

# Part III

## Planning and implementing an EFSA



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# Introduction

The three types of EFSA were defined in **Part I**. Information requirements and indicators for an EFSA were defined in **Part II**. **Part III** focuses on planning an assessment and collecting primary data. It addresses the following issues:

- **planning an EFSA**, outlining the steps undertaken prior to fieldwork;
- **logistics considerations**, regarding the management of fieldwork and daily activities;
- **primary data collection**, emphasizing the importance of good quality primary data and describing approaches to and tools for primary data collection.

The specific requirements for planning, logistics and primary data collection vary depending on whether the EFSA is to be an initial, rapid or in-depth assessment. This part of the handbook provides general guidance for an EFSA, but it is important to consider the different requirements for each type of assessment and to adjust planning, logistics, and other functions accordingly.

# Planning an EFSA

Any assessment must be carefully planned. Activities should be identified in advance and a timeframe established.

Participation in assessment planning should be as broad as possible depending on the time available. Planning the EFSA in consultation with key partners ensures that knowledge of the situation is shared, transparency is enhanced and constraints are identified. It also makes it more likely that stakeholders accept and use the assessment findings in programme responses. Representatives of the national/local government and the organizations participating in the assessment should take part in the planning. Organizations with a stake in the assessment's outcome should also participate; these include organizations working in nutrition and food security sectors, and donors.

The amount of consultation depends on the urgency of the situation and the capacity of stakeholder organizations. For example, if detailed contingency plans have already been developed, extensive consultation may not be necessary. In a quick-onset crisis, common sense should be applied. The objectives of this type of assessment are usually obvious;<sup>25</sup> it is likely that only key stakeholders will be consulted rapidly, in person or by telephone, and a set of objectives drafted and circulated.

The **key objectives** of planning an EFSA include:

1. determining whether or not an assessment is required, assisted by trigger mechanisms;<sup>26</sup>
2. defining the assessment objectives and terms of reference;
3. preparing the budget;
4. developing an analysis plan and identifying the information requirements;
5. reviewing secondary information and collecting reference material;

25. For more guidance, see: Technical Guidance Sheet No. 6 Initial Emergency Food Security Assessments, WFP Emergency Needs Assessment Service, November 2007.

26. For more guidance, see: Technical Guidance Sheet No. 4 Trigger Criteria for an Emergency Food Security Assessment in Slow-Onset Crisis Situations, WFP Emergency Needs Assessment Service, November 2007.

6. determining the data collection methodology;
7. determining the sampling approach;
8. establishing the staffing structure for the assessment, and training the teams;
9. making administrative and logistics arrangements;
10. establishing communications, security and emergency procedures;
11. briefing the assessment teams; and
12. preparing the assessment schedule.

The order in which these tasks are carried out is not fixed and the process is *iterative*. This means that completion of each task may lead to repetition and/or adaptation of other tasks; for example, consideration of logistics issues might lead to adaptation of the sampling approach.

## 2.1 Trigger mechanisms for an EFSA

An EFSA should be launched when trigger mechanisms show evidence that an assessment is needed. A *trigger* is an event or series of events indicating that the nutrition or food security situation is deteriorating, or has already reached a level of crisis. Trigger indicators are based on the data already collected by early warning and food security monitoring systems, and consist of a few indicators at the macro- and micro-levels that signal the need for a closer look at the situation. Such indicators include the harvest levels of staple crops, the gap between harvests and food consumption requirements at the national or sub-national level, staple food market prices, terms of trade of staple foods against key assets such as livestock and labour, acute malnutrition rates, mortality rates, and context-specific coping strategies that indicate food stress.<sup>27</sup> If any of the data monitored give cause for concern, an initial assessment should be launched.

There are three types of EFSA: initial assessment, rapid assessment, and in-depth assessment (see **Part I**).

### 2.1.1 Sudden-onset crises

Sudden-onset crises are often the result of large-scale disasters such as earthquakes, floods and the outbreak of conflict. Typically, an **initial assessment** is carried out to provide a rough idea of the nature and scope of the crisis and, in urgent situations, the information on which the first stages of the response plan are based.<sup>28</sup> After the initial assessment, a follow-up **rapid assessment** is

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27. Details of an indicator-based monitoring system for triggering EFSA in slow-onset crises are given in Technical Guidance Sheet No. 4 Trigger Criteria for an Emergency Food Security Assessment in Slow-Onset Crisis Situations, WFP Emergency Needs Assessment Service, November 2007.

28. Extensive guidance on conducting this type of assessment is provided in Technical Guidance Sheet No. 6 Initial Emergency Food Security Assessments, WFP Emergency Needs Assessment Service, November 2007.

undertaken if more in-depth analysis is needed or the initial assessment information is out of date owing to rapid changes in the context.

A follow-up rapid assessment is not necessary if:

- there is compelling evidence that the crisis will have no impact on nutrition and food security;
- other agencies have conducted assessments that provide sufficient reliable information; or
- it is clear that the government or other organizations are capable of covering all the needs.

### 2.1.2 Slow-onset or protracted crises

Slow-onset or protracted crises include drought, economic or environmental decline, long-term conflict, and pandemics such as HIV/AIDS. **In-depth assessments** gather detailed, representative information about the affected population. The trigger for an EFSA is less clear than in rapid-onset crises because the situation deteriorates *gradually* and there may be no sudden and dramatic escalation that alerts attention. Frequent, large-scale EFSAs may be undesirable or unfeasible, so it is essential to monitor the deteriorating situation and take action before crisis status is reached.

Slow-onset food security crises should be monitored continually through as many different mechanisms as possible, including:

- field offices, where staff members monitor the situation during field visits and through discussions with stakeholders;
- partner organizations, through regular communication with government offices of health, agriculture, meteorology, etc. and organizations working in relevant sectors, such as specialized United Nations agencies and NGOs;
- formal monitoring systems that compare selected trigger indicators with pre-established baselines.

## 2.2 Objectives and terms of reference

The EFSA planning process is based on the assessment objectives and the terms of reference. These are defined in consultation with the intended users of the results, including country office decision-makers and partners:

- The objectives describe the outputs expected from the assessment (see **Part I**).
- The terms of reference indicate how the assessment will be carried out, and define the roles and responsibilities of the assessment team.

## 2.3 Budget

The budget is based on the planned data collection methods, sample methodology, number of assessment staff, and vehicles and other equipment required during the assessment schedule. These in turn depend on the assessment's objectives and terms of reference. Revisions to the assessment methodology may be necessary if the resulting budget exceeds the available funding.

The available budget for EFSA activities will determine the following:

- **Professional profiles of participating staff:** If the budget is tight, it may be possible to use only a few experienced staff members, which limits the scope of the assessment and the methodology used; experienced staff are needed to manage teams in the field, analyse data, etc.
- **Logistics arrangements:** Budget considerations will likely determine the amount and type of equipment available and the logistics arrangements for field activities.

WFP has established policies and procedures for funding at least a portion of assessment costs.<sup>29</sup> In some cases, such as a high-profile emergency, it may be possible to fund an assessment completely from external donor resources.

## 2.4 Analysis plan and information requirements

The analysis plan provides a framework for collecting information and interpreting findings based on the EFSA objectives. It specifies:

- the information needed to meet the objectives;
- how this information should be collected;
- the source(s) from which it should be collected.

**Part II** provides guidance on how to develop and use the analysis plan to identify information requirements.

## 2.5 Collation and review of secondary data and reference material

Secondary information includes any available contextual information about the area and the local population prior to the current crisis, and information on the current crisis collected by other organizations.

A thorough review of secondary information is crucial for defining assessment objectives and determining further information requirements. It also minimizes

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29. Policies and Procedures for the Use of the Immediate Response Account (IRA), WFP Operations Department and Administrative Department Joint Directive, 18 October 2005 (OD2005/005, A 2005/009).

duplication; if good quality data have been collected recently by another organization, there is no need to collect the same data in the EFSA.

Examples of secondary data and sources are given in Table 3.1.

Table 3.1: Secondary data sources	
Type of information	Example of sources
<b>Information about the area and its population before the current crisis</b>	
<b>Nutrition and food security baseline surveys</b>	<ul style="list-style-type: none"> <li>- CFSVA: WFP</li> <li>- Food economy baseline: Save the Children</li> <li>- Nutrition survey: Ministry of Health, UNICEF</li> <li>- FEWS NET</li> </ul>
<b>Food production baseline surveys</b>	<ul style="list-style-type: none"> <li>- CFSAM: WFP/FAO</li> <li>- National government: e.g. Ministry of Agriculture</li> </ul>
<b>Market surveys</b>	Government, universities, World Bank, United Nations, NGOs
<b>Social, political, historical and anthropological reports</b>	Universities, literature
<b>Information about the current crisis collected by other organizations</b>	
<b>Recent assessments</b>	Government, other organizations: United Nations, NGOs
<b>Education baseline surveys</b>	<ul style="list-style-type: none"> <li>- Government statistics</li> <li>- United Nations, NGO reports</li> <li>- WFP baseline and follow-up surveys</li> </ul>
<b>Media reports</b>	Local and international news agencies

If resources allow, one person or a small team should be assigned to go through secondary data and identify useful material. These individuals must be fully conversant with the assessment objectives and terms of reference.

The **reliability** of secondary sources must be carefully appraised in terms of the source, methodology used, potential bias, age of the information, relevance, and agreement with other sources. Once the secondary information has been reviewed, the remaining gaps constitute the information that will be collected directly as primary data during the EFSA.

A template for secondary information review and identification of gaps is shown in Table 3.2.

**Table 3.2: Identification of information gaps, with examples**

Question	Information requirements	Secondary source 1	Secondary source 2	Secondary source...	Ways to fill information gaps (with primary information)
Is there a food security or nutrition problem?	Is there evidence of excess mortality?	Survey data from 6 months ago show mortality rate of 1 death per 10 000 people per day	Doctor interviewed in local press says that mortality rate “seems to be declining”	Recent NGO rapid assessment indicates increased burial ceremonies in last 3 months	Collect data on number of deaths over last 6 months in sampled villages
	Is there evidence of acute malnutrition?	An NGO specialized in nutrition carried out an anthropometric survey in 3 of the 5 affected districts 3 weeks ago	Livelihoods and the emergency’s impact in the other 2 districts seem to differ from those in the 3 surveyed districts		Undertake an anthropometric survey in the remaining 2 districts, using the same methodology as the NGO used
	Have people lost land or access to land?	Government economic data show increased land sales and decreased land prices in drought-affected areas	A market survey by the local university shows no increase in the number of people looking for casual labour opportunities	A report by the International Organization for Migration (IOM) indicates no unusual migration within or out of the affected area	Identify the people selling land. Are these crisis sales? If so, how are people compensating for their lost land assets?
	How do people currently obtain food?	A market survey by a local NGO indicates that demand for expensive foods such as meat has declined	A WFP rapid EFSA undertaken 3 months ago shows most households’ food consumption measured – through the FCS – was acceptable	The local clinic reports increased micronutrient deficiency among children under 5	Evidence suggests that food access has deteriorated over the last 3 months. The EFSA will check the current situation and look for the causes of this

As Example 3.1 illustrates, the availability of reliable secondary data helps determine the types of primary data that must be collected during the EFSA.

### Example 3.1: Using secondary data to determine primary information needs

Drought is leading to widespread crop failure and deteriorating livestock health.

One of the objectives of the EFSA is to estimate the impact of crop failure on food access. The following information is available from secondary sources:

- Source 1: A reliable and recent market survey shows that prices of staple crops have doubled since the same season last year, and prices of livestock have declined by one-third.
- Source 2: A livelihoods assessment from five years ago indicates that 25 percent of the population buy staple food using the proceeds of livestock sales, and 50 percent combine consumption of own production with sales of cash crops.
- Source 3: Key informants say that the relative proportions of livestock owners and farmers have changed over the last five years, but percentages cannot be reliably estimated.

This information is summarized in a table, as follows.

Question	Information requirements	Source 1	Source 2	Source 3	Ways to fill information gaps
How has crop failure affected food access?	Price of crops now	2X	...	...	...
	Price of crops this time last year	X*	...	...	...
	Price of livestock now	0.67Y	...	...	...
	Price of livestock this time last year	Y**	...	...	...
	Proportion of households buying food through sale of livestock	...	25%	Changed	Find current proportion and number of households
	Proportion of households buying food through production and sale of crops	...	50%	Changed	Find current proportion and number of households

X\* = price of crops this time last year.

Y\*\* = price of livestock this time last year.

The table indicates the following:

- Accurate price data are available, because Source 1 is highly reliable, so it is not necessary to collect price data during the assessment.
- Data on the proportion and number of households utilizing each of the two livelihood strategies are out-of-date, so this information must be sought during the assessment.

Price information from secondary data is combined with information about livelihood strategies from primary *and* secondary data to estimate the impact of the crop failure on the two livelihood groups.

Secondary data also provide contextual information that is essential to the analytical process (see **Part IV**).

**Reference material** collected from secondary sources is also useful for planning an EFSA. Reference information includes the following:

- **Population data:** Accurate and up-to-date data on population numbers and locations are valuable when determining the approaches to information collection (see **Section 2.6**) and the sampling strategy (see **Section 2.7**). The sources and estimated accuracy of the information must be considered when planning fieldwork and reporting results.
- **Maps:** These are useful for designing the sampling approach, and planning and implementing the fieldwork. Any available information relevant to the emergency, such as population movements, damaged roads and airstrips, is plotted on the most up-to-date maps available of the affected area.
- **Crisis updates and bulletins:** In many emergencies, regular bulletins from the national government, the Office for the Coordination of Humanitarian Affairs (OCHA) and others provide the latest news about population movements, humanitarian operations, security, logistics constraints, etc.

Primary data are collected for most EFSA, but occasionally secondary data are sufficiently comprehensive, reliable and up-to-date to cover all the information requirements. *In such cases, primary data collection is unnecessary.*

## 2.6 Methodology for primary data collection

The data collection methodology determines the ways in which primary data are collected during the assessment. The following are some of the critical issues that must be considered:

- Is this an initial, rapid or in-depth assessment?
- Will the assessment be based on standard questionnaires, semi-structured interviews or a combination of both?
- What sort of interviews will be used: household interviews, community group discussions, focus group discussions, key informant interviews, etc.?
- Will sampling follow a random, purposive or other approach?

Details of primary data collection methods and techniques are given in **Chapter 4**.

**Practical constraints** always affect the sampling approach and methods of primary data collection. The following are some of the most common constraints.

### Security environment

- If security in the survey area is poor, the number of people and the time spent in the field should be limited. The sampling approach and data collection will be affected, as fewer households and locations can be visited. Instead of household interviews, focus groups might be used to collect information more quickly.

- If it is impossible to visit the affected area, the entire assessment must be based on secondary data and interviews with people who have recently come from the area.

### **Physical access**

- Poor transportation and communication infrastructure may constrain field activities. Assessment team members should consider such factors as road conditions, alternative ways to travel, time taken to travel to and from affected areas, and whether or not teams will be able to maintain contact with field offices.
- If some areas are not accessible, it may be possible to interview individuals who have recently come from these areas, such as displaced people and people working for humanitarian organizations.

### **Available time and resources**

- Programme priorities may dictate a specific period for the assessment. For instance, results of the assessment may be needed for preparing project proposals and appeals such as an emergency operation (EMOP), a protracted relief and recovery operation (PRRO), a flash appeal or a United Nations Consolidated Appeal. Partner organizations may also have specific information needs and deadlines.
- Resource constraints may prevent the country office and partners from sustaining a lengthy assessment, in which case support from the regional bureau or Headquarters may be required. It should be kept in mind that an assessment always places demands on the country office and draws resources for staff, administration, vehicles, etc. away from other activities.

### **Nature of the emergency**

- In a quickly evolving emergency the assessment should focus on collecting essential data: What is the cause of risk? Which groups/people are affected? Where are they? Rapid information collection uses key informants, observation and purposive sampling. Quick assessments are undertaken until the situation stabilizes, at which point a more thorough assessment is carried out.
- In a slow-onset emergency, information needs are less urgent. More time can therefore be spent on developing a rigorous methodology and undertaking an in-depth survey using two-stage sampling.

EFSA vary depending on the type of assessment and the context; some common scenarios and related approaches to data collection are presented in Example 3.2.

## Example 3.2: Choice of data collection and sampling methodology for different scenarios

### Rapid-onset emergencies

#### Initial assessment:

**Scenario 1:** The beginning of a sudden-onset emergency, such as an earthquake, population displacement, etc.

- It is an **emergency**. Lives are in danger. Information is needed within one day so that relief operations can be initiated.
- The crisis is **highly volatile**. The situation is constantly changing. Assessments must be updated daily.
- There is **little time**. Emergency health and feeding programmes may be needed immediately.
- The **area is small**. Most of the affected people can be reached quickly with available means of transport.
- All parts of the area are **accessible**.

Under this scenario, a snapshot assessment approach is followed:

- Key informants are the core source of information. They include local relief workers and people coming from the affected area who can explain the details and locations of problems. Quick visits to the most severely affected locations are undertaken, based on information from key informants. Observation and short interviews with people in these areas are carried out. Clinics, mortuaries, etc. provide the basis for injury and mortality estimates.
- Ideally, this type of assessment is updated at least once a day until the situation stabilizes (see next scenario).

#### Rapid assessment:

**Scenario 2:** A quick-onset emergency has stabilized, such as when mass population movement ceases and mortality and injury rates decline, but there are major fears about disease because of unsanitary living conditions.

- Although lives are not at the same level of risk as in Scenario 1, the situation is still **urgent**, as shelter and water supplies are inadequate and there is a constant risk of disease.
- The crisis is **less volatile**. Population movement has stopped and there is no imminent danger of further shocks.
- There is **little time**, but the reduced volatility of the situation makes it possible to be more rigorous with information collection than in Scenario 1.
- The area and accessibility remain the same as in Scenario 1.

The assessment approach is still rapid, but information is collected more rigorously than in Scenario 1:

- If the affected area is small and compact, such as a refugee camp, a town or a small group of villages, the assessment is completed within one to two days. In larger areas, more time is needed, and it is important to prioritize the areas to visit according to the impact of the emergency. Sampling is therefore mostly **purposive**.
- Key informants continue to provide an overview of what is happening. Relief services such as health, water and food have been established; staff members working on these projects are also consulted.
- Consultation with the affected people is more rigorous. If there are population lists, such as in a refugee camp, a **simple random sample** is taken (see Box 3.2) for household visits. If there are no population lists, the area is mapped with the help of key informants, and priority areas are identified. Households are identified within these areas, using one of the random sampling techniques explained in **Section 2.7.3.5**.
- Semi-structured interviews with households, focus groups and key informants may be combined with a questionnaire survey.

## Slow-onset emergencies

### In-depth assessment:

**Scenario 3:** A slow-onset emergency, such as a drought or long-term conflict.

- The crisis is **neither urgent nor volatile**. The situation has been slowly deteriorating for some time, and some factor has now triggered an assessment (see **Section 2.1**).
- There are **no time constraints**, but the assessment results are needed soon for programming.
- The area may be large or small.

**Stratified two-stage sampling** is applied (see Box 3.2): zones (strata) → locations → households. Where possible, random samples of locations and households within those locations are used. If random samples are not feasible, locations are selected purposively, and households within these are selected randomly or purposively. Both semi-structured interviews and questionnaire surveys are undertaken.

## 2.7 Sampling

In an EFSA, it is normally neither feasible nor desirable to survey every location and household affected by the emergency. A **sample** must therefore be drawn. A sample is a selection of households or individuals from the total affected population. The sample should represent the larger population and reduce the time and cost of data collection. If a sample is representative, generalizations about the total population can be extrapolated from the results of the **sample survey**.

*It is extremely important that the sample be drawn in a methodologically rigorous way.* This section explains the key terms used in sampling, and provides guidance on choosing the most appropriate sampling methodology for a given situation.

### 2.7.1 Sampling frame

The sampling frame represents the area and population that the assessment is intended to cover, for example, a region within a country or a particular population group, such as displaced people. **The sampling frame must be defined at the start of the assessment planning process.**

The sampling frame may cover only areas and groups **directly affected** by the emergency. Alternatively, it may also include **indirectly affected** areas and groups, where the impact on the population can be just as severe. These include the areas into which displaced people have moved;<sup>30</sup> host populations for displaced people; and areas suffering economically as a result of the emergency, such as those whose markets depend on produce from a drought-affected area.

30. Technical Guidance Sheet No. 1 Integrating Migration and Displacement into Emergency Food Security Assessments, WFP Emergency Needs Assessment Service, May 2007.

The directly and indirectly affected areas and population groups are identified from secondary information and key informant interviews.

### 2.7.2 Types of sampling

The choice of sampling methodology depends on the time and resources available, the level of access and the specific objectives of the assessment. There are two major types of sampling approach, **probability sampling** and **non-probability sampling**. The following two sampling approaches are commonly used in EFSAs:

- **Purposive sampling** (non-probability sampling): The researcher decides which particular groups to interview. Non-probability sampling does not involve random selection, so the results cannot be used to characterize the wider population. Its value lies in selecting information-rich cases to gain a deeper understanding of the situation when random sampling is not possible. The researcher selects what she/he regards as representative sampling units, but the generalization of findings from such a sample can always be contested.

**Purposive sampling techniques are normally used in initial and rapid assessments for rapid-onset emergencies.**

- **Random sampling** (probability sampling): All members of the population have a known, non-zero chance of being selected. Random sampling is based on formal statistical theory, which allows reliable estimates to be calculated and minimizes bias. Results can be extrapolated to the entire population with a degree of accuracy that depends on the sample size and the variability of the indicator.

**Random sampling techniques are normally used for in-depth assessments, usually in slow-onset emergencies, and in emergency situations once conditions have stabilized.**

Table 3.3 shows the circumstances under which each type of sampling is used.

**Table 3.3: Circumstances under which each type of sampling is used**

Sampling approach	Circumstances
<b>Non-probability</b>	<b>Initial and rapid assessments</b>
<b>Purposive</b>	<ul style="list-style-type: none"> <li>- Population data do not exist or are not reliable</li> <li>- Access is limited to certain areas</li> <li>- There is little time</li> <li>- The situation is unstable and changing continuously</li> <li>- Can be used for initial, rapid and in-depth EFSA</li> </ul>
<b>Snowball</b>	<ul style="list-style-type: none"> <li>- Very little information is available about the location of groups or individuals</li> <li>- People are reluctant to be registered on a list</li> <li>- Time is short</li> <li>- In an initial EFSA it can provide background information for a subsequent rapid or in-depth EFSA</li> </ul>
<b>Convenience</b>	<ul style="list-style-type: none"> <li>- Time or access is limited</li> <li>- In an initial EFSA it can provide background information for a subsequent rapid or in-depth EFSA</li> </ul>
<b>Probability</b>	<b>In-depth assessments</b>
<b>Random</b>	<ul style="list-style-type: none"> <li>- Unbiased estimates with known precision are needed</li> <li>- Population data exist</li> <li>- All parts of the affected area are accessible</li> <li>- The situation is reasonably stable</li> <li>- There is sufficient time to visit all the selected households and carry out the required number of interviews</li> <li>- Can be used for rapid and in-depth EFSA in slow-onset emergencies or once an emergency situation has stabilized</li> </ul>

### 2.7.3 Purposive sampling

This section presents methods for initial and rapid assessments using purposive sampling.

#### 2.7.3.1 Principles of purposive sampling

Purposive sampling might be used when any of the following conditions apply:

- It is difficult to reach every area, household or individual member of the population.
- Reliable information about population locations and numbers is not available.
- There is insufficient time to visit the number of households or individuals needed for statistical analyses using a random sample. The most severely affected areas are prioritized, for example, agricultural areas during a drought, or villages inhabited by targeted groups during a conflict.
- There is strong evidence that nutrition and food security risks are concentrated in certain areas or population groups, such as particular livelihood groups or displaced people. In many cases, it is not possible to set up a sampling frame that allows these groups or areas to be stratified.

- The assessment objectives necessitate in-depth investigation of specific issues. For example, if the EFSA is expected to provide detailed information about the impact of market disruptions, groups of people who depend on the markets will be prioritized, such as traders, cash crop growers and people who rely on purchasing their food at markets.

Although the information collected through purposive sampling cannot be extrapolated to the entire population – as it can be in random sampling – generalizations can be extended to the wider population under the following circumstances:

- Triangulation is applied to all data (see **Part IV**). In triangulation, data are collected from numerous sources and their convergence, or otherwise, is appraised. If data from at least three reliable sources converge, the conclusions can be treated with reasonable confidence.
- Purposive sampling is combined with semi-structured interviews for primary data collection (see **Section 4.3.2**). This allows in-depth discussion and, consequently, a greater understanding of the crisis, its causes and effects. Conclusions from all the semi-structured interviews provide a sound basis for judging the extent to which they can be extrapolated.

**It is not known how representative the sample is, so generalizations made through the purposive sampling approach are subjective (or biased),** and confidence intervals for the estimates would be irrelevant.

Good purposive sampling depends on having a thorough knowledge of the context – the type of emergency and the characteristics of the population. Such knowledge is initially gained through secondary data review (see **Section 2.5**). If secondary data are incomplete or inaccurate, or if the situation is changing rapidly, sampling can be adjusted as the assessment progresses. For example, population groups and areas may be added or removed as more information about the crisis is obtained.

Purposive sampling can be combined with random sampling techniques. For example, households might be selected through random sampling in a location selected through purposive sampling. Note that this does not make the sample statistically representative, which requires that *the entire sampling process follow random sampling principles* (see **Section 2.7.4**).

### **2.7.3.2 Determining the sample size**

There is no formula for setting the sample size for purposive sampling. Instead, judgements must be made, based on the expected heterogeneity of areas, population groups, locations, households and individuals. If heterogeneity is high and units are very different from each other, a large sample is needed, but the sample size also depends on the time and resources available. If heterogeneity is low and units are similar to each other, a smaller sample will suffice. This is illustrated in Example 3.3.

### Example 3.3: Heterogeneous populations: implications for purposive sampling

An EFSA is undertaken in the urban and rural areas of a region affected by economic collapse. One of the objectives is to determine the impact of the crisis on livelihoods. The assessment team decides that to do this, they need to sample according to livelihood groups.

**In the urban area**, six main livelihood groups are identified:

- civil servants;
- traders;
- professional workers: doctors, engineers, teachers, etc.;
- salaried workers: shop assistants, storekeepers, construction supervisors, etc.;
- casual labourers;
- unemployed/beggars.

To understand the situation, and taking the time constraints into account, the team decides that ten households must be interviewed from each livelihood group. This gives a total sample size for the urban area of  $6 \times 10 = 60$  households.

**In the rural area**, three main livelihood groups are identified:

- farmers producing crops for consumption and sale;
- pastoralists living from the consumption and sale of animal products;
- landless farm workers.

Again, the team decides to interview ten households per livelihood group. The total sample size for the rural area is therefore  $10 \times 3 = 30$  households.

If areas and population groups are heterogeneous, a separate sample size should be estimated for each. The **rule of thumb** explained in Box 3.1 can be used,

### Box 3.1: Rule of thumb for estimating sample size in purposive sampling

As a rule of thumb based on empirical experience of household food security surveys, **between 50 and 150 households** per reporting domain can be included in a purposive sample, and the following guidance applied.

**If locations are clearly very different from each other:**

- divide them into groups of locations with similar characteristics;
- within each group, visit seven to fifteen locations;<sup>31</sup>
- within each location, interview seven to ten households or individuals.<sup>32</sup>

**If locations seem to resemble each other:**

- check that there are no less obvious characteristics that may influence household food security (see **Section 2.7.3.4**), such as:
  - geographical dispersion of the locations, which could affect crop production patterns, access to markets and other services, and roads;
  - population size;

(cont...)

31. However, whenever possible, random probability sampling is preferable to purposive sampling.

32. Here too, random sampling should be considered if it fulfils the assessment requirements.

(...cont)

distribution of ethnic or social groups within the locations, such as different ethnicities or social strata within communities, which may affect access to assets, including food and income;

- direct and indirect impacts of events, etc;
- if differences exist, group the locations according to the chosen characteristic and proceed as indicated above.

**If there is no information for identifying differences among locations:**

random sampling is applied, as described in **Section 2.7.4.4**; fewer locations and households can be sampled because the statistics derived cannot be extrapolated with known confidence intervals, and time is limited. The number of locations can be ten to fifteen, with seven to ten households within each location.

In purposive sampling, the sample size can be adjusted during the assessment. For example, if it becomes apparent that all locations within a group are very similar, the number of locations to be visited can be reduced to seven or eight, instead of ten to fifteen. When households are seen to be very similar, the number of households visited in each location can be reduced in the same way. Conversely, if there is *more* heterogeneity than expected, groups of locations may be subdivided and additional groups added.

### 2.7.3.3 Selection of geographical zones

In purposive sampling, the geographical zones to be covered are determined according to the nature of the crisis and the assessment objectives:

- If the crisis is small-scale and concentrated, the assessment may cover only the directly affected area, such as when flooding affects only one isolated part of a country.
- In a sudden-onset crisis, early assessments will prioritize the zones directly affected, where lives are most at risk. Subsequent assessments may consider wider economic, social and health implications.
- In a slow-onset emergency affecting the whole country, such as in a drought in a small country that relies on agriculture, zones may be selected in any part of the country, but random sampling would be more appropriate if time and resources permit.

Wherever possible, it is useful to select a range of zones that include some directly affected, some indirectly affected and some minimally affected, to provide the basis for comparison. This is rarely possible in sudden-onset emergencies, however, so zones are prioritized according to the expected severity of the situation in each.

In some situations, it is worth visiting areas covered by previous assessments to allow qualitative comparisons between current and previous situations.

### 2.7.3.4 Selection of locations within geographical zones

The locations - villages, communities or neighbourhoods - to be visited can be identified in either of the following ways:

- They can be selected according to the expected severity of the situation, or the characteristics of the locations and the people living in them. This method is used when there are significant differences among the locations in a geographical zone, or when constraints such as time and accessibility limit the number of locations that can be visited.
- When locations are known to be similar, or when little is known about their characteristics, those selected should be more dispersed, and hence more representative. The number of locations should also be increased – i.e. from ten to fifteen (see Box 3.1).<sup>33</sup>

When choosing locations, it is important to minimize the “**hub effect**”<sup>34</sup> In many emergencies, humanitarian hubs develop in the affected areas, typically main towns, where aid agencies congregate, set up field offices and stockpile resources. Villages close to a humanitarian hub tend to receive more attention and services than those further away. When choosing locations to visit for an EFSA, it is important to bear this in mind and visit some locations that are less easily accessible.

The list of purposively selected locations to be visited can be changed during the assessment, for example, if it is found that initial assumptions about the most affected locations were wrong or incomplete. New locations can be added, and existing ones removed from the list.

As with random sampling, it is better to visit a relatively large number of locations and interview a few households in each, than to visit fewer locations and interview many households in each.

### 2.7.3.5 Selection of households and individuals within locations

Within each of the locations visited by the assessment team, households, individuals and groups are selected for interview. The aim is to achieve as valid and accurate an impression of the location’s entire population as possible.

If the location is reasonably homogeneous and there is sufficient time, households and individuals can be selected through random sampling (see **Section 2.7.4.5**).

When time is limited, the groups expected to be most severely affected are prioritized. Within these vulnerable groups, households may be selected purposively, such as the most severely affected within the group. This gives the sample a high bias

33. However, when the means allow, random sampling is still preferable.

34. Guidelines for Emergency Assessment, International Federation of Red Cross and Red Crescent Societies (IFRC), 2005.

towards the most affected. In this case *no* generalizations of findings to the general population can be made, only statements about the worst-affected households.

Alternatively, within the vulnerable groups, representative households can be selected by the analyst or, preferably, at random.

For some social stratifications it is often difficult to develop a proper sampling frame, so purposive sampling is used. These groups include:

- displaced people living in a host community;
- the community hosting the displaced people;
- the landless and the poor;
- the livelihood groups that are expected to be most severely affected by the crisis, such as pastoralists during droughts or traders during market collapse;
- members of an ethnic group that is targeted during conflict.

It is advisable also to consider groups that are less severely affected. This gives a basis for comparison, and helps to confirm or reject initial assumptions about vulnerability.

### 2.7.3.6 Example of purposive sampling

Example 3.4 describes purposive sampling from an EFSA carried out in Rwanda in 2006.

#### Example 3.4: Purposive sampling in the 2006 Rwanda EFSA

In April 2006, WFP and partners undertook an EFSA in Rwanda to assess the impact of drought on household food security. The EFSA was triggered by indications of severe hardship after two years of poor rainfall. Sampling was based on Rwanda's administrative system: the country is divided into districts, which are subdivided into sectors, and then into cells of 20 to 40 households each.

##### Sampling approach

Five of the most drought-affected districts were identified from a review of field mission reports by various agencies and government services, and discussion with the country office.

In each of the five districts, a purposive sample of eight cells was drawn. The cells were identified as follows:

- The most affected sectors were selected by the district executive secretaries.
- The head of each of the most affected sectors selected the most affected cells.

Within each selected cell, interviews were held with four to eight of the worst-off households. Key informant interviews, focus group discussions and market and health centre surveys were undertaken, to complement and triangulate the information.

This sampling approach did not provide an overview of the situation, as it focused on the most severely affected areas and households. However, given the time and information limitations, this type of sampling enabled conclusions to be drawn about the severity of the situation and how the worst-affected people can or cannot cope with it.

**A sample of the “worst of the worst” is severely biased towards the most food-insecure and is not at all representative of the five districts as a whole; no estimates of numbers of affected households can be made.<sup>35</sup>**

When purposive sampling is used, the assessment report should explain why it has been used and describe the process for selecting which people to interview.

### **2.7.3.7 Snowball sampling**

Snowball sampling can be used if neither random nor purposive sampling is feasible. This may be the case when the population of interest cannot easily be found, such as refugees scattered across a large city, or when people do not wish to be identified, such as illegal immigrants or people affected by HIV/AIDS who do not want to be stigmatized.

Snowball sampling is undertaken as follows:

- Key informants are identified on the basis of their knowledge of the emergency and the people affected by it.
- The key informants are interviewed, and act as entry points by recommending other people who can provide useful information.
- The next group of informants is interviewed and the process continues.

*Snowball sampling incurs a high risk of bias.* Each informant is likely to refer the assessment team to people that he/she knows. These people may all belong to a particular sub-group within a larger population. For example, if the assessment team is looking for refugees, they may end up interviewing people from only a particular region, or belonging to certain political parties or ethnic groups.

When snowball sampling is used, the assessment report should explain why it has been used and describe the process for selecting which people to interview.

### **2.7.3.8 Convenience sampling**

Convenience sampling is the least effective of the sampling approaches, but if time and access are very short, such as during initial assessments, it may be the only option. In convenience sampling, informants are chosen because they are accessible. For example, if an initial assessment involves only one short visit to the affected area, with little or no preparation, the EFSA team should talk to everyone who is available; team members should apply judgement, such as by visiting health

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35. As an alternative, local key informants can be asked to stratify the districts according to whether they are “most affected”, “moderately affected” or “least affected”. Within each of these strata, further substrata can be defined. Households can be randomly selected within each substratum. If the population of each substratum is known, the appropriate sample weights can be applied to make unbiased estimates of the prevalence of food-insecure households.

clinics and other places where they can expect to find good quality information.

With convenience sampling, the risk of bias is very high. Generalizations to other areas and population groups must therefore be made with caution.

## 2.7.4 Random sampling<sup>36</sup>

This section presents **methods for in-depth assessments** using random sampling.

### 2.7.4.1 Principles of random sampling

Random sampling is based on the principle that each unit in a population has exactly the same chance<sup>37</sup> of being selected as every other unit. In an EFSA, a unit is usually a household when analysing food security, or an individual when collecting anthropometric measurements.

In random sampling approaches, **all selections within a stratum are made randomly**, including the selection of:

- locations within the geographical strata;
- households and individuals within the chosen locations.

Random sampling is the preferred method because, theoretically, it is the only one that allows findings to be generalized to the entire sampling frame. It is used when there is need for statistically representative data that can be extrapolated to the wider population with a known degree of confidence, such as for estimating the prevalence of malnutrition or food insecurity.

Random sampling requires the following:

- There must be sufficient information about the population, location and numbers to construct the sampling frame from which a random sample is to be drawn, and it must be possible to find each of the households selected for interview. Population lists or maps showing the location of each residence must exist, or it must be possible to construct them.
- It must be possible to assess every area, household and individual within the sampling frame. There can be no physical or security constraints to access.
- There must be sufficient time and resources to visit the selected areas and interview each selected household or individual, including travel time.

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36. For more detailed guidance, see: Guidelines for Comprehensive Food Security and Vulnerability Analysis (CFSVA), WFP Food Security Analysis Service, January 2009, and Thematic Guidelines on Sampling, WFP Vulnerability Analysis and Mapping Branch, December 2004.

37. The probability of being selected does not have to be equal for each unit, see: Guidelines for Comprehensive Food Security and Vulnerability Analysis (CFSVA), WFP Food Security Analysis Service, January 2009. It is enough that the probability is known and not zero, so that sample weights can be constructed to calculate unbiased population estimates.

### 2.7.4.2 Geographical stratification

Normally an EFSA targets a specific area of a country, and a stratified two-stage sampling approach is often used within that part of the country.

Depending on the expected homogeneity of the survey area, geographical zones can be selected in either of two ways:

- If the characteristics of the population and the impact of the emergency are expected to vary across the sampling frame, geographical zones are defined according to such characteristics as the extent to which each is expected to be affected by the crisis. The survey area is **stratified**, meaning that zones are grouped according to characteristics that are important for the food security situation. Random sampling of locations according to population size is then carried out *within* each stratum. Results are representative of each stratum, results from the various strata can be compared, and the number of households to be targeted can be calculated for each zone separately. Such stratification is designed to ensure that each stratum is as homogenous as possible and that there are important differences among strata. A typical stratification could be the agro-ecological or livelihood zones in a country, or the areas that have been affected by a flood vs. those that have not. These approaches are illustrated in the worked example in **Section 2.7.4.6**.
- If no particular food security pattern is expected across the survey area, the area can be subdivided using the existing administrative divisions. If there are too many of these, they can be regrouped. For example, in a survey covering eight provinces of a country, three geographical strata could be maintained: stratum A - covering the three western provinces; stratum B - the three central provinces; and stratum C - the two eastern provinces.

Within a stratum, households and individuals can be chosen through either **two-stage sampling** or **simple random (direct) sampling**.

#### Box 3.2: Two-stage and simple random sampling

##### Two-stage stratified sampling (see Section 2.7.3)

This is the most common approach used in an EFSA. The sample is defined in stages:

1. *Stratification*: The **geographical zones** to be assessed are determined. In an EFSA these are based on the expected extent of the emergency's impact, and include both directly affected and indirectly affected areas. For instance, for an assessment after the passage of cyclone Nargis in Myanmar, the delta region was divided into a "severely affected", a "moderately affected" and a "mildly affected" zone. Geographical zones may also correspond to those chosen in previous assessments, for the purpose of comparison.
2. *First stage*: The **locations** to be visited within the chosen geographical zones are selected. These might be villages, groups of villages, towns, neighbourhoods within towns, livelihood zones, camps or any other unit appropriate to the local context and

(cont...)

(...cont)

type of crisis. The locations are selected with probability proportional to size (PPS).<sup>38</sup>

3. *Second stage*: Within each location, **groups, households or individuals** are randomly chosen for interview, based on an existing or specially prepared list.

Two-stage sampling saves resources and time, as only selected locations are visited. However, the **sample size must be increased** to compensate for the relative homogeneity of households within locations.<sup>39</sup>

The number of locations to visit and the number of households or individuals to interview within each location depend on the total sample size required. This is estimated differently for random and purposive sampling (see **Sections 2.7.3 and 2.7.4**). In all cases, **it is better to select a large number of locations and interview relatively few households/individuals at each location than to select a small number of locations and interview many households/individuals at each.**

#### **Simple random sampling**

Households and individuals are selected from lists covering the entire area under study – i.e. all the units within the sampling frame. This avoids the need to select locations from which to draw the sample. This approach depends on having up-to-date population lists and accurate data on the locations of households and individuals. It also depends on access; if the population is widely dispersed, it may not be possible to reach all units within the time available for the assessment.

Because of these restraints, EFSAs rarely use simple random sampling, unless the sampling frame is small and geographically concentrated, such as in an internally displaced person (IDP) camp.

### **2.7.4.3 Determining the sample size**

The sample size is the number of surveyed units – generally households or individuals – required to give the desired level of precision.

The sample size is calculated on the basis of the main characteristic of interest for the assessment. For example, to estimate acute malnutrition among children under 5 years of age, the sample size is calculated on the basis of the *expected prevalence of wasting*. The number of households to be visited is derived<sup>40</sup> from the average number of children under 5 per household.

This approach is problematic for food security assessments however, because no single food security indicator can be used to estimate the size of the sample. If baseline studies exist,<sup>41</sup> the proportion of food-insecure households in the baseline study can be adjusted according to the expected impact of the crisis.

38. Guidelines for Comprehensive Food Security and Vulnerability Analysis (CFSVA), WFP Food Security Analysis Service, January 2009.

39. *ibid.*

40. For more details see: Emergency Nutrition Assessment: Guidelines for Field Workers, Save the Children, 2004.

41. For example, the CFSVAs carried out by WFP.

There are formulae and statistical software for calculating sample size once the characteristics to be measured and the expected prevalence have been determined.<sup>42</sup>

If there are no relevant data from which to estimate prevalence, the rule of thumb explained in Box 3.3 can be used.

### Box 3.3: Rule of thumb for estimating the sample size in a household survey

Based on experience from many household food security surveys, a simple rule of thumb is to consider a **sample size of between 150 and 250 households for each reporting domain**. Ideally, the sample size should be towards the upper end of this scale, to increase the reliability of the results and the validity of their extrapolation to other households in the sampling frame. For example, in one reporting domain the sample size is 200 households (ten households interviewed in each of twenty villages). If the sample prevalence of food insecurity is 40 percent, it could be generalized, with 95 percent confidence, that for the entire reporting domain the prevalence of food insecurity is between 31 and 49 percent.<sup>43</sup>

The following points should be noted when using this rule of thumb:

1. The sample size applies to each geographical area, population group or other reporting domain. For example, if prevalence of food insecurity is to be estimated for both IDPs and residents, a sample of 150 to 250 households must be drawn *from each*. If food insecurity is to be compared among districts, a sample of 150 to 250 households should be drawn *from each district*.
2. If sampling is done in stages (see Box 3.2), the upper limit of 250 households must be used to factor in the homogeneity of the households within each location sampled during the first stage.<sup>44</sup>
3. Anthropometric measurements to estimate the prevalence of malnutrition are sometimes combined with indicators to estimate the prevalence of food insecurity. In this case, **the size of the household sample is based on the sample size required for estimating the prevalence of malnutrition with the required degree of precision**. Typically, the sample required for an anthropometric survey is larger than the 150 to 250 households required for household food security analysis, and a sample of up to 900 children may be recommended.

#### 2.7.4.4 Selection of locations/clusters within geographical zones

When simple random sampling is used, there is no need to select locations, or clusters, as the sample of households or individuals is drawn directly from the entire sampling frame (see Box 3.2).

42. Guidelines for Comprehensive Food Security and Vulnerability Analysis (CFSVA), WFP Food Security Analysis Service, January 2009; and Thematic Guidelines on Sampling, WFP Vulnerability Analysis and Mapping Branch, December 2004.

43. Assuming a design effect of 2.

44. This phenomenon is known as the “design effect”. In EFSAs it may require a doubling of the sample size.

The first step is to determine the number of clusters to visit within each zone or stratum. This depends on:

- the sample size: the total number of households or individuals to interview (see **Section 2.7.3.5**);
- practical considerations, such as time, access, logistics and human resource constraints.

As explained in Box 3.2, it is better to select a large number of clusters and interview a relatively small number of households/individuals in each than to select fewer clusters and hold more interviews in each. The **rule of thumb** explained in Box 3.4 can be applied.

#### **Box 3.4: Rule of thumb for determining the number of clusters in a random sample**

Based on experience of assessing household food security, a total of **ten households per cluster** is usually sufficient. The main result of adding households in each cluster is an increase in the design effect. The sample size can therefore be decided according to the following, based on the level of precision desired:

- if the sample size is 150 households, at least 15 clusters should be selected, and at least 10 households within each cluster;
- if the sample size is 250 households, at least 25 clusters should be selected, and at least 10 households within each cluster.

Clusters, often villages, within each zone are selected randomly with probability according to their size (see **Section 2.7.4.6**). The communities or villages to visit are determined according to the selected clusters. There may be more or less than one cluster in a village.

In nutrition surveys of children under 5, it is common to use a 30 x 30 sample: 30 locations are selected, and anthropometric measurements of 30 children are taken in each location. The total sample size is therefore 900 children. It is advisable to fine-tune this sample size according to the expected prevalence of malnutrition.<sup>45</sup>

#### **2.7.4.5 Selection of households or individuals within locations**

In each location/cluster, simple random sampling of households or individuals is carried out (see Box 3.2) in either of two ways:

- **Simple random sampling** is preferred and can be used when accurate population lists exist or can be created and when each of the listed households can be located and reached easily within the time available. All the households are listed. Households are then selected at random, using a random number table or by picking names out of a hat. This approach is feasible in small

45. The 30 x 30 sample is valid for an expected prevalence of 50 percent and a desired confidence (at 95 percent) interval of +/- 5 percent, with a non-response rate of about 10 percent. For more guidance, see: A Manual: Measuring and Interpreting Malnutrition and Mortality, CDC and WFP, 2005.

communities and camps with known boundaries.

- Systematic sampling is used when population lists do not exist, but each house can be identified and reached within the time available. Households can be chosen by walking through the location and visiting houses at pre-selected intervals, such as every tenth house, or by spinning a pen and counting off the houses in the direction indicated. Both of these approaches are illustrated in Example 3.5.

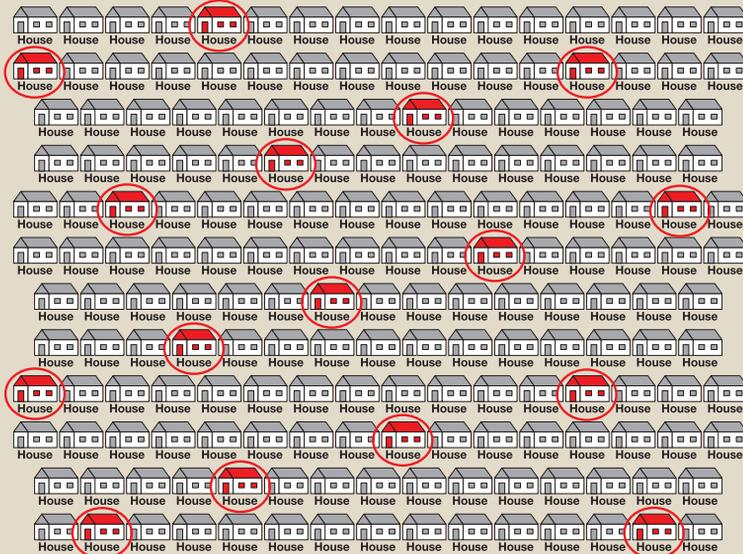
### Example 3.5: Selection of households or individuals within locations

**Option 1:** Houses are laid out in streets and each can be identified from either a map or observation.

**Example:** A sample of 15 households is to be selected from a total of 186 houses in the location:

- Calculate the sampling interval by dividing the total number of houses by the sample size. In this case:  $186/15 = 12.4$  houses.
- Round the sampling interval up/down. In this case: down to 12 houses.
- Agree a starting point for the assessment, usually one end of a particular street.
- Choose a number between one and the sampling interval randomly. In this case: between one and 12, say five.
- Count off five houses from the first identified. Interview this household.
- Count off the next 12 houses and undertake the second interview in the twelfth.
- Repeat the process at intervals of 12 houses until the entire location has been covered, and the sample of 15 households has been completed.
- If there are fewer than 12 houses in the street, continue the count in the next street. Clear instructions about the procedure should be given; for example, “at the end of the street, turn right into the next street”.

The process is illustrated in the following diagram.



(cont...)

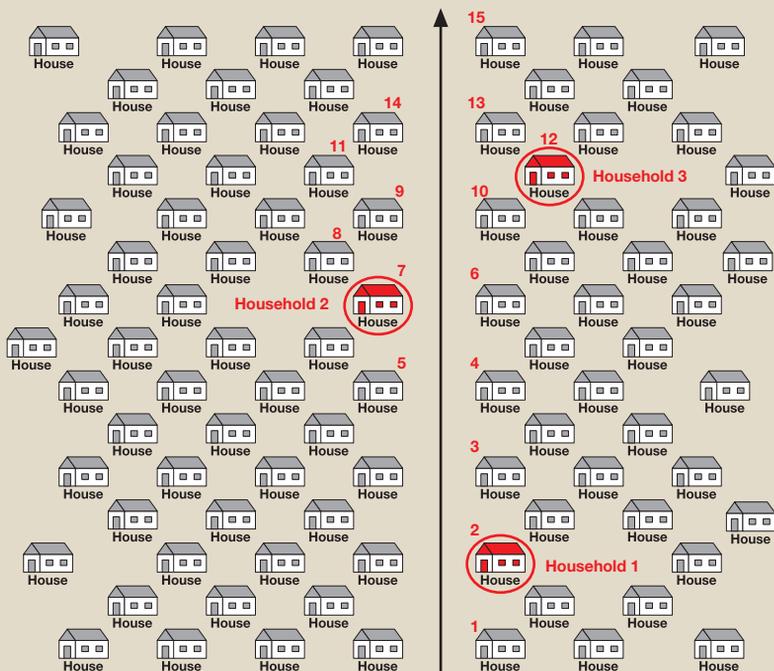
(...cont)

**Option 2:** Houses are not laid out in streets, but each can be identified by observation on the ground.<sup>46</sup>

**Example:** A sample of three households is to be selected:

- Stand in the centre of the location.
- Spin a bottle on the ground or throw a pen in the air and watch where it lands.
- Walk in the direction indicated by the end of the bottle or pen as far as the edge of the location, counting the houses passed. In this case, there are 15 houses.
- Calculate the sampling by dividing the number of houses by the sample size. In this case:  $15/3 = 5$  houses.
- Choose a number between one and the sampling interval randomly. In this case, between one and five. This is the first house to be visited.
- After this house, walk in the same direction and count another five houses. The fifth is the second household to be visited. Carry out the same procedure to identify the third household in the sample.

The process is illustrated in the following diagram.



46. Adapted from Guidelines for Emergency Assessment, IFRC, 2005.

### 2.7.4.6 Example of random sampling

An EFSA is being carried out in a conflict-affected area. Some people have been displaced to camps, while others remain in their homes. Two of the objectives of the EFSA are *to determine the rate of under-5 malnutrition* and *to determine the levels of food insecurity among both displaced and resident populations*.

In this case, the affected area is the basis for **the sampling frame** and it is large, with villages and IDP camps widely dispersed. Although each of these locations could be reached, there is insufficient time to do so. The dispersion means that simple random sampling of the whole population cannot be carried out. Instead, a **two-stage sampling** approach is chosen (see Box 3.2).

The following steps are undertaken:

1. The population is divided into two strata: **resident population** and **IDPs**.
2. For each stratum, a sample of **localities** is needed. For residents, localities are defined as villages; for IDPs they are camps.
3. Because the rates of malnutrition are unknown and therefore cannot be used to calculate the sample size more accurately, it is decided that a 30 x 30 cluster sample will be drawn for each stratum, to obtain a sufficient number of children for statistical analysis of the anthropometric data. Thus, 30 clusters are identified (stage 1), and 30 units – households or individuals – are selected in each cluster (stage 2). In each locality, 30 households will be interviewed to estimate the level of household food insecurity, and 30 children under 5 will be examined to determine their nutrition status.
4. The samples to be drawn are therefore:
  - resident population: 900 households and 900 children under 5;
  - IDP population: 900 households and 900 children under 5.
 Children under 5 are selected from the households where food security interviews take place. The sample size for each stratum is therefore 900 households.
5. A table similar to Table 3.4 is constructed and its columns filled in as explained in the following steps. A separate table is constructed for each stratum: residents and IDPs.
6. To identify where the clusters will be located, the names of the localities – the villages and camps – are entered in the second column. To ensure a truly random procedure, each location is assigned a random number and ranked in the table according to that number.

7. The best available population data for each of these localities are entered in the third column. For the villages, this information may come from a population census or district-level records. Information on camps is obtained from the NGOs, United Nations agencies and/or government organizations that manage them. Camp records should indicate the villages from which IDPs come; this information may be used to modify the data on village populations.
8. The best available data on the number of children under 5 in the population are used. In this example, secondary data sources indicate that approximately 20 percent of the total population is under 5. These data are entered in the fourth column of the table.

**Table 3.4: Table for identifying clusters**

Randomized order	Geographical unit	Estimated total population	Estimated children 6-59 months	Cumulative population 6-59 months	Attributed numbers	Number of clusters
1	Locality F	2500	500	500	1-500	1
2	Locality N	1000	200	700	501-700	1
3	Locality D	800	160	860	701-860	0
4	Locality A	3250	650	1510	861-1510	2
etc.	etc.	...	...	...	1511-...	...
	<b>Total</b>	50000	10000	10000		

9. The **sampling interval** is calculated by dividing the population of children under 5 by the number of clusters. In this case, the population of under 5 children is 10,000 and the number of clusters is 30. The sampling interval is therefore  $10,000/30 = 333$ .
10. The location of the first cluster is determined by randomly selecting a number within the sampling interval of one to 333. Say that the randomly chosen number is 256, the first cluster is in locality 1 to which the number range 1 to 500 has been attributed.
11. The remaining clusters are identified by adding the sampling interval sequentially to the starting number until 30 clusters have been selected. In this example:
  - the first cluster is at 256, in locality 1
  - the second cluster is at  $256 + 333 = 589$ , in locality 2
  - the third cluster is at  $589 + 333 = 922$ , in locality 4
  - the fourth cluster is at  $922 + 333 = 1,255$ , in locality 4

The process continues until the required number of clusters have been chosen. Note that the larger the population of the locality, the more clusters it contains.

Therefore, locality 3, with a small population, has no cluster, while locality 4, with a large population, has two clusters. Hence the approach is called **probability proportional to size (PPS)**.

12. Within each of the selected localities, households are identified by one of the methods explained in Example 3.5.

## 2.8 Human resources

Human resource requirements for an EFSA depend on the assessment methodology that has been chosen:

- For an in-depth large-scale household survey, enumerators, field managers, data analysts, vehicles, drivers, translators, etc. will be needed.
- For an initial or rapid assessment based on purposive sampling and semi-structured interviews, fewer staff will be needed, but the people carrying out the interviews will have to be very well trained and experienced.

Human resources should be drawn from the country office and partners in the country. If capacity is lacking at the national level, additional resources may be requested from the regional bureau and Headquarters, or consultants may be employed.

Human resource needs also depend on the assessment type. The following staff may be required:

- **Assessment managers and team leaders:** See following paragraph on management structure.
- **Enumerators** for questionnaire-based surveys: These individuals need to be well-educated, resourceful and prepared to travel for the assessment period. They do not need in-depth knowledge of food security, nutrition or assessment, but should have at least a basic understanding of these issues and preferably some experience of field-based research.
- **Interviewers** for semi-structured interviews and focus group discussions: These people require a good understanding of food security and nutrition, and must be experienced in interview techniques.
- One **translator** should be available for each member of the field team who does not speak the local language. Ideally, translators should be hired at the same time as the rest of the team, and should go through the same pre-assessment training. Translators are sometimes hired in the field, in which case time should be set aside to brief them on the assessment objectives and data collection methods.

- **Drivers** are required for the vehicles to be used.
- In large assessments, dedicated **administrators** and **logisticians** may be used. In smaller assessments, administrative and logistics capacity may be shared with the country office, in which case the time it allocates to the assessment must be clearly agreed with the country office.
- **Data analysts** and **data managers** are needed if much statistical analysis will be required.

To ensure that gender issues are addressed during field activities, **the enumerators, interviewers and translators should include both men and women**, preferably in equal numbers.

The **management structure** for an EFSA depends on the scope of the assessment. For a large-scale in-depth assessment involving a household survey, different layers of management are needed: overall assessment manager, team leaders, etc. For an assessment in an insecure area, a single team with an experienced team leader is more appropriate.

Management positions typically include the following:

- **Assessment manager** with overall responsibility for the assessment: In addition to strong technical assessment skills, this person should also be able to manage people, organize multiple, simultaneous tasks, and deliver results within a specified period. She/he is ultimately responsible for ensuring that the assessment fulfils its objectives.
- **Field team leaders**: If multiple field teams are deployed to different parts of the affected area, such as in a household survey, each team needs a leader. This person ensures that his/her team works according to the plan agreed with the assessment manager, and is responsible for the team's administrative and logistics arrangements in the field.
- **Analytical team leader**: If large quantities of data are to be processed, an analytical team is established. The analytical team leader ensures that data are properly entered and cleaned, analysis is completed on time, and problems are identified and rectified quickly. This involves collaboration with field teams throughout the assessment.
- **Administrative and logistics team leaders**: For a large-scale assessment, these people are assigned to provide full-time support to other management personnel and assessment team members. For small-scale assessments, they may work part-time on the assessment and part-time in their usual country office roles. In the latter case, it is important to assess the time requirements for each role, and agree these with the country director.

In assessments involving external staff, the country director should assign a senior manager from the country office to liaise with the assessment team. This person does not have a hands-on role in the assessment, but is kept up-to-date with its

progress and any changes in the planning. She/he meets the assessment manager regularly and helps to resolve any operational problems that arise.

All the people working on the assessment must receive training, even if they have undertaken assessments in the past. This is particularly important for enumerators. **Trainers** must be deployed for the time needed, which is typically about two days for enumerators' training and one week for interviewers'.

## 2.9 Administration and logistics

Most assessments involve a lot of administrative work, such as:

- organizing contracts and payment arrangements for the staff employed specifically for the assessment;
- managing cash flow during the assessment, including paying hotel bills, purchasing food, and other incidental expenses; reliable and *safe* procedures must be developed for teams working in the field, as it is best to avoid carrying large quantities of cash;
- booking hotels, flights, etc.;
- booking office space for training, briefings, debriefings, etc.;
- arranging security clearance, visas and internal travel permits when needed; this can take several weeks, so it must be addressed as soon as the assessment is agreed to.

Teams must have all the equipment and systems they need to operate efficiently and safely in the field, including:

- fully functional and equipped vehicles, with spare wheels, tools and first aid equipment;
- radios, satellite and/or mobile telephones, depending on the context;
- supplies of food and drinking water, where needed;
- camping equipment, where needed;
- adequate quantities of checklists, questionnaires and all the stationery required.

## 2.10 Communications, security and emergency procedures

**Communications procedures must be established to ensure that assessment teams remain in contact with assessment managers and country offices.**

Regular contact times should be set; these might be once a day in a secure situation and more frequently when security is poor. Fall-back plans should be made, in case a team cannot report for some reason.

Emergency and security procedures are important, and should include:

- obtaining the latest version of the agency's security procedures for the specific

- context, and ensuring that all team members read them;
- training all staff in the agency's security procedures;
- providing an up-to-date briefing from the security officer;
- establishing field security procedures, such as travel times and no-go areas;
- identifying medical facilities in the areas to be visited;
- establishing evacuation procedures.

## 2.11 Briefing

All members of the assessment team, including translators and drivers, are briefed before fieldwork commences. Briefing includes:

- the assessment objectives and methodology;
- techniques and tools to be used, such as semi-structured interviews and proportional piling;
- the time schedule;
- communications, security and emergency procedures;
- administrative and logistics arrangements, such as transport and accommodation.

## 2.12 Assessment schedule

An assessment schedule must be drawn up during the early stages of the EFSA planning process, giving all the major activities and the dates on which they should start and finish. The assessment manager and team members consult the schedule regularly to ensure that their work is progressing according to plan. If the schedule has to be changed during the assessment, the assessment manager consults the country office and partners to ensure that the proposed changes are feasible. Once agreed, the revised schedule is circulated among all assessment team members and partners.

Table 3.5 shows a sample EFSA schedule. The schedule may expand or contract depending on whether it is an initial, rapid or in-depth assessment.

Table 3.5: Example of an EFSA schedule

Activity	Time (days)																				
	Week 1							Week 2							Week 3						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Establish/confirm working arrangements with partners	■																				
2. Collate and review secondary data	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■						
3. Review working scenario from initial investigation	■																				
4. Define assessment objectives and time frame	■	■																			
5. Draw up assessment plan	■	■																			
6. Establish analysis plan and define information requirements	■	■																			
Decide data collection methods and sampling procedure	■	■																			
7. Design/customize data collection instruments			■	■																	
Pre-test assessment tools, with team training					■	■	■														
Finalize assessment tools								■													
8. Prepare briefing kit, supplies and equipment		■	■	■																	
9. Identify and recruit team members	■	■	■	■																	
Train and brief team(s)					■	■	■														
10. Arrange transport, security and communications		■	■	■				■	■	■	■	■	■	■	■						
11. Collect data at field sites								■	■	■	■	■	■	■	■						
12. Process and analyse data										■	■	■	■	■	■	■	■				
13. Identify and analyse response options															■	■	■	■			
14. Write report															■	■	■	■	■	■	■
15. Present findings																			■		
Finalize and disseminate the report																					■

# Fieldwork

Fieldwork must be carefully managed to ensure that:

- teams work efficiently and cohesively;
- the assessment schedule is adhered to;
- all the information requirements are fulfilled;
- information is collected rigorously and consistently;
- unanticipated issues relevant to the food security situation are identified and incorporated.

The assessment manager has overall responsibility for fieldwork. She/he remains in contact with team leaders, who make sure that their teams are working efficiently and collecting all the information required. This involves daily planning. The following section describes a typical day in the field.<sup>47</sup>

## 3.1 Daily preparation

The assessment team should make the following preparations every day, typically during the evening before field activities are to be carried out:

- Identify the location(s) to be visited for the day.
- Make a preliminary list of interview types and informants. For a household survey using questionnaires, the approach is standard for all locations. For an assessment based on qualitative data, the types of focus group and key informant interviews are agreed, and can be adjusted later, at the location.
- Define responsibilities – who will carry out each interview.

## 3.2 Discussion with community leaders

Assessment teams meet community leaders when they arrive at a location. During this meeting, the team leader explains the reason for the visit and the assessment methodology to be used, and asks for the leaders' support. The meeting provides

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47. Section 3.1 is adapted from Guidelines for Emergency Assessment, IFRC, 2005.

an opportunity to obtain the leaders' perspective on the crisis, including its causes and effects on the community in general, and vulnerable households in particular.

### 3.3 Collection of primary data

Enumerators and interviewers disperse and collect information according to the day's plan. Detailed guidance on primary data collection is given in **Chapter 4**.

### 3.4 Team meetings

Where possible, each team meets at midday to discuss progress and agree any necessary changes to the approach. This is especially relevant for surveys using qualitative data and semi-structured interviews. Interviewers often identify important pieces of information that had not been anticipated. They share this additional information with their colleagues, who then examine the issue(s) raised during the afternoon interviews.

At a minimum, the whole assessment team must meet every evening to discuss progress and share opinions and initial conclusions.

### 3.5 Final community meeting

Whenever possible, it is good practice to convene a short meeting with community representatives at the end of the visit to a location. This gives the team an opportunity to offer feedback to the host community about the process and, possibly, the conclusions, thereby enhancing transparency.

### 3.6 Daily analysis

Analysis is undertaken throughout the assessment and not just at the end, when all the data are available. The extent of this real-time analysis differs according to whether the data are quantitative or qualitative:

- Wherever possible, quantitative data are sent to data analysts every day, to allow them to start data entry, cleaning and preliminary analysis. This saves time at the end of the assessment and enables assessment teams to make use of the analysis during their fieldwork. For example, if the preliminary analysis indicates a particular type of malnutrition, field teams might adjust their approach to probe this issue.
- If personal digital assistants (PDAs) are used, the questionnaires completed on the PDAs must be downloaded to a central computer each day.
- Qualitative data are analysed by field teams continuously. Discussion among team members and assessment managers can lead to daily adjustment of checklists and data collection methodologies.

# Primary data collection

## 4.1 The importance of gathering good quality primary data

The primary data collection methodology is critical to the accuracy of an EFSA. **Even excellent analysis cannot produce good results if the data that feed it are not accurate and reliable.**

Box 3.5 describes some common problems of primary data collection.

### Box 3.5: Common problems with primary data collection

Primary data used in EFSAs come from interviews with key informants, focus groups, households and individuals. The following are some common sources of inaccuracy in primary data.

#### **Interviewers lack knowledge or skills**

- Interviewers are insufficiently knowledgeable about the context in which they are working or the issues they are discussing. This makes them miss essential information or interpret responses inappropriately.
- Interviewers lack the skills to ask questions about sensitive subjects, such as gender issues, violence or coping strategies.

#### **Information is incomplete or inaccurate**

This is often the case when discussing income and expenditure, for the following reasons:

- Informants do not know exactly how much they earn and spend. This is particularly common when households depend on several income sources, each of which is variable. It is difficult to estimate an average monthly income.
- The interviewer and the interviewee interpret terms differently. For example, does income include in-kind gifts from neighbours? What is an average month? The latter is especially relevant in seasonal economies such as farming.
- Informants are reluctant to reveal all sources, because they are suspicious of the motives for the assessment and fear that results may be used by taxation or legal authorities; some of their activities are illegal; or they do not want to reveal details of their livelihoods to a stranger.
- Informants become aware of the types of information that are most likely to result in their community receiving assistance, and tailor their responses accordingly. If information is taken at face value, a highly misleading impression might be created.

### Questionnaires or checklists neglect key issues

If the questions have not been defined carefully and with good knowledge of the context, important issues may be left out. For example, some communities rely heavily on remittances from relatives working in other places. If the assessment concentrates solely on local income generation, the situation may be portrayed as being worse than it actually is.

### Interviewers and informants are biased

- Particularly during semi-structured interviews, interviewers can affect responses by asking leading questions or by their attitude. For example, if interviewers are condescending, respondents might feel embarrassed about revealing the extent of their poverty and the coping strategies to which they resort.
- Understandably, informants frequently see the assessment as an opportunity for personal or community gain. They may give the impression that the situation is worse than it actually is in order to obtain relief or other assistance. They may also give misleading information about the impact of the crisis on different groups.

### Interviewers and informants become bored

- It is often observed that the first semi-structured interviews of the day take much longer and go into more depth than those carried out later in the day. Interviewers tire and feel as though they are hearing the same responses repeatedly. They become less inclined to query the information given to them, and are less alert to inconsistencies and new information than they are at the start of the day.
- Informants also suffer from boredom, particularly during a long interview and when they have other things to do. At the start of the interview they may be happy to discuss their lives, but lose interest as the interview progresses; the quality of their responses therefore declines.

### Informants experience assessment fatigue

In high-profile emergencies, numerous organizations may be conducting assessments during the same time period. Sometimes communities are visited by several assessment teams asking similar questions in the course of a few days. This may have the following effects:

- Informants are diverted from other tasks and find the process tedious; the quality of the information they provide will therefore decline.
- Informants learn how to adapt their information to their own advantage.

Any of the problems described in Box 3.5 could result in inaccurate and unreliable information. If this is fed into the analysis system (see **Part IV**), the final conclusions may be misleading and the recommendations inappropriate.

In order to minimize these problems, the following principles should be observed:

- Collect primary information using an approach that is appropriate to the assessment objectives, the context and the skills of the personnel carrying out the fieldwork.
- Undertake thorough secondary data review to ensure that questionnaires and checklists are as relevant as possible, and that they address fully the specific objectives of the EFSA.
- Train the enumerators and interviewers well. Ensure that they are able to ask questions in a non-leading and sensitive way, to probe during interviews and to triangulate information. Ensure that interviewers have a thorough knowledge of

the context and the issues to be discussed, so that they know what to look for and are alert to unusual information.

- Do not try to carry out too many interviews in one day. It is better to undertake a few high-quality interviews than many interviews that produce inaccurate and incomplete data.
- Discuss impressions and conclusions regularly among the assessment team, at least once a day during the fieldwork.
- Use a variety of informants. Ensure that the perspectives of both women and men are included.
- Triangulate the information (see **Part IV, Section 2.2**). If information from diverse sources converges, it is likely to be accurate; if it is inconsistent or diverges, it is likely that at least one of the sources is providing inaccurate information, or that perspectives differ across the sample.

**Application of these principles cannot eliminate all inaccuracies, but it will reduce them and help assessment teams to recognize when problems exist.**

If it is clear that the primary information is inaccurate and none of the approaches suggested in this section reduces the inaccuracies to an acceptable level, it may be necessary to adapt the assessment or sampling approach, such as by:

- removing interview data that are clearly incorrect, and including additional informants as necessary;
- including more qualitative semi-structured interviews, to probe issues more deeply and identify the reasons for inconsistencies;
- adding new locations to the sample, particularly when using purposive sampling; for example, adding areas that have not been exposed to aid agencies might help clarify inconsistencies brought about by strategic behaviour among the beneficiaries.

## 4.2 Approaches to primary data collection

During an EFSA, primary data are collected in the following ways:

- **Household surveys:** Household representatives are interviewed using questionnaires or semi-structured interview checklists.
- **Community group discussions:** A mixed group of community members is interviewed.
- **Focus group discussions:** A group of people sharing at least one common characteristic is interviewed.
- **Key informant interviews:** Individuals with good knowledge of aspects of the community or the present emergency are interviewed.
- **Observation:** Visible and significant aspects of the affected area are noted.

Each of these approaches has strengths and weaknesses and is useful for collecting specific types of information; **the approaches should therefore be combined.** This improves the quality of the information and provides the basis for triangulation.

Four of these five approaches to primary data collection are based on interviews or discussions. These can be conducted in a variety of ways, ranging from highly structured questionnaire approaches, through semi-structured interviews, to open-ended conversations. The two main approaches used in EFSA are **questionnaires** and **semi-structured interviews**. Each has merits and drawbacks, as explained in Boxes 3.6 and 3.7.

### Box 3.6: Main characteristics of questionnaires

#### Features

A questionnaire consists of a series of questions, carefully formulated and ordered. Questions are coded to facilitate data entry and statistical analysis. The same questionnaire is used for all the households or other informants selected from the sample.

#### Advantages

- Each informant answers the same series of questions, so the results are comparable.
- Enumerators' training is standardized, so they are all likely to record the information in the same way.
- The structured and coded nature of the questionnaire facilitates data management and analysis.

#### Disadvantages

- All issues to be investigated must be planned in advance so that a standard series of questions can be designed; there is little opportunity to adjust questions on the basis of information received during the fieldwork.
- It is difficult to collect sensitive information using a questionnaire, such as information about coping strategies that are socially unacceptable or illegal.
- It is difficult to check the accuracy of the collected information before the analysis stage, by which time it is usually too late to repeat fieldwork.

#### Key issues when planning an assessment that uses questionnaires

- The questionnaire should be designed according to knowledge about the specific context, otherwise redundant questions are likely to be included, which wastes time, and important questions left out, which reduces the usefulness of the questionnaire. Thorough secondary data review is essential prior to designing the questionnaire (see **Section 2.5**). When time allows, secondary data can be supplemented by primary information collected through semi-structured interviews with key informants, focus groups and households, before the questionnaire was designed.
- The questionnaire must be prepared in accordance with the EFSA analysis plan (see **Part II**). Questions should be designed to allow the cross-tabulations and comparisons required for the analysis.
- The questionnaire should be translated into the language in which it will be administered. Once translated, it should be translated back into the original language by a different translator to check the accuracy of the translation.
- Before it is applied, the questionnaire should be pre-tested in a zone of the assessment area. Testing helps to identify: (i) questions that are redundant and do not provide useful information; (ii) questions that need to be adapted; (iii) problems with the structure of the questionnaire; and (iv) new questions that should be added.
- Enumerators – the people who administer the questionnaires in the field – should be well trained and supervised. They should be taught how to ask the questions in a culturally sensitive way, and advised on how to pick up inconsistencies and inaccuracies in responses. They should understand the rationale behind questions so that they can ask them in an appropriate way and explain them to informants.

### Box 3.7: Main characteristics of semi-structured interviews

#### Features

A semi-structured interview is based on a pre-prepared series of questions – a **checklist or topical outline**. Unlike a questionnaire interview, the phrasing, order and form of the questions for a semi-structured interview are not fixed. Interviewers use a conversational approach and encourage respondents to explain issues in their own words and their own time. Interviewers must be alert to additional information that was not anticipated when the checklist was compiled, so that they can pursue relevant topics as they arise during the interview.

Semi-structured interviews can be carried out with individuals, household groups, gatherings of individuals such as community leaders, and focus groups.

#### Advantages

- The conversational style encourages people to be more forthcoming with information than in the formal style of a questionnaire interview.
- Sensitive issues can be addressed by formulating and timing questions to suit the informant.
- Information can be cross-checked during the interview.
- Additional information can be collected and the checklist of questions adjusted during the fieldwork.

#### Disadvantages

- The questions and interpretations of answers are not standardized, making comparison among interviews difficult.
- Interviewers require considerable skills and experience.

#### Key issues when planning an assessment that uses semi-structured interviews

- Secondary data must be thoroughly reviewed to identify information requirements and design the checklist.
- Interviewers and translators must be briefed about the context, and must understand the issues and the reasons why the information is needed.

The two approaches to primary data collection described in Boxes 3.6 and 3.7 can be combined. For example, the first phase of an assessment might use semi-structured interviews for community and focus group discussions and key informant interviews. This provides a good understanding of the problems affecting the population. Information from this phase can then be used to design a questionnaire for the second phase of the assessment. This approach has the following advantages:

- Qualitative understanding of the emergency and its impacts is developed through the semi-structured interviews.
- Statistical information is collected through the questionnaire-based survey. This information can be used to draw conclusions about the severity and scope of the problems identified.
- The semi-structured interviews and questionnaire-based survey can be cross-checked against each other.

Such an approach requires considerable time, even when the affected population and area are small. Therefore, it may not be practical for a rapid EFSA conducted over a three-week period.

Alternatively, semi-structured interviews can be undertaken at the same time as the questionnaire survey, with one group of enumerators carrying out the questionnaire survey, while another carries out semi-structured interviews with individuals and groups. It is important that the two groups consult each other at least once a day to discuss findings and adjust the methodology as necessary.

The most appropriate way of collecting primary data depends on the specifics of the emergency context.

### 4.3 Undertaking primary data collection

This section explains how to carry out **questionnaire interviews** and **semi-structured interviews**, and how to undertake the **five main approaches** to primary data collection identified in **Section 4.2**:

- household surveys;
- community group discussions;
- focus group discussions;
- key informant interviews;
- observation.

It also describes **tools** used to help informants express themselves, and interviewers to analyse the information they receive.

#### 4.3.1 Formal questionnaires

##### 4.3.1.1 Conducting the interview

A questionnaire contains a standard series of questions that is asked of every respondent. Although the approach is standardized, the way in which enumerators interact with respondents and the manner in which they ask the questions can have major impacts on the quality of the data collected. Table 3.6 outlines some common pitfalls and suggests some solutions.

**Table 3.6: Common pitfalls and solutions in questionnaire interviews**

Pitfall	Consequence	Solution
<b>Interviewer does not introduce himself/herself properly</b>	Respondent does not understand the reason for the visit and may not wish to answer questions. This may lead to incomplete, inaccurate or misleading answers.	Explain the reason for the visit and how the information will be used. Ask whether the informant is happy to answer the questions and whether the time is convenient.
<b>Interviewer talks to an inappropriate respondent, such as a young child or a neighbour</b>	Information is inaccurate.	The respondent should be an adult member of the household – not a guest – and preferably the household head or her/his spouse. If nobody suitable is available, skip this household and move to the next on the list. Return later to interview the household if possible.
<b>Interviewer goes through the questionnaire mechanically, without thinking about the responses that are being given</b>	Information is often incorrect, as revealed during data cleaning. For example, the reported food consumption may be incompatible with the physical status of household members.	Take time over the interview. Ask each question carefully, ensuring that the respondent has understood it properly. Think about the response, and compare it with the responses to previous questions. If necessary, repeat the question and probe to be sure that the answer is accurate.
<b>Interviewer does not observe the household and its surroundings</b>	Important information is missed.	During the introduction, take time to look around. Ask questions about points of interest and note the responses. Then go through the questionnaire.

#### 4.3.1.2 Designing the questionnaire

A household questionnaire consists of a series of questions addressed to the selected households. The following principles should be applied when designing a household questionnaire:

**1. The questionnaire should be specific to the context:** Food access and consumption patterns differ markedly among countries and among areas within a country. Questions should be based on a thorough understanding of the context, which can be developed through secondary information review, primary data collection, or – ideally – a combination of the two.

**2. The questionnaire should be focused:** Each question must have a purpose. Each should contribute directly to fulfilling the information requirements and should fit into a clear analysis plan (see **Part II**). The inclusion of numerous questions that will not be used in the analysis wastes time, and can lead to poor quality responses to the questions that are needed, as both interviewers and informants become bored with very long questionnaires.

**3. Questions should provide the opportunity for cross-checking:** It is useful to include questions that provide different perspectives on the same issue, to facilitate triangulation. For example, several questions may address sources of income, receipt of remittances and migration. Questions related to household expenditure and/or consumption can be used as proxies for income.

**4. Questionnaires should be in the local language:** Questionnaires are frequently designed in a language such as English, French or Spanish that is not widely spoken in the assessment area. The questionnaire should be translated into the local language, even if the enumerators speak both languages. Back-translation is important: the questionnaire is translated into the local language, and then translated back into the original language *by a different translator*. If the re-translated version is different from the original, there is a problem with one of the translations. The process is repeated until an accurate re-translation is achieved. If necessary, translators can be changed during the process.

**Annex 1** gives an example of a good questionnaire. Note that this questionnaire was developed for a specific emergency and should not be used elsewhere without being adapted. Other examples of questionnaires can be found on the DVD that accompanies this handbook.

## 4.3.2 Semi-structured interviews

### 4.3.2.1 Conducting the interview

Semi-structured interviews are more difficult to conduct than questionnaire-based interviews. A **checklist or topical outline** is used instead of a questionnaire, and the interviewer tries to build a relaxed and constructive relationship with the informant, through a conversational approach. This is not always easy, especially if the interviewer is not familiar with the culture and does not understand the language. Box 3.8 gives tips for carrying out semi-structured interviews.

### Box 3.8: Tips for semi-structured interviews

#### Preparation

- Study the checklist thoroughly before setting out for the field, to avoid having to refer to it continually during interviews.
- Work in teams of two people. One asks the questions, while the other takes notes.
- If translators are used, brief them thoroughly about the purpose of the interviews and give them copies of the checklist. Explain any tools that will be used (see **Section 4.4**).
- Dress respectfully for the culture, and do not overdress. Wearing expensive clothes in a poor neighbourhood can increase the psychological distance between the interviewer and the informants.

#### Conducting the interviews

- Ask the informant if he/she is happy to talk. Explain the reason for the visit and the ways in which the information will be used.
- Try to fit in with the household as much as possible. If the household members are sitting on the floor, do the same. Accept offers of tea, snacks, etc.
- Start the interview slowly. Talk about general issues such as the weather or the family. Be sympathetic and friendly.
- Gradually lead into the questions on the checklist. Give the informants time to express themselves in their own words. If answers are unclear, let the informant finish, then ask for clarification. Do not worry about the order in which the issues on the checklist are addressed; it is more important to let the conversation flow.
- Be alert to information that was not anticipated.
- Think about the responses that people give, and compare them with the information received previously from this interview and other sources. If there seem to be contradictions, ask for more explanation or ask the same questions in different ways.
- Avoid looking at the checklist frequently, as this disrupts the flow of the interview.
- Be alert to signs that the informant is becoming bored or irritated, or has other things to do. Terminate the interview politely if this happens; people have no obligation to talk to EFSA teams.

A good interviewer should be **patient, sympathetic and curious**. It takes a lot of practice to become good at interviewing. If the EFSA depends on semi-structured interviewers, the team should include experienced interviewers. These people can be paired with less experienced colleagues who can learn from them.

#### 4.3.2.2 Designing the checklist

A checklist – also referred to as a topical outline – is similar to a questionnaire in that it consists of a list of questions that need to be answered during an interview. As in questionnaires, the questions are based on the assessment objectives and knowledge of the context. There are important differences, however, including the following:

- A checklist is used to remind the interviewer to cover all the issues identified in the analysis plan (see **Part II**).
- Questions are not asked in a particular order, and the way in which they are asked is adjusted to suit the conversational approach used during semi-structured interviews.

- The interviewer should be ready to discuss relevant issues that are not on the checklist. Additional discussion points might come from observation or from the people being interviewed.
- Unlike questionnaires, checklists can be changed as the assessment progresses and understanding of the situation improves.
- Analysis from checklists is more difficult because some answers, such as narratives, cannot easily be coded.

**Annex 3** gives an example of a checklist. As with the questionnaire example in Annex 1, this is a context-specific checklist that should not be used elsewhere without adaptation. Additional examples can be found on the DVD.

### 4.3.3 Household surveys

The term “household survey” usually refers to the administration of a standard questionnaire to a random sample (see **Section 2.7**). For a household survey:

- a standard questionnaire is designed based on the information requirements identified in **Part II**;
- enumerators are trained to administer the questionnaire;
- the questionnaire is field-tested and modified as necessary;
- the final questionnaire is administered according to the chosen household sampling approach (see **Section 2.7.2**).

Household surveys can also use semi-structured interviews administered to a random or purposive sample.

Standard questionnaire surveys are most useful when there is good knowledge about the population size and location, and good physical access. Under these circumstances, a random sampling approach can be used, and statistical analyses performed on data that are coded in a standard format. Less structured household surveys are useful when access is limited, knowledge of the population is poor, or the required information is sensitive. In such cases, a purposive sampling approach and checklists are generally used, with less emphasis on statistical analysis.

In some cases, households are interviewed outside the formal household survey. This occurs frequently during initial or rapid assessments, when the depth of the information is more important than its statistical representation.

### 4.3.4 Community group discussions

Community group discussions can be particularly useful when time is limited. Community groups consist of men and women with mixed backgrounds, who are not chosen on the basis of common characteristics, as is the case with focus groups. Community group discussions generally take place in the following circumstances:

1. A discussion is organized soon after the assessors arrive at a location, as an entry point. A selected cross-section of the community takes part.
2. A discussion occurs spontaneously, when assessors are talking to an individual or small group and other people join in. Such groups can become quite large.

It is advisable to be prepared for community group discussions, as they almost always occur at some point during an EFSA. When talking to a community group, it is best to aim for breadth rather than depth of information; issues can be addressed in more depth during focus group and individual interviews. The information that can be gathered from a community group includes:

- the overall situation within the community, and the impact of the emergency;
- the livelihood strategies used in the area, and how they are affected by the emergency;
- preliminary identification of the most affected areas and groups;
- insight into the status of services and infrastructure, such as health, education, markets, water installations and roads;
- other context-specific issues.

Interviewers should be alert to new information. Community groups are excellent opportunities for uncovering information that can be probed later during key informant and focus group discussions.

### Box 3.9: Data collection in the context of sexual and gender-based violence

The following is extracted from the **Inter-Agency Standing Committee's** guidance<sup>48</sup> for gender-based violence.

*During emergencies, it is unlikely that there will be any reliable data about sexual violence, most information is likely be based on anecdotal evidence obtained through a variety of sources.*

*During an emergency, many assessments are undertaken by humanitarian organizations, donors and government authorities. These assessments should include information about sexual violence, regardless of sector or organizational interests, and should be shared with the Gender-Based Violence working groups. This will avoid duplicate assessments and repetitive interviews with the community.*

*It is advised to collect and compile information related to the nature and extent of sexual violence; policies, attitudes, and practices of multisectoral actors; and existing prevention / response services and gaps. Information should include:*

- *demographic information, including disaggregated age and sex data;*
- *description of population movements (to understand the risk of sexual violence);*
- *description of the setting(s), organizations present, and types of services and activities under way;*
- *overview of sexual violence (populations at higher risk, any available data about sexual violence incidents);*

48. Guidelines for Gender-based Violence Interventions in Humanitarian Settings, Focusing on Prevention of and Response to Sexual Violence in Emergencies, IASC, September 2005.

- national security and legal authorities (laws, legal definitions, police procedures, judicial procedures, civil procedures);
- community systems for traditional justice or customary law;
- existing multisectoral prevention and response action (coordination, referral mechanisms, psychosocial, health, security/police, protection/legal justice).

Collect information in accordance with guiding principles for safety, confidentiality, respect and non-discrimination, and bear in mind the sensitive nature of this issue in communities and among service providers.

- Methods for collecting information should involve the community and may include semi-structured interviews, site visits and observation of the environment.
- Secondary information sources that may be useful include existing needs assessments, reports and available data related to sexual violence.
- Use techniques that will gain rather than alienate community and individual trust, incorporating cultural sensitivity and extreme care in discussing sensitive topics.
- Ensure anonymity and safety of all information sources.
- Use same-sex interviewers and interpreters.
- Information gathering should ideally be conducted by multidisciplinary teams.

Community groups can be difficult to manage, as they often become large very quickly. Many people may want to speak, causing a chaotic atmosphere. Interviewers should try to maintain good humour and explain that people have to speak one by one. They should encourage the quieter people to contribute, without insisting if somebody does not want to talk. If the conversation gets out of control, with too many people talking, arguments breaking out, etc., the interviewers should thank all the participants and close the discussion.

### 4.3.5 Focus group discussions

A focus group consists of people who have attributes in common, and who are able to provide information about the topic or subject that is the focus of discussion. Focus groups are extremely useful for obtaining detailed information about a topic. They are also a useful complement to a household survey, because they can provide information about sensitive subjects that are not easily addressed in a questionnaire survey (see **Section 4.3.1**), and they can be used for triangulation and cross-checking of information.

When talking to a group of no more than ten people, the opinions expressed by one person can be cross-checked immediately with the other members of the group. The group dynamics often result in more lively debate than would be achieved during individual interviews. There should not be significant power differentials among group members, as this often results in influential people dominating the discussion. Examples of focus groups include:

- farmers who use similar agricultural systems and have similar assets, such as area of land cultivated;
- traders who work with similar commodities and have similar turnovers;

- mothers and caregivers, who have primary responsibility for child care and food preparation in many societies; these are issues of crucial interest to EFSA teams.

In societies where women are less powerful or less educated than men, or where women exercise influence out of the public arena, it is advisable to talk to them separately. Focus groups are selected according to the type of information that is sought, and the nature of the emergency. Example 3.6 gives some illustrations.

### Example 3.6: Focus group discussions in the context of a drought

The assessment team wants to discover how the drought affects different livelihood groups. Focus groups may be of:

- farmers who plant crops and sell their produce to purchase other goods;
- livestock owners who sell animals and animal products to buy food;
- traders who buy and sell crops and animals.

It is important to talk to these people separately because, among other issues, the drought may affect them differently:

- **Farmers** have reduced harvests. Consumption of their own production decreases and they have less output to sell. However, the prices they receive for their crops increase.
- Animals are in poor health because of the state of grazing and water supplies. They therefore fetch low prices at the market. **Livestock owners** have to sell their animals at low prices, but must buy food at high prices.
- **Traders** have stockpiled food crops when prices were low; they are now able to sell them at high prices, thereby making a good profit.

A semi-structured approach is used when conducting a focus group discussion. A checklist is developed, as explained in **Section 4.3.2**, and the interviewer encourages a relaxed and constructive atmosphere (see Box 3.8). Box 3.10 explains features of focus groups that must be taken into account.

### Box 3.10: Tips for facilitating focus group discussions

#### Preparation

- Identify which groups and which individuals from those groups to talk to, through consultation with local people.
- Ensure that there are no large power differences among the people in the group, such as between a local chief and a member of a marginalized clan. When this occurs, the more powerful people tend to dominate the discussion, and the less powerful may be reluctant to express their opinions openly.
- The group should consist of between six and ten people. If there are fewer than six, the benefits of accumulated knowledge and group dynamics are reduced. If there are more than ten, the group becomes difficult to manage and individuals do not get enough time to speak.
- Draw up a checklist for the discussion. This should be specific to the context and the focus group. **Section 4.3.2** explains how to compile a checklist.
- Agree a time and place for the discussion. A secluded place is better than a public area, where onlookers may observe or participate, and the group may quickly become unmanageable.

- Dress respectably but not too formally.
- Where possible, have two interviewers: one to ask questions, and the other to record the answers.
- The assessment team should agree on a format for recording the information received during focus group discussions. The details are not important, but the format must be used consistently by different teams, to facilitate analysis.<sup>49</sup>

#### **Conducting the discussion**

- Arrange the seating so that everyone is at the same level, either all on the floor or all on chairs. Sit in a circle.
- The interviewer introduces herself/himself and explains the objectives of the exercise.
- The interviewer explains the rules for the discussion: everybody has an equal opportunity to talk, and any views can be expressed.
- The interviewer uses a checklist: topics are introduced into the conversation and group members are invited to give their inputs. The interviewer ensures that all the issues are covered, and looks out for additional information that was not expected.
- The recorder writes down the responses.
- The interviewer needs to use his/her judgement to decide when to let the discussion take its own course, and when to bring it back to the topics on the checklist.
- The interviewer tries to ensure that all the people in the group participate. Often one or two people dominate a discussion. If this starts to happen, the interviewer politely asks these people to wait, and invites input from the less forceful members of the group. Considerable tact may be needed.
- There are usually disagreements among group members. For example, one person might say that everybody is receiving relief assistance, while another says that people in certain districts receive more than others. The interviewer works through the issue by bringing other people into the discussion and probing to discover the source of the disagreement. One of the main advantages of using focus groups is this opportunity for instant cross-checking. There is often no single “truth”. Group members have different perspectives, and the emergency may affect them differently. A focus group provides an opportunity to learn about these perspectives.
- The interviewer gradually moves through the topics on the checklist. At the end of each she/he summarizes the conclusions to ensure that he/she has understood what the group has been saying.
- At the end of the discussion, the interviewer summarizes all the conclusions and explains how the information will be used.

#### **After the discussion**

- The interviewer and the recorder agree on the results and structure them in the pre-agreed format.

### **4.3.6 Key informant interviews**

Key informants are people with specialist knowledge about some aspect of the area, the population or the emergency. They should be consulted in all EFSAs. Typical key informants include:

- health workers and other service providers, such as water engineers and teachers;
- traders;
- farmers and agricultural extension workers;

49. For more details, see: Technical Guidance Sheet No. 9, Qualitative Data Collection and Analysis for Food Security Assessments, L. Morinière, WFP Emergency Needs Assessment Service, September 2007.

- government, United Nations and NGO employees;
- community leaders.

Anyone who might have an interesting perspective and knowledge about the situation can be interviewed as a key informant. The assessment team should always look out for such people during assessment planning and implementation.

Selection of key informants depends on the context and the information requirements defined in **Part II**. For example:

- if the crisis is triggered by long-term economic decline and the closure of trade links with traditional partners, key informants might include economic analysts from the local university, and market traders from different types of market – wholesale, retail, etc.;
- if the crisis is caused by drought, key informants might include farmers, agricultural extension officers and market traders.

There are no set rules for selecting key informants or the number to interview during the assessment, but the rules of thumb described in Box 3.11 can be applied.

### Box 3.11: Rules of thumb for identifying key informants

Select **primary key informants** who are directly involved with the issues identified in the analysis plan. For example, all EFSAs cover nutrition and health status, and food availability and access, so key informants could include:

- health workers, for information about health and nutrition status and health services;
- market traders, for information about food availability and access, through inputs on price trends, supply and demand, market integration, etc.;
- fishers, crop producers, pastoralists, for information about production expectations, prices, demand for produce, etc.

Identify as many key informants as time allows, and try to select a diverse range. For example, if there is time to interview five key informants about nutrition problems, it is not advisable to talk to five nutritionists working at the same feeding centre. It would be more useful to interview:

- one nutritionist from the feeding centre, for information about the type and severity of malnutrition among children and mothers attending the feeding centre;
- one health extension worker, for information about care practices, food preparation and water usage;
- one representative of the local water authority or an NGO working in water and sanitation, for information about the quality and quantity of water available, and the sanitary environment;
- one market trader, for information about the types of food available, price trends and, hence, food accessibility;
- one teacher, for information about the nutrition and health status of children attending school.

Consulting a diverse range of key informants allows issues to be studied in depth. In this example, the different informants provide information about both the symptoms of the problem, that is the level of malnutrition seen in the feeding centre, and its possible causes – poor water quality leading to disease, poor dietary diversity and so on.

Select **secondary key informants** who are knowledgeable about the context and who may have indirect links with the issues identified in the analysis plan. These people may not be directly involved with the core sectors of interest – nutrition and food security – but they can provide contextual information and insights into the core sectors. They include:

- community leaders;
- teachers;
- local journalists;
- local NGO workers.

Secondary key informants should be interviewed as time allows. Assessment teams should look out for people who can provide interesting perspectives, and use their judgement about how long to spend talking with these people.

Key informant interviews can be undertaken individually or in groups. In the example in Box 3.11, a discussion with all five informants together would probably be interesting. Another alternative is to facilitate a **focus group discussion** among, for example, health workers or traders.

In general, key informant interviews follow the semi-structured approach (see **Section 4.3.2**). **The checklist is specific to the type of informant**, as in the following examples:

- **Health workers:** Interviews focus on factors that affect the health of the population, disease incidence and causes of poor health.
- **Traders:** The functioning of local and national markets is discussed, using the indicators in **Part II** as guidance.
- **Relief workers:** Discussion covers the crisis' impact on populations with whom the relief workers are in contact, and the type of assistance that is already being provided.

In addition to sector-specific information, it is often useful to discuss general topics with the key informants, who are often well-informed about the situation and may travel frequently to different parts of the affected area. For example:

- traders may work in several markets and can therefore provide information about the relative impact of the crisis in different parts of the affected area;
- professional people such as doctors and engineers often have friends and contacts in other sectors, such as local politicians, so may be able to talk knowledgeably about the political or social situation.

**Annex 2** gives an example of a key informant questionnaire. As with the examples in Annexes 1 and 2, this is context-specific and should not be used elsewhere without adaptation.

**A word of caution when working with key informants:** It is easy to give undue weight to the opinions of certain key informants, particularly if they are very articulate and accessible. For example, an assessment team leader who does not come from

the affected country might find it easy to talk to a university professor who has strong opinions and speaks English, French, etc. There is a danger that this person's input becomes more influential to the assessment than that of (say) a market trader who speaks only the local language. Assessors must be aware of this form of bias and should try to work with as wide a variety of key informants as possible.

#### 4.3.7 Observation

Observation is an important tool in allowing a great deal of information to be assimilated quickly. It can also guide which information to collect. For example, if flood damage or adverse road conditions are observed on the way to the assessment area, these would be obvious subjects for enquiry. Observations must be used with caution, however; a factor with a strong visual impact may assume undue weight. For example, flood damage to homes and roads may be limited to a specific location with no implications for other areas.

Observation can take several forms. Some of the most useful approaches are described in the following sections.

##### 4.3.7.1 Casual observation

Fieldworkers are constantly exposed to a vast number of visual images. When carrying out an assessment, it is advisable to take advantage of every opportunity for observing the context:

- **During journeys** the features that can be observed include economic activities, such as farming, manufacture and trading; population movement along roads; climatic conditions, such as rainfall, state of pasture and crops; road conditions; security, such as road blocks and armed people; and numerous other things.
- **On arrival in a location:** After introductions have been made and before interviews begin, it is a good idea to walk around the location with members of the community. This helps to develop a feel for the location and a rapport with the local people; it also provides material for questions, through observation of people's activities, etc.

##### 4.3.7.2 Observation within households

During a household survey, using either questionnaires or semi-structured interviews, it is useful to look around the households where interviews take place. This can provide useful information about the foods consumed, cooking and hygiene practices, the types of asset that people have, and so on. Assessment teams should not be intrusive, however, and should ask permission to examine foodstuffs, visit the latrine, etc.

##### 4.3.7.3 Transect walks

The assessor walks in as straight a line as possible across the location – village,

urban district, etc. – in the company of one or more local people. The assessor records noteworthy features, such as the locations of a river, a grinding mill and different types of shelter, and discusses these with the local people. This can provide an interesting cross-section of the location. If time allows, additional transect walks can be taken along different axes.

#### 4.3.7.4 Structured observation

Observation can be used to provide specific quantitative data. For example, an observer can sit near the village water point during the times when people collect water – usually morning and evening. He/she counts the number of people coming to the water point, notes the size of containers that they use, and measures the average length of time that they spend at the water point queuing, filling, etc.

**Observations should be recorded**, otherwise it is easy to overlook the information they provide for analysis. In structured observation, this is straightforward. A standard form should be developed to be completed by all observers. In less structured approaches to observation, it is important to record the issues noted, usually in two stages:

1. The observer notes in her/his field notebook the points of interest.
2. Later, usually at the end of the day, the observer collates the information in a format agreed with the rest of the assessment team.

Table 3.7 illustrates a form for recording observations.

Location	Observation	Significance	Follow-up
Village X	<ul style="list-style-type: none"> <li>• Poor drainage around well; spilled water flowing back into the well</li> <li>• Animals walking around the well</li> </ul>	<ul style="list-style-type: none"> <li>• Water contamination, likely to lead to diarrhoeal disease and malnutrition, particularly among young children</li> </ul>	<ul style="list-style-type: none"> <li>• Investigate household water usage: do people boil and/or treat water?</li> <li>• Talk to health workers about nutrition situation</li> <li>• Undertake anthropometric measurements</li> </ul>
	<ul style="list-style-type: none"> <li>• Healthy livestock observed on outskirts of the village: informants have mentioned livestock health as a major problem</li> </ul>	<ul style="list-style-type: none"> <li>• Some villagers have maintained their animals' health through access to better pasture, veterinary care, etc.</li> <li>• The healthy animals belong to people from other areas</li> <li>• The informants have misrepresented the situation</li> </ul>	<ul style="list-style-type: none"> <li>• Ask local people who owns the animals</li> <li>• Try to identify the factors that enable the owners of this herd to keep their animals healthy</li> </ul>

## 4.4 Participatory tools for primary data collection<sup>50</sup>

**The tools presented in this section can be used in any of the interview and discussion formats described in Section 4.3.** The tools:

- help informants express themselves, by structuring the way in which issues are discussed; this is especially useful when informants are unfamiliar with quantitative concepts, such as percentages, and are not used to categorization according to priorities, timeframes, etc.;
- help assessors to analyse the information received, by converting data – often qualitative – into standard frameworks;
- facilitate discussion, because working through a task together can help break down barriers between informants and interviewers; in focus groups, the tools can stimulate discussion.

The tools should be used selectively. Not all of them are useful in every situation; in some situations, none may be useful. For example, they are unlikely to be useful in a key informant interview with a highly educated professional, such as an engineer or a doctor.

Assessment teams should use their judgement to decide which tools, if any, to use in a given situation. Additional tools not included in this handbook, such as Venn diagrams showing institutional relations, may also be used.<sup>51</sup>

### 4.4.1 Daily calendars

Informants are asked to describe a typical day, giving as much detail as possible about the activities that they carry out and the amount of time each takes.

Daily calendars help the assessment team to find out how different members of a community spend their time, and ways in which daily routines may change in response to a shock. They can also guide programme design. For example, if people spend five hours a day collecting water, the development of an improved water supply should be considered. Comparing current daily schedules with past ones helps identify trends. For example, if people who used to find fuelwood within half an hour now have to walk for two hours to find it, it can be concluded that there may be a deforestation problem.

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50. Section 4.4 is adapted from Guidelines for Emergency Assessment, (IFRC), 2005; and Participation by Crisis-Affected Populations in Humanitarian Action: Practitioners' Handbook, Active Learning Network for Accountability and Performance in Humanitarian Action. See also Participatory Techniques and Tools - A WFP Guide, 2001.

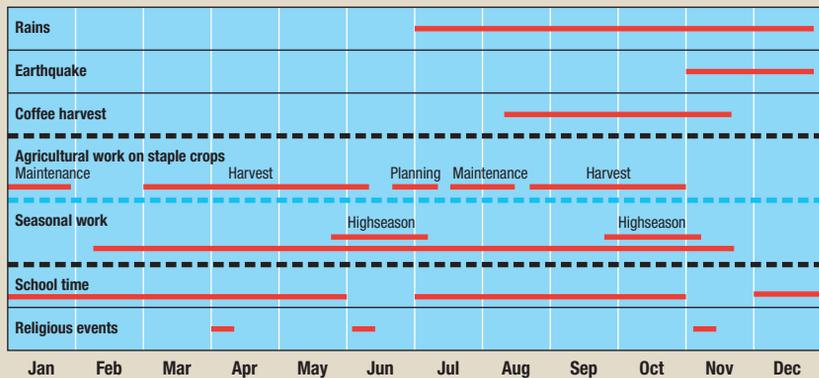
51. Technical Guidance Sheet No. 9 Qualitative Data Collection and Analysis for Food Security Assessments, L. Morinière, WFP Emergency Needs Assessment Service, September 2007; and Participatory Techniques and Tools - A WFP Guide, 2001.

It is often useful to carry out separate exercises with different members of a household, such as children, men and women.

#### 4.4.2 Seasonal calendars

Informants are asked to identify events that take place at particular times of a normal year. These include climatic events such as rains or cold weather, livelihood activities such as planting, harvesting or labour migration, cultural events such as religious festivals, and other events that are significant to the community. These are plotted on a calendar, and unusual events resulting from the current crisis are superimposed on this.

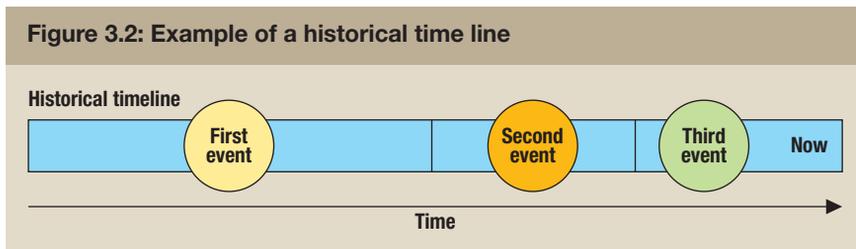
**Figure 3.1: Example of a seasonal calendar**



A seasonal calendar can indicate whether something is normal, in that it happens regularly, or new. For example, some agricultural areas always have a hunger gap just before the harvest. The people living in these areas have developed systems for coping with this difficult period. Limited food availability at this time of year is therefore much less significant than it would be immediately after the harvest. Seasonal calendars are also useful if activities have to be coordinated and timed to fit in with local schedules, such as seed or food distributions, which may be affected by the state of roads at certain times of year. People's workloads should also be taken into account when planning activities. For example, people tend to be very busy during planting and harvesting periods.

### 4.4.3 Historical time lines

A historical time line provides a useful overview of how the current crisis fits into a historical perspective. It shows whether this type of crisis is a regular or a one-off occurrence. It also helps identify trends. For example, a time line might show that drought is affecting an area more frequently than in the past.



There are numerous ways of constructing a historical time line. When informants are not used to attributing specific dates to events, the following approach can be used:

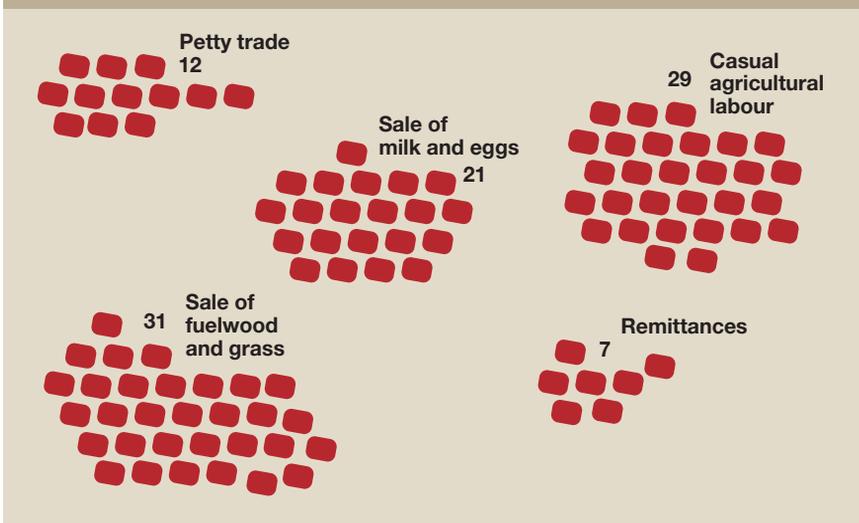
- A line is drawn to represent a given period, say 20 years.
- Informants are asked to identify two or three important events that have occurred within the time period, such as the start/finish of conflict, national independence, elections, major floods or volcanic eruptions. These are located in chronological order on the line.
- People then think about significant events, both positive and negative, and locate these on the line, explaining their causes and impacts.

### 4.4.4 Proportional piling

This is useful for estimating quantities and proportions, especially when working with people who are not used to quantifying data. For example, to discover the proportions of a livelihood group's annual income to come from different sources, the procedure is as follows:

1. Collect 100 dried beans, pebbles or anything similar that are all more or less the same size.
2. Working with a focus group drawn from a specific livelihood group, ask the informants to divide the beans into piles relative to the income received from each source.
3. Count the number of beans in each pile; this number is equivalent to the percentage of annual income to come from that source.

**Figure 3.3: Example of proportional piling**



As well as quantifying data, proportional piling is also a good facilitation tool. An activity of this kind can break down barriers within a group of people. It can focus discussion, as there is usually considerable debate about the relative sizes of the piles; this encourages participation and enhances accuracy.

#### 4.4.5 Pair-wise ranking

This is a good way of analysing the relative importance of different factors, such as when identifying which problems people consider the most severe. For example, four major problems have been identified: lack of rain, lack of health care, poor domestic water sources, and insecurity. Each problem is inserted on a grid, with the cells along and below the diagonal blanked out, as shown in Table 3.8, to ensure that questions are not asked twice. Each pair of factors is then considered in turn, and the responses to the following questions noted on the grid:

- Which is the more severe problem, rain or health care? In this example, the answer is health, which is noted in the relevant box.
- Which is the more severe problem, rain or domestic water? Rain, in this example.
- And so on...

**Table 3.8: Example of pair-wise ranking**

	Rain	Health care	Domestic water	Insecurity
Rain		Health care	Rain	Insecurity
Health care			Health care	Insecurity
Domestic water				Insecurity
Insecurity				

Count the results, which in this case are as follows:

- Lack of rain: 1.
- Lack of health care: 2.
- Poor domestic water sources: 0.
- Insecurity: 3.

This indicates that for this group, insecurity is the most serious problem, and poor domestic water sources the least serious. Domestic water's score of zero does not mean that it is not a problem, but that the group considers it to be less severe than the other three problems.