

MODULE 9

FOOD SECURITY ASSESSMENT AND THE LINK WITH NUTRITION

Part 1: Fact sheet

Part 2: Technical notes

Part 3: Trainer's guide

Part 4: Training resource list

Harmonised Training Package (HTP):
Resource Material for Training on
Nutrition in Emergencies. Version 2, 2011



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Module 9: Food security assessment and the link with nutrition

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The Harmonised Training Package (HTP): Resource Material for Training on Nutrition in Emergencies

What is the HTP?

The Harmonised Training Package: Resource Material for Training on Nutrition in Emergencies (the HTP) is a comprehensive documentation of the latest technical aspects of Nutrition in Emergencies (NiE). The word **Harmonised** reflects the pulling together of the latest technical policy and guidance, the word **Training** refers to its main application and the word **Package** refers to the bringing together of the subject matter into one place. It is organised as a set of modules by subject, each containing technical information, training exercises and a resource list for use in training course development.

The HTP is an initiative of the IASC Global Nutrition Cluster (GNC) and has been endorsed by the GNC and its member's agencies. In 2007, the IASC GNC commissioned the UK based partnership, NutritionWorks, to develop a training resource to facilitate capacity development in the NiE sector. HTP Version 1 was launched in 2008. HTP Version 2 update in 2010/11 was funded under an USAID OFDA grant to the UK based charity, the Emergency Nutrition Network (ENN). The update was undertaken in an ENN/NutritionWorks collaboration, with NutritionWorks responsible for overall coordination and editorial management, and editorial oversight and module production supported by the ENN.

What the HTP is not

The HTP is not a ready-to-use training course. It cannot be used as an 'off the shelf' package; rather, it should be used as a resource package during a process of course development by experienced trainers.

Who is the HTP for?

The HTP is a primarily a **resource for trainers** in the NiE sector and it can be used by individuals to increase their technical knowledge of the sector. It is designed to provide trainers from any implementing agency or academic institution with information from which to design and implement a training course according to the specific needs of the target audience, the length of time available for training and according to the training objectives. It is written in clear English and will be available in other languages in the future.

How is the HTP organised?

The HTP is organized into four sections containing a total of 21 modules which can be used as stand-alone modules or as combined modules depending on the training needs.

Section 1: Introduction and concepts

1. Introduction to nutrition in emergencies
2. The humanitarian system: Roles, responsibilities and coordination
3. Understanding malnutrition
4. Micronutrient malnutrition
5. Causes of malnutrition

Section 2: Nutrition needs assessment and analysis

6. Measuring malnutrition: Individual assessment
7. Measuring malnutrition: Population assessment
8. Health assessment and the link with nutrition
9. Food security assessment and the link with nutrition
10. Nutrition information and surveillance systems

Section 3: Interventions to prevent and treat malnutrition

11. General food distribution
12. Management of moderate acute malnutrition
13. Management of severe acute malnutrition
14. Micronutrient interventions
15. Health interventions
16. Livelihoods interventions
17. Infant and young child feeding
18. HIV/AIDS and nutrition
19. Working with communities in emergencies

Section 4: Monitoring, evaluation and accountability

20. Monitoring and evaluation
21. Standards and accountability in humanitarian response

Each module contains 4 parts which have a specific purpose as follows:

Part 1: The Fact Sheet – provides an overview of the module’s topic and is designed for non-technical people to obtain a quick overview of the subject area.

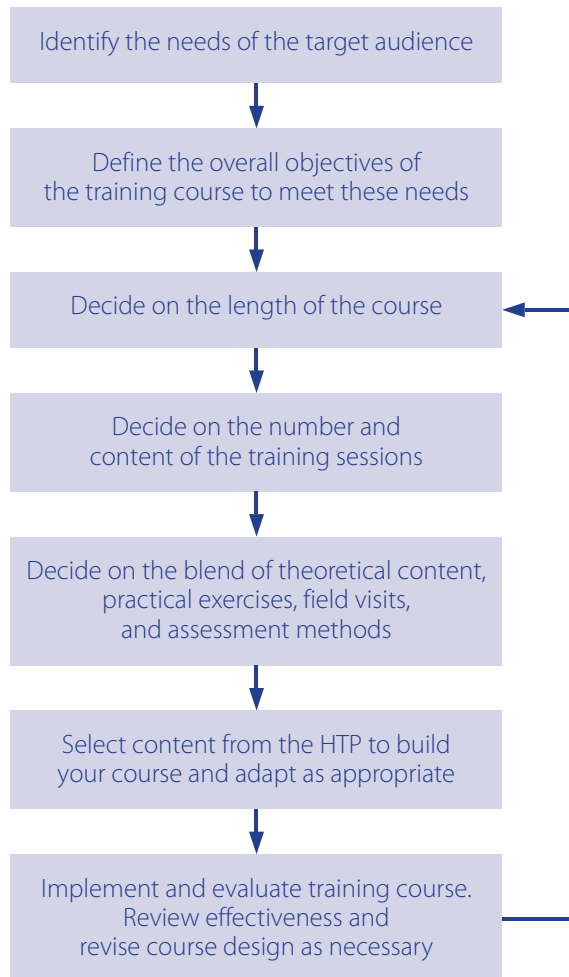
Part 2: The Technical Notes – for trainers and trainees, provides detailed technical guidance on current policies and practice.

Part 3: The Trainers’ Guide – aims to help trainers develop a training course and provides tips and tools which can be adapted to the specific training context.

Part 4: Resources – lists of relevant available resources (including training materials) for the specific technical area.

How to use the HTP

The HTP should be used during a process of course development. The process of course development involves a number of steps and these are summarised in the diagram below.



PART 1: FACT SHEET

The fact sheet is part one of four parts in this module. It provides an overview of assessing food security in emergency situations. Detailed technical information is covered in part two.

Key messages

1. Food security means access by all people at all times to sufficient, safe and nutritious food for a healthy and active life.
2. Food *in*security is just *one* of the underlying causes of malnutrition.
3. Access to food is often disrupted during emergencies. It is therefore vital to understand how households access food to plan appropriate interventions to protect food security and ultimately nutritional status.
4. Food security assessments might be conducted: (i) as part of early warning and surveillance systems, for emergency preparedness or monitoring; (ii) to identify the main constraints that prevent households from meeting their food and other needs; and (iii) as part of studies to understand the causes of malnutrition. These situations are not mutually exclusive and may therefore overlap.
5. Food security cannot be measured through a single indicator so multiple measures have to be used and analysed together.
6. There is no standard method for assessing food security in emergencies and different agencies have developed approaches that suit their individual needs.
7. The various approaches to food security assessment have some similarities and some differences.
8. While there is no single 'best' way to conduct food security assessments in emergencies, certain elements from the approaches used by different agencies can be taken to form a 'hybrid' suitable for a particular working context, as long as technical and analytical rigour is maintained.
9. Major challenges exist in assessing food security, including: the need for agreement on minimum standards in methods; incorporation of market analysis; and difficulties in application in urban and insecure contexts.
10. Including nutrition information in a food security assessment (and vice versa) improves the quality of the results and helps to ensure an appropriate response

Importance of food security assessment

'Food security' refers to access by all people, at all times, to sufficient, safe and nutritious food for a healthy and active life. The unit of measurement is usually 'the household'. There are three components to food security:

- **Availability** (sufficient quantities of appropriate food are physically available; from domestic production, commercial imports or food assistance).
- **Access** (households have enough income or other resources to obtain enough appropriate food through home production, buying, barter and can physically get to it).
- **Utilization** (food is properly used through appropriate food processing and storage practices; which may also include how food is shared within a household and how people's health status may alter their nutrient needs).

The concepts of 'availability' and 'access' are linked but even when there is plenty of food available on the market, some households may not be able to afford it.

Household food **in**security is just one of the underlying causes of malnutrition, along with inadequate care practices, unclean water, poor hygiene and sanitation, morbidity, and poor access to health care.

In emergencies, the way people obtain food is often disrupted. Results from food security assessments are used by organisations to understand the impact of the emergency on how households obtain food and to identify appropriate interventions that will protect future food security, prevent potentially related malnutrition and protect livelihoods.

Approaches to food security assessment

There are different emergency contexts and different reasons why a food security assessment may be conducted:

- To understand the 'pre-emergency' context as part of emergency preparedness by providing a baseline on how communities usually obtain their food, against which to compare any changes caused by the emergency.
- To monitor slow-onset or chronic emergencies through early warning and surveillance.
- Following a disaster; this could be economic, environmental or man-made.
- To understand the causes of already identified malnutrition and to provide the context for anthropometric data.

There is no single standard approach for assessing food security. In each context, different approaches to food security assessment might be more appropriate, and some approaches can be used in different contexts. Different agencies have developed their own food security assessment approaches, leading to variation in the indicators collected, the methods used, and the degree to which nutrition data are included. Very limited guidance material is available to provide a comprehensive overview of these different food security assessment approaches, their relative strengths and weaknesses and which are most appropriate for a given context. It is important to realise there is no single agreed 'best' way, and programme planners and managers could take elements from the different approaches and form a hybrid suitable for their particular working context. The different types of food security assessment have common concepts and frequently, one agency's approach may be modified to suit another.

Implementing a food security assessment

Though the various approaches to food security assessment use different methods, a number of generic steps can be applied to most situations as listed below:

Step 1: Preparation

This includes developing hypotheses on the impact of the crisis on food security and nutrition, setting clear survey objectives, selecting and training assessment teams and organising logistics. It is also important to check whether other assessments have been done in the area to avoid duplication and to draw on information from those surveys. Most food security assessments are carried out to address four broad objectives:

- To estimate the severity of food security
- To forecast future food security.
- To identify groups more affected by or vulnerable to food insecurity
- To identify appropriate interventions to improve households' access to food

Step 2: Secondary information collection

This involves collating relevant government and agency reports.

Step 3: Primary information collection

This involves collecting original data. Data collection methods include questionnaires, measurement, observation, interviews and focus group discussions. Food security, unlike malnutrition, cannot be measured through a single indicator. There are many indicators of food security, as shown below. Note that, alone, these indicators do not explain the food security situation; they must be analysed together, often with other information.

Categories of indicators	Examples of indicators
<i>Food availability / general context</i>	Rainfall and expected effect on harvest Crop production (types of crops, yields, methods of production) Livestock holdings and status Land area cultivated and systems of land access
<i>Food access</i>	Livelihood strategies Income, food sources and essential expenditures Household food consumption patterns Household food stocks Productive household assets Market prices of key staples and productive assets (e.g. livestock) and terms of trade Coping strategies
<i>Food utilisation</i>	Nutritional status and health status Water sources and sanitation facilities Food consumption patterns

Step 4: Analysis

In an emergency, it is important to analyse the findings quickly so that timely decisions can be made. This includes identifying which group(s) of people are affected and why, which months they are most affected and why, causes of the problem, and which information is missing or unclear. Recommendations for interventions should clearly link to the analysis and should specify which groups of people are to be targeted and how the intervention will enable them to access food.

Step 5: Report writing and dissemination of results

- Any report is more useful and more likely to be read if it is clearly written and highlights the information readers need the most. Ideally, findings should be shared with all those involved in the fieldwork including the assessed community and local authorities.

Food Security Analysis, interpretation and types of response

There is currently no standardisation or international consensus on what constitutes a 'food security emergency' and therefore when an emergency response is appropriate. Possible responses can be grouped as follows:

- Life-saving, where access to food and food consumption are affected to such an extent that people are at risk of malnutrition, starvation and eventually death.
- Protecting and strengthening livelihoods. These may be implemented either with or without life-saving interventions, depending on the context and they may have to occur equally urgently as their timing may be critical to prevent livelihood losses.

Linking food security with nutrition information

Every effort should be made to incorporate nutrition information within a food security assessment. There are benefits to analysing nutrition and food security data together to get a better understanding of the causes of malnutrition, but it is very difficult to demonstrate a direct link between food insecurity and malnutrition because there are other possible causal factors such as illness and the care and sanitary environment.

Nutrition surveys and food security assessments are usually carried out independently of one another. This is partly because of different sampling procedures, partly because individuals tend to have expertise and experience in either one or the other area, and within agencies these individuals are situated in different units. Some agencies have developed approaches to include analysis of the quality of the diet within or alongside food security assessments.

The role of markets

Food and labour markets have a major impact on household food security in both rural and urban areas and especially for the poorest households, which are usually heavily dependent on the market for their food and income. During emergencies, markets disruption occurs due to losses in production and income, and access to markets is reduced. At worst, markets collapse completely leaving rural and urban populations unable to access food. Market analysis is particularly important for agencies involved in the procurement of food or other items for distribution as they need to assess the impact of local purchase on local prices against the impact of importing these items.

The need for standardisation and minimum standards

There are three key areas where greater standardisation and development of minimum standards are needed:

1. **Baseline and assessment information.** Agreement on what constitutes a baseline and the minimum set of baseline and assessment information that needs to be collected on food security and nutrition.
2. **Sampling.** Agreement on acceptable sampling procedures for both types of surveys.
3. **Interpretation and analysis.** Agreement on how to interpret data and decide on response options. This could mean developing thresholds for certain types of food security and/or nutrition response. It also includes how to analyse food security and livelihoods information with nutrition, health and care environment data.

PART 2: TECHNICAL NOTES

The purpose of the module is to give a broad overview of the concepts and current approaches to food security assessments, with a focus on links with nutrition, and especially in emergency (or pre-emergency) contexts. It is intended to provide nutritionists with enough of an insight to the subject to enable them to interpret nutrition-related information in relation to food security data. This includes contributing to food security assessments to ensure that nutritional concerns are included and knowing which food security parameters to include in nutrition surveys.

Summary

Food *insecurity* is one of the underlying causes of malnutrition. In this module different emergency food security assessment approaches are summarised and their advantages and limitations in different contexts outlined. Major challenges are discussed and the section includes a generalised guide to implementing and interpreting food security assessments.

Key messages

1. Food security means access by all people, at all times, to sufficient, safe and nutritious food for a healthy and active life.
2. Food *insecurity* is just *one* of the underlying causes of malnutrition.
3. Access to food is often disrupted during emergencies. It is therefore vital to understand how households access food to plan appropriate interventions to protect food security and ultimately nutritional status.
4. Food security assessments might be conducted: (i) as part of early warning and surveillance systems, for emergency preparedness or monitoring; (ii) to identify the main constraints that prevent households from meeting their food and other needs; and (iii) as part of studies to understand the causes of malnutrition. These situations are not mutually exclusive and may therefore overlap.
5. Food security cannot be measured through a single indicator so multiple measures have to be used and analysed together.
6. There is no standard method for assessing food security in emergencies and different agencies have developed approaches that suit their individual needs.
7. The various approaches to food security assessment have some similarities and some differences.
8. While there is no single 'best' way to conduct food security assessments in emergencies, certain elements from the approaches used by different agencies can be taken to form a 'hybrid' suitable for a particular working context, as long as technical and analytical rigour is maintained.
9. Major challenges exist in assessing food security, including: the need for agreement on minimum standards in methods; incorporation of market analysis; and difficulties in application in urban and insecure contexts.
10. Including nutrition information in a food security assessment (and vice versa) improves the quality of the results and helps to ensure an appropriate response

TECHNICAL NOTES

These technical notes are the second of four parts contained in this module. They are aimed at people involved in nutrition programme planning and implementation. They provide technical details, highlight challenging areas and provide clear guidance on accepted current practice. Words in italics are explained in the glossary.

There are many different approaches to food security assessment but it is possible to identify basic, globally accepted concepts starting with the definition of food security itself, which is now typically considered within the broader area of livelihoods. The module therefore starts with an introduction to these basic terms and concepts to ensure that nutritionists and food security personnel speak the same language. It also provides an overview of some of the most commonly used assessment and analysis approaches, without trying to be a 'toolbox'. It is not meant to enable readers to carry out complex food security assessments on their own, but rather to provide the necessary background to understand assessment results and contribute to joint food security and nutrition analysis.

Many agencies have their preferred assessment methodology, which is often linked to their individual mandates, the contexts within which they work and their own information needs. Assessment approaches are constantly being developed and revised to keep up with changes in information requirements and contexts. For example, protracted conflicts, urban poverty, food price increases and climate change are becoming ever more important hazards that affect how households make ends meet.

No single approach to food security assessment is advocated in this module; the focus here is on the underlying concepts of food security analysis and thus better interpretation of the findings from food security assessments in light of causes of malnutrition. It is anticipated that a nutritionist will be able to highlight areas of nutritional concern following a food security assessment and also to draw the attention of food security and livelihoods specialists to areas they should investigate further.

Food security and nutrition assessments are traditionally carried out independently of one another, while the relationship between food security and nutrition is not always straightforward. At the same time, nutrition assessments frequently include collection of food security information. Therefore, it is imperative for nutritionists to understand and be able to interpret food security assessment data in order to understand the broader food security context and the potential impact on nutritional status. A sound knowledge of food security assessment methods and indicators is required in order to identify appropriate food security parameters for a particular context, and to draw the correct conclusions.

These technical notes are based on the following references and Sphere standards in the box below:

- IFRC (2004). *How to conduct a food security assessment*. Geneva: IFRC
- Young, H. et al. (2001). *Food security assessments in emergencies: a livelihoods approach*. Humanitarian Practice Network Paper 36. London: ODI
- Report of an inter-agency workshop (1997). *Food security assessments in emergencies*. Amsterdam.
- Background technical papers (2003). *Key issues in emergency needs assessment*, Volume 2, Background Technical Papers 28-30 October 2003. Rome: WFP
- Save the Children Fund and FEG consulting (2008). *The Household Economy Approach. A guide for programme planners and policy-makers*. London
- WFP (2009). *Emergency Food Security Assessment Handbook*, 2nd edition. World Food Programme Food Security Analysis Service
- Gosling L & Edwards M. (2003). *Toolkits. A practical guide to planning, monitoring, evaluation and impact assessment*. Save the Children Fund.

Sphere Assessment and analysis standard 1: food security

Where people are at increased risk of food insecurity, assessments are conducted using accepted methods to understand the type, degree and extent of food insecurity; identify those most affected; and define the most appropriate response.

Key actions

- Use a methodology which adheres to widely-accepted principles and describe it comprehensively in the assessment report
- Collect and analyse information at the initial stage of the assessment
- Analyse the impact of food insecurity on the population's nutritional status
- Build the assessment upon local capacities, including formal and informal institutions, wherever possible

Key indicators

- Food security and livelihoods of individuals, families and communities are investigated to guide interventions
- Assessment findings are synthesized in an analytical report including clear recommendations of actions targeting the most vulnerable individuals and groups.
- The response is based on people's immediate food needs but will also consider the protection and promotion of livelihood strategies

Source: Minimum Standards in Food Security, Nutrition and Food Aid. Revised Sphere Handbook, 2010.

1. Introduction

1.1 Definition of key terms

Food security refers to access by all people at all times to sufficient, safe and nutritious food for a healthy and active life. Some agencies consider three components to food security:

- **Availability** – Sufficient quantities of appropriate food are physically available. The food may come from domestic production, commercial imports or food assistance.
- **Access** – Income or other resources are adequate to obtain sufficient and appropriate food through home production, buying, barter, gathering etc. The main focus here is on the economic access of households to food. Food may be available but not accessible to people who do not have adequate land to cultivate or enough money to buy it.
- **Utilization** – Food is properly used through appropriate food processing and storage practices, adequate knowledge and application of nutrition and child care principles, and adequate health and sanitation services. Some agencies also consider how food is shared within the household, compared with each person's nutrient requirements. Utilisation also includes biological use, which is linked to a person's health. Here there is a link with the public health environment (for example communicable diseases) which could affect the body's nutrient requirement and ability to absorb food.

These are sometimes referred to as the three pillars of food security. Infrastructure such as roads and bridges can also affect physical access to markets, fields, grazing land and work opportunities. This usually impacts on the whole community equally, rather than on only some households within the community.

Other key parts of the definition are:

- **'At all times'** – this refers to the seasonal aspect of sources of food and income and of problems that could affect households.
- **'All people'** – there are differences within communities; not all households have the same access to food and income earning opportunities, or to health care and sanitation.

In emergencies, the way people obtain food is often disrupted. Emergencies can destroy food stocks in the home and warehouses and can affect areas where crops are grown (land, water, forests and grazing ground). Food, livestock and labour markets can be disrupted, as can usual sources of household income. Overall availability can be reduced causing serious food shortages as described in case example 1.

Case example 1: Destruction of food crops by cyclone: Bangladesh 2007

A Super Cyclone hit the southwest coast of Bangladesh in November 2007 causing major infra-structure damage. An estimated 7 million people were affected, at least 1.6 million acres of cropland were damaged and a significant share of the rice harvest was affected. Large numbers of livestock were killed and damage to the fishing industry was considerable. Shelter, food and cash were identified as the priority needs for storm victims.

Source: Nutrition Information in Crisis Situations. SCN. Report Number XV. December 2007.

Note that the concepts of 'availability' and 'access' are linked but even when there is abundant food available on the market, some households may not be able to afford it. Some of the major food crises in the world have been caused by market shocks, which have resulted in an inability to buy food. Recently

global food shortages and other factors such as fuel price increases and global market forces have caused food price increases and serious food insecurity in many poor countries. See case example 2.

Case example 2: Food price rises cause an emergency: Haiti 2008

Global food prices have been steadily rising, driven by increased demand, climate factors which have ruined crops and reduced production area, and an increase in the use of land to grow crops for transport fuels. In Haiti, one of the poorest countries in the Americas where around 80% of the population lives in poverty, the price of rice, beans and fruit increased by 50% between 2007 and 2008. At least four people were killed and 20 wounded when demonstrations against rising food prices turned into riots in southern Haiti. Reports say scores of people went on the rampage in the town of Les Cayes, blocking roads, looting shops and shooting at UN peacekeepers.

Source: BBC news report (2008) *World Bank tackles food emergency*. April

Food needs to be stored and prepared properly in order to maintain its nutritional value, while adequate knowledge of its preparation, firewood and time are also needed. Foods that

require special processing may be eaten unprocessed in times of emergency due to lack of time or because processing equipment is not available. See case example 3.

Case example 3: Outbreak of Konzo: Mozambique 1981

'Konzo' is a paralytic disease that results from eating bitter cassava (a root crop also known as manioc), which contains salt cyanide (a toxin) unless properly prepared. It causes irreversible paralysis to the legs as well as hearing and sight problems. To reduce the toxins in bitter cassava, it should be peeled, grated and soaked in warm water for several days. Alternatively, it can be left to ferment and then sun dried. Processing cassava involves time and intensive labour. Mozambique has experienced a number of konzo outbreaks. In 1981, there was an epidemic in the province of Nampula due to long-term drought and war when other crops had died and protein sources were limited. More than 1,000 people were affected.

Source: Cliff, J. et al. (1998) *Cassava safety in times of war and drought in Mozambique*. *Trop. Med. Intern. Health*, 2 1068-1074

1.2 Key determinants affecting food security

A household's access to food depends on **where** and **who** household members are, as well as the **season**. Thus, when considering food security data, it is important to take into account the parameters of location, main livelihood activity, socioeconomic status and seasonality. The "where" and the "who" also determine how policies, institutions and processes (the context) influence the extent to which assets can be accessed and used, and livelihood outcomes achieved.

'Where' refers to the geographic location, which determines the livelihood options, how easy it is to get to the markets to purchase and sell food or livestock or find work and other income generating activities. Geographic location also determines the type of hazards households are exposed to such as drought, hurricanes, conflict or diseases, including malaria or those affecting crops and livestock.

'Who' refers to the type of household and individuals, which is determined by the assets (human, political, social, physical, natural and financial). These traits determine what resources the household can use.

'Season' determines the activities that people undertake to get food or to earn money, the prices they pay and the foods and income generating activities that are available to them.

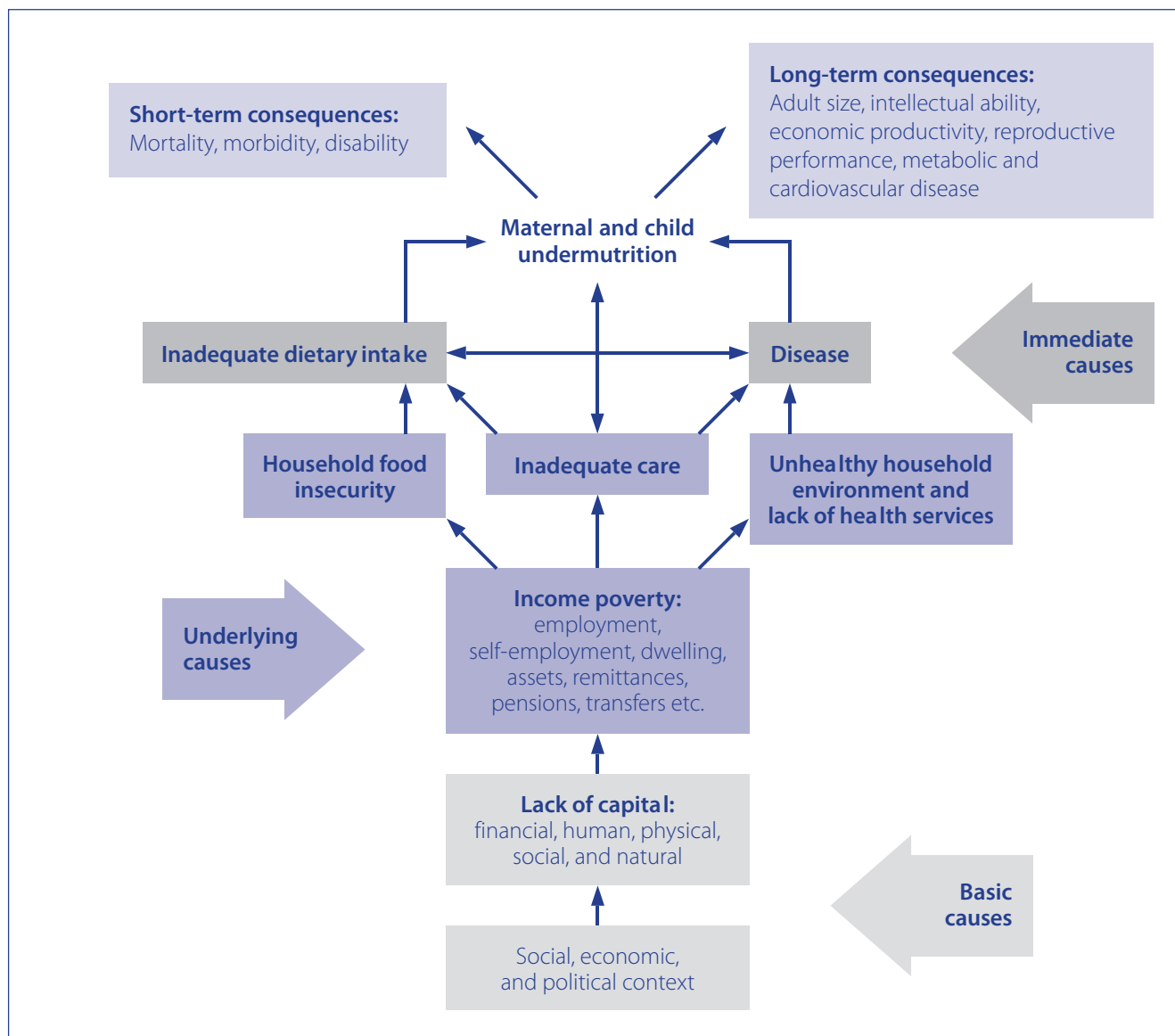
1.3 The link between malnutrition and food security

Household food **in**security is just one of the underlying causes of malnutrition, along with inadequate care practices, unclean water, poor hygiene and sanitation and poor access to health care. These are conceptualised in the model shown in figure 1.

While malnutrition rarely results from food insecurity alone and is nearly always linked to a high *prevalence* rate of disease, food insecurity is nevertheless a major contributing factor in many emergencies where malnutrition rates soar. Food insecurity indicates that households are under economic stress, which can affect care practices, health, hygiene and sanitation.

It is essential to understand the food security context before planning interventions to protect food security and prevent potential, related malnutrition. Interventions should address the main problems that households face in getting enough food and may include distribution of food aid or cash, agricultural and economic support or larger-scale projects such as building roads. Module 16 deals with types of interventions in more detail.

Figure 1: The conceptual framework for analysing the causes of malnutrition



Source: Black R E et al (2008). *Maternal and child undernutrition: global and regional exposures and health consequences*. The Lancet. Volume 371, Issue 9608, Pages 243-260

Figure 1 above, highlights the complexity of the causes of malnutrition. It is an analytical tool that shows the interaction between the various contributing factors to malnutrition. There is currently some debate about whether food security is a 'subset' of nutrition (as per the conceptual framework in figure

1 above) or whether nutrition is a 'subset' of food security (because food security is defined as utilisation of food as well as availability of and access to food.). Try not to get confused by this debate; it is best to stick to the standard definition of food security as given above.

2. Food security assessments

Since the major droughts and famines in the mid 1980s in Africa, there has been an increased interest in assessing and forecasting food insecurity. Assessments may be carried out in different contexts – following a crisis, during a prolonged emergency or within a stable development context. This module focuses on assessing food security in emergency and pre-emergency contexts.

Food security assessments are generally concerned with processes. They aim to provide an in-depth analysis of a situation and to relate this to current and future needs. The information can provide an early indication of deterioration and forecast what is likely to happen given different scenarios. Unlike outcomes such as mortality or malnutrition, which can be encompassed in a single indicator each, there is no single measure of food security status. Rather, there is a need to use multiple measures to understand the ability of households to access available foods that meet the nutritional requirements of their members, capturing simultaneously the notions of availability, nutritional adequacy, social acceptability etc.

2.1 Contexts within which emergency nutrition surveys and food security assessments are done

In an emergency, widespread human, material, economic or environmental damage threatens human lives and livelihoods and under such situations the affected households are usually unable to cope. Here, food security assessments are conducted to assess how the problem has affected the ability of households and communities to make ends meet, with a particular focus on food.

Food security assessments are also used to understand the 'pre-emergency' context as part of emergency preparedness. For example, they provide a baseline on how communities usually obtain their food, against which to compare any changes caused by the emergency.

Nutritional status data can also be collected depending on time and resources. Joint food security and nutrition assessments are considered further in section 4.5 of this module.

Emergencies may be slow-onset (such as drought) or sudden-onset such as in an earthquake. The contexts could be rural or urban and they are not mutually exclusive. In each context there are approaches that might be more appropriate, and some approaches can be used in different contexts. Three reasons for conducting food security assessments in emergencies are:

- To monitor pre-emergency or slow onset/chronic emergencies. For example in drought prone areas or among very poor communities. Early warning and surveillance approaches are appropriate here and can help to monitor the situation. They may also be used to help track the impact of an intervention. The nutrition situation may be monitored also. Phase classification approaches are also suited to track changes in the food security situation but the Integrated Phase Classification (IPC) per se is NOT a monitoring system because it relies on assessments carried out through other mechanisms. It is a meta-analysis. The repetition of this meta-analysis and comparisons of results over time enable 'second-level' monitoring.
- Following a disaster, which could be economic (e.g. food and fuel prices rises), environmental (drought, hurricane, tsunami, earthquake etc) or manmade (conflict), etc. Emergency food security assessments are usually conducted in such situations.
- Joint food security and nutrition assessments are usually conducted to understand the causes of already identified malnutrition, and may also seek to provide the context to anthropometric data. Note that it is necessary to consider the care and health environment as well as the food security situation to fully understand the context of malnutrition in emergencies.

Unfortunately the choice of assessment approach is not straightforward, and cannot be easily classified according to context. Some agencies use a clear assessment methodology including primary data gathering, while others have information systems whereby they pull together and analyse the results of other agencies' assessments. Table 1 lists some of the main approaches to food security assessment and analysis currently in use. **Annex 1** summarises their objectives, methods, advantages and constraints. The list is not comprehensive, but it does provide an outline of how food security assessment is approached by different agencies. Note that there are areas of overlap. For example the Famine Early Warning System (FEWS NET) uses the Household Economy Approach (HEA) to produce early warning profiles. To complement their sustainable livelihoods approach, OXFAM's Emergency Food Security Team has adopted HEA as the framework to identify who needs how much of what kind of assistance and for how long. Save the Children also uses the HEA.

Table 1: Agency approaches to food security assessments and analysis in emergencies

Name of assessment approach	Agency
1. Global information and early warning system (GIEWS)	FAO
2. Famine early warning system (FEWS)	USAID
3. Emergency Food Security Assessment (EFSA)	WFP
4. Integrated phase classification (IPC)	Multi-agency ¹
5. Household economy approach (HEA)	FEG, SCUK
6. Economic security assessment	ICRC
7. Household livelihood security (HLS)	CARE
8. Sustainable Livelihoods Framework (SLF)	OXFAM
9. Nutrition causal analysis approach	AAH
10. Food and nutritional assessment	MSF
11. Livelihood Assessment Toolkit (LAT)	FAO / ILO

Acronyms:

FAO	Food and Agriculture Organisation
USAID	United States Agency for International Development
WFP	World Food Programme
FEG	Food Economy Group
SC UK	Save the Children UK
ICRC	International Committee of the Red Cross
AAH	Action against Hunger
MSF	Médecins sans Frontières
ILO	International Labour Organisation

2.2 Basic steps in implementing a food security assessment

There are many food security assessment tools and information systems and there is no single standard method. Different agencies have developed their own approaches to suit their individual needs and there is much variation in the indicators collected, the methods used to collect and analyse informa-

tion, and the degree to which nutrition data are incorporated. Even the language used to describe the assessment approaches varies. *Livelihoods* assessment frequently includes an element of food security, while terms such as *vulnerability* and *coping strategies* are used to describe different assessment approaches. These terms are defined in Table 2 below.

¹ FAO, WFP, FEWSNet, Oxfam, Save the Children, CARE, EC-Joint Research Centre

Table 2: Definitions

Definitions	Concepts
<p>Food security: <i>"Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food for a healthy and active life"</i>¹</p>	<p>The concept of 'food security' has been around for a long time, but until the 1980s, the focus was on food 'production' and food 'availability'. Amartya Sen's work on entitlements contributed to changing the focus to 'access' rather than 'availability'. Currently used definitions emphasise the importance of access to food, which should be of sufficient quantity and quality to support health, growth and activity. Use has also become an important element defining food security.</p>
<p>Livelihood: <i>"A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. A sustainable livelihood can cope with and recover from stress and shocks, as well as maintain or enhance capabilities and assets, and provide sustainable livelihood opportunities for the next generation. In addition, sustainable livelihoods contribute net benefits to other livelihoods at the local and global levels in the long and short term."</i>²</p>	<p>The concept of 'livelihoods' has evolved out of our understanding of poverty. The objective of the approach is to protect and support livelihoods. Households are assumed to have different types of assets (financial, human, natural, physical, social and political) and adopt livelihood strategies (such as agriculture, labour, trade, migration, smuggling, predation and asset stripping, and external aid) to achieve livelihood outcomes (income, food security, health and education, etc.). Thus, food security is one outcome among many and is incorporated within a wider livelihoods framework.</p>
<p>Vulnerability: <i>"The characteristics of a person or group in terms of their susceptibility to harm from the impact of a natural [or man-made] hazard"</i>³</p>	<p>Vulnerability is distinct from poverty in that vulnerable people are not necessarily poor but are expected to lack the means to cope when they are exposed to risks, shocks, and stress. Here, the concept of vulnerability is not independent; it is linked to and dependent upon the hazard. So, in the food security context, households or communities are '<i>vulnerable to</i>' a shock, rather than inherently '<i>vulnerable</i>', although sometimes people use the word to mean 'poor' or 'physically frail'.</p>
<p>Coping strategies <i>"Coping is defined as a short-term response to an immediate and abnormal decline in access to food."</i>⁴</p>	<p>These are how households cope with a specific hazard by using their assets to get food and cash and other goods and services. Coping strategies vary and fall into distinct stages. Early coping strategies are not necessarily abnormal, are usually reversible and cause no lasting damage. They can include collection of wild foods, selling non-essential assets (including some livestock), reducing expenditure on 'non-essential' items or sending a family member to temporarily work elsewhere. Later strategies, sometimes called crisis strategies, may permanently undermine future food security. Some examples are sale of land, distress migration of whole families, or sale of the last animals or the productive female animals in a herd. It can be argued that taking children out of school or sending children to work also undermine the future food security of the household. Increased migration may increase risk of HIV transmission. Coping strategies may also affect the environment through over-exploitation of commonly owned natural resources or be otherwise socially 'undesirable' such as theft or begging.</p>

Sources: ¹ World Food Summit (1996) Held in Rome, Italy

² Department for International Development (1999). *Sustainable livelihoods guidance sheet*. London: DFID

³ Boudreau T (2009). *Solving the risk equation, People-centred disaster risk assessment in Ethiopia*. HPN Network paper 66. London: ODI

⁴ Davies (1993) *Are coping strategies a cop out?* IDS Bulletin 24(4): 60-72. London: IDS

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Though the various approaches to food security assessment use different methods, there are generic steps, which are outlined below and can be applied to most situations. Some are also applicable to non-food security assessments. These steps give a broad idea of the process of a food security assessment but do not provide specific guidelines on methods. References for materials containing guidance on how to conduct the various food security assessments are given in part 4 of this module.

Step 1: Preparation

- Develop hypotheses on the effects of the crisis on food security and nutrition to guide information requirements and the selection of the most appropriate assessment approach.
- Formulate clear objectives. Box 1 below illustrates the most common objectives of emergency food security assessments, but these should be tailored to the individual needs of each context.
- Find out if other organisations are doing or have done food security/livelihoods and/or other assessments in the area, and where and why. Make sure your assessment design is complementary and does not duplicate what has already been done.
- Organise logistics and finances. This includes a travel plan, field equipment, transport, translators, etc.
- Define the assessment area. This is a very important part of planning the assessment. A clear geographical, livelihood-related and/or emergency-affected definition of the assessment area is needed. This will ensure that appropriate secondary information can be collated and help to decide which locations should be visited to collect primary information. If the population being studied is heterogeneous (for example they may be a mix of fishermen and farm labourers who all have lost livelihoods due to a tsunami), it will be impossible to interpret the results or plan appropriate interventions if no disaggregation is done; each group should be studied apart.
- Check against the seasonal calendar and knowledge of typical households' daily activities to ensure people will be available to answer your questions.
- Inform appropriate authorities and obtain authorisation to visit assessment areas.
- Train the team on the assessment methodology and discuss possible cultural sensitivities and how to overcome them.

Box 1: Objectives of food security assessment in emergencies

Most emergency food security assessments are carried out to address one of four broad objectives, within a defined population:

1. Estimation of the severity of food insecurity
2. Projection of future food insecurity
3. Identification of groups that are more affected by or vulnerable to food insecurity
4. Identification of appropriate interventions to improve households' access to food

In crisis situations, while the most immediate aim is to save lives and identify the need for emergency relief in terms of food and feeding programmes, many assessments also have the longer-term aim to protect livelihoods.

Step 2: Secondary information collection

- Identify sources of secondary information from the national capital, provincial and district levels. The most common sources are government officials, local authorities and traditional leaders, non-governmental organisations (NGOs) and United Nations (UN) agencies.
- Collate and analyse secondary information (data collected from a secondary source rather than directly from the affected area). See **annex 2** for checklist.
- Identify any information within secondary sources that may be important and of relevance to your field work.

Step 3: Primary information collection

- Identify what food security information is needed. Food security, unlike malnutrition, cannot be measured through a single indicator. Instead multiple measures have to be used. Examples of indicators classified by the three pillars of food security are shown in table 3. Some agencies have devised scores or indices to measure different aspects of food security, such as dietary intake and coping strategies indices, which are used as proxy measures of food security. These indices are listed in table 4 and described in more detail in **annex 3**.

- Identify which tools or techniques and methods of data collection are appropriate and feasible with the time and resources available. These are described in more detail in many of the technical guides in the reference list in part 4 of this module and may include: questionnaires, observation, semi-structured interviews and focus group interviews among others.
- Collect and analyse primary information (data collected directly from the affected area).
- Collect market data: what commodities are available at which markets and at what prices throughout the year? How do people physically get to the market? Have these parameters changed?
- Consider collecting nutritional data if necessary and if resources and time allow. These could include anthropometric data, child health status and child food consumption patterns (including breastfeeding practice).

Table 3: Indicators used in food security assessment and analysis

Categories of indicators	Examples of indicators
Food availability/ general context	Rainfall and expected effects on harvest Crop production (types of crops, yields, methods of production) Livestock holdings and status Land area cultivated and systems of land access
Food access	Livelihood strategies Income and food sources Essential expenditures Household food consumption patterns Household food stocks Productive household assets Market prices of key staples and productive assets (e.g. livestock) – Terms of trade Coping strategies
Food utilisation	Nutritional status Health status Water sources and sanitation facilities Feeding and caring practices Food consumption patterns

Further indicators, are found in the Sphere handbook. Note that, alone, the above indicators do not explain the food security situation; they must be analysed together, often with other information. For example just knowing how much a sack

of rice costs is meaningless without also knowing how much money households earn, how much rice they need to purchase, what other means they have of obtaining rice (for example their own harvest) and other expenses they incur.

Table 4: Dietary intake and coping strategies indices

Type of index	Name	Agency
Dietary intake	Individual dietary diversity score	FANTA/FAO
	Household dietary diversity score	FANTA/FAO
	Food consumption score	WFP
	Cornell-Radimer hunger scale	Cornell University
	Household food insecurity access scale	FANTA
Coping strategies	Coping strategies index	CARE, WFP

Market analysis is an integral part of any food security assessment. A few tools are available including OXFAM, IRC and Prac-

tical Action's Emergency Market Mapping and Analysis (EMMA) tools and a new guide will soon be finalised by WFP.

Step 4: Analysis

- In an emergency it is important to analyse the findings quickly so timely decisions can be made. All analyses should identify:
 - Which group or groups of people are affected and why
 - Which months they are most affected and why
 - Causes of the problem (including an analysis of the political, economic, social, institutional, security (conflict where appropriate) and environmental conditions
 - What information is missing or is not clear, and what data should be collected next
- If possible (and depending on the approach used), develop scenarios to forecast future food security conditions.
 - What is likely to happen given a range of different anticipated events/factors?
- Identify possible response options. Ideas for interventions should:
 - specify which groups of people are to be targeted and how the intervention will help them access food
 - be guided by an assessment of their feasibility and appropriateness
 - list clear process and impact indicators with a plan for these to be monitored regularly

Step 5: Report writing and dissemination of results

- It is best to disseminate at least a summary report with key findings within a few days of completing the assessment while the information is still fresh in the team's mind.
- Any report is more useful and more likely to be read if it is clearly written and highlights the information readers need the most. It should be clear and concise, avoiding language that could be ambiguous or misunderstood such as jargon and the excessive use of acronyms.
- Ideally, the findings should also be shared with all those involved in the fieldwork including the assessed community and local authorities (time permitting).

3. Elements of emergency food security assessment and analysis

The purpose of this section is to aid decision-making in selecting an appropriate approach that suits the context and resources available. It considers the various approaches currently used to assess and/or analyse food security in emergency situations. Many of these can be used in different contexts so it is not possible here to provide a toolbox of assessment methods with clear criteria for when each should or should not be used. Relevant points to be aware of in different emergency contexts are highlighted, as well as implications for necessary staff capacity and experience. While food security and livelihoods staff have more experience in these assessments and data analysis, the approaches are outlined here so that non-specialists are aware of the basic concepts and can better understand and interpret the results.

Many agencies have developed or adapted assessment approaches to suit their needs. As a result, the guidelines available tend either to be produced by a particular agency for its own purposes or for a particular country. Very limited guidance material is available that provides a comprehensive overview of the many different food security assessment approaches used by agencies, their relative strengths and weaknesses and therefore which approaches are most appropriate for a given context. There is no reason, however, why programme planners and managers should not take certain elements from the different approaches available and form a hybrid suitable for a particular working context. See **challenge 1**. It is important to realise that there is no single 'best' way. The reason why you want to conduct or use the results of a food security assessment is usually because you need to know what food people eat, what activities they do and what happens if there is a problem. Keep this in mind while selecting the assessment approach most appropriate to your needs.

Challenge 1: Standardisation and minimum standards in food security assessment methodologies

Most food security assessment approaches allow a degree of flexibility in application. This allows people to adapt methods to a particular context. The problem with the use of multiple methods is that it is difficult to make comparisons – either geographic or over time. Though it is generally agreed that a single universal methodology would be unnecessarily confining, greater standardisation would allow better comparison of findings and lead to greater donor accountability in resource allocation decisions. As a basic requirement, the assessment methodology should tell the story of how people meet their food and other needs, in a manner that allows decision makers to understand the main constraints faced and by which groups of people. For a nutritionist, the information should indicate whether there is a possible link between the food security situation and current malnutrition or whether there is a risk of malnutrition unless some food security and livelihoods intervention is implemented.

Decisions about which emergency food security assessment approach to adopt should be based on context and particular needs. Modified approaches should be adopted where appropriate. At all times technical rigour must be maintained.

The lack of standardisation in food security assessment should not discourage readers and practitioners. A lot of effort and progress has been made to develop indicators and methodologies. While their number and difficulties in defining clear guidance on how to select the most appropriate ones are indeed a challenge, this is arguably better than a void of indicators and methods. At the time of writing, the Global Food Security Cluster is being established. One of their tasks will be to provide guidance on selecting approaches to emergency food security assessment according to the context. This should be ready some time in 2011.

There is usually more time to carry out an assessment in a chronic emergency or slow onset crisis than in an acute emergency as there is less pressure to mount an intervention immediately. This however depends on the type of problem, the context, and the timing of the assessment. For example in a drought-prone area there is a specific time of the year when it is important to intervene to protect people's livelihoods, and when the risks of malnutrition are higher. Thus approaches like CARE's household livelihood security (HLS) and the HEA, which require the collection of comprehensive baseline information that can be compared with information collected later, are well suited.

3.1 Types of emergency context

Slow onset and chronic emergencies (non-conflict)

These include areas that are prone to recurrent drought, or communities living for many years in camps with restricted access to normal economic activities.

Furthermore, in chronic emergency contexts there is often greater potential to implement combined livelihoods-protection interventions. As such, livelihoods-based approaches are useful because they take a broader view of how households access their food and hence can point to a wider range of possible interventions.

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In slow onset and chronic crises, livelihood difficulties are frequently the result of long-established underlying political and institutional problems that are then made worse by acute climactic or conflict-related shocks. Therefore, food security and livelihoods analyses must be able to identify the relevant political and institutional factors that may need to be addressed in order to improve access to food. Again, the livelihoods approaches seem best suited to this scenario. As

most field assessment approaches have the household as the unit of analysis, in order to clarify the links between macro political and institutional factors and the impact of these at the household level, it will be necessary to discuss with key informants and to read secondary sources. Establishing such linkages is critical if political and institutional factors are to be addressed.

Case example 4: Political factors in chronic emergencies: West Bank and Gaza Strip 2007

In the highly politicised West Bank and Gaza Strip, Israeli closure policies that have prevented free movement of goods and people since 2000 have had a major impact on the economy and people's livelihoods. A Food Security Assessment was carried out by WFP and FAO in 2006. Reports on income, expenditure and prices were reviewed and some primary qualitative data were gathered. The results showed that over one third (34%) of the population was food insecure. Domestic food production was insufficient to meet needs and food price increases coupled with declines in income and increasing unemployment were causing food insecurity. A major cause of food insecurity was the political situation.

"Food security here is a special case... We can be starving one day because there is no supply of food, and we can have more food than we ever need on another because we can freely fish and cultivate our lands and go to work... Food security to us is mostly related to the political situation... We are food secure if the Israelis leave us alone and stop trying to make our lives into a nightmare. If they do that then we can be food secure because we can earn a living, cultivate our lands, raise our animals, eat fish and import fish as we desire."

A participant in a focus group discussion – Gaza Strip

Source: WFP and FAO (2007) *West Bank and Gaza Strip: Comprehensive food security and vulnerability analysis*. DFID.

Acute, sudden onset emergencies

In acute emergencies, assessments need to be conducted rapidly in order to mobilise resources, especially where the need is for life-saving interventions as well as for urgent livelihood protection such as preventing the sale of key assets or damaging coping strategies. The ICRC Economic Security Assessment, Oxfam Livelihood Approach, and HFIAS approach (developed by FANTA) have all been designed for rapid implementation. Experienced practitioners can also adapt the HEA approach for use in acute emergencies. The WFP approach to emergency food security assessments is also flexible in the scope of the data collected and analysed and can thus be adjusted to the time and resources available in different types of crises.

Conflict and Political Instability

There are special challenges in conducting any assessments in Situations of Chronic Conflict and Political Instability (SCCPI) due to problems of access and insecurity, and an increased potential for bias. Normal livelihood strategies and market flows are likely to be affected by conflict and some approaches and methods have been adapted to address these particular problems. These include the categorisation of the population according to political, security, or displacement factors rather than livelihood groups in order to define groups with similar

means of accessing food. Whether or not this is appropriate can only be judged on a case-by-case basis, depending on whether it assists with understanding constraints faced by households in their ability to access food. Assessment under such conditions may also include a greater emphasis on secondary information, triangulation and combining qualitative and quantitative information, which depends on the quality, relevance and reliability of the secondary sources. Nevertheless, the limitations of approaches in SCCPI are coming into sharper focus and it has been suggested that, with careful consideration of the logic behind the analysis, current livelihoods and food security approaches can be modified to reflect the specific circumstances associated with war and insecurity. See **Challenge 2**.

In conflict situations, some indicators may be sensitive for political or ethnic reasons and there may be issues around the perceived (or real) political or ethnic affiliation of the enumerator and the potential need for ensuring that enumerators are perceived as politically or ethnically neutral. There can, therefore, be tension between the need for local experience on the survey team and real or perceived bias. At the very least there needs to be awareness of political divisions and tensions at the community level.

Challenge 2: Emergency food security assessment in conflict situations

Current emergency food security assessment approaches are limited in their ability to take account of the special conditions in conflict situations. Nevertheless, the limitations of approaches in SCCPI are coming into sharper focus and it has been suggested that:

- In conflict situations households may need to be classified in terms of political or ethnic affiliation and in terms of security as well as socio-economic possibilities
- This type of analysis may be highly sensitive and jeopardise the role of agencies implementing emergency food security assessments
- Lessons have been learned concerning the best ways to conduct assessments in conflict situations, although specific guidance material is not currently available

Standard emergency food security assessment approaches need to be modified on a case by case basis to take account of the specific circumstances in war and insecurity. This must be done carefully, to ensure the reliability of the results.

In situations of chronic conflict and political insecurity, there may also be very limited time that can be spent on the ground. Thus, assessments may not only need to be very rapid but it may only be possible to interview a small number of house-

holds or key informants. In extreme situations it will only be possible to interview those who have managed to escape a location where there is life-threatening insecurity. See **case example 5**.

Case example 5: Retrospective assessment of food security: North Korea 1999-2000

Unable to conduct a food security assessment within the country, due to the reluctance of the government to allow access, the John Hopkins University conducted interviews with 2,692 North Koreans living in China. This was a sample of the 50,000 – 150,000 people who had migrated into China. The migrants were asked about their household food situation in North Korea prior to fleeing to China, and about recent deaths in their family. The assessment concluded that household food security in North Korea had declined in the period from 1995 to 1998. Evidence for this was the reported decline in the government ration from an average 120 to 60 grams per person per day, and an increase in the percentage of households relying on foraging or bartering of assets as their principle source of food. Retrospective reports of deaths also suggested rising mortality. While there are obvious limitations to the assessment such as bias and lack of verification through direct observation and focus group discussions, the assessment provides an innovative example of how to obtain food security information through a 'one step away' approach.

Source: Courtland Robinson, W. et al. (2001) *Demographic methods to assess food insecurity: A North Korean case example*. *Prehosp. Disast. Med.* 15(4): 286-293.

Urban settings

Most food security assessments are carried out in rural settings in developing countries where livelihood options are limited and it is relatively easy to classify people into livelihood groups or socio-economic sub groups. Assessing food security in urban settings is becoming more common, however, as agencies become aware of the increase in the number of poor

people living in urban areas. In urban settings, the range of livelihood options is generally much greater and it is often harder to identify homogenous communities. Furthermore urban economies can be extremely complex. This presents a challenge to current assessment approaches as **challenge 3** notes.

Challenge 3: Emergency food security assessment of urban populations

Food insecurity in urban settings is growing. This presents challenges to current assessment approaches as the range of livelihood options for urban populations is generally broad and urban economies can be extremely complex. The complexity of the urban environment may not be adequately understood using current assessment approaches. An assessment may have to be done 'backwards,' for example, by identifying the different income earning activities that people do and then classifying households into socio-economic groups according to the typical income earned rather than by activity. Livelihood zoning may be difficult as people with different livelihood activities may live in various areas of the city or even within the same households. However, various livelihood zones can also be encountered in a city, for example, households living at the periphery may also engage in agriculture or animal husbandry, or some districts have significantly different services and infrastructure, which have an impact on people's livelihoods.

It could be argued that finding solutions to urban food insecurity is becoming a more important need as urbanization is rapidly increasing and urban poverty and food insecurity has the potential to lead to greater political instability and violence than rural food insecurity.

Further work is needed to develop emergency food security assessment and analysis approaches that are appropriate for urban settings. At the time of writing, WFP and OXFAM are finalising a review of knowledge gaps in urban food security assessment, towards ultimately producing relevant guidance.

3.2 Types of assessment approach

At the moment, there is no standard methodology for carrying out food security assessments in emergencies so a range of different approaches is highlighted here, with more detail given in **Annex 1**.

Early warning and surveillance

Early warning has been described as "*a process of information gathering and policy analysis to allow the prediction of developing crises and action to prevent them or contain their effects*"². Note that this is not really a form of assessment but in fact an information system that depends on regular collection and interpretation of data, sometimes combined with one-off assessments. Early warning is related to preparedness and contingency planning on the one hand, and preventive intervention on the other. It is most commonly used to forecast crises rather than to assess needs. Most current food security monitoring systems collate the following types of data:

1. **Agricultural production** via yields and total production of food and cash crops
2. **Market prices** of locally available staple foods, cash crops and livestock
3. **Nutrition** status of populations usually by measuring MUAC or weight-for-height
4. **Factors that may affect the above** such as rainfall, outbreaks of disease (human and animal) or crop pests

Some systems also include information on livestock herds. Many early warning systems have been set up at the country, regional and international levels. These include the FAO Global Information and Early Warning System (GIEWS), the USAID-sponsored famine early warning system (FEWS NET) in sub-Saharan Africa, and the WFP vulnerability and analysis mapping (VAM) Unit, which identifies 'hot-spots' as well as conducting routine monitoring.

Early warning systems often rely heavily on secondary data (information already collected by another agency), which may come primarily from national government statistics on rainfall, crop production, prices and imports/exports and satellite imagery. Such systems have generally been successful in forecasting impending food crises. However, they do not do well at pinpointing exactly when a crisis is likely to occur and who will be affected. Failures to accurately forecast crises have sometimes been blamed on poor design of these early warning systems (such as collecting incomplete data or not getting the data to the decision makers in time). This may also be attributable to failures by governments and donors to interpret and/or to respond to the available evidence in a timely and appropriate way. There are also simply too many unknowns even for the best designed early warning system to always accurately forecast a crisis, e.g. market behaviour, coping capacity, levels of remittances, etc.

² Darcy J. and Hofmann C-A (2003). *According to need? Needs assessment and decision-making in the humanitarian sector*. HPG Report 15, September. London: ODI.

Economic approaches

The starting point of a number of food security assessment approaches is that food security must be understood within a broad economic context. This is the basis of approaches such as the household economy approach and economic security assessments (ESA).

HEA was originally developed by Save the Children UK and now is used by them and the Food Economy Group. It has many elements in common with other agencies' approaches such as the one used by Action against Hunger.

HEA is a framework for analysing food security and livelihoods based on the principle that it is necessary to understand how people usually make ends meet in order to assess how their livelihoods will be affected by acute or medium term economic or ecological change. Although HEA assessments are carried out at one point in time, the data collected refer, usually, to an entire year. It recognizes that the economy of a population depends on household income (both cash and food production), household expenditure (both food and non-food), and other factors including savings, livestock and other assets, availability of wild foods, and access to, and use of markets. The assessment is used as a baseline against which scenarios or monitoring indicators can forecast likely future food insecurity. It can also be used to plan interventions that support rather than undermine existing survival strategies. One advantage of HEA is that it can provide quantitative estimates of household food deficit and a projection of future deficits. For this reason it has been used widely to calculate food aid needs although with the development of its own food security assessment methodology WFP is relying less on HEA than in the past.

The ESA approach, developed by the ICRC, is founded on the need to assess food security as one element of economic security. It can be applied in highly insecure situations (a common feature of ICRC work) where access to the affected population is limited and decisions need to be taken speedily. The approach is dependent on participatory, qualitative forms of data collection and can therefore only be conducted by skilled assessors.

Livelihoods approaches

Livelihoods approaches have evolved out of a need to understand and address poverty. Food security is viewed as one sub-set of desired livelihood outcomes of poor households and food is considered as only one of a whole range of factors that determine why the poor take decisions and spread risk, and how they balance competing interests in order to subsist in the short and longer term. For example, people may choose to go hungry in the short-term in order to preserve their assets and future livelihoods. Thus, food security is dependent on wider livelihood considerations.

The CARE household livelihood security model relies on secondary data combined with in-depth participatory, qualitative data collection. It seeks maximal involvement of different stakeholders in designing and carrying out the assessment. This takes time, and the approach has not been used much in emergencies, possibly because it is not easy to adapt. CARE has incorporated a rights-based approach which recognizes that poor, displaced and war-affected people have inherent rights essential to livelihoods security. This takes into account the fact that social relations and power are critical to understanding food and livelihood security. One potential limitation is that some donors prefer a strictly needs-based approach instead of a rights-based approach.

Oxfam developed its livelihoods approach to food security during the 1990s. The approach involves collecting primary and secondary (quantitative and qualitative) data according to the context. Based upon the UK Department for International Development's (DFID) sustainable livelihoods framework (SLF), Oxfam's food security assessments aim to support livelihoods, as well as saving lives. This involves assessing the longer-term risks to livelihoods, as well as short-term nutritional or life threatening risks. The SLF provides a logical approach to understanding vulnerability, capacity to respond to shocks, coping mechanisms, and potential outcomes. At its heart is an understanding of livelihood security as being a matter of having access to essential food and non-food resources. However, in times of crisis, it is important to assess needs quickly in order to mount an appropriate and timely response, hence Oxfam's Food Security Assessment Tool for emergency assessments, which is designed to guide food and nutrition technical staff in making decisions during food security related emergencies. The guidelines cover different contexts including drought, conflict, poor governance, sudden impact natural disasters, refugees/IDPs and market failure and food price increases. Details of these are given in **annex 1** and the reference for the website in part 4 of this module.

The second version of the Emergency Food Security Assessment Handbook produced by WFP (2009) takes a similar approach and also has similarities with the HEA approach, as does the FAO/ILO Livelihoods Assessment Tool-kit. This is also a livelihood-based approach, aimed at sudden onset natural disasters. The process consists of three interrelated elements: a Livelihood Baseline, an Initial Livelihood Impact Appraisal and a Detailed Livelihood Assessment.

Nutritional status approaches

Two examples of nutrition approaches described in **annex 1** have been adopted by agencies with a strong medical approach to interventions. The approaches used by both Action Against Hunger³ (AAH) and Médecins Sans Frontières (MSF) are characterised by the fact that their central concern is to prevent or address malnutrition, and food security is seen as just one element that can have an impact on nutritional status. AAH has adopted the nutrition causal analysis approach based on the UNICEF conceptual framework (see figure 1, which is based on this framework). AAH's areas of intervention are nutrition, food security, medical assistance, and water and sanitation. These fit neatly within the causal framework as they all relate to the underlying causes of malnutrition. Their assessment approach thus links data collection to AAH interventions. MSF on the other hand prioritises the health status of the affected population. Here, food is considered one of the essential elements that determine a person's health, along with measles vaccination, water, hygiene, sanitation, shelter and essential non-food items. Their guidelines for

refugee and displaced populations emphasises the need to ensure people have food of sufficient quantity (kilocalories) and quality (micronutrients) and techniques are explained for surveying food distributions⁴.

A third approach that can systematically link nutrition and food security assessments is the Standardised Monitoring and Assessment of Relief and Transitions (SMART) methodology. Here, anthropometric measurements are, depending on the context, used with mortality and/or food security information. For further details please see the website as listed in the third part of this module.

These nutritional status approaches may seem ideal because they combine nutrition data with 'contextual data', which is the non-anthropometric or mortality data usually collected during nutrition surveys. However it is important to make sure the 'extra information' is useful and is used, see **case example 6**, in order to justify the extra time and costs involved.

Case example 6: Contextual data in nutritional assessments, Ethiopia

In 2009 there was a review of the 'contextual' data that are routinely collected during nutrition surveys in Ethiopia. The purpose was to examine the types of data that are collected and how they are used. The review identified differences in survey objectives, types of contextual indicators and methods of data collection, which made it difficult to compare survey results. The review also highlighted that a significant proportion of the contextual information was not clearly linked to recommendations and therefore had questionable use in decision-making. The author suggested that a smaller number of core 'contextual' indicators could be identified which would reduce the time and cost of surveys.

Source: Watson F (2009). *Contextual data collection in nutrition surveys in Ethiopia. Summary of analysis*. ENN Field Exchange November 2009 Issue 37.

3.3 Methods in food security assessment.

As is clear above, there is much diversity in the approaches and methods employed to carry out food security assessments, including differences in:

- Sampling methods (random or purposive)
- Units of measurement (households or individuals)
- Data collection methods (rigid questionnaires, participatory methods or a combination of the two)
- Type of data collected (qualitative, quantitative or a combination of the two)
- Degree of reliance on primary or secondary data
- Investigator skills needed (highly skilled v. minimal training)
- Geographical coverage (limited to a defined livelihood area or including several types of livelihoods)

³ AAH is used as a generic term here to include the French and Spanish branches of AAH namely Action Contre la Faim and Action Contra el Hambre.

⁴ Please see MSF (2006). *Rapid health assessment of refugee or displaced populations*.

Some key elements are highlighted below.

Sampling

In an emergency, some randomised sampling procedures may not be appropriate because they take too long and are too expensive. FANTA has been working on quicker and cheaper statistically reliable ways of sampling, such as Lot Quality Assurance Sampling (LQAS). This has been validated in the field and guidance tools have been developed. This sampling was designed with anthropometric surveys in mind and it is not yet clear how useful it is in food security assessments.

Focus and units of analysis

There are distinct differences in the focus of each approach and the unit of analysis. Early warning and surveillance systems often focus on trends in food **availability** among **populations**. Economic and livelihoods approaches focus on **access** to food by **households**, while the nutritional status approaches focus on food **utilisation** in **individuals** (often children under 5 years old) and how other broader factors determine nutritional status.

Response defined objectives

The objectives of many assessments are, to some extent, pre-determined by the potential response of an agency and the context. Some approaches are used mainly to determine food aid or other pre-determined needs while others may collect information to help decide appropriate responses to food insecurity, which may or may not include food and may be beyond the mandate of the agency.

Food security indicators

The challenge in food security analysis is how to understand the complexities of the ways people make ends meet. This cannot be represented by just a few numbers. On the other hand, a correctly done baseline analysis will identify the appropriate and relevant indicators for that particular context. Changes in the food security situation of the studied community can then be monitored using these indicators, which are related to the baseline. At present some approaches to food security assessment and analysis focus on indicators that emphasise different aspects of food security, e.g. availability, household access, or individual utilization, which are useful but difficult to interpret without a baseline. It is important to correctly interpret indicators. For example, with coping strategies, what is 'normal' and what is a sign of 'distress'?

While food security indicators will inevitably continue to use a variety of both quantitative and qualitative data, standardisation could be improved by:

1. Agreement on a minimum set of information that needs to be collected as a baseline against which to assess changes in food security
2. Greater transparency in reports so that interpretation, computations and limitations are explicitly described

Analysis, interpretation and types of response

As there are so many approaches to food security assessment with different sets of indicators within sometimes different analytical frameworks, there is currently no standardisation or international consensus on what constitutes a 'food security emergency' and therefore when an emergency response is appropriate. Food security and livelihood responses can be implemented to save lives or to protect livelihoods. Further details are given in module 16 of the HTP, but in brief the main characteristics of each type are:

- Life saving, where access to food and food consumption are affected to such extent that people are at risk of malnutrition, starvation and eventually death.
- Protecting and strengthening livelihoods. These may be implemented either with or without life saving interventions, depending on the context and they may have to occur equally urgently as their timing may be critical in order to prevent livelihood losses.

There are now a number of classification systems being developed which categorise emergencies in terms of severity. These are discussed in greater detail in module 1.

Phase classification

With the proliferation of tools for conducting food security assessments and the different systems for analysing and interpreting food security information, FAO in partnership with other agencies⁵ has led the development of the IPC system. This is based on the approach originally developed by the Food Security Assessment Unit of FAO for Somalia and classifies different phases of food security according to their outcomes on lives and livelihoods. Three early warning levels (alert, moderate risk and high risk) are formulated and linked to broad types of response. Severity thresholds and phases of the IPC can be found in module 1 of the HTP, on introduction to emergencies.

Phase classification systems link different information systems and aim to provide consensus in the analysis of findings with criteria for the severity of the situation. Existing food security classification systems are ill-suited to chronic food insecurity situations, because it is difficult to identify suitable indicators and severity thresholds. Some work is planned under the Integrated Phase Classification (IPC) initiative to develop/review indicators and thresholds so that the IPC can be useful also in chronic food insecurity situations.

⁵ WFP, FEWS NET, EC-JRC, Oxfam, CARE and Save the Children

3.4 The role of markets

In normal times, food and labour markets have a major impact on household food security in both rural and urban areas and especially for the poorest households who usually depend on them to a greater degree than the better off. The role of prices and markets in influencing food and non-food demands, imports and producer incentives is frequently ignored in food security assessments. Yet market structure, prices and behaviour are critical in determining access to food, and most major food security crises have involved major market disruption.

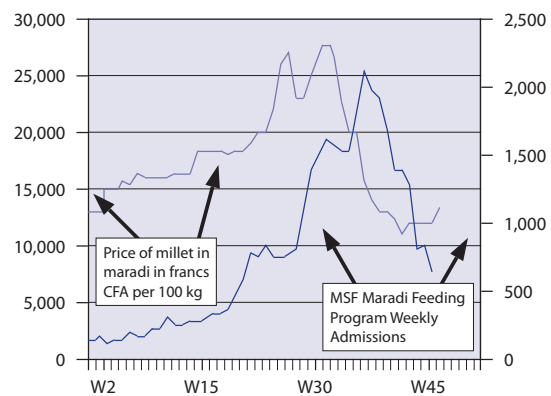
During emergencies, market disruption occurs as a result of losses in production, income and reduced access to markets. Localised food deficits can occur due to hoarding or looting, while aid interventions themselves can affect transport and food prices. Livelihoods can be affected by a collapse in the terms of trade; for example, they can be fuelled by staple food price increases and livestock price decreases. These various effects can lead to shortages, distress sales by households and speculation by traders. At worst, markets can collapse completely so that rural and urban populations are unable to access food. **Case example 7** describes how markets can affect food prices and nutritional status. This also highlights the importance of using the correct indicators and taking the context into account.

Case example 7: Market effects on food prices and nutritional status: Niger 2005

Niger faced an epidemic of acute malnutrition in 2005 primarily affecting young children less than 24 months of age in the southern areas of Maradi and Zinder provinces during the hunger gap period between June and October. In Niger, most rural families are highly dependent on market food purchases for a large part of their consumption. In July 2005, millet prices in Maradi reached up to 28,000 African Financial Community (CFA) francs for a 100 kg bag compared to 8,000 CFA francs at the time of the previous harvest in 2004. There is a striking correlation between the market price of millet in Maradi in 2005 and the number of admissions of acutely malnourished children into MSF programmes five weeks later. Nutrition surveys at the time also showed high rates of acute malnutrition, oedema and mortality among young children.

(Note that admissions rates are program indicators therefore they may reflect either an increase in community outreach programs and active case finding or a real increase in acute malnutrition among children. This initially created some confusion among donors and agencies in Niger as to how best to interpret the results and highlighted the importance of contextual data.)

Weekly millet market prices vs weekly admissions maradi 2005



Source: ENN Field Exchange 26 (2006)

Market analysis is an essential part of food security analysis but can be complicated and requires specific skills. This is all the more important because market disruptions due to an emergency can be made worse by inappropriate humanitarian responses.

Market analysis is particularly important for agencies involved in the procurement of food or other items for distribution as they need to assess the impact of local purchase on local prices

against the impact of importing these items. With market information, those agencies can compare the advantages of distributing food and/or other items compared to giving cash to target households. Market analysis should always determine potential negative impacts of a food or cash response on traders, consumers and producers. **Case example 8** provides an example of incorporating the results of a market analysis with a food security analysis, using the EMMA approach which is described below.

Case example 8: Market analysis in nutrition/food security assessment: Bangladesh 2008

Monsoon rains in Nepal and India during August-September 2007 led to the largest floods in Bangladesh in nearly a decade. Then, in November 2007, Cyclone Sidr struck coastal Bangladesh leading to many deaths plus damage to property and loss of assets. As a result of the rains and the cyclone, around 1.4 million metric tonnes of local rice crop was lost.

In the context of the global rise in the price of food and fuel, compounded by regional trade barriers for food exports from South and South East Asia and internal efforts to ensure macro-economic stability, there were predictions of future food crisis.

UNICEF, WFP and the Institute of Public Health Nutrition jointly undertook a national Household Food Security and Nutrition Assessment in 2008 at harvest time. This included anthropometric measurements of mothers, pregnant women and children plus a food security survey looking at changes in livelihoods, income sources, wages, salaries and purchasing power. A household coping strategies index and a food consumption score were calculated. In addition a market trader component was added, including 180 markets and 900 traders.

The prevalence of GAM was 13.5% with 3.4% SAM and a chronic malnutrition rate of 48.6%. The more food insecure households were smaller, had fewer assets and fewer able-bodied members. Nearly half of agricultural labourers were considered food insecure on the basis of their food consumption score. Households used many strategies to cope with the food crisis in particular borrowing from friends, relatives and/or financial institutions. The traders reported that there was a problem with people hoarding food, traders holding back stock and high fuel prices. They reported that they were selling less and with lower profit margins and they had to increasingly give credit to customers in order to maintain their business.

The authors concluded that the survey of market traders complimented the food security assessment by confirming that even though food and credit were available, the consumers did not have the purchasing power to buy enough food at the market. The recommendations therefore included support to the Bangladesh Safety Net Programme.

Source: Institute of Public Health Nutrition, UNICEF, WFP (2009). Bangladesh Household Food Security and Nutrition Assessment Report 2009

Despite the importance of market analysis within emergencies, it is often not carried out because it is considered too complicated. This is represented in **challenge 4**. To overcome this, and as preparation for interventions, Practical Action and

OXFAM-GB developed their Emergency Market Mapping Analysis (EMMA) Tool, the reference for which is given in part 4 of this module.

Challenge 4: Market analysis in emergency food security and livelihoods analysis

Market analysis is crucial to understating food security and livelihoods but is frequently ignored or considered in parallel to food security assessments. Market analysis should examine, inter alia:

1. Availability of food and other essential commodities taking seasonal price and availability changes into account, including:
 - prices for main staples and other important food stuffs (animal products, vegetables)
 - sale prices for cash crops
 - prices of livestock, number, quality and types of livestock sold
 - labour rates, also looking out for any changes in available work opportunities
 - prices of other essential commodities such as firewood and fuel
 - in disasters causing destruction of infrastructure and housing, prices of critical commodities such as roofing sheets.
2. Major trade flows for cereals, livestock and labour and factors that could affect these.

A minimum set of market information should always be collected and analysed in food security assessments. Information from household food security assessments should be integrated with market analysis. This will enable linking analysis of household access to food with market prices, or consideration of how the market functions when interpreting livelihood strategies including crop and livestock production.

TECHNICAL NOTES

The EMMA toolkit is aimed at helping non technical staff to collect economic, livelihood and seasonal information to identify opportunities and inform people with very little economic experience to make early decisions about appropriate response options. It consists of three basic strands:

- gap analysis, which looks at people's needs;
- market analysis, which looks at the market system capabilities such as concentration and competition (how many traders involved in the trade of which commodities), storage capacity, access to credit;
- response analysis, which considers options for humanitarian action. An important advantage is that this type of analysis increases awareness of the possibility that inappropriate humanitarian responses may harm businesses and households by damaging the market function and trade networks.

At the time of writing, WFP is also developing a guide on the key areas to consider when conducting market analysis (for example availability, access, responses, key questions and indicators plus linking analysis with response recommendations); more up-to-date details can be found on their website.

3.5 Linking food security with nutrition information

Household food security is intrinsically linked to individuals' nutritional status. While there are benefits to analysing nutritional and food security data together to get a better understanding of the causes of malnutrition, it is extremely difficult to demonstrate a direct link between food insecurity and malnutrition because there are other possible causal factors such as illness and the care and sanitary environment. The type of malnutrition (acute or chronic) is important. For example changes in the food security situation can occur without corresponding changes in the rate of acute malnutrition (parents may go hungry to 'protect' their child's diet), while acute malnutrition rates can rise in food secure environments (due to epidemics for example). In most situations where there is household food insecurity there will be chronic malnutrition. Nevertheless, linking food security and nutrition information can help interpret the findings of an anthropometric assessment, as **case example 9** illustrates. On the basis of food security indicators alone the situation could have been called a severe food crisis; but it was the addition of nutritional indicators that led to declaration of a famine.

Case example 9: Linking nutrition and food security information: Afghanistan 2001

In August 2001, Concern commissioned a nutrition, food security and health assessment in Badakshan province in northeast Afghanistan following three years of drought. The survey found 11% global acute malnutrition, although other information indicated a severe crisis with the population on the verge of famine. Yields from the rain-fed winter and spring wheat crops were very low for the second consecutive year and harvests of other food and cash crops, including opium, were also poor. Most farmers had already sold their livestock to compensate for production shortfalls. Livestock prices were low and wheat prices high. Borrowing was increasing with interest rates up by 350% and default resulted in loss of land or taking up the status of a sharecropper. Prices for household assets were extremely low and supply of casual labour exceeded demand, so wage levels were also low. While the figure of 11% wasting did not convince donors to fund immediate emergency nutritional interventions, the contextual food security and livelihood data clearly showed a food crisis situation. The analysis of these indicators together suggested a famine and this convinced international agencies to advocate for an immediate response.

Source: Myatt, M, Field Exchange issue 26, 2002

Analysing malnutrition, household food security, health and care together will help to identify the most important cause (or causes) of malnutrition and enable staff to prioritise programme actions. However, nutrition surveys and food security assessments are usually carried out independently of one another. This is partly because different sampling procedures are employed so it may be difficult to conduct the assessments in combination, and partly because individuals tend to have expertise and experience in one area and within agencies they are situated in different units. Furthermore, food security or livelihoods assessments need more time spent with

households, as in depth information is required. Interviewees can get 'survey fatigue' if required to participate in too many activities at one time, including measurement of children and questions about their health, diet and care. While anthropometric surveys use only quantitative information (measurements of weight/height or MUAC), food security assessments may use either qualitative or quantitative information or a combination of the two. As the two types of assessment are usually separated and conducted on different samples, statistical correlation is rarely possible. This separation has major disadvantages. See **challenge 5**.

Challenge 5: Linking food security with nutrition information

Food security and nutrition assessments are rarely carried out together due to differences in sampling procedures and differing objectives. This can be a problem especially in interpreting results and for integrating programming.

Nutritional surveys alone are of limited use as they describe an outcome (nutritional status) but provide no information about the causes of malnutrition or they may not inform on the imminence of a nutritional crisis. Food security assessments, on the other hand, can include information on the preceding months as well as currently and can be used to forecast a food security crisis.

However, it is becoming more common to conduct joint assessments especially by agencies that use them as part of integrated programming (ACF, CONCERN Worldwide and WFP, for example). This combination of food security and nutrition programming has advantages in terms of improving programme impact and using resources more efficiently. However, there are often challenges in getting the different sector teams to work together, getting donors to fund different types of activities and on how to interpret the results together. Even if the assessments are not conducted jointly, it is helpful if they cover the same target communities and if the food security assessment time period of analysis includes the few months prior to the anthropometric measurement.

Conducting nutrition and food security assessments together can combine the strengths of each. First, it improves interpretation, although food security is only part of the story about the causes of malnutrition. Secondly, it increases the likelihood of an appropriate response, as nutrition data may provoke donors to act due to a perceived urgency to act, while the more in depth food security assessment may indicate appropriate interventions.

Every opportunity should be taken to analyse nutrition and food security information together.

Another development in combining food security and nutrition information has been the recent work by Save the Children (UK), which calculates the affordability of a nutritionally adequate diet. The Cost of the Diet (CoD) method uses a mathematical approach (linear programming) to work out the cheapest combination of locally available foods that will enable a household to meet the energy, protein, fat and micronutrient requirements of its members. CoD takes into account seasonal variations in food price and availability and, when compared with HEA data for the livelihood zone, it can be used to model the impact of potential interventions or problems on the ability of households to meet their nutritional requirements.

As illustrated in **case example 10**, food security and nutrition data are often analysed by population sub-groups, (such as by livelihood zone, and sometimes by age and sex as well).

WFP is currently developing guidance on proxy indicators of malnutrition that can be included within emergency food security assessments. They are also working on an approach that estimates the nutrient intakes of mothers and children, and examines the relationship of the diets of mothers and children with child nutritional status. Here, household food security status is determined from combining results from Dietary Diversity Questionnaires, 24 hour recalls, information on vegetable gardening and enrolment into food assistance programmes. When these are finalised, details will be available on the WFP website.

3.6 Food Security Information Systems

Globally, there have been initiatives to bring together different actors to improve food security analysis either at country or at regional level. It is useful to be aware of these groupings as they are sources of food security information during slow onset emergencies or as part of background to a rapid-onset emergency. These include The Southern Africa Development Committee (SADC) and the Permanent Interstate Committee for Drought Control in the Sahel (CILSS). Both of these are linking with agencies involved in the IPC. Further information on these, especially in relation to IPC, is given in **annex 4**.

Case example 10: Linking cost of the diet with food security information: Kenya 2007

In October 2007, Save the Children (UK) undertook a Nutrition Causal Analysis in five administrative divisions within North Eastern Province, Kenya in order to understand the causes of acute and chronic child and maternal malnutrition in the area. The analysis included a desk study of secondary data plus qualitative data from focus group and key informant interviews and case histories of acutely malnourished and well nourished children. In addition, a study of the minimum cost of a locally available and healthy diet was made, looking at availability of food and costs in the market and amongst consumers and how this changes with the seasons. The cost of the diet data were analysed with the results of a Household Economy Assessment, to determine affordability of a healthy balanced diet for typical households within each wealth group.

The study area included rural and semi-urban locations and the analysis was conducted by livelihood zone. The results showed that the range of food available is limited throughout the year, but food diversity is particularly low during the rainy seasons when fruits and vegetables are barely available, only one of the locally grown pulses is available and few manufactured foods reach the area. Food diversity is more limited in rural than semi-urban locations and in fact it was not possible to obtain a balanced diet in the rural areas during the rainy seasons meaning that it was unlikely that households would be able to meet micronutrient requirements especially iron and folic acid.

The cheapest balanced diet was over three times the annual cash income of the very poor households and around twice the annual income of middle households in Central Mandera District. This suggests that the majority of households are unable to afford a balanced diet. The authors concluded that very poor households were only able to cope because they received around 2/3 of their food needs in the form of food aid.

Despite the lower diversity of foods during the rainy season, the cost of the diet was lower in the rainy season in some locations where milk was cheaper. The study also showed that in the dry season, the diet cost more in rural areas than semi-urban area, probably due to transport difficulties (poor roads, long distances) and limited availability which pushed prices up.

The analysis of cost of a healthy diet relative to cash income highlighted the major economic constraints faced by households in meeting their nutritional requirements in locations and during seasons where appropriate diverse foods are available. It also showed that many households were likely to remain dependent on food aid for basic household food security. This then informed the recommendations which included, among others, identifying the critical times of the year for cash transfers, with quantification of the amount of money needed; identifying which commodities to focus on (milk, poultry, vegetables) when supporting local producers and markets to improve availability and consumption of specific foods; and the need to strengthen access to basic infrastructure including roads.

Source: Save the Children UK (2007). *A Causal Analysis of Malnutrition, Including the Minimum Cost of a Healthy Diet. El Wak, North Eastern Province, Kenya.*

4. Challenges in comparing food security and nutrition information

There are three key areas where greater standardisation and development of minimum standards are needed:

1. **Baseline and assessment information.** Agreement on what constitutes a baseline and the minimum set of baseline and assessment information that needs to be collected on food security and nutrition.
2. **Sampling.** Agreement on acceptable sampling procedures for both types of surveys.
3. **Interpretation and analysis.** Agreement on how to interpret data and decide on response options. This could mean developing thresholds for certain types of food security and/or nutrition response. It also includes how to analyse food security and livelihoods information with nutrition, health and care environment data.

Although the Sphere minimum standards address many aspects of food security assessment and analysis in emergencies, there are still areas where minimum standards need to be defined and developed. The fact that there are various food security assessment approaches and information systems makes it difficult to compare different assessment findings within and between countries. This challenge becomes greater because of the need to take seasonality into account. It is difficult to compare results describing the situation in the hunger gap just before a harvest with those just after the harvest when food is more plentiful and prices are usually lower. Decision makers and those who allocate resources therefore face difficulties in comparing assessment findings and ranking situations.

First, it is important to know how far data from the two survey types can be interpreted together. Table 5 below highlights some key differences in the units of analysis and how the data are categorised. These help to understand what the survey or assessment results mean.

Table 5: Comparing data from food security assessments and anthropometric surveys⁶

	Food Security Assessment (generic, typical)	Nutrition (anthropometric) survey
Unit of analysis	Household	Individual (child 6-59 months)
Data categorisation	Usually gives a breakdown by socioeconomic category and/or livelihood group	Prevalence relates to children aged 6-59 months or may be broken down by age group (but usually no breakdown by wealth or livelihood group)
Time period covered by the results	Tells of the situation over previous months May be able to make projections over coming months May describe seasonal variation	Reflects the situation at one point in time (snapshot)
What does it describe?	Process (how households access food)	Outcome (nutrition status)

Case example 11 illustrates some of the challenges faced by agencies when they combine their respective food security and nutrition assessments.

⁵ Adapted from C. Chastre and S. LeJeune (2001). *Strengthening analysis of the nutrition situation through linking food security and nutrition information: Pitfalls and potentials*. ENN Issue 13 page 8

Case example 11: UNICEF and WFP joint analysis of food security and nutrition in Darfur, 2010

UNICEF is supporting the Darfur Nutrition Surveillance System, which grew out of an immediate need for information following the onset of the Darfur crisis in 2003. This includes data from feeding centres, localised nutrition surveys and sentinel sites. Recently, links with WFP have allowed food security analysis through the collection of data to calculate the household food consumption score, water use, and child food consumption.

To enable the analysis, the two agencies have had to harmonize the timing of their assessments and the selection of sentinel sites. A formal timeframe for analysis has also helped, as has engagement with the government to speed up clearance and prevent delays.

There have been a number of challenges, including:

- The selection of the sentinel sites; to ensure that the agencies use the same or compatible population categories (resident/IDP/mixed etc).
- The timing of surveys; to ensure that the food security data and the nutrition surveys reflect the same seasons.
- The selection of indicators; ensuring that the data collected can explain the nutrition results. For example, Darfur provide a context where there is high GAM with limited associated mortality, and the dynamics of coping/livelihoods are not clearly defined.
- Interpreting the results; initial analysis of the anthropometric indicators does not indicate an obvious pattern either within individual sentinel sites or overall, other than the fact that malnutrition gets worse during the hunger gap.

In the light of this, it is planned to increase involvement by FAO and the Ministry of Health to enrich the analysis of factors related to food availability and health.

The exercise has highlighted that routine analysis of information in such situations requires flexibility with the types of indicators measured (and may be the agencies involved also) so that the results are meaningful.

4.1 Baseline information

To assess the effects of a shock or crisis, assessment results must be compared with a baseline of the 'normal' situation. There are a number of factors to take into account. First of all, what is 'normal'? This may be more obvious when establishing a baseline to analyze the impact of a rapid onset disaster on food security, when it is usually possible to look at the previous year for a baseline. On the other hand, if conditions have been gradually deteriorating as in a slow-onset emergency, it is not always easy to determine what constitutes a 'normal' year.

A second point is not to equate 'normal' with 'acceptable'. Countries such as Somalia, for instance, have chronically high rates of malnutrition and food insecurity. This may be 'normal' for Somalia but it is not 'acceptable'. Nevertheless, the baseline year provides an insight into how households make ends meet and is also a valuable starting point upon which to measure changes. An 'unacceptable' food or nutrition situation must always be considered in context; for example is it the 'typical' situation or is it merely an unusual result of the emergency? This will have implications for the type of solution and which donor to approach.

There is, as yet, no agreed minimum set of baseline information required but the types of indicator will likely depend on the livelihoods context.

4.2 Sampling

While sampling procedures have been agreed upon at international level to assess outcomes such as mortality, morbidity and malnutrition in emergencies, standard sampling procedures are not routinely applied to food security assessments. The vast majority of assessments do not rely on probability (random) sampling, but adopt non-probability (purposive) sampling techniques. The type of sampling to use depends on the type of assessment, the type of questions asked, constraints on physical access to locations of groups of people, and resource limitations (time, staff and equipment).

To derive statistically representative figures on individual households, a random sample is required. On the other hand, a purposive sample approach that probes to understand, for example, how typical households make ends meet is often appropriate when respondents are carefully selected to be representative of the group of households being analysed.

In highly insecure environments or where results are required very quickly, it may not be feasible to adopt probability sampling methods. However, **case example 12** illustrates a situation where standard probability sampling procedures could be applied.

Case example 12: Emergency Food Security Assessment using standard probability sampling procedures: Kosovo 1998-1999

AAH carried out a food security assessment in Kosovo during a period of considerable insecurity. Food security was one element of a broader assessment examining nutrition and health. Therefore, probability sampling was used. Thirty clusters (28 villages and 2 urban districts) were selected at random from the 29 municipalities in Kosovo.

Food security was assessed using four different methods:

1. Household questionnaires
2. Key informant discussions
3. Market price monitoring and retailer interviews
4. Macro data and secondary information collection

Monitors travelled to the selected clusters and conducted the household questionnaire with 2 randomly selected households per cluster, and a third purposively selected household believed to be particularly vulnerable (member of a minority group). Key informant discussions were held with selected village representatives while market price monitoring was carried out in the village and local retailers were interviewed. In particularly insecure areas, the monitors worked in pairs; otherwise they worked alone. Because of the probability sampling procedure applied, the findings could be generalized to the entire nation with a known margin of error. Furthermore, they could be directly linked to nutrition and health data gathered from the clusters at the same time.

Source: AAH (1999) *Food security assessment in Kosovo*, London: AAH

4.3 Staff capacity and experience

Food security assessments require different skills and training from nutrition surveys. It is useful here to highlight some key competencies needed from staff, so that necessary support and training can be sought from food security colleagues if needed.

Most food security assessment approaches require some capacity for facilitating participatory appraisal such as key informant interviews and focus group discussions. For this, field staff require good observational, communications and analytical skills. They must be able to synthesise findings, be able to critically analyse information, remain unbiased and probe to ensure findings are logical and plausible rather than accepting the first answer given. **Case example 8** above shows how the sampling process can introduce a risk of bias or perceived bias.

In emergencies affecting large numbers of dispersed communities, it may be difficult to train sufficient numbers of staff rapidly in assessment methodologies with a large sample size. In such situations it may be more appropriate to use an approach where only a few representative households are sampled such as with Economic Security Assessments or HEA or to rely on secondary data sources.

In more stable situations where there is greater time for training and conducting the assessments, one objective may be to build up sustainable assessment and analytical capacity in-country.

4.4 Objectivity and transparency

In situations where assessment findings may be sensitive, it is important to have an approach that is as objective and transparent as possible. Assessments that are perceived as more subjective and potentially biased are more easily criticised so that the findings and recommendations may be ignored. Therefore, as with any type of assessment, it is important to make sure the selected approach has a clear and logical analytical framework, the sampling procedure is not biased, and limitations are clearly exposed.

In this regard, the IPC approach based on a meta-analysis of various sources of food security and nutrition information is underpinned by consensus building around the results of these assessments over a period of time. It also makes public the evidence used to derive conclusions on the severity of the food security situation.

Whatever the type of assessment, it is important to share the methodology with those who will use and respond to the information, and to document the limitations.

4.5 Modifying approaches

As already mentioned, the different types of food security assessment have common concepts and frequently, one agency's approach may be modified to suit another. For example in some countries WFP has used a modified form of HEA, as has the FSAU in Somalia. The type of modification depends on the information needs, the staffing capacity and the context. In all cases the modifications should be clearly explained so that information users can check if the resulting assessment method still provides reliable results.

One of the challenges in emergencies is when agencies conduct joint assessments such as, for example, when WFP

and UNHCR conduct their Joint Assessment Missions in refugee contexts. In these situations, each agency may come with its own assessment approach and the analysis, understanding and interpretation of the results in the end depend on a degree of 'negotiation' between agencies. These negotiations are influenced by the available resources and on logistics, etc.; the types of intervention each agency is mandated for; the systems for identifying and targeting beneficiaries and reporting. In such situations it is important that the assessment methods be credible so that each agency has confidence in the others' results. These comments are not specific to food security and nutrition in emergencies! **Case example 13** provides an example of a situation where government, UN agencies and NGOs conduct joint assessment and analysis.

Case example 13: Multi-agency food security assessments: Southern Africa 2002-2003

The Vulnerability Assessment Committee (VAC) was established in early 1999 by the Southern Africa Development Community (SADC) and comprised a consortium of agencies including governments, NGOs and UN agencies. At the onset of the southern Africa crisis in 2001, VAC members planned a series of emergency food security assessments from August 2002 to May 2003 to be carried out in each of the six affected countries of the region. WFP took a lead role in designing the assessments, which aimed to combine three sets of data:

- Household livelihood analysis. Primary data were collected through district-level and household interviews.
- Macro processes/indicators. These were reliant on secondary data sources.
- Nutrition data.

The emphasis was on the household livelihood analysis. Each country developed its own individual method of collecting data, but most countries combined the HEA with a questionnaire approach. The data produced were largely used for determining food aid needs and target groups.

Source: VAC (2003), VAC assessment reports

As this is clearly an important aspect of emergency needs assessments and response, agencies such as WFP and UNICEF in Darfur, Sudan are continuously working to improve joint interpretation of food security and nutrition monitoring systems. Therefore, it is worth keeping up to date with their websites for further developments.

Annex 1: Examples of different approaches to emergency food security assessment and of food security information systems

1. Early warning and surveillance

FAO Global Information and Early Warning System on Food and Agriculture (GIEWS)

GIEWS was established by FAO in 1975 to provide policy-makers and policy-analysts with the most up to date and accurate information available on all aspects of food supply and demand. It is an early warning monitoring system that warns of imminent food crises. Regular bulletins on food crop production and markets at global level are produced, as well as regional and country level situation reports. The system continually receives economic, political and agricultural information from a wide variety of official and unofficial sources. It has established links with a number of UN agencies, 115 governments, 4 regional organisations and 61 NGOs. A small unit in FAO's Rome HQ is responsible for coordination with participating organisations.

GIEWS developed an integrated information system known as the 'GIEWS Workstation' which consists of customised tools, including country cereal balance sheets, software for the display and analysis of maps and satellite images and an electronic news service. The workstation is linked to a unique reference database with information on food security and demographics at global, regional, national and sub-national levels. Satellite image analysis and map overlay functions allow rainfall and vegetation conditions in areas important for staple food crops and pastoral lands to be assessed.

GIEWS estimates global food supply and demand as well as food security at national and regional level. The system monitors national food production, stocks, trade and demand in all countries of the world, on a continuous basis and alerts the international community to countries which face a sharp rise or fall in food supply or demand, which need unusually large scale food assistance or which have an exceptional surplus of food available for donor purchases.

GIEWS also mounts rapid assessment missions to obtain accurate information to fill in information gaps and provide an early forecast in countries facing exceptional food emergencies or where donor assisted local purchases are envisaged. Reports are usually written within 10 days.

The main users of GIEWS are food assistance donors. There is close collaboration between GIEWS and WFP's VAM Unit. GIEWS includes a worldwide network of NGOs as both providers and users of information. GIEWS have also collaborated with agencies like SC UK on jointly developing risk-mapping methodologies.

There is an online database on food and agriculture for Africa and GeoWeb allows users to access GIEWS databases and tools over the internet in three languages.

GIEWS and IPC are not connected but GIEWS have participated in IPC technical discussions.

For more information contact: www.fao.org/giews

Examples of different approaches to emergency food security assessment and of food security information systems (continued)

1. Early warning and surveillance (continued)

FAO Integrated Food Security Phase Classification (IPC)

The Food Security Assessment Unit (FSAU) in Somalia was formed in 1994 to provide evidence-based analysis of the food nutrition and livelihood security situation to enable both short term emergency responses and long terms strategic planning. The tool they developed is the Integrated Food Security Phase Classification (IPC) and it is now being expanded to other countries and continents.

The aim of IPC is to provide a common terminology to classify food security to make it easier to identify priorities for intervention and to enable stronger linkages between information and response. It is not an assessment method per se, but a system for classifying the situation in different areas that integrates multiple data sources, methods and analyses. Use of the IPC encourages a mixed-method approach and the use of triangulation – both of which are highly desirable in complex situations. The IPC does not see itself as replacing existing food security information systems or methodologies but as a complimentary 'add-on' that draws from and provides focus to existing analytical system, enabling comparability between them and explicitly linking analysis to action.

The IPC consists of four components – the core Reference Table and the supporting components of Analysis Templates, Cartographic Protocols and Population Tables. There is a standardized scale system based on a set of consistent indicators and thresholds to convert the many aspects of food and livelihood security information into a map that indicates the level of severity, a causal analysis summary and projected trends of food insecurity.

Outcomes are a function of both immediate hazard events along with underlying causes, and the specific vulnerabilities of livelihood systems (including both livelihood assets and livelihood strategies). There are five possible phases which are general enough to accommodate a wide range of causes, livelihood systems, and political/economic contexts:

- *Generally Food Secure*
- *Moderately/borderline Food Insecure*
- *Acute Food and Livelihood Crisis*
- *Humanitarian Emergency*
- *Famine/Humanitarian Catastrophe.*

The IPC then relates the phase to risk by combining the concepts of hazard and vulnerability to formulate one of three possible Early Warning Levels: Alert, Moderate Risk, and High Risk. Each of these is then further specified according to *Probability, Severity, Reference Hazards and Vulnerabilities, Implications for Action and Timeframe.*

For more information contact: www.ipcinfo.org

Examples of different approaches to emergency food security assessment and of food security information systems (continued)

1. Early warning and surveillance (continued)

USAID Famine Early Warning System Network (FEWS NET)

The Famine Early Warning Systems Network (FEWS NET) is a USAID-funded activity that collaborates with international, regional and national partners to provide timely and rigorous early warning and vulnerability information on emerging and evolving food security issues.

FEWS NET staff in Africa, Central America, Haiti, Afghanistan and the US monitor and analyse relevant data and information in terms of its impacts on livelihoods and markets to identify potential threats to food security.

Once these issues are identified, FEWS NET produces monthly food security updates for 25 countries, regular food security outlooks and alerts as well as briefings and support to the contingency and response planning efforts. These help decision makers to act to mitigate food insecurity. More in-depth studies in areas such as livelihoods and markets provide additional information to support analysis as well as programme and policy development. Recently, FEWS NET has begun using HEA principles and techniques to develop livelihood baselines that are used as the reference point against which to judge the effects of current shocks. FEWS NET also focuses its efforts on strengthening early warning and food security networks. Activities in this area including capacity development, building and strengthening networks, developing policy-useful information and building consensus around food security problems and solutions.

FEWS NET endeavours to provide timely and accurate information to assess emerging or evolving food security problems, using the livelihoods approach combined with in-depth market analysis. Increasing emphasis is placed on understanding the underlying causes of food insecurity and identifying long term development needs.

FEWS NET are planning to increase coverage to up to 50 countries over the next few years by working through partners.

For more information contact: www.fews.net

Examples of different approaches to emergency food security assessment and of food security information systems (continued)

1. Early warning and surveillance (continued)

WFP Vulnerability Analyses, Emergency Food Security Assessments and Monitoring Systems

WFP have invested heavily in strengthening food security assessment tools and capacity within the organisation over a number of years. The Vulnerability Assessment and Monitoring (VAM) unit was established in 1999. The Strengthening Emergency Needs Assessment Capacity (SENAC) project was a three year project from the beginning of 2005 to the end of 2007 which has enabled WFP to invest in strengthening its food security analysis methodology and to identify more appropriate and effective responses to food insecurity.

The Food Security Analysis Service (ODXF), which incorporates VAM, has produced technical guidance on food security and vulnerability analysis, including:

- Emergency Food Security Assessment (EFSA) Handbook, geared towards rapid assessments using a combination of food consumption and access indicators.
- Comprehensive Food Security and Vulnerability Analysis (CSFVA) Guidelines for baseline surveys.
- Technical guidance sheets for Food Security Monitoring Systems (FSMS)
- Thematic Technical Guidance sheets on several issues including market analysis, linkages between food security, nutrition and other sectors.

Country-level VAM units provide regular and comprehensive analysis of the food security situation to guide WFP and its partners' operational responses. VAM information products include analytical reports, maps, and databases.

CFSVAs are conducted every 3-5 years to provide a baseline analysis of the food security and vulnerability situation of population groups and communities.

FSMS supported by WFP allow WFP and other stakeholders to better anticipate, prepare for and respond to crises, through continuous monitoring of short-, medium- and longer-term trends of the food security situation in different contexts.

VAM uses various information sources and analytical methods including satellite images of agro-climatic conditions, secondary data on education, health, and nutritional status, monitoring changes in market prices and household coping behaviour and discussions with men, women and children from food insecure and vulnerable communities.

Baseline CFSVA studies follow strict sampling procedures and rely on household-level questionnaires to gather both nutritional and socioeconomic information.

EFSA's rely on a combination of quantitative and qualitative techniques.

Tools and methodologies focus on three distinct, but inter-related dimensions of food security: aggregate food availability, household food access, and individual food utilization. These are determined by exposure to risk and ability to cope. Food insecurity is plotted according to levels of risk in different areas. This is used as a basis for determining the food or non-food intervention, and targeting of aid.

For more information contact: www.wfp.org

Examples of different approaches to emergency food security assessment and of food security information systems (continued)

2. Economic and livelihoods assessment and analysis approaches

Household Economy Approach (HEA)

The Household Economy Approach was developed by Save the Children (UK) and is a livelihoods-based framework for analysing the way people obtain food, non-food goods and services, and how they might respond to changes in their external environment, shock or hazard. It aims to capture the situation of different wealth groups in different livelihoods zones. This analytical framework can be used in a wide variety of different settings and in recent years, the approach has also been used in emergency situations.

In a classic HEA assessment, the procedure is to build the baseline first, then conduct the outcome analysis to plan the response as a separate exercise. In rapid assessments, it is usually necessary to combine all the steps into one single assessment process. However, no single "Rapid HEA" approach currently exists and, for the time being, only tips and issues for consideration based on a variety of lessons have been produced.

The Practitioners' Guide to HEA recommends four major considerations for rapid HEA assessments:

- 1) The most important requirement is to use highly competent staff: "the more rapid the HEA-based assessment, the more experienced the assessment leader needs to be";
- 2) To make good use of existing secondary data in order to focus primary data collection on understanding the impact of the disaster; a check list is provided of possible sources of secondary information in emergencies and issues to consider when reviewing secondary data to understand the baseline/pre-disaster situation;
- 3) To use rapid rural appraisal methods rather than structured questionnaires, as time and access constraints typically limit one's ability to prepare an adequate questionnaire, to sample properly and to interview the large number of households usually needed for a representative sample; and
- 4) Considering the fluidity of the context, it is recommended that analysts provide scenario-based projections and recommendations, being very clear about what variables are being taken into account in the analysis and what their different values are under the different conditions.

For more information contact: www.feg-consulting.com or <http://www.savethechildren.org.uk>

ICRC Economic Security Assessment (ESA)

The ESA is the ICRC assessment approach. For ICRC, 'economic security is reached when a person, a family or a community has the means to cover its essential economic needs defined by its cultural environment.' The objective is to understand the survival/adaptation strategies developed by a household through determining potential deficits in four key areas: options for access to food; options for access to money; major/obligatory expenses; and assets.

An ESA assessment uses elements of a Rapid Rural Appraisal approach. Data are collected through secondary sources, direct observation and semi-structured interviews with key informants and guided group discussions. Results are classified into 3 stages of household economic security and this determines the need for economic intervention:

- 1) Self-sufficient: where renewable resources are greater than obligatory expenses.
Intervention: preventive measures including political negotiation to prevent abuses.
- 2) De-capitalisation: where renewable resources are insufficient to meet obligatory expenses and capital is used up.
Intervention: economic support to prevent de-capitalisation, including food aid and means to diversify and intensify production.
- 3) Destitution: both renewable resources and capital are insufficient to meet obligatory expenses so productive assets are used up. Intervention: survival relief.

The approach is used mainly in situations of conflict and insecurity.

For more information contact: www.icrc.org

Examples of different approaches to emergency food security assessment and of food security information systems (continued)

2. Economic and livelihoods assessment and analysis approaches (continued)

CARE Household Livelihood Security (HLS)

The HLS framework was introduced by CARE in 1994 and has become their basic framework for programme analysis, design, monitoring and evaluation primarily in relation to development programming. Household livelihood security is defined as “adequate and sustainable access to income and resources to meet basic needs (including adequate access to food, potable water, health facilities, educational opportunities, housing, time for community participation and social integration, etc.)”

The objective is to analyse livelihoods while taking into account the politics of poverty, malnutrition and the survival strategies that poor people use, based on CARE’s livelihood security model. An HLS assessment relies on analysis of secondary data plus collecting primary data using RRA PRA techniques and livelihood security profiles are produced. Assessment steps are:

1. Pre-assessment activities (secondary data review, institutional profiling, stakeholder identification and participation in assessment design).
2. Target area selection (usually using purposive sampling).

Risk factors for vulnerability are identified and vulnerability analysed at the individual, household and community levels. Opportunity analysis is also undertaken, which examines positive responses of households and initiatives of agencies. The model emphasises household actions, perceptions and choices, where food is only one of the many priorities.

For more information contact: www.care.org

Oxfam Livelihood Approach to Food Security and Food Security Assessment Tool (FSAT) for Emergency Assessments

Oxfam’s livelihood approach to assessing food security is based on a sustainable livelihoods approach. The objective is to determine the severity of food insecurity in terms of risks to lives and to livelihoods, and to identify appropriate interventions.

Two measures are used to estimate risks to lives during a food security-related emergency:

- Significant shifts in different food and income sources that cannot be compensated for through other sources.
- The impact on the nutritional status of the affected population.

In addition, the approach encompasses an analysis of ‘vulnerability’ and the impact on longer term livelihoods of the strategies used by different livelihood groups as a response to the food security-related emergency. Assessments incorporate an analysis of the food security of different livelihood groups, and the risks they face. This leads to the identification of different interventions for each group.

There are two stages. Firstly, identifying different livelihood groups within the population and then assessment of food security for each group in terms of availability of and access to food, and severity of food insecurity.

Secondary information is collated from existing sources together with primary data (quantitative or qualitative) through fieldwork. Anthropometric surveys are undertaken to assess risk to lives and may use random cluster or purposive sampling techniques.

Oxfam has developed this tool to be used in various situations: drought, governance crisis, sudden-impact natural disaster, conflict, among refugees/IDPs and market failure and food price increases.

For more information contact: www.oxfam.org

Examples of different approaches to emergency food security assessment and of food security information systems (continued)

3. Approaches linking Food Security and Nutritional Status

AAH Nutrition Causal Analysis (NCA)

The NCA developed by Action Against Hunger draws upon existing methodologies for food security and livelihoods analyses and aims to adapt these to different contexts and for the specific AAH objectives.

The analysis is based on the UNICEF conceptual framework, which describes how the outcome of malnutrition and death is influenced by underlying and basic causes. The major emphasis is on the three clusters of underlying causes: food security, care and health and hygiene.

Both primary and secondary data are collected. Secondary information is analysed including spatial and temporal dimensions. Primary quantitative data collected are quantitative (via household questionnaires) and qualitative (via key informant interviews). Ideally the assessment is done in conjunction with an anthropometric survey.

While the results relate directly to AAH programmes and assessment results are designed for in house decision making, they can also be used by other organisations.

For more information contact: www.actionagainsthunger.org

MSF Food and Nutritional Assessment

MSF collects food and nutritional information as part of their rapid health assessments to evaluate the magnitude of ongoing emergencies.

The principles underpinning the MSF approach focus on the UNICEF conceptual model of the causes of malnutrition. The objective is to calculate indicators related to health and the context within which affected populations live, which can then be compared with internationally accepted standards. In particular, the food related information is used to determine if the affected population has access to food in sufficient quantity (calories) and quality (nutrient and micronutrient content).

Different sampling procedures can be used to select households, and data collection is by questionnaires. Some data are collected from the whole household (mortality or household composition) while other data are from specific individuals within the household (e.g. children, for nutritional and vaccination status). Main indicators collected include demography, mortality, morbidity, measles vaccination coverage, nutritional status, vital needs, shelter and non-food items, security. Food is considered one of the vital needs. An excel tool "componut" has been developed to facilitate calculation of the quality and quantity of the food ration.

The latest available MSF guidelines for emergency health assessment relate mainly to people living in camps (either refugee or displaced people).

For more information contact: www.msf.org

Annex 2: Sample checklist of secondary data relevant to food security analysis

Source: IFRC Food Security Assessment Guidelines

Type of Secondary information	Why it is useful
Demographic profile including the number of people in the area, the presence of refugees or internally displaced people and their number	To get an impression of how many people are affected by food insecurity
Maps with political / administrative boundaries, roads, railways, rivers, villages and water points	Information on where people are, how to access them, potential obstacles, under whose authority they fall
Overview of the various social groups by ethnicity, wealth and/or religion and their physical location	Information on how people are related socially and how best to approach them (e.g. through religious leaders)
Social and political structures/policies affecting food security, including government policies affecting production, rationing and subsidies, transport bans, fuel prices and groups prone to social discrimination by government/local authorities	Impression of the possible constraints and opportunities of the social structure
Maps of infrastructure facilities including health facilities, schools, mosques and churches	Information on social gathering points to be able to find key informants and who are the most influential people
Livelihood profile economy zones, including information on how people make their living and what the main categories (for example labour, agricultural production, livestock, trading)	Information on living patterns and levels of vulnerability to various crises
Market analysis includes market locations, access and days. Market prices (baseline trends) of major food and cash crops by region, season and availability.	Information about normal and current market situation, food access and availability
Nutritional status and seasonality; anthropometry and micronutrient deficiencies	Impression of nutritional vulnerability of population
Disease patterns and seasonality, including prevalence of HIV/ Aids, malaria, tuberculosis, measles, diarrhoea and meningitis	Information of the timing and severity of important diseases and increased risks and needs
Previous emergencies and humanitarian aid patterns of assistance	Information on how the past has influenced current vulnerability to food insecurity status, trends in aid provision and lessons learnt
Existing disaster preparedness or response contingency plans	Impression on the capacity for response
Overview of where and what other organisations are working	Information on location of possible key informants and organisations and identify what assistance is being provided to whom
Security information including natural hazards, landmines, possible areas of fighting and check points	Security overview to predict population movement and access to them
Existing food taboos	To understand people's food choices and consider them when planning food aid
Seasonal calendars to understand food production cycles, migration patterns, water access, disease	Information to identify times of increased need and self sufficiency
Rainfall patterns for normal years	To help predict effects of current situation on food security
Access to water in normal situations for livestock, agriculture and human consumption	Identification of possible increased risk of disease, loss of livestock and potential conflict
Livestock and land ownership	Impression on asset ownership and distribution

Annex 3: Indices and scores used within food security assessments

There is no single index or score that can comprehensively describe households' food security situation. However various indicators can be collected and analysed with other pieces of information to understand the food security situation.

Dietary diversity and food consumption scores

There are at least five different tools being used to measure dietary diversity and food consumption. These are the individual dietary diversity scores (FANTA/FAO); the household dietary diversity score (FANTA/FAO); the food consumption score (WFP) which incorporates dietary diversity and food frequency at the household level; the Cornell-Radimer hunger scale; and the household food insecurity access scale (HFIAS) developed by Food and Nutrition Technical Assistance (FANTA).

These tools are rapid assessment approaches which involve respondents assessing the quantity and quality of their diets. Some enquire whether their diets are getting worse. Responses are classified on a scale or using a scoring system. The advantages are the technical simplicity and low cost. The tools can be used as part of any food security and nutrition information system to predict crisis and help in targeting of interventions.

FAO Dietary Diversity Score (DDS)

The DDS has been used by a number of agencies including WFP and FAO. It has now been included in the Integrated Humanitarian and Food Security Phase Classification to represent dietary diversity.

The approach allows a simple count of food groups that a household or an individual consumes over a set number of previous days. The percentage of households or individuals consuming specific type of foods is calculated. This information can identify food security problems at an early stage so that there is time to plan appropriate interventions because dietary changes may occur before nutritional decline.

Diversity of diet is scored with the assumption that the higher the score the less nutritionally vulnerable the household. This assumption is usually based on prior analysis of the correlation between anthropometry and DDS across a population and baseline information is needed to be able to measure trends. DDS is not used alone, but compliments information on availability of and access to food

For more information contact: www.fao.org

Cornell-Radimer Hunger Scale

The Cornell-Radimer Hunger scale was developed and used first as a measure of hunger and food insecurity in the US. It is seen as way to provide early warning that dietary quality and diversity are worsening (and hence that there is 'hunger'). The scale has been used by governments along with academic institutions and piloted in the US, Russia and Asia

Respondents are asked a series of questions to determine their perception of dietary adequacy and the extent to which they and their household endure hunger. Each question has a weighted score which is aggregated at the end of the questionnaire. Each survey calibrates and defines score levels which correlate with different degrees of food insecurity, and thus it is important to know what weight to give to the different questions.

The survey can be carried out quickly and is especially useful in urban contexts where nutrition and food security surveys would be very time consuming and difficult to interpret due to population density and heterogeneity of population and livelihoods systems. It may provide good early warning before nutritional decline.

Indices and scores used within food security assessments (continued)

FANTA Household Food Insecurity Access Scale (HFIAS)

This is an adaptation of an approach used to generate the annual number of food-insecure and hungry people in the United States. The scale measure people's perception of their hunger, dietary quantity and quality and any adverse consequences of their diet. It cannot determine the cause of a problem of access to food or malnutrition, nor can it guide the response.

The HFIAS is composed of a set of nine questions that aim to distinguish food insecure from food secure households across different cultural contexts. These questions represent universal domains of the experience of insecure access to food that can be used to assign households and populations along a continuum of severity. The different indicators are weighted and scored and the approach is perceived as not technically demanding or data intensive and relatively cheap.

For more information contact: www.fantaproject.org

WFP Food Consumption Score (FCS)

The FCS is a proxy indicator that represents the dietary diversity, energy, macro and micro-value of the food that people eat. It is based on dietary diversity and food frequency with the nutritional importance of the different food groups and was designed to reflect the quantity and/or quality of people's diets in emergency food security assessments.

Dietary diversity is represented by recording the number of food groups that a household consumes over a reference period. Food frequency is determined by recording the number of days on which a particular food group is consumed over a reference period, usually 7 days.

The FCS is calculated from the types of foods and the frequencies with which they are consumed during a seven-day period. There is no information on the quantity of each food consumed nor on intra-household food consumption. As the information is based on 7 day recall only, it is not possible to analyse over a longer period, which is likely to vary by season.

The score produced is a continuous variable and statistics are usually presented including the mean over time and across categories, as well as frequencies and cross tabulations for food consumption groups. Note that the FCS can only show how food consumption has changed as a result of the crisis if a previous FCS has been done for the same type of household.

For more information, see the latest WFP Emergency Food Security Assessment Handbook.

Coping Strategies Index

The coping strategies index (CSI) grew out of the need to have a quick, simple and cheap method of assessment in emergency situations where more complex methods of assessing household food consumption are simply not practical. The CSI developed by CARE and WFP measures behaviour i.e. the things that people do when they cannot access enough food. The underlying theory is that as the crisis worsens those affected implement more drastic and potentially harmful coping strategies which in turn signify proximity to a complete collapse of coping options. This approach does not offer a comprehensive view of food security but can be used in combination with other methods.

Indices and scores used within food security assessments (continued)

CARE/WFP Coping Strategies Index

The Coping Strategies Index (CSI) was first developed by CARE and WFP in Uganda, Ghana and Kenya. The original objective was to develop a monitoring and evaluation tool that was simple and practical to use in emergency situations. It is based on the many possible answers to the question: "What do you do when you don't have adequate food, and don't have the money to buy food?". A reduced CSI has been developed to compare food security across different contexts. While it can be used to target areas at greatest risk of food insecurity, it contains less information than the 'full' CSI so it is less helpful for targeting households within a location.

The CSI can be used to measure the impact of food aid programmes, as an early warning indicator of impending food crisis, and as a tool for assessing both food aid needs and whether food aid has been targeted to the most food insecure households.

Three main points underpin the CSI. These are: coping behaviours, how often these have been used in the recent past and how severe the strategies are considered to be. Information is collected from community-level focus groups and quantitative household surveys. Four general categories of coping are measured, which are defined according to location and culture:

1. Dietary change (e.g. eating less preferred but cheaper food etc.);
2. Short term measures to increase household food availability (borrowing, gifts, wild foods, consuming seed stock etc.);
3. Short term measures to reduce the number of people to feed (short term migration etc.);
4. Rationing strategies (mothers prioritising children/men, limiting portion size, skipping meals, skipping eating for whole days etc.).

The combination of the frequency with which the strategies are used and the perceived degree of severity associated with each strategy results in a simple quantitative score which is derived by weighting the perceived severity of each behaviour/strategy. The higher the composite score, the more coping strategies reported, and the more food insecure the household. The indicators are context-specific and need to be compared against a baseline as there is no cut-off point on a CSI scale to help determine if a household is considered food secure or not.

Since 2003, the CSI has been used by WFP, CARE International and other non-governmental organizations and humanitarian agencies, governments, and researchers for early warning and food security monitoring and assessment in at least twelve African countries and several in the Middle East and Asia. Information is collected relatively quickly and cheaply and the index is often used with other methods to assess food insecurity and to estimate requirements for food aid and provides triangulation or verification of other indicators to determine the eligibility of individual households, e.g. to cross check wealth ranking.

The index can indicate response to food aid and to track household food security status when used with regular early warning monitoring indicators, and food aid end-use monitoring tools.

For more information contact: www.wfp.org

Annex 4: Food Security Information Systems and IPC

In order to roll out the IPC into 'new' countries the IPC partnership has begun engaging with SADC in southern Africa and CILSS in West Africa. SADC was initiated in 1999 to address institutional, technical capacity and policy issues related to vulnerability analysis in the southern Africa region. The SADC regional food security emergency assessment process and methodology of NVACS are backstopped by the SADC Food Agriculture and Natural Resources Vulnerability Assessment Committee. National Vulnerability Assessment Committees lead the assessments in each country with broad participation from key stakeholders. The objectives of the assessments are to generate timely and necessary information and analysis to guide critical decision-making. Four NVAC countries have been invited to be members of the regional Technical Working Group of the IPC and have listed IPC in their work plan for 2009. The four NVAC countries all announced initiatives to help with adoption and implementation of IPC over the coming months,

The Permanent Interstate Committee for Drought Control in the Sahel (CILSS) is an international organization of countries in the Sahel. It was created in 1973 during the first great drought in the region with the aim of mobilizing the population in the Sahel and the international community to respond to drought related issues. During the 1970s CILSS supported the development of information systems in the region based on agro-meteorological data including NDVI. In the 1980s the methodology developed to incorporate crop production and market data. In 1999 a CILSS technical committee including FAO, WFP, CILSS and FEWSNET, developed the 'Harmonised Framework' to establish need in the region. CILSS supports data collection in member countries and organizes regional meetings four times a year to review data. The process is led by government in each country.

In 2006/7 FAO approached CILSS to develop the IPC in member countries. In 2008 FAO/CILSS set up a regional technical committee to see how best to link IPC with the Harmonised Framework (HF). Given the investment of time in the HF and its considerable evolution over time it was decided to maintain the HF and to explore how best to improve it by adopting or adding elements of the IPC. The new system is to be called the 'Improved Harmonized Framework' and will be piloted in Niger, Mali, Senegal, Burkina Faso and Chad.

The IPC is not currently being promoted or advocated by an inter-state or regional government initiative like CILSS or SADC in the Central and Eastern Africa region. Its main advocate is the Food Security and Nutrition Working Group (FSNWG), which is a spontaneous and field-driven coordination 'working group' established in Nairobi in 2005 in response to requests from several international NGOs in Central-East Africa. The main goal of the FSNWG is to collect, analyse, and disseminate food security information in the region with a view to keeping all humanitarian actors – donors and governments especially – updated on food security crises developments. The group's analysis covers 11 countries. The FSNWG is actively supporting the roll out of the IPC in the region through the IPC technical steering group. The FSNWG formal output is a "Central and Eastern Africa FSNWG Situation Analysis Report". These are produced seasonally, in the form of maps based on the Integrated Food Security and Phase Classification.

PART 3: TRAINER'S GUIDE

Introduction

The trainer's guide is part three of four parts contained in this module. It is NOT a training course. Rather it provides guidance on how to design a training course by giving tips and examples of tools that the trainer can adapt. The trainer's guide should only be used by experienced trainers to help develop a training course which meets the needs of a specific audience. The trainer's guide is linked to the technical information found in part two of the module.

Module 9 is about the concepts of food security and the different food security assessment approaches that have been used in emergency contexts. Participants should be made aware of the fact that food security is usually considered within the wider context of livelihoods. There is no single standard way of doing a food security assessment in an emergency so the objective of the module is to raise participants' awareness of the importance of understanding the food security and livelihoods situation different approaches and their potential uses in a variety of scenarios. Participants need to have an understanding of some basic food security concepts and the different tools that are used to gather food security information. The importance of incorporating nutrition information within food security analysis should be highlighted.

Navigating your way round these materials

The trainer's guide is divided into six sections:

1. Tips for trainer provide pointers on how to prepare for and organise a training course.
2. Learning objectives sets out examples of learning objectives for this module that can be adapted for a particular participant group.
3. Testing knowledge contains an example of a questionnaire that can be used to test participants' knowledge of food security either at the start or at the end of a training course.
4. Classroom exercises provide examples of practical exercises that can be carried out in a classroom context either by participants individually or in groups.
5. Case studies contain examples of case studies (one from Africa and one from a different continent) that can be used to get participants thinking through real-life scenarios.
6. Field-based exercises outline ideas for field visits that may be carried out during a longer training course.

CONTENTS

1. Tips for trainers

2. Learning objectives

3. Testing knowledge

Exercise 1: What do you know about food security and its assessment? Questionnaire

Handout 1a: What do you know about food security and its assessment? Questionnaire

Handout 1b: What do you know about food security and its assessment? Questionnaire (Answers)

4. Classroom exercises

Exercise 2: Identifying the three pillars of food security

Handout 2a: Identifying the three pillars of food security: Darfur 2006

Handout 2b: Identifying the three pillars of food security: Darfur 2006 (Model answer)

Exercise 3: Impact of an emergency on household food and income

Handout 3a: Impact of an emergency on household food and income: Ethiopia 2001

Handout 3b: Impact of an emergency on household food and income: Ethiopia 2001 (Model answer)

Exercise 4: Collecting 24 hour food frequency data

Handout 4a: 24 hour food frequency questionnaire

Handout 4b: 24 hour food frequency data: Bosnia 1993

Handout 4c: 24 hour food frequency data: Bosnia 1993 (Model answer)

5. Case studies

Exercise 5: Case Study on linking food security and nutrition data

Handout 5a: Linking food security and nutrition data: Afghanistan 2001

Handout 5b: Linking food security and nutrition data: Afghanistan 2001 (Model answer)

Handout 5c: Linking food security and nutrition data: Zimbabwe 2002

Handout 5d: Linking food security and nutrition data: Zimbabwe 2002 (Model answer)

6. Field-based exercises

Tips for trainers

Step 1: Do the reading!

- Read Parts 1 and 2 of this module.
- Familiarise yourself with the technical terms from the glossary.
- Read through the following key document:
 - WFP Distance Learning Package for EFSA (<http://fsa.wfp.org/learning>)
 - SC UK and FEG consulting (2008). *The Household Economy Approach*.
 - IFRC (2006). *How to Conduct a Food Security Assessment: A Step-by-Step Guide for National Societies in Africa*. Second edition Geneva: IFRC.
 - FAO *Food Security Information for Decision Making*. Distance Learning Material. (www.foodsec.org)

Step 2: Know your audience!

- Find out about your participants in advance of the training:
 - How many participants will there be?
 - Do any of the participants already have experience of doing food security assessments?
 - Could participants with food security assessment experience be involved in the sessions by preparing a case study or contribute through describing their practical experience?

Step 3: Design the training!

- Decide on the objectives of the training: do participants just need to understand basic food security concepts or will they be involved in the assessment? Will the field workers also be involved in data analysis and interpretation?
 - Decide how long the training will be and therefore what activities you can cover within the time available. In general the following guide can be used:
 - A 90 minute classroom-based training can provide a basic overview of the concepts of food security and its assessment.
 - A half day classroom-based training can provide an overview of some approaches to food security and livelihood assessment and include some practical exercise.
 - A 1 day classroom-based training can provide a more in depth understanding of food security assessment and include a number of practical exercises and/or one case study.
 - A 3-8 day classroom plus field-based training can provide a full training as preparation to carry out an actual assessment suitable for a particular context. This would include case studies and field practical exercises. A further 1-2 days after the field work can support participants to analyse and interpret the results.
1. Identify appropriate learning objectives. This will depend on your participants, their level of understanding and experience, and the aim and length of the training.
 2. Decide exactly which technical points to cover based on the learning objectives that you have identified.
 3. Divide the training into manageable 'chunks'. One session should generally not last longer than an hour.
 4. Ensure the training is a good mix of activities i.e. mix powerpoint presentations in plenary with more active participation through classroom-based exercises, mix individual work with group work.

Step 4: Get prepared!

- Prepare PowerPoint presentations with notes (if they are going to be used) in advance and do a trial run. Recommended PowerPoint presentations that can be adapted are:
 - FAO (2007). FAO Food Security Information for Action Distance Learning Material – Food Security Information Systems and Networks; Reporting Food Security
 - Sphere (2010). *The Sphere Project Handbook: Humanitarian Charter and Minimum Standards in Disaster Response*.
- Prepare flipcharts and marker pens to record key points during presentations and plenary sessions.
- Prepare exercises and case studies. These can be based on the examples given in this trainers' guide but should be adapted to be suitable for the particular training context.
- Prepare material for the participants (one copy each) to be given out at the start of the training. This should include:
 - Timetable showing break times (coffee and lunch) and individual sessions
 - Parts 1 and 2 from this module
- Ensure participants are provided with pens and paper, and calculator (if necessary).

REMEMBER

People remember 20% of what they are told, 40% of what they are told and read, and 80% of what they find out for themselves.

People learn differently. They learn from what they read, what they hear, what they see, what they discuss with others and what they explain to others. A good training is therefore one that offers a variety of learning methods which suit the variety of individuals in any group. Such variety will also help reinforce messages and ideas so that they are more likely to be learned.

Learning objectives

Below are examples of learning objectives for sessions on food security assessment. Trainers may wish to develop alternative learning objectives that are appropriate to the particular participant group. The number of learning objectives should be limited; up to five per day of training is appropriate. Each exercise should be related to at least one of the learning objectives.

Examples of learning objectives

At the end of the training, participants will be able to:

- Explain some basic food security concepts including the three pillars of food security
- Discuss the impact of shocks on food security
- List different approaches to food security assessment in emergencies and explain that there is no single standard way of doing such an assessment
- Explain points to take into account when selecting an appropriate approach for assessing food security in a particular context
- List some data collection tools used in food security assessment
- Demonstrate skills in interpreting and presenting food security information.
- Explain why it is important to link food security and nutrition data
- Explain how food security analysis helps to develop appropriate interventions.

Testing knowledge

This section contains one exercise which is an example of a questionnaire that can be used to test participants' knowledge of food security either at the start or at the end of a training session. The questionnaire can be adapted by the trainer to include questions relevant to the specific participant group.

Exercise 1: What do you know about food security and its assessment? Questionnaire

What is the learning objective?

- Participants demonstrate their knowledge of food security and its assessment.

When should this exercise be done?

- *Either* at the start of a training session to establish knowledge level.
- *Or* at the end of a training session to check how much participants' have learned

How long should the exercise take?

- 20 minutes

What materials are needed?

- **Handout 1a:** What do you know about food security and its assessment? Questionnaire
- **Handout 1b:** What do you know about food security and its assessment? Answers to questionnaire

What does the trainer need to prepare?

- Familiarise yourself with the questionnaire questions and answers.
- Add your own questions and answers based on your knowledge of the participants and their knowledge base.

Instructions

Step 1: Give each participant a copy of handout 1a

Step 2: Give participants 15 minutes to complete the questionnaire working alone

Step 3: Give each participant a copy of handout 1b

Step 4: Give participants 5 minutes to mark their own questionnaires and clarify the answers where necessary.

Handout 1a: What do you know about food security and its assessment? Questionnaire

Time for completion: 20 minutes

Answer This exercise relates to all learning objectives cited above

Answer all the questions

1. What is the best definition of food security? *Circle the correct answer*
 - a) Food security exists when there is enough available food for all people at all times.
 - b) Food security exists when all people are well nourished.
 - c) Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food for a healthy and active life
2. What is a coping strategy? *Circle the correct answer*
 - a) A coping strategy is a short-term response to shock. Early coping strategies are not necessarily abnormal and may not cause lasting damage to the household. Later strategies may permanently undermine future household food security.
 - b) A coping strategy is an abnormal response to shock which always causes long-term damage to the household.
 - c) A coping strategy is a normal response during times of shortage and households are always able to recover.
3. What are the three pillars of food security? *Write your answer*
 - a)
 - b)
 - c)
4. Are the following statements true or false? *Write TRUE or FALSE after each sentence*
 - a) There is no single standard way of collecting food security information in emergencies.
 - b) Food security assessment approaches generally collect a mixture of quantitative and qualitative information.
 - c) All food security assessment approaches use the same methods to collect and analyse information.
 - d) Agencies have an agreed set of food security indicators that are always collected in a food security assessment
 - e) Food security assessments should be able to forecast future insecurity
 - f) There is no single indicator that can adequately measure food security
5. What is the difference between these key food security terms? *Write your answer:*
 - a) Access and availability
 - b) Access and utilisation
6. What is the importance of the following in relation to food security? *Write your answer:*
 - a) Seasonality
 - b) Markets
 - c) Livelihoods
7. Why is lack of standardisation in food security assessments problematic? *Write TRUE or FALSE after each sentence*
 - a) Lack of standardisation makes it difficult to compare different assessment findings within and between countries.
 - b) Lack of standardisation means that the findings from food security assessments are never reliable.

TRAINER'S GUIDE

8. What are the differences between anthropometric surveys and food security assessments in the following concepts?
Write your answer:
- a) Unit of observation/measurement
 - b) Time frame that the results refer to
 - c) Socio-economic status
9. Give three ways to collect primary data in a food security assessment? *Write your answer*
- a)
 - b)
 - c)

Handout 1b: What do you know about food security and its assessment? Questionnaire (Answers)

1. c)
2. a)
3. **Food availability, accessibility and utilization**
4. a) TRUE
b) TRUE
c) FALSE
d) FALSE
e) TRUE
f) TRUE
5. a) **Access and availability:** availability relates only to the physical presence of the food eg the harvest or in the markets. Access relates to whether households are able to get this food to eat; for example do they have the right to consume the harvest, can they afford to purchase food at the market?
b) **Access and utilisation:** Access relates to whether households have the food (see part a above) while utilisation refers to how the food is stored and processed, how it is shared within the household, compared with each person's nutrient requirements. Utilisation also includes biological use, which is linked to a person's health.
6. a) **The activities that people do to get food or to earn money, the prices they pay and the foods and income generating activities that are available to them are determined by the season.**
b) **Prices for food and labour are critical in determining household access to food. Most major food security crises have involved major market disruption.**
c) **A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. Households are assumed to have different types of assets and to adopt livelihood strategies to achieve livelihood outcomes. Food security is one of these outcomes.**
7. a) TRUE
b) FALSE
8. a) **Anthropometric assessment usually measures the individual child (or mother) while food security assessment considers the whole household**
b) **Anthropometric assessment measures a particular point in time. A food security assessment usually refers to a much longer time period eg the past year. (Note that a diet survey usually relates to the previous day or week).**
c) **Results of anthropometric surveys usually refer to the prevalence in the entire population while some (but not all) food security assessments disaggregate their results by wealth group.**
9. **Questionnaires, Observation, Measurement, Interviews, Seasonal calendar, Wealth ranking, Proportional piling...**

Classroom exercises

This section provides examples of practical exercises that can be carried out in a classroom context either by participants individually or in groups. Practical exercises are useful to break up plenary sessions where the trainer has done most of the talking as they provide an opportunity for participants to engage actively in the session. The choice of classroom exercises will depend upon the learning objectives and the time available. Trainers should adapt the exercises presented in this section to make them appropriate to the particular participant group. Preferably, trainers should use case examples with which they are familiar.

Exercise 2: Identifying the three pillars of food security

What are the learning objectives?

- Participants can describe the three pillars of food security, with examples

When should this exercise be done?

- After the main food security concepts have been introduced

How long should the exercise take?

- 25 minutes

What materials are needed?

- **Handout 2a:** Identifying the three pillars of food security: Darfur 2006
- **Handout 2b:** Identifying the three pillars of food security: Darfur 2006 (Model answer)

What does the trainer need to prepare?

- Prepare a case study for an area that is familiar to the participants based on the template handout 2a.

Instructions

Step 1: Give each participant a copy of Handout 2a.

Step 2: Give participants 15 minutes to read the case study and complete the table

Step 3: Allow 10 minutes of discussion in plenary

Discussion points for feedback in plenary

- ➔ Discuss how insecurity can affect food availability as well as access to food
- ➔ Bring out linkages between poor health environment and food utilisation
- ➔ Ask participants if they can think of situations where only one of the pillars of food security is compromised

Handout 2a: Identifying the three pillars of food security: Darfur 2006

Source: Nutrition Information in Crisis Situations Report no. XI. November 2006

Time for completion: 15 minutes

Read the following case example

Darfur has been in a state of insecurity for the last few decades. Loss of livestock has been widespread and access to land has been significantly reduced. An emergency food security assessment conducted in Gereida town and IDP camps at the end of 2006 showed a precarious situation. Crop and livestock production were reduced because of theft and looting as well as problems with access to pastures and grazing routes due to the insecurity. The main sources of income for the population were (as a % of total annual income): waged labour (37%), sale of crops (20%), sale of firewood (15%), petty trade (10%) and sale of food aid (10%).

Food aid distribution was hampered by insecurity. The World Food Programme (WFP) reported in April 2006 that they would have to reduce the daily ration to 1,050 kilocalories – half the minimum daily requirement of 2,100 kilocalories per person - due to lack of funding. The food security assessment found that about 30% of the recipients sold some food aid, mainly to pay milling costs and to buy other foods and necessary non-food items. IDP's in camps (as opposed to living in town) were found to be the most vulnerable to food insecurity.

Public health was poor. Around one third of the population had no access to safe drinking water, nearly half have no access to latrines, while access to health facilities was very poor. The average duration for breastfeeding is over 1 year but only 65% of women exclusively breastfeed from 0-6 months. The adult diet is monotonous and is based mainly on cereals including millet and sorghum.

Nutrition surveys conducted in September and October 2006 found levels of acute malnutrition among under fives ranging from 10.5 to 25.4%. A cholera outbreak contributed to high levels of malnutrition and mortality.

Using the table below, note the factors that impact on the three pillars of food security

1. Food availability
2. Food access
3. Food utilization

Handout 2b: Identifying the three pillars of food security: Darfur 2006 (Model answer)**1. *Food availability***

Reduction in crop and livestock production

Lack of access to pastures and grazing routes further reduces food production

Reduced food aid ration providing fewer calories.

2. *Food access*

Poor access to food aid and sale of food aid to buy other items

Low purchasing power to buy food

3. *Food utilization*

Diseases – cholera outbreak which increases food needs

High prevalence of malnutrition which increases food needs

Poor health environment leads to high prevalence of disease

Exercise 3: Impact of an emergency on household food sources**What are the learning objectives?**

- Participants can describe the impact of shocks on food security

When should this exercise be done?

- After the main food security concepts have been introduced

How long should the exercise take?

- 50-60 minutes

What materials are needed?

- **Handout 3a:** Impact of an emergency on household food sources: Ethiopia 2001
- **Handout 3b:** Impact of an emergency on household food sources: Ethiopia 2000 (Model answer)

What does the trainer need to prepare?

- Prepare household food and income source pie charts for a context that is familiar to the participants based on the template handout 3a.
- *Either* during preparation for training, visit a local community and construct a
- household profile of food and income sources using information from key informants.
- *Or* construct food and income source profiles from secondary data e.g. available reports.

Instructions

Step 1: Give each participant a copy of handout 3a

Step 2: Divide the participants into groups of (Maximum) 5 people

Step 3: Give the groups 30 minutes to answer the questions and prepare a presentation of their answers

Step 4: Give each group 5 minutes for feedback in plenary

Discussion points for feedback in plenary

- ➔ Recognising that distinguishing coping strategies which may be damaging and those which are not is not straightforward
- ➔ Understanding that quantifying impact of shocks on different food and income sources is a subjective exercise with certain margins of error
- ➔ Diversity of food and income sources can help to safeguard against the impact of shock
- ➔ The population in the case study experienced shocks which affected more than one of their primary food and income sources

Handout 3a: Impact of an emergency on household food and income sources: Ethiopia 2001

Source: Bush, J. Baseline Report: Household Food Economy Assessment, Boloso Sorie Woreda, Wolayita, Ethiopia. February 2002

Time for completion: 30 minutes

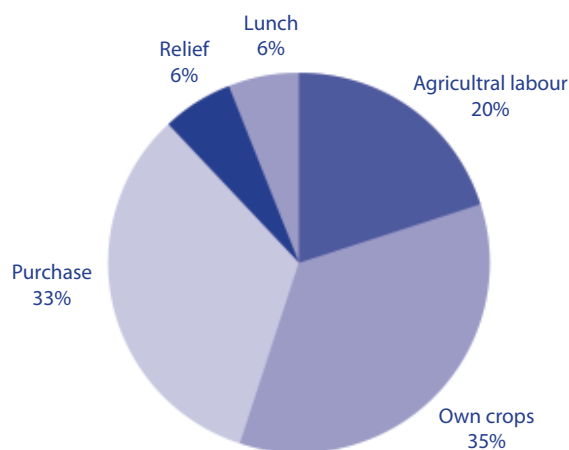
Allow Working in groups, read the following case example, address the questions and prepare a brief presentation of your discussion.

Boloso Sorie, Ethiopia 2001

A Household Economy Assessment (HEA) was carried out in Boloso Sorie woreda in Ethiopia in 2001. The assessment distinguished a number of wealth groups which included the 'middle-poor'. These households grow maize and sweet potatoes on their own farm land and Enset (also known as 'false banana') which makes them comparatively better-off than the 'very poor' even though this land is usually sharecropped. They care for the livestock of better-off farmers. While they do not earn a wage for this, they get manure for their crops, as well as potential access to milk for their children or to sell. They can also earn extra income for example if the cattle owner sells an animal, they get a share of the profit, or they can use the animal to earn money by ploughing fields for other people. The middle-poor migrate away to work seasonally on farms. In addition they do some petty marketing of low-value goods (sweet potato, salt, staple grains) or sell grass for forage and thatch. They are relatively 'labour-rich' (at least 2 adults or older children) and so have sufficient income for some additional expenditure such as clothes, meat for festivals, or school books for one child. They are basically labourers, but at least during the time of the maize harvest there is less pressure on them to find work for food.

The pie chart illustrates the food sources of the middle-poor as assessed through HEA. Here, 100% refers to the annual calorie requirements of the household, based on 2100 kcals per person per day. 'Agricultural labour' refers to 'wages-in kind', that is, food received as payment for labouring. The main foods purchased are maize and sweet potatoes. Milk is not shown in the graph because it makes a minimal contribution to the overall annual household caloric requirements.

Food sources of middle-poor in Boloso Sorie Ethiopia 2001



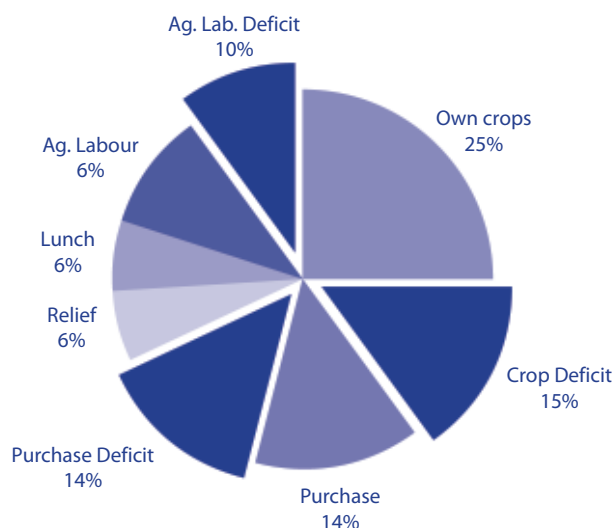
In 2000 there were two shocks. Firstly, the sweet potato crop, an important staple, was lost due to drought and pests. This led to a reduction of 35-40% of their calories from their own crops. Secondly, there were significant wage and price changes; staple food prices doubled and local wages-in-kind were cut by half although labourers still received the same lunch from their employer when they worked.

1. How do you think these two shocks affected their sources of food?
Draw a pie chart to show your conclusions.
2. What coping strategies might the population have employed in order to reduce the impact of the shocks?
3. Are any of these coping strategies likely to have a negative impact on livelihoods in the long-term?
4. What other information would you need to be able to better understand the impact of the shocks?

Handout 3b: Impact of an emergency on household food sources: Ethiopia 2000 (Model answer)

1. How do you think these two shocks affected sources of food?

Effect of sweet potato losses and wage and price effect (Pre-relief) Middle-poor, 2000 (1992 EC)



2. What coping strategies might the population have employed in order to reduce the impact of the shocks?

- Greater dependence on food relief from local charities
- Borrowing money and increase in debt
- Gathering wild fruits to eat
- Harvesting earlier for home consumption or sale
- Taking a child out of school

3. Are any of these coping strategies likely to have a negative impact on livelihoods in the long-term?

Increasing debt will prevent future investment in livelihoods. Harvesting earlier for home consumption or sale may lead to a situation where households have to purchase food later in the year when it is more expensive leading to greater debt. Gathering wild fruits could improve food diversity during the season. Disrupting a child's education can have an impact on the future earning capacity of the household.

4. What other information would you need to be able to better understand the impact of the shocks?

We don't know enough about their cash income to see what could be increased. We do not know the proportion of total expenditure that households spent on food, or whether they could reduce 'non-essential' expenses to afford to buy more food. We don't know to what extent they can rely on their Enset harvest to make up the food gap. We don't know the impact on the richer households and whether they will continue to loan their animals to the middle poor.

Exercise 4: Collecting 24 hour food frequency data**What are the learning objectives?**

- Be able to describe some tools used in assessing food security

When should this exercise be done?

- During the session on food security data collection methods

How long should the exercise take?

- 40-50 minutes

What materials are needed?

- **Handout 4a:** 24 hour food frequency questionnaire
- **Handout 4b:** 24 hour food frequency data: Bosnia December 1993
- **Handout 4c:** 24 hour food frequency data: Bosnia December 1993 (Model answer)
- **Flip chart and marker pens**

What does the trainer need to prepare?

- Complete a 24 hour food frequency questionnaire using an interviewee who comes from a context similar to the participants based on the template handout 4b. The trainer will then be able to identify many of the individual food items in advance and identify some of the pitfalls which may be encountered.
- Prepare a flip chart to collate the results from pair-work, with 2 columns: food items, no. of individuals who consumed the item at least once on the previous day

Instructions

Step 1: Give each participant a copy of handout 4a

Step 2: Divide participants into pairs

Step 3: Give participants 10 minutes for one of the pair to interview the other, complete handout 4a and identify any problems encountered

Step 4: Collate the data from each pair and discuss briefly (10 minutes)

Step 4: Give participants 10 minutes to read handout 4b and address the questions

Step 5: Allow 15 minutes for general discussion in plenary

Discussion points for feedback in plenary

- ➔ Food frequency questionnaires can provide some indication about dietary diversity and sources of food
- ➔ Can be difficult to complete as some foods may fall into more than one category (e.g. how to categorise vegetable soup?) and informants may not know ingredients of food.
- ➔ Diet of Sarajevans was heavily dependent on food aid and poor diversity. Particularly low in fruit and vegetables and dependent on bread.
- ➔ Information may be useful to provide information on dietary diversity and dependence on food aid.

Handout 4a: 24 hour food frequency questionnaire

Time for completion: 10 minutes

Ask your partner:

What food items and drinks (including snacks) did you consume yesterday?

How many times during the day?

Complete the food frequency table by filling in the food items consumed within the correct food group.

When all pairs have finished you will combine your results

Food groups	Food item	No. of times consumed
<i>Cereals and products</i>		
<i>Roots and tubers</i>		
<i>Pulses</i>		
<i>Meat/fish/eggs</i>		
<i>Dairy</i>		
<i>Oil/fat</i>		
<i>Vegetables</i>		
<i>Fruit</i>		
<i>Cooked dishes</i>		
<i>Other foods</i>		
<i>Drinks</i>		

Handout 4b: 24 hour food frequency data: Bosnia 1993

Source: Watson, F. Why was there no famine in Bosnia during the war? (unpublished PhD)

Time for completion: 10 minutes

Address the following questions:

1. What can you conclude about the diet of Sarajevans?
2. How is this information useful?

War broke out in Bosnia in 1992. The capital city, Sarajevo, was besieged and by December 1993 the food supply was seriously disrupted. Some food aid was getting through, but distribution was sporadic. The ration consisted of flour, rice or pasta; vegetable oil or margarine; sugar; pulses (dried beans or lentils); tinned fish; salt and yeast. Supplementary food in the form of high-energy biscuits was also distributed to vulnerable groups. As part of a nutrition monitoring system, the World Health Organisation interviewed 143 households living in Sarajevo every month. 24 hour food frequency information was collected for each household member and the results for December 1993 are shown below.

Food item		% of individuals who consumed food item at least once on previous day
<i>Cereals and products</i>	Bread	97.1
	Pasta	20.3
	Rice	22.2
<i>Roots and tubers</i>	Potato	3.1
<i>Pulses</i>	Beans (dried)	30.1
	Lentils (dried)	6.2
<i>Meat/fish/eggs</i>	Fish (tinned)	24.1
	Meat	10.7
	Eggs	0.9
<i>Dairy</i>	Butter	0.5
	Cheese	7.9
	Milk	30.5
<i>Oil/fat</i>	Vegetable oil	10.5
	Margarine	19.1
<i>Vegetables</i>	Cabbage	1.2
	French beans	0.7
	Peas	1.2
	Spinach	0.7
<i>Fruit</i>	Apple	3
<i>Cooked dishes</i>	Pie	9.3
	Rice pudding	0.2
	Soup	9.3
<i>Other foods</i>	Biscuits	11.2
	Cake	1.7
	Honey	1.2
	Jam	1.0
	Dried fruit	2.9
<i>Drinks</i>	Cocoa	3.8
	Coffee	3.1
	Juice	1.0
	Tea	43.9

Handout 4c: 24 hour food frequency data: Bosnia 1993 (Model answer)**1. What can you conclude about the diet of Sarajevans?**

- The diet was not very diverse for a previously affluent urban population
- It was heavily dependent on starchy foods with very little fruit and vegetables and therefore potentially low in micronutrients
- Heavily dependent on food aid items

2. How is this information useful?

- Provides some information on dietary diversity
- Provides information on whether food aid is getting to the population and is being consumed
- Highlights the type of nutritional risk that may occur but does not indicate who may be affected within the household

3. What other information might help you to understand the results better?

- Disaggregating by type of household shows if wealth or socio-economic status has any impact
- Disaggregating by locality shows if there is a difference for people in the central districts compared with those on the edge of town
- Seasonality may have an impact on people's access to fruit and vegetables

Case studies

Two case studies are presented in this section: one from Afghanistan and one from Zimbabwe. Case studies are useful for getting participants to think through real-life scenarios. They also provide an opportunity for participants to work in a group and develop their analytical and decision-making skills. Trainers should develop their own case studies which are contextually appropriate to the particular participant group. Preferably trainers should use scenarios with which they are familiar.

Exercise 5: Case Study on linking food security and nutrition data

What is the learning objective?

- Appreciate the importance of linking food security and nutrition data

When should this exercise be done?

- As part of a longer in-depth training

How long should the exercise take?

- 60 minutes

What materials are needed?

- **Handout 5a:** Linking food security and nutrition data: Afghanistan 2001
- **Handout 5b:** Linking food security and nutrition data: Afghanistan 2001 (Model answer)

What does the trainer need to prepare?

- Prepare a case study from a context familiar to the participants based on the template handouts 5a and 5b.

Instructions

Step 1: Give each participant a copy of either handout 5a or 5b

Step 2: Divide the participants into groups of (Maximum) 5 people

Step 3: Give the groups 30 minutes to answer the questions and prepare a presentation of their answers

Step 4: Give each group 5 minutes for feedback in plenary

Discussion points for feedback in plenary

- ➔ The limited value of anthropometric data in isolation
- ➔ The critical importance of context information on food and livelihoods security and the need to project likely outcomes in the event of no intervention or limited nutritional interventions
- ➔ The importance of linking nutrition data with food and livelihood security data
- ➔ What data is most compelling and why?

Handout 5a: Linking food security and nutrition data: Afghanistan 2001

Time for completion: 30 minutes

There are three parts to this case study.

Read part I and answer the questions at the end of part I before you go on to part II.

Read part II and answer the questions at the end of part II before going on to part III.

Read part III and address the questions at the end.

Prepare a brief presentation of your discussion.

Concern, an international NGO, has been operational in two provinces of north eastern Afghanistan (non-Taliban held areas) since 1998. In 2001, Concern carried out a nutrition, health and food security assessment in one of the provinces called Badakshan with a population of 842,910 people. This was in response to an influx of internally displaced people (IDPs) due to ongoing conflict between the Northern Alliance and Taliban, and drought which had resulted in crop failure. The assessment provided information on nutritional status, agriculture, household food security, coping mechanisms, and patterns of morbidity and mortality.

Part I

In the Khosh Valley of Badhakshan Province, the assessment found a prevalence of wasting (global acute malnutrition or GAM) of 11.5% (95% CI = 8.7%, 14.9%) in children under five using standard cut-off points for weight-for-height Z-scores.

Table 1 compares the Afghanistan data with two nutritional surveys in Africa which were classified as not indicating a disaster.

Table 1: Prevalence of malnutrition in children in Afghanistan, Sudan and Kenya

Location	GAM%	SAM%	Date	Source	Interpretation
Afghanistan (Badakshan)	12	3	Sep 2001	Concern	
South Sudan	18	1	Oct 1999	MSF-B	Stable but vulnerable
Kenya (Dadaab Camp)	16		Dec 1999	MSF-B	Stable

Address the following questions:

- 1. What can you conclude from this information?**
- 2. What interventions would you recommend to Concern and donors to address the situation?**

Part II

In addition to measuring children under five years of age, maternal malnutrition was assessed using mid-upper arm circumference (MUAC). A cut-off below 21.5 cm was used to define severe malnutrition. The assessment found 21.2% of mothers were severely malnourished. Qualitative investigation revealed preferential feeding of children, with mothers reducing their own intake before reducing intake of their children or husbands. This information was verified by interviewing a variety of groups using different methods including in depth interviews with mothers and community leaders, and focus group discussions with mothers and community leaders, men at mosques and guest house sites.

Address the following question:

- 3. How do these findings alter your conclusions and recommendations?**

Part III**Public health**

The assessment found that the public health situation in the Badakshan was poor. Diarrhoea and acute respiratory infection (ARI) were the most common causes of childhood mortality. Both preventive and curative services were limited in scope and inadequate. The water table had dropped considerably and some recently constructed wells had dried up resulting in a shortage of water available for irrigation and drinking. The lack of potable water was often cited as the cause of diarrhoea but faecal disposal methods were far from ideal and combined with a lack of water for washing was probably as important a cause of diarrhoea as contaminated water.

Diarrhoea and fever were significantly associated with child malnutrition.

Crop production

Rain-fed winter and spring wheat crops had failed for the second consecutive year and the assessment found that the small quantity of grain harvested was poor quality. The barley harvest, the second commonest staple was equally poor. The poor grain harvests was reflected in steadily rising cereal prices.

Potato and onion harvests appeared to have been reasonably good although farmers reported lower than average yields. Crop diversity was low with only a small number of farmers planting vegetables such as carrots, tomatoes, aubergines, turnips and pumpkins.

All the farmers interviewed reported planting opium poppy. Yields were low, averaging 0.45 kg per farming household. Combined with the collapse of labour markets, the assessment concluded that this would probably lead to an inability to compensate for production shortfalls using purchased food.

Livestock production

Most poor farmers had already sold their livestock in order to compensate for production shortfalls. Livestock prices were low and wheat prices high. Sale of livestock was associated with a reduction of dietary variety due to the loss of sources of meat, animal fat, eggs and milk. Households now only had small herds sufficient, on average, to provide only 230kgs of cereal if sold at the local market. This quantity of grain would only feed a family of eight for approximately 8 months. Fodder production (winter-feed) was reduced and a fodder shortage was likely during the winter months. This could seriously affect livestock leading to decreased milk yields and further depress the livestock market reducing the viability of selling livestock as a coping strategy.

Fruit and wild foods

Fruit was available at the time of the assessment and was an important source of both food and income. Some families gathered wild cumin for sale to petty traders who sold it on at a small profit to traders in the market town. Collection and consumption of wild grasses and vetches was also reported. Neither fruit nor wild foods are available during the winter.

Labour

Wage labour (agricultural labour, mining, donkey driving) was a common source of income. Demand for labour is highest during the harvest of rain-fed wheat and barley as well as during the earlier poppy harvest. Little work was available and the supply of casual labour exceeded demand. Wage levels were insufficient to meet household food requirements. Child labour was a source of family support with children leased to wealthy persons as servants in return for a ration. Migrant labour was common with young men migrating to Pakistan and Iran to work and sending money back to their families. Regular seasonal labour migration was also reported with male household member travelling to Pakistan to work in the autumn and returning in the spring. Workers often returned with goods such as clothes and shoes, and engaged in petty trading.

Other coping strategies

Most people had reduced their food intake. Usual meal-times were kept but solid food was replaced by tea or milk. Reduction in dietary variety was a common consequence of the sale of livestock. Preferential feeding of children was consistently reported. Both men and women reported that mothers preferred to reduce their own intake before reducing the intake of their children or husbands.

Borrowing was increasingly common. The borrower bought food at between two or three times the market price agreeing to repay in cash or grain at a later date, usually after the harvest. The loan is secured against property with irrigated land being preferred as security. Food is, therefore, purchased at a multiple of a peak market price that can only be paid for by sale or transfer of food immediately after harvest when food prices are likely to be low. The effective interest rate was as high as 350% over a three month period. Defaulting on a loan usually led to seizure of property with the borrower either becoming a sharecropper for the lender or being displaced.

Most of the poorer households had already sold their household goods. Sale of land was reported as a last resort and was frequently cited as a reason for displacement with Pakistan and Iran being mentioned as the preferred destinations. Displacement in Afghanistan, is however substantially different from displacement in, for instance, Africa. It takes place before food and income sources are exhausted and is facilitated by a strong culture of hospitality to travellers. It is possible that displacement in the face of adverse economic circumstances is a common and long-standing coping strategy rather than a crisis strategy.

The identified coping strategies were viewed as lying along a continuum ranging from normal coping behaviours (e.g. cash crops, casual labour) through stress coping behaviours (e.g. borrowing, kinship support) to crisis behaviours (e.g. sale of highly portable valuables, displacement).

Food economy

A basic food economy analysis converting sources of income and expenditure to cereal equivalents using a purposive sample of 39 farmers was undertaken. The analysis found a cereal deficit of 22% compared to the year before. It was estimated that by January 2002 nearly 80% of farmers would have exhausted their capacity to cope.

At the time of the assessment, a food for work (FFW) scheme was planned involving distribution of wheat. Even with this intervention, over 70% of those surveyed were estimated not to be able to find sufficient food for their families without selling vital assets.

Address the following questions:

- 4. How do these findings alter your conclusions and recommendations?**
- 5. Which non-nutritional data did you find most compelling with regard to determining the severity of the situation and why?**
- 6. What other information about the households would help you to make your conclusions and recommendations?**
- 7. What lessons can be learnt from doing this case study?**

Handout 5b: Linking food security and nutrition data: Afghanistan 2001 (Model answer)

Part I:

What can you conclude from this information?

Malnutrition levels are not at emergency levels although levels of severe wasting are quite high. Lack of baseline data makes it difficult to determine whether drought and influx of IDPs has led to a deterioration in nutritional status or whether these are normal levels.

What interventions would you recommend to Concern and donors to address the situation?

Given the high levels of severe wasting (3%), it may be appropriate to implement therapeutic feeding (centre based or CTC). Other interventions are not advised on the basis of the nutrition survey findings alone.

Part II:

How do these findings alter your conclusions and recommendations?

High levels of maternal malnutrition and the underlying cause, e.g. preferential feeding of their children, indicate a severe food security crisis and the potential need for a general ration programme or some other means of supporting food security. At the very least, supplementary feeding for children and pregnant and lactating women may be advised.

Part III:

How do these findings alter your conclusions and recommendations?

The findings indicate that coping strategies for many are nearing exhaustion and that without intervention to support food and livelihood security levels of wasting could soon increase dramatically resulting in famine conditions. Furthermore, water and sanitation conditions are critical with the need for immediate intervention to prevent disease taking hold – especially in such a context of compromised nutritional status.

Which non-nutritional data did you find most compelling with regard to determining the severity of the situation and why?

To some degree this is a question which allows subjective response. However, food economy data on cereal deficit compared to normal (22%), extreme coping strategies like taking out loans with 350% interest rate and the percentage of population that are predicted to have exhausted coping strategies by January 2002, are compelling information. These data are normative, indicate how desperate populations have become and how long they are likely to hold out. In contrast, data on crop production does little to indicate how critical the situation is although market information on high prices of cereal and low prices of livestock do indicate that production short-falls are having a marked impact.

What other information about the households would help you to make your conclusions and recommendations?

A seasonal calendar would show how food and income activities might change in the future (for better or for worse). It would also show when is the appropriate time for planting seeds and when people are very busy

Information on typical expenditure would show whether households are able to afford other basic requirements such as clothing, education, health care costs, agricultural inputs etc.

What lessons can be learnt from doing this case study?

The main lesson is that anthropometric data must be complemented by contextual data on food and livelihood security in order to interpret survey findings.

Another lesson is that is that some data are more compelling than other data and to understand why that is. In other words think carefully about what data to present and what to leave out – especially when presenting findings to decision makers.

Handout 5c: Linking food security and nutrition data: Zimbabwe 2001

Source: VAC / SADC. Zimbabwe Emergency Food Security Assessment Report. September 2002

Time for completion: 30 minutes

There are three parts to this case study.

Read part I and answer the questions at the end of part I before you go on to part II.

Read part II and answer the questions at the end.

Prepare a brief presentation of your discussion.

The situation in Zimbabwe spiralled into crisis as a result of complex underlying factors. Firstly, the political environment was unstable and the government was accused of poor governance. Secondly, the economic situation was deteriorating with high inflation, high unemployment, and closure of factories and businesses. Thirdly, the impact of HIV/ AIDS which was affecting over 30 per cent of the population. These factors had a major impact on food security. In response, an assessment was carried out in August 2002 by the Vulnerability Assessment Committee (VAC) – a conglomeration of government and humanitarian agencies. The aims of the assessment were to determine whether households were able to meet their immediate food needs (i.e. any food deficit), and to identify vulnerable households and their coping capacities. A survey approach was adopted that integrated analysis of the household economy, coping strategies, dietary intake, agricultural inputs, and nutritional anthropometry. A complementary Household Economy Analysis (HEA) was also conducted in four Food Economy Zones (FEZs).

Part I

The VAC assessment found a prevalence of wasting (global acute malnutrition or GAM) of 7.3% in children under five using standard cut-off points for weight-for-height Z-scores. This was similar to national surveys using random sampling methods as table 1 illustrates. The United Nations classifies a prevalence of GAM between 5-8% as a worrying nutritional situation, and a prevalence greater than 10% as a serious nutritional situation.

Table 1: Prevalence of malnutrition in children in Zimbabwe

Survey	Sample size	GAM%	Date
Demographic Health Survey	3,566	6	1999
Ministry of Health/UNICEF	23,400	6.4	May 2002
VAC	695	7.3	Aug 2002

Address the following questions:

- 1. What can you conclude from this information?**
- 2. What interventions would you recommend to international agencies and donors to address the situation?**

Part II

Crop production

The 2001/02 crop growing season was among the worst three since 1990 and cereal crop production was seriously reduced due to:

- The dry spell experienced during the second half of the season
- The resettlement programme that disrupted commercial farming
- The Government agricultural input programme that delivered inputs late
- Draft power shortages
- The high cost of inputs which farmers could not afford.

The VAC assessment concluded that Zimbabwe was facing a severe food crisis which would become a humanitarian crisis in the next seven months unless urgent action was taken. Cereal availability was a critical factor with an initial cereal deficit of 1.65 million MT. The Grain Marketing Board had imported only 335,000 MT, and humanitarian food relief 70,600 MT. Private sector commercial imports were negligible.

The assessment found that 75% of households had less than 1/2 bag (50kg) of maize in stock. Furthermore 94% of farmers did not have enough seed for the following agricultural year.

Cash crop production

The major cash crops grown in Zimbabwe include tobacco, flowers, vegetables, fruits, cotton, soybeans, groundnuts, sunflower, sugarcane, coffee, tea and paprika. Most of the cash crop production had decreased in the past three years.

Market prices

The annual inflation rate at the beginning of 2001 was 57%. By January 2002, it had doubled to 116% and further increased to 124% in July. The increase in inflation rate was compounded by the shortage of basic consumer goods, agricultural inputs, fuel and foreign currency.

The assessment found that 70% of households were dependent on purchasing their cereals, and yet 64% of the communities stated that cereal was not, or seldom, available.

Livelihoods and coping strategies

The assessment confirmed the impact of the crisis on peoples' lives and livelihoods. Most rural income strategies are dynamic throughout the year. The community analysis indicated that 83% of the communities expected casual labour availability to decrease this year-severely limiting income opportunities especially for the poor. The casual labour averaged Z\$200 per day. Half the households interviewed reported incomes of less than Z\$5,000 per year. Even if all of the Z\$5,000 were spent on cereal alone, this could only purchase enough cereal for a typical family size to meet their needs for 7 1/2 months.

Households were asked if they had engaged in any of seventeen distress coping strategies within the past two months. These include: borrowing food, purchase food on credit, get food from relatives or friends from outside the household, regularly limit size of portions at mealtimes, regularly reduce the number of meals eaten during the day, skip whole days without eating, reduce expenditure on health care, reduce expenditure on education, reduce expenditure on beer and tobacco, sell all poultry to get food, sell all goats to get food, sell breeding and draft power cattle to get food, sell land or gave up rights to land, sell other assets to get food, take children out of school, send children away to friends or relatives, forced to migrate to find work or food.

The most commonly cited strategies involved reduction in consumption, with 86% of the households limiting portions of meals, and another 86% reducing the number of meals eaten in a day. A total of 18% of the households had removed one or more children from school. A majority (68%) of households were employing multiple distress coping strategies.

Other commonly mentioned coping strategies included illegal gold panning (often involving removing children from school to assist, and also leads to environmental damage), prostitution, and eating wild foods that were new to the households and can sometimes lead to health complications.

Public health

The assessment found that the incidence of diarrhoea and acute respiratory infection (ARI) had increased dramatically. This increase could be attributed to deteriorating health

conditions due to lack of water and proper sanitation and possibly complications of HIV / AIDS.

Vitamin A deficiency (VAD) was 35.8% among children aged 12-71 months and anaemia was 19.3% in the same age group. In a crisis situation VAD is exacerbated and other vitamin deficiencies such as pellagra can surface.

Address the following question:

- 3. How do these findings alter your conclusions and recommendations?**
- 4. Which non-nutritional data did you find most compelling with regard to determining the severity of the situation and why?**
- 5. What other information about the households would help you to make your conclusions and recommendations?**
- 6. What lessons can be learnt from doing this case study?**

Handout 5d: Linking food security and nutrition data: Zimbabwe 2001 (Model answer)

Part I:

What can you conclude from this information?

These levels of wasting alone do not indicate a deteriorating situation, although the fact that the three surveys presented are undertaken at different times of the year makes rigorous comparison difficult

What interventions would you recommend to international agencies and donors to address the situation?

A follow up nutrition survey in three months would be valuable to determine whether the situation is deteriorating and also some sentinel site monitoring of MCH programmes and paediatric wards in order to determine whether number of cases of children presenting with malnutrition is increasing. No other interventions are indicated by these data alone.

Part II:

How do these findings alter your conclusions and recommendations?

It is clear that the population is under considerably more stress than indicated by the anthropometric survey alone. Food availability (crop production) and access (through markets) is considerably compromised while diverse coping strategies are being employed some of which are damaging to long-term livelihoods, e.g. selling draft animals and land or land rights. It also appears that coping strategies are limited and are being exhausted.

A number of interventions are needed to address the situation. However, detailed analysis is needed to assess the feasibility and appropriateness of each option. A SWOT analysis is useful (Strengths, Weaknesses, Opportunities and Threats). Possible response options include:

- Implementation of general rations
- Gearing up to selective feeding programme implementation
- Market support initiatives, e.g. subsidised sale of cereals, in order to improve access to cereals
- Livestock de-stocking and restocking programmes
- Seed fairs
- Water and sanitation programmes

Which non-nutritional data did you find most compelling with regard to determining the severity of the situation and why?

Although there is a subjective element to the question the most compelling non-nutritional data must in some way relate to extreme non-reversible coping strategies as well as predictions of how long population groups can hold out using available coping strategies. Other compelling evidence includes data which shows a change from the normal, e.g. market prices, less casual labour available.

What other information about the households would help you to make your conclusions and recommendations?

A seasonal calendar would show how food and income activities might change in the future (for better or for worse). It would also show the appropriate time for planting seeds and when people are very busy.

Information on typical expenditure would show whether households are able to afford other basic requirements such as clothing, education, health care costs, agricultural inputs etc.

What lessons can be learnt from doing this case study?

The importance of linking anthropometric data with food security and livelihoods data

The importance of data that may indicate the need for interventions which go beyond feeding and address recovery, e.g. sale of seeds and livestock

Field based exercises

This section outlines ideas for exercises that can be carried out as part of a field visit. Field visits require a lot of preparation. An organisation that is actively involved in programming has to be identified to 'host' the visit. This could be a government agency, an international NGO or a UN agency. The agency needs to identify an area that can be easily and safely visited by participants. Permission has to be sought from all the relevant authorities and care taken not to disrupt or take time away from programme activities. Despite these caveats, field based learning is probably the best way of getting over information that will be remembered by participants.

Exercise 6: Testing different interview skills used in food security assessments

What is the learning objective?

- Be able to describe how to conduct interviews to collect food security information

When should this exercise be done?

- As part of an in-depth course and after a session on food security data collection methods

How long should the exercise take?

- 4 hours (excluding travel) over a 3 day period

What materials are needed?

- **Handout 6a:** Testing different tools used in food security assessment

What does the trainer need to prepare?

- On day 1, the trainer needs to work with the participants to develop their questions. The field visit takes place on day 2. The trainer will need to identify a suitable organisation and area for the field visit and organise all logistics (transport, fuel, meals etc.) for the visit. It is essential that the trainer visits the field site in advance of the visit in order to set up focus groups and identify key informants, and identify potential problems. Discussion of the exercise should take place back in the classroom on day 3.
- The trainer needs to ensure that all participants are clear how they will introduce themselves, the purpose of the work and how the interview will proceed to the focus group or key informant.

Instructions

Step 1: Give each participant a copy of handout 6a

Step 2: Divide participants into groups

Step 3: On day 1, groups complete part 1 of handout 6a in the classroom

Step 4: On day 2, groups complete part 2 of handout 6a at the field site

Step 5: On day 3, groups return to the classroom for discussion

Handout 6a: Testing different interview techniques to collect food security information

Time for completion: 3 hours and 15 minutes over 3 days for each group

This exercise relates to learning objective 6.

Two groups are needed for this exercise. Each group will test a different type of interview technique. On day 1 in the classroom, each group will carry out part I while part II will be completed during the field visit on day 2. Part III will be done on return to the classroom on day 3 to allow each group to learn from the experiences of the other.

Group 1: Focus group discussion

Part I – 1 hour

The aim of the focus group discussion is to find out about the current sources of food and income, livelihood options and coping strategies of the group.

- Develop a set of questions/key areas that need to be covered during the discussion. Think about the type of question to ask (open or closed).
- Develop a recording sheet which allows participants to record points from the group discussion in a logical way
- Decide how your group will organise the focus group discussion. For example: Will one person ask questions while the others take notes? Will several people ask questions?

Part II – 2 hours

The focus group discussion should last a maximum of 1 hour leaving another hour for getting the focus group together.

- Lead a focus group discussion using your set of questions
- Note down your observations (good and bad) of the process. Was it easy to get people to talk? Did a few individuals dominate the discussion? Were you able to cover all the areas you needed to in the time available? Were there any sensitive areas which you were unable to cover? Would you change the way that some of the questions were asked to get the same information? Do you think that the information you obtained is reliable and why?

Part III – 15 minutes

- Present your observations of the process in plenary

Group 2: Key informant interviews

Part I – 1 hour

The aim of the key informant interviews is to find out about the current sources of food and income, livelihood options and coping strategies of the community represented by the key informants.

- Develop a set of questions/key areas that need to be covered during the interview
- Develop a recording sheet to record the responses
- Decide how your group will organise key informant interviews. For example: Will each participant interview one key informant or several?

Part II – 2 hours

Each key informant interview should last a maximum of 30 minutes so that a number of interviews can be completed in 2 hours.

- Conduct the key informant interviews using your set of questions
- Note down your observations (good and bad) of the process. Was it easy to get people to talk? Were you able to cover all the areas you needed to in the time available? Were there any sensitive areas which you were unable to cover? Would you change the way that some of the questions were asked to get the same information? Do you think that the information you obtained is reliable and why?

Part III – 15 minutes

- Present your observations of the process in plenary

PART 4: TRAINING RESOURCE LIST

The training resource list is part four of four parts contained in this module. It provides a comprehensive list of reference material relevant to this module including guidelines, training courses and reference manuals. Part four provides background documents for trainers who are preparing training material.

What can you expect to find here?

1. An inventory of existing **guidelines and manuals** listed alphabetically by agency name with details about their availability
2. A list of known **training resources** listed alphabetically by agency name with details about:
 - Overall content
 - Intended use
 - Target audience
 - Length of time the course session has been designed for

Guidelines and technical papers

1. **Albu M (2010). *The Emergency Market Mapping and Analysis Toolkit*. Practical Action Publishing. OXFAM GB.**
Contact: publishinginfo@practicalaction.org.uk

EMMA is a toolkit that can be used by non-technical staff of NGO's within 2-3 weeks of a sudden-onset emergency to better understand and make use of market systems within the first few weeks of the emergency. Therefore it enables humanitarian agencies to consider a broader range of responses. EMMA includes simple tools that are easily used by non-technical staff to collect useful market information. The EMMA toolkit allows for the collection of the necessary economic livelihood and seasonal information that is needed to identify opportunities and inform those with very little economic experience to make early decisions about appropriate response options

2. **FANTA (2006). *Household food insecurity access scale (HFIAS) for measurement of food access indicators guide*. Washington: FANTA**

Availability: Printed and pdf version in English
Contact: www.fantaproject.org

Description and guidance on how to implement the HFIAS. For managers and field staff

3. **FAO (2001). *Handbook for defining and setting up a food security information and early warning system*. FAO Agricultural Policy and Economic Development Series No 6. Rome**

Availability: Printed and pdf version in English
Contact: www.fao.org

4. **FAO (2005). *Protecting and Promoting Good Nutrition in Crisis and Recovery*. Rome: FAO.**

Availability: Printed and pdf version in English
Contact: www.fao.org

Focuses on household food security and nutrition and approaches to protecting and promoting good nutrition in crisis. Section devoted to assessing and analysing household food security and nutrition. For managers and field staff

TRAINING RESOURCE LIST

5. **FAO / ILO (2009). *The Livelihood Assessment Tool-kit. Analysing and responding to the impact of disasters on the livelihoods of people.* [First Edition] Food and Agriculture Organization of the United Nations (FAO), Rome And International Labour Organization (ILO), Geneva April 2009**

Availability: Printed and pdf version in English and French

Contact: www.fao.org

The Livelihood Assessment Tool-Kit (LAT) and Livelihood Assessment and Response System (LARS) arose as a joint effort between FAO and the International Labour Organization. The LAT gives information on people's ability to make a living after disasters such as floods, earthquakes and tsunamis. The tool is still being developed and it is anticipated that it will extend to other types of emergencies. The LAT is part of a larger institutional and response planning context, under the umbrella of the LARS. The system also includes assessment preparedness and livelihood response planning.

6. **IPC Global Partners (2008). *Integrated Food Security Phase Classification: Technical Manual Version 1.1* FAO. Rome***

Availability: Printed and pdf version in English

Contact: www.ipcinfo.org

A revision and update of the original IPC Manual Version 1 issued in 2006. IPC is proposed as a common classification framework for food security situation analysis. It provides criteria for classifying food security situations by their severity and implications for action. For managers and field workers.

A user guide, analysis templates and reference table are also available from the same website. The user guide provides an explanation of how to implement the IPC, with tools to guide and communicate food security situation analysis.

* Please note that at the time of writing, Version 2 of the manual is being prepared, due out around April 2011, followed by a programme of training and capacity building.

7. **IFRC (2006). *How to Conduct a Food Security Assessment: A Step-by-Step Guide for National Societies in Africa - second edition.* Geneva: IFRC.**

Availability: Printed and pdf version in English

Contact: www.ifrc.org

8. **OXFAM (2010). *Food Security Assessment Tool for emergency assessments.***

Availability:

Contact: <http://www.oxfam.org.uk/resources/learning/humanitarian/fast.html>

This tool is designed to guide Food and Nutrition technical staff faced with decision-making during food security related emergencies through the steps of conducting, analysing and using information from emergency assessments in six common types of crisis namely Drought, Governance Crisis, Sudden Impact Natural Disaster, Conflict, Refugees and IDPs and Market Failure and Food Price Increases.

9. **SCUK (2009). *The Cost of the Diet. A practitioner's guide.* Save the Children (UK).**

Availability: guidelines and analysis software available on request.

Contact: www.savethechildren.org.uk

The 'CoD' calculates the cost of the cheapest diet that meets the nutritional requirements of households using only the foods available locally during each season. These data are combined with household economy information to estimate the proportion of households in a region that are unable to afford a nutritious diet. It also calculates the difference between current household income and the amount of money needed to meet food and other needs. The 'CoD' is still being developed and improved based on the experiences of people who use it and SCUK is keen to collaborate with other organisations on its use.

10. **SC UK and FEG Consulting (2008). *The Household Economy Approach. A guide for programme planners and policy-makers.***

Availability: Printed and pdf version in English

Contact: www.savethechildren.org.uk

Guidelines on how to conduct household economy assessment – describes the components of the Household Economy Approach and the practical techniques needed to use them. The emphasis of this book is on the rural economy, with particular reference to Africa. For managers, decision-makers and field staff

11. **Seaman J. (2009) SMART. *Understanding the economic context. Evidence for Development.***

Availability: http://www.nutrisurvey.net/ena_delta

This contains basic conceptual and practical guidelines for conducting a rapid emergency food security assessment. It was written to accompany the ENA for SMART software but could also be read alone.

12. **WFP (2009). *Emergency Food Security Assessment Handbook. Second edition.***

Availability: Printed and pdf version in English, French and Spanish

Contact: www.wfp.org/food-security

Covers WFP's approach to food security assessment in emergency situations or protracted crises; whether due to sudden natural disasters, disease, economic collapse or conflict. Chapters 2 and 3 of part I include useful explanations of basic concepts and reasons for conducting emergency food security assessments. Parts II to IV outline the process in identifying indicators, conducting the field work and analysing the results. The final part deals with reporting. Written to provide technical support for food security analysts, but also suitable for field practitioners and programme staff. Incorporates the Food Consumption Score. At the time of writing guidelines on market prices analysis were being developed; please see the WFP website for further details and to keep up to date with revisions of all reference documents.

13. **Young, H. et al. (2001). *Food security assessments in emergencies: A livelihoods Approach, ODI Humanitarian Practice Network (HPN). Paper No. 36, London UK: Overseas Development Institute***

Availability: Printed and pdf version in English

Contact: www.odihpn.org

Framework and concepts for food security assessment based on livelihoods approach. Detailed case studies of implementation. For managers and field staff.

14. ***Measuring Mortality, Nutritional Status and Food Security in Crisis Situations: SMART Methodology. Version 1 April 2006***

Availability: http://www.nutrisurvey.net/ena_delta

To be used with Emergency Nutrition Assessment (ENA) Software, which can be downloaded from their website. The ENA software for SMART aims to make nutrition assessments and mortality rate calculations in emergency situations as easy and reliable as possible. It checks the plausibility of the data that are entered and produces an automatic report but it does not provide a causal analysis to explain the results. The ENA software has different sheets (planning, training, data entry, results and options) which follow the steps of a survey. The Food Security module of ENA for SMART allows the analysis of the food security of households in a certain area, especially the likely impact of a shock (e.g. reduction in food production caused by drought). It is based on the HEA. Note that there are currently 3 versions of the ENA for SMART software available online. Only the latest version (ENA-delta Version August 2009) includes a food security component.

Updates can also be obtained via the USAID website: http://www.usaid.gov/our_work/global_partnerships/smart/

Training Courses

15. **FAO (2007). *Food Security Information for Decision Making. Distance Learning Material.***

Availability: online and CD-ROM

Contact: www.foodsec.org

DISTANCE LEARNING materials designed for self-paced e-learning with no personal instruction, developed by international experts to support capacity building and on-the-job training and workshops at national and local food security information systems and networks. As of June 2010, twelve separate courses are available in English and French as follows:

Food Security Information Systems and Networks, Reporting Food Security Information, Availability Assessment and Analysis, Baseline Food Security Assessments, Food Security Concepts and Frameworks, Collaborate and Advocacy Techniques, Livelihoods Assessment and Analysis, markets Assessment and Analysis, Nutritional Status Assessment and Analysis, Food Security Policies, Targeting, Vulnerability Assessment and Analysis.

Free of charge registration provides access to the materials online or on CD-ROM and each session lasts 1.5 to 3 hours.

TRAINING RESOURCE LIST

In addition, FAO and the University of Catalunya Department of Food Systems, Culture and Society, offer a fully accredited online certificate in Food Security: Assessment and Action. This course is in English, is payable and lasts 1 month. It is an extension of the FAO's Distance Learning Course in Food Security Information for Action.

16. **University of Westminster (2007). *Nutrition in Emergencies: Short Course*, London: Westminster University.**

Availability: Cannot be downloaded

Contact: www.wmin.ac.uk

TRAINING COURSE lasting one week and run by the Centre for Public Health Nutrition at the University of Westminster. Aims to give participants an overview of nutrition in emergencies.

17. **Nutrition Works and Feinstein International Famine Centre, T. U. (2007). *Sphere Training on Nutrition Module: Contents*. Sphere.**

Availability: Printed version and pdf downloadable from website in English, French, Spanish and Arabic.

Contact: www.sphereproject.org

TRAINING MODULES aiming to improve the technical capacity for humanitarian response in nutrition. They are aimed at staff with some responsibility for designing or monitoring nutrition related projects and aim to ensure an understanding of the scope and content of Standards in the Food Security, Nutrition and Food Aid chapter of the Sphere handbook, the key indicators, and the scientific/practical rationale behind these. The TRAINING modules include a lesson plan, handouts and visual materials for each of the eight sessions.

18. **UNICEF, CDC, Columbia University, and Tufts University (2003). *Training for Improved Practice*.**

Availability: Cannot be downloaded

Contact: www.unicef.org

Practical TRAINING package for 10 days designed for UNICEF staff covering and public health and nutrition aspects of emergencies from assessment to design and monitoring programmes.

19. **WFP *Distance Learning Packages for EFSA and Facilitators Toolkit*.**

Availability: Downloadable pdf files

Contact: <http://fsa.wfp.org/learning>

This is an interactive package with many exercises and case studies to work through. Some courses are offered at different levels (basic / intermediate / advanced). The website outlines each course's main objectives, entry criteria, target audience, duration and approach, to help potential trainees and/or their supervisors to select the most appropriate type of training course. Workshop specific training materials are available including agendas, presentation slides, facilitators' notes, exercises or handouts and readings. As of February 2010, six core training courses had been developed, focussing on three main areas: Emergency Food Security Assessments, Price Analysis, and Food Security Indicators. In addition three specialized trainings had been developed, covering nutrition data analysis, trader survey and Joint Assessment Mission). Some courses are offered at different levels, e.g. basic, intermediate and advanced.

20. **Emergency Market Mapping and Analysis (EMMA) trainings:**

Several training sessions in EMMA will be organised by OXFAM and IRC in various countries and at the time of writing these sessions have been planned up to mid-2011.

Contact: http://emma-toolkit.info/?page_id=176

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