

PART 3: TRAINER'S GUIDE

The trainer's guide is the third of four parts contained in this module. It is NOT a training course. This guide provides guidance on how to design a training course by giving tips and examples of tools that the trainer can use and adapt to meet training needs. The trainer's guide should only be used by experienced trainers to help develop a training course that meets the needs of a specific audience. The trainer's guide is linked to the technical information found in Part 2 of the module.

Module 10 is about nutrition information and surveillance systems in emergencies. The module describes the different types of information that should be collected as well as the different methods of data collection. Guidance on how to interpret the findings from nutrition surveillance systems is provided.

Navigating your way around the guide

The trainer's guide is divided into six sections.

1. **Tips for trainers** provide pointers on how to prepare for and organize a training course.
2. **Learning objectives** set 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 EFSA either at the start or at the end of a training course.
4. **Classroom exercises** provide examples of practical exercises that can be done in a classroom context by participants individually or in groups.
5. **Case studies** contain examples of case studies (one from Africa and one based on a hypothetical scenario) that can be used to get participants to think by using real-life scenarios.
6. **Field-based exercises** outline ideas for field visits that may be conducted during a longer training course.

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1. Tips for trainers

Step 1: Do the reading!

- Read Parts 1 and 2 of this module.
- Familiarize yourself with the technical terms from the glossary.
- Read through the following key documents (see full reference and how to access them in Part 4 of this module):
 - The Sphere Project. (2011). *Sphere Handbook*, nutrition-related chapters. Geneva: The Sphere Project.
 - SCUK. (2004). *Emergency Nutrition Assessment: Guidelines for Field Workers*, London: SCUK.
 - WHO. (1995). *Field Guide on Rapid Nutritional Assessment in Emergencies*. Geneva: WHO.
 - ODI. (2006, November). *Humanitarian Practice Network Paper, The meaning and measurement of acute malnutrition in emergencies. A primer for decision makers*. London: ODI.
 - Checchi, F. and Roberts, L. (2005, September). *Humanitarian Practice Network Paper, Interpreting and using mortality data in humanitarian emergencies. A primer for non-epidemiologists*. London: ODI.

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 in nutrition surveillance activities (nutrition surveys, rapid assessments, growth monitoring, etc.) either an emergency or stable context?
 - Could participants with relevant experience be involved in the sessions by preparing a case study or contribute through describing their practical experience?

Step 3: Design the training!

- Decide how long the training will be and what activities can be covered within the available time. In general the following guide can be used:
 - A **90-minute** classroom-based training can provide a basic overview of the main components of nutrition information and surveillance systems.
 - A **half-day** classroom-based training can provide an overview of nutrition information and surveillance systems and include some practical exercises.
 - A **one-day** classroom-based training can provide a more in-depth understanding of nutrition information and surveillance systems and include a number of practical exercises and/or one case study.
 - A **three- to eight-day** classroom plus field-based training can provide a full training in order to establish a nutrition information or surveillance system, including data collection, analysis, interpretation, presentation and dissemination. This would include case studies and practical field exercises.
- Identify appropriate learning objectives. This will depend on your participants, their level of understanding and experience, and the aim and length of the training.
- Decide exactly which technical points to cover based on the learning objectives that you have identified.
- Divide the training into manageable sections. One session should generally not last longer than an hour.
- Ensure the training is a good combination of activities, e.g., 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. Time yourself! Recommended PowerPoint presentations that can be adapted from existing sources include (see full references and how to access them in Part 4 of this module):

Existing PowerPoints for a session on nutrition surveillance

	Author	Specific session
1.	FAO. (2007). Distance Learning Course – Nutritional Status Assessment and Analysis	Part 1: PowerPoint and trainer notes
2.	WFP Nutrition Training Course	
3.	The Sphere Project. (2011). Sphere Handbook. Geneva: The Sphere Project.	

- Prepare exercises and case studies. These can be based on the examples given in this trainer's guide but should be adapted to be suitable for the particular training context.
- Prepare a 'kit' of materials for each participant. These should be given out at the start of the training and should include:
 - Timetable showing break times (coffee and lunch) and individual sessions
 - Parts 1 and 2 of this module
 - Pens and paper

REMEMBER

People remember 20 per cent of what they are told, 40 per cent of what they are told and read, and 80 per cent 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.

2. Learning objectives

Below are examples of learning objectives for a session on nutrition information and surveillance systems. Trainers may wish to develop alternative learning objectives that are appropriate to their 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:

- Understand the objectives of nutrition surveillance systems.
- Be aware of the main sources of nutrition information.
- Be aware of the variety of indicators and their appropriateness in different contexts.
- Understand the importance of including non-anthropometric indicators in a nutrition surveillance system.
- Understand what to look for to ensure reliable and good quality nutrition information.
- Understand how to interpret nutrition information taking into account the context, livelihood system, historical and seasonal nutrition trends.
- Understand how different indicators relate to each other.
- Understand the impact of an emergency on nutrition status.
- Understand how to effectively use nutrition information to inform an appropriate response.
- Be aware of the effects of seasonal trends on nutritional status.
- Be aware of the importance of timeliness of nutrition assessments.

3. Testing knowledge

This section contains one exercise that is an example of a questionnaire that can be used to test participants' knowledge of nutrition indicators and information 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 nutrition indicators and information?

What is the learning objective?

- To test participants' knowledge about nutrition indicators and information

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?

- 30 minutes

What materials are needed?

- **Handout 1a:** What do you know about nutrition indicators and information?: Questionnaire
- **Handout 1b:** What do you know about nutrition indicators and information?: Questionnaire answers

What does the trainer need to prepare?

- Familiarize yourself with the 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 20 minutes to complete the questionnaire working alone.

Step 3: Give each participant a copy of Handout 1b.

Step 4: Give participants 10 minutes to mark their own questionnaires and clarify the answers where necessary.

Handout 1a: What do you know about nutrition indicators and nutrition information?: Questionnaire

Time for completion: 20 minutes

Answer all the questions. Circle the answer you think is correct.

In some cases there may be more than one correct answer.

1. Which of the following anthropometric indicators should you measure in an emergency setting to estimate the prevalence of wasting in children:
 - a) Weight-for-height
 - b) Height-for-age
 - c) Weight-for-age

2. Which age group are the most commonly assessed to estimate the nutrition status in an emergency situation?
 - a) School age children 7 to 11 years
 - b) Children less than 6 months
 - c) Children 6 to 59 months
 - d) Children 0 to 59 months
 - e) Adolescents
 - f) Adults

3. Which of the following anthropometric indicators should you measure in an emergency setting if you are concerned about the nutritional status of elderly people?
 - a) MUAC
 - b) BMI
 - c) Skin fold thickness

4. What are some of the common problems associated with estimating accurate weights on children under age five?
 - a) Clothes are not fully removed.
 - b) Scales are not adequately calibrated.
 - c) Children moving in hanging scales can make it difficult to read the correct result as the dial is moving.
 - d) All of the above

5. What are some of the common problems associated with measuring height data on children under age five?
 - a) Shoes and headwear not fully removed
 - b) Children not standing up straight
 - c) Clothes not fully removed
 - d) Enumerators rounding up to whole cm or 0.5 cm
 - e) All of the above

6. What are the three underlying causes of malnutrition?
 - a) Disease
 - b) Public health environment
 - c) Food security
 - d) Political instability
 - e) Social and care environment
 - f) Drought
7. In which situation would you consider monitoring micronutrient deficiencies such as vitamin C, niacin and thiamine?
 - a) New onset emergencies in previously stable and healthy populations
 - b) Protracted emergencies where the population have integrated into the local community and have access to a variety of foods
 - c) Protracted emergencies where populations are camp based and reliant on external relief assistance
8. What additional indicators would you consider in a conflict situation where large numbers of the population have been displaced?
 - a) The conditions of the health facilities in the place they were displaced from
 - b) The shelter conditions in the new displaced locations
 - c) The types of shoes being worn by the displaced population
9. In a two stage randomized nutrition survey, what is the minimum amount of information you should collect:
 - a) Anthropometric data and morbidity data
 - b) Anthropometric data
 - c) Anthropometric data, morbidity data, vaccination coverage, mortality data, information on underlying causes
 - d) Information of the underlying causes and mortality data
10. When selecting sentinel sites at village level to monitor the trends in the nutritional status of a selected population which of the following apply?
 - a) Select villages that are on the main road as they are easy to access.
 - b) Allow the local administration to select the villages for you.
 - c) Ensure the villages represent the main livelihoods in the area.
 - d) Ensure the villages selected have no school as this can interfere with children's availability at home.
11. What should you consider when you are planning to establish a nutrition surveillance system?
 - a) How the information collected and reported will link to action
 - b) The timing and frequency of the data collection
 - c) The involvement of the local health administration staff
12. Why is it important to consider the season when you are interpreting nutrition information?
 - a) Different seasons can have an impact on the population's interest in participating in the assessment.
 - b) The season can have an impact on the disease pattern, e.g., during the rainy season more cases of diarrhoea are reported.
 - c) The season can have an impact on the availability and accessibility of food.
 - d) The season can have an impact on the quality of the data you collect; wet weather can interfere with measurement taking.

Handout 1b: What do you know about nutrition indicators and nutrition information?: Questionnaire answers

1. a) **Weight-for-height:** This indicator reflects short term growth failure or acute malnutrition related to weight loss therefore is the most sensitive in an emergency.
2. c) **Children 6 to 59 months:** This age group is assumed to be more vulnerable than other groups to external, factors such as food shortage or disease and more sensitive to change over a short period of time. Also practically they are the easiest group to measure.
3. b) **BMI:** The only internationally agreed indicator in adults in emergencies to assess wasting is BMI. It is calculated as weight in kilos divide by height in cm squared.
4. d) **All of the above.** All of these factors can interfere with reporting an accurate weight¹.
5. a), b), d) It is not necessary to remove all clothes for height measurements just shoes and head gear such as hats or scarves².
6. b), c), e) Based on the conceptual framework of malnutrition the underlying causes are food security, social and care environment and public health environments. Disease is an immediate cause and political instability and drought are basic causes.
7. c) **Vitamin C, thiamine and niacin deficiencies** have been reported in protracted crisis where the population are based in camps and reliant on relief assistance with little access to fresh fruit and vegetables.
8. a) **In new emergencies with large displacement,** the focus should be on the current situation and shelter conditions can an impact on vulnerability to exposures and disease especially if it is raining.
9. c) **Collecting anthropometric data on its own is not very useful unless you have additional information on the underlying causes and the risk factors.**
10. c) **It is very important when selecting sites that they adequately represent the livelihood groups you want to monitor. A bias will be introduced if the site is selected for another reason such as ease of access or for political reasons.**
11. a), b), c) **The most important point to consider is that the information will link to action.**
12. b) **It is very important to have an understanding of the impact of the different seasons on nutrition. Nutrition status can change over the year and the impact of seasonality on the results needs to be considered when interpreting the information.**

¹ However, in some contexts it is inappropriate to remove all the child's clothes due to cultural and/or climatic reasons. See notes in the SMART guidelines (pg. 68) for notes on this subject.

² Note that braids can also interfere with accurate measurement of height.

4. Classroom exercises

This section provides examples of practical exercises that can be carried out in a classroom context by participants individually or in groups. Practical exercises are useful between 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. Ideally, trainers should use case examples with which they are familiar.

Exercise 2: Assessing the nutritional situation in different contexts

What are the learning objectives?

- To be aware of the main sources of nutrition information
- To be aware of the variety of indicators and their appropriateness in different contexts

When should this exercise be done?

- Once the participants have been introduced to the objectives of nutrition surveillance systems, the role of different nutrition indicators and what they measure

How long should the exercise take?

- 40 minutes

What does the trainer need to prepare?

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

Instructions

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

Step 2: Give participants working in pairs 20 minutes to read the two case studies and answer the questions.

Step 3: Allow 20 minutes of discussion and feedback in plenary, 10 minutes per case study.

Discussion points for feedback in plenary

- ➔ What nutrition indicators would be most relevant to collect in each of the contexts to assess the nutrition situation?
- ➔ In addition to the nutrition indicators, what other indicators could be included that could improve the understanding of the situation?

Handout 2a: Assessing the nutritional situation in different contexts – conflict and natural disaster

Time for completion: 40 minutes

Allow 20 minutes for this task and 20 minutes for feedback. Participants may work in pairs. Each pair should address questions from both of two case studies.

Case study A: Conflict

In the Yemeni northern governorate of Sa'ada conflict had been on the increase from mid-August 2009 and continued throughout 2010. As a result of a continuous cycle of displacement, loss of livelihoods and further erosion of already stretched coping mechanisms there has been a critical need for humanitarian assistance. The conflict spilled over to the neighbouring governorates of Al-Jawf, Amran and Hajjah where, as a result of damage to infrastructure and the forced withdrawal of humanitarian personnel from areas of fighting, access to basic services – health, nutrition, water and sanitation and education – also became increasingly limited. This left children and women in the conflict areas and those who are internally displaced extremely vulnerable. In addition, tensions in the southern governorates of Abyan, Al-Dhale and Lhaji where opposition to the current regime is strongest, has led to interruptions in the provision of health and education services, increasing the vulnerability of children in particular.³

Answer the questions.

- 1. Imagine you can only gain access to one of the affected rural areas for a short period of time due to continuing insecurity. Assuming you have one day to conduct a rapid assessment to assess the nutritional status of the population, which indicators would you assess given the time constraints?**
- 2. In addition to nutrition indicators, which other indicators would you think relevant to assess in order to gain a comprehensive picture of the nutritional situation?**

Case study B: Natural disaster

The monsoon induced flooding in Pakistan in 2010 constituted an evolving crisis on an unprecedented scale. Estimates of those directly affected reached approximately 14.1 million people, with 1.1 million homes destroyed and about 2 million hectares of standing crops damaged or lost. The impact of the flood varied: The flash floods in the mountainous north (KPK) and parts of Baluchistan were intense and highly destructive. In less mountainous areas of Punjab and northern Sindh, riverine flooding was highly destructive although with a slower onset, affecting densely populated and cultivated areas. The most severely affected were predominantly small farmers and unskilled labourers who are generally those most vulnerable in Pakistan with almost all living below or just above the national poverty line. More than 60 per cent of this population lost immediate access to their primary livelihood and faced a drop in their already low income by more than half. These areas historically present high prevalence of undernutrition and wasting and about 3.6 million of these people live in areas known to be highly food insecure. Furthermore there was a significant increase in food prices in flood-affected areas, reduced market functioning and devastated infrastructure. More than three quarters of the affected population had access to less than one week supply of food. Livestock were severely impacted with on average 40% of livestock lost by flood-affected households. Post flood assessments estimated that 7.8 million people were particularly vulnerable to lasting food insecurity.

- 1. Imagine you have access to one of the affected areas in Pakistan within a week of the flooding. Assuming you have one week to conduct an assessment to gauge the nutrition status of the population, which indicators would you consider using?**
- 2. In addition to nutrition indicators, which other indicators would you think relevant to assess in order to gain a comprehensive picture of the nutritional situation?**

³ http://www.unicef.org/har2010/index_yemen.php

Handout 2b: Assessing the nutritional situation in different contexts – conflict and natural disaster: Model answer

Case study A: Conflict

1. From the available information, it is fairly safe to assume that the nutritional situation is of concern in Sa'ada, Yemen. Large proportions of the population have been forced to flee their homes and leave everything for fear of persecution and to seek refuge in camps, where they are completely reliant on external assistance to survive. For those populations who were unable to move, there is also great concern with reports of continuing violence, which is known to have an impact on the household's access to food and health services. In addition, with a history of nutritional vulnerability, the resilience of this population to shocks is likely to be low. Therefore, this rapid assessment needs to focus on the nutritional status of the most vulnerable group, who is probably children 6 to 59 months of age.

Most appropriate nutrition indicator: As it is a rapid assessment, MUAC would be the most appropriate indicator to assess the nutrition situation. Using MUAC, a large number of children can be screened in a short time and can provide a quick snapshot of the severity of the situation. In this example 17% of the children screened were severely malnourished and 28% were moderately malnourished⁴.

2. **Other indicators:** Other indicators to assess the health and food security situation should be collected to improve analysis of the situation. These can be collected in a focus group discussion while the enumerators are conducting house-to-house visits to measure the MUAC of the children under age five. Information might include the top five illnesses being reported among children under age five and adults in the last month and reports of any recent disease outbreak, as well as the vaccination status of the population. Additionally, any deaths of adults and children (under five years) can be recorded. Be sure to record the reason and fix a time period (3 or 6 months) as well as whether the death was due to illness or violence (an important distinction). Although you will not be able to calculate mortality rates this will still provide important information. Information on access to water and sanitation facilities should also be collected as insecurity can restrict access to water. Information on how the community is currently accessing food should be collected as well as information on how this was done pre-conflict to assess the impact of the shock. Further information should be collected on any additional displacement within or outside the assessed area. If there is relevant expertise in the team, issues around protection could be raised to highlight the specific vulnerabilities of this community.

Case study B: Natural disaster

1. The situation in Pakistan is not so different from Yemen. In both scenarios, there is a significant underlying nutritional vulnerability and a recent and sustained shock on the population that is likely to result in high levels of wasting. However, in Pakistan although the shock is immediate and devastating, once the flood-waters subside and agricultural activities can resume there is a greater likelihood of livelihood recovery due to civil stability. The immediate concern is related to large displacements of the population and limited or no access to income and food, relating. This is likely to result in a direct and significant impact on the nutrition situation in a short space of time especially given the scale of the shock and the pre-existing vulnerability of the population. The main risk factors for significant deterioration in the nutrition situation are loss of access to immediate income (livestock and crops) and acute food shortages. The large displacement of people will inevitably lead to population concentrations in specific areas. This leads to increased demands on space, sanitation and water supplies, as well as food. In Pakistan any reduction in private space will lead to a reduction in breastfeeding. Furthermore, decreased food intake and/or trauma may lead to reduced milk production of mothers. There were also significant changes in the use of open defecation and use of water from unprotected sources and about 20% of the mothers reported receiving breast milk substitutes (despite the international codes recommending that these are not distributed in response to emergencies) thereby increasing the risk of morbidity due to the use of contaminated water. Additionally households were reporting that food consumption was very poor in terms of quality and frequency. This was assessed using WFP's food consumption score and showed, in comparison to baseline studies, that there was a very large increase in households with "poor" diets. One factor that contributed to this was that there were no pots or fuel and therefore no ability to cook.

⁴ http://www.unicef.org/infobycountry/media_56582.html

Most appropriate nutrition indicator: In a situation where there is a sudden and devastating shock, it is very useful to access secondary data where available in order to determine the nutrition situation of the population pre-shock. This will clarify whether or not there is a need to conduct a specific nutrition survey or a rapid assessment or a focus on the risk factors. In Pakistan data from the national nutrition survey (NNS) and MICS were available. However, in the case of the NNS data this was quite out-dated (2001-2002). These data were able to provide a reference point and indicate that there were already quite high rates of acute malnutrition in children aged 6-59 months in the area as well as high rates of low BMI of pregnant and lactating women. As the data were quite old and indicated historically high rates of acute malnutrition, rapid assessments are highly recommended, especially given the urgency of the food security situation. Once targeted feeding programmes are established, admission data can be used to track changes in the nutritional situation and more standardised nutrition assessments can be carried out. It is important to continually monitor the evolution of this situation because of the acute food shortages.

2. **Other indicators:** The sudden loss of income or access to this in the immediate/short term, low household food supplies, poor dietary quality, partially functioning markets, compromised sanitation, breastfeeding practices and access to safe water are all important contributors to the nutrition situation. There are both assessment standards and tools for monitoring these indicators.

It is important to track how and where households access food as well as the quality of the food consumed because of the sudden loss of food stock and access to livelihoods and income sources. In this situation there is quite detailed baseline data for reference. This is not always the case. Also, because of the reduced privacy for lactating mothers to breastfeed it is important to monitor the situation carefully in the event of a large shift to breast milk substitutes. It is equally important to monitor changes in morbidity that could indicate changes in risk for malnutrition in children.

Exercise 3: Impact of an emergency on the nutrition situation in Somalia 2007**What are the learning objectives?**

- To have an understanding of how to interpret nutrition information taking into account the context, livelihood system, historical and seasonal nutrition trends
- To have an understanding of the impact of an emergency on nutrition status

When should this exercise be done?

- Once the participants have been introduced to nutrition indicators and thresholds

How long should the exercise take?

- 40 minutes

What materials are needed?

- **Handout 3a:** Impact of an emergency on the nutrition situation in Somalia 2007
- **Handout 3b:** Impact of an emergency on the nutrition situation in Somalia 2007: Model answer

What does the trainer need to prepare?

- Prepare a case study similar to the one below or use the handout provided.

Instructions

Step 1: Give each participant a copy of Handout 3a or a similar case study.

Step 2: Give participants working in pairs 20 minutes to read the exercise and answer the questions.

Step 3: Allow 20 minutes of discussion and feedback in plenary.

Discussion points for feedback in plenary

- ➔ Consider the impact of the cumulative events that can lead to a rapid deterioration in the nutrition situation
- ➔ Given the fact that high rates of global acute malnutrition are the norm in Somalia, would you consider the elevated rates of severe acute malnutrition and the mortality rates as sufficiently sensitive indicators to highlight a new emerging crisis?

Handout 3a: Impact of an emergency on the nutrition situation in Somalia 2007

Time for completion: 40 minutes

Allow 20 minutes for this task and 20 minutes for feedback. Participants may work in pairs.

Background

Following the collapse of the government in 1991, Somalia has been faced with widespread insecurity, lack of infrastructure, low levels of humanitarian access and frequent shocks; all of which have had a devastating impact on the human well-being of the population. Large parts of south and central Somalia have faced a series of shocks over the years: floods, drought, civil insecurity and displacements, which have left the population facing a chronic nutrition crisis where rates of acute malnutrition are frequently being reported above emergency thresholds of 15 per cent, as set by the World Health Organization. However rates of severe acute malnutrition and mortality rates tend to be at acceptable levels (1% SAM and 0.8 Under Five Death Rate). In the Gedo region, bordering Kenya, since the collapse of the government a total of 23 nutrition surveys have been conducted from 1991 to 2007, all of which have reported levels of acute malnutrition above this emergency threshold. However two regions in southern Somalia, Middle and Lower Shabelle, have proven to be more resilient to the shocks, with reported rates of acute malnutrition remaining below 10 per cent. This is due to the substantial food production in the region and strong trade links with Mogadishu, the capital city situated in Lower Shabelle that provides labour opportunities to many of the population. However, in early 2007 the situation changed significantly. New violence in Mogadishu caused wave after wave of displacement resulting in over 100,000 people fleeing into the neighbouring Shabelle regions over a period of two months. The food security situation also declined following three seasons of below-normal cereal production, loss of stocks during unexpected floods in January 2007 and sharp cereal price increases due to the negative impact of conflict on trade in Mogadishu. Finally, a cholera outbreak was exacerbated by the population movement and resulted in 6,211 cases in Lower Shabelle with a case fatality rate (CFR) of 4 per cent (indicating a situation that was out of control) and 1,697 cases in Middle Shabelle with a lower CFR of 1.77 per cent. Two nutrition surveys conducted in May indicated rates of global acute malnutrition (GAM) of 17 per cent and rates of severe acute malnutrition (SAM) of 4.8 per cent in the riverine population in Middle and Lower Shabelle and 17.3 per cent GAM and 4.5 per cent SAM in the agro pastoral population in the two regions. Crude mortality rates in both surveys were at alert levels.

Answer the questions.

- 1. What are the main factors behind the deterioration in the nutrition situation in the Shabelle regions?*
- 2. Given the endemic chronically high levels of acute malnutrition frequently reported in Somalia, which two other indicators listed highlight that this is an acute and very worrying situation?*

Handout 3b: Impact of an emergency on the nutrition situation in Somalia 2007: Model answer

1. Although the Shabelle regions may have been resilient to previous shocks, the cumulative impact of a series of shocks has had a significant negative impact on the nutrition status of the population. The first shock was the three seasons of crop failure and the loss of stocks following the floods in January. The population may have coped through labour opportunities in Mogadishu but the escalation in violence forced 100,000 to flee into the Shabelle regions. These rural populations were already feeling the effects of the crop failure and then had to contend with the additional stress of being displaced and with the strain on available resources. The conflict further compounded the situation by contributing to trade collapse in Mogadishu causing cereal prices to increase dramatically. Finally, the cholera outbreak affected an already vulnerable population; especially those recently displaced who had to contend with a lack of sanitation, safe water sources and health services. The outbreak tipped the situation 'over the edge', leading to high rates of global and severe acute malnutrition and mortality levels above emergency thresholds.
2. In Somalia, rates of global acute malnutrition above 15 per cent are frequently reported, therefore, it can be very difficult to differentiate between new emerging crises and endemic chronically high levels of acute malnutrition that are frequently reported. In spite of the fact that such high levels of global acute malnutrition are unacceptable anywhere, it is necessary to differentiate between the rates and the context to ensure an appropriate response is provided. In the Shabelle regions, the high rates of severe acute malnutrition above 4 per cent (the emergency thresholds for SAM) and the mortality rates above the alert level indicate an acute crisis that requires immediate large-scale life-saving interventions. By reporting all three indicators together and not just focusing on the GAM rates, a more informed understanding of the situation is possible from which more appropriate decision-making will follow.

Exercise 4: Seasonal calendars and monitoring expected trends in the nutrition situation**What are the learning objectives?**

- To be aware of the effects of seasonal trends on nutritional status
- To be aware of the importance of timeliness of nutrition assessments

When should this exercise be done?

- Once the participants have been introduced to nutrition indicators and thresholds and the factors that can influence nutritional status

How long should the exercise take?

- 30 minutes

What materials are needed?

- **Handout 4a:** Seasonal calendars and monitoring trends in the nutrition situation
- **Handout 4b:** Seasonal calendars and monitoring trends in the nutrition situation: Model answer

What does the trainer need to prepare?

- Prepare a local seasonal calendar similar to the one below or use the given handout.

Instructions

Step 1: Give each participant a copy of Handout 4a or similar.

Step 2: Give participants working in pairs 15 minutes to read the exercise and answer the questions.

Step 3: Allow 15 minutes of discussion and feedback in plenary.

Discussion points for feedback in plenary

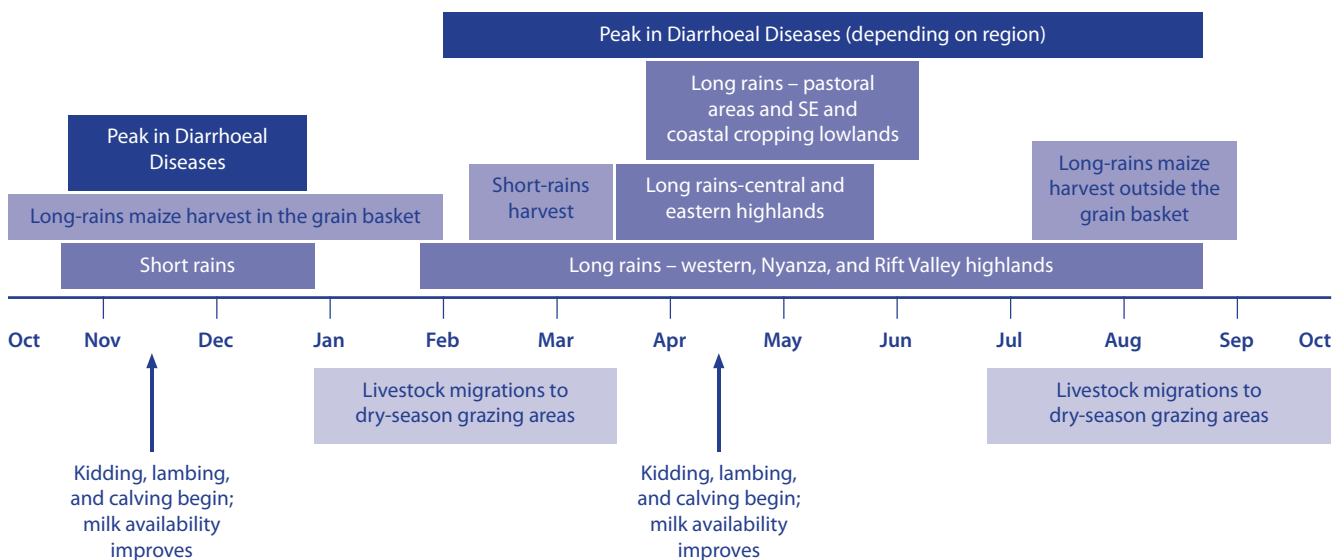
- ➔ Why is it important to consider the seasonal trends in production, disease and workload when interpreting nutrition information?
- ➔ Looking at this seasonal calendar, when is the best time to conduct a nutrition assessment to ensure an appropriate and timely response?
- ➔ Consider seasonal profile of endemic diseases, such as malaria, meningitis, cholera, and recurrent shocks, such as flooding.

Handout 4a: Seasonal calendars and monitoring expected trends in the nutrition situation

Time for completion: 30 minutes

Allow 15 minutes for this task and 15 minutes for feedback. Participants may work in pairs.

Case study A: Seasonal calendar from Kenya⁵



Answer the questions.

1. From looking at this seasonal calendar, when would you expect to find the peak rates of acute malnutrition?
2. Which are the main factors likely to determine the peaks rates of acute malnutrition?
3. Based on this seasonal calendar, when do you think is the best time to conduct a nutrition surveys to ensure a timely and appropriate response?

⁵ <http://v4.fews.net/Pages/timelineview.aspx?gb=ke&tl=en&l=en>

Handout 4b: Seasonal calendars, monitoring expected trends in the nutrition situation: Model answer

Case study A: Seasonal calendar from Kenya

1. Although the FEWSNet example is slightly complicated because of the multiple regions covered (i.e. livelihood zones) the most likely periods of high acute malnutrition will be around October/November for the agriculturalists and August to October for the pastoral populations
2. For the agriculturalists the harvest has not yet been gathered (notes in green boxes) and for the pastoralists the livestock are away from the households and milk production will be low/unavailable for the children (from notes in yellow boxes). Note that increases in diarrhoeal disease will also influence the rates of acute malnutrition (at the end of the period indicated for the agriculturalists and at the beginning of the period indicated for the pastoralists). This will compound the effects of reduced food availability for both livelihoods.
3. In order to ensure that a response is made in time for the peak rates of the acute malnutrition, the assessment should be carried out in August/September for the agriculturalists or June/July for the pastoralists. It is important to take note that it is not the same time period for all regions/livelihood zones in this example. By conducting assessments at this time and by monitoring a series of indicators after the assessment, e.g., growth monitoring data, an appropriate and timely response is feasible. This is because it takes around one month to conduct, analyse and report a nutrition survey and one must consider that finding a funding source, if required, for appropriate interventions also takes some time. However, it should be noted here that if there are no historic data for comparison of rates for that time of year it becomes harder to convince donors that there is a pending problem if the observed rates in GAM are lower than the thresholds that indicate a response is required (e.g. a GAM rate of 10% (critical) or 15% (emergency)). If there are historical data, for the time of year that the current survey is conducted, then it is easier to show that there has been an increase in rates of acute malnutrition. Don't forget that your study could be the first to demonstrate seasonal trends and so it is certainly worthwhile conducting the survey.

5. Case studies

Two case studies are presented in this section: one from north Sudan and one from Sri Lanka. 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 that are contextually appropriate to the particular participant group. Ideally, trainers should use scenarios they are familiar with. More detailed case study exercises have been developed for other modules in the training course.

Exercise 5: Interpreting nutrition information in Sudan 2006

What is the learning objective?

- To understand the importance of trend analysis

When should this exercise be done?

- As part of a more in-depth training – ideally at the end of the training to allow participants to use all their new skills to fully assess the situation

How long should the exercise take?

- 90 minutes (60 min. group work, 30 min. plenary)

What materials are needed?

- **Handout 5a:** Trends in nutritional status in Red Sea State, Sudan
- **Handout 5b:** Trends in nutritional status in Red Sea State, Sudan: Model answer

What does the trainer need to prepare?

- Prepare a case study from a context familiar to the participants based on the template in Handouts 5a and 5b or use existing handouts.

Instructions

Step 1: Give each participant a copy of Handout 5a

Step 2: Divide the participants into groups of (maximum) five people.

Step 3: Give the groups 60 minutes to answer the questions and prepare a presentation of their answers.

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

Step 5: Give each participant a copy of Handout 5b.

Discussion points for feedback in plenary

- ➔ The limited use of absolute rates of global acute malnutrition and established thresholds in assessing nutritional status without having an understanding of contextual factors
- ➔ Highlighting the specific challenges when conducting nutrition assessment in pastoralist populations.

Handout 5a: Trends in nutritional status in Red Sea State, Sudan

Source: UNICEF Sudan, 2006

Time for completion: 60 minutes

Read the case study in detail then as group attempt to answer the questions at the end.

Background

The Red Sea State is the most eastern state in Sudan bordering the Red Sea and Eritrea to the east and Egypt in north. Population estimates vary between 430,000 (1993 Sudan census) and 724,000 (World Bank estimates). The state has experienced recurrent drought for the past few decades leading at times to severe food crises. For the last decade the Red Sea State has experienced chronic food deficits, characterized by regular crop failure, which can be localized or generalized depending on the extent of the drought. Frequent flooding has also compounded the situation so that the most vulnerable population has not maintained grain reserves to last for the year. June usually marks the beginning of the hunger season, which can start early and last longer depending on the harvest from the previous year and the start of the next rainy season.

The Red Sea State is primarily inhabited by Beja pastoralists and agro-pastoralists. Over the centuries, pastoral groups in Red Sea State have devised flexible and dynamic strategies to cope with the complexity and the variability of their ecosystem and to recover from droughts and outbreaks of famine. Such strategies include migration to other parts of the state, herd diversification and redistribution and adaptation of a multi-resource economy where livestock-keeping is complemented by a set of alternative livelihoods, including cultivation and labor migration to town. In February 2005, a joint WFP/UNICEF and Government of Sudan livelihood, vulnerability and nutrition assessment report provided evidence that these insurance coping strategies have reached their limits.

Four nutrition surveys took place from 2 June to 20 July 2006, in Halaib, Sinkat, Port Sudan and Tokar localities by the Sudanese Ministry of Health (SMoH), UNICEF and Oxfam.

Methodology

The survey was conducted following a two-stage, cluster sampling methodology using probability proportional sampling (PPS), selecting 30 clusters with 30 children, following the Sudan national guidelines.⁶ In total, 972 children and 978 women were measured in Halaib locality, 1016 children and 1023 women in Sinkat locality, 978 children and 988 women in Port Sudan locality and 990 children and 990 women in Tokar locality.

Results

Anthropometric measurements were carried out on children across all states (1005 Sinkat, 974 Port Sudan, 959 Halaib and 971 Tokar). The prevalence of global acute malnutrition ranged from 19.7 per cent in Port Sudan rural to 30.8 per cent in Sinkat, both of which were well above the emergency threshold of 15 per cent (see Tables 1 to 6). Compared to many parts of Sudan, (the national rate of wasting from the 2000 MICS survey was estimated at 18 per cent) this rate is high but expected during June to July period, which is the hunger season in Red Sea when food reserves tend to be low and prevalence of child hood diseases high. These results compare with the previous surveys conducted in the Red Sea state in July 2002 and December/January 2004 by the SMoH, with support from Oxfam GB, which found similar levels of high level of malnutrition by locality with confidence intervals overlapping. The surveys also collected information on mortality, morbidity, vaccination and selective feeding coverage.

⁶ Sudan Ministry of Health (July 2004) Nutrition Anthropometric Survey Guidelines *Draft*

Table 1. Acute malnutrition expressed as Z scores. <-2 Z scores Weight/height- GAM <-3 Z scores Weight/height- SAM

Locality	No. Children	Global acute malnutrition (GAM)		Severe acute malnutrition (SAM)	
		%	CI (95%)	%	CI (95%)
Sinkat locality	1,005	30.8%	26.8-35.2	4.9%	3.2-7.3
Port Sudan locality	974	19.7%	16.7-22.7	3.1%	1.8-5.2
Halaib locality	959	29.5%	24.4-33.9	6.6%	4.6-9.4
Tokar locality	971	27.3%	23.2-31.4	6.4%	4.2-8.8

Mortality rates

Table 2. CMR and <5yr MR for Red Sea State localities, June/July 2006

Locality	Crude mortality rate	Under-five mortality rate
Sinkat	0.70	1.18
Port Sudan	–	0.43
Halaib	0.80	1.00
Tokar	0.41	1.06

Morbidity rates

Table 3. Prevalence of reported illness in children in the two weeks prior to interview by locality,

Locality	Prevalence of reported illness among children 6-59 months
Sinkat	58.60%
Port Sudan	71.80%
Halaib	60.00%
Tokar	68.90%

Vaccination data

Table 4: Measles immunization status, children 9-59 months by locality, Red Sea State, June/July 2006

Locality	No (%)	Yes (%)	Yes but not card (%)
Sinkat	35.4	27.2	36.9%
Port Sudan	47.9	28.5	23.5%
Halaib	30.9	29.0	38.1%
Tokar	28.7	41.3	30.0%

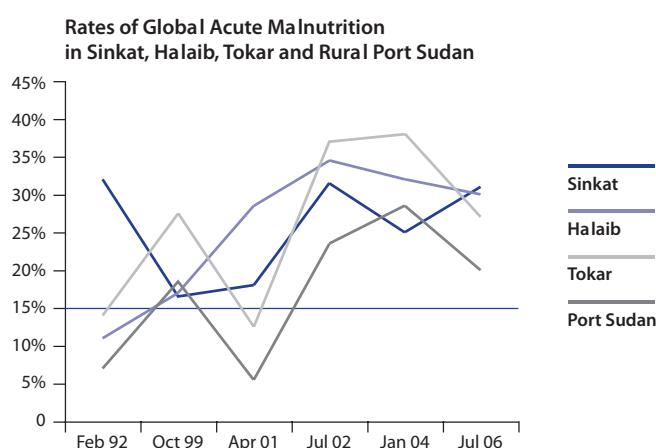
Selective feeding centre coverage

Table 5: Coverage for targeted nutrition programmes for children 6-59 months by locality, Red Sea State, June/July 2006

Locality	TFC coverage (%)	SFC coverage (%)
Sinkat	0%	0.9%
Port Sudan	0%	0.0%
Halaib	0%	0.0%
Tokar	0%	5.6%

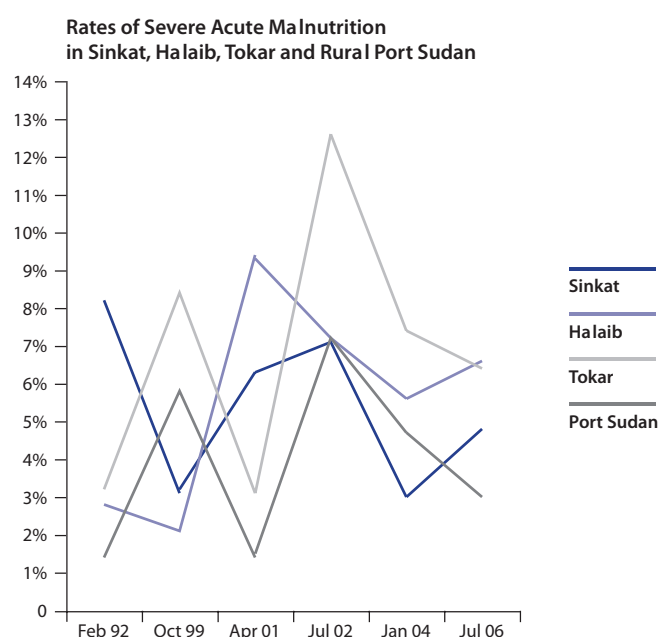
Discussion

The nutritional situation of the Red Sea State (RSS) is of great concern. The rates of acute malnutrition being reported among both under-fives and the adult women are well above the emergency thresholds of 15 per cent thus highlighting the severity of the situation. What needs to be stressed though is that this is **not a new situation**, and not a new emergency, as no severe shocks have been reported this year. It is apparent that this acute malnutrition is the result of **a chronic nutritional crisis, resulting from a chronic livelihoods crisis in RSS**. This is reflected in the results of numerous surveys conducted in the State over the past few years.



Out of 20 nutrition surveys conducted since 1992 only 2 have reported rates of global acute malnutrition below 15 per cent providing clear evidence of the chronic nature of this crisis. This is illustrated by the graph above. This is also supported by the data on high rates of severe acute malnutrition where over 5 per cent is recognized as the cut-off point for serious concern, again illustrated below. Furthermore, the surveys have been conducted at varying times throughout the year so that these high rates of malnutrition are not only occurring during the hunger season and are not therefore transitory or related to the 'single harvest' phenomena' where one would expect peaks of malnutrition just prior to harvest. This again highlights the chronic nature and limited recovery potential in this population.

All the surveys that are noted here are conducted using the two-stage random cluster sample [with selection of settlements using Probability Proportional to Size(PPS)] methodology. However, using this methodology in any pastoral area has its limitations for the interpretation to the larger population. As PPS tends to favour larger sedentary settlements, smaller more mobile communities are generally under-represented. Repeated use of two-stage random cluster methodology allows for good confidence in the comparisons of the results over time. However, one limitation is that this focuses on the households that have congregated in larger settlements (in this example, often because their original pastoral livelihood is no longer viable). The under-represented households are more likely to have herds, are following traditional livelihood strategies, and normally less affected by food insecurity. However, they do remain vulnerable to persistent environmental shocks. Therefore the interpretation of the results becomes very important. In this example, the trends are more illustrative of the settled (more vulnerable) population.



Years of cumulative shocks and limited opportunities for recovery in Red Sea State has resulted in widespread chronically food insecurity.⁷ Some assessments report up to 80 per cent of the livestock population being lost in the late 1990s and in early 2000 and 2001, with limited opportunities for restocking. Herds are now mostly kept around the home areas, with those households with comparatively larger herds paying herdsmen to take livestock, particularly camels, to outside pasture areas. Many households no longer move animals to traditional seasonal pastures, indicating a larger proportion of the population are becoming more sedentary.

The Red Sea State is a food-deficit state. Agro-pastoral household food production capacity is low partly due to the small variety of crops adapted to the arid climate (sorghum is the main staple food), limited pastures due to soil erosion, and low incomes that affect access to seeds and tools. Unfavourable climatic conditions, lack of maintenance of irrigation channels, crop pests (grasshoppers, birds, dura stem borers and tree locusts) and a recent spread of mesquite have meant that cereal production remains significantly below its potential, even in the traditional productive areas in the Tokar Delta, particularly in recent years. Livestock herd composition has drastically changed over the last century as a result of increased competition for grazing areas and water resources and of a reduced capacity to cope with drought.

Such changes can be viewed as adaptive strategies to cope with drought. In an adverse agricultural and pastoral environment as in Red Sea State, a large part of the population is dependent on the market for access to food. However, limited income opportunities means purchasing power is also limited (the main income source during the hunger gap is charcoal⁸). Access to markets in rural areas is extremely limited due to sparsely populated and remote communities, particularly in the northern Halaib and rural Port Sudan localities. The National Strategic Reserve Authority operates on a cost-recovery basis to stabilize sorghum prices by supplying the market with specific quantities of sorghum at reduced prices through various mechanisms. However, the distribution tends to be focused on the larger markets, which are inaccessible to many.

A further contributing factor to high malnutrition is the limited access to primary health care services. Most of the health facilities (and all nutrition centres) are in urban areas and rural populations have limited mobility (lack of transport, cultural habits). In spite of the arid environment and low population density, the public health situation is extremely poor and there is a real potential for a public health crisis.⁹ Water for domestic use and for watering small herds of livestock is generally obtained from hand dug wells. Preventative health has a low profile in the Red Sea State. The sanitation situation is poor due to lack of awareness, limited water, often unprotected water resources with no drainage and almost complete absence of latrines. Open-air defecation is the norm and personal hygiene is poor. All these factors put the communities at high risk of disease transmitted via the faecal-oral route. The health and nutrition situation for women is of particular concern due to their profile in Beja society and to restrictive cultural beliefs. Routine vaccination coverage across the state is low for measles and DPT1-2-3. Vitamin A supplementation coverage is better but erratic with coverage largely dependent upon the local polio campaign.

In each locality reported education levels were extremely low regardless of whether most of households were headed by men or women. The cultural practices of the Beja do not encourage women to be educated, however, both local and international NGOs, such as Oxfam, have been working with the local community to empower women and to provide adult education opportunities.

Answer the questions.

- 1. Given the available information provided in this report, how would you interpret the nutrition situation?**
- 2. What are important considerations for the analysis of trend data?**
- 3. How would you recommend disseminating this data and to whom?**
- 4. Rather than repeating an assessment of this size every six months, what other ways can you closely monitor the nutrition situation? Provide three detailed examples.**

⁷ Oxfam, July 2005, Livelihoods and Food Security Assessment Red Sea State

⁸ Result from Post Distribution Monitoring in Tokar and rural Port-Sudan- July 2006- Oxfam

⁹ Oxfam, Snell, M., 2003

Handout 5b: Trends in nutritional status in Red Sea State, Sudan: Model answer

1. Given the available information provided in this report how would you interpret the nutrition situation?

The current nutrition situation in Red Sea State in the four areas surveyed does indicate that there is a nutritional crisis. GAM rates are well above emergency thresholds of 15 per cent in all locations. While under-five and crude mortality rates are below alert levels, the available information on immediate causes of malnutrition (morbidity) and underlying causes of malnutrition (food security and public health programming) indicates that the situation is fragile. When considering the period of the survey (hunger season), one may assume that the figure shown is probably the worst case scenario in the surveyed localities. However, previous surveys show similar results meaning that the Red Sea State is facing a prolonged nutritional crisis.

The fact that the crude mortality and under-five mortality rates are both below 'alarm' thresholds may imply that populations in the surveyed localities have developed coping measures or that some interventions have already been implemented, thereby minimizing loss of life amongst children and women. However, high morbidity rates among children (58.6 to 71.8 per cent), low vaccination coverage (measles and DPT1-2-3) and poor nutrition programmes coverage are factors that may contribute to a high risk of widespread mortality if not addressed urgently

In addition, there are certain gaps in the analysis that urgently need to be remedied in order to validate the results as well as clarify characteristics of vulnerable groups. For example, there is a need to examine whether there is an age or sex bias in the data. If there was an age bias, this might artificially inflate GAM and SAM rates. There is also a need for more contextual and situational analysis, including livelihoods, food security (sources of food, patterns during the year), migration, etc., as well as any issues of stigma/marginalization of the Beja. Findings from the survey imply that the nutritional status of children in the Red Sea State is alarming and may deteriorate further if appropriate responses are not taken.

2. What are important considerations for the analysis of trend data?

In brief – homogeneity of the population surveyed and carrying out surveys at the same or similar season of the year are key issues in following trends in acute malnutrition. Also, if two (or more) surveys are to be compared they must be statistically representative of the populations surveyed.

Although there are a number of technical constraints in applying a random two-stage cluster survey (with PPS) these are addressed in the module on survey methodology. What is important in the application of this methodology in nutrition surveillance is that the population under observation remains the same or similar, allowing much more legitimate trends to be reported. For this example, there are two different populations. The first are less vulnerable nomadic pastoralists and live in small isolated and temporary settlements. The other population lives in larger more sedentary communities and is less likely to derive income directly from livestock. Since the survey methodology will tend to consistently select households from larger settlements the proportion of households from the more nomadic settlements are likely to be similar for each survey.

As it is probable that the population described by the surveys remains relatively similar (mainly settled households that rely less on animals for their main source of income) comparisons between surveys will indicate changes in a comparable population with similar vulnerabilities. However, the surveys have been carried out at different times of the year. This may not matter if they are always at the beginning or end of a rainy or dry season but if they are conducted during different seasons interpretation of the trends will also be difficult.

An important consideration of a surveillance system is whether surveys are conducted on homogenous populations and at similar points in the year. The more heterogeneous the population (either in terms of livelihood or demography), especially if there are large differences between surveys, the greater the difficulty of interpreting observed trends. If information is needed to confirm that the nomadic population is less affected by livelihood shocks, it may be necessary to utilise a different methodology. Also, note that populations in much larger settlements, or urban environments, may require separate assessments. This is recognised by FSNAU who deal with urban settlements separately from rural populations.

3. How would you recommend disseminating this data and to whom?

To ensure an appropriate link with response, it is essential that this information is reported to key stakeholders in a timely and accessible manner. The most appropriate forum is the local nutrition coordination structure ideally chaired by the Ministry of Health, where main actors in nutrition, food security and health attend. Further dissemination to key actors who may not attend the coordination meetings can be done through a personal briefing, a PowerPoint presentation or nutrition bulletins that can be circulated to key agencies and actors.

Finally, and this is so often overlooked, there should be feedback to the community of the results. This can be achieved by sharing results in simple translated documents with community leaders in the affected areas.

4. Rather than repeating an assessment of this size every six months what other ways can you closely monitor the nutrition situation? Provide three detailed examples.

In such a situation where such levels of acute malnutrition persist, there is a need for close monitoring of the situation using a variety of sources of easy to measure and sensitive indicators. Ideally, information from three sources would be used to inform analysis and serve as a trigger for a more detailed assessment. No single source should be considered reliable enough to determine the situation.

Community based sentinel site nutrition surveillance: This sentinel site system would identify key sites/villages based on livelihood representativeness, population density and vulnerability. Monthly information on child nutrition and morbidity could be collected by using MUAC and a ranking of disease trends. Information on access to food and coping strategies could also be collected on a monthly basis. Baseline information on access to water, sanitation facilities and health services could also be established at the outset. The information could be managed by the community with staff from the MoA and MoH compiling, analysing and reporting on a quarterly basis. The information could be shared at coordination meetings and triggers could be established as to when to conduct a more detailed assessment.

Health facility monitoring: Growth monitoring activities through the health infrastructure with support from health outposts within communities with poor access to the health infrastructure can be utilized. Anthropometric data could be collected on all children who attend the health facility routinely, with monthly reporting and analysis used to inform response.

Repeated rapid assessments: Depending on field conditions and when necessary, a rapid assessment of the nutrition and health status could be implemented in targeted areas. The trigger for such an assessment could be 'alarm' data provided by routine systems (sentinel sites or health facility data) or isolated information gathered from NGO and other field partners.

Exercise 6: Nutrition surveillance system based on a hypothetical pastoral/arid land scenario**What is the learning objective?**

- The principle purpose of this exercise is to give the groups an opportunity to thoroughly think through what is required to implement and sustain a nutrition surveillance system. Guidance is provided. The facilitator should emphasize that when there are gaps in information from the background note that the team can make assumptions but must state these in the final presentations.

When should this exercise be done?

- As part of a more in-depth training

How long should the exercise take?

- one half day to a full day

What materials are needed?

- **Handout 6a:** Develop an "ideal" nutrition surveillance system for the hypothetical scenario.
- **Handout 6b:** Guidance notes for Trainer during reviewing presentations for "ideal" nutrition surveillance system during plenary
- The technical notes from this module and the cited references

What does the trainer need to prepare?

- Handouts of the references and/or copies of the handbooks etc. should be available for the teams. Be familiar with the hypothetical scenario. Note that the scenario can be elaborated further if certain details have not been mentioned. It can also be adapted to a more familiar setting (e.g. agricultural livelihoods).

Instructions

Step 1: Give each participant a copy of Handout 6a.

Step 2: Divide the participants into groups of (maximum) five people.

Step 3: Give the teams up to half a day to prepare a proposal (breaks as necessary).
They should have either a PowerPoint or flipchart presentation ready for the plenary.

Step 4: Give each group 20-30 minutes for feedback in plenary.

Discussion points for feedback in plenary

Handout 6a: Develop an “ideal” nutrition surveillance system for the hypothetical scenario.

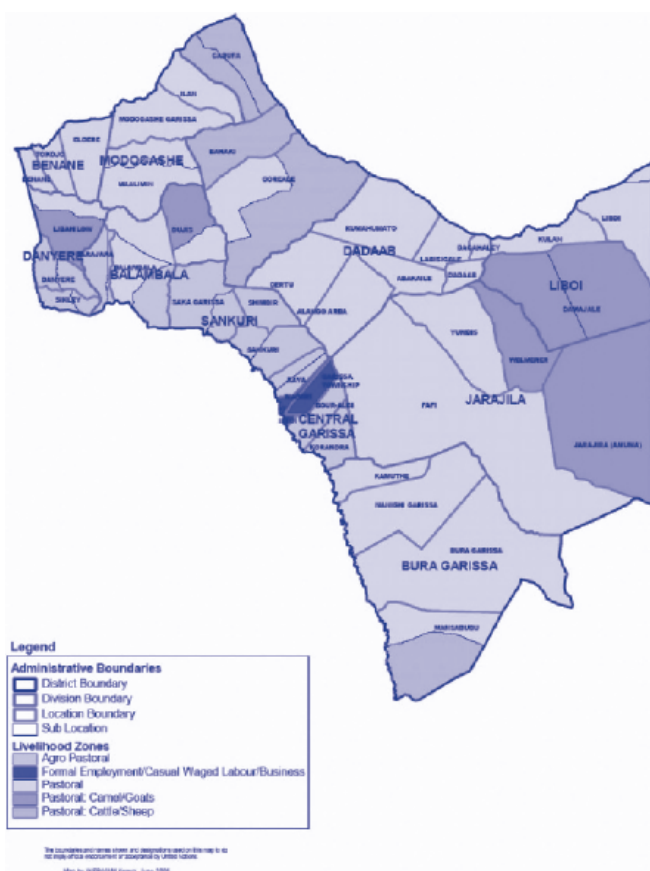
Time for completion: one half day

Read the hypothetical scenario below and follow the exercise guidance notes.

Background:

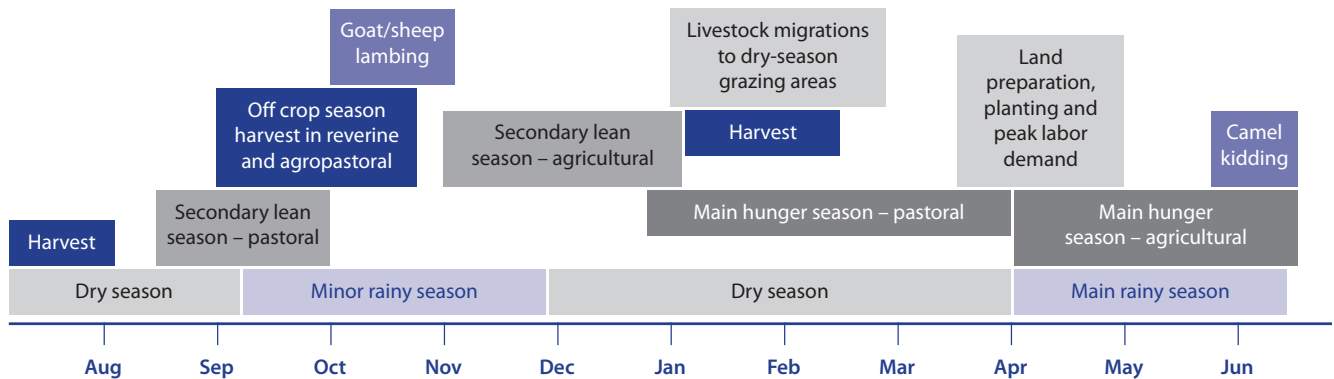
The following is a description of the area which the government has indicated would benefit from implementation of a nutrition surveillance system. The Government has requested technical assistance to develop the system and to identify key areas for funding and additionally, continued technical support and training.

Livelihood Map of Dryland



In Dryland over the last 20 years there has been a history of recurrent droughts and rain failures. The district is classified as Arid and Semi-Arid Land (ASAL). It is geographically and structurally isolated from major Government sponsored development initiatives and is thus politically and economically marginalised as well as being in an extreme environment. The people of the district maintain precarious livelihoods and are highly vulnerable to shocks. Over the last 20 years livelihoods in Dryland have been severely undermined. Many pastoral households have been unable to continue their traditional migratory patterns and have settled in a number of large settlements with their few remaining animals. Many now rely on casual labour and petty trading for their main source of income. Households that settle here are often not able to create new income sources and are some of the most vulnerable in Dryland. Many of these are destitute. There is some local crop production along the riverbanks and lakeshore and in good and normal years this source of food can supply a significant amount of the local consumption needs. However, during drought years production is very poor or fails and most of the food needs are met from other parts of the country. The map indicates the main livelihood zones in Dryland. The grey areas are the urbanized centres of this region. Milk production is linked to food security and to nutritional status of children. This production occurs during the birthing period and is of great importance to the livelihoods in this area as well as nutritional status of children. The seasons for Dryland are indicated in the table below. Another important factor is that during dry seasons, and particularly when rains fail, there is often conflict for what little resources are available e.g. for water points and access to pasture. However, this conflict also makes market access difficult particularly at times when food needs are the greatest. In addition there are 3 large (with 40,000 individuals) refugee camps in Dryland. These camps have their own set of operations and are managed by UNHCR.

Seasonal Calendar for Dryland

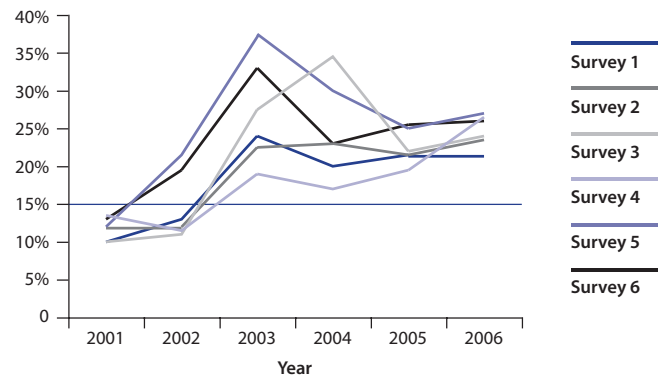


In the years during which there are rain failures emergency operations are implemented and mostly involve large scale distributions of food relief. In addition there are also numerous targeted nutrition interventions for severe and moderate malnutrition (although on occasion blanket distributions for moderately malnourished children are provided). These targeted programmes run almost continuously in Dryland although admission data are generally kept by the implementing partners.

To date there have been numerous nutrition surveys carried out. However, they tend to be rather ad hoc and rarely have the same geographical coverage. They also tend to cover both large and small settlements. Fortunately, there are some surveys that cover the same geographical areas and can provide useful background data. Data that are available are indicated in the table below. These surveys were no longer carried out in the same locations after 2006 due to a lack of coordination between NGOs and UN/MoH.

Survey series available from various parts of Dryland

Other sources of data include the DHS (carried out 3 years prior to the request for assistance from the government) and the MICS (2 years prior). These assessments indicate that there are high infant mortality rates, high morbidity and poor infant feeding practices. There is also an indication that micronutrient deficiencies are relatively commonplace. Iron deficiency anaemia, iodine deficiency, goitre and vitamin A deficiencies have been shown to be of public health concern. However, the most recent micronutrient survey was conducted in 2005. Acute malnutrition is approximately 16% GAM. Access to health facilities is poor and the few facilities that are open are inadequately staffed (making the staff present very busy), have few essential drugs and people are often asked to pay for services and supplies. There are a number of health posts that have been closed for some time or that are only open during periods when health staff are not busy with their own households. Poor pay and conditions for staff is an underlying reason for this.



There is cell-phone coverage in the largest settlements but coverage is patchy over the rest of Dryland. Infrastructure is poor and most of the roads are unpaved making for difficult access to all areas in the rainy seasons. There are some vehicles in the area that transport animals in the dry season and others supply qat (also known as mirra/khat/gat; a leafy narcotic that is chewed socially by many pastoralists in this area) across the district.

There are a number of other data sources in the country. FEWS Net provides market data analysis based on government reporting systems, remote sensing data and analysis and forecast modelling. Their bulletins are available on a monthly basis. WFP has also carried out a number of Food Security assessments in the area. There is a Comprehensive Food Security and Vulnerability Assessment survey available for 2010 and there is a plan to make lighter follow-up assessments each year as part of a food security monitoring system. WFP also provide distribution data for their emergency operations, including general food distributions to households. There is currently a national Food Security Steering Committee that deals with food security surveillance in the country (including activities in Dryland) but currently nutrition surveillance is predominately only based on DHS and MICS data as well as some information from an ailing Child Health And Nutrition Information System (CHANIS). Data from these systems are only available every 2 to 3 years with supplemental data available from the ad hoc surveys conducted by the NGOs in Dryland.

The government needs the nutrition surveillance data in order to be able to improve service provision and know when to initiate humanitarian responses/make appeals for emergency funding before the situation becomes critical. Government set out the following scope and requirements for this nutritional surveillance system as follows:

1. Immediate need to have an updated nutritional picture of Dryland
2. A methodology that is sustainable and provides data to advocate for emergency funding.
3. Data needs to be gathered and processed quickly and accurately
4. There must be capacity building provided to government officials
5. Data must be analysed and presented to a wide audience.
6. Information should be coordinated and fit into other information systems
7. It should not put additional strain on existing services in the area.

Exercise guidance:

Discuss how your team would set up a nutrition surveillance system based on the set of circumstances that have been summarised above (if you are unsure of specifics not provided, state your assumptions in your presentation). Provide the main areas that your team would need to consider and the how you might go about solving some of the issues that you would expect to encounter. Use the reading material from Technical Notes in this module and the references therein to make as complete a proposal as possible.

The main areas that you need to cover for this exercise are:

1. Data collection
2. Data retrieval, management and analysis
3. Data presentation
4. Coordination needs of surveillance system

While drafting your presentation be sure to cover these points within each appropriate section:

- i) Provide a summary of the main issues that should be dealt with and addressed within the context of Dryland provide as much detail as possible with regard to how your team would solve/approach these issues.
- ii) The methodology is an important part of surveillance system, although only one part.
 - a. Present the main outline of your teams methodology.
 - b. Also provide details of what additional data you propose to collect.
 - c. Show that you understand the main constraints of the methodology used but why you selected this approach.
- iii) Indicate how you would incorporate other data into your surveillance system.

Handout 6b: Guidance notes for Trainer during reviewing presentations for “ideal’ nutrition surveillance system during plenary

One of the aims of this exercise is to improve critical thinking and to help understand that there is no “right” answer. There are many ways in which data can be collected and processed. The idea is for each group to come up with a plan based around the facts provided dealing with as many areas as they can remember from the training. Some guidance is provided.

Once they have submitted the plans the plenary session should allow each team to present their plans. Once finished, time should be spent considering:

1. The different methodological approaches to data collection of each team and the Pros and Cons of these approaches
2. For the four exercise guidance areas provided (above) how much consideration did each team give to the context of the scenario?
3. Consider some of the differences in approaches to solving the various issues that go in to the setup of the surveillance system.

Guidance on Commenting on the presentations:

1. **Methodology** – Key points are that:
 - a. The team makes note of the variety of different populations present. There are multiple livelihoods, urban and rural populations and refugees.
 - b. Critically comment on methodologies that only consider one type of data collection from one source (e.g. only carrying out surveys). There are programme data available from NGOs that will include admissions and screening data.
 - c. Is the methodology based on some kind of recognisable standard? Is it too complicated?
 - d. What type of staff are required to carry out data collection and surveys (health centre staff, specific enumerators, NGO staff)? Each cadre of staff will have strengths and weaknesses. Ensure that these are considered.
 - e. Is the sampling statistically representative? Have they thought about the need to measure the change in rates of GAM? It may not be within the statistical capacity of the groups but indicate that this is something to be considered. CDC and other groups are always available to help.
2. **Data Management and Analysis**
 - a. Have the teams considered how they will get the data from the field?
 - b. Has there been a consideration as to how long it will take to retrieve data?
 - c. How will they store the data and where?
 - d. Have they thought through who will analyse the data and at what administrative level (locally and/or nationally)?
 - e. Have they considered how they will handle those children that have been identified as malnourished by the data collection team (especially important if they use community based enumeration)?
 - f. What analytical tools will be used? Are they recognised and easily available?
 - g. What capacity is required to do the analysis?
 - h. Have they considered analysis of underlying causes?
 - i. Have they considered how they will use non-nutritional data collected in the system and by other surveillance/data collection systems?

3. Data Presentation

- a. There are many ways in which data can be presented and this will depend on the type of data collected. The most important thing to ensure is that trend data are presented. These are normally presented in line graphs with an x-axis being time.

4. Coordination (these are only some general observations)

- a. There are a number of actors mentioned in this scenario. Standardisation of data collection tools is something to look for in the teams plans, as well as standard survey methodologies and coordination of the timing of nutrition surveys.
- b. Coordinating nutrition assessments with food security assessments, or their integration, is another point to look for.
- c. Response thresholds appropriate to "Dryland" may also be a consideration and some agreement as to what prevalence of GAM should have an emergency appeal attached to it.

6. Field-based exercises

The section outlines ideas for exercises that can be carried out as part of a field visit. Field visits require a lot of preparation. An organization that is actively involved in programming or nutrition surveillance has to be identified to 'host' the visit. This could be a government agency, an international NGO or a United Nations 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 programming activities. Despite these caveats, field based learning is probably the best way of providing information that participants will remember.

Exercise 7: Review of available nutrition and other relevant information sources for suitability as part of a nutrition surveillance systems

What are the learning objectives?

- To review existing sources of nutrition and other relevant information and critically evaluate their suitability as a component of a nutrition surveillance system
- To critically review the quality of the data being collected.

When should this exercise be done?

- At the end of the training so that participants are familiar with the all aspects of nutrition surveillance

How long should the exercise take?

- Half-day to one full day

What materials are needed?

- Writing materials

What does the trainer need to prepare?

- Identify the main sources of nutrition, health, public health and food security information in the identified village. Based on that list make contact with the relevant health centre staff, local NGO staff, Ministry of Agriculture staff – set a time for the participants to interview them and visit their premises to study their information.
- Prepare and send letter announcing the training and specific exercise in advance.

Exercise 7: Review of available nutrition and other relevant information sources for suitability as part of a nutrition surveillance systems (continued)**Instructions**

Step 1: Allow participants to work in pairs.

Step 2: Based on the existing sources of information collected on nutrition, food security, health and public health, split up the participants so that equal groups meet the relevant key informants in each sector.

Step 3: Each pair should make an inventory of the information that is being collected in each sector: indicators, frequency of collection, data collection methods, sampling, analysis and reporting.

Step 4: Each pair should critically evaluate the quality of the information and its potential role in a nutrition information system – this is particularly relevant for the nutrition indicators collected at HC levels or through local NGO.

Step 5: Each pair should prepare a presentation on the specific sector outlining the strengths and weaknesses of: the indicators, the sampling techniques, the data collection techniques, the analysis and the reporting.

Step 6: The participants should also, where identified, outline a strategy for improving the data collection, analysis and reporting collected in their sector of focus.

Discussion points for feedback in plenary

- ➔ Based on the existing information that is being collected, is it possible to accurately monitor the nutrition situation as it stands?
- ➔ If no, how could you build on, or support, this information to ensure accurate and timely information to monitor the nutrition situation?

Exercise 8: Review the use of nutrition information in informing a response**What are the learning objectives?**

- To review a previous emergency situation and determine whether nutrition information played any part in the response
- To review the perception of decision makers in the use of nutrition information from a surveillance system in informing response

When should this exercise be done?

- At the end of a detailed training on nutrition surveillance systems

How long should the exercise take?

- Two to three days given the need to review historical nutrition data in advance of interviewing decision makers

What materials are needed?

- Reports of historical nutrition information (surveys, assessments, growth monitoring, selective feeding reports etc.)
- Writing materials

What does the trainer need to prepare?

- Collection of relevant historical nutrition information used in the identified (district level) area in a previous emergency situation. Arranging of meetings with key decision makers in the government, Ministry of Health, Ministry of Agriculture, Office of Disaster Management and Response, etc. Arranging of meetings with operational NGO, COB and United Nations in the area.

Instructions

Step 1: Participants should work in pairs.

Step 2: Each pair should be given the available nutrition information collected and reported in the most recent emergency scenario in a specified area.

Step 3: Each pair should review the information and summarize the nutrition situation on the basis of the available information.

Step 4: Each pair should develop a list of questions to be used when interviewing key decision makers in the government, United Nations agencies, NGO and CBO staff on how the information gathered was used to inform response, or if not used, why not.

Step 5: Each pair should also draft a series of questions to the key informants on the role of nutrition information in decision making and what the major challenges or obstacles are in its effective use as a form of early warning.

Step 6: Each pair should then draft a case study on the nutrition situation during the emergency, the response and the role of the nutrition information in influencing that response as well as recommendation for the future.

Discussion points for feedback in plenary

- ➔ Was nutrition information used effectively and in a timely manner to inform an appropriate and timely response?
- ➔ What were the major obstacles observed in the use of the nutrition information effectively?
- ➔ What are the lessons learned from this exercise for the future planning of nutrition surveillance systems?

