

Market Analysis Framework

Tools and Applications for Food Security Analysis and
Decision-Making



vam
food security analysis

December 2011



Market Analysis Framework

© December 2011, World Food Programme
Food Security Analysis Service (ODXF)

This Guidance Sheet was prepared by the United Nations World Food Programme for use by staff and partners. All rights are reserved. Reproduction is authorized, except for commercial purposes, provided that WFP is acknowledged as the original source.

United Nations World Food Programme

Via Cesare Giulio Viola 68/70
Parco de' Medici
00148 Rome, Italy
<http://www.wfp.org/food-security>
wfp.vaminfo@wfp.org

Market Analysis Framework provides guidance on tools that can help to carry out a market analysis for food security assessments, programming and decision-making.

For more information, please contact:

Joyce Luma,
Chief, Food Security Analysis Service (ODXF)
joyce.luma@wfp.org

Issa Sanogo, (MAF Project Coordinator)
Senior Programme Advisor, Team Leader Market Analysis (ODXF)
issa.sanogo@wfp.org

The WFP Food Security Analysis Service (ODXF) wishes to thank the Federal Ministry for Economic Cooperation and Development of Germany, which provided financial support for the development of this guidance. It would also like to acknowledge that this guide benefited greatly from the inputs of Sharon Osterloh, Jacqueline Frize and Blake Audsley and from the comments provided by various WFP colleagues.

CONTENTS

1. INTRODUCTION TO THE FRAMEWORK	5
2. CONCEPTUALIZING MARKETS	6
2.1 Defining markets.....	6
2.2 Defining markets functioning.....	7
2.3 Linking market analysis to food security analysis	8
3. MICRO-LEVEL TOOLS.....	10
3.1 Income analysis.....	11
3.2 Labour market analysis	12
3.3 Shock scenarios and elasticity.....	13
3.4 Net buyer/seller status	14
4. MESO-LEVEL TOOLS	15
4.1 Structure-Conduct-Performance analysis.....	15
4.2 Value chain analysis	21
4.3 Cost-efficiency analysis	21
5. MACRO-LEVEL TOOLS	25
6. SELECTING AN APPROACH AND PRIORTIZING INFORMATION NEEDS	28
7. FORMULATING RESPONSE RECOMMENDATIONS AND CONCLUSIONS	31

List of figures

FIGURE 1. MARKETS IN THE WFP FOOD SECURITY AND NUTRITION FRAMEWORK	9
FIGURE 2. LEVEL OF ANALYSIS OF VARIOUS MARKET ANALYSIS TOOLS	10
FIGURE 3. DIMENSIONS OF EFFECTIVE DEMAND ANALYSIS	11
FIGURE 4. CORRELATION BETWEEN THE IPP AND IMPORTS OF RICE	23
FIGURE 5. MARKET ANALYSIS TOOLS: LEVELS OF ANALYSIS AND TIME REQUIREMENTS	33

List of tables

TABLE 1. SUMMARY OF MARKET ANALYSIS TOOLS AVAILABLE	29
TABLE 2. CHARACTERISTICS OF TWO SUMMARY TOOLS WITH RESPONSE ANALYSIS COMPONENTS	32

ACRONYMS

CFSVA	Comprehensive Food Security and Vulnerability Analysis
CPI	Consumer Price Index
CV	Coefficient of variation
EFSA	Emergency Food Security Assessment
EMMA	Emergency Market Mapping and Analysis
FAO	Food and Agriculture Organisation
FEWS NET	Famine Early Warning Systems Network
FSA	Food Security Analysis
FSMS	Food Security Monitoring System
IFPRI	International Food Policy Research Institute
IGC	International Grain Council
IMF	International Monetary Fund
IPP	Import Parity Price
LPP	Local Parity Price
LRP	Local and Regional Procurement
MIFIRA	Market Information for Food Insecurity Response Analysis
P4P	Purchase for Progress
SAFEX	South African Futures Exchange
SCP	Structure-Conduct-Performance
SENAC	Strengthening Emergency Needs Assessment Capacity
ToT	Terms of Trade
VAM	Vulnerability Analysis and Mapping / WFP's Food Security Analysis Service
VCA	Value Chain Analysis
WFP	World Food Programme
WTO	World Trade Organisation
XPP	Export Parity Price

1. INTRODUCTION TO THE FRAMEWORK

Market analysis has become an organizational priority for WFP in recent years. WFP's transition from a food aid to a food assistance agency (WFP Strategic Plan 2008-2013), the rapidly increasing use of market-oriented transfer modalities and new global challenges such as climate change, the global financial and economic crises and commodity market volatility have precipitated the need for WFP to better understand market systems.

WFP started to strengthen its market and food security analysis in 2006 under the Strengthening Emergency Needs Assessment Capacity (SENAC) project. Since then WFP has continuously refined its approach and adapted it to an evolving world and changing programme requirements. In recent years, food security analyses (emergency assessments, baseline studies and monitoring) have increasingly included a market component, and several technical guidance sheets on specific market issues have been developed.¹ However, there is no single guidance document which assembles all available market tools and explains how they fit into the overall food security analysis framework, and their links with decision-making.

This market analysis framework (MAF) presents the overall conceptual framework to enable WFP staff to understand how market analysis links to food security analysis and decision-making, and what purpose the various market analysis tools serve. The MAF builds mainly on the tools available within WFP, although it also covers other tools developed by partner organizations as much as possible. The MAF does not provide technical details on how to apply these analytical tools, but provides web links to enable readers to access this information.

Market analysis is entirely dependent on the context and objectives of each situation, and information requirements for programme and decision-making vary greatly. Thus, step-by-step instructions on how to conduct a market analysis would be extremely impractical. For this reason, a more flexible and adaptable approach where staff select the most relevant analytical tool is preferable.

To this end, this framework will help WFP's technical and non-technical staff to:

- understand the links between market and food security analysis;
- prioritize market information needs; and
- select the appropriate tool according to the context, objectives and information requirements.

¹ See the Emergency Food Security Assessment (EFSA) Handbook, the Comprehensive Food Security and Vulnerability Analysis (CFSVA) guidelines, the upcoming (2012) Food Security Monitoring Systems (FSMS) Guidance Sheets and the thematic technical guidance sheets on specific market issues. www.wfp.org/food-security/guidelines

Box 1: Terminology clarification

In recent years, the development of new methods to respond to food insecurity has led to an evolution in the way humanitarian response is defined; thus, the new definitions that have emerged are worth clarifying.

Food aid is the direct transfer of in-kind food (through general food distributions, food for work, school feeding, therapeutic feeding, etc.). This includes:

- in-kind donations from donors; and
- cash contributions from donors used to purchase food that is then distributed to beneficiaries.

Food assistance refers to both food aid and non-food economic transfers to beneficiaries to meet their food needs. In addition to food aid, it includes:

- conditional or unconditional cash transfers (also sometimes referred to as market-based or market-oriented responses);
- programmes that transfer economic resources by utilizing WFP food procurement (for example, smallholder-targeted local purchase projects such as Purchase for Progress (P4P) or strategic local purchases in recovery situations.

2. CONCEPTUALIZING MARKETS

2.1 Defining markets

Definition

Markets can be defined in both concrete and abstract terms.

Sometimes, markets are defined as *physical locations* where buyers and sellers come together to trade goods and services. Alternatively, markets can be defined as *the conditions of supply and demand of a particular commodity*, without reference to a specific location; for instance, the “market for rice” in western Africa doesn’t refer to a particular location where rice is traded but rather to economic conditions, actors and relationships that dictate the production, distribution and sale of rice. This latter definition considers not only an aggregation of geographically disparate locations, but also the behaviour of market actors and environmental variables that influence markets more broadly.

Prices, supply and demand

Prices are the outcome of market activity, driven by the determining forces of supply and demand.

In Food Security Analysis (FSA), market analysis explains the dynamics of supply and demand, and what these factors mean for households and their food security.

Supply and demand each have their own particular set of determinants, which dictates what actors are willing to buy and sell at a given price.

Supply is determined by:

- production costs and technology;
- the price of substitute and complementary goods;
- sellers' expectations of future prices; and
- the number of sellers in the market.

Demand is determined by:

- income;
- consumers' tastes and preferences;
- the price of substitute and complementary goods;
- consumers' expectations of future prices; and
- the number of potential consumers in the market.

Market analysis levels

While the law of supply and demand is the building block of all economics, its theoretical application is to closed systems, where all other variables are controlled. The challenge for market analysis is the very open and dynamic environments in which to interpret supply, demand and prices. This requires expanding the scope of study to consider the explanatory factors that influence the determinants of supply and demand.

A complete and holistic market analysis for food security analysis includes:

- a micro-level perspective, focusing on the level of individuals or single actors in the market, such as a household or trader;
- a meso-level perspective, focusing upon groups of actors and how they interact; and
- a macro-level perspective, focusing on the broader context and factors that affect all market aspects indiscriminately.

Investigating these different aspects can reveal how well markets are functioning, and identify both risks and opportunities for vulnerable populations.

2.2 Defining markets functioning

The MAF proposes a definition of market functioning, acknowledging the complexity of the concept. Markets function well when:

- the features that influence the behaviour of buyers and sellers are stable and predictable;
- interactions between sellers, and between sellers and buyers are transparent; and
- supplies are sufficient, regular and predictable at affordable, stable and predictable prices to meet the effective demand of households.

When markets are *efficient* and *well-functioning*...

- many buyers and sellers compete, with no agent too powerful to dominate and no agent able to set prices;
- actors have access to affordable inputs, credit and insurance;
- the government tends to not interfere;
- all actors have equal access to information about market conditions;

- transportation and storage are adequate and inexpensive;
- commodity price changes in different markets transmit to each other;
- commodity prices are stable and in line with seasonal patterns; and
- commodities flow quickly at affordable prices from market to market in response to changes in supply and demand.

When markets are *inefficient* and *poorly-functioning*...

- competition is low (relatively few buyers or sellers), with some agents having undue influence on the market and on prices especially;
- inputs, credit and insurance are not easily available;
- government interventions create disincentives for actors to make rational market decisions;
- access to reliable market information is unequal between and amongst producers, traders and consumers;
- transportation and storage are inadequate or prohibitively expensive;
- commodity prices are not correlated and price differentials between markets are greater than differences in transaction costs;
- commodity prices are volatile, beyond seasonal norms; and
- commodity movements from market-to-market are not fully responsive to supply and demand, except at high transaction costs.

2.3 Linking market analysis to food security analysis

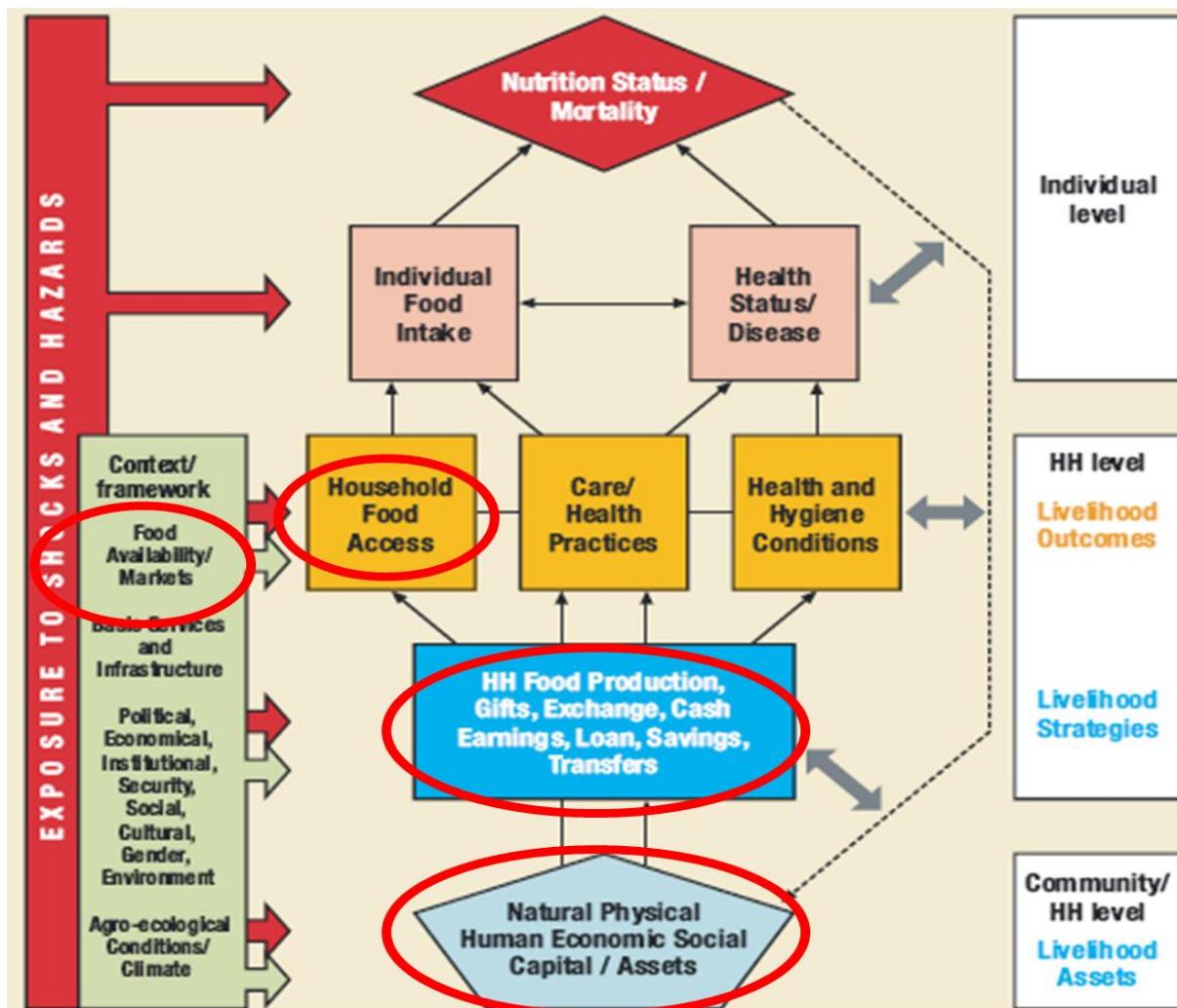
Market analysis and the three pillars of food security analysis

The primary goal of any market analysis is to link historic, prevailing and forecasted market conditions to explain the three pillars of food security in a way that identifies the full range of response options and opportunities to mitigate market distortion.

The three pillars of food security are:

- **Food availability:** the physical presence of safe and appropriate food in a geographically defined area by means of domestic production, commercial imports and humanitarian assistance. Key components of food availability - such as domestic agricultural production, household food requirements (or demand) and trade flows - are partly determined by markets.
- **Food access** (sometimes referred to as economic access): a household's capacity to acquire safe and appropriate food through any combination of economic, livelihood and coping strategies or activities. Incomes and prices resulting from the dynamic activities in markets are key determinants of households' ability to buy food.
- **Food utilization:** how the household uses the acquired food, and the individual's ability to absorb and metabolize nutrients. While markets have less relevance to this area, economic access to key non-food items or health services can indirectly impact the preparation of food or the health of households.

Figure 1: Markets in the WFP Food Security and Nutrition Framework



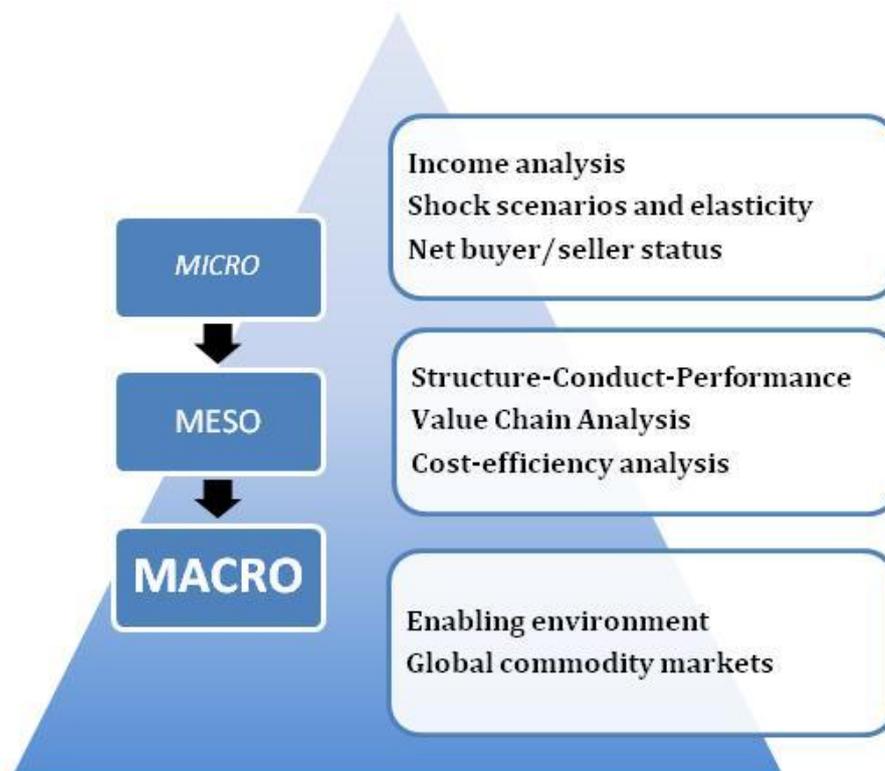
Market analysis tools and levels of analysis

Linking food security and market analysis is not always a straight-forward exercise, because different market components reveal information about both food availability and food access (and in some cases, food utilization). Unfortunately, market analysis tools cannot be disaggregated into those that investigate solely availability and those that investigate solely access.

As a consequence, it is essential to consider all three levels of the market - the micro, meso and macro - to fully comprehend the market's role in determining food security.

Thorough needs assessments usually combine at least three of the tools described in this framework, one for each level of market analysis. See section 6 for the factors to consider when selecting the tools.

Figure 2: Level of analysis of various market analysis tools

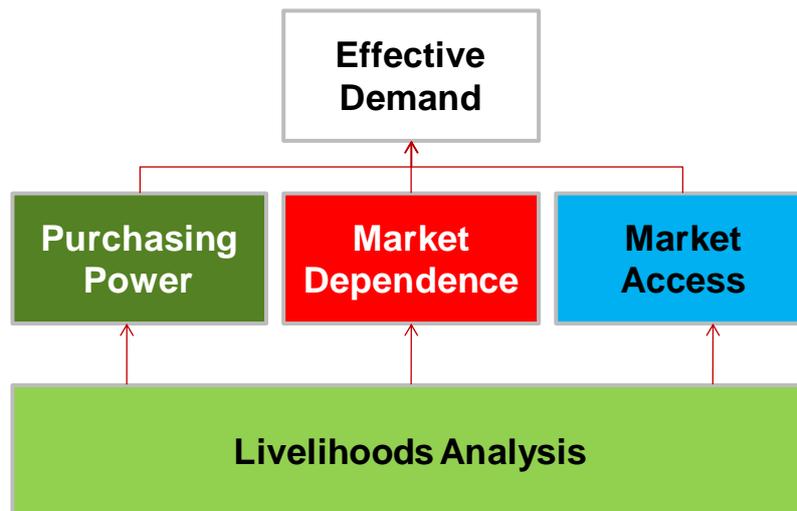


3. MICRO-LEVEL TOOLS

Analysing markets at the micro-level serves as the foundation for understanding how households interact with markets and how this interaction may influence their food security status. Micro-level market analysis is undertaken using a livelihoods perspective and helps to evaluate households' effective demand². Analysing household's effective demand implies considering: (a) their participation in and dependency on markets, (b) their access to markets and (c) their purchasing power (see Figure 3). The micro-level analysis focuses mainly on household market participation and dependency. The following sub-sections provide some examples of tools that can be used.

² Effective demand is the quantity of a good or service that consumers are actually buying at the current market price.

Figure 3: Dimensions of Effective Demand Analysis



3.1 Income analysis

Purpose

Understanding how livelihoods, which represent the income sources for the majority of households in rural and/or urban areas, translate into consumption and expenditure is critical to analysing how, where and to what degree vulnerable households engage in and depend on markets.

Focus of analysis

Analysts should investigate households' production strategies and techniques, input and credit provision, reliance on casual and household labour, and access to markets to sell produce. They should also investigate the different categories of costs and margins of the activities conducted, how they translate into profitability and competitiveness, and the scale and type of income they generate. This information not only provides insights into household level market participation, but can also be expanded to inform meso-level value chain analyses (see section 4.2).

For households involved in the production of goods and services, quantitative indicators for income analysis include financial ratios commonly used in traditional accounting: net income, net margin, and break-even point. These ratios are based upon revenue (the product of price and quantity) and total operational costs (the sum of fixed operational costs and variable operational costs).

- **Net income** is a measurement of profitability or the total earnings of an activity after accounting for costs.
- **Net margin** considers net income on a per unit basis and relative to revenue. It can offer insights on the level of competitiveness of producers vis-à-vis other actors.
- **The break-even point** shows the quantity that must be sold, or the price that must be obtained to avoid financial losses, thus indicating the scale at which an activity must be pursued to be economically productive.

These indicators require calculating the operational costs or expenses assumed in the production of a good. They do not include investment costs, which typically are fixed costs that

are assumed before engaging in an economic activity, amortized over a projected business period and recuperated through profits³.

Investigating all these operational costs allows the analyst to better evaluate household market access, barriers to entry and exit for individual households, and risks associated with livelihood activities.

3.2 Labour market analysis

Purpose

With the increasing use of public works projects (e.g. cash or food for work) as part of WFP programmes and the importance of wage income to vulnerable households' livelihoods (both in rural and urban settings), labour market analysis is increasingly becoming an important area of investigation for needs assessment and response analysis.⁴

Labour market analysis can help design programmes that provide incentives to farmers to engage more intensively in specific income-generating activities (e.g. local purchases) and understand their impact, in particular whether they create distortions on the labour market.

Particularly for public works projects, labour analysis is critical for determining wage rates or equivalent transfer amounts, whether by means of establishing the reservation wage (the lowest wage a worker will accept), nutritional needs-based methods, or some combination of the two. Additionally, a strong grasp of labour markets is needed for targeting these programmes (see Box 2).

Box 2: Labour market analysis and targeting

Households' food security situation and their livelihoods are usually correlated. Based on a review of 20 country assessments undertaken by WFP during 2009-10, Islam (2011) shows that agricultural and non-agricultural wage labourers constitute the single most important category of livelihoods, high proportions of whom suffer from food insecurity. For example:

- In Lesotho and Malawi, around three-fourths of agricultural wage labourers are in the category of "low" and "borderline" Food Consumption Score (FCS).
- In Yemen, two-thirds of the households in this livelihood category are in low and borderline FCS.
- As for non-agricultural wage labourers, nearly two-thirds of them in Lesotho, 62 per cent in Malawi and 55 per cent in Yemen are in low and borderline FCS groups.
- For countries for which no quantitative figures are available, wage labourers in agriculture and non-agriculture are mentioned as the single most important livelihood category that suffers from poverty and food insecurity.

However, targeting labour-dependent livelihoods requests more than their food insecurity status. It requires further analysis of labour supply, casual labour wage setting, seasonal migration, etc.

Source: Islam, Rizwanul (2011): "Global Economic Crises and Food Security". Draft report for the World Food Programme, Rome.

³ For more details, consult the [WFP Market Analysis Tool: How to Conduct a Food Commodity Value Chain Analysis?](#)

⁴ Consult the upcoming (2012) [WFP Guidance on Labour Market Analysis](#).

Focus of analysis

To understand the labour market, the employment status of household members, their sectors of activity, man-days of labour, wages, seasonal variations and international migration, rural-urban linkages (i.e. economic migrations and transfers) and differences are areas to investigate.

This basic information allows needs assessments to answer key questions regarding the household- and community-level links between employment status and food security, how changes in the labour market may impact food access, and the relationship between seasonality of employment and wages and staple food prices in the market.

Labour market analysis complements the analysis of farm income, shock scenarios and net buyer/seller status (see respectively sections 3.1, 3.3 and 3.4), as it helps to provide a holistic view of the often risk-adverse and diversified livelihood strategies of vulnerable populations.

3.3 Shock scenarios and elasticity

Purpose

Shock scenarios help to anticipate the effect of market-based shocks on the food security of different livelihood groups and classify households' vulnerability to shocks.⁵ Depending on their livelihood and food access profile, households have a different level of vulnerability to shocks such as drastic changes in prices induced by global price volatility or production shortfalls.

When a shock occurs, analysts can utilize scenarios to identify which livelihood groups should be assessed in priority, and to assess the effects of the shock on food consumption.



Scenarios only provide an insight into households' primary income source and their practice of substituting one food with another - generally cheaper or more accessible - commodity. Scenarios do not consider other households' coping mechanisms used in response to the shock, which may also affect food consumption.

Focus of analysis

Market-oriented shock scenarios, particularly those which consider the impact of changes in price and income, are strengthened by an understanding of price and income elasticities.⁶

Elasticities measure the relationship between a change in the quantity demanded of a good relative to a change in price of that good, or the income used to purchase it; in other words, the percentage change of one variable when another variable changes by 1 percent. While shock scenarios do not necessarily require data on elasticity, they are greatly complemented by them. Constructing elasticities from scratch is an intensive research exercise, one well beyond the scope of needs assessment. Secondary data is generally difficult to obtain but when available it can greatly expand the predictive power of shock scenarios.

⁵ Consult the [WFP Market Analysis Tool: Shock Scenarios](#).

⁶ Consult the [WFP Market Analysis Tool: Price and income elasticities](#).

3.4 Net buyer/seller status

Definition

When a household is a net buyer of food, it buys a greater quantity or value of food on the market than what it sells. As a net seller, the household sells a greater quantity or value of food on the market than what it buys. In considering this metric on a quantity or volume basis, net buyer/seller status is calculated simply as the quantity sold less the quantity purchased on the market.⁷

Purpose

The net buyer/net seller status is a useful indicator of household market dependency. Being a continuous variable, it can be calculated for individual households, communities and regions and provides useful information with a single method in a number of different situations and contexts.

Specifically, it is useful because:

- it allows for dynamic monitoring of vulnerable populations;
- it can help identify where the market dependent populations are;
- in some cases, it can assist in targeting rapid emergency assessments; and
- in conjunction with other tools, it can help target local procurement programs.

Expenditure-based approach to net buyer/seller status

The weakness of this approach is that quantity does not take the seasonality of prices into account. Surplus-producing households can be net food purchasers due to price seasonality. Prices are often much lower after the harvest when households tend to sell their stocks, and higher during the lean season when they buy food on the markets. The revenue generated from the higher volume sales earlier in the season when prices are low may not offset the higher cost of lower volumes purchased later in the season at inflated prices.

By considering the value of the goods purchased, the welfare of the household is more accurately captured.

The expenditure-based approach to net buyer/seller status is valuable as a food security analysis tool, especially when non-food transfers or local procurement are potential responses.

While the household level data needed to thoroughly calculate net buyer/seller status can be an obstacle, particularly in emergency contexts, there are alternative methods of estimation. Community-level proxies can be devised with sub-national price time series, production and per capita consumption estimates and some gauge of seasonal market volumes. However, household surveys will provide the most accurate measurements. Although existing CFSVA and FSMS survey tools can provide information regarding quantities of purchases and sales, ultimately the expenditure-based approach depends on adequate price data and respondents' recall of buying and selling practices.

⁷ Consult the [WFP Market Analysis Tool: How to Estimate Household Net-Seller/Buyer Status and the Welfare Impact of Shocks?](#)

4. MESO-LEVEL TOOLS

The meso-level analysis of markets focuses mainly on understanding how markets function in terms of structural characteristics, interactions between market actors and the implications for supply, demand and prices. Market functioning represents the culmination of the structure, conduct and performance of markets.

4.1 Structure-Conduct-Performance analysis

The structure-conduct-performance (SCP) analysis involves the collection of both primary and secondary data. The analysis of the market structure and conduct relies heavily on primary data, whereas market performance analysis relies mainly on secondary data.⁸

4.1.1 Structure

Understanding market structure is a necessary first step before evaluating market aspects such as conduct and performance.⁹ Market structure can impact households' food security when households depend on markets to buy food or to sell the goods they produce, but also earlier in the season when they depend on a range of actors to access inputs, wages, and transportation.

Purpose

Market structure analysis covers other market actors outside of farming households such as importers/exporters, wholesalers, retailers, assembler/collectors, transporters and labourers who can be impacted by shocks and/or food security interventions. This analysis allows for a holistic view of vulnerability arising from shocks.

Focus of the analysis

Market structure relates to aspects of the market that are relatively constant from season to season.

The following elements should be analysed:

- **Actors and institutions** that form the supply chain and demand base for a commodity are the most important elements: who and how many of each type of actor there are, where they are located and concentrated, what role they play in the market functioning, and in what way they are integrated or interact with one another both horizontally (same types of actors) and vertically (different types of actors).
- **Barriers to entry and exit and constraints** that prevent the rapid turn-over of actors in a given activity. For example, high interest rates resulting in expensive capital may pose a barrier to entry for potential commodity processors, while anaemic wage labour markets might pose a barrier to exit for poor smallholder farmers who wish to stop producing low-margin staple crops but have few alternative income opportunities.
- **Trends in agricultural production** driven by seasonal and climatic characteristics. When these types of patterns are relatively predictable and stable, they are often a key driver of the geographic flow of commodities and their distribution from areas of surplus to deficit production.

⁸ Consult the [WFP Technical Guidance Sheet: How to Conduct a Trader Survey?](#) and the [FEWSNET Market Guidance, No. 2: Structure-Conduct-Performance and Food Security](#)

- **Market catchments** or the undefined geographic limits of trade. Market catchments refer to the informal boundaries where market forces naturally limit the movement of a commodity. These areas are often functions of transaction costs, roads and infrastructure, international or sub-national borders and trade restrictions, trader networks, agricultural calendars, population density, language, etc. Market catchments may be different for each commodity and type of actor in the supply chain.

4.1.2 Conduct

Market conduct investigates the behaviours and rules that regulate the relationships between actors or how they engage with one another.

Purpose

Understanding conduct builds upon market structure by showing the mechanisms by which structure ultimately yields market outcomes. When conduct - and ultimately power dynamics and interactions between market actors - are captured in the analysis, inferences can be drawn as to how market actors may respond to a particular food security intervention.

Considering how market actors' incentives translate into behaviour and response is critical to design interventions and choose between food and non-food transfer modalities.

Focus of the analysis

Investigating conduct requires good local knowledge, and significant observational and interview-based primary data collection.

The following components should be analysed:

- **The level of competition** in the market is critical: how prices are determined, whether or not actors collude or price discriminate, and how far the prices of goods are above their production costs. Competitiveness of market actors, particularly traders (wholesalers and retailers), can be particularly important in the context of how they would likely respond to changes in market supply (e.g. an increase due to food aid) or household demand (e.g. an increase due to non-food transfers, thus increasing liquidity and purchasing power).
- **The weights and standards** accepted by the market, the common practices of buying and selling, and the transparency of transactions are also critical.
- **Options for legal recourse, enforcement of contracts and settlement of disputes** play an important role, particularly in the upper levels of the supply chain (i.e. import/export, wholesale, processing levels) and in the development of a formalized and regulated private sector.

4.1.3 Performance

Market performance analyses how markets are achieving optimal or desired outcomes such as low and stable prices that are predictably transmitted.

Analysis in this area is usually based on statistical methods that require time series of prices. Ideally, these data are disaggregated sub-nationally and tracked for at least five-years to better understand issues related to price seasonality and volatility, market integration, margins and income generation, purchasing power patterns, etc. Unfortunately, the analyst is often forced to manipulate incomplete datasets with shorter time series.

While for the purposes of the framework, performance analysis is classified as a meso-level activity, it can include a variety of tools that could be considered either micro- or macro-level.

Common performance methods include:

- purchasing power analysis;
- price stability analysis (price seasonality and volatility);
- market integration analysis;
- value chain analysis; and
- cost efficiency analysis.¹⁰

Purchasing power analysis

Measuring purchasing power is critical to understand how prices are behaving in real terms.¹¹ At the micro-level, purchasing power is an important indicator of the vulnerability of particular livelihood groups or consumers at specific market locations.

The impact of inflation and volatility on consumers can only be understood after considering the price of a good relative to the price of other goods and services (including wages).¹²

Two different methods can be used to analyse households' purchasing power:¹³

- use of a consumer price index (CPI); and
- terms of trade (ToT) analysis.

➤ Use of a consumer price index (CPI)

CPI is essentially a measure of the inflation of a specific basket of goods. For a consumer, a rising CPI could mean that the consumer's purchasing power of this specific basket of goods declines unless her/his average income or wage increases at least in proportion to the percentage increase of the CPI. If not, then s/he can not buy as much as whatever it is as s/he did in the past. A decline in the CPI is interpreted in the opposite way.

Real price series can be calculated by deflating nominal prices by the CPI. Central statistics offices in many countries have their own CPIs, obviating the need to construct them independently.

¹⁰ Value chain and cost efficiency analysis are presented in separate sections (respectively 4.2 and 4.3) as they are sophisticated and complex analysis and can be used for different purposes.

¹¹ Prices that are collected from the market and that reflect the current price situation are referred to as 'nominal' prices. Real prices take inflation into consideration. Indeed consumers' purchasing behaviour is in real terms. Consumers understand whether the same amount of money allows them to purchase less food than the month before.

¹² Consult the [FEWSNET Market Guidance, No. 3: Adjusting Prices for Inflation and Constructing Price Indices](#)

¹³ The choice of methods for measuring purchasing power, whether through CPI or ToT, will depend upon the available price data type and quality.



There are significant limitations to the CPI deflation approach:

- CPIs monitor the changing price of a basket of goods that a typical household would purchase, but the application of that CPI is not universal;
- annually calculated CPIs should not be applied to monthly data;
- rural CPIs should not be applied to urban areas; and
- when the price of the item of interest composes a high percentage of the total cost of the food basket, the CPI can result in a downward bias of the real price. This occurs because as the item's dominance of the food basket increases, the nominal price is in effect deflated by a number closer to the nominal price itself.

➤ **Terms of trade (ToT) analysis**

ToT can measure purchasing power without many of the shortcomings of the CPI.¹⁴ For a particular livelihood group, the ToT is the ratio of the price of the primary income good relative to the price of the primary expenditure good. As the ToT rises, the relative welfare or purchasing power of the livelihoods group increases; conversely, decreasing ToT indicates higher levels of vulnerability for the group of interest. ToT does not require complex statistical manipulations; it does require time series data for at least two different goods.



One weakness of the approach is that for households with seasonal livelihoods strategies, the ToT may not accurately reflect the true welfare of the household at all points of the season. Additionally, price data for some seasonal agricultural goods may be unavailable continuously throughout the year; this limits the use of ToT as a complete annual time series data is needed to measure relative changes in purchasing power over time.

Price stability

Price stability has emerged as an increasingly important area of study in the past five years, owing primarily to volatile global commodity markets transmitting high levels of uncertainty to developing economies. While the study of volatility is a complex area of constantly developing research, rudimentary calculations in a food security analysis provide important information as to how markets are performing.

There are two methods to analyse price stability:

- calculation of the coefficient of variation; and
- construction of seasonal indices.

➤ **Coefficient of variation**

Understanding volatility in farm gate, wholesale and retail prices allows the analyst to assess how risk varies through the market in space and time for different actors.

¹⁴ Consult the [FEWSNET Market Guidance N °5: Terms of Trade and Food Security Analysis](#) and the [WFP Market Analysis Tool: Terms of Trade](#).

At a rudimentary level, volatility can be measured through the coefficient of variation (CV) of a data set, which simply converts the standard deviation, or dispersion of values from the average, into a more easily interpreted coefficient or percentage.

CVs can measure spatial or temporal volatility:

- **spatial volatility:** the data set is constructed from prices at multiple geographic locations at a single point in time. Spatial volatility has applications to market integration, and is useful when comparing differences in transaction costs. It fails however to demonstrate how predictable prices are for households and market actors; to do this, the time dimension must be considered.
- **temporal volatility** (or the average variation from the mean that shows how stable a particular market is): the data set is constructed as a price series of a single market through time.

However, the presence of a high coefficient of variation is not necessarily indicative of a volatile market. In agricultural commodity markets with a single harvest, there may be a pronounced yet predictable seasonality that is captured in the value of the temporal CV. High spatial CVs are in part biased by transaction and transportation costs.

➤ **Seasonal indices**

They can help distinguish between the seasonal patterns and the unusual volatile patterns of prices.

The seasonal index is constructed as the ratio of the price at a given point in time relative to an average price for the entire season. Real prices are obtained by comparing the price of interest to a moving average (used as a reference), that incorporates the full cycle of the seasonal patterns.

While understanding seasonality is valuable for considering market performance, it is also critical for all aspects of the programme cycle, from early warning to monitoring and evaluation. It allows the analyst to determine whether a high price is a deviation from normal market conditions, or whether it represents a true shock to markets.

Understanding seasonality can:

- Inform contingency planning, and help predict when food shortfalls are likely to abate or become more acute.
- Assist in forecasting changes in food costs and corresponding transfer values of cash-based responses.¹⁵
- Help identify when market conditions are best suited for local food purchases (post-harvest when prices are low), and when liquidity transfers into markets could pose an inflation risk (lean season when prices are high).

¹⁵ A seasonal food price forecasting tool is being developed.

Market integration

One of the most technically complex yet broadly applicable areas of investigation for market analysis is the study of market integration, often reduced to price integration.¹⁶

Definition

When markets are integrated, two conditions exist:

- price are correlated, i.e. they move in tandem with one another, but at different levels that are determined by transaction costs (*necessary yet insufficient* condition of market integration);
- commodities flow between markets, i.e. markets are *integrated* through trade, which triggers price transmission from one market to another (*necessary and sufficient* condition of market integration).

Even though prices may be correlated, this does not necessarily mean that markets are integrated, because of unobserved factors that may be driving the relationship. For example, commodity price spikes on derivative markets observed in 2008 and 2009 caused markets in countries all over the world to increase, negatively impacting low-income consumers. While a rural market in Tajikistan and a rural market in Liberia do not trade, price correlation between these markets would have increased as prices in both markets moved upwards. Correlation alone would thus suggest that the markets shared some common factor linking them, when in fact there is no trade between them.

Purpose

Market integration is a critical aspect for all WFP interventions, not just those that are market-oriented.

- For in-kind food responses, an increase of supply in a targeted community may decrease prices in nearby integrated communities.
- In cash-based responses, target communities will need to be integrated, or potentially integrated through trade with surplus-producing areas or supply sources. The surplus-producing or supply source market may be vulnerable to price inflation generated in the target community through increased liquidity.
- For local purchase projects such as P4P, well-integrated markets can transmit price increases generated by lower local supply, or may be buffered from price increases through integration with surplus areas. Conversely, purchases in poorly integrated markets are less likely to have a price impact on surrounding areas, yet be more susceptible to price increases generated by decreased supply if trade from other areas fails to meet demand.

Areas of focus

To understand market integration, analysts use observations of price levels and correlation to suggest where integration might exist. However, direct observation is necessary to determine if commodities move between markets, or if the correlation is in fact spurious.

¹⁶ Consult the [WFP, Market Analysis Tool: Market Integration](#)

4.2 Value chain analysis

Definition

Value chain analysis (VCA) is the study of the production, upgrading, trading and marketing of a commodity or good, from the acquisition of inputs to the purchase by the end consumer.¹⁷ In other words, value chains show how a good acquires value and how actors and institutions interact to distribute profits and supply goods to markets.

Purpose¹⁸

While classified in this framework as a meso-level tool, value chain analysis has extensive scope for both micro- and macro-level applications.

In the context where local procurement activities and trade issues are of primary importance, VCA can be a powerful complement or alternative to SCP analysis. For market-intensive responses such as cash and local procurement, VCA can identify appropriate entry points for transfer mechanisms and engagement with suppliers.

Main analytical components of VCA

Many different value chain analysis approaches exist, but they can generally be broken down into three basic steps.

- **Mapping the value chain** (first step of a value chain analysis): the analyst is interested in vertical and horizontal paths by which markets work together, visually showing transformative processes, actors, activities, information and geographic flows, volumes, relationships, as well as aspects of the enabling environment (see section 5.1). Mapping typically requires significant information gathering with key informants, yet is extremely valuable in visualizing the mechanisms by which a particular market operates.
- **Estimating costs and margins:** the analyst examines how revenues, costs, margins and profits are distributed amongst actors in a particular value chain, and what these mean in terms of competitiveness, profitability and risk. Many of the financial ratios used in analysing farm income are utilized in this activity; however in the value chain context their application is expanded to other actors (e.g. importers/exporters, wholesalers, assemblers, retailers, etc.).
- **Analysing technology, knowledge and upgrading:** the analyst identifies the efficiency gaps in the value chain and makes recommendations to address them.

4.3 Cost-efficiency analysis

In the food assistance context, cost-efficiency equates to obtaining the maximum possible resources to reach out to the maximum number of beneficiaries at the lowest possible cost.

¹⁷ Consult the [WFP Market Analysis Tool: How to Conduct a Food Commodity Value Chain Analysis?](#)

¹⁸ VCA as a research activity can go well beyond what is expected of needs assessment and a full VCA requires significantly more time than what is typically available; however, many of the constituent parts of VCA can be disaggregated, adapted and utilized individually based upon the unique context and objective of the market study and the requirements of the analyst.

Along with appropriateness and timeliness, it is one of the three guiding principles WFP ascribes to its food procurement.¹⁹ As market-based responses are sensitive to movements in price, assumptions regarding the cost-efficiency of a response need to be constantly validated and re-visited.

There are two methods for conducting a cost efficiency analysis:

- Alpha analysis; and
- Price parity analysis.

4.3.1 Alpha analysis

Definition

Alpha analysis is a method used by WFP for comparing the efficiency of different food assistance options.²⁰ The Alpha value is the ratio of the local market value of a transfer (measured in retail prices) to the operational cost to WFP of delivering the same transfer (quantity and quality) in kind at the same market location. As the Alpha value increases, the in-kind transfer becomes more efficient.

Purpose

Though in the past limited to in-kind food aid, in recent years Alpha values have been increasingly used to analyse the cost-efficiency of non-food transfers. By comparing this indicator for a food aid ration to that of a commensurate cash-based distribution, analysis can determine not only which transfer provides more resources for the operational cost to WFP, but also when cost-savings dynamics might shift.

Alpha values are only useful in relative terms; a single alpha value at one point in time is not indicative of cost-efficiency. Instead, Alpha values must be tracked through time or back-calculated, or compared for different operational conditions at a single point in time.

Practicalities

When cost-efficiency is the primary concern for choosing between food and non-food transfers, it is critical to have in place rigorous and timely local retail price monitoring systems.

The Alpha values for a given transfer modality are not static. Shifts in the absolute and relative Alpha values during the implementation of a project are common. Seasonality can cause retail prices to change, and affect the corresponding transfer value required to purchase a targeted ration on the open market. In the case of non-adjustable transfer values, price volatility can erode the purchasing power of the beneficiary. In the case of flexible transfer values that move with market prices, there will ultimately be a threshold where the value of non-food and its associated operational costs becomes more expensive than that of food transfers.

¹⁹ Executive Director's Circular 96/009, 11 April 1996.

²⁰ Consult the [WFP Programme Guidance Manual](#). With the corporate strategic shift from food aid to food assistance, the alpha value analysis is under review to better reflect the full cost of delivering food, cash or voucher.

4.3.2 Price parity analysis

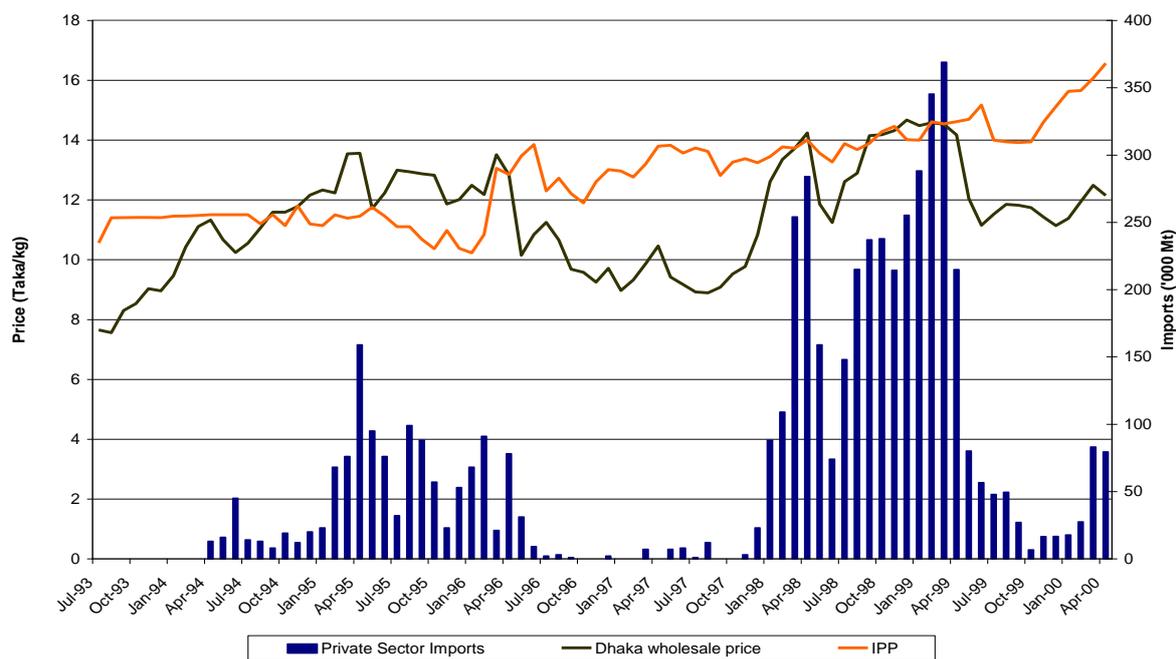
The parity pricing concept represents an important nexus of interest and relevance for WFP's Programme, Procurement and Logistics Divisions.²¹

Import parity price (IPP)

IPP measures the cost of importing a food commodity of interest from an international location to an intermediate distribution point or warehouse. It is then compared to prevailing market price of the same food commodity locally purchased and delivered to the same location (distribution point or location of the warehouse), indicating the cost-efficiency of importing as opposed to local purchase.

IPP is calculated for a range of potential supplying markets. The decision to import or purchase locally changes depending on the location chosen. IPP tends to move inversely to the volume of import, i.e. when IPP is below local market prices, countries buy internationally (see figure 4). When countries experience local market prices consistently below IPP, this may be indicative of a comparative advantage in production of a commodity relative to competing foreign countries. IPP trends may also be indicative of the level of availability in-country, i.e. in situations where availability is the driver of food insecurity, imports should be relatively high and IPP is likely to be below the local market price.

Figure 4: Correlation between the IPP and imports of Rice



Source: Dorosh, P. (2001): Trade Liberalization and National Food Security: Rice Trade Between Bangladesh and India. *World Development* 29(4): 673-689.

While the IPP is applicable for national or macro-level considerations, there are other applications that are useful for micro-level analysis as well as for WFP programming, procurement and logistics.

²¹ Consult the [FEWS NET Markets Guidance N°1: Import /Export Parity Price Analysis](#) and the [WFP Market Analysis Tool: Import Parity Price](#).

IPP is the primary tool used by the Food Procurement Unit to decide when to purchase locally. IPP is an important indicator for cost-efficiency analysis of smallholder Local and Regional Purchase (LRP) projects.

Export parity price (XPP)

It measures the price that an exporter would potentially receive at a range of potential markets.

Although not widely used, it can provide insights into national competitiveness of production, which may be particularly important for countries that use agricultural exports as their primary source of foreign exchange earnings.

Integration of IPP and XPP analysis

In theory, local wholesale prices over time should move within a band above the IPP (when there is an incentive to *import*) and below the XPP (when there is an incentive to *export*). Deviations from this band may be indicative of market changes or disruptions that need to be explained through further meso-/macro-level analysis. In this way, IPP and XPP are complementary and important in explaining commodity flows between international and domestic markets, i.e. integration of domestic and international markets.

For assessment purposes, market performance analysis can integrate IPP/XPP analysis, as IPP/XPP and local market price ratios over time can indicate whether adequate amounts of food are distributed in markets, or whether chronic supply problems exist.

Changes in IPP directly impact commodity and operational costs for WFP, and affect consequently the Alpha values that are the cost-efficiency basis for choosing between food and non-food transfer modalities. Disaggregating the components of IPP/XPP and benchmarking them across countries that compete in production of a particular commodity can indicate where bottlenecks exist in the broader agricultural and trading environment at the national level.

Local parity price (LPP)

For projects like Purchase for Progress (P4P), parity pricing must go beyond imports. Local parity pricing (LPP) mirrors IPP calculations. Rather than comparing the most cost-efficient option in purchasing from a range of international suppliers, the LPP also considers the most cost-efficient options including local ones as well, such as smallholder farmers' organizations.

Particular attention is paid to the location of local suppliers, and to whether potential cost savings can accrue through better access to final distribution points.

Parity pricing can be incorporated into cost-efficiency calculations in a meso-level analysis, depending upon the goals of the assessment.

5. MACRO-LEVEL TOOLS

The macro-level of market analysis is the analysis of the enabling environment or the broader, wide-reaching context in which markets operate. It is indeed important that the micro- and meso-level aspects of the market are put into a wider context that is beyond the control of market participants or humanitarian organizations.

5.1 Analysing the Enabling environment

The enabling environment includes all factors which indiscriminately impact different parts of the market, such as economic, political, social and climatic conditions.

Separating components of the enabling environment into distinct categories is difficult; for instance, export bans could be classified as an economic issue, but are often driven by political considerations. How the analyst chooses to organize the different components is a matter of personal preference.

Economic and financial factors

They are driven by national ministries, central banks, international trade and regulatory regimes or global markets.

Some issues to consider are:

- inflation prospects which can be indicative of market expectations;
- interest rates which show the cost of borrowing and the availability of money;
- foreign exchange reserves earned through export sectors which are often the primary determinant of country's ability to import food, fuel or agricultural inputs; and
- international commodity, equity and debt markets which have played an increasingly important role in macro-level analysis since the 2007/08 food price crisis, the 2008 global financial crisis and the resurgence of high food prices since 2010.

The analyst should identify how policies in these areas ultimately hinder or facilitate efficient markets.

Political and legal environment

Many aspects of the political and legal environment are closely tied to economics. However, many of the factors listed below can have consequences on the proper functioning of markets.

Some issues to consider include:

- price controls and trade restrictions in response to high food prices, which have become a common theme in the policy sphere of many developing countries. These policies may be coupled with interventions by parastatals or government strategic food reserves;
- subsidy programs, another commonly found prescription for food insecurity and general poverty, that target food items and agricultural inputs;

- the role of the ministries controlling priority economic sectors, donors providing funding and incentivizing investment or structural readjustment, and national and international non-government organizations; and
- the role of structured trade platforms such as commodity exchanges and market information systems, which have emerged as an area of interest to many agriculture-exporting countries.

Social and cultural characteristics

They also need to be analysed to assess the enabling environment.

Some issues to consider are:

- gender issues;
- how societal norms, traditions and preferences impact the vulnerable at the household level, as well as the conduct of market actors; and
- tribal and ethnic dynamics which can impact markets in terms of what commodities go where, who is trading with whom, and where social instability might lead to market disruptions.

Generally, a good understanding of local culture is required to fully grasp how actors engage in markets and make decisions.

Agro-ecological context

It includes analysis of how climatic conditions, weather-related shocks and disasters, environmental degradation and climate change affect national and local food balances now, and in the future.

5.2 Analysing global commodity markets

The impact of global commodity markets on national food security has become increasingly acute and is under scrutiny in the wake of the volatility of food prices which began in 2007.

Anticipating local price changes

Analysts should seek to understand when local prices may change as a result of external factors. Exposure to global markets varies country by country; at the same time, not all commodities, or even all food commodities, follow similar price trajectories. Choosing the correct benchmark and understanding the correlation and spread between similar commodities can be extremely informative.

For instance, rising rice prices in late 2009 did not reflect the stable or downward price movements for wheat and maize internationally. At the same time, different countries and regions are more closely related to different benchmark commodities. In southern African countries, for example, price trends tend to more closely relate to the white maize traded on the South African Futures Exchange (SAFEX) than the U.S. yellow maize prices reported on the Chicago Board of Trade (CBOT).

Analysts should not attempt to predict how international prices will move, but rather understand the degree to which local markets were affected in the past and how they will likely respond in the future if a shock occurs. Seasonal price analysis and market integration analysis (see section 4.1.3) can facilitate this process.

Understanding the dynamics of global prices

More important however, is to understand the dynamics of global prices: changes in supply arising from production shortfalls in major exporting countries, speculation on derivatives, increased demand from highly populated countries, major import dependent countries and large-scale humanitarian emergencies, political crises, or biofuel production, etc.

Understanding how food price drivers can cause additional pressure is also critical. For instance, price pressure related to increasing crude oil costs may cause disproportionate effects on landlocked countries that will face not only higher import prices but also higher transportation costs. Also, feedback loops may arise when national policies respond to price increases, such as the general increase in trade restrictions witnessed globally during 2008.

6. SELECTING AN APPROACH AND PRIORTIZING INFORMATION NEEDS

To gain a full understanding of the links between markets conditions and food security, analysis at micro-, meso- and macro-levels is necessary.

During the assessment planning, the analyst must carefully consider time and resources available, the context and the assessment's objectives to select the appropriate tools for each analytical level (micro, meso and/or macro).

Factors to consider when selecting the tools are:

Urban versus rural context

The type of affected area can make some tools more useful than others. For instance, in urban environments it may be more appropriate to undertake an analysis of labour markets and public transfers, whereas in rural environments it may be better to conduct a farm income analysis and check how production may be impacted by shocks (shock scenarios). Value chain analysis, while remaining holistic, may need to focus more on food transformation linkages between the value chain actors in urban settings, and on production and trade linkages in rural situations.

Natural disaster versus conflict situations

Natural disasters such as floods or droughts often have a significant impact on production and availability, whereas earthquakes may be more disruptive of trade and access in the short term. Emergencies defined by political or ethnic conflict will trigger their own unique impacts at the micro-, meso-, and macro-levels.

Slow versus rapid onset

In situations where needs evolve more slowly, households and markets may adopt gradual and evolving coping mechanisms, whereas rapid onset emergencies may create immediate bottlenecks in markets that limit the immediate impact to specific groups of actors. Understanding these dynamics in the local context can assist in focusing methods appropriately.

Programme priorities

The first purpose of market analysis is to contribute to providing a clear picture of the food security situation. However, the analyst is also generally required to make programmatic recommendations, in particular on the appropriateness of food or non-food transfer modalities and mechanisms.

The analyst can use tools designed to inform decision making, such as MIFIRA (Market Information for Food Insecurity Response Analysis), EMMA (Emergency Market Mapping and Analysis), or Alpha analysis (see table 2 for information on MIRIFA and EMMA and section 4.3.1 for alpha analysis).

Time and resource constraints

Depending upon the time available for an assessment, the acuteness of the emergency and the resources at the disposal of the analyst, certain types of analysis may be unrealistic.

For instance, expenditure-based net buyer/seller analysis requires detailed household income and price data. In the absence of recent household survey data, such an approach may not be

feasible. On the other hand, the analysis of the enabling environment, SCP based on literature reviews, country-level price data, and terms of trade monitoring can usually be achieved in relatively short timeframes.

Ultimately, the methods chosen will be a function of the scope desired and the time/resources available, ranging from data-'lite,' descriptive approaches conducted within short timeframes, to data-intensive, analytical approaches within longer ones. Typically, needs assessments such as rapid EFSA will utilize descriptive and qualitative approaches, while in-depth EFSA and CFSVAs will utilize more quantitatively rigorous tools.

Based upon the nature of the crisis, time and resources, a combination of descriptive/qualitative and quantitative approaches may be needed. For example, food insecurity arising from rising global food prices might utilize data-lite methods at the micro or household level, while utilizing progressively more quantitative techniques as the scope expands to the meso- and macro-levels.

Table 1: Summary of market analysis tools available

Scope	Analysis	Resources available
MICRO	Farm income	WFP Market Analysis Tool: How to Conduct a Food Commodity Value Chain Analysis?
	Shock scenarios	WFP Market Analysis Tool: Shock Scenarios
		WFP Market Analysis Tool: Price and Income Elasticities
Net buyer/seller status	WFP Market Analysis Tool: How to Estimate Household Net-Seller/Buyer Status and the Welfare Impact of Shocks?	
MICRO-MESO	Country-level elasticities	USDA Economic Research Service (ERS)
	Purchasing power	FEWSNET Market Guidance, No. 5: Terms of Trade and Food Security Analysis
		WFP Market Analysis Tool: Terms of Trade
	FEWSNET Market Guidance, No. 3: Adjusting Prices for Inflation and Constructing Price Indices	
MESO	SCP analysis	FEWSNET Market Guidance, No. 2: Structure-Conduct-Performance and Food Security WFP Technical Guidance Sheet: How to Conduct a Trade Survey?
	Statistical performance analysis	WFP, Market Analysis Tool: Market Integration
		IFPRI Food Security Portal
Value chain analysis	WFP Market Analysis Tool: How to Conduct a Food Commodity Value Chain Analysis?	

	Alpha analysis	WFP Programme Guidance Manual
MESO-MACRO	Parity price analysis	FEWSNET Markets Guidance, No. 1: Import/Export Parity Price Analysis
		WFP Market Analysis Tool: Import Parity Price
MACRO	Enabling environment	Secondary literature review. Potential sources include: World Bank Commodity Markets Prospects ; World Bank Doing Business Report ; World Bank Data Indicators ; Economist Intelligence Unit ; IMF Country Reports ; WTO Tariff Profiles ; country-level agriculture and markets reporting
	Global commodity markets and prices	WFP VAM Food Price Data Store
		WFP VAM Market Monitor
		FAO Global Information and Early Warning System Price Tool
		Regional Agricultural Trade Intelligence Network (East Africa Grain Council)
		South African Futures Exchange (SAFEX)
		International Grain Council (IGC) Markets Reports
Foreign Agricultural Service (FAS) World Markets and Trade Archives		
BROADER ANALYSES AND RESPONSE	MIFIRA	Barrett, CB et al. Market information for food insecurity response analysis (2009)
	EMMA	Albu, Mike. The Emergency Market Mapping and Analysis Toolkit, Oxfam GB (2010)
	Food Security Analyses	WFP Emergency Food Security Assessment Handbook
		WFP Comprehensive Food Security and Vulnerability Analysis Guidelines
		Famine Early Warning Systems (FEWSNET)
Summary tool	WFP, Technical Guidance Sheet: The Basics of Market Analysis for Food Security	

7. FORMULATING RESPONSE RECOMMENDATIONS AND CONCLUSIONS

Following the analysis of the micro-, meso-, and macro-levels of markets, findings must be synthesized into conclusions as to how well markets are functioning to meet the needs of households, and recommendations of what (if any) type of response is most appropriate.

Key components of the conclusions include information on:

- current market drivers of food insecurity;
- most significant market-related risks to availability and access;
- forecasts or scenarios of developing market situation; and
- recommendations for action and the time frame for re-assessment/follow-up if necessary.

7.1 Formulating response recommendations

In the event that a response is necessary, the assessment should recommend whether food or non-food transfers are most appropriate to both current and anticipated/forecasted market conditions. It is important to note that choice of appropriate transfer modalities would preferably be based on a combination of findings from both market analysis and household food security needs assessments or analyses.

From a market perspective, conditions are favourable for food transfers when:

- food insecurity is driven by lack of availability (in quantity and quality), rather than lack of access;
- markets do not function well or are physically inaccessible to households;
- traders do not behave competitively, or lack the capacity to respond to increased demand; and
- prices are volatile relative to seasonal norms and the risk of inflation is high.

Conditions are favourable for non-food (cash-based) transfers when:

- food insecurity is driven by lack of access, rather than lack of availability;
- markets function well and are physically accessible to households;
- traders behave competitively, and have the capacity to respond to increased demand; and
- prices are stable relative to seasonal norms and the risk of inflation is low.

However it is important to remember that there are no set rules for when to use food or non-food transfers.

Ultimately any recommendation will need to consider a wide range and combination of contextual factors. Beneficiary preferences, operational and logistical factors must be weighed in the final selection of response, though these sometime do not fall within the scope of market analysis.

The EFSA Handbook, the MIFIRA and EMMA tools include response analysis components and decision trees can guide the formulation of response recommendations, and in some contexts can be used as summary or overall tools when time does not allow for the three-level process

described in this framework. Nevertheless, these tools are more geared towards rapid assessment, though not rapid enough in lifesaving emergency contexts. Protracted missions and in-depth studies often benefit from additional analysis, depending upon context-specific gaps.

Table 2: Characteristics of two summary tools with response analysis components

Tool	Emergency Market Mapping and Analysis (EMMA)	Market Information For Food Insecurity Response Analysis (MIFIRA)
Author	Albu (2010) - Oxfam, IRC, USAID	Barrett, Bell, Lentz & Maxwell (2009)
Objective	Assist humanitarian staff in sudden-onset emergencies understand the important market (commodity and income) aspects of an emergency situation	Link market analysis and response analysis, distinguish between conditions for food v. cash-based interventions
Approach	Link gap, market and response analysis through mapping to understand pre- and post-crisis conditions	Complements needs assessment and context analysis through a logical decision-making approach to response analysis
Components	Toolkit and guidance notes for a ten-step process including: <ul style="list-style-type: none"> • Household income and expenditure profiles • Seasonal calendars • Market maps • Response options and recommendations framework 	Decision-tree for distinguishing between food v. cash response, guiding questions for determining the functioning of markets
Application	For non-specialists; inter-agency teams in complex emergencies with short timeframes	For specialists; integration of iterative processes within the programme cycle
Complementary Tools	Value chain analysis EFSA	SCP analysis EFSA

7.2 Concluding remarks

Many different tools, approaches and conceptual frameworks have proliferated in recent years. However, making sense of the multitude proves a daunting task for the analyst and even more so for the non-economist.

The figure below shows the analysis level of each market tool (micro, meso and macro) and indicates the time intensity of their application. It shows that the degree of complexity of market analysis tools increases with the depth of the analysis. In-depth market analysis requires more data intensive tools, which in turn are more time consuming and complex, whether at a micro-, meso- or macro-level.

A minimalistic approach would mobilize purchasing power, SCP, EMMA and MIFIRA tools and enabling environment information by choosing the most relevant components of these tools in accordance with the objectives of the market analysis. No single tool is sufficient or good enough to cover the three levels (micro, meso and macro) of market analysis.

Figure 5: Market analysis tools: levels of analysis and time requirements

