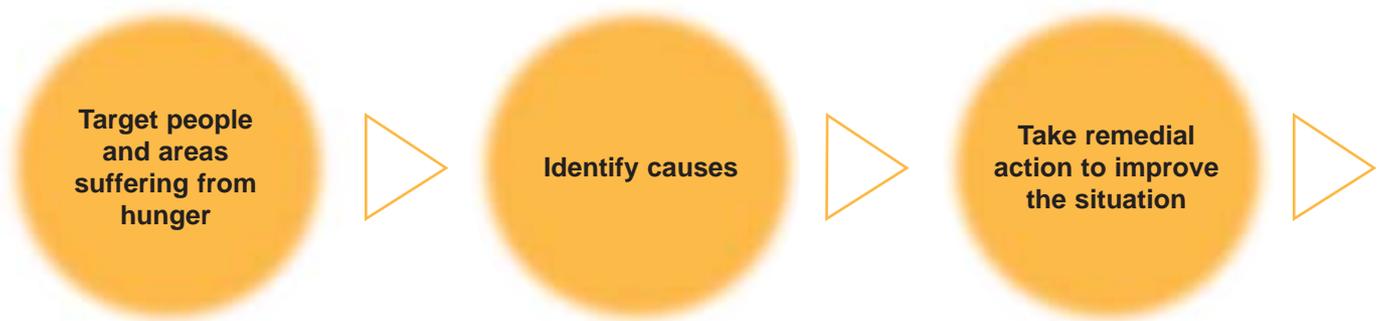


# Basic Concepts of FIVIMS

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To remedy problems of hunger around the world, the World Food Summit (WFS) identified the need for the following actions:



In order to do this, it also recommended a more complete and user friendly source of information at all levels. The FIVIMS initiative was set up in order to respond to this need.

**FIVIMS stands for “Food Insecurity and Vulnerability Information and Mapping Systems”.**

FIVIMS is not a single organization or system; rather, it is a framework within which different tasks are carried out at different levels: global, national and subnational. Although specific tasks are distinct at different levels, the success of FIVIMS also depends on networking at all levels. Networking and information exchange are promoted by the international FIVIMS programme.

## Tools and Tips

# Basic Concepts of FIVIMS

## FIVIMS AT NATIONAL LEVEL

The **purpose** of national FIVIMS in every country is to contribute to the reduction of food insecurity and vulnerability by:

- increasing attention on food security issues
- promoting better understanding of users' needs
  - improving data quality
- helping to integrate and exchange information
- promoting better use of information to improve action

### I. WHAT ARE THE IMPORTANT QUESTIONS FOR A NATIONAL FIVIMS TO ANSWER?

#### ***Who are the food insecure and vulnerable people in a country?***

**IDENTIFYING** the undernourished and vulnerable population groups according to their special characteristics (e.g. income, food consumption behaviour, sources of livelihood and asset base, ethnicity, age and gender).

#### ***Where are they located?***

**LOCATING** the undernourished and vulnerable groups according to geographical areas, administrative districts, or agro-ecological zones where they live, and indicating their physical and relative distance from urban centres, markets, transport infrastructure, employment opportunities, water and social services.

#### ***How many are they?***

**ESTIMATING** the number of undernourished and vulnerable people:

- those who fall below a selected minimum of per capita energy and nutrient intake;
- those who are exposed to high risk factors and are therefore vulnerable to becoming food insecure.

#### ***How severe is their hunger?***

**CHARACTERIZING** the kind of food insecurity that each vulnerable group is facing: chronic undernourishment, transitory undernourishment or seasonal undernourishment. **ESTIMATING** the degree of their food insecurity and/or malnutrition: severe, moderate, mild, marginal or at risk.

#### ***What are their livelihood systems?***

**DESCRIBING** the way groups of people make their living and using this information to gain insight into the reasons for food insecurity, whether related to adequacy and stability of household income or health conditions and sources of nutrition, for example.

#### ***Why are they in this condition?***

**ANALYSING** the factors associated with undernourishment and vulnerability, looking more in depth at the environment in which people live and explaining their constraints and opportunities through history, e.g. available natural resources, climate, socio-economic situation, education, culture and political environment.

#### ***What can be done about it?***

**DEVELOPING** and implementing specific action plans, using participatory methods to engage the vulnerable and food insecure people themselves in contributing to the outline of appropriate actions to eliminate the underlying causes of their unsatisfactory condition.

### 2. WHAT ARE THE CHARACTERISTICS OF A NATIONAL FIVIMS ?

**A national FIVIMS has the following characteristics:**

- 1) It is "owned" or supported by the major public and private stakeholders in the country, both national and international.
- 2) It provides national coverage of food security questions.
- 3) It answers the basic questions: who is food insecure, where are they located, and why are they in this condition, in both chronic and transitory situations.

# Basic Concepts of FIVIMS

- 4) It provides coordinated cross-sectoral coverage of all the major dimensions of nationally defined food insecurity problems.
- 5) It produces "information products" that are used for action programmes to reduce food insecurity and vulnerability by providing useful information to those who make decisions affecting resource allocation.
- 6) It provides up-to-date information of sufficient quality to allow effective actions to be taken at the appropriate time.
- 7) It monitors progress towards the meeting of goals of the World Food Summit and other national and international food security, poverty-reduction, or quality of life commitments.

### **3. WHAT IS SO SPECIAL ABOUT FIVIMS? HOW CAN IT HELP COUNTRIES TO IMPROVE THEIR EFFORTS TO IDENTIFY AND REACH FOOD INSECURE PEOPLE AND PEOPLE WHO ARE VULNERABLE TO FOOD INSECURITY?**

FIVIMS has several features that make it well-suited to efforts to identify and reach food insecure people and people who are vulnerable to food insecurity. These are:

#### ***Focus on people***

Most existing information and data collection efforts on food insecurity and vulnerability are area-based. Early efforts to develop subnational information generally described socio-economic characteristics of people living in a particular district or agro-ecological zone in terms of averages for the entire population in the area.

More recently, coincident with the advent of FIVIMS, more emphasis has been given to describing the distinct characteristics of different subgroups of people in these areas and nationally. Placing a stronger emphasis on people and the characteristics of vulnerable groups should enable countries to design more effective measures to eradicate some of the root causes of vulnerability.

#### ***Cooperation and coordination across sectors***

FIVIMS draws on data that come from several different socio-economic sectors. At its most basic, this includes information on food production, the social and economic conditions that affect the ability of population groups to access this food, and on the health and sanitation aspects of physiological food utilization. FIVIMS thus encourages cooperation and coordination across the lines of a number of technical ministries, especially agriculture, trade or commerce, and health, where there may not have been communication and exchange of data previously.

#### ***Building on existing information systems***

All countries have some form of information system, ranging

from rudimentary to highly sophisticated. Even the poorest countries usually collect at least a few basic statistics about the country's population and economic performance, at periodic intervals. With FIVIMS, there is no need to establish a new information system with new data collection techniques, new databases and new management structures, if existing mechanisms can do the job.

FIVIMS does not propose any single model for using existing information systems to achieve its objectives. Each country should follow an approach that responds effectively to the country's own needs and priorities in identifying the food insecure and vulnerable groups, and facilitating assessments of policy and programme options to improve the situation.

Every country nominates one or more focal points for FIVIMS and designates a steering committee and coordination unit to work with the various producers and users of information in the country to ensure that balanced and useful analytical information vis-à-vis a range of nationally defined problems is readily available. National FIVIMS focal points serve as the liaison between national FIVIMS, the international FIVIMS programme and global FIVIMS.

#### ***Flexible and easy to use approach***

The exact steps to establish a national FIVIMS will vary depending on each country's needs and priorities and on the already existing information systems. The document *Guidelines for Establishing National FIVIMS* provides guidance and proposes activities for setting up FIVIMS in a flexible and easy to use way.

Tools are being developed to assist countries in data collection and mapping of the food insecure and vulnerable people. Software products that simplify data management and display are being field tested for free distribution to FIVIMS collaborators.

#### ***Action-oriented***

FIVIMS makes problems and opportunities more visible so that decision-makers can understand them better and take action at the appropriate time. For this to happen, the information and data collected by FIVIMS must be put into the form of readily usable information products such as maps, charts, graphs, vulnerability profiles and action menus.

#### ***Links to the international FIVIMS programme***

National FIVIMS are linked to an international FIVIMS programme and supported by a global FIVIMS network. Through these links they can benefit from the expertise and experiences of other national FIVIMS and of international agencies, and contribute to the monitoring of progress towards meeting the goals of the WFS.

# Basic Concepts of FIVIMS

## FIVIMS AT THE GLOBAL LEVEL

The **purpose** of FIVIMS at the global level is to monitor progress and promote action towards the WFS goals through:

- a common database
- an information exchange network

An important task of global FIVIMS is monitoring the progress towards meeting the goals of the WFS. This involves monitoring outcome indicators related to food consumption, health and nutrition status, and analysing underlying factors related to the international, national and subnational contexts, the performance of the food economy, and the livelihood systems and household characteristics of vulnerable groups. Results are reported in *The State of Food Insecurity in the World*, published annually by the Food and Agriculture Organization of the United Nations (FAO).

In order to collect, organize and use information for action in the most efficient manner possible, the Inter-agency Working Group (IAWG) on FIVIMS has decided to establish a common database for FIVIMS. Appropriate international databases are to be linked to create an information exchange network through the development and implementation of a distributed international database which is currently under development: the **Key Indicators Database System (KIDS)**.

The IAWG-FIVIMS has drawn up a list of relevant variables, divided into 15 domains, and prepared a *Framework Guide for the Selection of Key Indicators for National and Global FIVIMS*. The indicators relevant to KIDS are included in this list.

KIDS offers a tool that will allow the user to combine data from different agencies and examine causal relationships between nutrition, health, demographic, economic,

environmental and other key indicator groups. Much of the data needed for analysis already exists in individual UN agencies such as FAO, World Food Programme (WFP), World Health Organization (WHO), United Nations Children's Fund (UNICEF) and in international organizations such as the World Bank. However, much of the data is not easily available or is not available in a common format.

When operational, KIDS will allow the dissemination and analysis of FIVIMS-related data, in an easily accessible and widely available form, using the Internet and CD-ROM for distribution. However, developing a system which provides easy access to the best indicators and the tools for analysis requires resources and cooperation and coordination among data providers.



# Basic Concepts of FIVIMS

## THE INTERNATIONAL FIVIMS PROGRAMME

The **purpose** of the international FIVIMS programme is to contribute to the reduction of food insecurity and vulnerability through better inter-agency and national coordination and networking with the following aims:

- to help define common standards
- to generate methods and tools for information management and presentation
  - to promote exchange of information
- to provide technical support to national FIVIMS
- to support the development of global FIVIMS
  - to mobilize resources

### 1. WHAT IS THE OPERATIONAL STRUCTURE OF THE INTERNATIONAL FIVIMS PROGRAMME?

FAO was requested by the WFS to play a catalytic role in establishing FIVIMS. The Summit specified that this should be done through a consultative process among UN agencies and in partnership with UN member country institutions and organizations.

The international FIVIMS programme has been developed and is coordinated by the Inter-agency Working Group on FIVIMS (IAWG-FIVIMS). This consists of more than 30 members including United Nations system agencies, bilateral donor agencies, inter-governmental and non-governmental organizations (IGOs and NGOs) and members of the Consultative Group on International Agricultural Research (CGIAR). The IAWG-FIVIMS is chaired by an elected member from among the agency representatives to the IAWG. The Secretariat is located at FAO and staffed by a full-time coordinator working under the supervision of the Assistant Director-General, Economic and Social Department.

The IAWG-FIVIMS, through its international FIVIMS programme, supports all activities related to the establishment of FIVIMS at both national and global levels. Support to national FIVIMS is provided directly by IAWG members present in the country, and through the thematic groups of the United Nations System's Chief Executive Board for Coordination (CEB) on Rural Development and Food Security. The Secretariat of the

CEB is located at FAO and assists in building links between national CEB thematic groups and UN system agencies and other regional and international organizations for the purpose of sharing information, experiences and expertise. The FIVIMS Secretariat promotes the development of global FIVIMS, coordinates the development of technical materials and the provision of technical assistance for national FIVIMS, and helps in the mobilization of resources.

### 2. WHAT ARE SOME OF THE RECENT ACHIEVEMENTS OF THE INTERNATIONAL FIVIMS PROGRAMME?

IAWG members – CARE, FAO, Famine Early Warning System Network (FEWS-NET), Save the Children UK (SCFUK) and the Vulnerability and Mapping Unit/World Food Programme (VAM/WFP) – have developed improved methods for vulnerability assessment and are working to develop a framework guide for vulnerability assessment, which will explain the common principles underlying all the various methods currently in use and provide a brief synopsis of each.

The African Nutrition Database Initiative (ANDI) is now implemented by the FIVIMS secretariat as an inter-agency initiative feeding into global FIVIMS. Development of the Asia Key Indicator Data System (Asia KIDS) has begun in Asia (Asia KIDS) and is being implemented by FAO's Global Information and Early Warning System in collaboration with the World Agricultural Information Centre (WAICENT).

# Basic Concepts of FIVIMS

### 3. HOW IS THE INTERNATIONAL FIVIMS PROGRAMME LINKED TO INTERNATIONAL CONFERENCES AND OTHER INITIATIVES?

The development of up-to-date maps, profiles, information products and action plans for FIVIMS has created possibilities to service information needs for follow-up to other major international conferences, summits and initiatives. Some of these are listed below. FIVIMS is continually seeking ways to cooperate with and provide services to such efforts.

#### ***International Conference on Nutrition***

Jointly sponsored by FAO and WHO, the first International Conference on Nutrition (ICN) was held at FAO in December 1992. At the ICN, each country made a social, economic and political commitment to achieving nutritional well-being. FAO and WHO have advised more than 100 governments in formulating their national plans of action on nutrition and strengthening their capabilities to implement the plans. These have taken a multisectoral approach which has stimulated the development of mechanisms for cooperation among various agencies and organizations in the public and private sectors. FIVIMS has been called upon to assist countries to develop information systems for monitoring the implementation of National Nutrition Action Plans.

#### ***The World Summit for Children***

Progress in the implementation of the Plan of Action of the World Summit on Children, held in 1990, is reviewed every two years through regional mechanisms. UNICEF has developed a data gathering methodology that is used along with other data for the reviews of progress. The UNICEF database on the State of the World's Children, which is updated annually, is an important information source for FIVIMS.

#### ***United Nations Development Assistance Framework (UNDAF) and the Common Country Assessment (CCA)***

The UN system has developed the CCA and UNDAF

instruments for the purpose of achieving goal-oriented collaboration, programmatic coherence and mutual reinforcement, based on an in-depth analysis of the development situation of a country. Based on the CCA, the UN system in each country, together with the government, formulates a development assistance framework to help guide priority-setting for UN agencies, reduce duplication and enhance synergies. A monitoring system for each UNDAF is to be put in place to facilitate periodic updating of the common country assessment and subsequent adaptation of the UNDAF as required. The FIVIMS secretariat and the UN Development Group Office are working together to demonstrate the utility of FIVIMS for UNDAF/CCA at national level.

#### ***Comprehensive Development Framework (CDF) and Poverty Reduction Strategy Papers (PRSP)***

Developed by the World Bank, the CDF is intended as an analytical and strategic framework that presents the structural, social and human aspects of development. Building on the CDF approach, the World Bank and the International Monetary Fund introduced a new approach to poverty reduction, the PRSP. The World Bank has also developed an approach to poverty mapping that can be applied for geographical targeting of poverty alleviation programmes. FIVIMS is supplementing this with methodological work on mapping underlying factors that cause poverty and food insecurity.

#### ***The Millennium Summit and the International Development Goals (IDGs)***

In the first half of the 1990s the Organisation for Economic Co-operation and Development (OECD) established a list of 21 core indicators for use in monitoring the outcome of recent summits and international conferences. This list was subsequently updated to take account of those held in the second half of the 1990s, most recently the Millennium Summit held in New York in 2000. FIVIMS offers an approach to managing multisectoral databases that can be used by countries to meet their international monitoring commitments.

# Basic Concepts of FIVIMS

## **IAWG Membership**

The Inter-agency Working Group on FIVIMS currently includes representatives of the following agencies and organizations:

### ***Bilateral Aid and Technical Agencies***

- Australian Agency for International Development (AusAID)
- Canadian International Development Agency (CIDA)
- EuropeAid Cooperation Office (EuropeAid)
- Famine Early Warning System (FEWS-NET)
- German Organization for Technical Cooperation (GTZ)
- UK Department for International Development (DFID)
- US Department of Agriculture (USDA)
- US Agency for International Development (USAID)

### ***UN Agencies***

- Food and Agriculture Organization of the United Nations (FAO)
- International Fund for Agricultural Development (IFAD)
- International Labour Organization (ILO)
- Office for the Coordination of Humanitarian Affairs (OCHA)
- United Nations Children's Fund (UNICEF)
- United Nations Department of Economic and Social Affairs (UNDESA)

- United Nations Development Programme (UNDP)
- United Nations Environment Programme (UNEP)
- United Nations Population Fund (UNFPA)
- UN System Forum on Nutrition (formerly ACC/SCN)
- World Agricultural Information Centre (WAICENT)
- World Bank (WB)
- World Food Programme (WFP)
- World Health Organization (WHO)
- World Meteorological Organization (WMO)

### ***Consultative Group System***

- International Centre for Tropical Agriculture (CIAT)
- International Food Policy Research Institute (IFPRI)
- International Service for National Agriculture Research (ISNAR)

### ***International NGOs***

- CARE
- Helen Keller International (HKI)
- The Rockefeller Foundation
- Save the Children UK (SCFUK)
- World Resource Institute (WRI)

### ***Regional Organizations***

- Permanent Interstate Committee for Drought Control in the Sahel (CILSS)
- Southern African Development Community (SADC)

# Understanding Food Insecurity and Vulnerability



**Tools and Tips**

## THE RELATIONSHIP BETWEEN FOOD INSECURITY AND VULNERABILITY

### ***The Problem of Food Insecurity***

Food insecurity exists when people do not, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life.

### ***The Problem of Vulnerability***

Vulnerability refers to the full range of factors that place people at risk of becoming food insecure. This is determined by the exposure of an individual, household or group of persons to the risk factors and their ability to cope with or withstand stressful situations.

### ***The Food Security Continuum***

The difference between food insecure and vulnerable people is one of degree. Vulnerable people have a high probability of becoming food insecure at any time. Food insecure people are vulnerable people who can no longer meet their minimum food needs.

The food security continuum presented in the following chart classifies people according to their current status. At any moment in time an individual can be:

- food secure (adequate food intake, low risk of food insecurity);
- vulnerable (adequate food intake, high risk of food insecurity); or
- food insecure (inadequate food intake, high risk of worsening food insecurity).

### ***Dietary Energy and Current Food Security Status***

An individual's status is associated with the amount of dietary energy obtained, compared with the person's minimum, normal and maximum daily requirements.<sup>1</sup>

### ***Structural Vulnerability and Chronic Food Insecurity***

Structural vulnerability results when slowly-changing factors expose people to high levels of risk and stress, and undermine their ability to cope with them. Chronic food insecurity, i.e. the inability of a household or an individual to meet the minimum daily food requirements for a long period of time, is usually the result of persistent structural vulnerability. Food secure people may be exposed to similar risks and stresses, but their ability to cope is adequate.

### ***Vulnerability to Shocks and Transitory Food Insecurity***

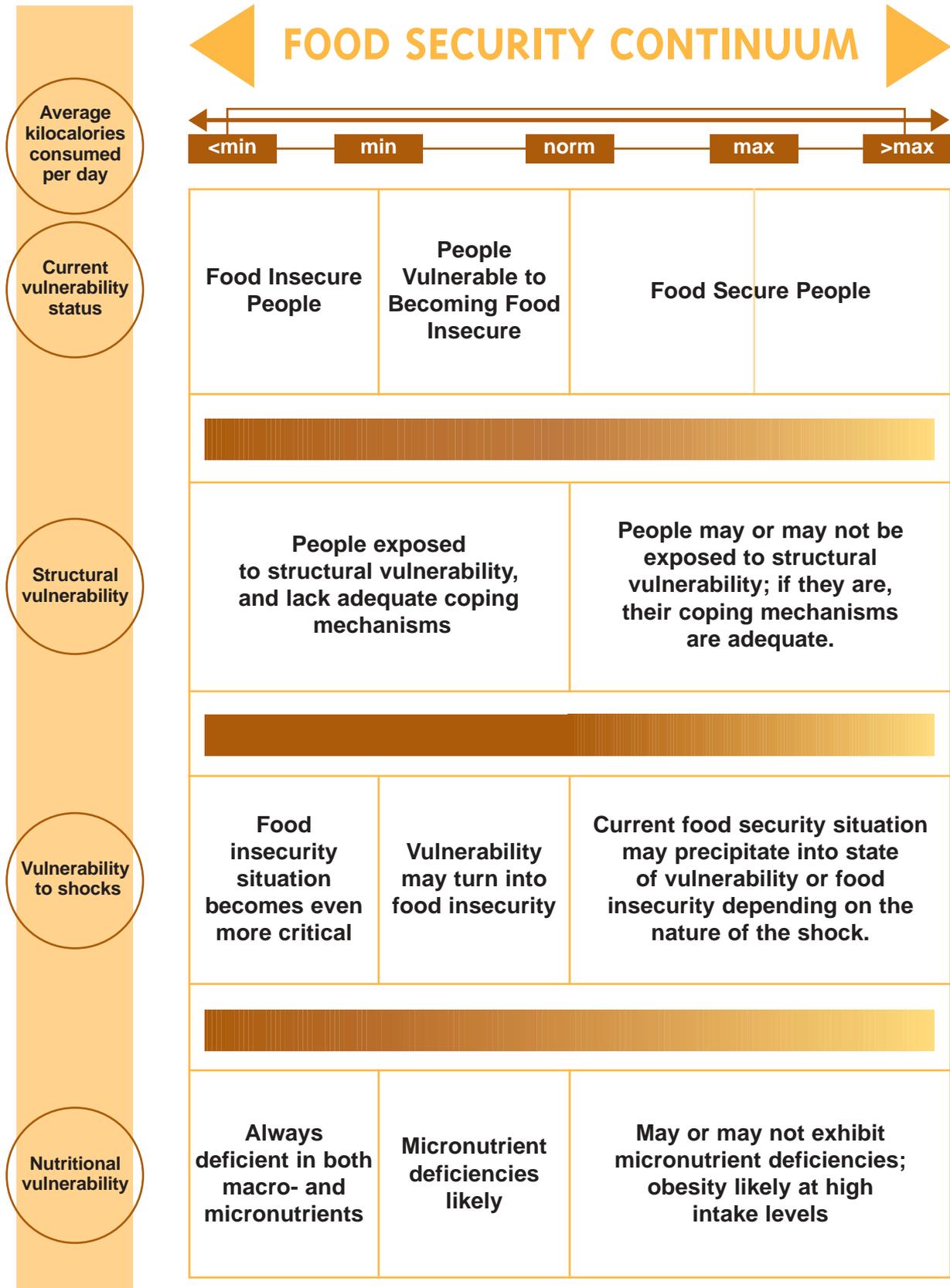
Transitory food insecurity occurs when a household or individual faces a temporary decline in the ability to meet food needs. Temporary food insecurity occurs for a limited time because of unforeseen and unpredictable circumstances (e.g. floods, civil unrest). Seasonal food insecurity occurs when there is a cyclical pattern of inadequate access to food (e.g. food shortages in pre-harvest period). All people in a population are exposed to occasional shocks, and hence face some risk of temporary food insecurity. The extent of pre-existing structural vulnerability and their ability to cope will be important factors determining the nature and effects of such an episode.

### ***Food Insecurity and Nutritional Vulnerability***

Among chronically food insecure people both macro- and micronutrient deficiencies will almost certainly be present. Diversification of diets is usually sufficient to redress these imbalances, but the cost is often too high. People may experience nutritional imbalances even when obtaining sufficient dietary energy.

<sup>1</sup> Average minimum and maximum requirements ranging from 1800 to 2500 kcal per person per day are frequently cited for population groups, but do not apply when looking at requirements for a single individual. These vary widely and are determined according to the age, gender, body size, activity level and rate of metabolism.

# Understanding Food Insecurity and Vulnerability



## FINDING OUT WHO THE FOOD INSECURE ARE

Identifying and characterizing food insecure people is necessary for designing and implementing actions to improve their situation and reduce their number. Often, however, the factors that make people food insecure are the same ones that make them vulnerable to food insecurity. Thus, in order to find out who the food insecure are, we need to find out first who the vulnerable are, and what is causing their vulnerability.

External and internal influences can come together in many different ways to create risk. In general, vulnerable people face two kinds of risks that jeopardize their food security: (i) risk of transitory unfavourable events (drought, currency devaluation, a death in the family); and (ii) risk created by structural, slowly-changing conditions and processes (structural unemployment, declining soil quality, HIV/AIDS). A combination of external factors arising from conditions and trends in the economic, physical, political and social environment, and internal factors arising from intra-household dynamics and social customs and beliefs can undermine the ability of people to cope with these risks. This is illustrated in the Figure shown on the cover of this booklet.

The vulnerable group concept is a way of classifying people according to sets of characteristics that help explain their vulnerability. Commonly-used classification criteria include demographic characteristics, geographical location, position in society and sources of livelihood. Choosing the livelihood system as a classifying tool has an advantage because food insecurity is often the result of factors and processes deriving from the unsustainability of the livelihood strategies of vulnerable people. Using the livelihood system as the initial criterion for grouping vulnerable individuals is useful both in identifying the causes of their vulnerability and in formulating an action response.

When a vulnerable group has been identified, it needs to be studied in detail in order to determine how severe the food insecurity is and the reason for it. Then we can understand what needs to be done to improve the situation.

### 1. INFORMAL INFORMATION-GATHERING METHOD

While not as rigorous as the formal survey method described below, the informal method capitalizes on the wealth of knowledge and experience available within most countries, and is relatively quick and easy to use.

It is particularly useful for obtaining a broad picture of underlying conditions and trends among vulnerable and food insecure people, and highlighting areas needing priority attention. The main steps involved are described briefly below:

1) *National Brainstorming Session*. The brainstorming session brings together stakeholders and other persons knowledgeable about food security issues in the country. The participants identify all groups of people in the country who are either currently food insecure or at risk of becoming so, and they provide some information about group location, food habits, the nature of food insecurity, main sources of livelihood, and principal causes of vulnerability.

**OUTPUT:** *Broad identification of vulnerable groups by agro-ecological zone and administrative unit, with a brief description of main characteristics of each group.*

2) *Validation and Refinement of Brainstorming Session Results*. Following an in-depth analysis of secondary literature and interviews with key informants, the vulnerable groups are classified and enumerated according to main source of livelihood. They are also divided into homogeneous sub-groups based on livelihood strategies and food security status.

**OUTPUTS:** *Tables classifying vulnerable groups by main source of livelihood, identifying homogeneous sub-groups by specific livelihood strategy and nature of food insecurity, and giving the location of each.*

3) *Assembly of Minimum Information Set for Each Group*. The literature review and interviews may provide all the information needed to fill up the model formats. If not, rapid appraisal surveys are implemented to obtain the missing information.

**OUTPUTS:** *Tables, maps and charts giving basic information about the food security situation at national and sub-national levels, a profile for each homogeneous vulnerable group and action recommendations for each.*

### 2. FORMAL SURVEY METHOD

Since the formal method relies on fieldwork as the main instrument for obtaining needed information, the initial steps are aimed primarily at gathering the information necessary for establishing a sampling frame for the field

# Understanding Food Insecurity and Vulnerability

surveys. The method begins with a geographic categorization of areas. Only afterwards are the vulnerable and food insecure people within each area identified, classified and profiled.

The method is statistically and analytically rigorous, but requires more time and resources. It is especially useful as support for decisions that require a fairly high degree of precision in the information base. The main steps involved are described briefly below:

1) Secondary Literature Review and Key Informants' Interviews. The analysis of these sources is expected to generate sufficient information to permit clustering of non-contiguous geographical areas within the country into fairly homogenous zones.

**OUTPUT:** *Map of the country divided into homogeneous food security zones, and brief description of each.*

2) Validation of Preliminary Findings through National Brainstorming Session. This session is conducted with a group of national food security experts, and leads to a first identification of the kinds of vulnerable or food insecure groups likely to be found in each homogeneous zone.

**OUTPUT:** *Refined map identifying areas where groups of food insecure and vulnerable people are expected to be found.*

3) Establishment of a Sampling Frame. The sampling frame is established on the basis of the characteristics of each homogeneous zone, and the vulnerable and food insecure people expected to be found there. Fieldwork instruments are also designed at this stage.

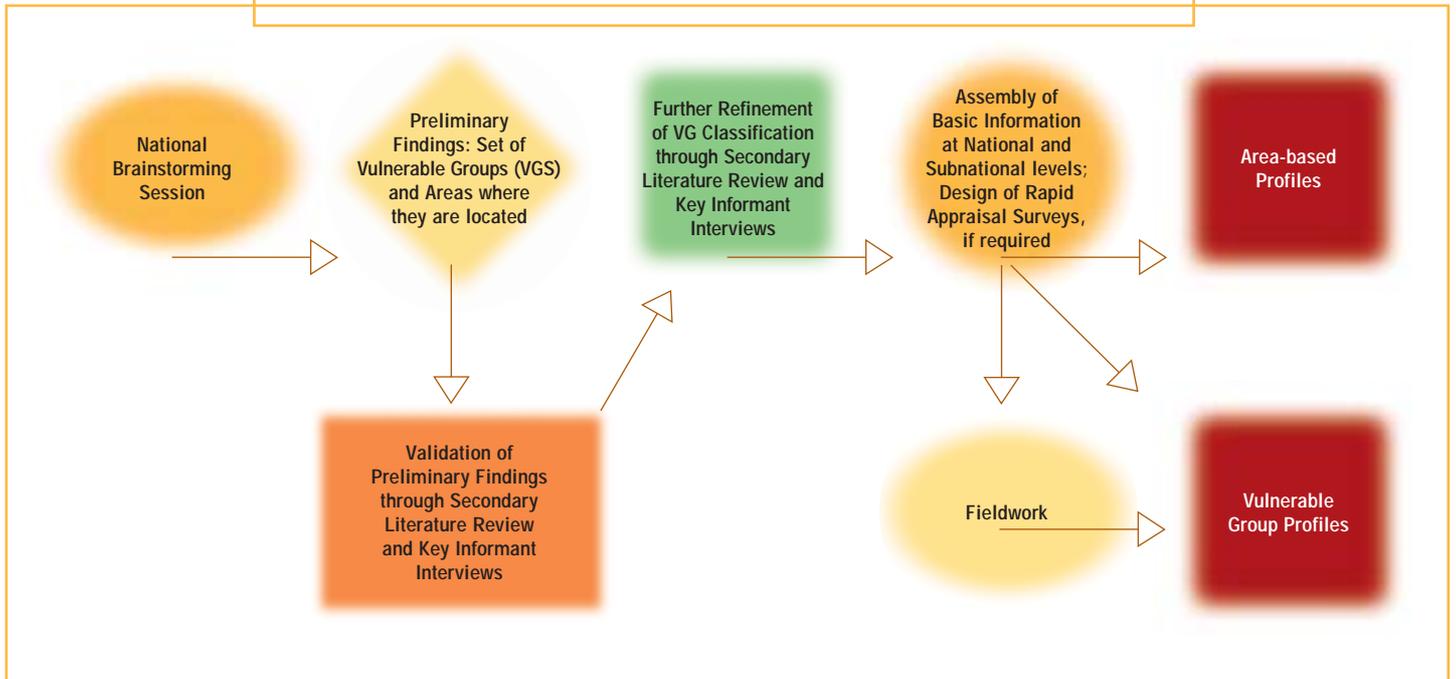
**OUTPUTS:** *A sampling frame and data collection instruments.*

4) Fieldwork. Surveys are conducted in every homogeneous zone in the country to determine who in each zone is vulnerable or food insecure, what their immediate needs are, and vulnerability factors to be addressed. Once the surveys have been completed and the data has been processed and analyzed, both area-based and group-based profiles are prepared at various levels of aggregation, depending on need.

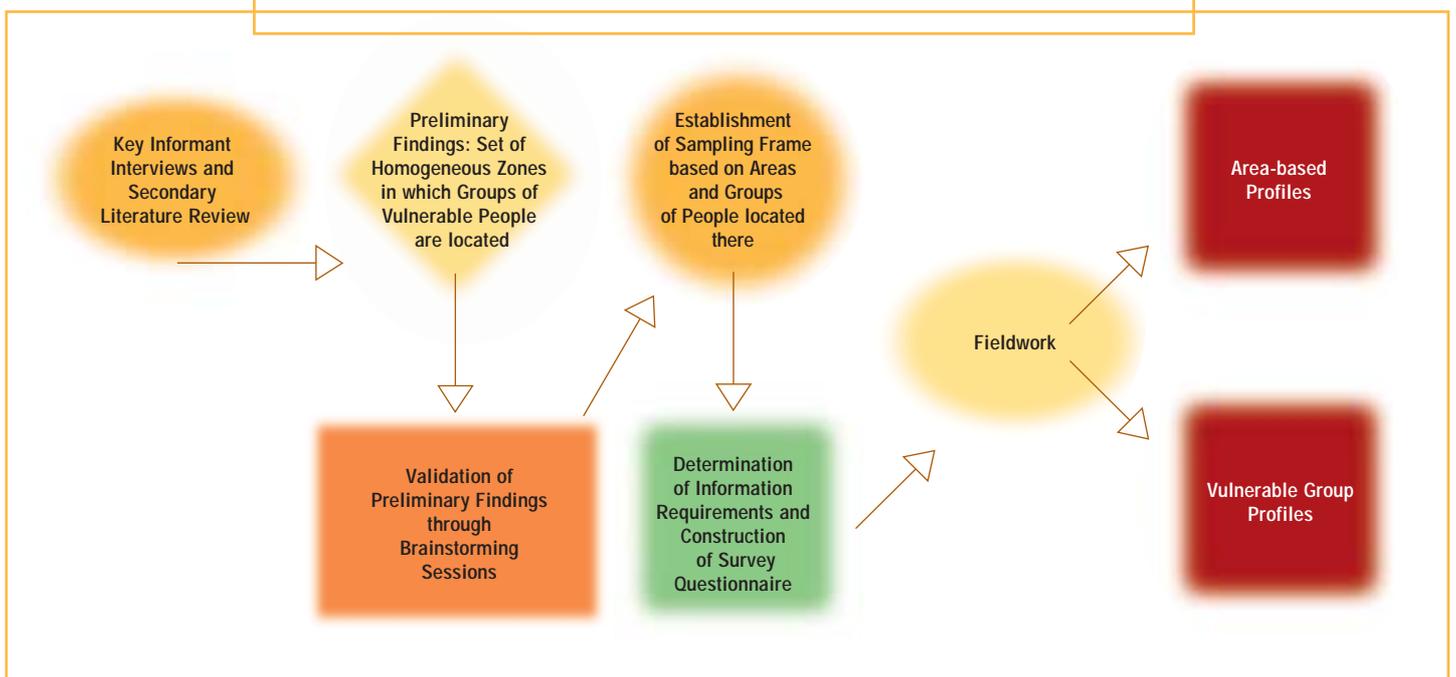
**OUTPUTS:** *Area-based and group-based profiles and needs assessment reports.*

# Understanding Food Insecurity and Vulnerability

## PATH ONE: Informal Information-gathering Method



## PATH TWO: Formal Survey Method



# Understanding Food Insecurity and Vulnerability

## RECENT GUIDES AND MANUALS

**Bigman, D. and Fofack, H. eds.** 2000. *Geographical Targeting for Poverty Alleviation: Methodology and Applications*. Washington, DC, World Bank.

**CARE USA.** 1999. *CARE Impact Guidelines*. Atlanta, Georgia, Program Division.

**Center for Natural Resource Information Technology, Texas A&M University.** 2001. *Analytic Systems for Food Security Decision Makers*. College Station, Texas, FAO WAICENT and Texas A&M.

**Centre Regional Agrhymet.** 2000. *Système de Gestion de la Banque de Données (CD-ROM)*. Niamey, Projet Alerte Précoce et Prévision des Productions Agricoles (AP3A).

**FAO.** 2000. *Who Are the Food Insecure? – Method for Locating and Profiling Vulnerable Groups*. Rome, Committee on World Food Security, CFS:2000/5.

**FAO.** 2001a. *Handbook for Defining and Setting up a Food Security Information and Early Warning System (FSIEWS)*. Rome, Agriculture and Economic Development Analysis Division. FAO Agricultural Policy and Economic Development Series, no. 6.

**FAO.** 2001b. *Targeting for Nutritional Improvement*. Rome, Food and Nutrition Division.

**Frankenberger, T.R. and McCaston, M. K.** 1998. *From Food Security to Livelihood Security: The Evolution of Concepts*. Atlanta, Georgia, CARE USA.

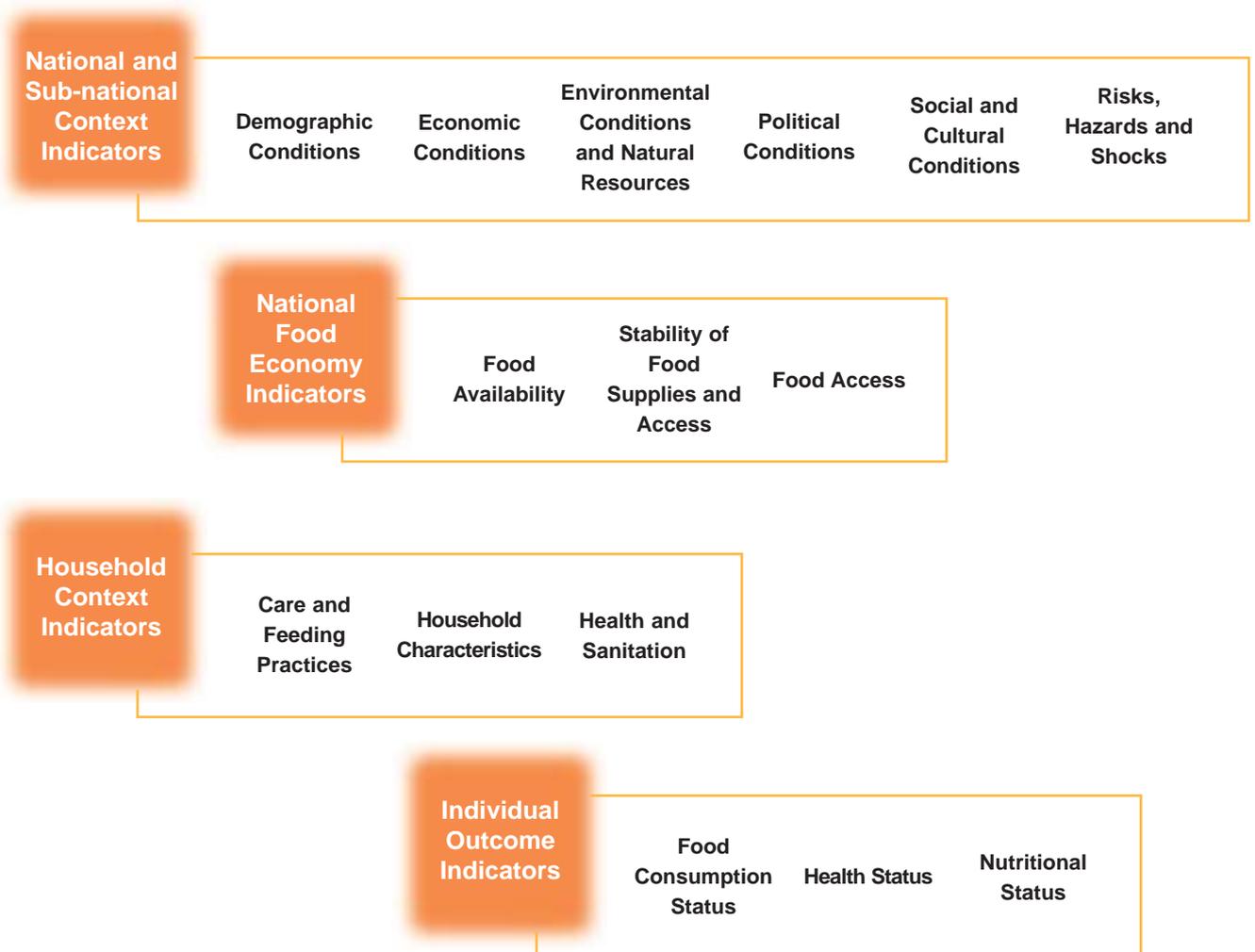
**Seaman, J. et al.** 2000. *The Household Economy Approach: A Resource Manual for Practitioners*. London, Save the Children Fund. Development Manual no. 6.

**USAID Famine Early Warning System (FEWS).** 1999. *Current Vulnerability Assessment Guidelines*. Washington, DC.

**World Food Programme (WFP).** 2001. *Standard Analytical Framework (SAF) for Vulnerability Assessment and Mapping*. Rome.

**Yohanes, Y. and Webb, P.** 1999. *Classification and Regression Trees (CART): A User Manual for Identifying Indicators of Vulnerability to Famine and Chronic Food Insecurity*. Washington, DC, International Food Policy Research Institute.

# Selecting Indicators for National FIVIMS



## RECOMMENDED COMPONENTS OF A KEY INDICATORS DATABASE

In order to collect and organise information and use it to best effect, the Inter-agency Working Group (IAWG) on FIVIMS has identified 15 information domains as relevant for the agreed Conceptual Framework for Understanding the Possible Causes of Low Food Consumption and Poor Nutritional Status. They are represented in the diagram above. There are many possible variables that could be monitored for each domain. Instead of trying to select a core list that would be equally applicable for all users, the IAWG-FIVIMS has developed a menu of variables, organized by domain, and provided suggestions regarding the criteria to be applied in selecting indicators for a national FIVIMS.

## Tools and Tips

# Selecting Indicators for National FIVIMS

## CORE INDICATORS FOR GLOBAL MONITORING OF PROGRESS TOWARD WORLD FOOD SUMMIT GOALS AND OTHER INTERNATIONAL DEVELOPMENT GOALS

In order to measure the presence or risk of food insecurity in areas and populations, it is necessary to identify and measure certain factors which, individually or in combination, can give a more accurate picture of the situation. These parameters must be easily measured, evaluated and presented in a readily usable form. For purposes of global monitoring it is also necessary that a basic set of information be monitored by all countries, so that cross-country comparisons can be made.

This need not mean introducing new data collection systems. Instead, the core indicators for global FIVIMS can be selected from those that are already commonly monitored and compared across countries. For example, the answer to a simple question such as "What is the average life expectancy of a person born in this group?"

can indicate whether that group is likely to have adequate food consumption, health and nutritional status. In this instance, demographic data derived from birth and death records for a sample of individuals can give us the information we require.

Based on recommendations of the 4th Meeting of the IAWG-FIVIMS (February 2000), seven core food security and nutrition indicators have been selected by the Committee on World Food Security (CFS) for monitoring progress toward the World Food Summit goals on a global level. In addition, the CFS has also identified 16 indicators relating to the performance of the food economy that it will monitor regularly to ascertain the extent to which availability, stability and access targets are being met. They are shown below:

### Food Security and Nutrition Status Indicators (core indicators)

#### Food Consumption

- Average per person dietary energy supply (DES)
- Cereals, roots and tubers as % of DES
- Percentage of population undernourished

#### Health Status

- Life expectancy at birth
- Under-5 mortality rate

#### Nutritional Status

- Proportion of children under 5 that are underweight, stunted or wasted
- Percentage of adults with body mass index (BMI) <18.5

### National Food Economy Indicators (additional indicators)

#### Economic Conditions

- GNP per capita
- Growth in GNP per capita
- GNP per capita at Purchasing Power Parity

#### Food Availability

- Food production index by country
- Volume of production, food use, trade and stock changes for major food commodities, by commodity group and by country groupings
- Ratio of five major grain exporters' supplies to requirements

#### Food Access

- Gini Index of income distribution
- People living below national poverty line
- People living on less than \$1 per day

#### Stability of Food Supplies and Access

- Index of variability of food production
- Food prices index
- Changes in cereal production in low income food deficit countries (LIFDCs), with and without China and India
- Export price movements for wheat, maize and rice

#### Risks, Hazards and Shocks

- Number of countries facing food emergencies

# Selecting Indicators for National FIVIMS

## CHOOSING INDICATORS FOR NATIONAL FIVIMS

Other lists of core indicators were developed for monitoring goals of other international summits and conferences that took place in the 1990s. As the Table in this booklet shows, all of these lists have much in common. Through FIVIMS a single information mechanism can be established that serves multiple monitoring objectives.

As the number of possible indicators listed in the Table is large, each country will need to choose those which are most suitable for its own needs. For national FIVIMS, indicators need to be chosen on the basis of the data needs of the country, considering users' needs at local and national levels. Financial limitations and the capacity of existing information systems to collect and manage data may also dictate which indicators may be monitored. Different groups and institutions may choose to utilise different indicators according to the role they play in reducing vulnerability and food insecurity. However, the system should include all indicators that are considered relevant and essential for the various users.

The process recommended for choosing indicators begins with the review of a large list of possible indicators that national FIVIMS stakeholders think may be useful. A starting point is the list given in the Table. Countries may find that certain aspects of food insecurity, which are specific to their situation, are not adequately covered in the pool of indicators presented in the Table. In this case, they may decide to add indicators which measure their specific food insecurity situation better.

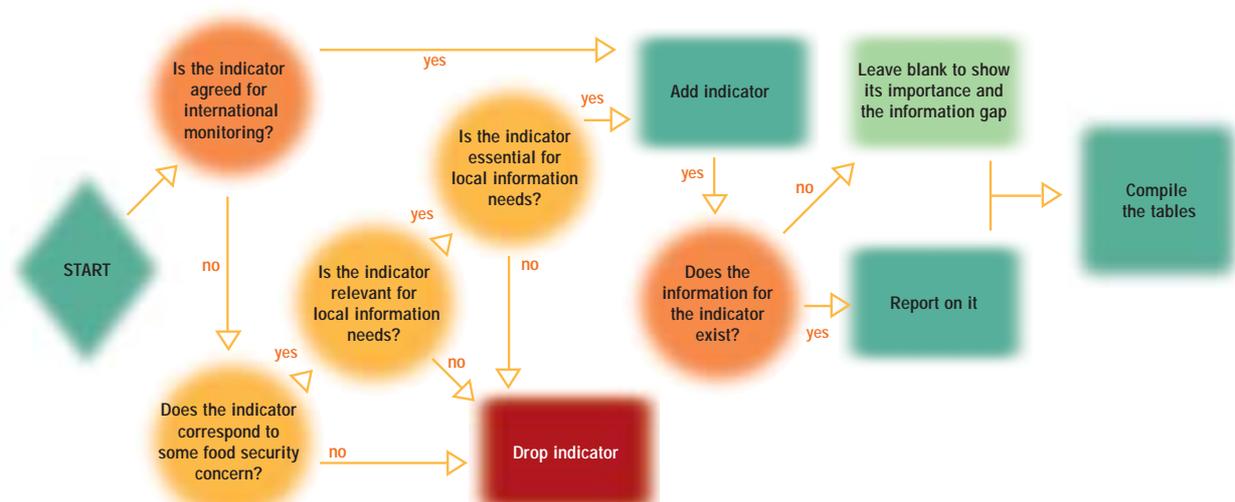
Once the list of possible indicators has been established, each indicator should be evaluated and a decision taken

to retain it or drop it. Some considerations that need to be considered when selecting indicators for inclusion in the national FIVIMS are the following:

- Indicators that correspond to national commitments made for global monitoring purposes should be retained.
- Indicators that do not address some perceived food security concern in the country should not be retained.
- Indicators that address food security concerns but are not particularly useful within the country should not be retained.
- Indicators that are considered useful but not essential, either because they duplicate other, more easily monitored indicators or because the information they provide is non-essential for decision-making, should not be retained.
- Some essential indicators may be identified for which relevant information is lacking. In such cases, including a blank indicator column on the FIVIMS reporting formats would show the importance as well as the presence of an information gap that needs to be filled.

The Flow Chart below illustrates the decision-making process described above in visual terms. When the whole list of indicators has been covered, a clear picture should emerge regarding the variables to be included in the database tables for that particular country.

FLOW CHART FOR CHOOSING INDICATORS



# Selecting Indicators for National FIVIMS

The indicators listed below constitute a menu of possible indicators that countries may consider including in their national FIVIMS. They are grouped according to the 15 domains established by the IAWG. Most of them are already being monitored in at least some countries, and have been considered useful for monitoring and analysis at global and regional levels.

The list has been compiled from the following sources:

- Indicators endorsed by the Committee on World Food Security at its 26th and 27th Sessions, for use in its annual assessments of the world food security situation;
- Indicators used by the FAO Secretariat for preparing annual reports on The State of Food Insecurity in the World, for monitoring Agenda 21, for nutrition country profiles and vulnerable group profiles, and for developing food access and vulnerability indices;
- Indicators included in the African Nutrition Database Initiative (ANDI);

- Indicators included in the Asia Key Indicators Data System (Asia KIDS);
- Indicators for monitoring International Development Goals (IGDs) of the Millennium Summit, as contained in Organisation for Economic Cooperation and Development (OECD) 2000: Measuring Development;<sup>(1)</sup>
- Indicators included in the UNDAF Guidelines for Common Country Assessment.<sup>(1)</sup>

This list represents a starting point for selecting indicators to be maintained at national level. Providing information about the selected indicators at sub-national as well as national level is a good way to begin the process of developing a disaggregated, geo-referenced database. Other country-specific indicators may need to be added to cover variables of particular relevance for specific vulnerable areas or groups, as the national FIVIMS evolves.

## TABLE NOTES

Gender indicators are included in the modules to which they relate.

Acronyms: CRED: Centre for Research on the Epidemiology of Disasters; IIASA: International Institute of Applied Systems Analysis; ILO: International Labour Organization; ISRIC: International Soils Reference and Information Center; UNESCO: United Nations Educational, Scientific and Cultural Organization; UNEP: United Nations Environment Programme; UNICEF: United Nations Children's Fund; UNDP: United Nations Development Programme; UNSD: United Nations Statistical Division; USGS: United States

Geological Survey; WB: World Bank; WHO: World Health Organization; WRI: World Resources Indicators.

(\*) Indicates that no international database holder has been identified.

"most recent year" indicates that the data is published annually, for the most recent year available.

1 According to latest survey data available in each country.

Indicator	FIVIMS-related indicators				UN-system lists		Data availability (incl. main institutional source)
	CFS	FAO-Secretariat	ANDI	Asia KIDS	OECD IDGs	UN/CCA	
<b>Food security and nutrition outcomes</b>							
<b>Food Consumption Status</b>							
Average per person dietary energy supply (DES)	X	X	X	X			most recent year (FAO)
Cereals, roots and tubers as % of DES		X		X			most recent year (FAO)
Percentage of population undernourished	X	X	X	X		X	most recent 3-yr. ave. (FAO)

<sup>(1)</sup> These lists were in the process of being updated as this booklet went to print.

# Selecting Indicators for National FIVIMS

Indicator	FIVIMS-related indicators				UN-system lists		Data availability (incl. main institutional source)
	CFS	FAO-Secretariat	ANDI	Asia KIDS	OECD IDGs	UN/CCA	
<b>Health Status</b>							
Life expectancy at birth	X	X		X	X		most recent year (UN)
Maternal mortality rate (%)		X		X	X	X	most recent year (WHO)
Under-5 mortality rate (%)	X	X		X	X	X	most recent year (UN)
Infant mortality rate (%)		X		X	X		most recent year (UN)
Prevalence of anaemia		X					most recent year (WHO)
Prevalence of cholera		X					most recent year (WHO)
Prevalence of acute respiratory infections			X				most recent year (WHO)
Prevalence of diarrhea			X				most recent year (WHO)
Prevalence of HIV		X					most recent year (WHO)
Prevalence of malaria		X					most recent year (WHO)
Prevalence of tuberculosis		X					most recent year (WHO)
<b>Nutritional Status</b>							
Percentage of adults with body mass index (BMI) <18.5		X	X	X			varying years (WHO) 1
Percentage of children under 0-3 months exclusively breastfed							1990-99 (UNICEF)
Percentage of children under 5 that are underweight	X	X	X	X	X	X	varying years (WHO) 1
Percentage of children under 5 that are stunted	X	X	X	X			varying years (WHO) 1
Percentage of children under 5 that are wasted	X	X	X	X			varying years (WHO) 1
Percentage of children under 5 affected by night blindness		X	X				varying years (WHO) 1
Percentage of households consuming iodized salt							varying years (UNICEF) 1
Percentage of newborns with low birthweight		X	X				1997 (WHO/UNICEF)
<b>Outcome indicators for vulnerability factors</b>							
<b>Demographic Conditions</b>							
Fertility rate		X	X	X	X		most recent year (UN)
Percentage of population in different age groups			X	X			varying years (UN) 1
Population growth rate		X	X	X			most recent year (UN)
Urban/rural population shares		X	X				most recent year (UN)
<b>Environmental Conditions</b>							
Arable land per person		X				X	1998 (FAO)
Average annual rate of deforestation		X					varying years (WRI) 1
Carbon dioxide emissions per person					X	X	1996 (WB)
Carrying capacity of land		X					2000 (FAO/IIASA)
Countries with environmental strategies (%)					X		1997 (WRI)
Intensity of freshwater use from renewable internal sources		X			X		varying years (FAO) 1
Energy use in agriculture		X					varying years (FAO) 1
Forest area as % of total land area					X		1995 (WB)
GDP per unit of energy use					X	X	(*)
Land area protected as % of total arable land					X		1996 (WB/FAO)
Mangrove areas					X	X	(*)
Percentage of change in km2 of forest land in the past ten years						X	most recent year (FAO)
Severely degraded land as % of total area		X					FAO
Tree density outside forest		X					(*)
Total human induced soil degradation		X					varying years (UNEP, ISIRIG, FAO) 1
Urban air pollution					X		1995 (WB)

# Selecting Indicators for National FIVIMS

Indicator	FIVIMS-related indicators				UN-system lists		Data availability (incl. main institutional source)
	CFS	FAO-Secretariat	ANDI	Asia KIDS	OECD IDGs	UN/CCA	
<b>Economic Conditions</b>							
Changes in cereal production in LIFDCs	X						most recent year (FAO)
Cropped area as % of total area		X		X			1997 (FAO)
Employment of population of working age (%)				X		X	varying years (ILO) 1
Export price movements for wheat, maize and rice	X						most recent year (FAO)
Growth in cereal yields		X					most recent year (FAO)
Growth in GDP		X					most recent year (WB)
Growth in GNP per person	X	X					most recent year (WB)
Growth in staple food yields, by commodity		X					most recent year (FAO)
Informal sector employment as % of total employment						X	varying years (ILO) 1
Ratio of five major grain exporters' supplies to requirements	X						most recent year (FAO)
Share of agriculture in GDP		X				X	1998 (WB)
Volume of production, food use, trade and stock changes for major food commodities	X						most recent year (FAO)
Wages, by economic activity (real \$ per year)		X					1998 (ILO)
Yields per hectare for major cereals		X		X			most recent year (FAO)
<b>Political Conditions</b>							
Number of countries facing a conflict-related emergency		X					2000 (CRED)
<b>Socio-Cultural Conditions</b>							
Adult literacy/illiteracy rate		X		X	X	X	1998 (UNESCO)
Female illiteracy rate			X	X			varying years (UNSD) 1
Girl net enrolment rate in primary school			X	X			1997 (UNESCO)
Literacy rate of 15-24 year-olds					X	X	1998 (WB)
Net primary enrolment or attendance rate (%)			X	X	X	X	1999 (UNESCO)
Percentage of population with access to primary health care		X					varying years (WHO) 1
Percentage of pupils starting grade 1 who reach grade 5					X	X	1996 (WB)
<b>Risks, Hazards, Shocks</b>							
National monthly rainfall index		X					varying years (FAO) 1
Number of countries facing food emergencies	X						most recent year (FAO)
Land use change		X					1997 (WB)
Percentage of population affected by droughts and natural disasters		X		X			varying years (CRED) 1
Percentage of land with erosion risk		X					varying years (USGS) 1
Rate of deforestation		X					varying years (FAO) 1
<b>Food Availability</b>							
Animal protein supply per person			X				most recent year (FAO)
Cereals supply per person			X				most recent year (FAO)
Dietary fat supply per person			X				most recent year (FAO)
Dietary protein supply per person			X				most recent year (FAO)
Food production index		X					most recent year (FAO)
<b>Food Access</b>							
Consumer prices index		X		X			varying years (WB) 1
Food prices index	X	X		X			varying years (WB) 1
Gini Index of income distribution	X	X		X			varying years (WB) 1
GDP and GNP per person	X	X	X		X		most recent year (WB)

# Selecting Indicators for National FIVIMS

Indicator	FIVIMS-related indicators				UN-system lists		Data availability (incl. main institutional source)
	CFS	FAO-Secretariat	ANDI	Asia KIDS	OECD IDGs	UN/CCA	
GNP per person at Purchasing Power Parity	X						most recent year (WB)
Market density (number of markets per unit area)		X					(*)
Paved roads as % of total road mileage		X		X			1998 (WB)
People living below national poverty line (%)	X	X		X		X	varying years (WB) 1
People living on less than \$1 a day (%)	X				X	X	varying years (WB) 1
Percentage of household income spent on food for the poorest quintile						X	(*)
Percentage of income spent on food	X	X					1985 (UNDP)
Poorest fifth share of national consumption					X	X	(*)
Poverty gap ratio		X			X	X	varying years (WB) 1
Road density (kilometers of road per unit area)		X					(*)
Share of national income by percentile of population		X					varying years (WB) 1
<b>Stability of Food Supplies and Access</b>							
Cereal import dependency ratio		X		X			most recent year (FAO)
Frequency of published or broadcast market information		X					(*)
Index of variability of food production	X	X					most recent year (FAO)
Months of cereal self-provisioning capacity		X					(*)
Variability of food prices	X	X		X			most recent year (FAO)
<b>Household Characteristics</b>							
Average household income (only urban)		X					1993 (WB)
Average household size		X					(UN)
Number of persons per room, or average floor area per person						X	(UN)
Ratio of dependants to wage-earners in average households		X					(UN/ILO)
<b>Health and Sanitation</b>							
Contraceptive prevalence rate (%)					X	X	varying years (UNDP) 1
Estimated HIV adult prevalence rate (%)						X	varying years (WHO) 1
HIV prevalence in pregnant women under 25 years of age (%)					X	X	(*)
Percentage of 1 year old children immunised against measles			X			X	varying years (UNDP) 1
Percentage of population with access to adequate sanitation		X				X	1996 (WHO)
Percentage of population with access to primary health care services						X	varying years (WHO) 1
Percentage of population with access to safe water		X		X	X	X	1996 (WHO)
<b>Care and Feeding Practices</b>							
Number of meals eaten in a day		X					(*)
Percentage of births attended by skilled health personnel					X	X	1996/98 (WHO)
Percentage of children under 15 in the labour force						X	varying years (ILO) 1
Weaning age		X					varying years (WHO) 1

# Building on Existing Information Systems

**FIVIMS-related information available in a country comes from many sources:**

## **Governmental bodies**

- national ministries
- local authorities
- statistical offices
- public sector research institutes
- inter-governmental organizations

## **UN agencies**

- UN specialized agencies and boards
- UN offices, programmes and funds
- UN system research centres

## **Funding agencies**

- bilateral aid agencies
- international and regional development banks
- international financial institutions
- private foundations

## **Civil society**

- non-governmental organizations
- bankers and traders
- business associations
- community organizations

**Some information sources which may already be present in a country and that may be used for FIVIMS are:**

Agricultural Information System

Health Information System

Land, Water and Climate Information System

Early Warning System

Household Food Security and Nutritional Information System

Market Information System

Vulnerability Assessment and Mapping System

## **Tools and Tips**

# Building on Existing Information Systems

## TAKING STOCK OF EXISTING INFORMATION SYSTEMS

All countries have some form of information system, ranging from rudimentary to highly sophisticated. Even the poorest countries usually collect at least a few basic statistics about the country's population and economic performance at periodic intervals.

With FIVIMS, there is no need to establish a new information system with a new set of data collection techniques, new databases and new management structures, if existing mechanisms can do the job. What is necessary is to analyse the existing picture to understand exactly what information is available, easily obtainable and still required to have a well-functioning national FIVIMS.

### I. UNDERSTANDING AND EVALUATING THE EXISTING SITUATION

There are a number of information systems from which useful information can be drawn for a national FIVIMS. Not all of these focus on food security as their primary objective, but the data and information they collect may be relevant. However, this information is often fragmented,

unintegrated and incomplete. Not all of it is available to those who need to take decisions. There may be duplication of efforts while other information is unavailable.

By taking all the existing information from the different sources above, integrating it into a food security information framework, analysing it to see what information is missing, and obtaining the remaining information, the resulting information system or network will be more complete.

In order to be able to evaluate the existing situation, two types of inventories need to be made:

- The first is an inventory of **existing food security information systems**, listing all existing information systems side by side with the output generated by each one and the agencies involved in generating the information. Each country will have different types of information systems, generating different information products, which will need to be described. The following is a simplified example of a table that could be used for reporting this information.

### Inventory of existing Information systems: example

<i>Information Systems</i>	<i>Output Generated</i>	<i>Agencies Involved in Output Generation</i>
Nutrition Surveillance System	Quarterly Bulletins	Nutrition Unit of Ministry of Health with the support of UNICEF
Agricultural Market Information System	Weekly and Monthly Bulletins	National Directorate of Agricultural Economics, Ministry of Agriculture and Fisheries
Community Development Information System	Poverty Profiles Based on Socio-economic Survey Results	National Economic and Social Development Board with assistance from the Asian Development Bank
Early Warning System	Monthly Reports	Office of Agricultural Economics; Ministry of Agriculture
Vulnerability Assessment and Mapping System	Food Security and Nutrition Profiles, Risk Maps on Rural and Urban Areas	Inter-sectoral Group: Nutrition Unit, Ministry of Health, in collaboration with the Ministry of Planning and Finance with support from FAO.

# Building on Existing Information Systems

- The second is an inventory of **existing sources of information and data**, classified by type and the agencies involved in producing this information.

A simplified example of such a table follows. It indicates some of the aspects that may be relevant for the national FIVIMS in a country.

## Inventory of existing sources of Information and data: example

<i>Category/Type of Information and Data Inputs</i>	<i>Sources of Information and Data</i>	<i>Agencies involved in generating Information and Data</i>
<b><u>Environment and Natural Resources</u></b>		
Environmental Risks and Hazards	Remote Sensing Maps, GIS Database	National Mapping and Resource Information Authority
Rainfall	Charts	Meteorological Department
Vegetation Index	Surveys	World Food Programme
<b><u>Agriculture</u></b>		
Food Crop Production, Yield, Cost of Production	National Agricultural Statistics	Department of Census and Statistics, Ministry of Finance and Planning
Agricultural Exports and Imports	Reports and Surveys	Department of Agriculture, Ministry of Agriculture and Cooperatives
<b><u>Food Availability and Consumption</u></b>		
Per Capita Food Availability	National Food Balance Sheet	Office of Agricultural Economics
Calorie Consumption based on Expenditure Data	National Household Surveys on Living Conditions	International Food Policy Research Institute
<b><u>Health and Nutrition</u></b>		
Low Birth Weight	Report on Nutritional Status of Children in the Country	Office of the Medical Statistician, Department of Health Services, Ministry of Health
Immunization Coverage	Survey Reports	Department of Science and Technology, Food and Nutrition Institute
<b><u>General Living Standard</u></b>		
Housing and Sanitation	Census of Population and Housing	Department of Census and Statistics, Ministry of Finance and Planning
Water Sources	National Demographic Survey	National Directorate of Statistics and UNICEF

Additional information from vulnerability assessments and profiles, risk maps and other specialised studies should be taken into account. Integrated information

products and the units that produce them should also be considered in an analysis of the existing situation.

## 2. COMPARING THE NATIONAL FOOD SECURITY INFORMATION SYSTEM WITH FIVIMS CHARACTERISTICS

Finally, a composite picture of all existing systems which form the Food Security Information System in a country needs to be drawn up and compared with the characteristics of national FIVIMS.

<i>A National FIVIMS has the following characteristics:</i>	<i>Basic questions regarding the existing system, with respect to each of these characteristics:</i>
1. It provides <b>national coverage</b> of food security questions.	Does it cover the whole country? Is coverage both at national and subnational levels? Which parameters of food security does it monitor?
2. It is <b>owned</b> or supported by <b>the major</b> public and private <b>stakeholders</b> in the country, both national or international.	Who owns and supports the information? What is the involvement of the different ministries, NGOs, UN organizations, etc.?
3. In both transitory and chronic situations, it can <b>answer the basic questions</b> as to <b>who</b> the food insecure are, <b>where</b> they are located and <b>why</b> they are in such conditions.	Have food insecure and vulnerable areas and groups been identified? Have risks and coping strategies been identified? Have vulnerable livelihood groups been identified?
4. Consistent with the FIVIMS conceptual framework, it provides <b>co-ordinated cross-sectoral coverage</b> of all the major dimensions of nationally defined food insecurity problems.	Do the information owners in different ministries, agencies, etc. share information? Are the different dimensions adequately covered? Is the information fragmented or well integrated?
5. It produces “ <b>information products</b> ” that are <b>used in action programmes</b> to reduce food insecurity and vulnerability by providing useful information to those who make decisions affecting resource allocation.	Are information products available? In what form are they presented? At what intervals are they available? To whom are they addressed? Do they cover all necessary aspects?
6. It provides information that is <b>up-to-date and of sufficient quality</b> to allow effective actions to be taken at the appropriate time.	How regular and timely is the information? Is the information of good quality? How is the information presented? Are data integration and elaboration techniques adequate?
7. <b>It monitors progress towards the meeting of goals</b> of World Food Summit (WFS) and other national and international food security, poverty-reduction, or quality of life commitments (at least implicitly).	Who has the responsibility of monitoring progress towards meeting the WFS goals in the country? Which indicators are monitored? Is the information integrated? Are regular monitoring reports produced?



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