within the country yet remain inaccessible to a large number of households or to certain members within households. National food security is still a prerequisite for household and individual food security yet is no guarantee of it (Eide 1990; UNICEF 1990; Anon. 1991).

Household Food Security

What are the prerequisites for guaranteeing or generating household food security? What are the causes of a lack of household food security? The answers to these questions reveal new dimensions to the concept of food security.

In addition to the concept of availability in national food security, the conditions under which households have access to food also become relevant. What are households' conditions of access to food or to the resources required to obtain food? Sen's work (1981) on the access to resources had a profound impact on the development of the concept of household food security during the early 1980s.
The definition of food security referred to in the foregoing further enriches the concept of 
food security by adding to it the components related to quality, safety, and cultural acceptability 
of food. The definition further emphasizes the concept of risk or of threat to access.

Phillips and Taylor's work (1991) contributes an interesting perspective on risk by balancing 
it against insurances. These represent the tradable resources or assets that make it possible to 
offset risks, which in turn are more or less the shocks with which households must deal. Household 
food security also includes factors of resistance and sensitivity to the unexpected (Eide 1990; 
Bayliss-Smith 1991). A household's resistance to the next shock also depends on the frequency and 
intensity of previous food insecurity episodes (Maxwell 1990).

For a household to be food secure, the food distribution within it must also enable each 
of its members to meet their needs to lead a healthy, active life. The distribution of food to 
more dependent members of the household, such as small children, requires other members of the 
household, usually the mothers, to be available to ensure their access to food.

In brief, the concept of national food security may be easier to conceptualize (although not 
necessarily to achieve), because it focuses primarily on food availability. Household food security, 
nevertheless, cannot be seen simply in terms of aggregating down national food availability to the 
household level, as this process would not take into account the full, complex reality of mechanisms 
that ensure or endanger household food security. A discussion of food security at this level allows 
us to specify the concept of risk further by taking into account its impact on the durability of 
"livelihood systems," i.e., its effect on the resistance of livelihood systems in view of their 
vulnerability to shock.

Livelihood Systems

To maintain or regain food security, households adopt different strategies within their 
livelihood system. The livelihood system to which we refer represents the highly complex set of 
daily activities undertaken by a household to meet its overall needs, including its food needs and 
its social needs. Food security is but one among other priorities for ensuring the overall security 
or durability of the livelihood system itself. The security of the livelihood system in return 
promotes household food security.

Households facing situations where there is a high level of food stress or where their 
livelihood system is threatened, or both, will often prefer to sacrifice the immediate satisfaction of 
their food needs to preserve other elements essential to maintaining their livelihood system 
(Corbett 1988; de Waal 1989). They may, for example, decide to save their remaining stock of 
grain to use as seed rather than eat it, even where food supplies are insufficient. Placing food 
security into a livelihood system context provides a better understanding of the mechanisms that 
affect food security and increases the relevance of actions designed to attain it.
Food Security Surveillance

Objectives

There are many objectives and types of food and nutrition surveillance systems (Rothe and Habicht 1990). Where the desired objective is to determine the need for imports or food aid or to identify regions where food availability is at risk, a national type of surveillance system is appropriate. Such a system is based on indicators related to production, markets, and, to some extent, access using income data, and may be the tool preferred by governments or bilateral development assistance agencies. The indicators generally used in these systems are uniform across regions. They are not very sensitive to livelihood system diversity nor to the specific causes of local household food insecurity.

Approach

Davies (1993) discusses two approaches to developing a household food security surveillance system. The first of these is called "food first" and could also be called the "food systems approach." It endorses Maslow's needs satisfaction scale theory where people seek to satisfy their food needs before any others. Using this approach, surveillance focuses on food systems (and preventing their collapse) rather than on people who are food insecure and on their livelihood systems.

The primary goal is to make food available at an affordable price. According to Davies (1993), this is a minimalist approach. This approach does not dwell on the specific behaviour of households, nor does it take into account the conditions under which food is accessible. It neither provides a guarantee that households will opt to consume this food nor enables us to anticipate their decision. The resulting interventions may promote, but will not necessarily lead to, household food security as defined above. In the best of all possible worlds, one might imagine that this food reaches households; yet, in reality, will what the poorest household decide to do with it not depend on their priorities within the context of a threat to their livelihood system?

The "livelihood systems" approach to surveillance stresses households' food security strategies while they try to strengthen or maintain the durability of their livelihood systems. It focuses in particular on changes in their strategies and the mechanisms they use to adjust during periods of high insecurity.

This approach involves identifying and using indicators that reflect changes in household behaviour and changes in the conditions under which they enjoy access to resources. Finally, it should make it possible to develop interventions that will support households' efforts to maintain or adapt their livelihood system and to assess whether the trend is toward more or less household food security.
**Responsibility**

Who should carry out the surveillance designed to enhance food security conditions? Who has the capability to reverse the trends toward insecurity? Who has an interest in establishing and maintaining food security, what is their interest, and what is its focus? The answers to these questions will essentially determine the choice of level and the development of a food security surveillance system. Because information is a prime decision-making tool, would it not be appropriate for the communities to hold this information? Are there valid reasons why they should be denied full participation in decisions on what information will be generated and how? Particularly in that community food surveillance systems (nutrition, food security, etc.) could also be an instrument of socioeconomic development (Immink 1988).

In the context of a community’s participation in assuming responsibility for its food security, it would appear highly appropriate and advantageous for surveillance to be carried out in close cooperation with the community, from system design to the application of the results. Is a community not best placed to identify the specific causes of its own food insecurity and to take timely action within the limits of its available resources? However, because solutions may require resources that are not directly available to the community, the information generated by such a system should be made available to higher levels of surveillance or to other potential intervenors, i.e., anyone who, through actions, programs, policies, etc., has a direct or indirect impact on household food security.

**Indicators**

The selection of indicators is directly linked to the objectives pursued, and flows from the approach selected, i.e., the "food first" approach or the "livelihood systems" approach. One major implication of conducting surveillance at the household level lies in the complexity of the choice of indicators. Because of the nature of household food security mechanisms, it would seem unreasonable to look for indicators that are universally applicable, highly specific, sensitive, and stable over time, to measure the degree of security. The "livelihood systems" approach in particular calls for the use of multiple composite indicators. Moreover, as households adapt their livelihood systems, new indicators may be required to monitor new household behaviour. The relevance, specificity, and sensitivity of these indicators should, however, increase in line with their ability to provide an accurate reflection of the diverse and changing aspects of a livelihood system. The inherent challenge in this approach is all the more interesting because of its relevance and potential.

**Units of Analysis**

The selection of a basic unit for household-level analyses may present some difficulty in any field, including that of food security surveillance. In the extended family context in Africa, for example, where household structures may be both polygamous and monogamous, where self-help, family support, and resource sharing networks are highly developed, the economic model of the nuclear family, the one most frequently used, fails utterly to reflect the consumption or economic reality of the households of concern to us. Thus, in rural West Africa, there is still a question about whether to constitute the basic household unit around the head man of the family.
compound, around the husband, or around a more distal unit composed of the wife and her children in relation to her husband. Each of these options would provide a different weighting for a number of significant factors in food security: cereal production, decision-making level, primary income source, distribution and consumption of food, etc. To assess the relevance of the choice of unit for measuring household food security, it is essential that we become more familiar with the dynamics at different household levels and in self-help networks as well as the actual role they play in the food security of individuals.

**A Search for Alternative Indicators**

Our exploratory research in rural areas of Burkina Faso in 1992 into identifying potential alternative indicators for household food security was inspired by some of these questions and gave rise to others. The approach we chose was closer to that of the "livelihood systems" approach. We attempted to identify these indicators on the basis of the peasants' perceptions of their food security, their food security strategies, and their adjustment mechanisms during periods of high insecurity.

Meetings with the peasants took place during the rainy season in two villages in the Department of Boulsa. We conducted focus groups in each village, followed by semi-structured interviews, spread over several interviews, for a total of approximately 3 hours each. Most of the households were polygamous, agropastoralists. Mossi was the overwhelmingly predominant ethnic group.

This study emphasized access to resources. The various types of resources covered by this study were broken down into three main categories, based on type of access: production, trade, or claims. Production refers to the production of consumer or utility goods, usually food. Trade refers, for example, to the trading of work-for-income, consumer goods or services, or the bartering of goods for other goods. Claims can include transfers without benefit in return, cash amounts or goods owing to a household or individual by another individual, the government, etc.

The primary results showed that the young children in these villages were the most dependent and had access only to resources from claims in the form of meals and treats (food) offered to them. Women had access to limited production resources (individual plots following work on collective land), trade (crops gathered, food grown, small-scale enterprises when their resourcefulness, capital, and husband permitted), and claims (millet from common land, help from family). Men had readier access to production resources (collective labour, individual plots, livestock raising), trade (millet stocks, livestock raising, skilled trade), and claims (credit, help from family, village groups, meals prepared by women).

Older women only had access to production resources through their individual plots. Nevertheless, if their health permitted, they had greater access to trade resources through the small businesses in which they were often more freely involved. Their resources from claims were often

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1They did not receive regular supplies of the millet grown on common land because they did not take part in work on common land.
limited to the assistance they could get from their children or from the headman during very
difficult periods. Many were ashamed to ask for the headman's help and thus refrained from doing
so.

The peasants described to us their primary food security strategies and their adjustment
mechanisms, according to the extent to which they felt there was food insecurity. Initially, i.e.,
when they felt somewhat or moderately insecure, the peasants adjusted some of their strategies
within their livelihood system. For example, they diversified their crops, traded cattle for grain,
intensified their small businesses or livestock raising, etc. When their level of insecurity increased
somewhat, they began to alter the type and amount of food consumed, for example, by decreasing
the household's daily ration of millet from three to two servings per day. As their feelings of
insecurity increased, they could change their livelihood system to adjust as well as possible to the
situation, often, however, at the expense of making the system more fragile. Some households
were obliged to adopt behaviour that would decrease their resources, such as selling their small
animals, or transferring their labour to the fields of other, better-off households. At a later stage,
they preferred to migrate for periods of days or weeks, beg and gather their food in the bush
rather than eat the remainder of the grain that had been set aside for seed.

Most of these strategies were rooted in a desire to maintain the security of the livelihood
system, rather than in a specific desire to maintain food security. The more households are forced
to adopt strategies leading to destitution, the more the reversibility of their insecurity is
compromised because of the increasing fragility of their livelihood system.

Potential indicators of food security were identified. They were classified either in categories
corresponding to types of access to production, trade or claims, or according to categories that we
have termed consumption and social. Within each category, they were also classified in a
preliminary way according to our perception of the difficulty involved in using them, particularly
with respect to data collection. This perception is based on the experience gained during this
fieldwork. The indicators were also classified on the basis of their ability to predict insecurity in
the long, medium, or short term and, finally, according to whether they provided mainly a reflection
of local, household, or individual food security (Gervais 1993). The study did not, however,
validate them, and this work remains to be done.

Examples of potential indicators identified in the villages might be an unusual increase in
the sale of male animals to buy millet or a sudden increase in small business or services, which
might be indicators of food insecurity in the long term (trade category). Whereas the fact that
middle-income households firmly refuse to touch their grain supply would be a medium-term
indicator (production category). Indeed, when they believe the situation is getting worse, these
households stop drawing on their grain supply to keep their reserves until the rainy season.

An increase in demand for credit and an increase in begging would be short-term indicators,
either for households or individuals (claims category). A drop in the number of meals per day and
a decrease in the size of the daily food ration might, if observed at the outset, be relatively early
medium-term indicators, because such changes can occur relatively early on in the evolution of
feelings of insecurity. Eating sauce without tô (a staple millet dish) for meals, cutting off the
distribution of meals to fieldworkers during the rainy season, or a shortage of soumbala (a
condiment) in households would represent short-term or immediate indicators of insecurity
(consumption category). The dependence ratio, i.e., the relationship between the number of "workers" (contributors of resources) and the total number of individuals in a household might represent a long-term indicator, when interpreted along with other indicators (social category).

Although households' strategies probably always evolve from an adaptation to a destitution stage as food security lessens, households' specific behaviour, or the specific manifestation of each stage, is often unique to each community or group of households that share the same type of livelihood system in a relatively similar context. This represents one of the main arguments supporting the development of food security surveillance systems using indicators that are more community specific and based on a livelihood system approach.

Regrettably, as a consequence of a growing feeling of insecurity, some of the strategies used at a relatively early stage might seriously compromise the nutritional level of certain household members, especially children and pregnant or lactating women if their diet became inadequate. Before this stage is reached, it is essential for communities and all other parties interested in household food security to provide appropriate concrete support to the efforts of households in maintaining their livelihood systems.

This study enabled us, within a short period of time, to identify a range of potential indicators of household food security in this region of Burkina Faso. Its primary interest lies in the opportunity it provides toward the development of a community-based system for monitoring food security, a system that would use indicators that the population can readily understand and apply to conduct their own surveillance.

**References**


