Food Security Information for Action

Food Security Concepts and Frameworks

Lesson 3

Food Security Analysis

Learner’s Notes
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Learning objectives

At the end of this lesson you will be able to:

• appreciate the importance of food security analysis to trigger appropriate action to address food insecurity;
• understand the need for identifying the underlying causes and characteristics of food insecurity; and
• interpret and use conceptual frameworks for analyzing food security.
Introduction

This lesson introduces why food security analysis is important for decision-making in food security policy and program formulation and to trigger appropriate action.

Despite increasing global prosperity, large numbers of people remain hungry and malnourished. The agreement that this situation cannot be allowed to persist is reflected in global agreements, which set out targets for the reduction of hunger and food insecurity.

Translating these commitments into action requires political will and resources, as well as a comprehensive understanding and analysis of food security.

FAO estimates of hungry people

There are many possible means of estimating the number of people who are food insecure. As food security is a complex phenomena no one indicator can capture it precisely. A widely used indicator at the global level is produced by FAO. The FAO measure of hunger or food deprivation, referred as ‘undernourishment’, is based on a comparison of usual food consumption expressed in terms of dietary energy (kcal) with minimum energy requirement norms. The part of the population with food consumption below the minimum energy requirement is considered undernourished.

FAO estimates that in 2001–03 there were a massive 854 million undernourished (or hungry) people worldwide: 820 million in the developing countries, 25 million in transition countries and 9 million in the industrialized countries.

From this data, the largest concentrations in terms of numbers of food insecure people occur in South-East Asia (particularly India and China) and in sub-Saharan Africa.

In terms of the proportion of the population affected, the prevalence of hunger is by far the worst in sub-Saharan Africa.
The justification for action

A number of global agreements, such as those reached at the 1996 World Food Summit and the year 2000 Millennium Summit, have set goals and specific targets for collective action in reducing the incidence of hunger and food insecurity.

In reality there has been little progress towards achieving these targets. What is even more worrying is the lack of recent progress, when global attention has been specifically on combating food insecurity.

The widespread occurrence of food insecurity, the severity of the consequences and insufficient progress in reducing the numbers of the food insecure all point to the need for further urgent action.

See the Annex 1: Progress in reducing the incidence of food insecurity

Achieving development goals and targets set by major summits depends largely on the commitment and accountability demonstrated by governments.

Commitment and accountability can be reinforced by international agreements, such as those on human rights. Specifically, the right to adequate food recognizes the basic human right of everyone to eventually be free from hunger.

The right to adequate food underpins the formulation of food security policies and programs with legal aspects associated with human rights. It imposes a responsibility on states to work towards the progressive realization of the right to adequate food for all people under its jurisdiction. It also provides a strong platform to advocate for states to adopt a variety of legal, administrative, financial or other measures.

See the Annex 2: The Right to Food
Food Security Analysis

Assuming the political will exists to make food security a priority, the practical question emerges of what can, and should, be done.

Decision-makers at all levels need accurate information on who is food insecure, how many, where they live and importantly, why they are food insecure. They also need to understand the nature of the food insecurity: the duration and severity of the problem, and the vulnerability to future food insecurity.

Duration
Not all households suffer inadequate food consumption over the same period of time. Decision makers need to know whether the food insecurity experienced by different people or households is persistent and chronic, or whether it is of short term duration, and hence would relate to a transitory food crisis. Depending on the actual or anticipated duration of the food crisis, different measures will have to be taken.

Severity
It is also important to know the intensity or severity of the food insecurity being experienced. This knowledge will influence the quantity and urgency of the assistance provided to beneficiaries.

Vulnerability
The definition of food security emphasizes that we must strive towards people being food secure “at all times”. Therefore, we should be aware of who might be at risk of future food insecurity.

In the food security context, vulnerability is defined as the probability of an acute decline in food access or consumption, often in reference to some critical value that defines minimum levels of human well-being.

Decision makers require information on both who is currently food insecure and who is vulnerable to experiencing food insecurity in future. The vulnerability analysis should provide information on:
- Who is vulnerable and where are they located?
- What are the major risks that they face?

What risk management strategies are used and how effective are they?
In practice, measuring and analyzing food security is technically challenging. Data on various food security dimensions is still scarce and poorly integrated.

Food security is a complex concept so that no one indicator can adequately describe who is food secure and who is not.

Hence, decision makers will need complementary and multiple methods to assess the incidence of food insecurity in different contexts.

**Table 1: Advantages and disadvantages of examples of three different methods**

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<th>Method</th>
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<tr>
<td><strong>Prevalence of undernourishment</strong></td>
<td>We have already seen that a widely-used indicator for food insecurity is the head count of persons undernourished or deprived of food used by FAO. This estimate is made at the national level and is most useful for inter-country comparisons and measuring progress towards global hunger targets. However, it is less useful for developing detailed national food security policies and programs. It is a measure of energy deficiency (not enough food) and does not say anything about food quality.</td>
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<td><strong>Household Food Economy approach</strong></td>
<td>The household food economy approach to analyzing food security was developed by the international NGO Save the Children – UK. It has since been applied by several development organizations to estimate the ability, at the household level, to access sufficient food to meet the minimum dietary requirements. The household food economy approach uses a model to estimate who is at risk of future food insecurity. The HFE method has mainly been used to assess food crises, where temporary shocks have left large numbers of people food insecure. It has not been widely applied to assess chronic food insecurity.</td>
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<td><strong>Malnutrition assessments</strong></td>
<td>Nutritionists have several well-developed indicators of malnutrition. The main ones look at the nutrition of young children, and compare their height against age (‘stunting’), their weight against height (‘wasting’), or their weight for age (‘thinness’).</td>
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combination of stunting and wasting). In addition there are specific indicator levels for deficits of the main micronutrients, including iron, vitamin A and iodine (also known as ‘hidden hunger’).

There may be a poor correlation between the nutritional outcome and other measures of nutritional intake. The difference may be explained by the health status and care practices. So, for example, while measures of food intake indicate the most pressing problems are in sub-Saharan Africa, child anthropometry highlights that Asia has the most pressing nutritional problems.

The results of food security assessments are often presented geographically. Maps are useful to summarize the number and location of food insecure people, the duration and severity of the problem and the estimated incidence of food insecurity.

This information can then be used to:

- advocate and raise awareness of the need for action;
- gauge the severity of the problem and the urgency of response required;
- determine the need for further detailed assessments;
- target the available resources to those most in need;
- monitor changes over time and adjust interventions accordingly; and
- evaluate the impact of interventions.
Conceptual frameworks

Data and information on the incidence and nature of food insecurity is highly relevant to designing effective policies and programs. However, this by itself is not sufficient.

In order to plan appropriate interventions decision makers also need to appreciate why people are food insecure, by understanding underlying causes. Without this analysis there is the danger that response recommendations will not be appropriate.

Example

For example, we may know that a certain population is malnourished. However, this information alone would not help to guide a decision on whether it is appropriate to improve:

- food availability (e.g. by a food fortification campaign),
- food access (e.g. by providing cash transfers),
- care practices (e.g. by nutritional education), or the health environment (e.g. through a vaccination campaign).

Frameworks are tools to improve our understanding of complex realities, processes and linkages, often through an illustration of these complexities in a simplified diagram.

Given the complex nature of the broad food security concept, different frameworks have been produced to help understand linkages among various food security dimensions, while also explaining linkages with underlying causes and outcomes, as well as related concepts and terms. A food security conceptual framework also presents itself as a useful tool for conducting food security analysis.

Food security frameworks also:

- help stakeholders with different perspectives to engage in structured and coherent debate about the many factors that affect livelihoods, household food security and nutrition, their relative importance and the way in which they interact.
- help identify appropriate entry points for support to strengthened livelihoods, household food security and nutrition.
Let us start by looking at a food security conceptual framework in some detail.
The diagram below illustrates the FAO-FIVIMS framework (FIVIMS = Food Insecurity and Vulnerability Information and Mapping Systems):

1. Socio-economic, political, institutional, cultural and natural environment
The FIVIMS framework highlights the need to consider underlying socio-economic, political, institutional, cultural and natural factors, as they impact on different dimensions of food security (food availability, food access, stability, food utilization), while also affecting care practices, in addition to conditions related to health and sanitation.

This is referred to as the overall “vulnerability context”.

2. Food consumption
Food consumption is shown as being determined by the following:

- Food access at household level (as determined by relative poverty/incomes, purchasing power, income transfers, as well as the quality of transport and marker infrastructure).
- Care practices (including intra-household food allocation, cultural practices and knowledge related to food preparation).
3. Food utilization
Efficient and effective food utilization by the body is understood to be primarily dependent on a person’s health status, which in turn is dependent on general health and sanitation conditions.

4. Nutritional status
This FIVIMS framework shows the relationships and interactions of the main issues that affect an individual’s nutritional status.

The nutritional outcome is understood to be dependent on two main sub factors:

- food consumption (food intake in terms of energy and nutrients) and the biological utilization of this food (determined by a person’s health status).

Note
The terminology used to describe the dimensions of food security is evolving and consequently varies. Traditionally care practices have been thought of as a sub-set of the dimension of food utilization. However, as this framework demonstrates, it can be helpful to group and distinguish practices that impact on food consumption rather than biological utilization.

You should also be aware that the terms “care practices” and “food use” may be used interchangeably to describe this group of factors.
A second framework that is relevant to analyzing food security is the causality model of malnutrition, originally developed by UNICEF in 1990. This model has many similarities to the FIVIMS framework.

1. **Immediate causes**
   In this framework, the immediate causes of malnutrition are understood to be inadequate food intake, ill health or a combination of these factors.

2. **Underlying causes**
   Underlying immediate causes there is a need to understand the relative roles of food, health and care factors. The framework shows that causes of malnutrition are multi-sectoral, embracing food, health and caring practices.
   It is also important to realize that these three underlying causes are not completely discrete, but interact in important ways as depicted by the overlapping circles in the framework.

3. **Basic causes**
   This conceptual framework clearly recognizes that human and environmental resources, economic systems and political and ideological factors are basic causes that contribute to malnutrition.
The causes are classified as immediate, underlying and basic, whereby factors at one level influence other levels. The manifestation and immediate causes of malnutrition affect the individual, whereas the underlying causes may operate at the household or community levels and basic causes at higher levels (national, regional, global).

The standard food security conceptual framework draws on the idea of a hierarchy of needs. The assumption is “food first” where food security is a primary need that supersedes other human needs.

However, evidence on people’s behavior is challenging this assumption. It is increasingly recognized that protecting food intake, especially in the short-term, is only one objective that people pursue.

Example: Sudan famine of 1984-85
For example, in the Sudan famine of 1984-85 it was found that people were quite prepared to put up with considerable short-term hunger to protect assets and livelihoods.

They would rather go hungry than sell an animal or consume their planting seed.

For this reason livelihoods frameworks have emerged over the last decade.

A livelihoods framework is people-centered and attempts to analyze the diversity of poor people’s livelihoods holistically. It stresses the inter-relationship between community-level activities and the broader policy and institutional framework. It acknowledges that “sustainability” encompasses economic, environmental, institutional and social parameters.
The sustainable livelihoods framework was originally developed by DFID:

A livelihoods perspective assumes that the main objective of a household is to ensure a secure and sustainable livelihood. Ensuring access to food is just one part of a more complex jigsaw of livelihood needs. The central objective for a household is the management of risk and vulnerability. This analytical perspective influences the recommendation of appropriate interventions.

A detailed description of livelihoods is given later in this course. Don’t worry too much about the precise meanings of the various elements of the framework. At this point we would like you to appreciate why a livelihoods analysis is relevant to food security analysis.

Livelihoods frameworks have contributed to understanding the ways in which people strive to protect livelihoods as central to understanding food crises.

People’s vulnerability to food insecurity and their coping mechanisms to deal with the hazards they face, have become key points of interest. The bottom line is a view of food security that focuses on the long-term viability of the household.
Adopting a livelihoods approach means drawing attention to the way people live, why they live that way, and why and how this way of life changes. This approach indicates likely entry points for interventions, both short- and long-term, and their likely impact on people’s lives.

Any conceptual framework is a simplification of reality. It will inevitably help analysts to focus on specific aspects of the problem, but will neglect other issues. Each framework brings important and differing aspects of food security analysis to the fore.

The frameworks vary in what they highlight. They also vary in their complexity – more elaborate frameworks provide a more inclusive representation of reality but have the downside of sacrificing simplicity and ease of use.

Despite the differences these frameworks have much in common: they recognize the many causes of the problem, the multiple ways that these may interact in specific circumstances and the heterogeneity of the problem.

In summary, the following important lessons can be learned about the importance and use of such frameworks:

- Issues which lead to food security of households and individuals in countries are numerous and span a range of sectors. Each factor impacts on household and individual food security in different ways.

- The relative importance of these factors in determining food security varies across households, locations and over time.

- A well defined conceptual framework is critical for:
  - identifying appropriate entry points for the design of interventions; and
  - assisting in the interpretation of food security indicators.
Summary

Achieving food security for all at all times remains a major global challenge.

Where food insecurity problems remain, there may be severe consequences. Concerns over food insecurity and hunger have generated global debate and have resulted in well-defined political commitment to reduce food insecurity through agreed-upon targets. However, progress has been disappointing.

Improved food security information and analysis can accelerate progress:

- Firstly, it is important to measure the incidence and nature of food insecurity; this information helps prioritize action to address food insecurity, target interventions and monitor progress; however, measurement is technically challenging and great care is needed in selecting and interpreting indicators.

- Secondly, it is important to understand the causes of food insecurity; you should now understand how various conceptual frameworks – specifically the food security, malnutrition and sustainable livelihoods frameworks – can help with this analysis; an understanding of the underlying problems is a first step in selecting appropriate interventions.
If you want to know more

Online resources


Additional reading

Annex 1: Progress in reducing the incidence of food insecurity

The Targets

The World Food Summit (WFS) in 1996 established the target of halving the number of undernourished people by no later than 2015. FAO uses the average of the period 1990-92 as the baseline for monitoring progress towards this target.

The Millennium Development Goals (MDG) are an important set of targets for global development action. One of the two targets of the first Millennium Development Goal (MDG-1) set in 2000 is to halve, between 1990 and 2015, the proportion of people who suffer from hunger.

These targets may sound similar, but they are very different as a consequence of the WFS target insisting that the number of hungry people must be halved in spite of population growth, while the MDG target allows for population growth. Hence, the WFS target is the more ambitious of the two:

If the MDG-1 target is achieved by 2015 for all developing countries, current population projections suggest that we will still be left with around 585 million hungry people, only 29% less than in 1990-92. In comparison, the WFS target aims to reduce the number of hungry people in 1990 by half to no more than 412 million people.

Therefore, based on current estimates, achieving the WFS target would result in 173 million less hungry people than the MDG-1 goal.
The progress

There has been little progress towards the WFS target of halving the number of undernourished people by 2015.

Since 1990–92, FAO estimates that the undernourished population in the developing countries has declined by only 3 million people: from 823 million to 820 million. Statistically, this is an insignificant number – it means that we are not making progress.

‘SOFI’ - the FAO Hunger Report

FAO has been reporting progress towards WFS and MDG targets at global and country levels in its annual report on the State of Food Insecurity in the World (SOFI), which was first issued in 1999.

SOFI provides the latest estimates of the number of chronically hungry people in the world and reports on progress and setbacks in global and national efforts to reach the hunger targets set by the World Food Summit and the Millennium Summit.

SOFI draws on ongoing work carried out by FAO and its international partners in monitoring the food security status of people and analyzes underlying causes of hunger and malnutrition experienced by people worldwide. The report also presents issues and actions that are fundamental in fulfilling commitments made in the World Food Summit Plan of Action, in addition to those needed to achieve the Millennium Development Goals.

What is even more worrying is the lack of recent progress. It is estimated that in the 1970s, the number of hungry people fell by 37 million and in the 1980s this number was reduced by an additional 100 million. However, FAO estimates that since the mid 1990s, hunger reduction has stagnated.

The good news is that because of population growth, there has been progress against the first Millennium Development Goal (MDG 1) of halving the percentage of undernourished (hungry) people by 2015. Long term estimates suggest that the proportion of undernourished people in the developing countries has fallen by 3 percent – from 20 percent in 1990–92 to 17 percent in 2001–03.

However, even by this measure progress is slowing considerably. The prevalence of hunger in the world declined by 9 percent (from 37 percent to 28 percent) between 1969–
71 and 1979–81 and by a further 8 percentage points (to 20 percent) between 1979–81 and 1990–92.

SOFI, 2007
Regional changes

Progress in reducing hunger has been geographically imbalanced with much more progress achieved in some regions than in others.

There has been a good reduction in both the number and prevalence of undernourished people in Asia and the Pacific and Latin America and the Caribbean in the last 10 years. However, in both regions the rate of improvement remains insufficient to meet the WFS goal.

In contrast the number of hungry people has risen significantly in sub-Saharan Africa over the past 11 years, increasing from 169 million to 206 million. This is the continuation of a trend that has been apparent over the last three decades. However, due to population growth, the prevalence of hunger fell also in sub-Saharan Africa from 35 percent in 1990–92 to 32 percent in 2001–03.
Annex 2: The Right to Food

Definition of the Right to Food
International law recognizes the right of everyone to adequate food and the fundamental right to be free from hunger. This is of crucial importance for the enjoyment of all other human rights.

The term “Right to Adequate Food” is derived from the International Covenant on Economic, Social and Cultural Rights (ICESCR). The right to adequate food is defined as:

"to have regular, permanent and unrestricted access, either directly or by means of financial purchases, to quantitatively and qualitatively adequate and sufficient food corresponding to the cultural traditions of people to which the consumer belongs, and which ensures a physical and mental, individual and collective fulfilling and dignified life free of fear.”

This definition entails all normative elements explained in the ICESCR, which states that:

“The right to adequate food is realized when every man, woman and child, alone or in community with others, have the physical and economic access at all times to adequate food or means for its procurement.”
Ratification of the Right to Food

To date, 153 States have ratified the International Covenant on Economic, Social and Cultural Rights (ICESCR) and thus have an obligation to progressively realize the right to adequate food.

International instruments on human rights are legally binding: it is obligatory for states that have ratified them to observe the provisions and apply them within the national legal system.

The legal aspects enable an individual to hold the government accountable for its obligations and to seek redress for violation of their human rights.

| In countries not having ratified the ICESCR the people, nevertheless, are human rights holders, since all human rights are universal and inherent to all people, regardless of specific policies of governments. Their hope lies in taking responsibility to organize themselves and join other civic society groups committed to the right to adequate food to put pressure on their government. |
State obligations
States are required to take steps towards the realization of the right to food, within a reasonably short time after ratification of the ICESCR.

The obligation to take steps may mean, for a given State, the adoption of legal, administrative, financial, social or other measures.

Individuals should live in conditions that allow them either to produce food or to buy it. National legislation that specifies concrete entitlements, on which individuals or groups can rely, contributes to the realization of the right to food and its enforcement.

Examples of concrete entitlements
Concrete entitlements may include, for example: an equitable access to publicly distributed food, a certain level of income sufficient for a basic food basket, access to adequate food storage facilities, a certain minimum price for the main local crops, access to skills and knowledge.
The three levels of state obligations

The state has three levels of obligations. These levels are the following:

- **Obligation to respect** - A State cannot take any measures which may result in preventing the capacity of individuals or groups to provide food for themselves.

- **Obligation to protect** - The State must act to prevent third parties (individuals, groups, enterprises and other entities) from interfering or violating the right to food that people do have.

- **Obligation to fulfil** - The State must create conditions allowing for the effective realization of the right to food, and provide food directly to individuals or groups who are not able to procure food on their own.

Let’s see what these obligations imply in practice.

Obligation to respect

A State is required to ensure that none of its own agencies or public officials violate or impede the effective enjoyment of the right to food by their policies or actions.

**Examples: Obligation to respect**

For example, a State cannot:

- confiscate land or water resources;
- prevent or limit access of individuals or groups to plant or animal resources necessary for ensuring their food security; or destroy people’s food resources (agricultural areas for food production, crops and livestock) without a valid reason and adequate compensation.

According to the obligation to respect, States cannot suspend legislation or State policies that allow people to have access to food (e.g. social welfare legislation, nutrition-related programmes). In many instances, the obligation to respect does not require specific efforts or resources from a State.
Obligation to protect

The obligation to protect individuals from third parties is particularly important for food insecure persons.

**Examples: Obligation to protect**
The State should prevent private parties (enterprises or other entities) from destroying people’s food sources by their activities, such as:

- clearance of the forest for transport purposes;
- building sport facilities on small farmers' land;
- polluting lakes or rivers by dumping of hazardous or dangerous agricultural or industrial products; and waste (wrong use and storage of fertilizers and pesticides polluting land, water and air) etc.

The obligation to protect also includes ensuring that food put on the market is safe and nutritious. States must therefore establish and enforce food quality and safety standards, and ensure fair and equal market practices.

Obligation to fulfil

The obligation to fulfil encompasses the obligation to facilitate and the obligation to provide.

**Obligation to facilitate**
The obligation to facilitate requires more far-reaching measures on the side of the government in that it has to create conditions (enabling environment) allowing for the effective realization of the right to food. Typical measures include initiating land reform where needed, improving measures of production, harvesting, conservation, processing, retailing and consumption of food.
Obligation to provide

The obligation to provide relates more particularly to the fundamental right of everyone to be free from hunger. For example a State can distribute food aid to concerned individuals or groups, or provide them with income subsidies, financial assistance, food stamps or other social security schemes that will enable them to feed themselves. The obligation to provide is the last resort when government efforts to respect, to protect and to facilitate have proven inadequate and insufficient.