

2 What is HEA?

2.1 Why did HEA come about?

HEA arose from a collaboration in the early 1990s between Save the Children and the Global Information and Early Warning System of the Food and Agriculture Organization (FAO) of the United Nations. The aim was to improve FAO's ability to predict short-term changes in a population's access to food. At that time, it was already widely recognised that rural people in poor countries do not depend solely on their own production for survival, but employ a range of usually market-oriented strategies to get the food and cash they need; and that it is therefore people's ability to gain access to enough food, rather than only their ability to produce it themselves, that determines the likelihood of hunger or famine. The growth and acceptance of this idea followed Amartya Sen's theory of exchange entitlements, which suggested that famines occur not from an absolute lack of food but from people's inability to obtain access to that food.¹ But the difficulties in operationalising this concept of 'access' meant that early warning methodologies tended to focus largely on monitoring food supply, using rainfall, production and price data. A form of analysis was needed that could translate an understanding of how people gain access to food and income, and of how that might be affected by a shock, into practical information to guide more effective decision-making.

To be useful, the approach had to be capable not just of indicating that people are failing to obtain enough food, but of quantifying the problem and suggesting possible approaches to intervention. It had to yield results in a common currency that allow comparison between different areas and groups so that resources can be prioritised and goods or services allocated according to need. The approach had to be capable of providing reliable information on large populations with diverse economies, at reasonable cost. And, crucially, it had to be a predictive approach, to allow for the assessment of future need. These requirements directed HEA's development hand-in-hand with the conviction that an understanding of people's normal economy – how they usually make a living, their savings, reserves and assets – had to be at the core of any approach seeking to gauge the impact of shocks on households.

The approach has come a long way since then. The fact that an understanding of livelihoods is at its heart has led to its application beyond famine early warning; the timeline in the Appendix shows the milestones in the development, application and adoption of HEA over the years. It has been used in different settings and for different purposes, and has been refined and adapted in response to both field experience and the needs of particular decision-makers. These needs, while varied in context and scope, in nearly all cases boil down to certain fundamental questions, as relevant to designing an intervention for social protection as to contingency planning for emergencies: Where is assistance needed, and of what type? Who needs it? How much do they need, when and for how long? Table 1 shows how the steps that make up the HEA framework and its characteristics relate directly back to these questions.

Table 1: Methodological requirements in relation to core questions for programme planning

Core question	Methodological requirement
Who?	Need to disaggregate population and to prioritise between groups/areas. A common 'currency' is required.
What?	A basic understanding of normal livelihood assets is needed to determine what is appropriate and how to 'do no harm'.
How much?	Quantification of livelihood assets and strategies is required as well as understanding of effects of shocks.
Where?	Geographic zoning required.
When and for how long?	A predictive model is needed, with the ability to monitor against a baseline.

2.2 What is HEA?

The Household Economy Approach is a livelihoods-based framework for analysing the way people obtain access to the things they need to survive and prosper. It helps determine people's food and income needs and identify appropriate means of assistance, whether short-term emergency interventions

or longer-term development programmes or policy changes. It is based on the principle that an understanding of how people usually make ends meet is essential for assessing how livelihoods will be affected by acute or medium-term economic or ecological change and for planning interventions that will support, rather than undermine, their existing survival strategies.

Central to HEA is an analysis of how people in different circumstances get the food and cash they need, of their assets, the opportunities open to them and the constraints they face, and of the options open to them at times of crisis. It involves the analysis of the connections between different groups and between different areas, providing a picture of how assets are distributed within a community and who gets what from whom.

It is important to note here that HEA is an analytical framework, not a method of information collection. It defines the information that needs to be collected and the way in which it should be analysed in order to answer a particular set of questions. Over the past 15 years, the information needed for HEA analysis has been gathered largely through the use of rapid appraisal methods and semi-structured interviewing of focus groups. This is because experience has shown that these methods are an effective and efficient way of gathering and cross-checking the required information, given the time and funding usually allowed. But HEA is a framework that can use data gathered using a broad range of tools, provided that appropriate measures can be taken to ensure data quality. There are aspects of the baseline, such as household size and composition, for example, or spending on healthcare, that would be obtained very effectively through survey methods; for such information, secondary data sources or targeted survey work add tremendous value. Randomly sampled surveys containing demographic information may also be a more flexible way than purposively sampled focus group discussions to disaggregate household economy information below the wealth group level. Other aspects of the framework – such as the monitoring information required to put together the problem specifications, or to track outcome predictions – may also be better suited to household survey

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methods, depending on time, funding and personnel. The use of rapid appraisal methods is dealt with further in Chapter 5, 'Is HEA reliable?'.

The HEA analytical framework

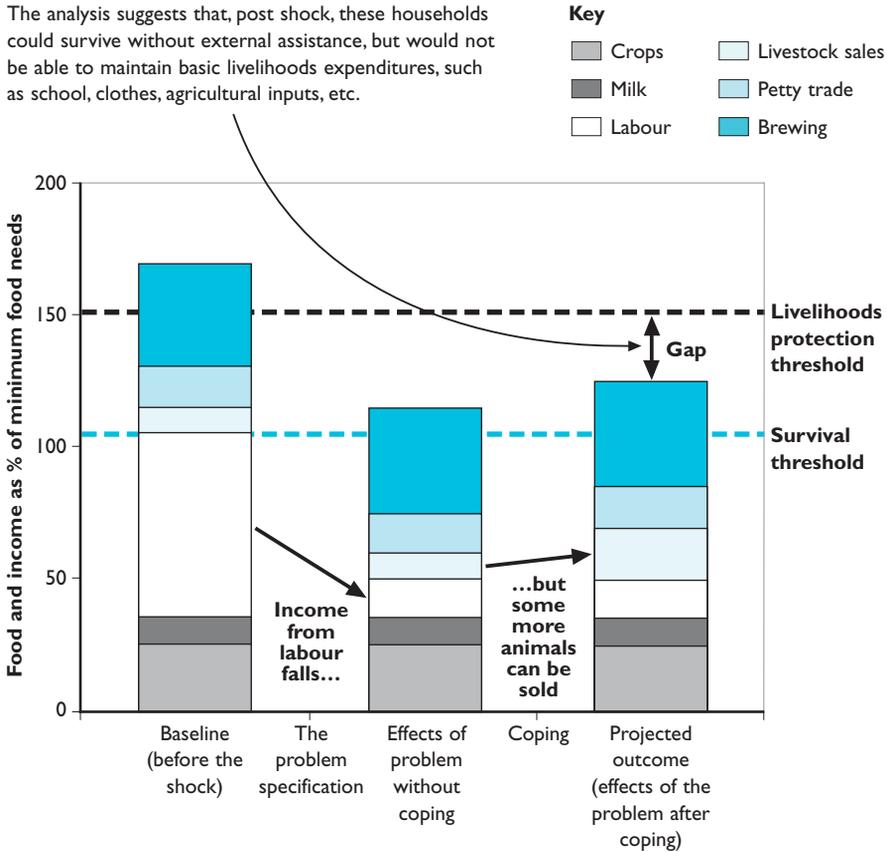
HEA was developed on the principle that information on events that beset a particular area or community – late rains, land reform, rising food prices, falling cotton prices, closure of mines – can only be properly interpreted if seen against the context of how people normally live. For instance, households that depend on their own production for much of their food needs will be affected by crop failure more severely than households that buy more of their food using income gained from casual employment in the towns. These more market-dependent households, however, will be affected to a greater extent by a rise in food prices or by macroeconomic events that undermine employment opportunities. In other words, an understanding of people's livelihoods is essential for analysing the impact of any significant change – including positive change such as programme interventions or policy changes, as well as climate, market or political shocks – on households. The conceptual framework used in HEA is shown in Figure 1.

The first bar in the chart represents total access to food and income in a normal year. This is the **baseline**, which presents a picture of the 'normal' household economy: household assets; the strategies employed to derive food and income and the relationships between households and with the wider economy; and how households use that income to meet their basic needs, for investment or for social obligations.

One important point to make here is that the quantities represented in the bar charts are a percentage of minimum food energy requirements. In other words, all food and income sources have been converted into their calorie equivalencies and then compared with the internationally accepted standard of 2,100 kilocalories (kcal) per person per day. This has the advantage of allowing for like-with-like comparisons, and also of ensuring that a rigorous cross-checking can take place. In most instances, HEA uses the measure of 2,100 kilocalories rather than a more sophisticated nutritional measure (such as the ideal dietary composition) because this meets the immediate requirements of the decision-makers who tend to demand HEA information, and it fits within the practical limitations of most assessments. This is not to say that energy alone is a sufficient measure of nutritional adequacy; but it is the first measure of whether or not people will starve. Further analysis along

Figure 1: The HEA analytical framework – a simplified illustration

The analysis suggests that, post shock, these households could survive without external assistance, but would not be able to maintain basic livelihoods expenditures, such as school, clothes, agricultural inputs, etc.



Baseline: The first bar shows total access to food and income in a normal year. This is the baseline picture before the shock.

Effects of problem without coping: The second bar shows how access is affected by a shock like the closure of commercial farms. In this case, labour opportunities by which this household obtains much of its income are cut off.

Projected outcome: The third bar shows access to food and income taking into account the household's coping strategies. In this case, more animals are sold than usual.

The 'y' axis represents food and income as a **percentage of minimum annual food energy needs**. In short, food and income sources have been converted into kilocalories which are then compared to 2100 kcal, which represents the internationally accepted minimum energy requirement per person per day. While simplified in this graphic for the purposes of illustration, this is an important concept in HEA because converting food and income into a common currency allows analysts to quantify and make comparisons.

nutritional lines is possible with HEA, although targeted nutritional survey work is likely to be more appropriate for gaining specific pieces of information. See section 6.2 for more on the relationship between HEA and nutrition.

The second bar in the chart – **the effects of the problem without coping** – shows us how specific sources of food and cash income are affected by a shock. In this case, the shock is the closure of commercial farms, which results in the curtailment of employment opportunities. The effects of shocks are specific to different livelihoods and to different levels of wealth, and the specific problem created by a ‘shock’ for particular households is defined in HEA as the ‘problem specification’. In Figure 1, the problem is shown between bars one and two, and results in reduced income from employment, as shown in bar two.

It is worth noting here that HEA can be used to consider the effects not just of negative shocks, but of positive changes. So, for instance, it is possible to consider just how much extra income might be obtained by poorer households that are provided with two goats, and what this might mean in terms of increased food security. Or the relative food security benefits of a subsidy on kerosene might be weighed up against a price cap on staple maize. Throughout this guide, it is important to keep in mind that the term ‘shock’ is used as a shorthand for any measurable meaningful change that can be modelled, and covers both negative hazards and positive changes.

The framework takes into account household capacity to adapt to the economic stress caused by the hazard by drawing down on assets, cutting down on certain expenditures or expanding other sources of food or cash. This is shown in the **coping** step, which is placed in between the second and third bars above. In this example, households are able to sell more livestock than usual, and this increases their access to food and income. In other cases, it might be that households could find alternative employment opportunities elsewhere, although they would be competing with people in the same position. They might be able to draw further on the social obligations of relatives. Or they might be able to cut down on non-essential expenditure and use the cash for staple food instead.

The final result – the **projected outcome** – is shown in the third bar. The projected outcome is, in essence, a consideration of the extent to which households will be able to (1) meet their basic survival needs (the ‘survival threshold’) and (2) protect their livelihoods (the ‘livelihoods protection threshold’). These thresholds are illustrated in Figure 1 by the two horizontal

lines and are described more fully in Figure 7. Decisions about the need for intervention, for what and on what scale, are guided by the baseline data, which encapsulates a knowledge of local livelihoods and coping strategies.

2.3 The steps of the HEA framework

In HEA, the conceptual framework of:

$$\text{Baseline} + \text{Hazard} + \text{Response} = \text{Outcome}$$

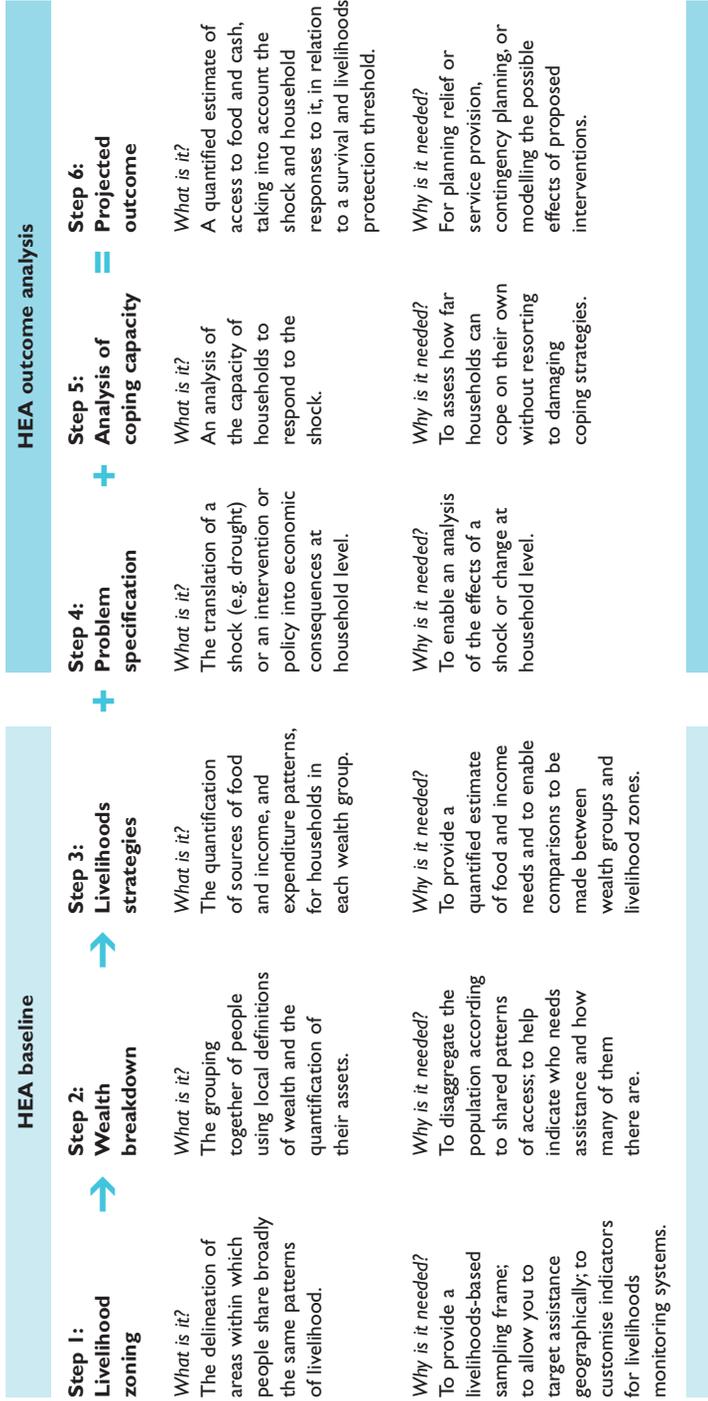
is translated into six steps. These steps, and the rationale behind each of them, are shown in Figure 2. When the analysis shown is conducted for all or most of the livelihood zones within a country, the outcome is a **comparative analysis** of predicted need across the whole country.

At the heart of HEA is a depiction of how people get by from year to year and the connections with other people and places that enable them to do so. This is called the **baseline** and has three components: **livelihood zoning**, a **wealth breakdown** and an **analysis of livelihood strategies** for each of the identified wealth groups.

The **outcome analysis** is the investigation of how that baseline access to food and income might change as a result of a specific hazard, such as drought. It consists of three steps: first, the translation of a hazard such as drought into economic consequences at household level (such as a percentage fall in crop production or increase in food prices compared with the baseline), which is referred to in HEA as the **problem specification**; second, the analysis of the capacity of households in different wealth groups to cope with the hazard themselves (**analysis of coping capacity**); and finally, predicted access to food and income at household level for a defined future period is compared to two thresholds: the survival and livelihood protection thresholds. This last step is referred to as the **projected outcome**.

The same framework can be applied to assessing the impact of a positive change, such as a programme or beneficial price policy. Just as a hazard is translated into its effects on food and income sources (the problem specification), so an intervention can be translated into its possible effects on sources of food and income, expenditure, and asset ownership. Projected access to food and income can be compared both with previous levels and with thresholds defined by criteria such as households' ability to buy livestock or to afford the costs of education.

Figure 2: The six steps of the HEA framework



Each of the steps is outlined below.

2.4 The baseline: steps 1 to 3

Grouping households together in some way is necessary in any population analysis, since it is not possible to consider each household individually; the most logical way of doing this for the purposes of livelihood analysis is to group people who share similar livelihoods – that is, similar patterns of access to food and income. How people gain access to food and income is determined by two main factors: geography (since this determines what the options are) and wealth (since this determines how people can utilise those options). The first two steps in an HEA assessment are, therefore, livelihood zoning and the identification of wealth groups.

Step 1: Livelihood zoning

People's options for obtaining food and cash income are determined to a great extent by where they live. In Swaziland, for example, households in the dry lowveld region where the agro-ecology is suited more to herding will have very different options from those in the wetter mid- and highveld areas, which favour agriculture. But it is not just agro-ecology which determines livelihood patterns – it is access to markets. Market access affects both the ability of people to sell their production (crops or livestock or other items) and the price they obtain for these goods. In addition, there are labour 'markets' – centres of demand for casual or salaried workers. Thus, households with good access to the urban complex of Manzini, Mbabane and Matsapha in Swaziland have different options from those living in the western mountains.

A livelihood zone is an area within which people share basically the same patterns of access to food (that is, they grow the same crops, or keep the same types of livestock), and have the same access to markets. An example of a livelihood zone map from Mozambique is given in Figure 3 (overleaf). This shows how the zoning takes into account differences not just in production but in access to employment markets (which distinguishes livelihoods in the Lower Limpopo from those in the Upper Limpopo), and access to trading markets (which is the distinguishing feature of livelihoods in the coastal zone).

Zoning involves the preparation of maps, together with analyses of the options for obtaining food and income within each zone and the marketing networks that determine the patterns of exchange between zones. Taken together, the

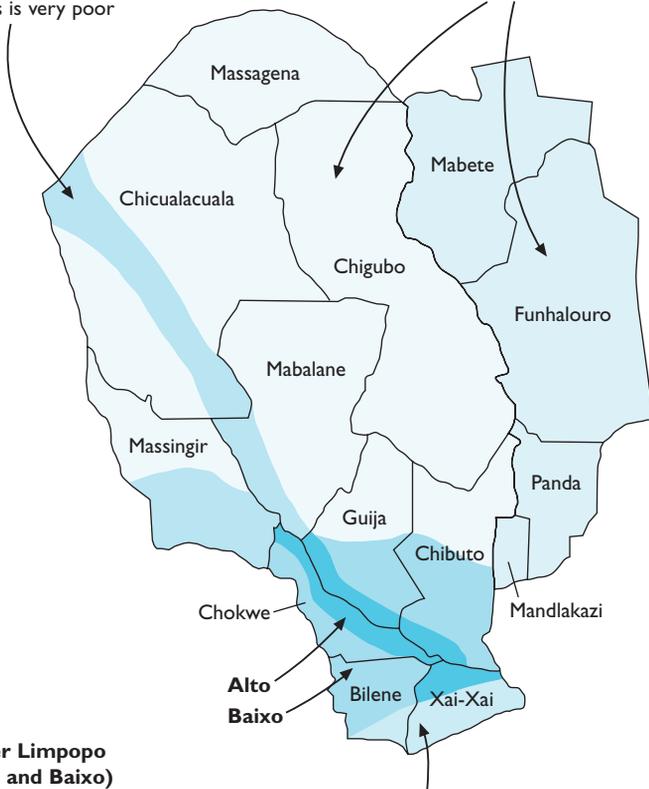
Figure 3: Example of a livelihood zone map: the Limpopo Basin, Mozambique

Upper Limpopo

Substantial surplus production along the fertile Limpopo typically goes to waste, since market access is very poor

Interior Zone (Gaza and Inhambane)

Rainfed uplands with limited production potential and very poor market access (slightly better in Inhambane than in Gaza)



Lower Limpopo (Alto and Baixo)

Remittances from Southern Africa complement surplus production in these zones. Cultivation is along the river in the Baixo zone, and away from the river in the Alto zone

Coastal

Good market access is at the heart of livelihood patterns near the coast, and local households benefit from some of the highest purchasing power in the Basin

Livelihood zones are delineated on the basis of differences in production and in access to markets.

In the Limpopo Basin, production is high all along the river, but livelihoods are by no means homogeneous.

Those nearer the coast and in the lower reaches of the Limpopo benefit respectively from good access to markets for selling produce and from good access to the South African employment market.

three factors of geography, production system, and the marketing system by and large determine the economic operations of households within a particular livelihood zone. They also determine vulnerability to particular hazards such as drought, insecurity, or market dislocation, since vulnerability is a function of the normal activities of households and of the activities they turn to in response to a hazard.

But are livelihood zones of practical use, given that they do not always follow administrative boundaries?

Livelihood zones and administrative divisions

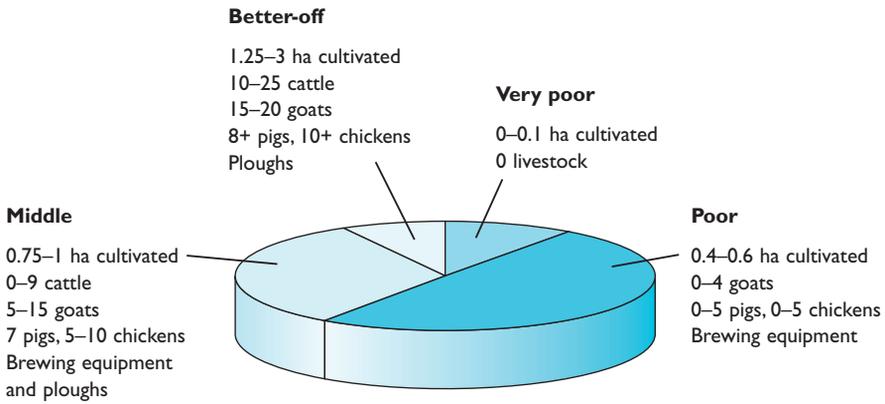
It is quite common to find different patterns of livelihood within one district, and certainly within one region. In Swaziland, for instance, all four administrative regions contain parts of several different livelihood zones, reflecting lowveld versus middleveld ecologies.

However, decisions on resource allocation and service provision are made on the basis of administrative areas and units, so HEA livelihood zones tend to be aligned as far as possible with lower-level administrative or customary boundaries. In Malawi they have been lined up with Extension Planning Area (EPA) boundaries; in Swaziland with chiefdom boundaries. This way, populations in the livelihood zones can be identified and responded to along administrative lines, and a more disaggregated analysis can be carried out using data relating to lower-level administrative divisions, where it is available.

Step 2: Wealth breakdown

While geography tends to define a household's options for obtaining food and income, the ability to exploit those options and to survive in a crisis is determined largely by wealth. In other words, what people have by way of land, capital and livestock, together with their educational status and access to political and social networks, determines the ways in which they will be able to get food and cash, or how they will respond to sudden or long-term change. Poor households with little land may work for better-off households to get money to buy food; the better-off may use profits from agriculture as capital to engage in trade. Wealth may also affect households' exposure to a hazard, especially in conflict situations where those with greater wealth may become targets for attack. In the event of a crisis, poor and better-off households will be affected differently and, therefore, warrant separate examination. The

Figure 4: Example of a wealth breakdown: Chongwe-Nyimba Plateau Valley Livelihood Zone, Zambia



The main determinant of wealth in this livelihood zone is cattle ownership, which in turn determines the number of plough oxen that a household owns and the area of land that they are able to cultivate. The number of other types of livestock owned and the agricultural inputs that a household can afford are also related to this.

The **very poor** group includes households that are headed by elderly, terminally ill or widowed members, often supporting small numbers of young dependants, some of whom may be orphaned by AIDS. Households in this group are highly dependent on gifts and handouts. The poor are highly dependent on the labour opportunities provided by the middle and better-off groups.

Source: Zambia Vulnerability Assessment Committee (2004)

investigation of differences between households is central to an analysis of food security and vulnerability to different hazards.

To capture these variations, HEA seeks to characterise typical households within each zone according to at least three (commonly four and sometimes more) wealth groups. In the field, wealth categories are defined through interviews with community key informants. ‘Poor’ and ‘better-off’ are thus relative to local rather than external standards. Often, these standards are predictable along general livelihood lines: landholding size, labour availability and draught power define wealth in a poor agricultural economy; land quality and access to fishing equipment in agro-fishing communities; the size of herds in pastoral economies. Family size – specifically the balance between young and mature children – is often a factor in wealth definitions.

But what if a programme planner seeks to support groups of people defined in demographic or administrative terms, such as female-headed households, pensioners or households supporting HIV/AIDS orphans? Where such population groups share a common pattern of livelihood, they can be analysed in the usual way; in Serbia, HEA analyses have been carried out on groups of pensioner households (see section 3.2), and in Macedonia on ‘social cases’, which included those physically unable to work, low-income pensioners, the low-income unemployed and single mothers (see section 3.5). Where there is more variation in livelihood patterns within these groups, and/or where more flexibility is required in the analysis, HEA can take a more disaggregated approach (see section 4.3).

Finally, wealth breakdowns allow us to look at the connections between different wealth groups. The rich and poor within a community are almost always connected in some way; commonly, the poor are dependent on the rich for casual agricultural employment, or for gifts or loans of food or cash. Sometimes, the poor take care of some of the livestock of the better-off, benefiting from the milk or keeping part of the progeny of smallstock as the reward – the only means by which they can accumulate assets themselves. Such connections need to be taken into account both for understanding how the poor survive in normal and bad years, and for identifying effective poverty reduction measures.

HEA wealth breakdowns focus on what causes difference in wealth (such as access to land, labour and capital).

This is distinct from a ‘wealth ranking’, which focuses on indicators, or outcomes, of wealth, such as roofing type or number of assets.

In southern Africa, the poor are commonly dependent on the rich for casual agricultural employment. This provides the poor with an important source of income. But it makes them vulnerable to any decline in expenditure on the part of the rich – for example, as a result of HIV/AIDS.

Step 3: Analysis of livelihood strategies

Having grouped households according to where they live and their wealth, the next step is to examine patterns of food and cash income and patterns of expenditure over a defined reference period. This gives a baseline picture of exactly how households get the food they eat and the cash they need, and how they spend their money. These are the three pillars of HEA analysis.

Quantification of food, income and expenditure

Many approaches to livelihood analysis describe how people acquire food and cash. The difference with HEA is that it provides quantitative information; information is gathered on how much food or cash households gain from a particular source, and on how much they spend on certain items and basic services over the defined period. Figure 5 gives an example of such a data set and some of the observations that can be drawn from it.

As well as providing an acute perspective on household operations and constraints, quantification is needed to allow a new situation – say, the loss of employment opportunities or poor rains – to be judged in terms of its likely effect on livelihoods. It allows decision-makers to compare levels of need across different populations and areas, and to prioritise and allocate resources accordingly. The need to compare and prioritise applies as much to decisions on tackling chronic poverty (which groups are the poorest, and where are they?) as it does to emergency resource allocation. Equally, a quantified approach is needed for assessing and comparing the impact of positive change on different groups and different areas.

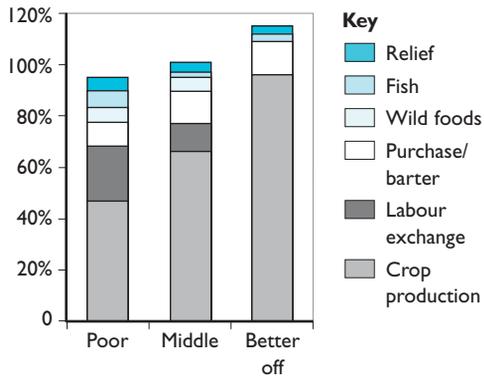
That is not to say that the information gained consists of figures alone or that it lacks the capacity to provide a ‘qualitative’ analysis of the conditions and situation of the households studied. HEA is a systems-based, rather than a correlative, approach. This means that conclusions are drawn from a holistic analysis of livelihoods – that is, taking into account all the means

HEA is a systems-based, rather than a correlative approach. It does not seek to find relationships between selected indicators but rather aims to build up a holistic picture of livelihoods. This means that each piece of information gathered has to make sense in relation to the rest.

Figure 5: Baseline data from West Zambezi Livelihood Zone, Zambia

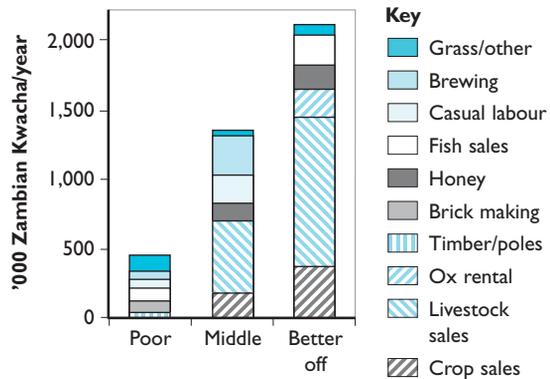
Sources of food

Poor households get less than half of their food from their fields. Half of the balance comes from working for others and being paid directly in staple food. The other half comes from market purchase or bartering fish, from direct fish catch consumption, from the collection of seasonal wild foods and from relief. All these activities give them less than 100% of their basic food requirement. This is the structure of food insecurity.



Sources of cash

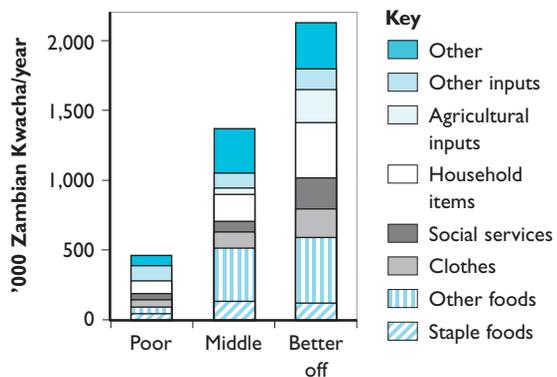
We also see the constraints of poverty: the poor cannot afford to buy the grain and other inputs to do brewing, one of the main income sources of the middle group. The proportionately biggest earner is livestock, which the poor have virtually none to sell, and they have no cash crops either. They cannot even afford the hives that allow profitable honey production.



Patterns of expenditure

As to quality of life, the poor have exceedingly little to spend on other food like relish, or on almost anything else.

And what of the chronic nature of poverty? The poor – and even the middle, who are pretty poor too – have very little to spend on agricultural inputs, so they can't improve their own production. They have very little to spend on education (the main component of social services) so that secondary school especially, which can offer a future, is beyond the means of perhaps half the population.



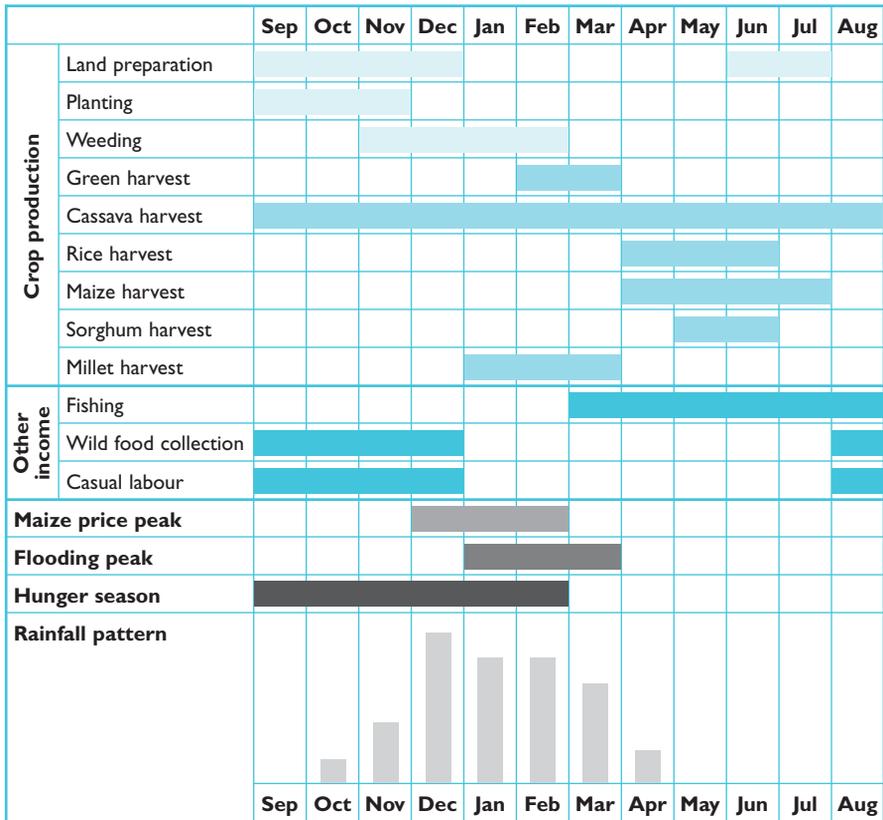
Source: Zambia Vulnerability Assessment Committee (2004)

by which people survive, all their resources and all their options – rather than from an analysis that aims to find relationships between selected factors or symptoms such as prices and rates of migration or of wild food collection. The aim of the baseline inquiry is, therefore, to build up a logical and comprehensive picture of livelihoods that is amenable to such a systems analysis, and each ‘bit’ of information gathered has to make sense in relation to the rest. In these terms the approach gains rigour from the fact that the information has to ‘add up’ in quantitative, as well as logical, terms.

This holistic view of livelihoods also has implications for the internal consistency of the information gathered. The way in which HEA information is usually collected is described in Chapter 4, ‘How is HEA done?’, and the question of the reliability of the information is considered in Chapter 5, ‘Is HEA reliable?’. But it is worth noting here that the nature of the information sought in an HEA inquiry makes it possible to check for consistency. There are two sides to the equation that must match. On one side, there is a finite and relatively small number of economic options available to households; these define the broad parameters of the investigation. On the other, there is a minimum food energy requirement that households must be at least close to meeting if they are surviving, and a certain level of income they have to acquire in order to afford their stated expenditure. By comparing the two sides of the equations, and through a number of other cross-checks, gaps and inconsistencies in the information can be challenged and a coherent and logical account of how households make ends meet can be put together. See section 5.4 for more on cross-checking in HEA.

Seasonality

Among the rural poor, seasonal variations in food access, on-farm labour requirements and employment opportunities tend to define the livelihood options that people pursue and the constraints they face. This has implications for the timing of both emergency and longer-term interventions. A seasonal analysis of food and income acquisition strategies (see Figure 6 for an example) is therefore a key part of the baseline analysis. A seasonal or month-by-month HEA analysis can also bring to light the extremely tight financial margins by which the poor survive (see the example of poor, female-headed households in Ethiopia in section 3.4).

Figure 6: Seasonal calendar – West Zambezi LZ, Zambia

Source: Zambia Vulnerability Assessment Committee (2004)

Markets

Most households in most parts of the world depend on the marketplace to buy some or all of their basic needs and to earn the cash with which to do so. Understanding the links between communities and their different markets allows us to assess their options in times of crisis. HEA assessments examine where people buy different goods, where those goods come from, where people sell the goods and services they themselves supply and where they go or come from to look for work. We need to know how commodity prices and labour rates change from season to season and how this corresponds with the need

of (particularly poor) households to buy or sell or work. We need to know which markets are of greatest importance in order to judge how changes in price or access to particular markets will affect households over a wider geography. The links between HEA and market analysis are described further in section 6.2.

Use of baselines

Once the baselines have been compiled, they can be used repeatedly over a number of years until significant changes in the underlying economy render them invalid. Rural economies in developing countries tend not to change rapidly, and a good baseline will generally be valid for between five and ten years. What varies is the prevailing level of food security, but this is a function of variations in hazard, not variations in the baseline. Put another way, the level of maize production may vary from year to year (hazard), but the underlying pattern of agricultural production does not (the baseline).

Any event that causes fundamental change in the household economy, such as the introduction of irrigation, or a construction boom, will require the updating of a baseline, but such changes should be distinguished from the inevitable fluctuations in asset ownership that arise as a result of good and bad years. These also need to be taken into account, but can be tracked through monitoring and wealth breakdown exercises and entered into the analysis as part of the problem specification.

The picture of household economy that is built up in this way can in itself be put to a number of uses, as described in Chapter 2, ‘How has HEA been used?’. In outline:

1. It provides the starting point for analysing vulnerability, helping to identify the particular risks to which groups are vulnerable and therefore the circumstances in which they are likely to experience food insecurity in the future (see section 3.3).
2. It gives us a framework by which we can analyse the effect of specific shocks, such as a drought or rapid price inflation (see sections 3.2 and 3.3).
3. It enables us to identify possible options for interventions to address chronic poverty. It does this by:
 - helping to distinguish chronic livelihood insecurity problems that exist in a ‘normal’ year from more acute problems that occur as a result of shocks (see section 6.3)

- helping to determine levels of poverty by comparing income levels for different groups with the cost of a ‘minimum non-food basket’, together with the cost of food purchase, to see whether households can access basic needs (see sections 3.1 and 6.3)
 - helping to identify possible options for supporting the economic development of the poor, through an analysis of constraints and opportunities (see sections 3.4 and 3.6).
4. It provides a framework for modelling the possible impact of an intervention on the household economy (see section 3.5).

Once the baseline is established, an analysis can be carried out of the likely impact of a shock or hazard in a bad year. This is called the outcome analysis.

2.5 Outcome analysis: steps 4 to 6

As a predictive approach, HEA is concerned with assessing the effect that a particular shock or change will have on household access to food and income. This is done by assessing (1) how baseline access to food and cash will be affected by the shock or change; and (2) the extent to which households will be able to make up the initial shortages through various coping strategies or, in the case of positive change, the contribution any additional or freed-up income would make to the household economy.

The effectiveness of an early warning tool clearly hinges on its ability to predict; contingency plans need to be built on the basis of scenarios that show what is likely to happen over the coming six to 12 months. But a predictive facility is also important because agencies need to plan for service provision or deliveries for the time at which they are likely to arrive. A needs assessment approach is of little use (and is potentially even harmful) if it only assesses current needs, and does not allow agencies to plan according to a realistic implementation timetable. For example, by the time emergency or rehabilitation aid has reached people (with typical lead times of up to six months required), it may be unnecessary at best, and in the worst cases harmful.

The ability to predict how livelihoods will be affected by change is also essential in considering the possible impact at household level of poverty reduction measures. This applies as much to wider policy interventions, such as grain price stabilisation, as it does to transfers targeted at households.

Step 4: Analysis of hazard and problem specification

The first step in analysing how the baseline household economy will be affected by a particular hazard is to analyse the hazard itself. Just knowing that a hazard might occur or has occurred is not sufficient for the analytical purposes of HEA. The hazard must be translated into quantified economic consequences that link clearly to baseline information on livelihood strategies. For example, production failure in southern Africa can have a number of consequences in relation to agricultural livelihoods beyond the obvious loss of crop and livestock production. These consequences include the loss of income from local agricultural employment, from cash crop sales and from livestock sales (through reduced prices), and the reduced availability of wild foods.

In order to be able to analyse the full impact of a hazard on livelihoods, it has to be translated into economic consequences that link to the baseline information on food and income sources.

In compiling the hazard information, the first thing to do is to determine the relevant shock factors for analysis, using the baseline information as a guide. For each wealth group and livelihood zone, it is important to identify those sources of food or cash that contribute significantly to total food or cash income because a reduction in access to that one source may have a significant effect on total access. That income source can then be monitored and the current year compared with the reference year. In most cases crop production and price information will be essential information to analyse. However, there may be cases, for instance, with fishing communities or pastoralist groups, where crop production is of minimal importance.

Information on natural hazards, such as crop and pasture failure, is obtained from existing crop or market price monitoring systems and seasonal or annual field assessments. Information on shocks arising from economic or political events, such as land reform or inflation, is obtained from a political and economic analysis of events and future trends, which can show how prices will change, what markets will do or which state entitlements will be lost. In both cases, hazard information needs to be broken down into its effects on households' sources of food and income, expressed as a percentage of the

baseline. This is called the problem specification. An example from the Malawi food security assessment of 2004 is shown in Table 2. How the hazards of drought and land reform might be broken down in this way is shown in Table 3 overleaf.

Table 2: Problem specification for Thyolo and Mulanje Livelihood Zone, Malawi 2004

Assumptions for this projection	% of baseline
Crop production (based upon RDP-level information)*	
Maize	50%
Rice	70%
Sweet potatoes	45%
Cassava	50%
Pulses	20%
Bananas	70%
Fruits/vegetables	90%
Other crops	100%
Tobacco sales price†	100%
<i>Ganyu</i>	
Availability	75%
Payment	100%
Self employment†	50%
Other sources of food and income	100%
Scenario 1 market purchase price for maize†	20 MK/kg
Scenario 2 market purchase price for maize†	26 MK/kg
Cost of basic non-food items†	120% ²
Other prices†	100%

*Baseline = average production 1998–2002

†Baseline = average price 2002–03 marketing year

Source: Malawi NVAC (2004)²

Table 3: Translation of production and macroeconomic hazards into problem specifications

	Natural hazard			Man-made hazard		
Macro-level shock	Drought			Land reform		
Impact at meso-level	Reduction in crop production	Reduction in livestock production	Reduced availability of wild foods	Commercial farm workers laid off	Farmers re-settled but with insufficient inputs to take full advantage of allocated land	Reduced domestic grain production
Effect at household level (problem specification)	<ul style="list-style-type: none"> • Loss of food from own crops • Loss of income from crop sales • Increase in grain prices • Loss of local on-farm employment 	<ul style="list-style-type: none"> • Loss in milk yields and availability • Decline in livestock prices 	<ul style="list-style-type: none"> • Loss of food from wild foods 	<ul style="list-style-type: none"> • Loss of formal farming income for commercial farm workers 	<ul style="list-style-type: none"> • Decline in availability of agricultural employment for seasonal migrants • Decline in agricultural labour wage rates 	<ul style="list-style-type: none"> • Increase in grain prices

The task of obtaining the information necessary to create a ‘problem specification’ is clearly important, but one which HEA is not designed to undertake. HEA relies on meteorological and agricultural systems to provide predictions of crop production or pasture availability. Similarly, it relies on others to do the political and economic analysis required to predict future trends. HEA takes up the reins at the point where these analyses leave off, determining how these macro-level changes will affect specific food and cash-income sources at the household level. Where analysis at the macro-level does not exist or is of poor quality, HEA practitioners may at least, working with a broad view of the economic or political situation and an understanding of what households are vulnerable to, be able to ask some of the right questions to determine the nature and scale of future shocks. The focus group discussions and semi-structured interviews commonly used in HEA make it amenable to incorporating inquiry at this level, provided that additional interviewing time is budgeted.

The translation of hazards into problem specifications is an important point of connection between HEA and other information and analytical systems, and an area in which collaboration tends to be fruitful.

Step 5: Analysis of coping capacity

This step takes account of the response strategies that different types of household will employ to try to deal with the problems they face. The key questions are:

- Which of the existing food and income options can be expanded in current circumstances?
- What additional options can be pursued?
- Can expenditure be reduced?
- What effect will these responses have on access to food (ie, *how much* extra food can be obtained in these ways)?

In other words, this is a quantified analysis of households’ ability to diversify and expand access to various sources of food and income, and thus to cope with a specified hazard. Information on the options open to households when a problem strikes is collected during the baseline study, usually by referring back to previous years and investigating the extent to which particular sources of food or cash could be expanded.

As in the case of the baseline analysis, the analysis of household coping capacity provides insights into the opportunities for, and constraints in, expanding food and income options in different areas, highlighting where and how the various options might be supported by different types of intervention.

Not every response strategy available to households is included in an outcome analysis. Strategies may be excluded if they have undesirable or damaging side effects that threaten the sustainability of livelihoods in the medium to longer term, such as selling all productive assets, taking children out of school or entering into prostitution. The aim of assistance may not only be to prevent outright hunger, but to minimise the use of damaging response strategies, preserve assets and protect livelihoods. HEA enables various levels of intervention to be modelled that explicitly either include or exclude particular coping strategies (see, for example, the Serbia scenario analysis in section 3.2).

Particular household response strategies may be excluded from the outcome analysis if they have undesirable or damaging side effects.

Thus, only those strategies that are appropriate responses to local stress are included. In this context, ‘appropriate’ means both ‘considered a normal response by the local population’ and ‘unlikely to damage local livelihoods in the medium to longer term’. In many agricultural areas, for example, it may be usual for one or more household members to migrate for labour when times are hard. Provided the response is not pushed too far (ie, too many people migrating for too long a period of time), this can be considered an appropriate response to stress. Similarly, in a pastoral setting, it is usual to increase livestock sales in a bad year. This again is an appropriate response – provided the increase in sales is not excessive.

In household economy analysis, therefore, the most important characteristic of a response or coping strategy is its cost, where cost is measured in terms of the effect on livelihood assets, on future production by the household, and on the health and welfare of individual household members. But it is important to note that including a particular coping strategy in the analysis does not imply that households will necessarily follow that strategy. For example, if the analysis takes into account the income that could be earned from the sale of additional livestock, it does not imply that households will necessarily take up that

strategy. They may decide instead to employ one or more of the other strategies open to them, including those considered to be damaging in some way; they may reduce food intake, or send a household member away permanently to find work. The point is that the analysis of household response is not an attempt to model behaviour – that is, to predict which options households will definitely take up in a crisis and which they won't. Rather, it is an attempt to define a level of access below which households have little choice but to pursue strategies that are likely to be damaging in the long term; in other words, a level of access below which the analysis shows that intervention is appropriate.

The objective of the outcome analysis is not to model household behaviour, but to measure access against a threshold below which households will have to pursue damaging coping strategies – and therefore below which intervention is appropriate.

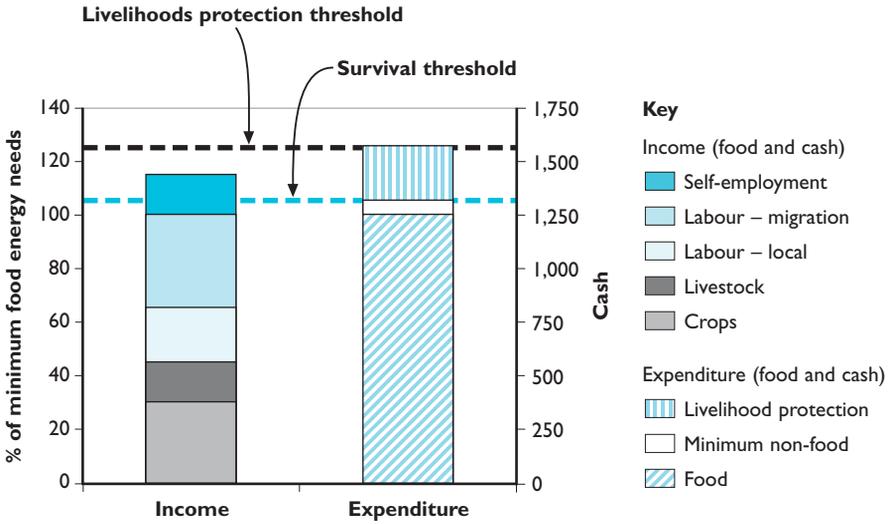
Step 6: Projected outcome

The output from an outcome analysis is the projected outcome: an estimate of total food and cash income for the current year, once the cumulative effects of current hazards and income generated from coping strategies have been taken into account. To determine whether an intervention of some kind is required, projected total income is then compared against two locally defined thresholds: one defining the minimum survival requirements, and the other setting out what it takes to protect people's livelihoods (see Figure 7 overleaf).

Where HEA is used across a whole country, the analyses of affected livelihood zones together provide a national-level, comparative picture of how different groups and areas are affected and why, and of which interventions may be most appropriate.

Once the projected outcome has been calculated, the core assumptions underlying it need to be monitored. This is critical in ensuring that response plans can be adjusted, either because trends in (for example) prices or employment are diverging from initial assumptions, or because more accurate data (for example, on production) becomes available. Food security monitoring is also important for verifying initial predictions and the

Figure 7: Livelihoods protection and survival thresholds



In this example, income is sufficient to cover basic survival needs, but not enough to cover minimum livelihood requirements.

The **survival threshold** represents the total food and cash income required to cover:

- 100% of minimum food energy needs (2,100 kcals per person), plus
- the costs associated with food preparation and consumption (ie, salt, soap, kerosene and/or firewood for cooking and basic lighting), plus
- any expenditure on water for human consumption.

Note: Items included in categories b) and c) together make up the minimum non-food expenditure basket, represented by the white bar in the expenditure graphic.

The **livelihoods protection threshold** represents the total income required to sustain local livelihoods. This means total expenditure to:

- ensure basic survival (see above), plus
- maintain access to basic services (eg, routine medical and schooling expenses), plus
- sustain livelihoods in the medium to longer term (eg, regular purchases of seeds, fertilizer, veterinary drugs, etc), plus
- achieve a minimum locally acceptable standard of living (eg, purchase of basic clothing, coffee/tea, etc)

effectiveness of response programmes; in the latter half of 2005, for example, data from the Malawi Integrated Nutrition and Food Security Surveillance System (Ministry of Health/Action Against Hunger) played an important role in verifying the initial Malawi Vulnerability Assessment Committee prediction and indicating that the response was far from adequate.³