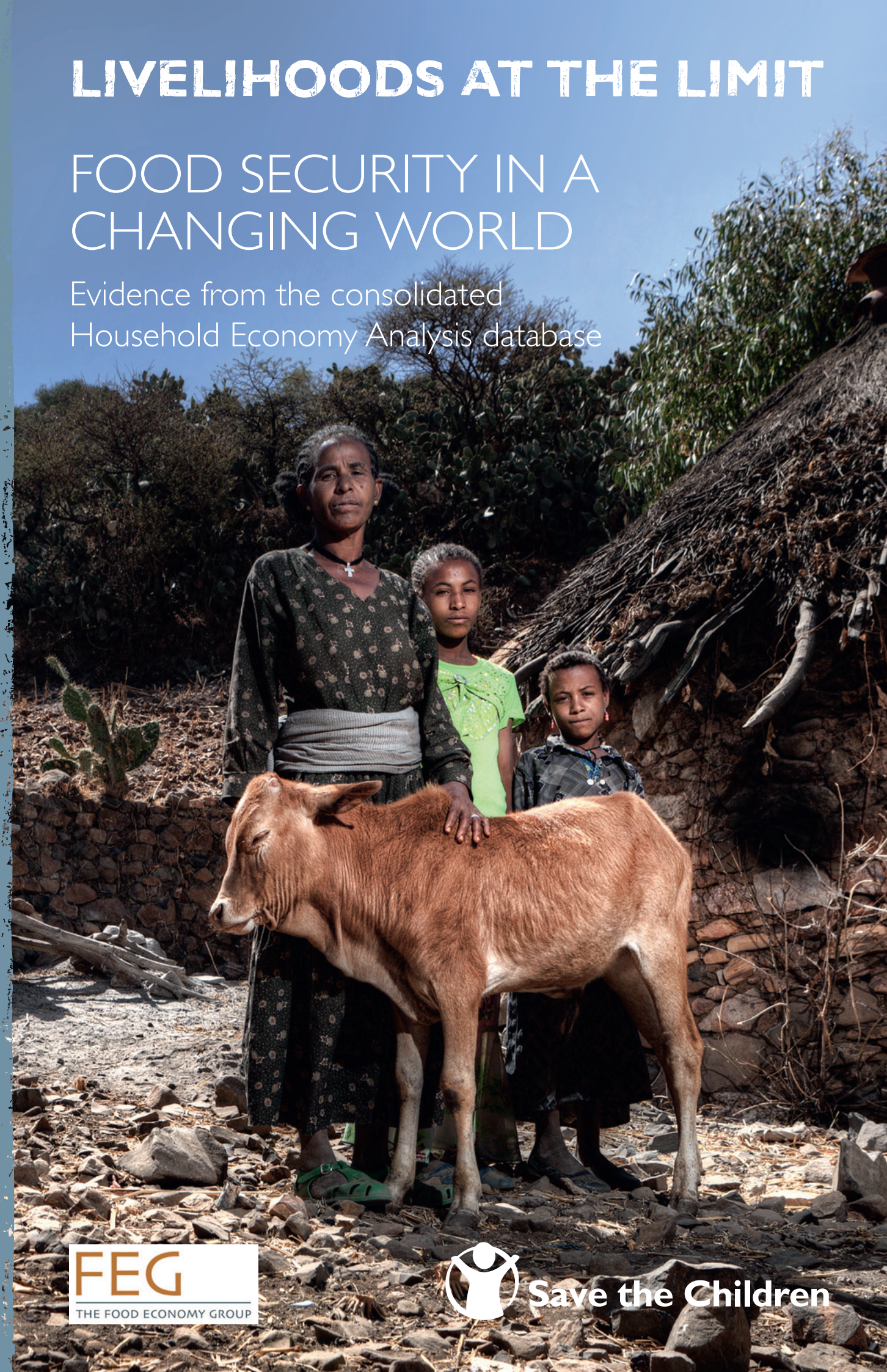
LIVELIHOODS AT THE LIMIT

FOOD SECURITY IN A CHANGING WORLD

Evidence from the consolidated Household Economy Analysis database



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We help them fulfil their potential.

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Cover photo: Woizer and her daughters Serkanem, 15, and Eskedar, 10, outside their home, with one of the calves they have raised through a livelihood programme supported by Save the Children. The family has also been given beehives to produce honey for the local market. (Photo: Colin Crowley/Save the Children)

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EXECUTIVE SUMMARY

This paper provides an initial opportunity to delve into the consolidated Household Economy Analysis (HEA) and Cost of the Diet (CoD) databases in an attempt to find common tendencies and patterns that tell us about food security, especially for poorer households in rural – and in a more limited way – urban settings.

Although the data set is by no means representative of all the world's rural areas, it does provide a significant statement about what it means to be poor in at least three major African countries, with national coverage of Burkina Faso, Ethiopia and Zimbabwe. Further, the data set provides significant coverage of many areas of the Sahel, East and Southern Africa, along with single zones in Colombia and South East Asia, including Cambodia, Indonesia, Myanmar (Burma) and Pakistan.

The patterns that have emerged in this enquiry are very likely to hold true in other rural areas, where a limited set of options for obtaining food and cash income exist and where a similar set of rules and norms operate, bound by the common parameters of all rural economies. These patterns encourage us to look beyond accepted truths and to take on board the **growing importance of the cash economy, the critical role of livestock in agricultural economies and the growing tendency for labour to provide a means of obtaining cash income for poorer households in agricultural areas**. A better understanding of the constraints and opportunities that frame rural and urban livelihoods, grounded in the reality of this substantial base of evidence, is an important starting point for investing strategically in programmes and policies that will deliver the greatest value for money.

The main policy and programme design conclusions that emerge from the sum of evidence presented in this paper include:

First, the HEA evidence overwhelmingly shows that the majority of households on the poorer end of the rural spectrum meet their food and cash needs from sources *other* than their own crop production. Where limited resources are available, priority should be given to those options with the greatest return on investment for poorer households. Strategies to assist improvements in food security and poverty reduction must address the perceived risks that drive the choices smallholders make. Successful investment in poorer smallholders' production requires an enabling environment for livelihood investment strategies including, among other things, investment in better risk management approaches that alleviate critical seasonal (and post-bad year) cash flow constraints. It is also essential for agencies to understand the potential impact that new projects will have on household labour that is commonly employed at maximum levels.

Second, much of poor households' total income is obtained through deploying their own labour – often locally on the farms or businesses of richer households and, increasingly, through seasonal migration to better-off areas within and outside of their own countries. Therefore, investments in protecting labour income should be considered more seriously as a means of reducing seasonal and inter-annual food security risks, and as an avenue for reducing poverty. Aid and public investment should be aimed at helping poorer farmers to increase their earnings *off* their land as much as on their land. There will be varying opportunities for influencing casual work payment rates on a legal basis; but business skill development and market savvy vocational training (e.g. in carpentry or masonry) and perhaps subsidy of productive equipment may also lead towards higher work earnings.

The patterns found in the HEA data challenge us to think creatively about how one might find ways to protect and ideally enhance the one clear capital that poor households have to offer: their own labour. Labour protection is largely absent from the food security agenda; the evidence presented in this paper suggests that it should be a central issue.

There is a role for governments, supported by multi-lateral agencies such as the International Labour Organization (ILO), the World Food Programme (WFP) and the World Health Organization (WHO), to come together around the objective of protecting the well-being and productivity of household labour for food security and poverty reduction.

Third, the HEA data highlights the importance of livestock as a source of cash income in all livelihood zone types. This revelation suggests a need to seriously consider redirecting a certain portion of development resources towards supporting and protecting the vitality of livestock and livestock markets in agricultural areas even where cropping dominates.

Fourth, the sheer size of the gap between total income and the cost of a nutritious diet, particularly for the poorest households, suggests that a combination of strategies is necessary to improve access to nutrients essential for the well-being of mothers and the growth of children by raising incomes (via investment in viable livelihoods and/or large social transfer programmes) and by reducing the cost of nutrient dense foods while extending the coverage of fortified foods.

BACKGROUND

Household Economy Analysis (HEA) was developed 20 years ago as a systems-based approach for assessing household food security. HEA investigates how access to food is inextricably linked to households' broader livelihoods – how they produce food and generate cash income, what they need to spend money on in order to survive, and, in turn, how they are connected to larger economic systems.

To date, more than 300 HEA baseline studies have been generated, covering much of Africa as well as locations as far apart as Nicaragua and Pakistan. HEA produces quantified analyses of the economic operations of typical households within a given ecologically and economically homogenous area, defined as a 'livelihood zone'. HEA categorises households into one of four wealth groups according to local criteria (very poor, poor, middle income, and better off), so that distinct descriptions are made of four levels of wealth from the poorest to the better off.

The available HEA studies, ever-growing in number, constitute a major information resource on rural and urban livelihoods in developing countries. Because the information was collected strictly according to the same rubric, this is a unified dataset that allows for comparisons to be made across a plethora of different ecologies and economies. HEA baseline studies (at the national and local levels) have been used most often to guide humanitarian decision-making, typically in the arena of emergency assistance; but they have untapped value as a base of evidence to help guide the value-for-money investments of government and international aid development funds, and in helping define (and refine) what food security, poverty reduction and building resilience mean, and how to achieve them, in different livelihood contexts.

This report draws on the compiled HEA baseline dataset to provide empirical evidence to address key policy and operational questions related to food security, as shown in the box overleaf. These questions emerged from a process of exchange with the reviewers of this report, who are selected experts and policy advisers in the areas of food security, agriculture and livelihoods. As noted in the text box below, two other reports with a different set of questions – one related to disaster risk reduction and adaptation to climate change and one related to social protection – are being produced as part of this *Livelihoods at the Limit* series. While this paper uses an aggregation of the HEA baseline data to address the

WHERE THIS REPORT FITS

This report is part of a larger effort undertaken by Save the Children UK and The Food Economy Group, drawing on a recently consolidated set of HEA data from a range of livelihood contexts across 26 countries. The outputs from this effort include:

1. Regional databases containing all the baseline information for each livelihood zone, with a written profile for each individual study.
2. Three thematic reports targeted at specific decision-maker groups covering: food security and nutrition; social protection; and disaster risk reduction and adaptation to climate change. This report is one of those thematic papers.
3. A summary paper that pulls these themes together and a peer-reviewed paper for publication in a journal.
4. A dedicated website containing all the HEA data and profiles used in this study, as well as older HEA-based reports (pre-2005) and the small but growing collection of Cost of the Diet studies using HEA baseline data.

FOUR KEY QUESTIONS

This report addresses four key questions:

- What does it mean to be poor in rural areas today and how does this relate to food security?
- What part does cash play in rural livelihoods?
- Should the livestock sector get priority attention?
- What can we learn from the existing (limited) urban HEA database about broad differences between urban and rural poverty?

questions posed, the disaster risk reduction and social protection-focused reports use HEA-based outcome and scenario analysis. Readers with an interest in the wider range of questions that can be answered using both HEA baseline and outcome analysis should review all three reports. In this thematic report, issues of equity will be explored where relevant; because all the HEA data are disaggregated by socioeconomic group, it is possible to obtain a clear picture of which groups might be most (and least) affected by food insecurity within a particular geographic area. This summary report does not intend to offer analysis country by country. Part of the information contained in the HEA database comes from fragile states, or what might be identified as fragile areas within states, in terms of relative weakness of institutions and precarious market conditions.

THE HEA DATA AND ANALYSIS[1]

This report does not delve into the methodology used in HEA, but rather focuses on the body of evidence that has resulted from its sustained use over the past 20 years. Other papers and guidance are available on the methodology that underpins HEA. (See especially *The Practitioners' Guide to the Household Economy Approach*, as referenced in endnote 1.) In this report we hope to draw out significant patterns that emerge from viewing the data as a whole, and from these patterns we offer initial hints as to relevant policy implications, rather than grand conclusions or detailed prescription. It is in the context of a growing requirement to ground programme and policy decisions in a sound base of evidence in order to maximise value for money from public investments that this consolidated set of data is presented here.

The livelihoods data contained in the consolidated HEA dataset results from intensive field interviews with thousands of rural and urban household members. HEA is a systematic way of organising and making more powerful the economic realities of local people, by providing a structured format in which essential economic information about people's livelihoods can be stored, compared and analysed. This paper draws on HEA data from 316 livelihood zones in 26 countries: Botswana, Burkina Faso, Cambodia, Chad, Colombia, Djibouti, Ethiopia, Haiti, Indonesia, Ivory Coast, Kenya, Lesotho, Liberia, Mali, Mauritania, Mozambique, Myanmar (Burma), Namibia, Niger, Nigeria, Pakistan, Rwanda, Senegal, Somalia, Uganda and Zimbabwe. **It should be noted that the conclusions that emerge from this analysis are not meant to be extrapolated to or representative of areas beyond those covered in the dataset.** It should also be stated up front that Ethiopia is heavily represented in this dataset, although there is national coverage of several other countries including Burkina Faso, Djibouti and Zimbabwe along with a number of sub-national livelihood zones. (Please see Annex 1 for details on the country coverage.) These national datasets tend to be more balanced than the one-off zones, since they contain information on both surplus-producing and deficit areas in the country. The particular bias for many of the sub-national zones is that they were typically targeted for HEA work precisely because they were more food insecure than other areas of their respective countries. If anything, then, the dataset is biased towards *especially* food-insecure areas, and *less* towards more food-secure, better-off areas. This diversity is illustrated in Annex 3, which compares the data from Ethiopia and the rest of the dataset.

The fieldwork to gather HEA data in one livelihood zone takes approximately two weeks, covering at least eight representative villages or sites, with focus groups from four wealth groups interviewed in each village or site. In total, this data represents the findings from interviews with more than 40,000 individuals in more than 2,500 villages or sites. In the regions from which the data has been collected, this is arguably the most comprehensive and enduring comparative statement available to date about local livelihoods. The patterns that emerge from looking at this data as a whole provide a coherent picture that can help inform our thinking on important issues affecting food security.

WHAT DO HEA AND COST OF THE DIET STUDIES HAVE TO DO WITH FOOD SECURITY?

Food security in this report is defined as "ensured access to sufficient, safe and nutritious food at all times for all people".[2] There are four important components included in this definition. First, *'ensured access'* suggests a requirement to understand the various mechanisms by which people obtain their food, extending beyond just crop production to include livestock production, market purchases and the full means of generating income to fund these purchases. Second, the term *'sufficient, safe and nutritious food'* means that food security analysis is informed by an implicit reference to two quantified thresholds, which here means the level below which people simply do not have enough food to survive and also the level to afford a nutritious diet. The inclusion of *'at all times'* challenges food security practitioners to understand both seasonal factors and the effects of shocks on food access, whether within years or from one year to the next. Finally, *'for all people'* reminds us that not all people have the same access to food – even within the same rural community – and we must understand how differences in wealth and status influence people's ability to secure sufficient nutritious food.

Over the past 20 years, HEA has become an important tool for describing and analysing food security. This is because it responds to most of the above factors, building up a full picture of the various mechanisms used by different types of households (*wealth groups* in HEA terms) in different geographical areas (*livelihood zones*), to obtain access to sufficient food (measured against *survival and livelihood protection thresholds*) at different times (using both *seasonal analysis* and *outcome analysis* to look at the effects of various shocks). The results of HEA assessments and analysis provide a quantified statement on food access and a rich description of various essential factors affecting food security.

There is no single key to understanding the worst of all outcomes of poverty and food insecurity: childhood malnutrition and associated mortality. The causes are complex, involving factors of environment, disease, child-care and culture. But food security in the sense of sheer access to food is a fundamental element; and HEA information quantifies not only how far poorer rural people usually are from food self-sufficiency (even in localities of relatively high food production), but the competition between different claims for essential expenditure in constrained household budgets, where non-food items loom surprisingly large.

HEA allows us to investigate sufficiency of basic energy consumption (in calories). Further to this, **Cost of the Diet (CoD)** studies, increasingly building on HEA data, highlight and enumerate poorer people's frequent inability to afford a diet from foods available locally that includes *all* the necessary nutrients for children to grow to their full potential. The CoD method contributes to an understanding of food security by estimating the cost of buying the foods needed by a typical family to meet their average energy requirements, recommended intakes of fat, protein and micronutrients.

To do a CoD analysis, a list of all foods consumed by people in a livelihood zone is compiled; data on its unit price per 100g and seasonal availability are collected during market surveys and interviews with local traders. Interviews and focus-group discussions with local women are held in order to understand typical dietary habits. These data are entered into the CoD software, which then uses linear programming to estimate the minimum cost of four hypothetical diets: one that meets only average energy requirements; one that meets recommended macronutrient requirements, including fat and protein; and two which meet recommended macro- and micronutrient intakes – one of which is adjusted to reflect the typical dietary habits of households, and one which is not. The recommended intakes of all micronutrients are guided by international standards being set two standard deviations above the mean – in order to minimise the risk of deficiency – and they can over-emphasise actual requirements of individuals.

The annual cost of these diets can be compared with the estimated annual income and expenditure of the same-sized households generated by an HEA or other method in the same livelihood zone, in order to estimate the affordability of the four diets for each wealth group. This information can illustrate a possible gap between income and the cost of meeting recommended nutrient intakes in a livelihood zone.

While there is no space here to describe fully the links between the CoD method and that of the HEA, Save the Children continues to develop and refine these links, thereby contributing to knowledge and helping to inform actions aimed at preventing malnutrition.

KEY QUESTION 1

What does it mean to be poor in rural areas today and how does this relate to food security?

Among developing country governments and international donors, investment in agriculture is considered a priority for reducing poverty and improving food security.[3] There is a common focus on increasing smallholder production, notably food production. But what does it actually mean to be poor in rural areas today? Do poor households tend to rely essentially on their own production to meet their food needs? Or do poor households secure their food in other ways, challenging us to think more creatively about how to support their livelihoods?

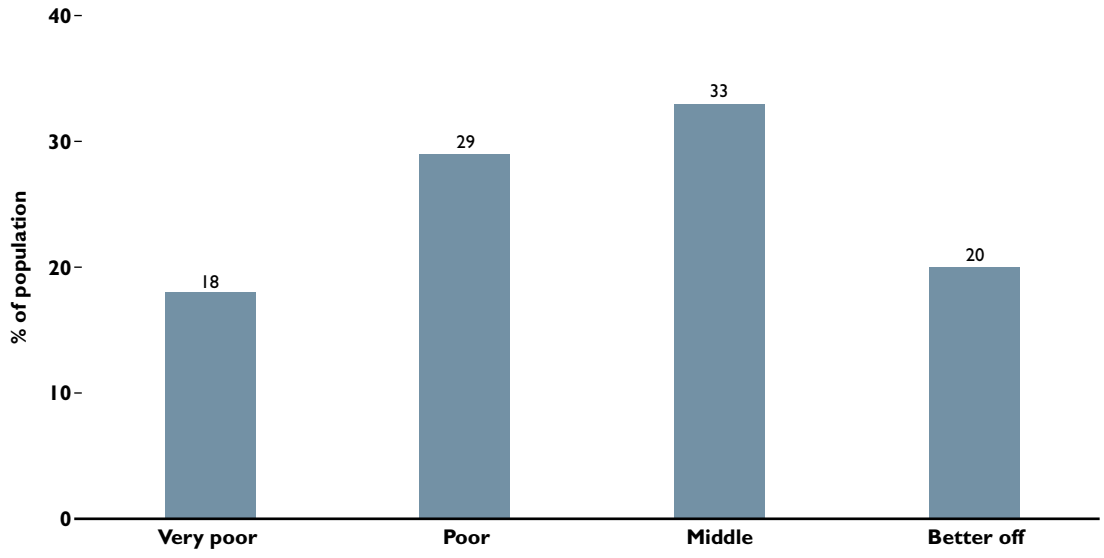
In answering this question it helps to first take a look at what the HEA dataset tells us about how poor households operate in an economic sense, because the patterns that emerge from this data help show how – in general – households secure their food and cash income. This provides an important context against which to judge the logic of particular investments that aim to secure and help strengthen people's livelihoods.

THE EVIDENCE FROM HEA

The first piece of evidence to present has to do with the general distribution of wealth in rural areas. In all the areas represented here, substantial differences in wealth exist among households. HEA employs a standard participatory approach in the field with communities defining their wealth groups. This process typically results in a breakdown of the population into four distinct wealth groups as defined by local people themselves.[4]

Figure 1 provides a wealth breakdown[5] that shows the average[6] for the population across the four groups for all rural livelihood zones in the HEA datasets. This graph tells us that just under 50% of the rural population falls into either the 'very poor' or 'poor' wealth group. The balance changes from livelihood zone to livelihood zone, and in some areas much larger portions of the population make up the overall poor category; but this is the broad outline conveyed by the existing data set.

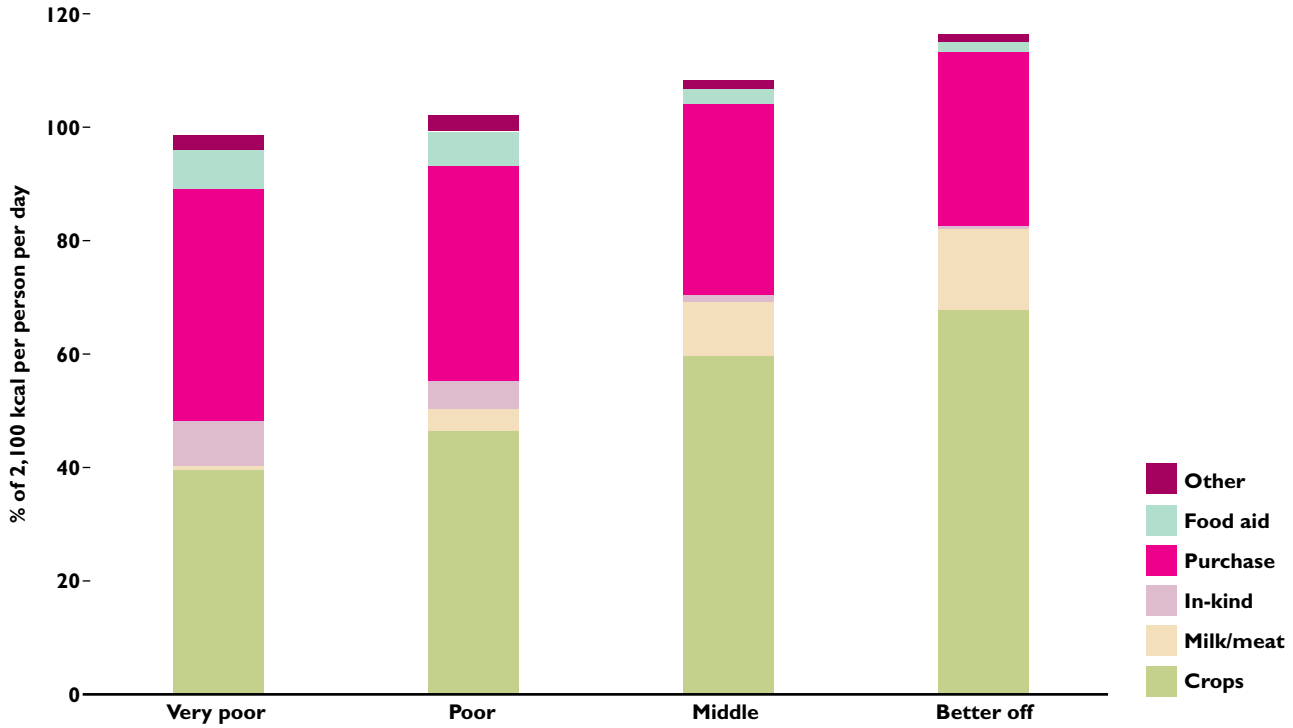
FIGURE 1. GENERALISED WEALTH BREAKDOWN, AVERAGE FOR ALL RURAL LIVELIHOOD ZONES



Certain patterns emerge when HEA data are looked at across a wide geographical spectrum. Figure 2 presents data for all rural livelihood zones in the consolidated HEA dataset, showing a generalised pattern that represents how rural households obtain their food. This graphic includes data from livelihood zones where people pursue quite different livelihood strategies (i.e. cropping, agro-pastoral, pastoral livelihood zones). For a more disaggregated view, please see Annex 2, which provides a breakdown of food, cash income, expenditure and total income by livelihood zone type and geographic region. What is clear at first glance is that even at this high level of aggregation, the bottom two wealth groups obtain **over half of their food from sources other than their own fields and/or herds**, overwhelmingly purchasing it from the market, but also receiving some food in-kind in exchange for labour, or as food aid or gifts. Middle and better-off households rely more heavily on food they produce themselves, purchasing a smaller amount. This is usually not because they need to fill a gap, but because they choose to supplement their production with preferred staples they don't grow (e.g. rice), and with items such as cooking oil, sugar, pulses, vegetables and meat, forming a more varied, palatable and nutritious diet. Poorer households are generally just barely meeting their minimum calorie requirements, whereas middle and better-off households consume between 110% and 120% of their minimum calorie requirements.

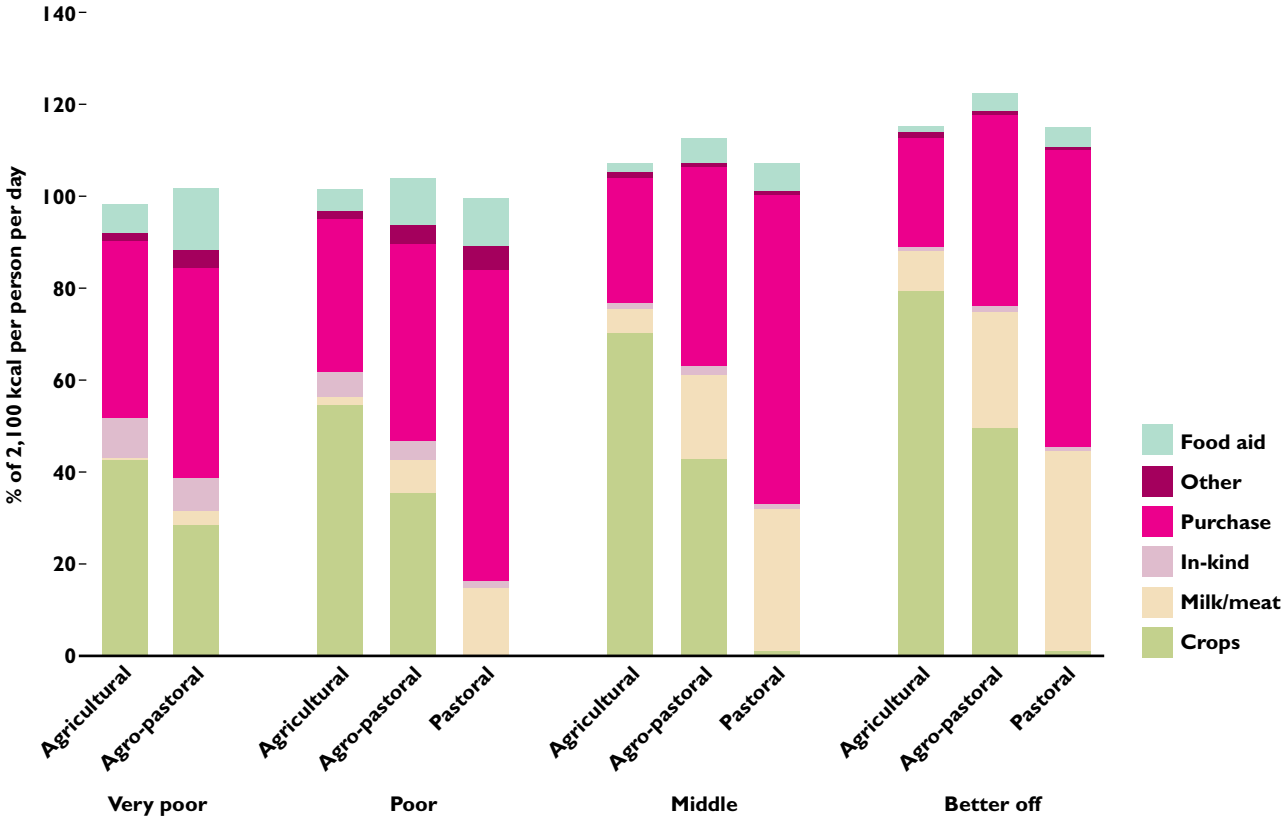
This pattern is shown even more distinctly in Figure 3, which presents the same data disaggregated by livelihood zone type. Here, one can see the effects that different livelihood strategies have in determining how people obtain their food, with pastoralists of all wealth groups relying crucially on the market for staple cereals alongside their own milk and meat, and, in the case of poorer pastoralists, in-kind exchange, gifts and food aid. Poorer agricultural households

FIGURE 2. SOURCES OF FOOD, ALL RURAL LIVELIHOOD ZONES



How to read this graph: The graphs above show the relative importance of different sources of food for four wealth groups across the entire HEA database for rural livelihood zones. 'Crops' means consumption from their own harvest; similarly, 'milk/meat' means consumption from their own herds. 'In-kind' means food received directly as payment of wages. On the far left are food sources for very poor, on the far right the data for better-off and poor and middle households are shown in the middle. The y-axis is the percentage of 2,100 calories per person per day. So, for instance, very poor households in this consolidated dataset cover around 40% of their annual food needs with their own crop production.

FIGURE 3. SOURCES OF FOOD, BY LIVELIHOOD ZONE TYPE AND WEALTH GROUP, ALL RURAL LIVELIHOOD ZONES



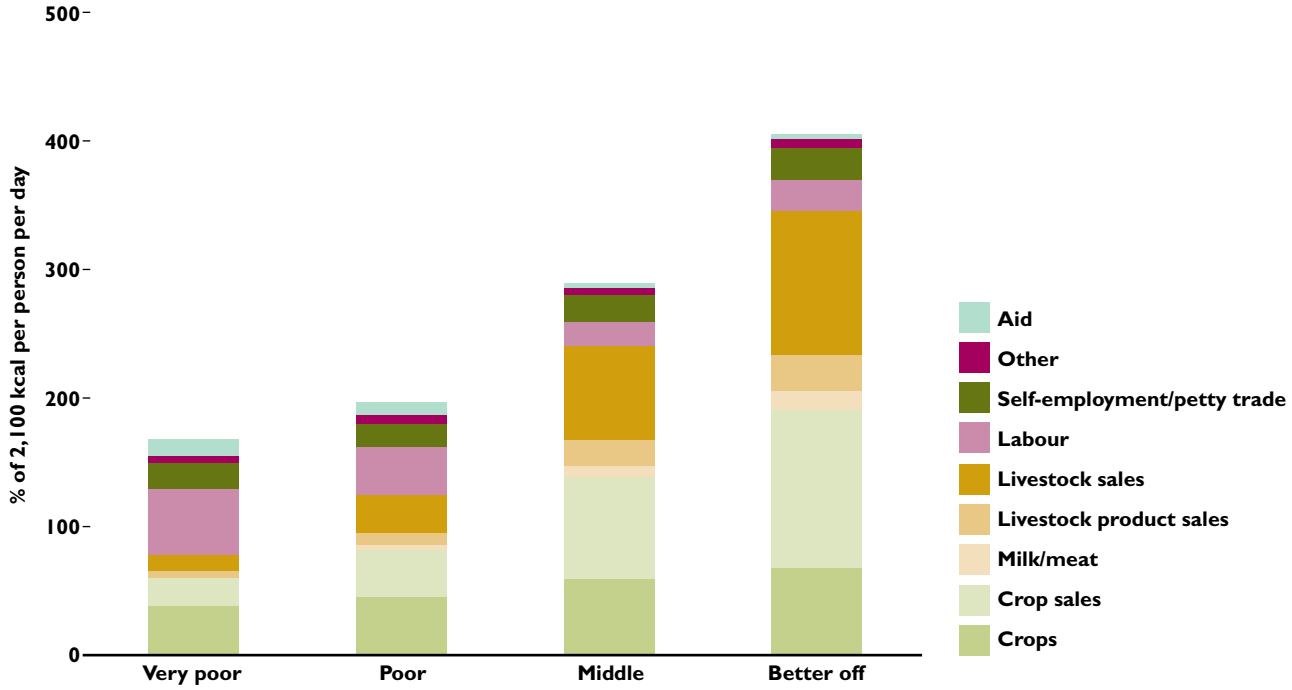
Note: In most pastoralist zones contained in this dataset only three wealth groups are available, which is why there is no data presented for very poor pastoralists.

How to read this graph: The graphs above show the relative importance of different sources of food for four wealth groups within three distinct livelihood zone groupings, including agricultural zones, agro-pastoral zones and pastoral zones. 'Agricultural' populations rely heavily on crop production, although livestock can be very important for their income. 'Agro-pastoral' populations rely more equally on crop and livestock production, although with different margins of emphasis on either side. 'Pastoral' populations are essentially herders with no or negligible crop production. On the far left are food sources for very poor households in each of these three zones. On the far right the data for better off households from these zones is presented. Poor and middle households are shown in the centre of the graph. The y-axis is the percentage of 2,100 calories per person per day. So, for instance, very poor households in the agricultural zones that are included in the HEA dataset cover, on average, just over 40% of their annual calorie requirements with their own crop production.

rely on a mix of their own crop production, in-kind exchange, purchase, gifts and food aid. Better-off agricultural households produce the vast proportion of their own food in the form of crops and milk/meat and, as we have seen, purchasing supplementary foods mainly to diversify their diets. Agro-pastoral households present a middle ground between these two general patterns, relying on a near equal balance of own production and purchase.

In rural areas, where crop and livestock production are the engines of wealth, to be poor means not owning enough land or livestock to generate sufficient production to cover household needs. The balance must be made up mostly through some form of earnings, and mostly in cash rather than in-kind. The implication is that poorer households are vulnerable to hazards that affect production (crop and/or livestock) but, at least equally and often more so, are vulnerable to hazards that affect markets – in particular, staple food price spikes.

FIGURE 4. TOTAL INCOME (FOOD AND CASH) BY WEALTH GROUP, ALL RURAL LIVELIHOOD ZONES



How to read this graph: This graph shows total income combining all annual sources of food and cash income, providing a complete picture of where people get the food and money they need to survive. 'Self-employment' includes such activities as cutting and selling firewood and fodder, brickmaking on one's own account, selling handicrafts and providing local ox-cart transport. 'Petty trade' usually means very small-scale retailing, but among the better-off it can mean something more substantial, including wholesale trade at the village level. 'Other' includes cash or food gifts from relatives or friends, and wild foods, as well as remittances, which is defined in this case as money sent back by people who are not considered regular members of a household. This is different from seasonal migrant labour income – money sent or brought back by a regular family member – which is included under the 'labour' category along with local agricultural and other labour. 'Aid' is official food or cash transfers. The results are provided for four wealth groups, shown along the x-axis. The y-axis shows the value of the food and cash in terms of how much of a household's minimum calorie requirements could be met by each source. Showing income in relation to calorie equivalents does not mean to suggest that households actually do convert all of their income to food; obviously households need more than just food, and utilise their income for purchasing both food and non-food items and services. However, using calorie equivalents makes it possible to compare across wealth groups and livelihood zones, and provides a meaningful reference point in all countries.

Figures 2 and 3 present a partial picture of livelihoods, showing only how people typically obtain their food across all livelihood zones. Figure 4 shows the consolidated picture across all livelihood zones of how people obtain *all* of their income, including both food and cash income. This fuller representation highlights more effectively the relative importance of production for better-off households; making it clear that the wealthier a household is in a rural area, the more that household's income is generated by crop and livestock production. The bars in Figure 4 show that, on average, better-off households are able to produce over 400% of their minimum requirements, expressed in minimum calorie terms. Only a small part of better-off households' income derives from off-farm sources such as employment or trade.

On the contrary for poorer rural people things *other than own production* are of critical importance, alongside on-farm production. As a measure of poverty, very poor households' total income, combining both their food and cash-generating capacity, is less than half

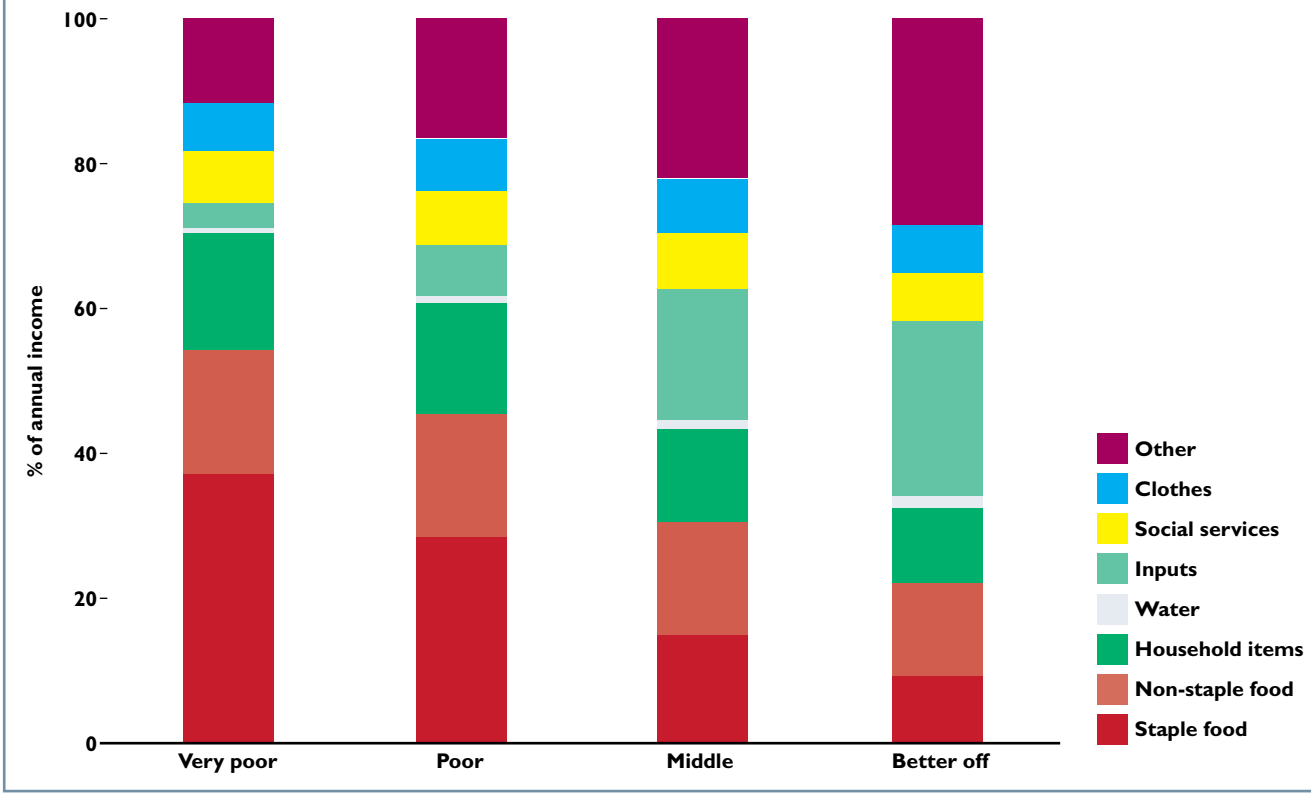
that of better-off households. If one were to convert all of the cash and food income for the average very poor household into food, it would cover only around 167% of that household's annual food needs. At first glance this may seem to suggest they have a surplus to requirements, but the reality is that after meeting their minimum food needs, these households have very little left over to spend on other essential items, such as investments in production, household items, school fees, health services and clothes. Based on the accumulation and application of HEA evidence over the past 15 years, a rule of thumb suggests that a total income of less than 200% of minimum calorie requirements typically means a household is barely scraping by, with potential long-term implications for human and particularly child development.

This is further illustrated in Figure 5, with evidence from the HEA dataset on expenditures. Here, we see that the most significant component of poor and very poor household expenditure is devoted to staple and non-staple foods. But a striking amount of expenditure goes towards household items, many of them weekly or even daily purchases which, though very small individually, mount up to a substantial proportion of overall expenditure to keep the household functioning. Poverty at this level means hard choices between buying, for instance, soap and lamp-oil instead of vegetables or sometimes even staple food. At the same time, very little money is left for investment in production, social services such as health and schooling, basic clothes and transport, among other items. Middle and better-off households spend a much larger percentage of their income on productive inputs and ceremonies and social obligations (included in 'other'), just as they spend a much smaller proportion of expenditure on food.

In much of the standard literature, it is stated that poorer people spend as much as 70–80% of their income on buying food. In fact, the consolidation of HEA studies show that this level is only reached in urban examples where, of course, food is almost wholly obtained through purchase. In the rural situation, it is not only that poorer farmers grow a certain amount of food for themselves, but that the essential costs of rural life are not confined to buying the balance of the food required – a set of items which collectively at least match food expenditure must also be covered.

For very poor rural households covered in this dataset, average expenditure on staple and non-staple food comprises just over half of annual income at 53% (37% staple and 16% non-staple). The HEA data, by adding up the incremental daily expenditures on items such as soap, kerosene, matches and salt, highlights

FIGURE 5. EXPENDITURE PATTERNS BY WEALTH GROUP, ALL RURAL LIVELIHOOD ZONES



the surprisingly high relative cost of household items for poorer households (16% of total income for very poor households), and shows how difficult it is for these households to afford even the minimum amount of calories, not to mention a fully nutritious diet.

THE EVIDENCE FROM THE CoD DATABASE

Although consuming enough energy is essential for an individual's survival, eating a diverse diet that provides protein, fat, vitamins and minerals is vital for all individuals at all stages of the human life cycle. A nutritious diet will, for example, support the growth and development of young children, strengthening resistance to infection and improving the chances of good educational outcomes and productivity in later life (Victora *et al.*, 2008).

The cost of consuming the recommended amounts of energy and micronutrients estimated by the CoD tool becomes a more meaningful figure when compared with the income and purchasing power of the poorest members of the community. A diet may be inexpensive in comparison with other contexts, but if it is beyond the means of the poor, then the risk of food insecurity and malnutrition remains.

The foods identified by the CoD software are defined as a diet. To estimate the affordability of a diet by wealth group, the difference between the annual cost of essential non-food items, and the annual estimates of cash income plus the cash value of all food that is consumed but not purchased, is compared to the annual cost of a diet.

Figure 6 shows the estimates of affordability of two diets for the poorest wealth group in four livelihood zones in four countries: a diet that meets only the average requirement for energy; and a diet that provides the recommended requirements for energy and the recommended intakes of protein, fat and micronutrients whilst taking into consideration typical dietary habits. The bold black line represents 100% of a very poor household's annual income, estimated by a concurrent HEA. This analysis indicates that although foods that meet only average energy requirements are affordable for households in all but one livelihood zone of those studied, shown below, a diet that meets recommended nutrient requirements is unaffordable in all zones, requiring as much as 236% more than annual income for very poor households in the central plateau cereals and market gardening zone of Burkina Faso.

FIGURE 6. THE ESTIMATED AFFORDABILITY OF AN ENERGY ONLY DIET THAT MEETS RECOMMENDED INTAKES OF ENERGY AND OF A DIET THAT INCLUDES ALL NUTRIENTS FOR VERY POOR HOUSEHOLDS IN FOUR LIVELIHOOD ZONES, IN FOUR COUNTRIES

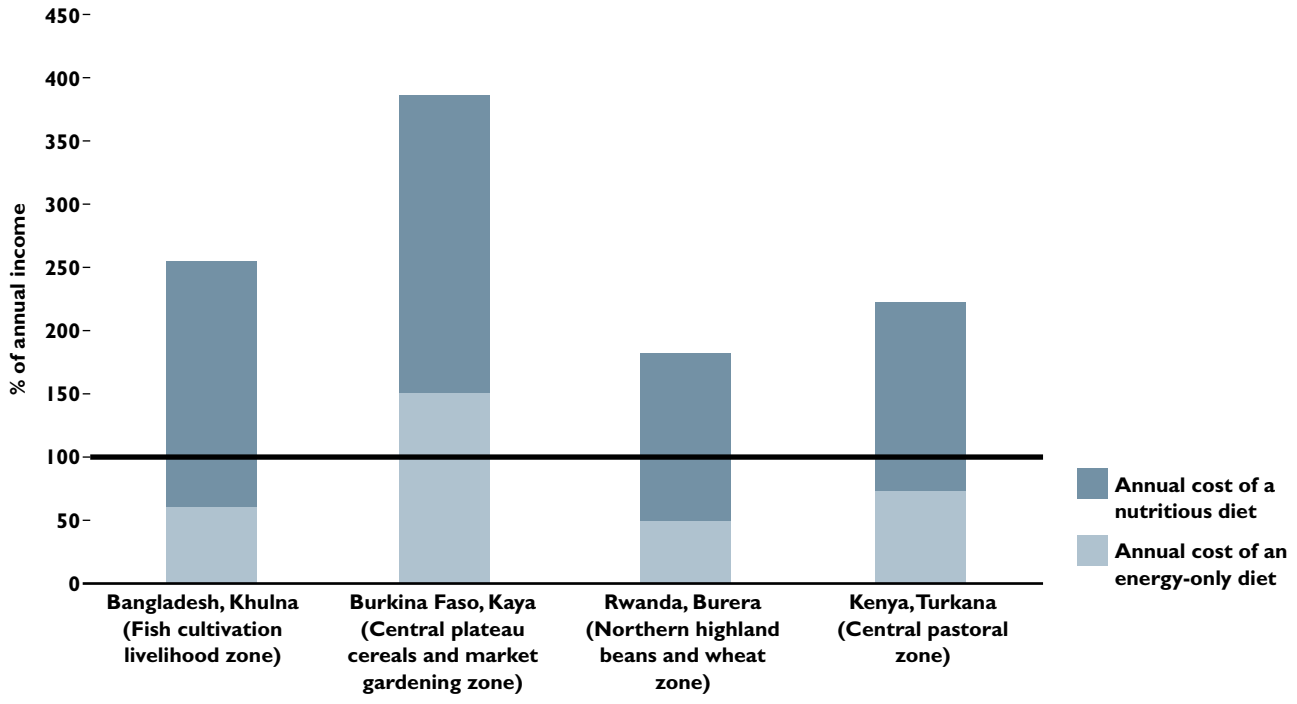


Figure 6 also shows that the affordability of a nutritious diet differs by country. For example, a very poor household in the Bangladesh livelihood zone studied potentially requires 158% more than its estimated annual income to afford a nutritious diet, compared with a poor household in the Rwanda livelihood zone, which requires nearly half of this (85% more). One of the main reasons for the high relative cost of a nutritious diet in all countries is that the requirements for micronutrients are set to minimise the risk of deficiency. Meeting the requirements for micronutrients using local foods typically means buying fruit, vegetables and animal products, which are relatively expensive. The difference in the affordability of a nutritious diet, therefore, depends on the availability and cost of micronutrient rich foods in a livelihood zone. For example, in Rwanda, yoghurt and avocados contributed to 36% of the overall cost of a nutritious diet annually, but were the main sources of fat, protein, vitamin C, B group vitamins including B12, folic acid, calcium and zinc. These two relatively inexpensive foods kept the cost of the diet down. However, in Burkina Faso, expensive small dried fish and beef provided the cheapest nutritious options. They contributed to 40% of the overall cost of the diet, in order to meet the dietary specification for protein, niacin, folic acid, vitamin B12, calcium and zinc.

The degree to which poor families cannot afford a nutritious diet with existing income levels contributes towards an understanding of the reasons for food insecurity and malnutrition, and can help to inform the strategies for improved access to a nutritious diet.

KEY QUESTION 2

What part does cash play in rural livelihoods?

One of the biggest shifts in rural areas over the past half century is the increasing disappearance of the pure subsistence economy. The degree to which rural economies were ever purely subsistence in nature is a matter for academic debate. However, the HEA data make clear the high degree to which rural economies are monetised today.

Local farm labour tends to be paid in cash rather than in kind, very commonly without any official intervention for minimum labour rates or employment practices. But where they can, poorer households tend also to put a good amount of effort into finding other sources of cash earnings, also enumerated amongst the data: from natural resources by cutting and selling firewood and fodder grasses, from brick-making, from handicrafts, or from off-season work in local or sometimes distant towns. In recent years, these livelihood factors have been increasingly taken into account by national food crisis early-warning systems, and their outcome analysed in view of production or price shocks in HEA-based predictive scenarios.

THE EVIDENCE FROM HEA

Figure 7 highlights the degree to which, across the board, cash has become an increasingly important part of the rural economy. The bars in the graph show the percentage of total annual income (food production and cash) that is comprised of cash. Here we see that nearly 80% of middle and better-off households' total income is made up by cash income, and well over half of total income for poorer households constitutes cash. For better-off households the cash component reflects the capacity they have to convert their more robust asset bases into income, and their ability to take advantage of market fluctuations to obtain the

FIGURE 7. CASH AS A PERCENTAGE OF TOTAL INCOME (FOOD AND CASH) BY WEALTH GROUP FOR ALL RURAL LIVELIHOOD ZONES

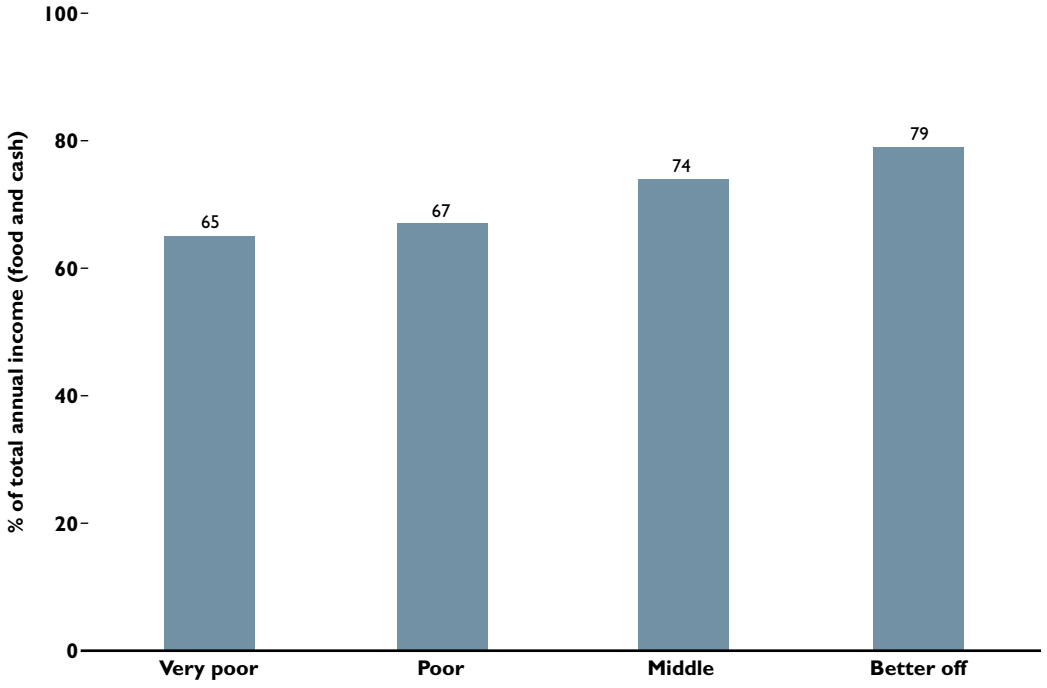
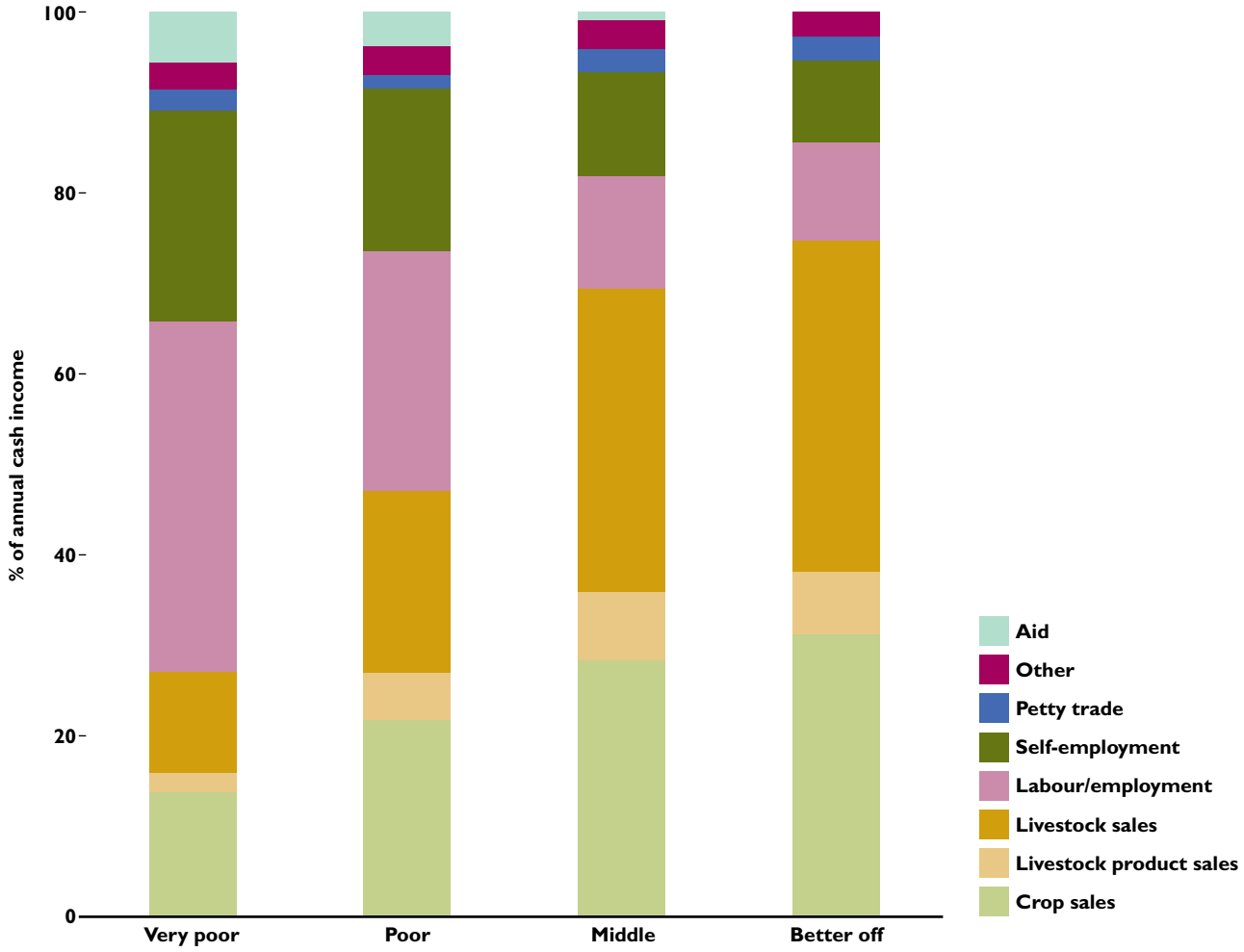


FIGURE 8. SOURCES OF CASH INCOME CONSOLIDATED FOR ALL RURAL LIVELIHOOD ZONES



best prices for their goods. This is possible because for the most part they meet the greater proportion of their food needs through own production, as seen in Figures 2 and 3 above; they meet the rest of those needs through purchase using cash generated largely from crop and livestock sales, as illustrated in Figure 8.

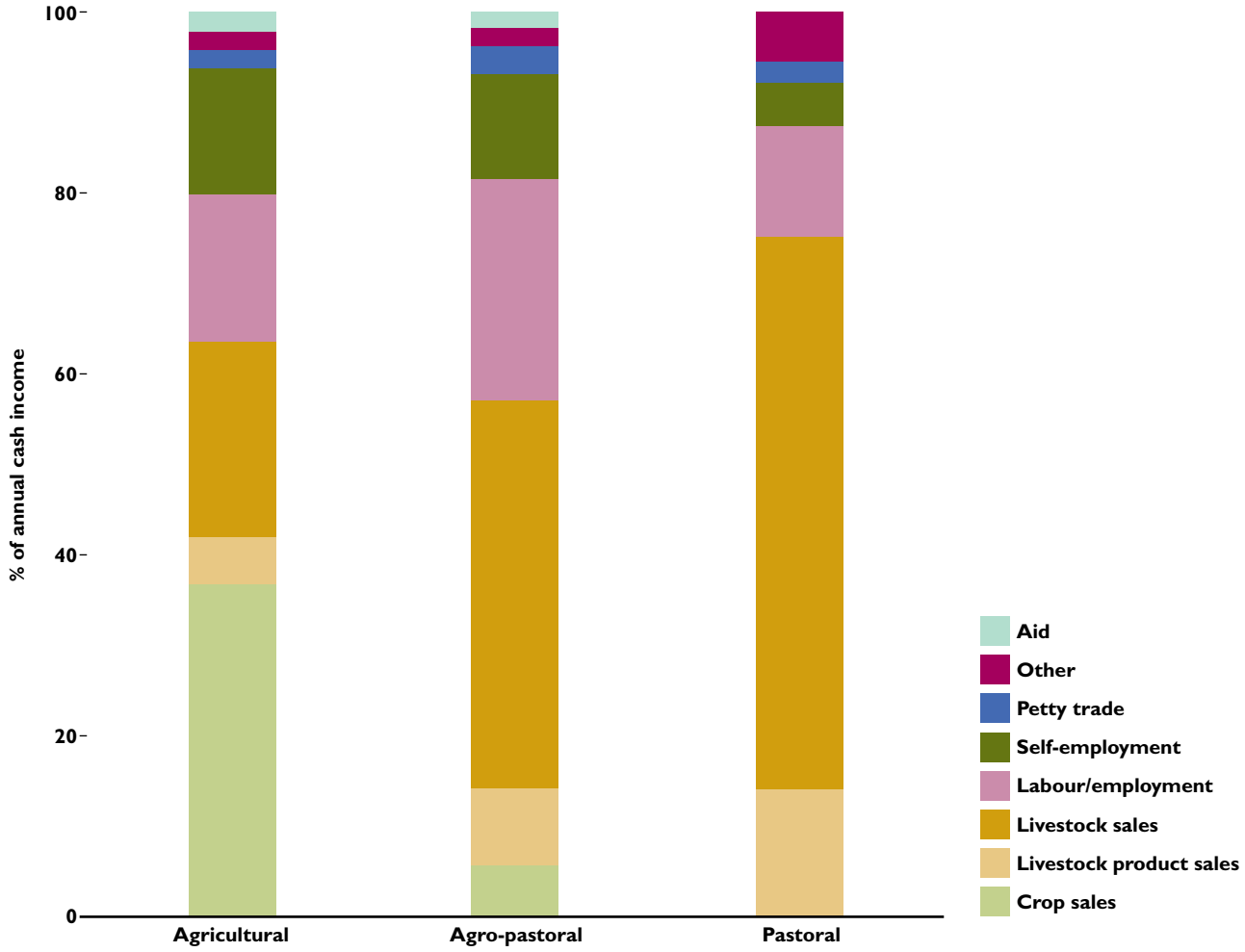
Cash income forms approximately 65–70% of total income for very poor and poor households. This is not the result of them having a productive asset base, however, and reflects just the opposite: having too little land and livestock to generate all of their own food, they must find ways to secure enough cash to purchase the balance of their food requirements – being saddled with the need to purchase 40–50% of minimum food needs through the market (as shown in Figure 2). In other words, the poorer you are, the more you depend on cash just to survive.

It is also worth recalling here that the poor secure, on average, less than half the amount of total income (food and cash) of the better off – averaging 167% of minimum annual food needs, compared to 400% for the better-off, as shown in Figure 4.

Key to the sustenance of these food and cash economies is the high level of interdependence among wealth groups. Cash income earned by the middle and better-off from crop sales (comprising nearly 30% of annual cash income) and livestock/livestock product sales (comprising nearly 40% of annual cash income) is used, in part, by those households to pay labour wages to the poorer households, who depend on this cash income source for some 20–40% of their annual cash income. This labour contributes to higher efficiency of production for wealthier households and, in turn, increased cash flow with which to both reinvest in productive activities and secure a higher standard of living. The labour of poor households is deployed to sustain themselves, but also has the effect of adding wealth to the larger economy.

Variations in the relative importance of different cash income sources for the three livelihood zone types

FIGURE 9. SOURCES OF CASH INCOME BY LIVELIHOOD ZONE TYPE, WEIGHTED AVERAGE



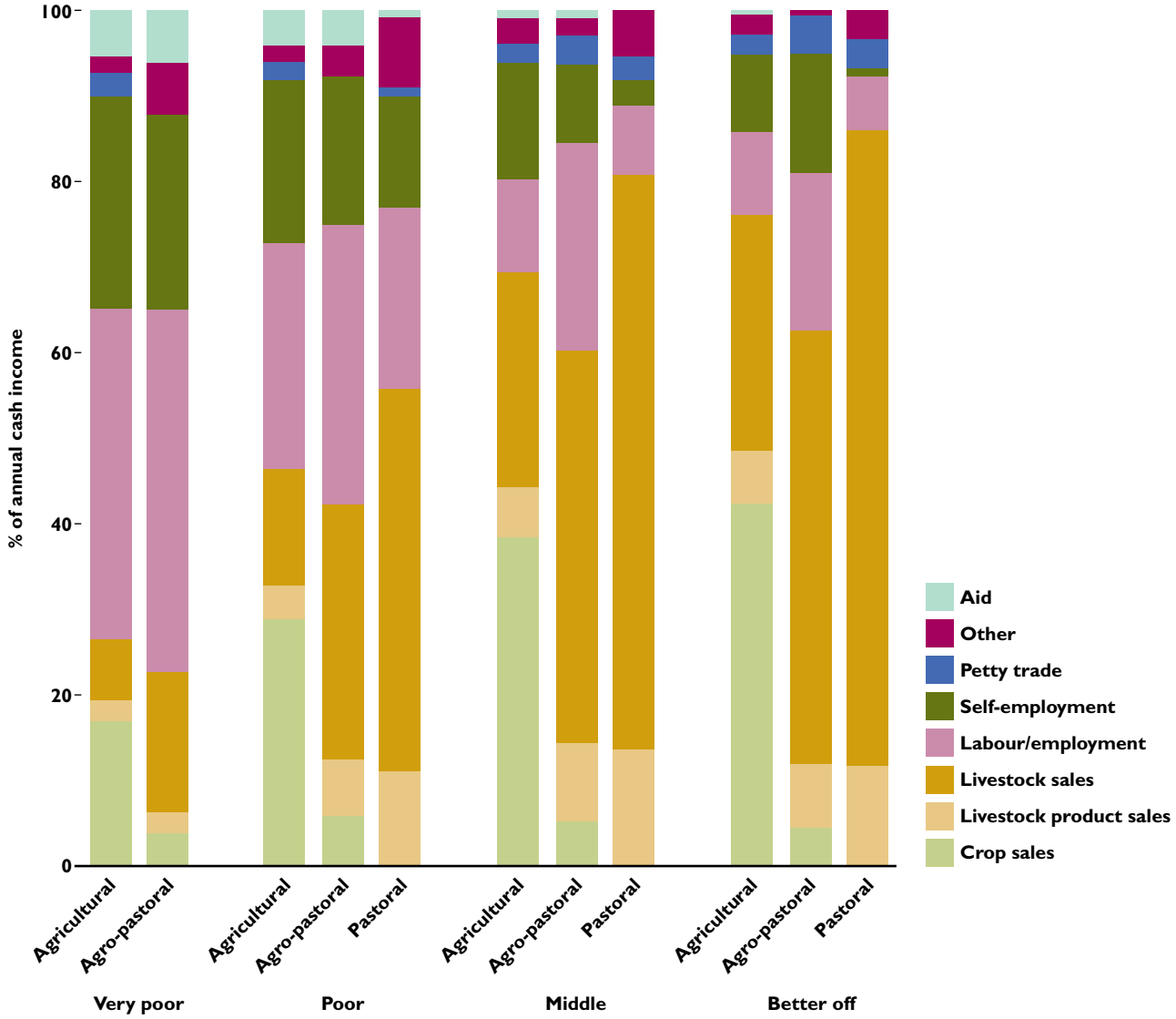
are shown in Figure 9. Households in agro-pastoral areas have, on average, the lowest proportion of their cash income met by own production (around 55% of annual cash income through crop and livestock sales), and the highest proportion of their cash income met by labour and activities exploiting their own labour, such as self-employment, petty trade and sale of environmental products such as charcoal and firewood. In their typically semi-arid environment, agro-pastoralists split investment between agriculture and livestock, but conditions tend to limit the productivity of either activity, necessitating in many of these zones a dependence on migration outside the area for labour opportunities elsewhere.

Pastoral households make maximum use of some of the most arid environments. Those who succeed in staying in the system, despite periodic drought and other shocks, pursue highly adaptive and mobile strategies to generate nearly 80% of annual cash income through livestock and livestock product sales, the highest of the three livelihood zone types. On average, only 20% of their annual income is derived from labour-centric activities.

Households in agricultural livelihood zones meet, on average, 65% of annual cash income through sales generated from their own asset base (crop and livestock). This falls in between agro-pastoral households' lower reliance on their own assets and pastoral households' higher reliance. Around 35% of cash income for an average agricultural household, then, is sourced from labour, either from the informal local economy for poorer households, or from formal wage employment for better-off households.

Clearly, as Figure 10 reiterates, it is the very poor and poor who bear the heavy labour burden in all three economies – agricultural, agro-pastoral and pastoral. This reminds us that one of the key characteristics of being poor is that one's most important capital is one's own labour, and the maintenance of that capital – not least through preventing ill-health – is critical for economic survival.

FIGURE 10. SOURCES OF CASH INCOME BY LIVELIHOOD ZONE TYPE AND WEALTH GROUP



Note: In most pastoralist zones contained in this dataset only three wealth groups are available, which is why there is no data presented for very poor pastoralists.

How to read this graph: The graphs above show the relative importance of different sources of cash income for four wealth groups within three distinct livelihood zone groupings, including agricultural zones, agro-pastoral zones and pastoral zones. On the far left cash income sources for very poor households in each of these three zones is presented, and on the far right the data for better off households from these zones is shown. Poor and middle households are presented in the centre two sets of graphs. The y-axis is the percentage of annual cash income. So, for instance, labour makes up around 25% of cash income for very poor households in the agricultural livelihood zones.

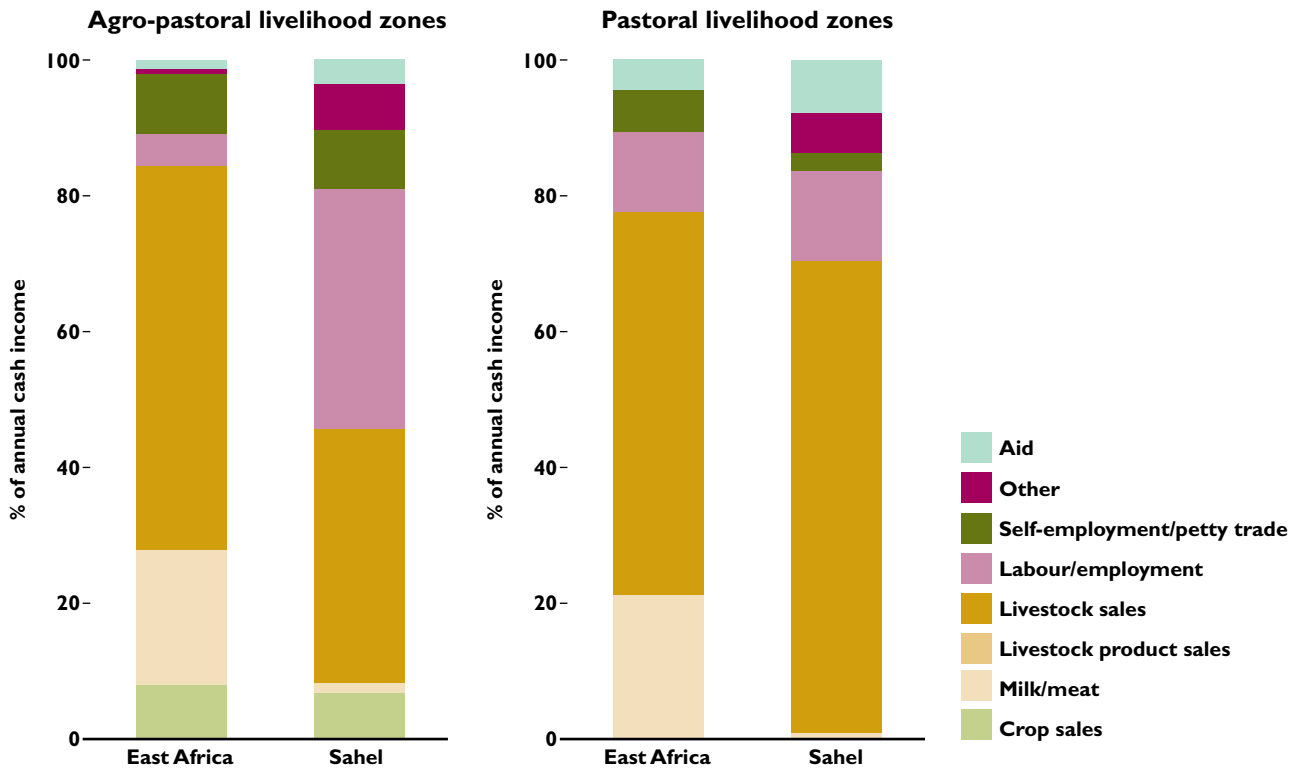
KEY QUESTION 3

Should the livestock sector get priority attention?

HEA studies in pastoral and agro-pastoral economies in east Africa and in the Sahel have highlighted the critical role of livestock in these economies. But what of the great majority of the rural population in most countries who are not pastoralists or agro-pastoralists? An important general finding from the HEA information is the prime role of livestock in the income of **ordinary farmers**, and not just professional herders.

In a number of instances the value of livestock sales outstrips that of crop sales for whole farming communities, a situation fuelled by the meat demand of burgeoning town populations. Livestock ownership is commonly even more highly skewed towards a better-off minority than is land ownership; but even a handful of goats is an important buffer against bad years for poorer people, and milk or butter sales from a single cow can make a big difference to a household budget. Aid agencies have successfully engaged in specific animal loan/subsidy projects for poor households, but on a broader front, the livestock sector is generally very much the poorer relation to crop investment by government and aid agencies alike.

FIGURE 11. SOURCES OF CASH INCOME, AGRO-PASTORAL AND PASTORAL ZONES, WEIGHTED AVERAGE



THE EVIDENCE FROM HEA

Figure 12 presents a consolidated picture of how important livestock and livestock product sales are as a percentage of total income for all rural livelihood zones contained in the database. It shows that, for middle and better-off households as a whole, livestock contributes around 40% of annual cash income, and even poor households (who tend to own goats and chickens, rather than cattle or camels) obtain around a quarter of their cash income from livestock sales.

Given that this consolidated sample includes all livelihood zones – from agricultural to agro-pastoral to pastoral zones – this in itself is a significant statement about the vital nature of livestock across the board in rural economies.

By taking the agro-pastoral and pastoral zones out of the sample, we can see the importance of livestock in agricultural areas across different regions. This perspective is shown in Figure 13. It is notable that, in the African context, nowhere does livestock income

FIGURE 12. PERCENT OF ANNUAL CASH INCOME FROM LIVESTOCK AND LIVESTOCK PRODUCT SALES BY WEALTH GROUP, ALL RURAL LIVELIHOOD ZONES

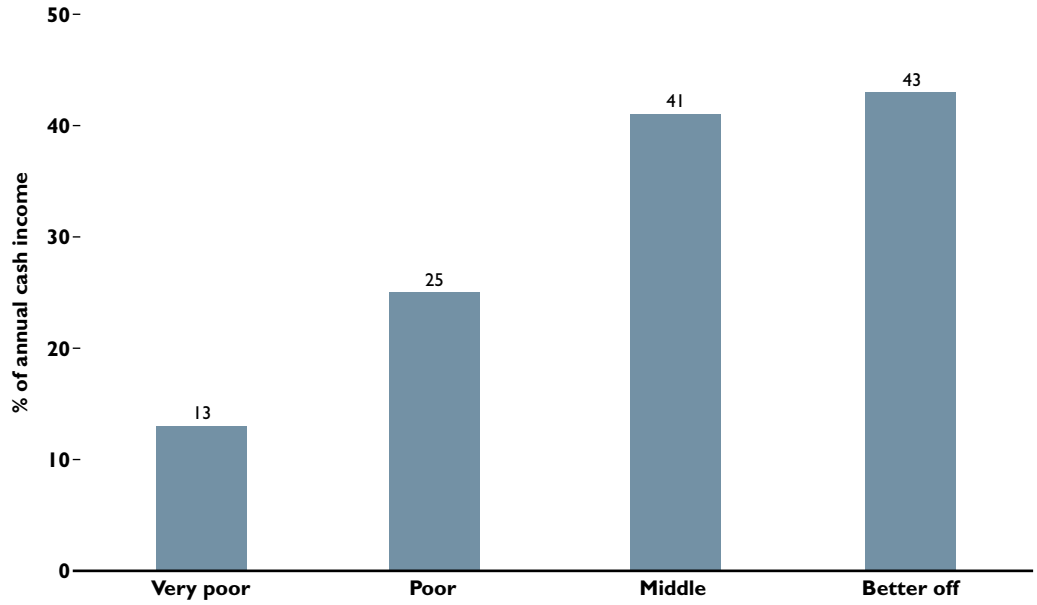


FIGURE 13. PERCENT OF ANNUAL CASH INCOME FROM LIVESTOCK AND LIVESTOCK PRODUCT SALES, AGRICULTURAL ZONES ONLY, WEIGHTED AVERAGE BY REGION

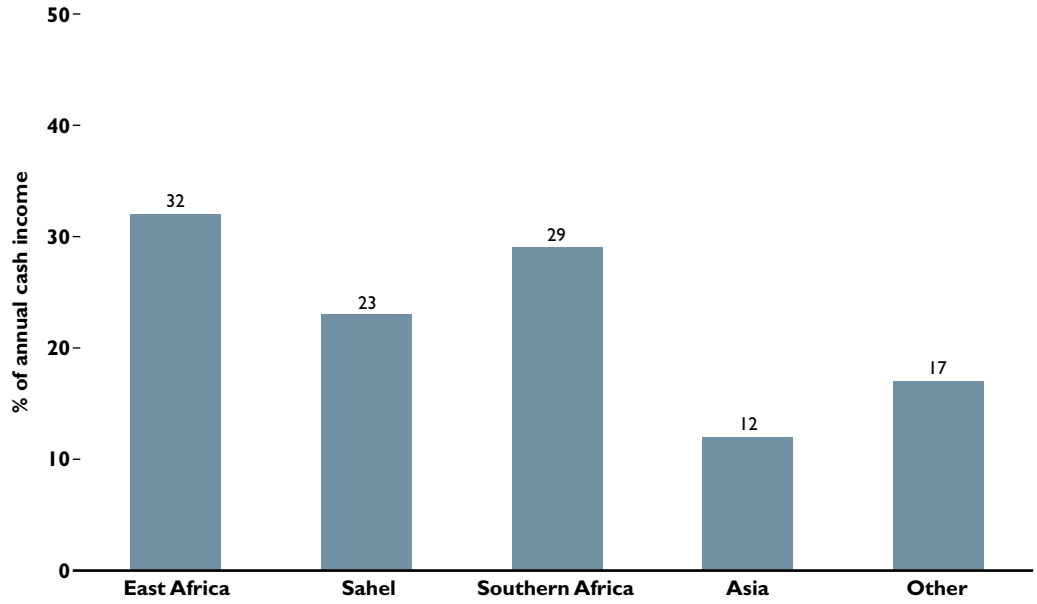
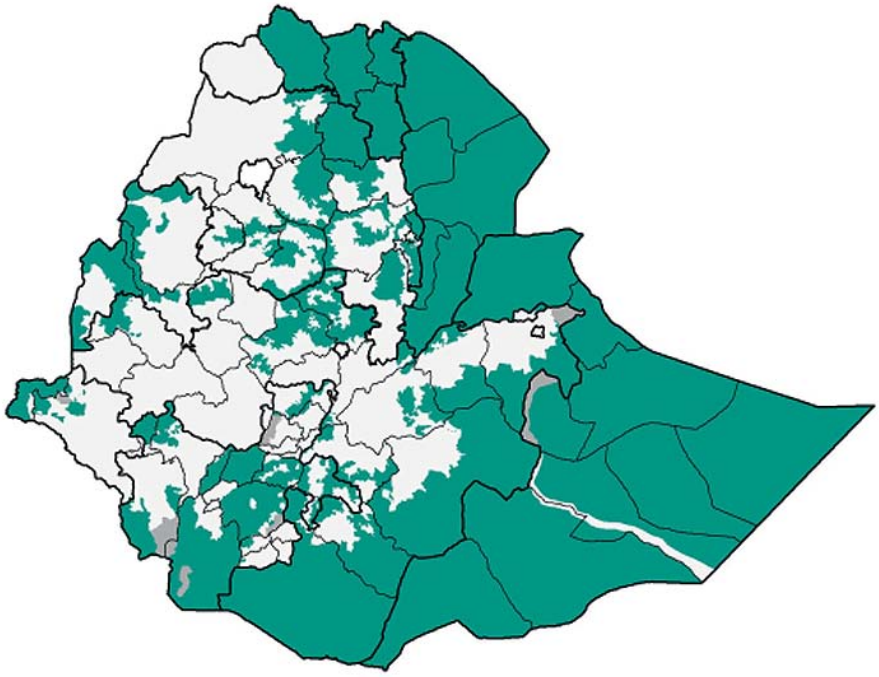


FIGURE 14. AREAS WHERE CASH INCOME FROM LIVESTOCK SALES EXCEEDS CASH INCOME FROM CROP SALES



Source: Atlas of Ethiopian Livelihoods, FEG/LIU Project, DRMFSS

comprise less than a fifth of total annual cash income in agricultural zones, and in east Africa it makes up a full third of cash income.

Looking at one major example – Ethiopia – one can see the extent to which the importance of livestock extends geographically across large areas of the country. The map in Figure 14 shows areas (in green) where sales of livestock generate more cash income for households than sales of crops. These areas include the pastoral and agro-pastoral areas of Ethiopia as well as significant swaths of agricultural zones in the north-eastern and central highlands and western lowlands.

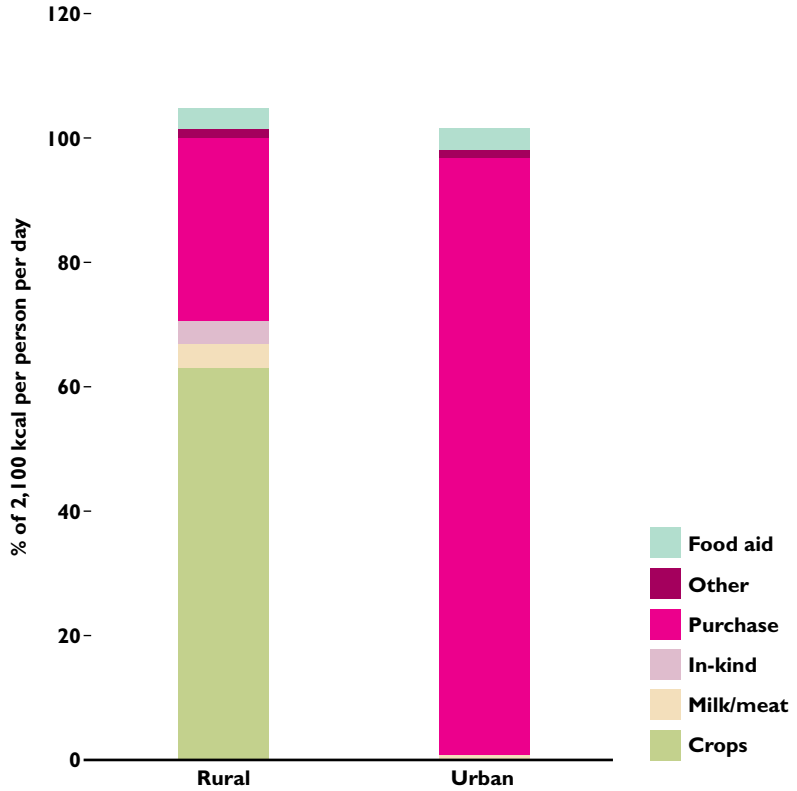
KEY QUESTION 4

What can we learn from the existing (limited) urban HEA database about broad differences between urban and rural poverty and food insecurity?

More than half the world's population now lives in cities, and the UN estimates that this figure will be over 60% by 2030. This is due in part to the perceived advantage of better economic opportunities in urban areas, and in part to the degradation of viable livelihood options in rural areas. The HEA data are beginning to contribute to our appreciation of food security in **urban** as well as rural settings.

To date, there are 12 quantified urban baselines available, which – while a small number – provide a toehold for us to further explore the particular nature of urban livelihoods. The increasing number of HEA studies in the urban context, analysing especially income levels and patterns of expenditure, shows the high vulnerability of unskilled and non-capitalised people to any event or economic downturn that threatens the marginal expenditure of customers for their services or their wares. Because of the limited number of HEA studies in urban areas so far, this data is being presented simply to share what has emerged

FIGURE 15. SOURCES OF FOOD: RURAL VS URBAN, WEIGHTED AVERAGE



from these enquiries. Far more work needs to be done in order to build our understanding of urban livelihoods and food security, and to enumerate the vital connections between urban and rural economies.

The following section pulls out from the database a few examples of the most notable differences highlighted in the evidence base between rural and urban livelihoods, drawn from urban HEA work done in Indonesia, Kenya, Somalia, Haiti, Ivory Coast, Zimbabwe and Mauritania. It should be noted that the urban surveys done to date are biased towards the poorer sections of cities. The graphics below do not include a picture of the very wealthy urban dwellers. In general, the wealth breakdowns in urban settings illustrate differences within the poorest part of the city (in some cases the slums), excluding middle and better-off sections of the urban geography. Given the limited number of studies, we are presenting the findings here to raise awareness about their existence rather than to draw significant conclusions about urban livelihoods as a whole. In addition, while linkages between rural and urban households are clearly important and even apparent in portions of the rural data (especially in some of the seasonal migratory labour income), it is beyond the scope of this report to delve into this arena.

THE EVIDENCE FROM HEA

The most obvious difference between rural and urban households is in the way they obtain access to food. As shown in Figure 15, urban households rely almost exclusively[7] on purchasing their food from the market. Rural households balance their purchases with food grown on their own plots, or produce (milk) or collect (greens).

This heavy reliance on purchased food for urban households is reflected in the expenditure patterns shown in Figure 16 and Figure 17. Here, it is possible to see a major difference in the requirements and priorities of these two livelihood systems.

In urban areas, households need to devote, on average, around 55% of their annual income to food expenditures (staple and non-staple), whereas in rural areas, on average, this expenditure takes up a much lower proportion of annual income. Rural households must spend a larger proportion of their incomes on productive inputs for their livelihoods, such as seeds, fertilisers, tools and livestock maintenance. The higher proportion of expenditure on non-staple food by urban households, even the poorer ones, suggest the possibility of a more varied diet, although not necessarily a more healthy diet,

FIGURE 16. EXPENDITURE PATTERNS RURAL VS URBAN, WEIGHTED AVERAGE

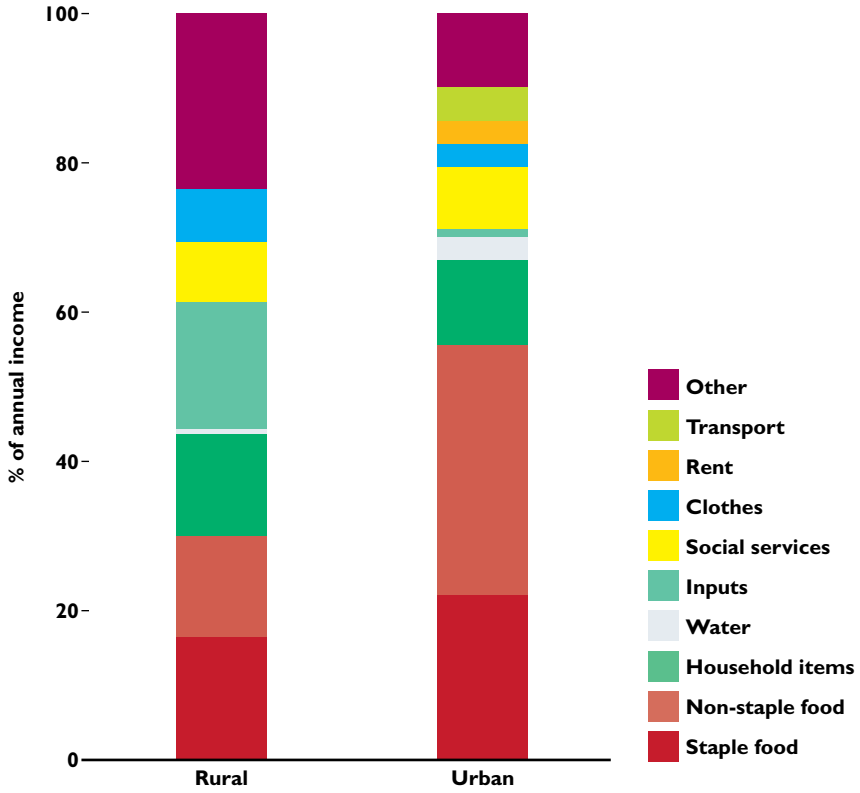
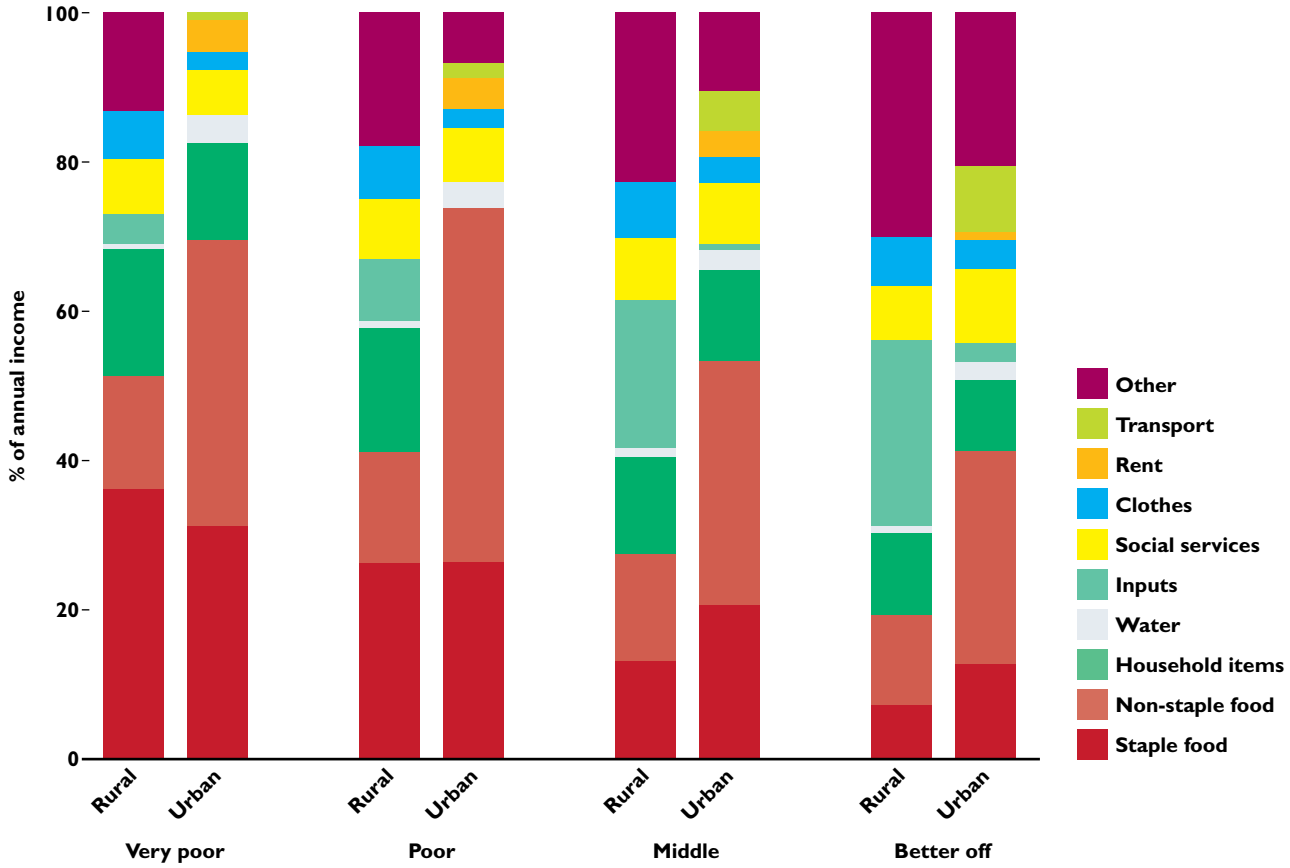


FIGURE 17. EXPENDITURE PATTERNS RURAL VS URBAN BY WEALTH GROUP, % OF ANNUAL CASH INCOME



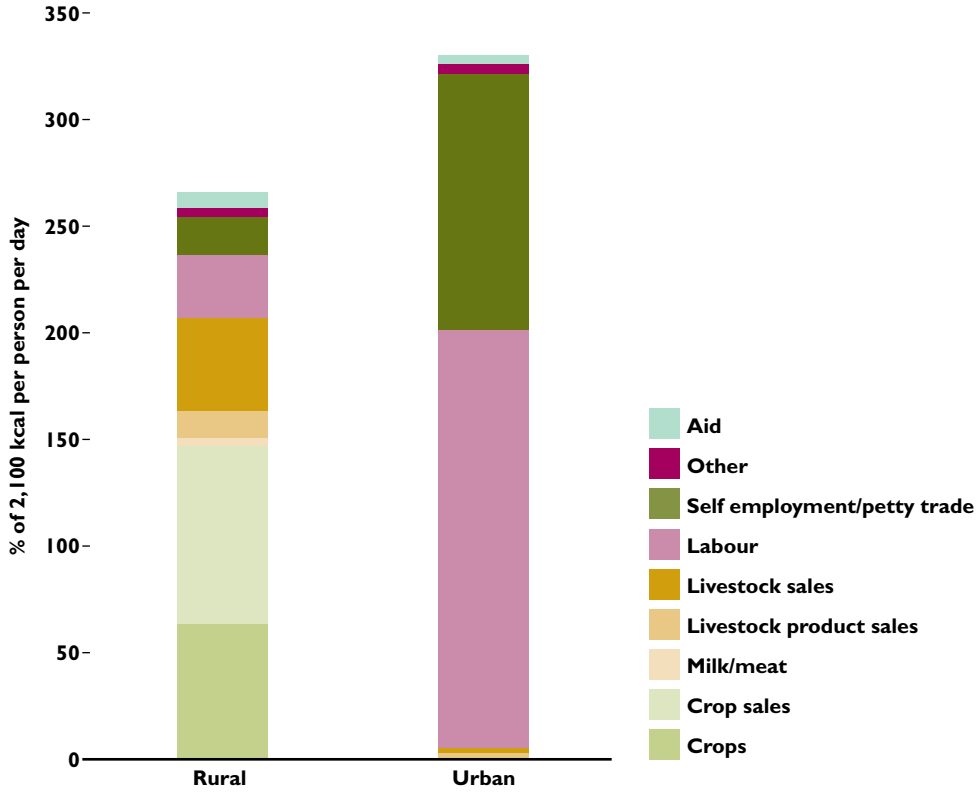
depending on the content of the food. It could also suggest higher food prices.[8]

This pattern is accentuated by differences in wealth, with very poor urban households spending up to 70% of their annual cash income on food, while their rural counterparts spend around 50%, as shown in Figure 17. Other notable differences are the need in urban areas to spend money on both rent and transport, with transport taking an ever-increasing proportion of the budget as households move up the wealth spectrum. In the limited HEA urban dataset, it should be noted that four of the livelihood zones did not pay any rent at all, but all of these were peri-urban or former pastoralist zones, where people are understood to squat on land at the outskirts of the towns. In all but one of the livelihood zones the better off did not pay rent either, because they were generally home owners.

Another difference highlighted by the HEA data is in the total income generated by urban and rural households. Total income is, in some ways, a measure of relative poverty if it is compared to the relative cost of living, since it adds up all the resources generated by households over the year and provides a common unit for measuring the value of these resources in food terms. Thus, in pure food-value terms, it appears possible that urban households may be less poor than rural households, as shown in Figure 18. However, it is important to bear in mind that this total income needs to be weighed against the minimum expenditure requirements for different wealth groups, as expressed in HEA by the Livelihoods Protection Threshold (LPT). It was not possible for the limited purposes of this paper to generate a consolidated LPT for all wealth groups in urban areas, so it is not possible to say with confidence that urban poor households are indeed less poor than rural poor ones. But this is an area where further research might yield interesting results.

One thing to note is that the 'labour', 'self employment' and 'petty trade' categories in urban areas subsume a large variety of types of employment (from casual labour on construction and market porterage to more regular employment in shops and services) and self-employment/petty trade (from street hawking to mechanic services to running street restaurants). It has been difficult to generalise in urban

FIGURE 18. TOTAL INCOME (FOOD AND CASH): RURAL VS URBAN, WEIGHTED AVERAGE



settings beyond these bigger categories because the sources of income are immensely varied, even if total income levels can be assigned to different wealth groups.

The urban poor are particularly vulnerable to food price shocks and civil or economic disturbance that affects trade and work. They do not have seasonal 'lean' periods and are much less directly vulnerable to rain failure (although the rarer hurricanes and earthquakes can cause devastation), but are commonly affected by price rises that follow harvest failures.

Given the ever-increasing number of urban dwellers, and the entrenchment of urban poverty, there is a need to systematically include food security concerns (which have traditionally been a rural concern) in urban policy making arenas. There is also a need to broaden the net of social protection measures to encompass urban areas. The evidence presented here also points to the need for long-term investments in food-price monitoring, and to clear response measures when thresholds are breached.

CONCLUSIONS FOR POLICY AND PROGRAMME DESIGN

Four main policy and programme design conclusions emerge from the sum of evidence presented in this report.

First, since the majority of households in poor and very poor wealth groups obtain much of their food and cash income from sources *other than their own crop production*, international aid organisations and national governments aiming to raise income and improve food security for these households should expand the array of options to include viable and cost-effective investments outside of just small-holder agriculture. While agriculture remains the key driver of many livelihood opportunities in rural areas, and the full potential of small-holder agriculture is yet to be reached,[9] the HEA evidence suggests more options for investments should be on the table for decision-makers. The patterns that emerge from the HEA data show that, at least among the poorer half of rural populations, households rely on the market to obtain the majority of their food and income. Given this evidence, it would seem to make sense for aid organisations and governments to support effective existing and viable livelihood strategies that provide the greatest value for money, since limited resources are available. Investment choices providing economic (and wider non-economic) returns from raising agricultural production of small-holders should be considered along with farm related (e.g. processing) or non-farm (e.g. construction) income opportunities, reflecting and encouraging a more diverse rural economy.

The answer to the question of why people work on the fields of others or in towns when they could be investing their labour in their own fields is, at least in part: cash flow problems. Without sufficient surplus production to raise enough money to cover minimum food and non-food needs, and especially seasonal bulk expenditures on school fees and production inputs, poorer households simply do not have enough cash on hand to cover all their expenses. This creates a vicious cycle, a poverty trap – and often a debt trap – that can take them away from their own land during prime production times. Will an over-reliance on investment in small-holder agriculture itself address this poverty trap that emanates from a critical cash flow constraint? Given the evidence presented in this *Livelihoods at the Limit* series, we do not think so.

Strategies to improve food security and reduce poverty must address the perceived risks that drive the choices smallholders make. HEA data offers an interesting contribution to the evidence base by enumerating key variables, seen within the whole livelihood operation. What is striking when one examines the expenditure patterns of poorer households is the high cost of household items necessary to cobble together a basic living standard. We tend to think of the poor as being primarily focused on food, but given the narrow margins of sufficiency upon which they operate, poor households cannot separate expenditure on food from their decisions about their whole budget. In the short term at least, to re-apportion expenditure towards an increase in productive inputs could very easily carry with it the risk of an effect on food consumption, whether in quantity or quality.

On the production side, from year to year – indeed, from day to day – poor rural households juggle with a set of factors: the household assets in land and livestock; constraints on productivity in terms of the number of working members, and the limits to any purchase of farm inputs on budgets only marginally adequate to keep the household going; and the prevalent local production hazards that easily turn potential profit into loss. These factors combine to determine the opportunity costs of working their own land, as opposed to hiring themselves out as labour on the land of others. This would suggest that successful investment in the production of poorer smallholders requires an enabling environment for livelihood investment strategies, including – among other things – investment in better risk management approaches. It is especially important in the development of household poverty-reduction

strategies, programmes and policies to consider ways to alleviate critical seasonal (and post-bad year) cash flow constraints and to understand the potential impact that new government or aid agency projects will have on household labour that is commonly employed at maximum levels.

Following this logic, and given the evidence presented in this paper, some examples of the types of programmes that could help reduce food security at scale include: an increase in the coverage of very poor people supported by social protection programmes that reduce expenditure constraints for the poorest through extending vouchers and cash transfers; labour guarantee schemes (where labour availability is less of a problem), such as the National Rural Employment Guarantee Scheme in India; and the provision of insurance products and tailored loan schemes at rates that are affordable for the very poor and that allow them to offset reasonable risks.

Second, because much of poor households' total income is obtained through deploying their own labour, often locally on the farms of richer households and increasingly through seasonal migration to better-off areas both within and outside their own countries, investments in protecting labour income should be considered more seriously as a means of both reducing seasonal and inter-annual food security risks, as well as an avenue for reducing poverty.

In view of local population pressure on cultivable land and grazing commons, the apparent trend towards declining food self-sufficiency among at least the poorer half of smallholders is mirrored by an increasing tendency for poor people to become labourers. The patterns found in the HEA data challenge the international development sector to think creatively about how we might find ways to protect (and ideally enhance) the one clear capital that poor households have to offer: their own labour. This is particularly so given increasing urbanisation rates.

As city economies expand, seasonal labour migration is an increasing option for rural people, but that is still usually a quite limited phenomenon compared with local work and trade. Still, in the market demand of the cities (as well as the export market) lies much of the value added to local rural labour. For better-off rural households able to produce surplus food or cash crops, the wider market reach means higher prices received and less threat of market glut compared with dependence only on local demand.

There is an important knock-on effect from these growing cities on the local value of the work of poorer people. Producers tend to reinvest more of their profits in higher production when there is reliable and consistent urban demand, and part of this investment is in paying for local labour. In addition, they invest in house construction or renovation, acting as employers of labour and as clients for the small-scale brick-makers and timber suppliers. The implication is that government and aid investments should be aimed at helping poorer farmers to increase their earnings ***off*** **their land as much as on it**, encouraging the development of diverse rural economies. There will be varying opportunities for influencing casual work payment rates on a legal basis; but business skill development, and market-savvy vocational training (e.g. in carpentry or masonry) and perhaps subsidy of productive equipment, may also lead to more wage labour, higher work earnings and a departure from extreme forms of poverty.

Rural paid daily labour is overwhelmingly arranged through informal agreement between individuals, and there would *a priori* seem to be little scope for labour organisation for the benefit of workers – for instance, to protect or increase wage rates. But NGOs and others have experience of promoting changes at the community level through support of associations, and workers' conditions are at least a subject for further consideration. In addition, in areas where migration labour is important, there may be scope to provide better or subsidised transportation to labour-demand areas, and more generally in all areas to beef up health services where malaria and other diseases ravage labour pools.

Labour protection is largely absent from the food security agenda; the evidence presented in this paper suggests that it should be a central issue. There is a role for governments, supported by multi-lateral agencies, such as the International Labour Organization, the World Bank, the Food and Agriculture Organization, the World Food Programme, and the World Health Organization to come together around the objective of protecting household labour for food security and poverty reduction.

Third, investments in livestock could pay off for all wealth groups in all areas. The HEA data highlights the importance of livestock as a source of cash income in all livelihood zone types. Livestock sales play a significant role even in agricultural areas, where they ease seasonal cash flow constraints and

fund important investments in agricultural production in all years. They also provide a buffer against serious food gaps in poor crop production years, when households sell livestock to meet their basic food needs. While it is true that the poorest agricultural households do not tend to own more than a few chickens or goats at most, even this small number of animals can help offset the cost of school fees or a trip to the health clinic; and more importantly, better-off households use the cash from livestock sales to hire poorer households to work on their fields, which provides a critical pathway for distributing wealth within communities.

This revelation about the importance of livestock suggests a need to seriously consider redirecting a more appropriate proportion of development resources towards supporting and protecting the vitality of livestock and livestock markets, even in agricultural areas dominated by cropping. This may mean investing in livestock health by providing affordable access to veterinary services, or developing a more integrated livestock market to ensure that farmers get the best price for their off-take. In an effort to stamp out extreme poverty, it may also mean investigating the possibilities of building up the capacity of poorer households to maintain small herds of livestock. However, this kind of pursuit would have to be carefully entered into, with a clear understanding beforehand of the costs and benefits of maintaining additional livestock for poorer households with limited labour and cash resources. In addition, careful consideration of the environmental feasibility, given finite grazing and water resources – particularly in arid areas – must accompany any such investment planning. Given the redistributive effects of local employment, however, investments that improve the overall community's ability to maintain its livestock – even if this appears to directly benefit the middle and better off – would indirectly also benefit the poor.

Fourth, the sheer size of the affordability gap between total income and the cost of a nutritious diet, particularly for the poorest households, suggests that a combination of strategies is needed in order to improve access to nutrients essential for the well-being of mothers and for the growth of children. Such strategies must raise incomes via investment in viable livelihoods and/or social transfer programmes with broad coverage, and should reduce the cost of relevant nutrient-dense foods while extending the coverage of fortified staple foods.

Not enough has been done to understand the variation in households' access to nutritious foods throughout the year, to gauge what might be affordable prices for poor families and to design the appropriate balance of interventions described above. These investments are particularly important for mothers and their children during the first thousand days of a child's development. Food, agricultural and social protection policies that frame investments by government, aid agencies and the private sector would do well to be informed by these factors. National polices need to create the incentives for a greater supply of nutritious foods in order to make them cheaper and to encourage consumption of them. International assistance can play a supporting role to governments through targeted investments, technical assistance and outreach campaigns focused on shifting consumer demand.

ANNEX 1

Number of livelihood zones by country and type

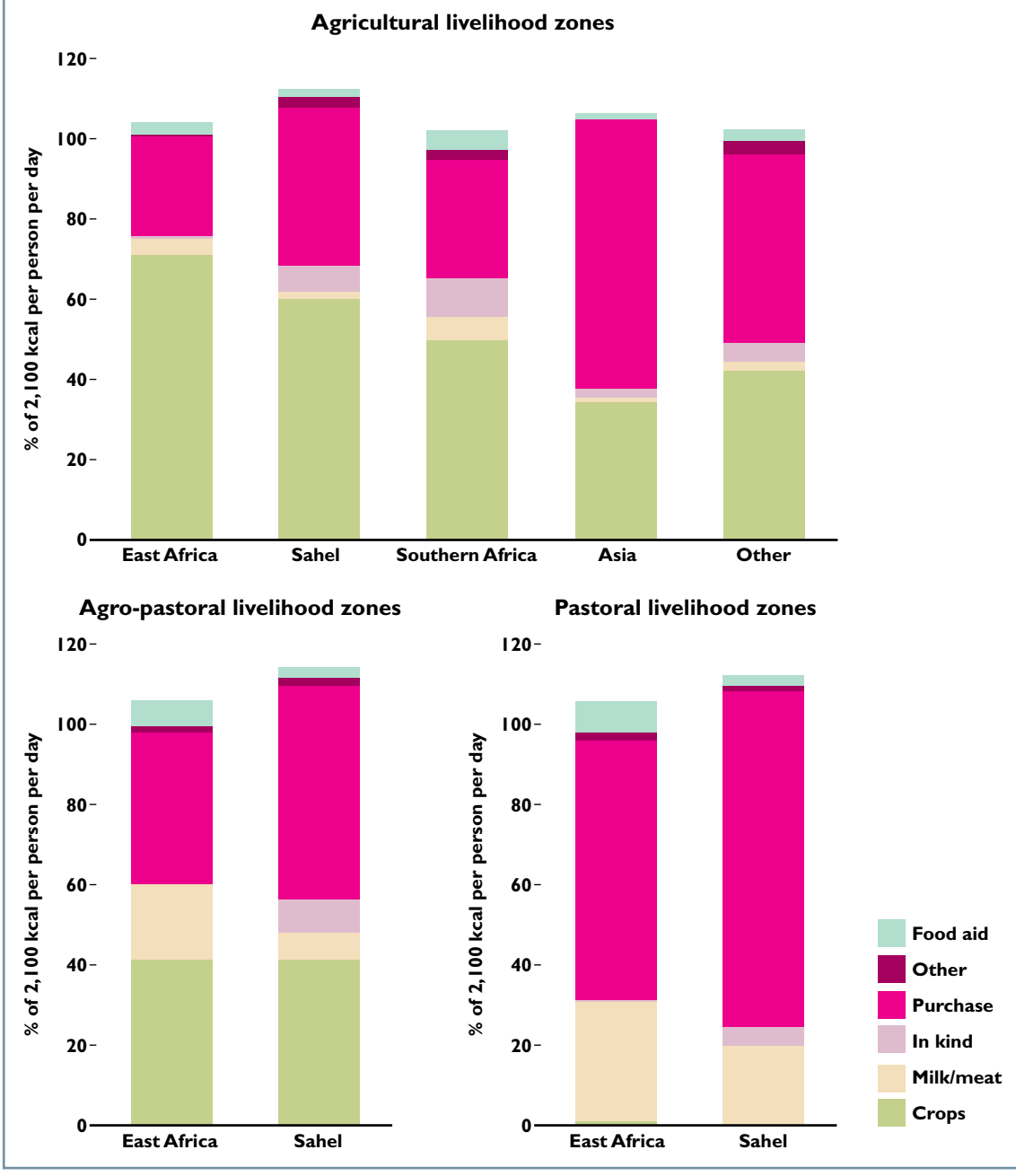
Country	Livelihood zone type				Total
	Agricultural	Agro-pastoral	Pastoral	Urban	
Cambodia	1				1
Indonesia	1			1	2
Myanmar (Burma)	2				2
Pakistan	1				1
Djibouti	1		5		6
Ethiopia	135	22	16		173
Kenya	1	1	1	2	5
Somalia	2	2	4	4	12
Uganda	1	1	1		3
Colombia	3				3
Haiti				1	1
Ivory Coast				1	1
Liberia	2				2
Rwanda	5				5
Botswana	1	3			4
Lesotho	5				5
Mozambique	16				16
Namibia	8				8
Zimbabwe	24	1		2	27
Burkina	8	1			9
Chad		2	1		3
Mali	5	2	1		8
Mauritania	2	1	1	1	5
Niger	6	4	1		11
Nigeria	1				1
Senegal	2				2
Total	**233**	**40**	**31**	**12**	**316**

ANNEX 2

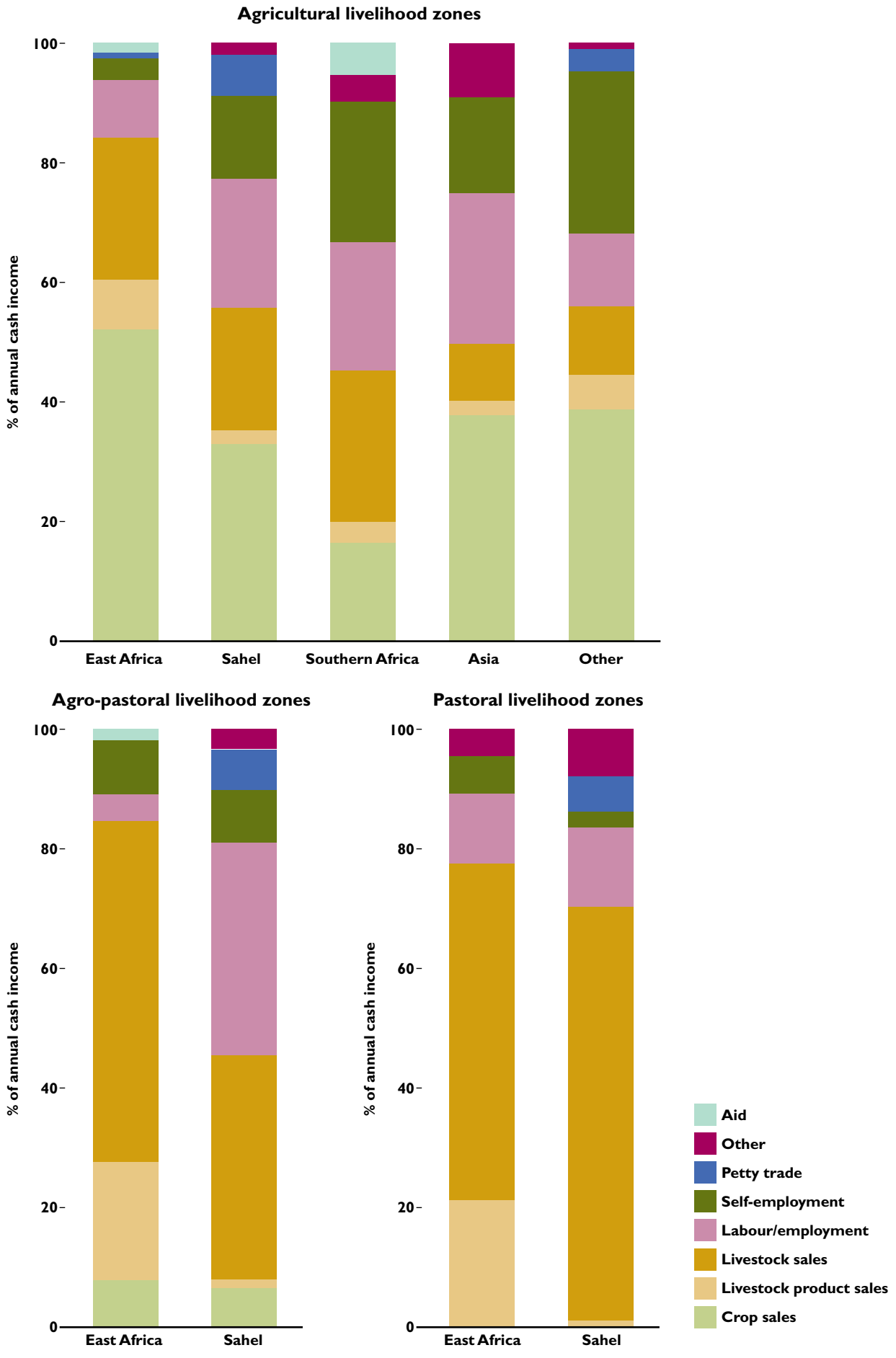
Food, cash income, expenditure and total income graphs by region and livelihood zone type

Annex 2 provides a full set of graphs that compare – by geographic region – food, cash income, expenditure and total income

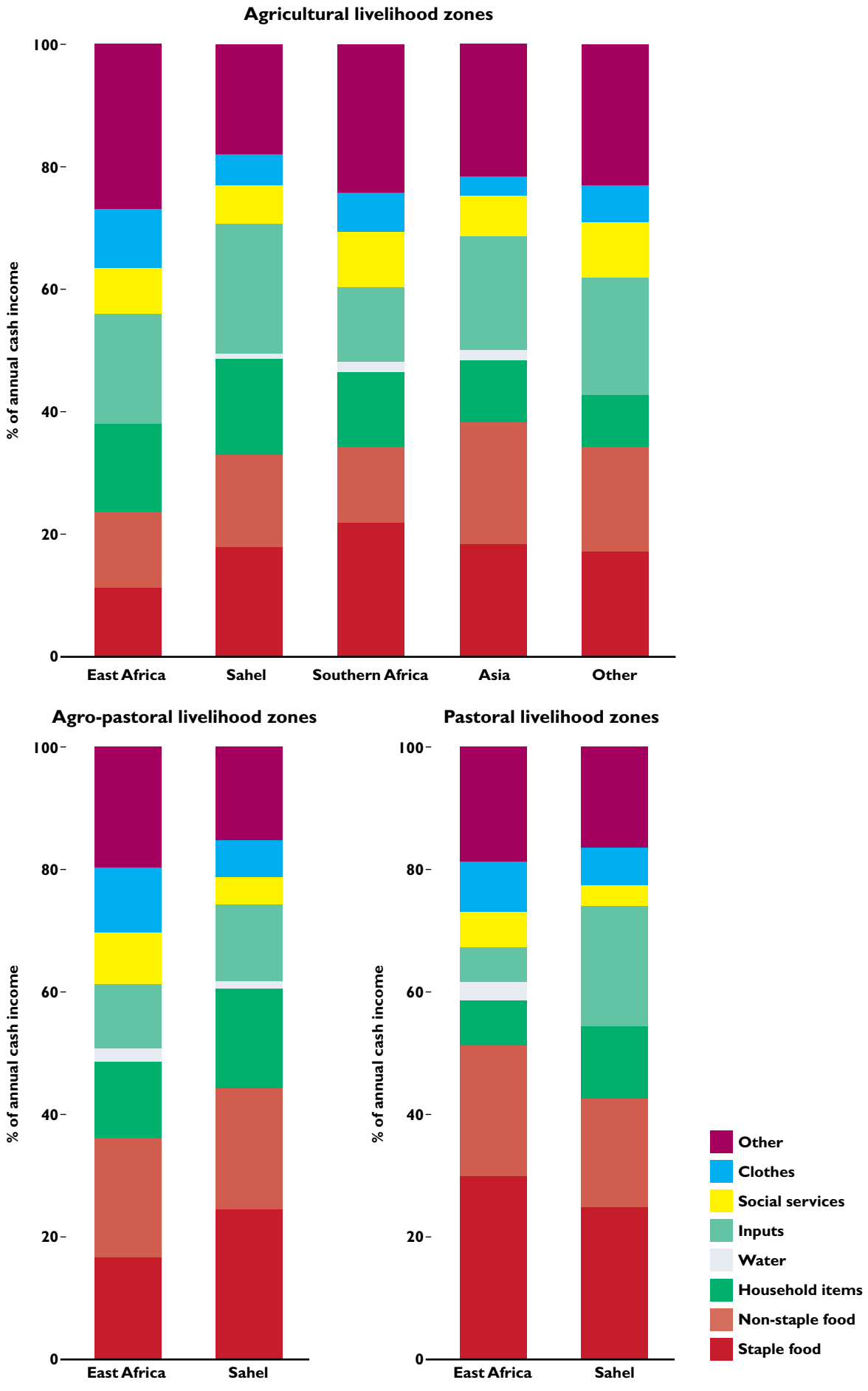
SOURCES OF FOOD BY GEOGRAPHIC REGION



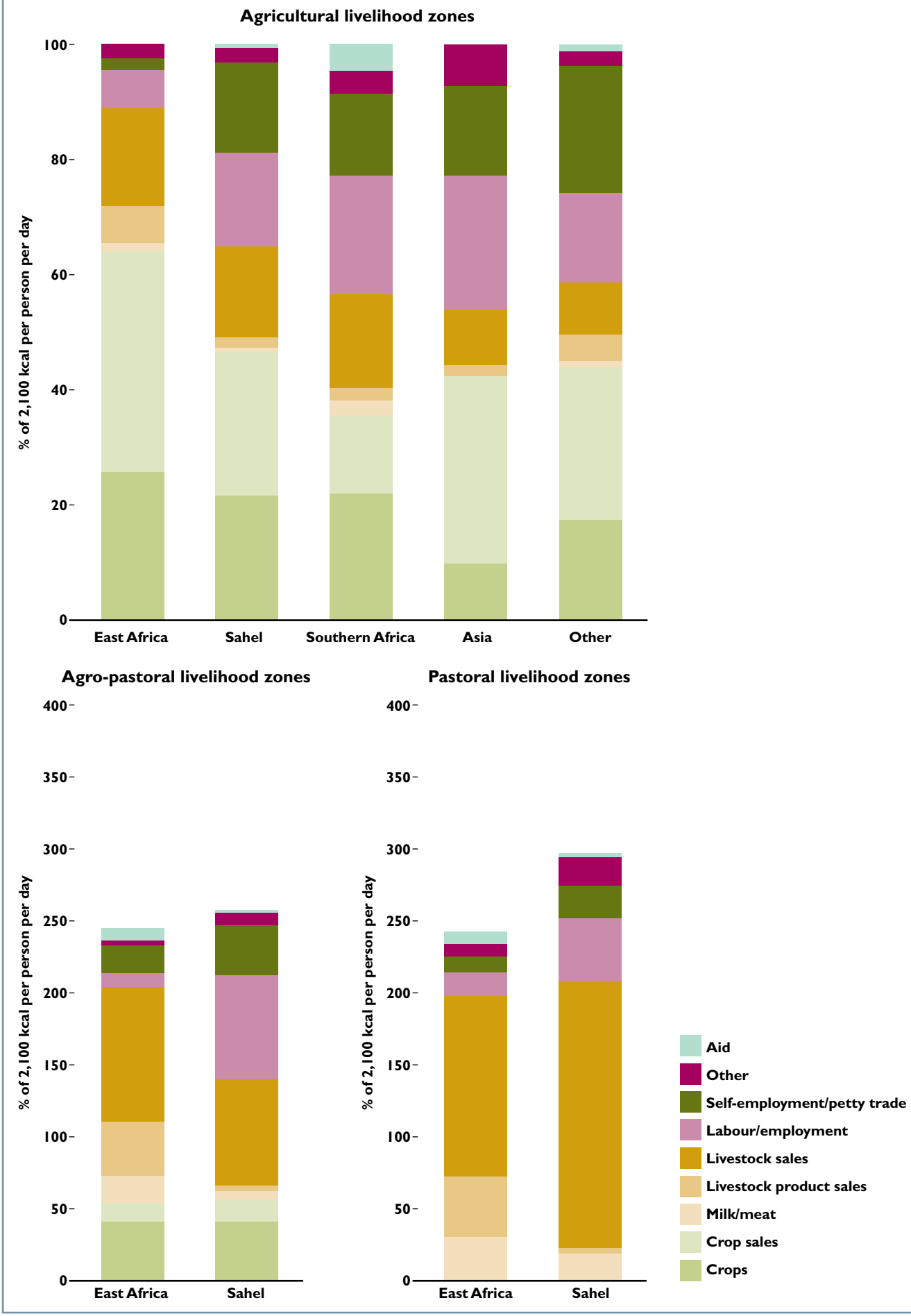
SOURCES OF CASH INCOME BY GEOGRAPHIC REGION



EXPENDITURE PATTERNS BY GEOGRAPHIC REGION



TOTAL INCOME (FOOD AND CASH) BY GEOGRAPHIC REGION



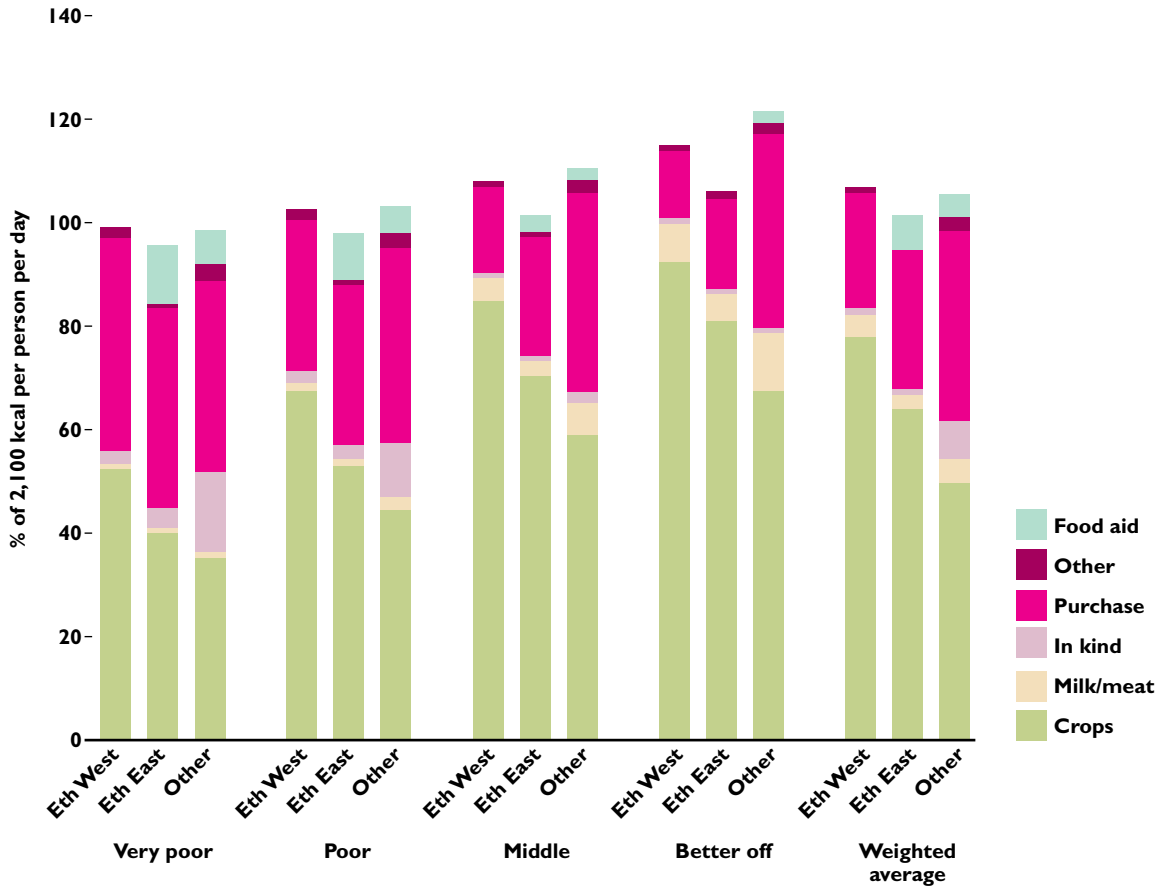
ANNEX 3

Ethiopia (west and east) compared to the rest of the dataset

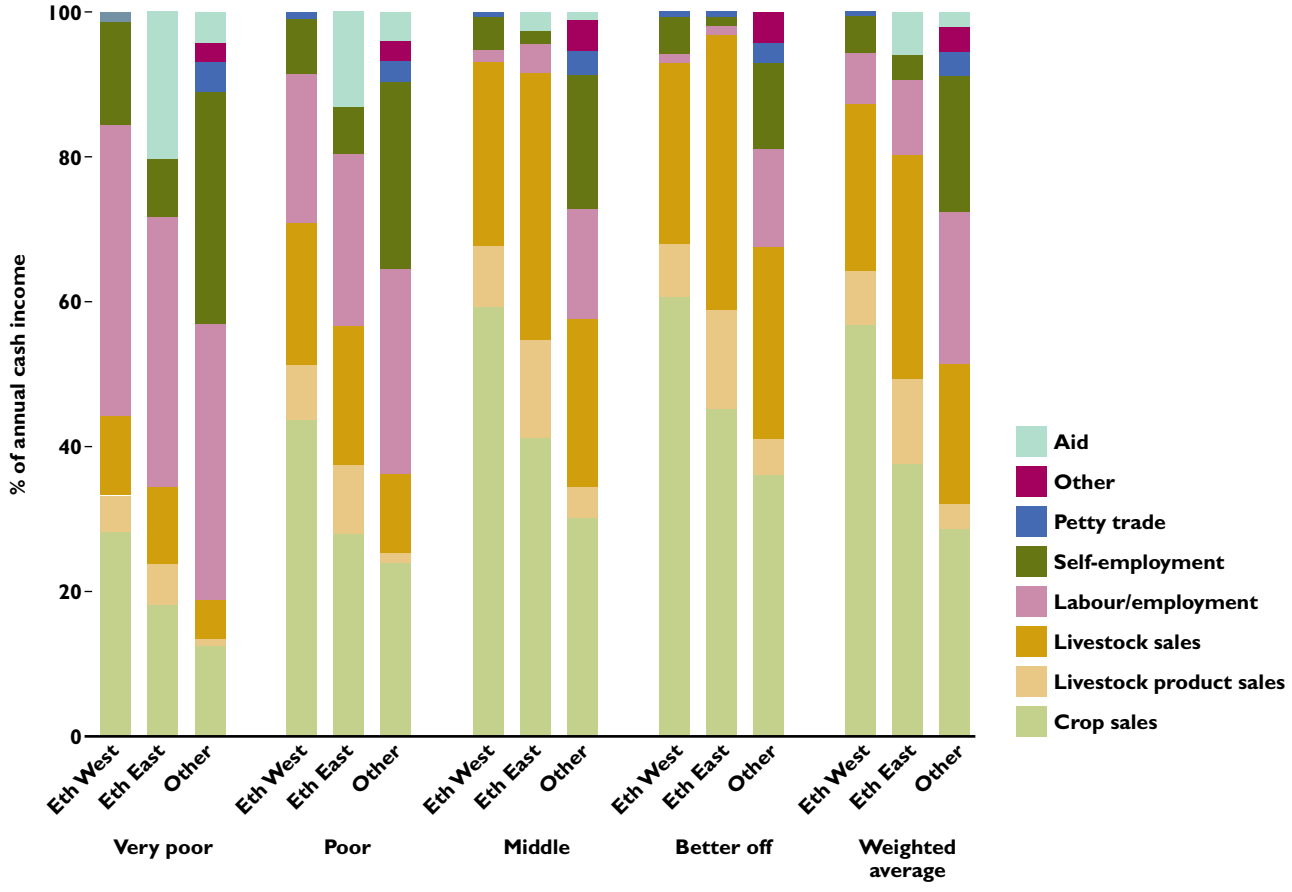
Annex 1 shows that 173 of the 316 livelihood baselines emanate from Ethiopia, where national coverage was undertaken as part of the establishment of a country-wide livelihoods-based early warning system. Annex 3 is provided in order to address the question of whether or not the preponderance of Ethiopia baselines in the consolidated database has implications for the interpretation of the global results. If, for instance, the livelihood patterns in Ethiopia are significantly different from those in other countries where data was obtained, it would raise questions about the validity of aggregating the data in order to show general trends and patterns, as we have done in this paper. If, on the other hand, there are more similarities than differences between the Ethiopia data and that of other countries, then such an aggregation is possible.

The following figures present an analysis that compares the Ethiopia data to the rest of the dataset. The Ethiopia data is divided into two categories: the relatively food-secure livelihood zones in the western and southern parts of the country (Eth West), and the relatively food insecure livelihood zones in the central and eastern parts of the country (Eth East). As shown in the graphs, the general livelihood patterns in Ethiopia are not so different from the rest of the countries' patterns as to significantly bias the results in a particular direction. If anything, the inclusion of agriculturally productive western Ethiopia boosts the average level of food security for the whole dataset. Another notable difference is the reliance on livestock as a source of cash income in food-insecure eastern Ethiopia, where livestock income appears to be especially important, particularly compared to the rest of the dataset. However, these differences are not large enough to undermine the overall findings from the aggregation of all livelihood zones, nor the conclusions reached in this paper.

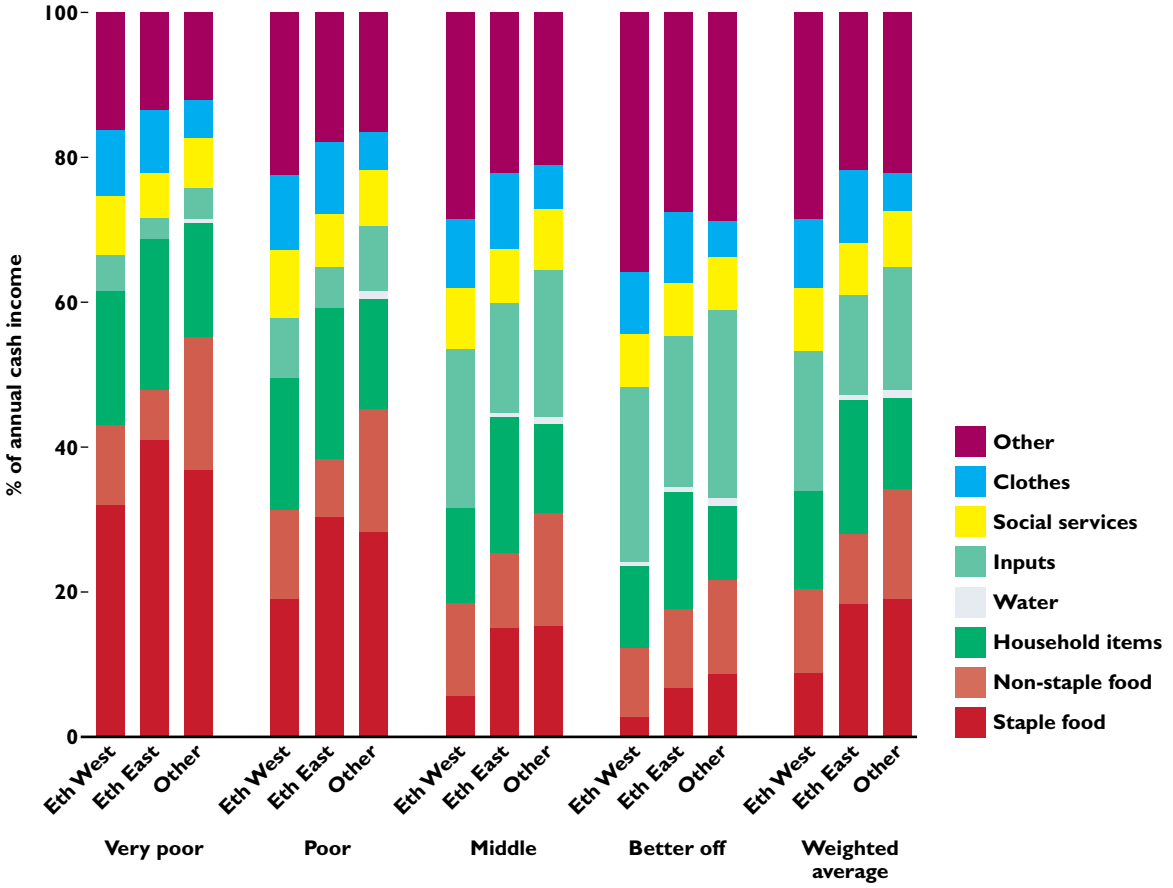
SOURCES OF FOOD



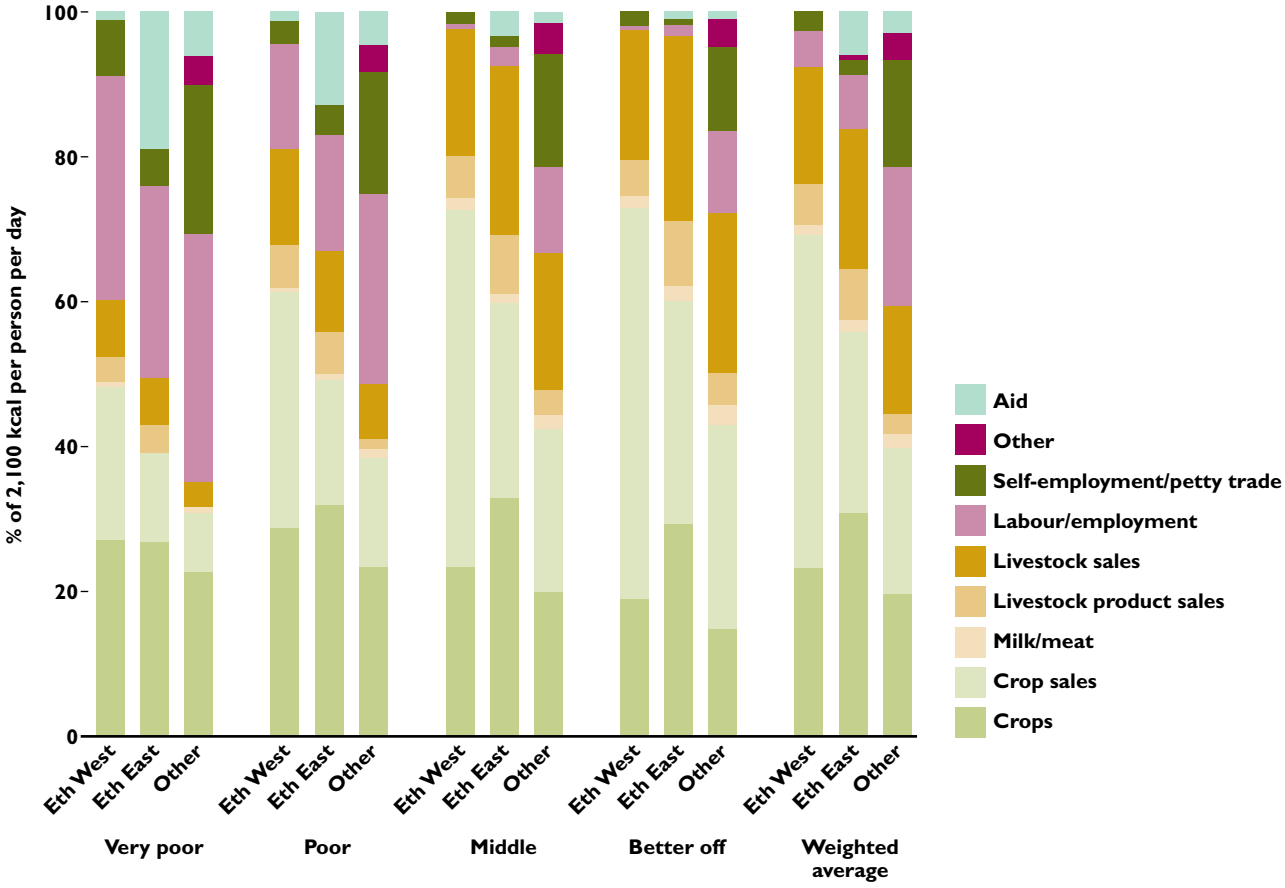
SOURCES OF CASH INCOME



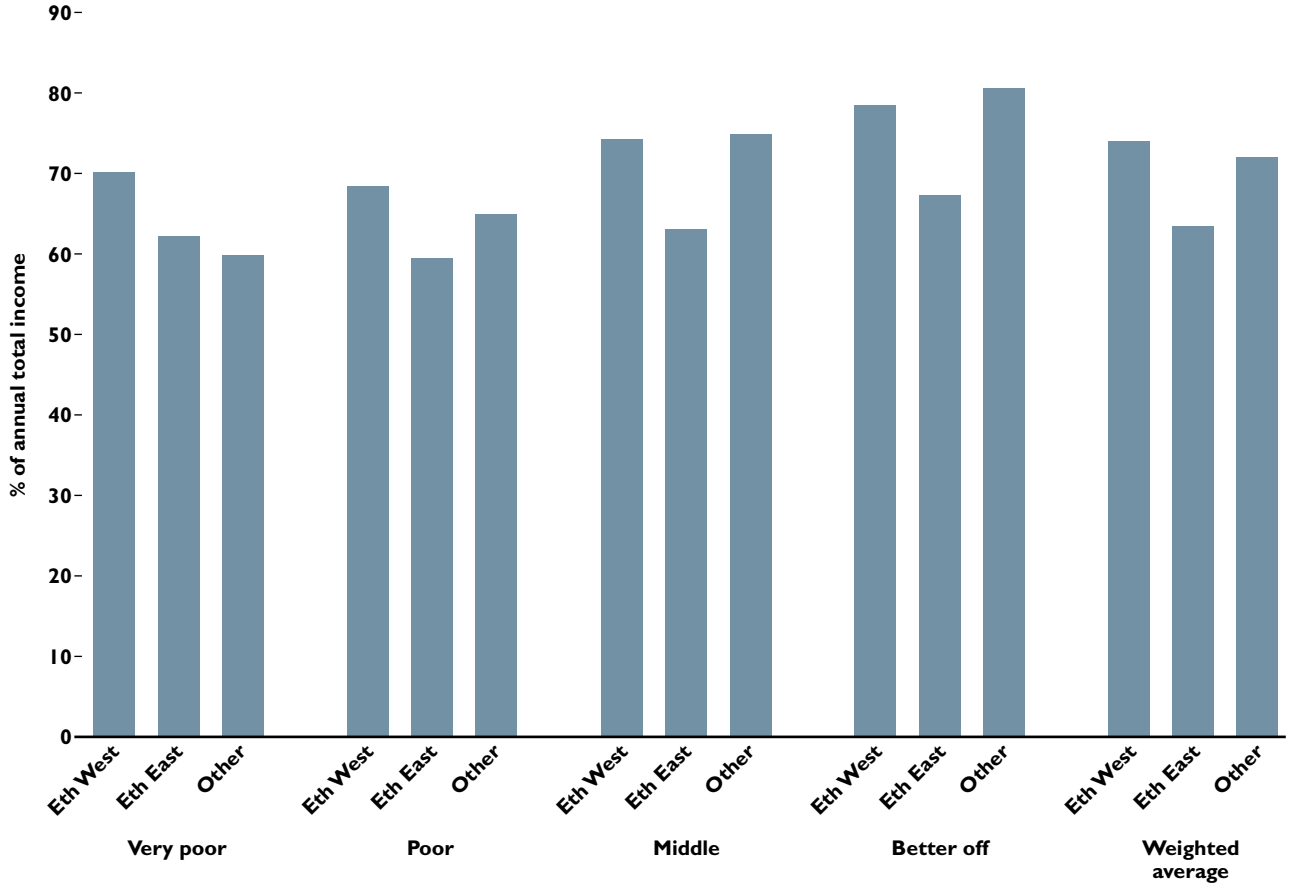
EXPENDITURE



TOTAL INCOME



PERCENTAGE OF TOTAL INCOME AS CASH



ANNEX 4

Household economy analysis methodology in brief

The Household Economy Approach is a livelihoods-based framework for analysing how people obtain access to the things they need in order to survive and prosper. It helps determine people's food and income needs and identifies appropriate means of assistance – whether short-term emergency interventions or longer-term development programmes or policy changes. HEA 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, an analysis 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.

HEA is an analytical framework, not a particular 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. HEA is a framework that can use data gathered utilising a broad range of tools, provided that appropriate measures can be taken to ensure data quality.

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 macro-economic 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 relatively simple, and has two main components: the **baseline** and **outcome analysis**. The baseline includes gathering information to generate three main outputs:

1. A livelihood zoning
2. A wealth breakdown
3. Quantification of baseline livelihood strategies.

Outcome analysis is a process that involves understanding the impact of different changes on households' access to food and cash income, and estimating whether or not people will be able to continue to survive and meet their minimum livelihood requirements. All six steps in HEA are described in more detail in Table 1. Table 2 summarises the typical sources of information and methods used to gather the data and to produce the analysis needed to fulfil each step.

In HEA, a **baseline** is developed through extensive fieldwork that aims to quantify very poor, poor, middle and better-off household access to food and cash income in a particular **livelihood zone** in a baseline or reference year. The **baseline**, in other words, presents a picture of the 'normal' household economy: of household assets; the strategies employed to derive food and income and the relationships between households and with the wider economy; and how they use that income to meet their basic needs, for investment or for social obligations. Households' access to food and cash income is quantified by converting all food and income sources into

TABLE 1. STEPS IN HEA ANALYSIS WITH DESCRIPTION AND RATIONALE

	Steps in HEA	What is it?	Why is it needed?
Baseline	Step 1. Livelihood zoning	A delineation of areas within which people share broadly the same patterns of livelihood	It provides a livelihoods-based sampling frame; allows you to target assistance geographically; and to customise indicators for livelihoods monitoring systems
	Step 2. Wealth breakdown	A grouping of people based on local definitions of wealth and a quantification of assets	It disaggregates the population into common 'access' groups, which allows you to see important differences in households' vulnerabilities to different shocks and to estimate numbers of people who will be affected by different changes
	Step 3. Quantification of baseline livelihood strategies	A categorisation and quantification of people's sources of food and income, and their expenditure patterns, using a common currency	It enables comparisons to be made across wealth groups and livelihood zones, facilitating prioritisation of resources. It also provides a starting point for outcome analysis
Outcome analysis	Step 4. Problem specification	Translation of a hazard or other shocks into economic consequences at household level	It allows you to mathematically link the shock (or positive change) to each relevant livelihood strategy
	Step 5. Analysis of coping capacity	Analysis of the ability of households to respond to the hazard	It helps you to determine how to support people's own efforts, and to provide external assistance before households turn to damaging strategies; it highlights relevant indicators to monitor
	Step 6. Projected outcome	Prediction of the effects of the hazard in relation to a survival and livelihoods protection threshold	It clearly predicts whether and when assistance is needed to help people survive and/or protect their livelihoods. It also models the potential beneficial effects of proposed policies or programmes

TABLE 2. TYPICAL METHODS USED TO GATHER INFORMATION FOR THE HEA FRAMEWORK

Step in the Framework		Information collection methods used (to date)
Baseline	Livelihood zoning	Semi-structured interviews; participatory workshops; secondary data review
	Wealth breakdowns	Semi-structured interviews; proportional piling; census data review (to cross-check household composition)
	Quantification of baseline livelihood strategies	Semi-structured interviews; review of secondary data (to cross-check yields, production, livestock numbers, etc.); proportional piling; participatory seasonal calendars and community mapping
Outcome analysis	Problem specification	Household surveys (to gather monitoring data such as crop production and prices); semi-structured interviews; review of secondary information, especially time series data
	Analysis of coping capacity	Semi-structured interviews; review of secondary data (on labour markets, herd composition, viable off-take rates, etc.)
	Projected outcomes	No additional information goes into this step; this step comprises an analysis and processing of the data and information gathered in the previous steps

their calorie equivalencies and then relating these totals to the internationally accepted standard of 2,100 kilocalories per person per day. This has the advantages of allowing for like-to-like comparisons, and of ensuring that a rigorous cross-checking can take place. Because access to food and income vary according to geography and wealth, two major sampling frames are used to organise fieldwork: livelihood zones and wealth groups.

Outcome analysis comprises a set of analytical procedures that combine the baseline information on quantified livelihood strategies with data on specific changes, or 'shocks', to the local economy, allowing for a final estimate of whether or not people in different wealth groups will have sufficient food and cash income to meet their minimum survival and livelihood requirements. 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'. 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. HEA takes into account household capacity to adapt to the economic stress caused by the shock, by drawing down on assets, cutting down on certain expenditures or expanding other sources of food or cash.

For more details on how each of these steps is carried out in practice, please see *The Practitioners' Guide to the Household Economy Approach*, which can be found at: http://www.heawebsite.org/countries/reports/hea-practitioners-guide-english

ENDNOTES

[1] For an overview of the HEA methodology, see Annex 4. For more details on HEA, please see *The Practitioners' Guide to the Household Economy Approach* http://www.heawebsite.org/countries/reports/hea-practitioners-guide-english

[2] The World Food Summit of 1996 defined food security as existing "when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life". Current conceptions of food security include four dimensions – availability, access, utilisation, and stability – three of which are contained within this definition. Access is only possible when food is available, so access and availability are combined in the concept of 'access' in this definition. The concept of 'stability' is effectively dealt with in a methodology that allows one to investigate 'at all times', because stability is really about having access seasonally and inter-annually. The issue of utilisation is not dealt with directly in this paper because utilisation is an issue best investigated through a health lens. HEA generates data that relate to the economic aspects of household food security.

[3] E.g. in many African countries under the African Union's Comprehensive African Agriculture Development Programme (nepad-caadp.net) with inter alia World Bank's Global Agriculture and Food Security Programme.

[4] For more on the details of how wealth breakdowns are conducted, please see especially Chapter 3 of *The Practitioners' Guide to the Household Economy Approach*. The manual also has further detail on HEA generally and should be consulted to reference more detail about the methodology and its uses. The manual can be found at http://www.heawebsite.org/countries/reports/hea-practitioners-guide-english

[5] In addition to providing a percentage of households and population falling into different wealth groups, wealth group data contains information about household assets, such as amount of land cultivated, number of livestock owned, and other relevant productive capital.

[6] In this and subsequent analyses where an overall average for each livelihood zone has been calculated, the average has been weighted to take account of the percentage of households in each wealth group. This is necessary because the different wealth groups are not all the same size. It is possible, for example, for there to be twice as many 'middle' as 'very poor' households; in this case the result for the 'middle' is given twice the weight of the 'very poor' result when calculating the livelihood zone average. Note that the weighting is applied at the level of individual livelihood zone; where results have been averaged across livelihood zones (e.g. to calculate an average for all agricultural livelihood zones), there is no weighting to take account of the different size/population of the different livelihood zones.

[7] The food aid shown in the urban graph comes from a baseline done in Kenya of the Mandera/Garissa per-urban zone, where 35% of kilocalories come from food aid; therefore, the result is highly skewed by Kenya.

[8] Street food is included in non-staple expenditure. Of the ten urban baselines included in the analysis, purchase of street foods was observed in three: Port au Price/Haiti (14% of total food expenditure), Jakarta/Indonesia (33%) and Abidjan/Ivory Coast (38%); overall, the average expenditure on street food is 7% of total expenditure on food.

[9] See HLPE, 2013, Investing in smallholder agriculture for food security, A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome.

LIVELIHOODS AT THE LIMIT

FOOD SECURITY IN A CHANGING WORLD

Evidence from the consolidated Household Economy Analysis database

This report draws on the compiled HEA baseline dataset to provide empirical evidence to address four key policy and operational questions related to food security:

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- What part does cash play in rural livelihoods?
- Should the livestock sector get priority attention?
- What can we learn from the limited urban HEA database about broad differences between urban and rural poverty?

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