

 **Part I**
CFSAM Essentials

1 Why and when a CFSAM

Everyone involved in preparing for or participating in a CFSAM needs to understand the purpose of a CFSAM and how it relates to other assessment and monitoring activities.

1.1 Purpose and nature of a CFSAM

Purpose

The primary purpose of a Crop and Food Security Assessment Mission (CFSAM) is to provide an accurate picture of the extent and severity of crisis-induced food insecurity, existing or expected, in the country (or in specific areas) so that timely and appropriate actions can be taken by the government and the international community to minimize the impact of the crisis on affected populations.

Combination of macro- and micro-level analyses

CFSAMs analyse the food security situation at two different levels: macro and micro.

- At the macro-level, the mission analyses the overall economic situation, agricultural production and market conditions, and the aggregate supply and demand situation for staple foods (mainly cereals), to produce a national cereal/staple food balance sheet (NFBS) and an estimate of any uncovered staple food import requirement for the coming marketing year.
- At the micro level, the mission analyses the access that households in the crisis-affected areas and population groups will have to food in the coming year from their own production, market purchases and other sources. Furthermore, it produces estimates of household food access shortfalls and the assistance that will be required by different groups, during specific periods, to assure their access to adequate food.

The two levels of analyses are then combined to make recommendations on how any national-level deficit should be made up and the assistance needed by different groups should be provided - options could include, for example, imported food aid, distributions of locally-purchased food, cash or other non-food transfers, subsidized sales, or a combination of such responses. Amongst other things, the type of assistance will be determined by the overall food supply situation, market conditions, and nutritional and operational considerations.

Note that the uncovered staple food import requirement estimated from the national balance sheet and the aggregate of the assistance needs of crisis-affected population groups measure different things and, in most cases, will *not* coincide. Some of the assistance needs in the crisis-affected areas, for instance, may be able to be met by transfers of food from other, surplus areas, and not need to be imported. In addition, the bases for calculation of “requirements” and “needs” are different. The estimate of aggregate needs for human consumption used in the balance sheet is based on estimates of actual per capita staple food consumption in recent “normal” years (the *status quo estimate* or SQE) while assistance needs are based on the international humanitarian norm of 2100 kcal/person/day for total nutritional intake.

It is therefore necessary to compare - and explain the difference between - the uncovered food import requirement derived from the NFBS and the aggregate household assistance needs derived from the household assessment when presenting the jointly agreed recommendations - see sections 9.3 and 14.2.

Scope of work

A scope of work is drawn up for each CFSAM taking account of the particular characteristics and needs of the situation. However, a standard set of tasks needs to be accomplished in most CFSAMs as shown in Panel 1-1. This provides the basis for developing specific objectives and scopes of work in each case.

A CFSAM is normally a **rapid verification (audit-type) assessment** exercise in which the team:

- critically examines available data and analyses, including the findings of assessments already undertaken;
- interviews a range of key informants;
- undertakes field visits to check and, if necessary, adjust existing estimates of crop production for the forthcoming harvest, stocks, and current and expected levels of household food insecurity in the affected areas;
- synthesizes and triangulates data from a wide range of data sources, including its own observations and findings in a concise and rigorous way;
- makes its own judgements on the food security situation and likely scenarios for the coming year; *and*
- formulates its own recommendations on food security assistance and specific responses, endorsing or modifying existing proposals and recommendations as appropriate.

The ultimate goal is to protect lives, livelihoods and nutritional status by ensuring that crisis-affected food insecure people have access to adequate food throughout the coming marketing year while promoting recovery of food production, livelihoods and the market systems on which they depend.

Panel 1-1

Typical main tasks of a CFSAM

Specific tasks to be accomplished by a CFSAM include:

- To verify/refine/make (as appropriate) estimates - forecasts - for **food production** in the forthcoming marketing year - at national and, where appropriate and possible, at sub-national levels - based on assessment of the status of, and prospects for, major staple food crops and, where appropriate, livestock and fisheries;
- To verify/refine/make (as appropriate) estimates of food **stocks, losses and utilization requirements** (for human consumption, animal feed, industrial uses) in the coming year;

- To verify/refine/make (as appropriate) estimates for **exports** and **imports** in the coming year including the public and private sectors' capacity to import food based on an assessment of the overall macro-economic situation, an analysis of prices, effective demand and traders' expected behaviour and already-planned food aid;
- To prepare a national **staple food balance sheet** - and balance sheets at sub-national level where appropriate and possible - and estimate any uncovered food import requirement;
- To identify possibilities for **local purchases** in surplus areas (if any) to help cover deficits in the crisis-affected areas including the quantities that could be purchased, where and when, without unduly disturbing markets and prices;
- To verify/refine information available on the **food security situation** and vulnerabilities at **household level** among populations affected (or expected to be affected) by the crisis, and identify the population groups that are (or will be) unable to meet their basic food needs - that are (or will be) acutely food insecure - as a result of the crisis, differentiating those who were chronically food insecure before the current crisis from those who were not;
- To verify/refine/make (as appropriate) estimates of the **numbers of people** in need of emergency food security assistance, their expected **food access shortfalls** (gaps) in the coming year, and the periods when they will need assistance.
- To recommend a food security assistance strategy and specific actions to be taken to address the **uncovered import requirement** (if any) and food insecurity at household level including the type and quantity of **targeted assistance** (food and/or non-food) required, when and for how long it is needed in order to ensure that the target population groups will have access to adequate food during the coming year. These recommendations must be based on the analysis of market conditions and institutional and logistic capacities and constraints for the delivery and distribution of food or other food-security related assistance.
- To recommend any follow-up, more detailed assessments or other actions that may be required.
- If, in the process of the above, the CFSAM team identifies avoidable constraints on food production and marketing operations, it may make practical suggestions/recommendations (or propose further studies) to overcome those constraints and expedite the recovery of food production and market operations in order to ensure - or at least maximize their contribution to - food availability and access in the affected areas. In some cases this may require additional input from other Technical Units from FAO, for example, TCE, AGS, etc.
- The team may also draw attention to any public health or other action needed? to address nutritional problems and improve food utilization at the household level.

The standard outline for a CFSAM report is shown in Panel 1-2. This may be adapted to the specific situation and the emphasis/scope of work of the mission but in general most of the headings and sub-headings shown should be used. A more detailed, annotated outline is provided in **Annex 1**.

A CFSAM is a focused exercise to prepare and present as clearly as possible estimates for crop production, the overall food supply situation, and the food security situation

at household level. The team should take account of the phase of the emergency (for example whether it is an acute crisis or a transition towards development,) and relevant longer-term issues, but a CFSAM is *not* a policy review or an exercise to produce proposals for projects or guidelines for future agricultural or other practices.

| Panel 1-2 | |
|--|--|
| Standard outline for a CFSAM report | |
| Contents, acronyms | |
| Highlights | |
| 1. Introduction | |
| Objectives | |
| Food security crisis background | |
| Methodology | |
| 2. Socio-Economic Context | |
| Population | |
| Macro-economic situation | |
| Agriculture sector/policies | |
| Social and humanitarian context | |
| 3. Agricultural production | |
| Crop production | |
| Livestock, fisheries and associated products | |
| 4. Market conditions | |
| Market conditions | |
| 5. Food supply/demand situation | |
| Staple food balance sheet | |
| Stocks | |
| Domestic utilization/requirements | |
| External trade | |
| 6. Household food security | |
| Food security status and prospects | |
| Health and nutritional status | |
| Estimated household food access shortfalls | |
| 7. Conclusions and response options | |
| Conclusions | |
| Response options | |
| 8. Recommendations | |
| Assistance strategy, follow-up studies, ongoing monitoring, improvements | |

1.2 When and where a CFSAM?

When may a CFSAM be undertaken:

- there are signs of an imminent food security crisis or there is an ongoing crisis; *and*
- there are doubts or debates about the adequacy of the food security data available and/or the analysis and interpretation of those data; *and*
- the government requests a CFSAM in view of the current or imminent crisis situation.

In short, a CFSAM may be undertaken when there is value in an independent, external perspective from a team of international experts undertaking a rapid, integrated analysis of the food security situation at both macro- and household- levels in order to inform response decisions.

Conversely, a CFSAM is *not* needed when existing national/in-country systems generate sufficient, credible information accepted by all parties as a sound basis for appropriate responses.

Situations in which CFSAMs are undertaken

In practice, CFSAMs are undertaken in three types of crisis situation:

- (i) countries facing substantial and sudden reductions in food production (e.g. as a result of drought or pests);
- (ii) countries with widespread, sudden increases in the numbers of people lacking access to food (e.g. as a result of collapse of incomes, exceptionally high food prices or inability to circulate within the country) although supplies may be available; *and*
- (iii) countries with severe localized food insecurity (e.g. as a result of conflict or a combination of crop failure and deep poverty).

These categories correspond to the typology of countries in crisis, as reported by FAO/GIEWS.

Crises that may give rise to a CFSAM are **exceptional** situations where substantial numbers of people have become **more food insecure than usual**, or are likely to become so in the near future.

Situations in which other types of assessment may be more appropriate than a CFSAM

In the early stages of a major crisis, when few data are available - in the early stages of a complex emergency, for example - a rapid **emergency food security assessment** (EFSA) with the full participation of a range of interested national and international entities is more appropriate than a CFSAM. In such cases (and when WFP is not previously present in the country), FAO and WFP would normally participate in a broad-based EFSA. Where necessary, WFP would take the lead in organizing such an assessment following the guidance provided in the WFP EFSA Handbook.

For early warning purposes, a sub-national assessment in the form of a FAO/GIEWS **Food Security Review** at mid-term during the crop year may be more appropriate than the full scale CFSAM. Such reviews are led by an FAO/GIEWS officer and are less formal and costly than a CFSAM but can provide information for early mitigation actions.

Timing of a CFSAM

Missions are usually planned to be in country towards the **end of the main cropping season**, when quantitative production estimates can be made with reasonable reliability. However, mission timing may be adapted to fit into the schedule of local assessment activities, especially those of the sub-national, national and regional early warning and food information systems (EWFISs).

A mission may be undertaken **prior to crop maturity** (for harvest) in a country where local information sources are weak and the time lag between main crop maturity and the onset of the lean season is less than the lead-times for the delivery of aid.

1.3 Relations between a CFSAM and other assessment and monitoring activities

A CFSAM is undertaken at a particular point in time in an ongoing process of assessment and planning. It complements and draws on a range of other monitoring and assessment activities at country level and within FAO and WFP headquarters while feeding into decision-making on responses to crisis-induced food insecurity by national governments and WFP:

- In the context of **early warning**, a CFSAM is partly based on the findings of one or more of the following: a national early warning system; the FAO global information and early warning system (GIEWS); WFP monitoring linked to its vulnerability analysis and mapping (VAM) and related food security monitoring (FSM) activities; monitoring by USAID FEWS-Net or the European Commission's Joint Research Centre, etc.
- In the context of an **ongoing crisis**, a CFSAM reviews and cross-checks the data and information available from other recent assessments and relevant monitoring activities (by national authorities, WFP, NGOs and other entities), makes its own observations and provides its analysis, conclusions and recommendations. This includes recommendations for ongoing monitoring. It may also include recommendations for further, more in-depth assessments of particular aspects.

Relations with other FAO and WFP assessment-related activities

In relation to other **FAO activities**, CFSAMs draw on the information, guidance materials and other resources available from GIEWS and other FAO divisions and services, especially the Emergency Operations and Sustainable Development Divisions, or the groups working on locusts and other migratory pests/diseases.

In relation to other **WFP activities**, CFSAMs draw on the comprehensive food security and vulnerability analyses (CFVSAs) and other VAM reports, the findings of recent EFSAs and other assessments that WFP may have participated in, and FSM. CFSAM teams may also refer to the WFP EFSAs Handbook for detailed guidance on particular topics. Whenever possible, the EFSAs or other in-country assessments of the food se-

curity situation at household level should be completed - and the findings available at least in draft - in advance of the CFSAM mission. The CFSAM team would then be able to include those findings in its evaluation and its integrated analysis of macro- and household-level information.

Inter-actions with other in-country assessments

In general, detailed in-country assessments should have been completed, or be in an advanced stage, before the CFSAM mission starts and the mission then examine and supplement, if necessary their findings.

In some cases, however, a CFSAM may be undertaken more-or-less at the same time as another food-security-related assessment (e.g. assessments conducted by the national Vulnerability Assessment Committees, VACs, in Southern Africa, or the government-led Meher or Belg season assessments in Ethiopia). In such instances, the FAO and WFP country offices and the government entities and other organizations involved must discuss the relationship between the two assessment processes and clearly define in advance the purpose and scope of work for the CFSAM.

Exceptionally, consideration may be given to scheduling the CFSAM in separate phases linked to an in-country assessment process. In Ethiopia, for example, three phases are proposed for the 2007/08 CFSAM: phase-1: crop assessment (mainly FAO); phase-2: food security & needs assessment (mainly Gov't & WFP); phase-3: joint FAO-WFP synthesis and report writing. This approach should work well if there are no major or pressing emergency humanitarian needs.

Where an in-country food security information system (**FSIS**) exists, the CFSAM team will use the FSIS data, amongst other, and work in a way that helps to strengthen the capacity of the system to eventually produce data of sufficient credibility that CFSAMs will no longer be required.

Where an integrated phase classification (**IPC**) system is being used (see Panel 1-3), the CFSAM team may use recent IPC analyses in drawing their conclusions. Similarly, information generated by CFSAMs (e.g. production estimates, market analysis) may be used as secondary data by others including any country/regional food security groups that may undertake IPC meta-analyses.

Panel 1-3

Integrated Phase Classification (IPC)

The IPC is a classification system for food security and humanitarian crisis situations based on a number of selected outcome indicators of human welfare (mortality rates, nutritional status, food availability/access, water availability and quality, security, etc.). It is a tool for meta-analysis of information from different sectors. This type of analysis has the potential to render assessment findings more consistent, comparable, transparent and easier to communicate.

Based on a “convergence of evidence” approach, geographic areas and social groups are categorized into one of five phases: generally food secure, chronically food insecure, acute food and livelihood crisis, humanitarian emergency, and famine/humanitarian

catastrophe. Additional process indicators are used to determine the likelihood of future changes and identify areas where there are low, moderate or high risks that the situation might deteriorate. Analysis templates are used to present both supporting evidence and counter-evidence, and each piece of evidence is ranked according to its perceived reliability or representativeness. The IPC also includes a Strategic Response Framework of measures to mitigate negative outcomes, protect livelihoods, and address structural causes of food insecurity.

Some key principles of IPC are also applicable to CFSAMs:

- analysis of food security indicators from different sources based on a “convergence of evidence” approach;
- documentation of data sources, including ranking of the analysts’ confidence in these data (where appropriate).

However, CFSAMs do *not* follow the IPC approach of “consensus” building but instead provide an independent expert assessment.

For details of the IPC tool,

see 🌐 The IPC Technical Manual, FAO Policy Brief Issue 3, June 2006

and the IPC website at: <http://www.ipcinfo.org>

2 Main CFSAM principles

Everyone involved in preparing for or participating in a CFSAM needs to understand and abide by the principles outlined.

2.1 Who's involved in a CFSAM

The CFSAM core team is composed of a small number of FAO and WFP staff members or consultants from outside the country but a large number of other in-country personnel also participate in and contribute to the CFSAM process both during the preparatory phase and during the mission itself. Missions are jointly led by FAO and WFP.

That core team is responsible for planning and managing the work of the mission - including finalizing the selection of sites to be visited - and for preparing the final report and recommendations. Observers and other personnel participate in and contribute to the preparations, the field visits and discussions during the mission and may comment on the mission's findings, but have no role in the finalization of the report and recommendations (see the *Guidelines for observers* in **Annex 5**).

Once the scope of work for a CFSAM and the dates of the mission have been agreed (see 4.2):

- FAO/GIEWS and the WFP regional bureau (RB), in consultation with WFP/FOOD SECURITY ANALYSIS SERVICE, agree on the composition of the core team (see Panel 2-1), designate the team leaders and staff or recruit consultants.
- The FAO and WFP country offices in collaboration with the government and other concerned agencies and institutions in the country undertake preparatory work and mobilize relevant in-country personnel to participate in that work and in the field visits to be undertaken during the mission (see 4.3).
- Donor governments are invited to assign observers to accompany the mission.

The mission duration is typically 4 weeks. All members of the core team should remain together for the entire period and compile at least a rough, complete first draft of the joint report before separating.

Panel 2-1

Core Team Composition

Team composition is adapted to the needs of the particular situation and the objectives and TOR defined for the CFSAM. However, the core team typically comprises:

- an agricultural economist and an agronomist provided by FAO/GIEWS; and
- a food security specialist and a markets specialist provided by WFP.

Other experts are included as needed:

- Where agricultural rehabilitation is clearly a priority, representatives from FAO's Emergency Operations Division (TCE) may join the team;
- Where livestock is an important sector or the assessment is to help determine requirements for agricultural or livestock rehabilitation activities, representatives of FAO's agriculture division (AGA) may join the team;

- In other instances, teams have included locally-recruited consultants on livestock or pastoral systems, markets or nutrition.
- When existing assistance programmes have been challenged or it is likely that major scaling-up of activities is required, programme management experts may be included.

2.2 Guiding principles

CFSAMs are undertaken on the basis of the principles outlined in Panel 2-2. They are broadly similar to those of WFP EFSAs, the Sphere standards and the Integrated Phase Classification (IPC) system outlines.

Maintaining *independence*, while also ensuring *participation* and *transparency*, is critical. The real value added by a CFSAM, compared with other types of project-based or national or donor-institution assessments, is the audit function it plays with respect to existing data and analyses and the fact that the conclusions and recommendations are not influenced by any political or institutional considerations. This independence of analysis and expression is an essential condition that must be accepted by any government requesting a CFSAM.

A CFSAM is a **joint** exercise between FAO and WFP and the core team is a joint team that should work together as a **team**, not as separate FAO and WFP teams (as was often the case up to 2006). **Annex 2** provides a summary of the respective contributions FAO and WFP team members can make by working together in relation to the main topics of the report.

Panel 2-2

Guiding Principles for CFSAMs

- **Government request:** CFSAMs (like other UN assessments) can only be undertaken in member States in response to a formal request from the government concerned.
- **FAO and WFP agreement:** Both partners agree that the assessment is necessary, and agree on the general nature and extent of the crisis.
- **Participation and transparency:** The preparatory phase and all visits and discussions during the mission are undertaken in a participatory and transparent fashion. The requesting government is responsible for facilitating the process by making information available to the team and experts to work with the team in the capital and in the field. Other interested parties including invited observers provide information, opinions and analysis, and react to the debriefing given by the core team upon return from the field visits and completion of their preliminary analysis. The core team documents its findings and recommendations, identifying the sources and limitations of the data available and the team's conclusions.
- **Independence:** Responsibility for the conclusions and recommendations of the mission, and the presentation of the same, rests with the core team members assigned or contracted by FAO and WFP and remains free from any political or institutional influence. The core team members alone prepare the draft report that is

then jointly reviewed, cleared and approved by FAO and WFP, at headquarters and regional levels, respectively.

- **Timeliness:** CFSAMs respect reasonable agronomic, completion and publication schedules. Assessment of domestic production is central to most CFSAMs, especially when local crops supply most of the country's food or income needs in normal times, so most missions take place at shortly before the main harvest when a reasonable assessment can be made of cultivated area, crop and pest conditions, and expected yields. Analyses must then be completed and the report issued quickly - in principle within 15 days of the end of the mission - in order to inform decision-making on response actions by national authorities, donors and aid agencies (including but not limited to FAO and WFP).
- **Credibility and rigour:** All secondary information provided by national institutions or NGOs and that from other recent assessments (including those in which FAO or WFP may have been involved) is critically reviewed for consistency, coverage, any calculation errors, and the soundness of the methods used for the data collection and analysis. Information is used and quoted in a CFSAM report only if the team finds it to be reliable and likely to be reasonably accurate. The team is rigorous and transparent in its own analyses and judgements. The data used are documented in a usable format and available for scrutiny. The report identifies sources and comments on the relative accuracy of the various data and on possible implications of inaccuracies.
- **Appropriate skills and instruments:** The combination of skills within the core team is tailored to the needs of each situation, and in-country skills are mobilized to complement those of the core team and ensure that the sub-teams constituted to undertake field visits also include appropriate combinations of skills. The data collection instruments used by field teams are adapted to the local context and focus on the objective of cross-checking and/or supplement already available data. Appropriate sampling methods are used to select the sites to be visited. All team members collecting data on particular topics use the same methods and data collection instruments.

Teamwork is essential. A CFSAM covers a range of topics related to food security and is charged to produce an integrated analysis. While individual members of the core team and sub-teams constituted for fieldwork have their own expertise and specializations and, at times, must fulfil very specific technical functions (such as cutting and weighing crop samples for yield estimates, for example), all must work together as members of a single, integrated team throughout the duration of the mission.

This means recognizing the importance of each member's contribution and actively seeking ways to facilitate - and in some cases support - each other's investigations/data collection as well as holding joint interviews with certain key informants or community groups, exchanging information, discussing findings and their implications, and together resolving any practical problems that arise. At the very least, all mission members should meet together at the end of each day to exchange information and discuss implications for continuing data collection and the various elements of the overall analysis and report.

3 CFSAM concepts, methods and processes

Everyone participating in a CFSAM, including national personnel and observers, should be familiar with the concepts and approaches outlined.

3.1 Food availability, access and markets

The principal components of food security are food **availability**, food **access** and food **utilization**. CFSAMs focus on availability and utilization at the national level (and sometimes at sub-national levels) and access (and to a lesser extent utilization) at the household level. The focus for a CFSAM is particularly on **changes** compared with what would be “normal”, the implications of those changes, and what should be done in the short term to restore an acceptable level of food security.

Food availability - aggregate supplies

Aggregate food availability - the quantity of food available for human consumption - is determined by domestic food production (including all small farmers and commercial farms), trade (the balance of food imports and exports), stocks, food aid imports (if any), the quantities used for other purposes (including seed, animal feed and industrial uses), and losses.

- Changes in domestic production are influenced, amongst other things, by climatic conditions, the availability of seeds and other inputs, security conditions and government agricultural policies.
- Trade (both internal among surplus and deficit areas and external with neighbouring countries and world markets) is influenced by prices, demand, transport and storage capacities, transaction costs, the availability of foreign exchange, logistics and security conditions, and government trade and foreign exchange policies.
- Changes in the quantities used for “other”, non-food purposes are influenced, amongst other things, by general macro-economic and security conditions.
- Losses are particularly influenced by climatic conditions, security, and storage conditions, which may in turn depend on the quantities to be stored.

Household food security

Households access food through a combination of: their own production (of crops, livestock or fish farms); hunting, fishing or gathering wild foods; barter exchange or purchases from the market; foods received through social networks and, when necessary, aid received from government and humanitarian agencies.

- Own production depends on, amongst other things, the availability of seeds and other inputs, climatic and security conditions, and household assets (land, tools, able-bodied family members, and cash to buy inputs).
- Food purchases depend on prices, cash income (or reserves) and other competing, essential expenditures (for shelter, health care, education, other non-food needs, debt repayments and other social obligations).

- Cash income may come from one or more of: sale of crops (food or cash crops); sale of livestock or livestock products; paid employment; casual labour; petty trading; the sale of collected products (e.g. fish, wild foods, firewood); sale of artisan or other non-agricultural household products; cash received from social networks, including remittances from abroad; and, in some cases, receipts from government or NGO cash transfer programmes or cash-for-work projects. With the exception of any remittances or other cash transfers received, cash income depends on employment and other income-generating opportunities available, household assets (human resources within the household, tools, cash to buy inputs) and access to community assets (such as water and forests) and functioning markets.

Household food access is closely linked to **livelihood strategies**. Households react - adapt - to crises by drawing on reserves, if they have any, expanding those livelihood activities that can be expanded at least temporarily, and adopting other **coping strategies** that are available to them. The livelihood and coping strategies available to a household depend on the physical, legal, economic and social environment, and the household's own assets.

An assessment needs to understand what has changed in the various elements of households' livelihood activities and food access systems and the various factors that influence them. The analysis must describe and, to the extent possible, quantify the impacts on households' food access and the extent to which they have been able to adapt and "cope" including the short- and long-term sustainability of the coping strategies adopted. It must also identify and understand the underlying causes of the vulnerability of the affected population groups. This requires an understanding of **seasonal calendar(s)** for the areas and livelihoods concerned and, especially for a slow-onset or protracted crisis, the **historical timeline** of events that have influenced the food security situation.

An assessment must also: (i) consider any **protection** and **environmental** concerns - any risks to the safety and security of the population and the environment - that may constrain households' food access and/or affect the appropriateness and feasibility of particular household coping strategies and assistance response options, and (ii) try to distinguish between chronic and transitory food insecurity (see section 3.6 below) when formulating recommendations for an assistance strategy.

Agricultural production is critical to both aggregate food availability and the food security of many rural households.

Markets

Markets - and market prices - determine the incomes of farming households with a saleable surplus, the quantities of food that food-deficit households can purchase with given resources, and whether food is moved from surplus to deficit areas within the country. At the same time, external trade substantially influences availability in many countries through food imports and exports. Some examples of the importance of markets are given in Panel 3-1.

Prices are determined by the inter-action of effective demand and market supply but are also influenced at sub-national levels by the level of integration and competitive-

ness of markets, transaction costs of trading (buying, transport, storage, selling), profit margins and, possibly, policies. Transaction costs may also be influenced by any administrative, logistical, security or financial constraints on trade.

“Factor” markets also determine the availability and price of agricultural inputs in local markets. A CFSAM focuses primarily on food markets but must also consider labour and other markets that are critical for food security.

Panel 3-1

Why Markets Matter

Markets can smooth the differences in availability and prices between deficit regions and nearby surplus areas. Whether and to what extent they contribute to resolving food shortages in a deficit area depends on the **effective demand** in the deficit area, the **structure, integration and performance** of the markets chains involved, and transaction costs:

- When transaction costs are too high, the flows from surplus to deficit areas are limited. High transaction costs also push up prices in the receiving, deficit areas so that few consumers can take advantage of the food brought in.
- Scarce food may actually flow out of a globally deficit country when food prices are higher in a neighbouring country where effective demand is stronger. In such cases, good market integration may work against the interest of net-consuming households in the poorer country.

Markets enable **commercial imports** (registered as well as unregistered) to bring food into a food-deficit country to partly off-set a shortfall in domestic production, provided trade policies do not prevent or interfere with such movements.

Food **prices and incomes** are the main determinants of most households’ access while also influencing trade flows. Understanding how the structure, integration and efficiency of local and national markets influence prices across space and time helps gauge how trends and changes in food availability and trade flows (will) impact on households.

Where food or non-food transfers or subsidized sales are ongoing, markets often provide indications of the **impact** of those **food security interventions**. To the extent that such operations subtract from demand or add to aggregate supply and find their way onto markets, they influence prices, the food budgets of targeted and non-targeted households alike, and the actions of traders. Even quick local market surveys can help identify such (unintended) impacts.

A proper market analysis is thus necessary to derive a sound assessment of the food security situation and recommend appropriate response options.

3.2 Components of an analysis of crop production and food security

Building on the elements outlined above, a CFSAM examines:

- agricultural production (including staple food crops, cash crops and livestock);
- market conditions including prices;
- the aggregate food supply-demand balance at national (and sometimes at sub-national) level; *and*
- household food (and livelihood) security for each of the distinct crisis-affected population groups.

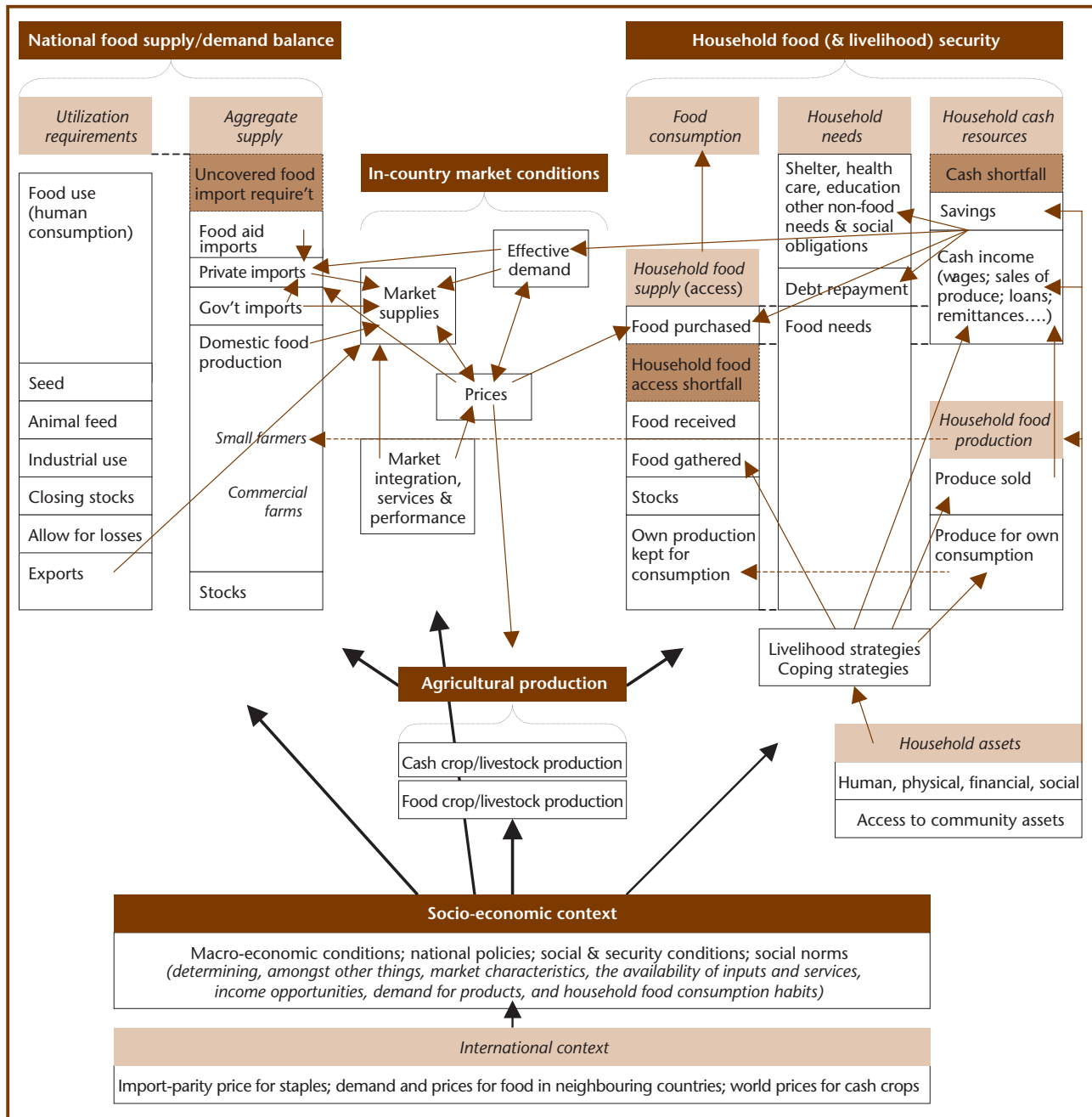
Figure 3a shows the main (but not all) elements of each of the four components, or “themes”, listed above plus the socio-economic context as an underlying determinant of all of them. The arrows indicate some of the more important inter-relationships and influences among the various elements:

- The components relating to the national food supply-demand balance [top left] and household food (and livelihood) security [top right], show requirements, the supplies or resources actually available, and the differences between supply and requirements that represent shortfalls.
- Agricultural production is a critical contributor to both national and household food supplies, and markets are the link - serve as the mediator - between the aggregate and household levels with prices in the centre influencing both aggregate supplies and household food purchases.
- Household assets and livelihood strategies are underlying determinants of household food security. Note that there can be a trade-off at the household level between food access shortfalls and shortfalls of cash for other essential needs, which are two components of a general household resource shortfall.

The diagram does not show all the possible elements and linkages but serves as an overall analytical framework for analysing the consequences of the crisis, identifying underlying problems, and forecasting changes during the coming year. Note that the relationships are **dynamic**, not static. For example: a reduction in production may lead to reduced market supplies, higher prices, therefore more imports which increase supplies and push prices down, etc..

It is the task of the CFSAM team, on the basis of available information and its own observations and enquiries, to: (i) determine the nature of the crisis and how the shock has affected production, markets, imports, prices, and livelihoods - hence food availability and household food security/access - both directly and indirectly; (ii) **look forward** and make projections for the coming marketing year; and (iii) determine what responses would be most appropriate and feasible to ensure both adequate availability and access throughout the coming year.

Figure 3a Components of - and framework for - a crop and food security analysis



3.3 The impact of “shocks” on food supply, demand and prices

Changes, either sudden or slow/progressive, in any of the elements in Figure 3a can affect food availability and/or household food security and access.

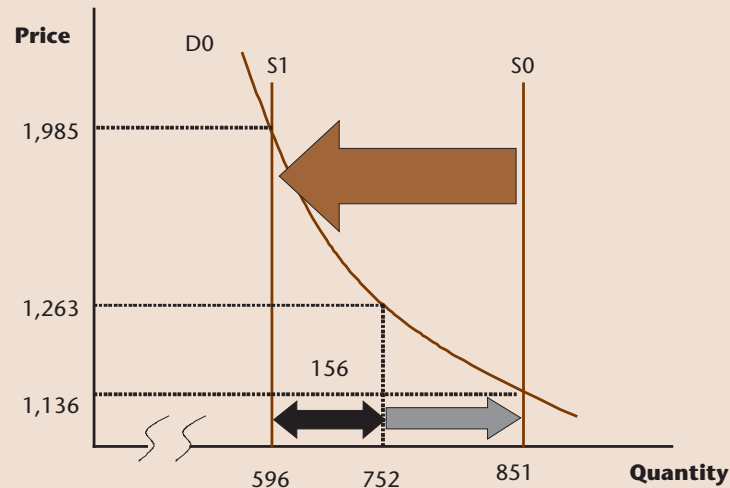
For example, a **supply shock** in the form of local production failure (due to drought, pests or insecurity) typically leads to the following sequence of events that is illustrated in Panel 3-2:

- a marked increase in food *prices* and, simultaneously, a decrease in agricultural and rural *incomes*;
- increased private commercial *inflows* as traders seek to profit from the difference between the high local prices and lower prices in other, surplus areas, in neighbouring countries or on the world market;

- a reduction in food *prices* (to the extent that commercial imports increase supplies) but prices remain higher and incomes lower than in a “normal” year, and aggregate availability is also lower than usual ... and many consumers may still be unable to maintain their consumption at pre-crisis levels due to decreases in their purchasing power.

Panel 3-2

Supply/demand changes following a production shortfall



In this simple example, a production shock reduces aggregate grain supply from S_0 (= 851, its level in a “normal” or reference year) to S_1 (= 596). The aggregate demand curve (D_0) remains unchanged,¹ however, so that, in the short term, the price increases to 1,985 after allowing for a partial substitution of demand away from maize into a substitute such as cassava. The new price is substantially higher than the import parity price (the cost to bring the commodity from the world market or a nearby surplus country) so traders take advantage of the potential profit to be made and organize commercial imports. These increase domestic supply from 596 to 752 which brings the price down to 1,263. The difference between the import parity price and the new equilibrium price of 1,263 is due to transport and marketing costs, taxes, and traders’ profit margins.

To bring total supplies and the equilibrium price to what they would be in a “normal” year, the domestic supply would need to be further increased from 752 to 851. This could be done by releases from government emergency stocks, additional public sector imports which are sold at subsidized prices, or food aid imports (assuming that food aid is not entirely restricted to people who are both chronically food insecure and extremely destitute).

However, if such releases or imports exceed - or are expected by traders to exceed - a certain level, they may significantly reduce the level of private commercial imports and lead to a reduction in overall supplies. The same holds if traders expect that public sector imports will be put on the market at heavily subsidized prices. In fact, any uncertainty about the amount of food aid imports or government releases would lower private commercial imports.

¹ This is assumed for the sake of simplicity. In reality, a shortfall in production would also induce an income effect lowering aggregate demand.

An **economic shock** provoked, for example, by a sharp decrease in the world price for a critical export cash crop, implies a commensurate (or even greater) decrease in the incomes for households producing the crop, and lower export earnings and foreign exchange revenues for the country. With reduced incomes, affected households usually switch to less-expensive, alternative basic foods and may even have to lower their food consumption. The lower effective demand exerts downward pressure on prices and leads to reduced potential for private commercial imports. Lower national export earnings would also imply lower public sector food imports, hence a further reduction in aggregate food supply.

Households that have **limited opportunities and capacities** to adapt livelihood strategies and depend on their own production for food consumption are very vulnerable to production losses. Similarly, a price increase in the major staple will particularly affect those households that are very dependent on purchasing this food crop for consumption. Households that depend on income from the sales of a cash crop to buy food are vulnerable to a shock that affects the cash crop price.

However, vulnerability to market shocks cannot be captured through one single food security indicator as the same household can be positively or negatively affected by different market shocks. For example, an increase in food prices will hurt many households, but an increase in cash crops prices might benefit some of the same households. **Cross-tabulations** are therefore an important way to describe vulnerability to market-related shocks for households with different food security profiles.

3.4 Effective demand

Effective demand is the actual economic demand for particular goods or services that is supported by a capacity to purchase. It is a combination of the felt needs of consumers and their purchasing power.

Effective demand exerted by buyers/consumers interacts with available supplies to determine prices, as shown in Panel 3-2. Prices then influence supplies in two ways:

- Traders' perceptions of effective demand and future price levels influence their trading decisions and therefore the level of private commercial imports during the coming year.
- Farmers' perceptions of effective demand and their expectations of farm-gate prices influence their decisions on what crops to plant and what areas to plant, and therefore the level of domestic food production in the coming year (as farmers adjust planted areas and/or switch crops).

For CFSAM purposes, the level of effective demand determines the proportion of total import requirement ($Q - Q_1$) that can be expected to be covered by commercial imports (Q_2) and the residual (Q_3) that remains uncovered, as illustrated in the Figure in Panel 3-2; $Q_1=596$, $Q_2=156$, $Q_3=99$:

Relation between effective demand, commercial imports and the uncovered import requirement (from Figure in Panel 3-2)

| | | |
|--|---|---|
| Total requirement for human consumption (Q) | | |
| Domestic production and stocks (net of closing stock requirements) available for human consumption (Q_1) | Total import requirement | |
| | Commercial imports for human consumption ($Q_{2'}$) | Uncovered import requirement ($Q_{3'}$) |
| <i>Effective demand (quantity)</i> | | |

In some situations it may be possible to increase purchasing power - effective demand - through cash transfers, or other non-food transfers that enable households to reduce other essential expenditures, thus reducing the need for food transfers and food aid imports, see the example in Panel 3-4. In other instances, some of the “imported food aid requirement” ($Q_{3'}$) might be met through budget support to enable the government to import commercially.

Guidance on estimating effective demand is included in section 8.3.

Note that **debt repayments** can absorb much of the income of poor farmers (and other households) thereby reducing effective demand. Furthermore, farmers who have to sell a part of their harvest to meet other obligations and then purchase from the market later in the year can be faced with higher prices at that time (see Panels 3-3 and 3-4).

Panel 3-3

Effective demand in Ethiopia, 2006/2007

Ethiopia enjoyed three consecutive years of above-average grain production from 2004 to 2006 due to favourable rainfall, increased use of fertilizer and improved seeds, and an expansion in cultivated area. Normally, above average harvests are followed by a drastic decline in grain prices, which can adversely affect smallholder farmers who are compelled to sell early-on to repay debts and buy essential goods and services. During the period 2004 to 2006, however, there was an unusual increase in grain prices, well above their previous average levels. By the end of 2006 real monthly wholesale prices for most cereals reached record levels with an increase of 20 to 30 percent in comparison to the previous year, which was already above average.

Several factors are thought to explain this unusual behaviour, in terms of both effective demand and supply:

- Increased liquidity in the economy due to the partially-cash-based assistance provided through safety net programmes involving more than 5 million people, and enhanced budgetary support at district (woreda) level.
- Increased income from strong and broad-based economic growth since 2004.
- Higher pro-poor expenditures, especially in education, agriculture and road construction.

- Enhanced exports, particularly to Somalia and Djibouti, as well as to more distant foreign markets.
- High livestock prices resulting in greater purchasing power for pastoralists and agro-pastoralists.
- Local purchases by various institutions - government agencies, agricultural cooperatives and major relief agencies - although relatively limited compared to the total marketable surplus of grains.
- Finally, farmers staggered sales of produce after the harvest following relaxation of credit repayment requirements.

The result was sustained and relatively high grain prices that, although beneficial to surplus crop producing households, negatively affected the poorer, net-grain-buying households that had not participated in the economic expansion.

Panel 3-4

Effective demand in Niger, 2005/2006

Niger suffered a combination of drought and desert locusts in 2004. The fall in domestic supply coincided with several factors pushing up cereal prices through most of west Africa and resulted in record high prices. Even with sharply reduced food consumption levels, many Nigerien families had to borrow extensively in order to survive.

The following year was one of very good production and prices fell back to their historical levels but most households had to give up a major part of their new production to repay their 2004 debts. As a result, although aggregate supply in 2005 was plentiful and prices were relatively low, many households lacked purchasing power and had to sell-off assets plunging them into even deeper chronic poverty and food insecurity. The need in 2005 was to enable those households to earn enough money to buy back the food they had produced but used to repay their debts.

3.5 Market integration and performance

Whether and to what extent markets contribute to resolving food shortages in a deficit area by bringing food in from surplus areas depends on the effective demand in the deficit area (see above) and the levels of integration and performance of the markets themselves.

Market **integration** is a measure of the extent to which markets in different areas are linked:

- When markets are *integrated*, commodities flow between them if the price differential is greater than the transaction costs that would be involved and there is, in addition, a reasonable profit margin. In integrated markets, price differentials are closely related to the transaction costs and price movements follow similar patterns - there is "co-movement".

- Markets are *not* integrated if they are effectively isolated from each other, there is no flow of commodities between them and prices move independently of the differences in transaction costs.

Understanding whether markets are well integrated within the country, or with markets across a border in neighbouring countries, is critical to understanding and forecasting food prices and the flows of commodities within the country and across its borders, and therefore to projecting both food availability and access. The degree of market integration affects the estimates for the required amount of food aid because traders might be able to meet part of the food needs of the disaster-affected people. This also helps determine where local purchases, if appropriate, might be undertaken - see chapter 8.

Market **performance** is a measure of the extent to which the market makes food available to meet demand. When markets perform well, households that have cash are able to find and buy what they need, at prices that reflect the traders' costs plus a reasonable trading margin (profit). When markets are not performing well, such households are either unable to find sufficient food on local markets or can find it only at excessively high prices that include unreasonably high trading margins.

In addition to market integration, the following aspects are critical to determining market performance, prices and commodity flows:

- **market structure** - the different actors in the supply chain and their roles, the linkage between markets by transport, storage and communication infrastructure;
- the level of **competition** - the number of traders and the extent to which markets are competitive and permit entry by new actors, or are controlled by a few actors who exercise monopoly, oligopoly or monopsony power; *and*
- the availability of **market services** - especially banking and credit - that influence traders' ability to operate.

3.6 Interactions between private and public imports and food assistance requirements

In most (liberalized) economies today, traders' perceptions of effective demand, potential profits and commercial risks are the main determinants of external and internal trade flows in staple foods. But these perceptions are heavily influenced by:

- the nature and consistency of government policies affecting food production and trade, and the extent of enforcement of related regulations, which affect the possibilities and costs (and therefore the profits) of trading; *and*
- the extent and predictability of government food supply interventions and food aid provisions, which affect overall supply-demand conditions and, therefore, prices and potential profits (or losses) for traders; *in addition to*
- overall macro-economic conditions and government fiscal policies and priorities, which affect the level and stability of effective demand as well as the condition of the infrastructure on which trade flows depend.

There are, therefore, important interactions between private-sector commercial imports, government (public-sector) policies and imports, and food aid imports. The CFSAM team must understand and describe these inter-relationships in order to be able to make reasonable estimates and appropriate recommendations.

It is also important to understand government **trade policies** and the **motivations** behind them, and government **budget allocations** and the **motivations** behind them. Exports that increase the food deficit might be allowed (even encouraged) as a means of procuring foreign exchange in order to purchase non-farm goods from abroad. The government of a poor country with few budgetary resources - or which allocates its scarce budgetary resources to non-food priorities - may also reduce allocations for commercial food imports as much as possible in an attempt to secure a maximum of international food aid for the coming year. Meanwhile, private traders will be in a state of uncertainty and act very cautiously.

These complex interactions make forecasting of commercial imports extremely difficult. It is also very sensitive and CFSAM teams **bear a heavy responsibility** as their analysis and report may influence the actions of the government and private traders as well as WFP and other providers of international food aid!

An open, transparent dialogue with the government, donors, international institutions and representatives of private sector stakeholders is necessary to ensure the best possible information, reduce uncertainties as much as possible, maximize coordination, and minimize the risks of negative repercussions.

3.7 Chronic and transitory food insecurity at the household level

Food insecurity (at the household level) may be “chronic” or “transitory”. It is the length of *time* during which households have been food insecure and their *capacity to recover* that determine whether their food insecurity is transitory or chronic:

- **Chronic food insecurity** is a long-term or persistent inability to meet minimum food consumption requirements.
- **Transitory food insecurity** is a short-term or temporary inability to meet minimum food requirements (indicating a capacity to recover). As far as a CFSAM is concerned, it is *crisis-induced* food insecurity.

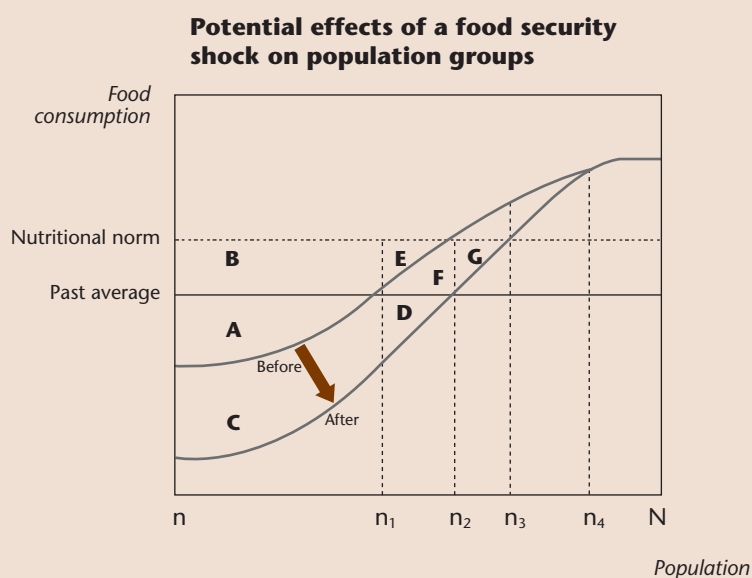
In general, a shock makes chronically-food-insecure households even more food-insecure while making some households that were previously food-secure temporarily (transitorily) food-insecure. In many crisis situations, many of the chronically food-insecure can be expected to suffer worst with a serious deepening of their food insecurity. Sometimes the situation of some chronically-food-insecure households may not be greatly affected, while some households that were previously food-secure may be left without any means to recover and their new food-insecurity status may not be temporary.

The challenge for a CFSAM is to assess both: (i) the change in degree of severity of food insecurity due to the crisis among those who were already food-insecure before the crisis; and (ii) the extent and expected duration of crisis-induced food insecurity among those who were previously food-secure.

Panel 3-5 illustrates and describes a typical consumption distribution curve for a poor country where there are many chronically-food-insecure people, and how the curve - the food security conditions of different groups - may change during a crisis. Note that the shape of the curve changes: the food consumption of people with a higher normal consumption (the wealthier) is less affected than that of people whose consumption is normally low (the poor). It is therefore important to consider the different impacts on various wealth classes and livelihood groups when analysing food insecurity at the household level and developing recommendations for targeting. For a more detailed analysis of changes in the distribution of consumption including the different effects of reduced per capita supply and changes in inequality of access, see **Technical Note F9**.

Panel 3-5

Effects of a food security shock on chronically-food-insecure and other population groups



A = Chronic food consumption gap relative to country past average for population $n-n_1$

B = Additional chronic food consumption gap relative to nutritional norm for population $n-n_1$

C = New, additional, "transitory" food consumption gap for population $n-n_1$ (deepening of their pre-existing level of chronic food insecurity)

D = New food gap for population n_1-n_2 who were food-secure relative to the past average. Note that area "D" could be much larger than depicted: the curve segment after shock might be much lower.

E = Chronic food gap relative to nutritional norm for population n_1-n_2

F = New food gap relative to nutritional norm for population n_1-n_2

G = New food gap relative to nutritional norm for population n_2-n_3 (previously food-secure relative to that norm)

Implications for assistance:

- Population segment $n-n_1$ was chronically food insecure in relation to both the past average and the nutritional norm. Assistance equivalent to area C would need to be targeted to them to restore them to their previous (low) level of consumption, A+C to bring them up to the past national average, and B+A+C to bring them up to the nutritional norm.
- Population segment n_1-n_2 was food secure in relation to the past average but chronically food insecure in relation to the nutritional norm. Assistance equivalent to area D would need to be targeted to them to bring them up to the past average,

F+D to bring them back to their previous level of consumption, and E+F+D to bring them up to the nutritional norm.

- Population segment n_2 - n_3 previously consumed above the nutritional norm but would now need assistance equivalent to area G to bring them back to that norm.
- Assistance equivalent to areas A+C+D, targeted to segments n - n_2 , would therefore be required to bring those groups up to the past average. Additional assistance equivalent to areas B+E+F+G would be needed to bring segments n - n_3 up to the nutritional norm. (Being above their previous consumption levels, this might enable them to improve their nutritional status or build up some assets/reserves).

Population segment n_3 - n_4 remains above the nutritional norm and does not need assistance. (However, they would be entitled to assistance if it was to be targeted to “affected” populations rather than criteria based on consumption.)

Population segment, n_4 -N has sufficient income or reserves to maintain consumption in spite of increased prices. They do not need assistance. (However, they might still benefit - to the detriment of others - if the planning or implementation of targeting arrangements is inadequate.)

For further details concerning the analysis of chronic and transitory food insecurity, see 🌐 WFP/FOOD SECURITY ANALYSIS SERVICE Technical Guidance Sheet No.5, *Chronic, Transitory, and Vulnerability to, Food Insecurity*.

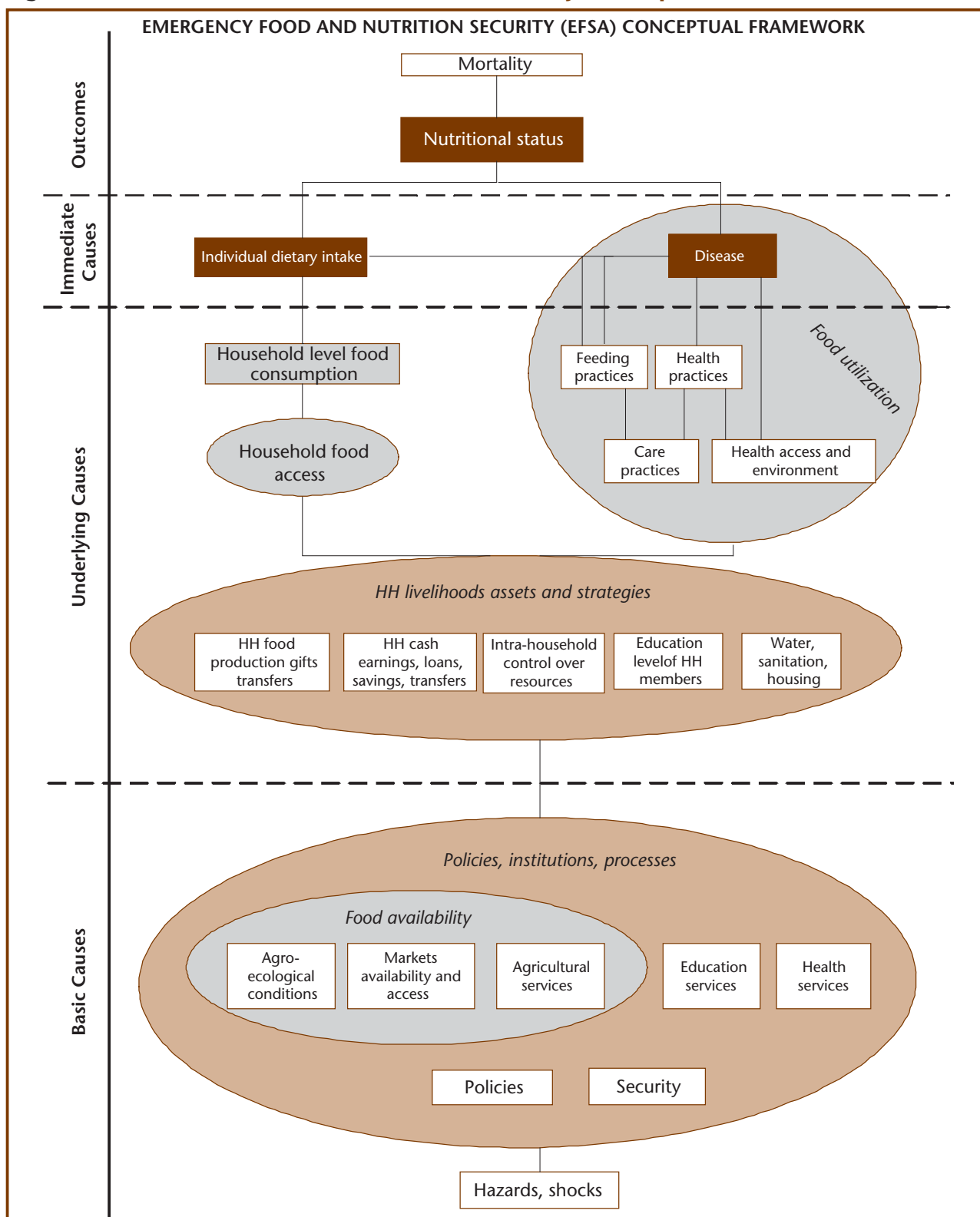
In principle, emergency assistance is intended to compensate for the negative impact of a shock. However, it is often difficult to isolate this effect of shock from chronic food insecurity, which needs to be addressed through long-term developmental assistance. This distinction is important and a CFSAM team must endeavour to differentiate as much as possible the chronic and transitory elements in currently-observed levels of food insecurity. In practice, however, it may not be possible, or socially acceptable, to exclude the chronically-food-insecure from the emergency relief response. In practice, it may be impossible to design and target emergency assistance to compensate *only* for reductions in food access which are direct results of the shock.

3.8 Nutrition and food security

Household food security is one of the principal determinants of nutritional status, the others being socio-cultural norms with regard to food, care practices (feeding practices and health-related practices), access to health care, and the health environment (water, sanitation, etc.). This is shown in Figure 3b which also shows, at the bottom, the contextual factors that influence many of the factors listed.

CFSAM teams are *not* expected to assess or make judgements on nutritional status. They *are* expected to review available nutritional status data and trends and, based on information from key informants and existing reports, to take account of the presence and distribution of malnutrition when formulating recommendations for action to address problems of food insecurity among households in particular population groups.

Figure 3b WFP EFSa nutrition and food security conceptual framework

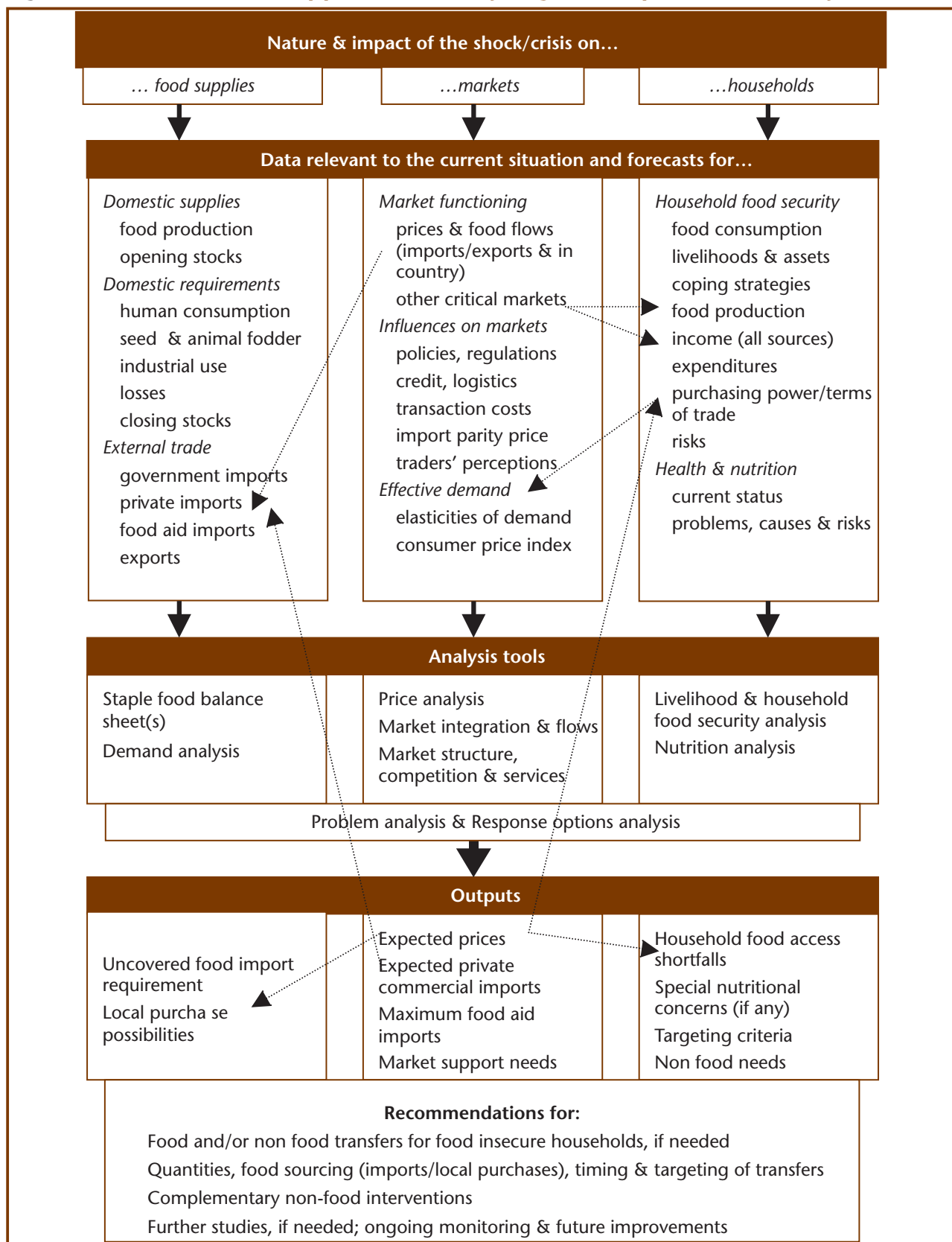


3.9 CFSAM approach and methods

Figure 3c outlines the **overall approach** to gathering data on and analysing the situation in relation to the 3 main elements discussed in section 3.1 and illustrated in Figure 3a - aggregate food supplies (including agricultural production and the supply/demand balance), markets and trade, and livelihoods and household food access.

It shows the process of bringing the separate analyses together through an overall problem and response options analysis to formulate an integrated set of recommendations. The arrows show the progression of the process within each “vertical” element and the cross-links between them.

Figure 3c Overall CFSAM approach to analysing the crop & food security situation



Methods for collecting data

As noted in section 1.1, the focus of a CFSAM is on cross-checking and verifying data from all possible sources in order to arrive at the best possible analysis and recommendations. The overall approach for collecting data during a CFSAM comprises:

- **Review of secondary data** (including analyses and forecasts, and remote-sensing data for crops), checking their coverage and identifying any gaps, looking for any possible errors in calculation or interpretation, checking for consistency between data from different sources;
- **Key informant interviews in the capital** to discuss current production prospects and recent policy developments, gather documents/studies and data/statistics on trade, prices, meteorology, the general economic situation, household food security and vulnerability, rural credit, agricultural inputs, etc.;
- **Field visits** to observe conditions, estimate crop yields, examine stocks, and interview a wide range of key informants, extension workers, traders and households.

Visits are made not only to areas where the direct effects of the shock/crisis have been most severe but also to some areas that are less affected and ones where production and market capacities may exist that can help to respond to needs in the affected areas. In general:

- **Multidisciplinary** teams with skills and experience in all of the 3 main CFSAM themes visit a broad sample - as many as possible - of the distinct agro-ecological zones within the affected area(s) and, within each, a sample of sub-zones that have been severely-affected, moderately-affected, and less-affected by the shock/crisis. Particular attention is given to any areas not covered by existing assessments but considered to be important on the basis of information from key informants or other sources. Team members work together as teams - not as individual experts - and use common, agreed checklists and data recording formats while giving particular attention to their own topics, see Panel 3-6.
- **Agricultural** sub-teams/agronomists *also* visit a broad sample of areas in other, unaffected parts of the country that are normally surplus producing areas - ideally all such zones.
- **Market** specialists *also* visit a broad sample of the main market centres in the areas surrounding the affected areas, and entry points for external trade - ideally all such locations.

A CFSAM generally does not have the resources and does not attempt to gather statistically-representative agricultural or household data. It does **check crops** and conduct **semi-structured interviews** with a number of randomly-selected farmers and households - typically 100 to 200 - in **purposively-selected sites/communities**. The findings, together with information from key-informant interviews in both the capital and the field, enable the team to make expert judgements concerning the reliability of existing assessments and other secondary data available, the expected level of production, the likely behaviour of markets, and the numbers and needs of food-insecure households.

Annex 17 provides an example of a standard **interview guide/recording format** that may be used by all members of multi-disciplinary teams after adaptation to local needs. The use of such a common checklist and structured recording format enables team members to back-stop each other in data collection and facilitates the analysis of the data collected including the identification of cross-linkages among the themes. Additional, more detailed information may be collected by individual specialists, especially market specialists.

Scenario building is used at the outset to help identify the key aspects that the CFSAM should focus on when defining the objectives and scope of work, early in the mission to help define the data that field teams should collect, and towards the end when the team projects forward to develop the food balance sheets, estimate household food access shortfalls, analyse response options and formulate recommendations.

Panel 3-6

Organization of work within multi-disciplinary field teams visiting crisis-affected areas

All team members **travel and work together** conducting joint meetings and interviews as much as possible. However, to save time, they may split up at times during the day to meet simultaneously with different key informants and, when together at field sites (villages, IDP camps, etc.), hold discussions with different farmers, households or traders, or inspect stocks, crops and livestock. They should meet together every evening to exchange information and discuss the implications of the day's findings for each others' area of focus and issues that need to be followed up in visits during the coming days. Within that "team" framework:

Agronomists and other **agricultural-production-focused** team members concentrate on:

- *interviewing key informants* (agricultural officers, extension workers, NGOs working in agriculture and rural development) concerning the status of and prospects for crops and livestock;
- *observing* the condition of standing crops, and taking random samples to estimate yields;
- *observing* the condition of livestock;
- *discussing* conditions and prospects with farmers and livestock owners individually and in groups, collecting both agricultural and household data; *and*
- *observing* conditions in markets and getting data on prices for grain and livestock in local markets.

Food-security-specialists and other **household-food-security-focused** team members concentrate on:

- *interviewing key informants* (local government officials, community leaders, community development and health extension workers, NGOs, etc.) concerning food supply, household food security and nutritional conditions;
- *observing* food supply and nutritional conditions at household level;

- *interviewing* community groups and a small sample of households from each of the main population groups of interest in both rural and urban areas concerning their present food security and prospects, collecting both household and (in rural areas) agricultural data; *and*
- *observing* conditions in markets and *interviewing* a sample (purposively selected) of traders in local markets.

Economists and other **market-focused** team members concentrate on:

- *observing* food stock levels and conditions in government and private commercial warehouses and grain mills, checking stock records and interviewing managers;
- *observing* conditions in markets and *interviewing* a sample (purposively selected) of wholesale and retail traders at district and local levels.
- *interviewing key informants* (district-level officers of ministries of food and commerce, local representatives of major grain importers, clearing and forwarding agents, transport companies) concerning current stocks, current and expected flows to and from other parts of the country or neighbouring countries, in-country logistics and the functioning of wholesale markets; *and*
- *visiting* ports and locations where cross-border trade takes place to *observe* stocks and flows and *interview* officials and traders concerning current stocks, planned imports and exports, current and expected unregistered flows to and from neighbouring countries.

Food security specialists and economists also look at the appropriateness and effectiveness of ongoing food-security assistance activities, the extent to which those activities could be expanded, if needed, and the capacities of other organizations and systems that might be mobilized if larger quantities of assistance, or different types of assistance, might be found to be necessary.

Methods for analysing data

A variety of methods is used for analysing data relating to specific aspects as shown in Panel 3-7. In all cases, the analysis starts by **triangulating** data from all sources - as illustrated in Figure 3d and explained in Panel 3-8.

Details of the analyses of agricultural production, market conditions, and the preparation of staple food balance sheets are given in chapters 7 to 12.

There is no single, internationally-accepted method for assessing the **household food security** situation among crisis-affected population groups and estimating their food access shortfalls and hence their needs for food-security-related assistance. Some of the principal methods currently used by WFP or other agencies are outlined in **Annex 16**. There are three main types: assessments based on proxy indicators of food consumption (diet diversity, food frequency, or a coping strategies index); household economy rapid appraisals, and "food poverty" (purchasing power) approaches.

As described in chapter 13, a CFSAM team:

- reviews the methods, findings and conclusions of recent household food security assessments and other secondary data (including pre-crisis baseline data, recent nu-

tritional surveys, and programme monitoring and evaluation reports), interviews key informants at all levels, and gathers data on a few, selected indicators from communities and households in each zone, *and*

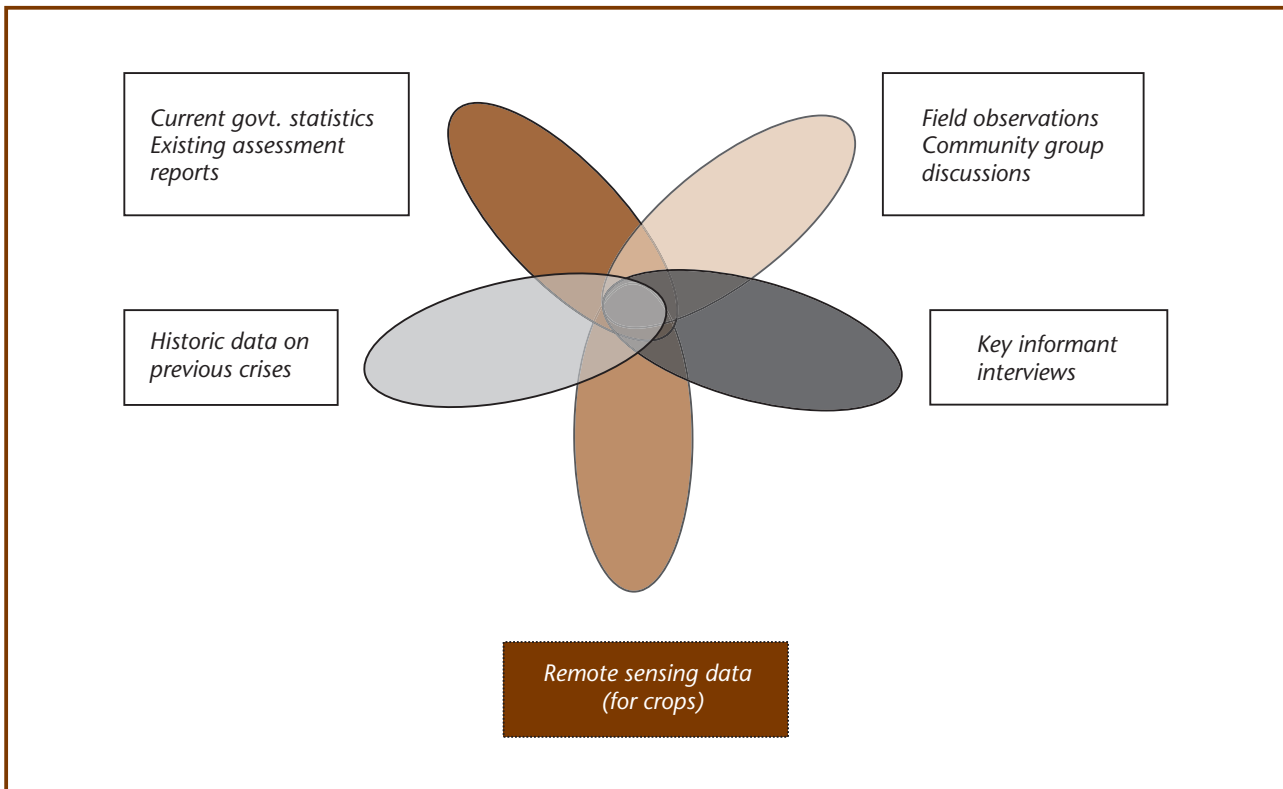
- provides its own analysis of all the data available, develops its own conclusions concerning the nature, severity and distribution of food insecurity among the affected population groups, and makes its own recommendations for response.

A CFSAM team is not expected - and does not have the time - to conduct a household food security assessment as such. When drawing conclusions in relation to food security, the team takes account of information on nutritional status, the causes of malnutrition and, in particular, any evidence that malnutrition may be due to inadequate household food access.

| Panel 3-7 | | |
|--|--------------|--------------------------------------|
| Methods for analysing data | | |
| Type of Analysis | In ALL cases | When required |
| Agricultural production (see chapter 7) | | |
| Agro-climatologic modelling and satellite imagery are combined to obtain a pre-CFSAM understanding of production levels. This information is used as an aid to select areas to be visited and, once collected, the field data may be used to verify the model or calibrate the satellite data in order to derive an independent estimate of yields, planted areas and hence food production. | ☑ | Especially in cases of crop failure. |
| Prices and market conditions (see chapter 8) | | |
| A price analysis to identify trends, seasonality and price differences among areas. | ☑ | |
| A demand analysis to identify changes and trends in effective demand that will influence traders' decisions on imports and in-country trade. Where data are available, a partial equilibrium supply/demand and trade spreadsheet (such as the one described in Technical Note F7) may be used to simulate (forecast) price movements for the main staple foods, potential levels of private commercial food imports, and the maximum quantity of food aid that could be imported without undesirable effects on markets. | ☑ | |
| A market flows analysis to identify the directions and quantities of food movements within the country and across borders with neighbouring countries and, more particularly, changes in such movements compared with what would be normal for the season. | ☑ | |

| | | |
|--|-------------------------------------|--|
| <p>A market structure, integration and performance analysis may be undertaken to understand, together with the flows analysis, how markets are functioning, how they have been affected by and have responded to the crisis, and the extent to which markets could meet current needs if purchasing power were available.</p> | | <p>If relevant information is not already available or if prices for the main staple foods are found to vary considerably among different areas.</p> |
| <p>Household food (& livelihood) security ...and nutrition (see chapter 13)</p> | | |
| <p>A household food (& livelihood) security analysis to determine the impact on and the current and foreseeable needs of different population groups, and to identify vulnerabilities to possible future risks.</p> | <input checked="" type="checkbox"/> | |
| <p>A nutrition analysis to identify distribution of malnutrition among the affected populations and the possible causes of observed malnutrition.</p> | | <p>If relevant information is not already available and the CFSAM team includes the necessary expertise.</p> |
| <p>Response options (see chapter 15)</p> | | |
| <p>A response options analysis to determine the type, scale and timing of responses, and targeting arrangements that would be most appropriate and feasible to address the observed priority food insecurity problems.</p> | <input checked="" type="checkbox"/> | |

Figure 3d **Triangulation of data from different sources**



Panel 3-8

“Triangulation”

Triangulation is the process through which information from different sources is compared to determine whether or not **evidence converges**.

As a rule of thumb, if at least three diverse sources provide consistent information, and if there are not significant numbers of sources providing **inconsistent** information, then the information can be used with confidence. The higher the ratio of “consistent” to “inconsistent”, the greater will be the level of confidence. For example:

- **With 4 sources of information:** If 3 sources provide consistent information, this can be treated with *guarded* confidence; the reasons for which the 4th source disagrees should be carefully investigated.
- **With 10 sources of information:** If 9 sources provide consistent information, this can be treated with a higher level of confidence than in the previous example.

However, when considering convergence of evidence, it is usually necessary to apply judgment. In the second example given above, it is possible that the ninth (dissenting) source might be much more reliable than the others.

Triangulation is a cornerstone of the analysis of both **qualitative** and **quantitative** data. For example: for qualitative data, information from different focus groups and key informants is compared; for quantitative data, conclusions drawn from different cross-tabulations are compared. Triangulation can also be used to check consistency between qualitative and quantitative data.

[Adapted from WFP *EFSA Handbook*, second edition, draft July 2007]

Use of geo-spatial data

Two sources of satellite, **remote-sensing** data, are regularly received and processed by FAO/GIEWS and made available to CFSAM teams: interpolated estimated rainfall (IER) images for Africa and global normalized difference vegetation index (NDVI) images. Based on these data, GIEWS derive the following products by country: estimated rainfall (ER), monthly cumulated rainfall (CR), deviation of CR from the long-term average, standardized precipitation index (SPI), and differences of NDVI compared with the previous dekad, previous year and long-term average. For details, see . These data are used when selecting areas and itineraries for field visit and also inform estimates of planted areas and crop yields for countries where relevant, proven crop forecasting models are available.

For countries where sub-national geographically-referenced data sets are available before the mission, a laptop-based copy of the GIEWS Workstation is provided any team member who wishes to use it. This provides statistical and geo-referenced historical data and the possibility to enter additional information and carry out basic spatial analysis during the mission. In some instances, this information can be combined with WFP VAM data, also geo-referenced.

Use of global positioning system (GPS) equipment

GPS equipment and digital cameras are increasingly being provided for CFSAM teams. The GPS is used to:

- Keep record of the visited sites during the CFSAM and accurately position on a map those locations that have been described by the surveyors.
- Trace segments of routes that are described and documented.
- Identify locations to be visited that look particularly critical (e.g. from the satellite image analysis). Sites to be visited could be pre-loaded in the GPS handset and retrieved in the field.
- Identify locations to be re-visited in a subsequent CFSAM in order to monitor a number of pre-determined sites and evaluate changes over time.
- Link digital photos to GPS data so that the digital photos are geo-referenced and spatially archived for later use within various GPIS software,
- Create outputs maps that display the area covered during the survey that can be used as part of the CFSAM documentation as well as basis for planning future CFSAMs.

Figure 3e shows an example of a crop assessment route in Ethiopia that used a GPS to record the crop assessment route and geo-referenced all digital photos by linking the GPS data to the time stamp on the digital photos.

Figure 3e Ethiopia crop assessment tour, 14 July - 02 August 2006

