



**Save the Children**



# **MILLET & SESAME LIVELIHOOD ZONE**

**Daura LGA, Katsina State, NIGERIA**



**DECEMBER 2010**

**Jennifer Bush, Consultant, FEG**

**Garba Noura, Independent Consultant**

**DFID** Department for  
International  
Development



## The Research Team

Aliyu Alhaji KBai	PRRINN MNCH, Katsina
Ishmail Muhammad	STHF
Muhammad Nasiru	STHF
Nelson Elijah Barde	Independent Consultant
Bishir Ibrahim Saulawa	HMIS Office, Katsina
Binta Lawal Mashi	HMIS, Katsina
Bilkisu Imam	KTARDA HQ (IFAD)
Haruna Yusuf Kaita	SMO Health, Katsina
Sa'adiya Murnai Batsari	IFAD (CBARDP)
Binta Tukur	KTARDA HQ (IFAD)
Garba Noura	HEA Consultant, Niger
Jennifer Bush	F.E.G, Canada

---

### The Currency Rate:

At the time of field work, in November 2010, the value of the Nigerian Naira was NGN 150 = USD \$1.

### Photo Credits:

The photographs in the report show the people of Sharawa Village @ by Jennifer Bush, Nov 2010.

### Data Credits:

All the HEA data graphed in the report is from primary field work. Production and price data is from Daura LGA (source: LGA Secretary; Acting Director Agriculture; and Chief Livestock Superintendent).

---

### Thanks to:

*Special thanks to SC UK Katsina for hosting the training and facilitating the field work, and to SC UK partners who released staff for the 2 week event. As ever, the villagers themselves deserve special thanks for the many hours given to answering questions that probed their economic lives to exasperating detail. Their patience and cooperation is so gratefully appreciated.*

## Millet & Sesame Livelihood Zone Profile

### Daura LGA, Katsina State, Nigeria

Map of Katsina State, Nigeria



### Background and Methodology

This Household Economy Analysis (HEA) study was initiated to support SC UK's hunger reduction strategy in northern Nigeria. The study also provided capacity building: the field team comprised SC UK local partners, all of whom were new to HEA. Team members were drawn from health and development sectors, reflecting the need to analyse the root causes of malnutrition through an economic as well as a nutritional lens. The training course took 12 days and was implemented from 1 – 13 November 2010. The HEA (food access) study complemented two other research studies: the SMART (nutritional status) survey and the Cost of Diet (food affordability) survey.

Data for the study focuses on a single livelihood zone. A FEWS NET exercise in 2007 identified 44 livelihood zones across the 15 states of northern Nigeria. Livelihood zones themselves are geographical areas in which households roughly share the same production and income options, as well as similar market access. The Millet & Sesame Livelihood Zone in north-

western Nigeria is characterised by mixed food and cash cropping supported also by livestock production and casual labour. The Millet & Sesame Zone borders the Southern Irrigated Cash Crop Zone and the Rainfed Agriculture Zone in Niger where FEWS NET developed profiles in 2005. In 2007, SC UK also developed detailed HEA livelihood profiles in two neighbouring Niger zones – Tessaoua South Central Zone and Tessaoua North Settled Zone – both of which fall in the Rainfed Agricultural Zone. This profile complements the zoning and profile work done both in Nigeria and Niger.

The reference year selected for this study was the 2009-2010 consumption year beginning with the harvest in September 2009 and ending in August 2010. This was a middling to poor production year.

#### Ranking of Seasonal Performance 2005-2010

Year	Rank (5 = best)	
2010	5	Excellent rainfall.
2009	2 or 3	Poor rainfall.
2008	4	Adequate rainfall and fertiliser inputs
2007	2	Rainfall poor. Political events a factor.
2006	4	Adequate rainfall and fertiliser inputs
2005	3	V. high cereal prices. Input shortages.

7 villages were visited for primary data collection : Kalgo Gari, Gara, Bojo, Yamadawa, Yashi, and Sharawa – all in Daura LGA. The villages were all selected through purposive sampling. Community and household level interviews both rely on key informants who can knowledgeably talk about what is typical for their village or household type. Although the study was implemented fairly rapidly, each interview involves an intensive 2-3 hour session with a small group of key informants. Food,

income, expenditure and household asset data was subsequently entered in a baseline storage spreadsheet. A single zone outcome analysis spreadsheet, which uses the summary data from the HEA study, was set up to allow planners to test out and predict the impact on livelihoods given varying scales or types of planned interventions.

## Overview

Daura LGA is located on the border with Niger in north-west Nigeria. The zone is part of the sahel, a vast dryland belt south of the Sahara and characterised by low and variable rainfall. Rainfall data is not collected in Daura LGA but it is commonly known that the area receives about 500 mm of rainfall or less per year. There is only one rainy season and hence one rain-fed growing season (June to September). Those with access to (irrigated) *fadama* land have an extended growing season until December.

Drought events tend to be associated with certain decades. The 1940s witnessed major droughts, as did the 1970s and 1980s. This last period was particularly severe. Drought affected more than 70% of northern Nigeria and occurred almost every year from 1982-1987. The drought probability rate for the 1980s was 83%. The 1970s were almost as dire with a 50% drought probability rate and extreme dryness occurring almost every other year (affecting 50-70% of the north). It is rare that the region sees an 83% drought probability rate as it did in the 1980s. More typically, extreme weather events are localised and do not continue over many consecutive months. Over the last 5 years, there has been one crisis year (2007) but there have also been two good years. Not unexpectedly, variability is the main characteristic of the region.

In the sahelian belt, vegetation is scrub bush with short grass, and soils are the typical red clay of semi-arid zones. Rivers are seasonal and agriculture is mainly rain-fed with one short growing season. Several dams in Katsina State (Jibiya, Zobe, Sabke) have the potential to greatly increase irrigation opportunities but various barriers have reduced their use. Millet and sorghum are the principal food crops grown by all farmers in the zone. Cash crops include cowpeas, groundnuts and sesame. Livestock are a principal source of income for middle and better-off farmers. The poor, by contrast, secure cash through seasonal labour opportunities, both local and migrant, and both on- and off-farm.

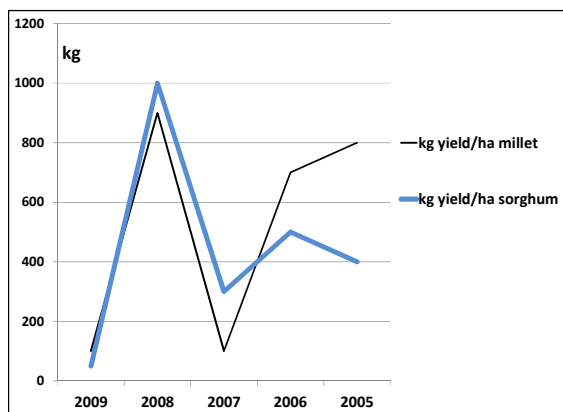
Population numbers in Daura LGA are currently estimated at 247,030 (projected from the 2006 census). In 1972, population estimates for the LGA were 25,151. Daura town is the administrative centre of the LGA, and is a principal labour market during the agricultural off-season months. The rural population is comprised mainly of Hausa and Fulani although the urban centres are home to a greater mix of ethnicities and nationalities.

## Crop Production

The Millet & Sesame Livelihood Zone is located in a dryland farming belt. Millet does best in such conditions as it matures in 75-100 days. Millet and sorghum - the two principal food crops - are intercropped with cowpeas; hence outcomes for these crops tend to follow similar trends each year. Typical yields per hectare vary widely from year to year (see production graph, next page). The official figures show a rather dismal harvest outcome in 2009 for both sorghum and millet. This would correspond with a year ranked as a '1' or '2'. In the villages selected for this study, key informants gave a

better picture of 2009 harvest outcomes. In a year ranked from '2' to '4' (poor to middling), poor households typically produced about 400-500 kg per hectare). Wealthier households who farm under more optimal conditions, reported more than double this yield (1,000 kg per hectare).

**Millet & Sorghum Yields (per ha), Daura LGA, 2005-2009**



An accurate assessment of yield per hectare is very challenging. Local measures of land – i.e., *ridges* – need to be reconciled with hectares, and local output measures – i.e., *bundles* – need to be converted into kilogrammes. These conversion efforts – coupled with local variability in outcomes - lead to quite a range in reported harvest data.<sup>1</sup> Another complication is that a bundle of grain does not contain the same number of tiers. Hence a bundle of millet produced by the poor may well contain fewer kilogrammes of grain than a bundle of millet produced by the better-off.

Notwithstanding these challenges to accurate assessment, there is consensus about overall production trends over the last 5 years. Trends shown in the graph above mirror the ranking of seasonal performance (see table, page 3).

<sup>1</sup> The measurement of land used by farmers – i.e., the ridge – is actually a water conservation practice suited to dryland farming.

There is also consensus that in 2009 the very poor produced enough grain to last about 2 months. Poor households produced enough to last 3-5 months, and middle income households had 7-9 months of grain stocks. The wealthiest in the villages produced sufficient grain, even in a middling production year, to meet their annual food needs.

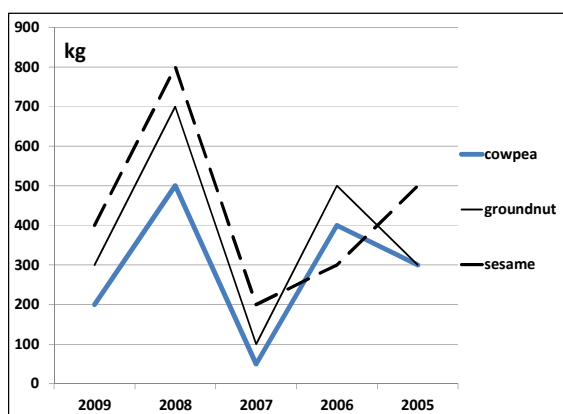
A number of factors influence cereal yields (time of ploughing; effective weeding, soil fertility and so on). A chief factor is fertiliser use. Without fertiliser, production drops to 25-50% of the output from fertilised fields (2009 estimated figures). Securing access to fertiliser is considered a crucial factor in successful farming. Conversely, when fertiliser availability drops, or prices rise, then regardless of rainfall conditions, the harvest outcome may be considered poor or average.

Overall in the zone, fertiliser use is relatively common. In Yamadawa, Madobi, Gara and Yashi, it was estimated that around 80% of farmers used fertiliser during the 2009 production year. However, in Sharawa, Kalgo Gari and Bojo, fertiliser use was much lower. In these villages, an estimated 50% of households used fertilisers in 2009. Thus in just under half the sample villages, all the very poor and many of the poor did not use fertiliser in the 2009 production year.

For those with sufficient land and labour, cash crops – namely sesame and groundnuts - are grown on separate land. Extra land can be secured by renting in land and paying a portion of the harvest to the owner. All wealth groups rented in or rented out land depending on their individual situation. Overall, better-off households had less need to rent in land. Land itself is inherited by both women and men.

Thus, a husband married to 2-4 wives will own more land (around 6 ha compared to the 0.5-1 ha owned by the poor). For those who can afford to grow sesame and groundnuts, about 25-33% of cultivated land is used for cash cropping. In 2009, sesame (not groundnut) income was predominant. Moreover, middle income and better-off households produced sufficient amounts to save a little for household use. In the HEA sample, only about 30% of poor households cultivated sesame or groundnuts; it was all sold for cash income; and the overall income earned was low. There was variation between villages as well. In Madobi, a Fulani village with more substantial livestock holdings, sesame was not a source of income in 2009. By contrast, in Kalgo Gari, sesame income was substantial. In Sharawa and Yamadawa, irrigated vegetables are a cash crop and income from market vegetables (mainly tomatoes, onions and peppers) was substantially greater than for sesame. (Bear in mind that is was a poor production year for rain-fed field crops).

**Cash Crop Performance, Daura LGA, 2005-2009**



Cowpeas are another major cash crop in this zone. In 2009, only middle income and better-off households produced sufficient cowpeas for sale. Although an important protein legume, cowpeas provided only 1% of the annual food

needs of poor (and even middle income) households.

### **Livestock Production**

Livestock serve many functions in mixed farming economies. Milk is both consumed and sold; small and large stock are sold for cash income; during festivities, some animals are slaughtered for meat; and new animals are purchased as a safety net against harvest failure or simply as a place to bank money. Manure is used to fertilise fields and oxen are draught power to pull a plough or to transport goods.

Both Fulani and Hausa farmers are cattle keepers. In the Fulani villages of Madobi and Yashi, however, livestock holdings were more evenly distributed across wealth groups than elsewhere. In Madobi, higher cattle and shoat holdings amongst the poor seemed to reflect greater overall wealth in the village. (Interestingly, only in Madobi was *zakat* received in any notable amount by the very poor.)

The 2009-2010 reference period was an average year for herds. In many cases, herds grew a little despite some sales, slaughter and disease related deaths during the year. Herd sizes in general represent livestock owned by households. However, there are caretaking arrangements whereby a household in need is provided with a goat or cow by a better-off relative. This type of sharing most typically occurs within extended families rather than between compounds. Caretakers typically are allowed to keep offspring from the first birth. Offspring from the next birth revert back to the owner; the third round of offspring stay with the caretaker, and so on. The owner decides when to sell the original animal. However, the income earned is often shared in recognition of

the labour involved in caring for, and feeding, the animal.

Only better-off and middle income households sold cattle or milk. Ox fattening for sale after just one season is not common; usually a small bullock is bought for fattening and re-sale after several years. Milk from cows is both consumed and sold but only by middle income and better-off households. Milk for household use was typically 3-4 litres per cow per day of which about 50% was sold and the balance consumed.



Sheep and goats are kept for sale by all wealth groups. Any milk produced is left for the goat kids rather than consumed or sold. Amongst the poor, the off-take rate for sale was about two-thirds, or 66%, of their herd. Amongst the middle and better-off, only about one-third (or 33%) of the herd was sold. Better-off households usually sell more numbers of sheep and goats but this comprises a smaller

proportion of their total herd, thus allowing for greater herd growth during the year.

## Markets

Markets are a central part of the local economy in the Millet & Sesame Livelihood Zone. Oil crops (sesame and groundnuts) are produced for onward sale as are legumes, irrigated market vegetables and livestock. Certain markets, such as Daura and Mai'adua, are focal markets for cattle sales. Daura and Mai'adua are also the main markets for millet and sorghum, in addition to Dannakole, Mashi and Kayawa. Basic commodities are available in village markets but rural consumers prefer to pay more competitive prices of the season on urban market days. In Katsina State, there are about 10 sizeable urban markets (namely Daura, Mai'adua, Kayawa, Mashi, Batsari, Jibiya, Charanchi, Kaita, Dankama, and Katana).

### *Cash crops*

Sesame is bought and sold mainly during a 3-4 month post-harvest period between October and January. Medium-scale traders based in Katsina, Daura or Mai'adua buy sesame from a catchment area that includes Niger. Sesame is usually sold to large scale traders and exporters in Kano. In a good to average year, a mid-level trader may buy about 200 bags per month for re-sale in Kano. In 2007, the volume dropped to 12 bags per month – for those who stayed in the trade that year.

Cow peas are another cash crop from the zone which is exported out to major urban markets in Nigeria – such as Kano and Lagos – as well as to foreign markets (such as the Ivory Coast). The 2009 reference year was a poor production year for cow peas. Traders noted that the trade volume dropped from good year levels of 200



sacks per month (between August and December) to 20-40 sacks per month in 2009. In 2009, cow peas were not exported out of the zone but re-sold to meet local demand only. Traders paid Naira 270 per tier in 2009 compared to Naira 110 per tier in 2010.

### **Livestock**

Mai'adua (a frontier market on the border with Niger) and Daura are the two main livestock markets in the zone. Livestock sold in these markets are destined for major urban centres (Kano, Abuja and Lagos). Demand peaks during major festivities (such as Id ul Fitr and Christmas). Ram sales peak for the Id ul Adha in November. Prices also peak during these celebrations but are generally high from October to May. Prices drop during the rainy season, typically by 30% but up to 50%. For instance, large cattle selling for Naira 120,000 during the peak period will sell for Naira 80,000 in the June-September season. Crisis selling of livestock occurred in 2007 when supply rose noticeably and prices fell although urban demand for meat stayed relatively high.

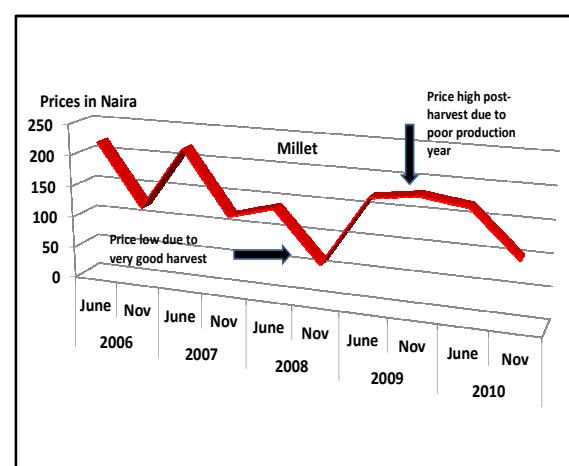
### **Staple food**

Most years, staple grains are produced in sufficient quantity to meet local demand. Hence, millet is not typically imported into the zone. Only in very bad years, such as in 2007, was millet imported into the zone, coming from other areas in northern Nigeria such as Bauchi, Jigawa and Zamfara. In a typical year, farmers sell some millet after the harvest to traders based in Katsina State from Daura, Mai' adua, Mashi or Kayawa. At this time, demand for millet is from local urban consumers or large-scale traders. Local rural demand picks up in January, builds into March, then peaks from April to August as the agricultural season gets

underway. During this period, local traders estimated that their volume of sales doubles or even triples (e.g. from 30-45 bags sold per month during the November to March period to 75-85 bags per month in the peak April-September time). Local millet is also sold to large-scale traders who transport the grain for re-sale in major urban centres as well as to markets in Niger. Prices rise too at this time. Traders typically purchase millet post-harvest at Naira 90-95. Between March-August, the selling price is Naira 140-160.

Given the high demand for staple grains by both rural and urban consumers for over half of the year, prices influence how much food the poor access. In 2007, the peak price for millet was Naira 220. This contrasts to the peak price in 2008 of Naira 140 (a very good year for crops). In 2009 (an middling year) the peak price was Naira 170. Sorghum prices followed the same trend as millet. Maize prices, although highest in 2007, did not rise as dramatically (see p 17).

**Millet Price Trends 2006-2010, Daura Market**



### **Labour markets**

As the majority of households in rural villages need to find casual labour jobs for much of the year, demand for such labour is critical. During



the farming season, particularly at weeding and harvesting time, there is local demand for hired labour. In addition, seasonal labour is hired on irrigation schemes (i.e., at the Sabke Dam) as well as by large-scale farmers and contractors.<sup>2</sup> Urban areas are also a major source of labour opportunities during the October-April off-season period. Urban centres within Katsina State - such as Daura, Mai'adua, Zango, Funtua/Maska, Dandume and Katsina - are the main places to seek work, as well as Zaria, and, in the east, Taraba and Mai'duguri. Construction (such as brick making) offers contract work. Other forms of hard labour are secured casually (such as portering and hauling water). In years of rainfall failure – such as in 2007 - labour migration begins earlier and labourers travel further in search of work. Cities such as Kaduna, Kano, Abuja and Lagos are the major destinations in crisis years. Migration typically begins in June and migrants do not return until the following April or May.

## Seasonal Calendar

The agricultural calendar year begins in April

2009-10	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG
<b>FOOD CROPS</b>												
Millet	green	Harvest						Land	Prep	Planting		
Sorghum		Harvest						Land	Prep	Planting		
Cowpea	Harvest							Land	Prep	Planting		
<b>CASH CROPS</b>												
Sesame		Harvest										
Groundnuts	Harvest											
<b>IRRIGATION</b>			Harvest									
MILK	Peak production							Low production				
LIVESTOCK sale												
LABOUR	On-farm labour		Off-farm employment					On-farm labour				
WILD FOODS	Fruits										Green leaves	
FOOD PURCHASE												
HUNGER SEASON												
HEALTH	Malaria											Malaria

<sup>2</sup> Local large-scale farmers are the main employers of seasonal labour in the zone. For rain-fed farming, up to 5-10 labourers per hectare are employed at various times during the farming period (the actual number of labourers hired varies by activity). For irrigation, 2-5 labourers are employed per hectare.

with land preparation. In June, rain arrives, and with it comes planting. Millet matures after about 3 months. Thus by September, people begin eating fresh millet (and cow peas) from the field. The main harvest period is October for millet and November for sorghum. Sesame and groundnuts, the two main cash crops, are harvested from late September to mid-November. Farmers with access to irrigated fields (for instance in Sharawa, Yamadawa and Yashi) harvest market vegetables and other irrigated crops between November to January, after the cereal harvest.

Once the harvest is in, the calendar of the poor is dominated by the search for off-farm employment. Usually this search starts in October and extends until end-March although in drought years, labour migration begins by late June. This coincides with a period of high food purchases which peaks from February to May. In May, many poor start to find local on-farm work which is often paid in kind not cash. Middle income and better-off households sell livestock at this time to buy food to supplement dwindling supplies as well as to pay labourers.

The traditional lean season for the poor falls during the 5 months – April to August – when labour is needed on the home farm but the new harvest is not yet ready. Some grain is earned

through local on-farm work (especially during the weeding or harvesting period); some grain may also be borrowed. Loans are negotiated individually; the repayment rate depends on the relation between the two parties. Loans are typically re-paid after the harvest on a 1:1 basis. Sometimes a 2:1 repayment rate is set. Wild greens mature in July and August which provide a nutritious supplement but little energy. Notably malaria and water borne diseases are also highest during, and just after, the rainy season, when home food stocks are at their lowest level.

## Wealth Breakdown

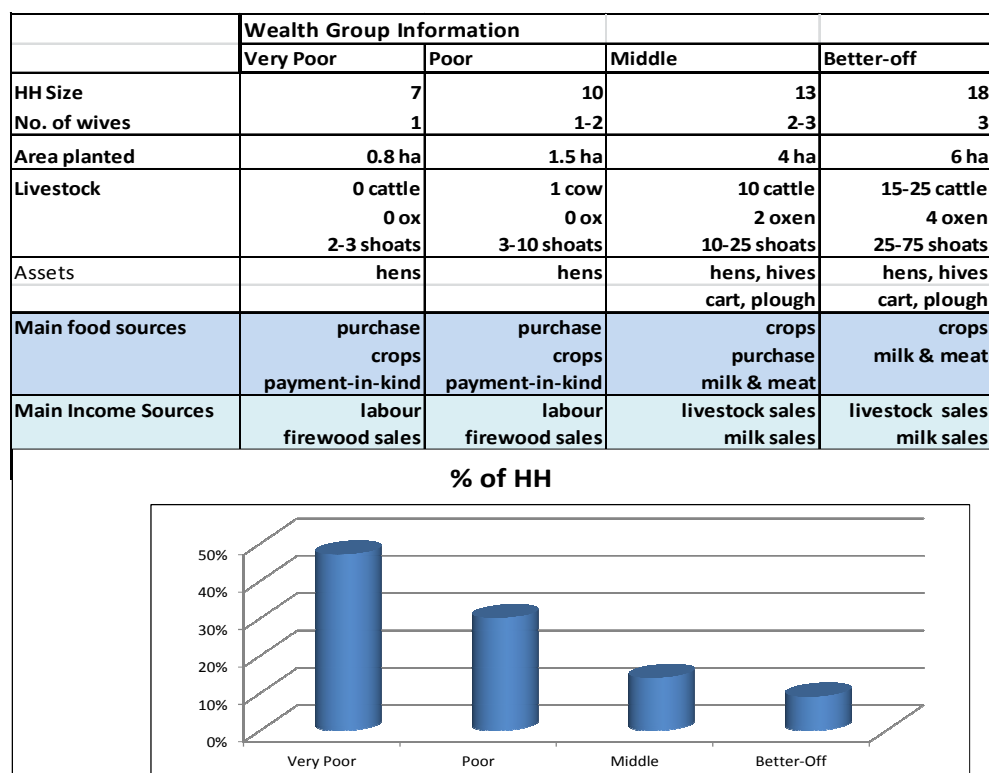
Not everyone in the community is the same. There are differences in land and livestock assets, and use of hired or own labour.

### Wealth Group Assets and Breakdown

Ethnicity, gender and age are also factors as they influence access to productive resources. Thus wealth status affects household vulnerability to certain risks, and consequently, to food security outcomes from year to year.

In rural Daura, wealth is determined by herd size and by how much land is cultivated, as well as whether a household has the tools and inputs to maximise production. Land is inherited by both men and women but additional land is accessed through rental arrangements. Increasingly, as income from skilled (educated) labour rises, levels of education will also be a main determinant of wealth.

At present, like other assets, education is highly skewed. Middle income and better-off households have the money to pay for higher levels of schooling. They can also afford the opportunity cost of sending youth to school as



they are not dependent on their youth for income. Poor youth must contribute to household income. Typically, they find work with better-off farmers.

Notably, the proportion of very poor and poor households in this rural zone is very high compared to those who are better-off. Across the zone, community leaders estimated that the very poor comprise 47% of households in their villages. The poor comprise about 30%. Together, these two groups form over 75% of households in the Millet & Sesame Zone.

### ***Household Type and Size***

Determining the size of a typical poor or middle income or better-off household is a crucial step in HEA. In polygamous, extended families – such as those in northern Nigeria – it is a challenge to fix on a single, reliable figure that represents the range of household sizes in each wealth group. For instance, two villages reported that one aspect of poverty is having a large household without the means to support them. In those two instances, very poor household sizes were in the range of 10-15 members (1 husband plus 2 wives). In another case, one man in the very poor group was supporting a household of 22. The challenge was to determine what was really typical. In many cases, where the very poor cannot support all their dependents, some are absorbed into better-off households as extra labourers or domestic help.

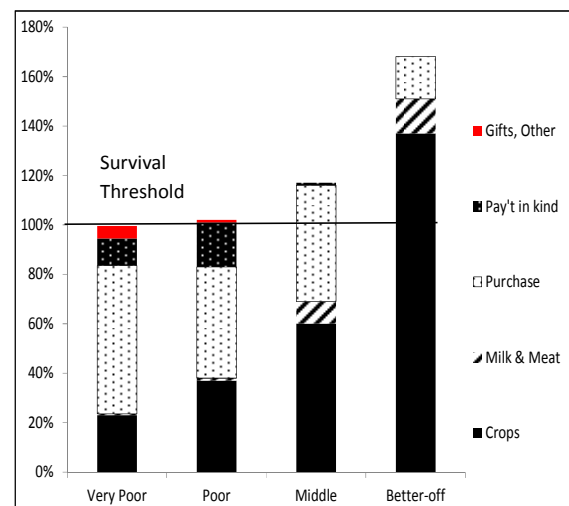
In rural Daura, people live in compounds with extended families. In a way, a household consisting of one man, his wives and their children is a forced concept. Nonetheless, given the level of detail that key informants were required to recall on production, income and expenditure, it was felt that asking for

information for this small household (rather than for the extended family) would produce more reliable data notwithstanding some errors in reporting for the family rather than the household.

## **Food Sources**

For all the months that poor households spend cultivating their crops, in a poor to average year, the returns are quite small.

**Annual Food Sources, 2009-2010**



In 2009, for instance, the very poor met just under 25% of their annual food needs (assuming a household of 7). Poor households cultivated about twice as much land as the very poor, doubled their production and were able to meet on average just over a third (37%) of their annual food needs (for a household of 10). Middle income households met about 60% (or 7 months) of their annual food needs from own crops. As above, they cultivated twice as much land for food as the poor (3 ha) and produced twice as much millet and sorghum (but their household size was larger). Better-off households produced sufficient grain to meet all their basic energy needs in the year. Notably, production levels increased

dramatically for this wealth group due to optimal farming inputs.

What is most striking about the graph of food sources (see graph above) is how much food is secured through purchase. The majority of rural farmers (including the very poor, poor and middle income groups) buy about 50-60% of their annual food needs. Thus for much of the year, food had to be earned and bought.



Milk and meat (and eggs) provide an estimated 10-15% of the annual food needs of middle and better-off households. As milk is an important cash source, only about one-half of the milk produced is consumed. In Shararwa, some poor families accessed milk by caring for a cow belonging to a better-off relative. Caring for one milk cow could provide a household of 7 with about 6% of their annual kcal needs from milk alone. However, lending milk cows was not typical in the zone during the reference year. Milk itself is shared, during festivities, for example. Small amounts (0.5 L) may also be given to less well-off relatives or neighbours.

Whereas middle income and better-off households access milk, meat and eggs from their own stock, the poor supplement grains grown and purchased with grains earned through seasonal on-farm labour. This allows the poor to subsist through the lean season (June through August) but provides little in way of dietary diversity. Local greens are collected for sale and consumption, as are some fruits and fresh cowpeas. Nonetheless, the diet of the poor primarily consists of staple grains.

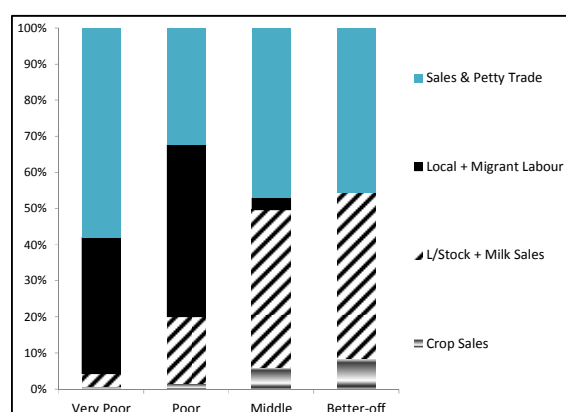
Loans or gifts of grain were not a major food source of food for the poor in 2009-2010. In part, it may reflect the production year. Although the year was middling to poor, it was not a crisis year. In part, it may reflect that there are many poor to a few better-off households. In general, most farmers reported giving the 10 percent *zakat* after the harvest. The *zakat* charity – organised individually on a farmer-by-by basis - largely went to households who were known to the farmer either a relative, friend or neighbour. Thus, *zakat* was not necessarily received only by very poor families but simply by those households connected to the better-off.



## Income Sources

A general rule of thumb in dryland, mixed farming areas is that the middle income and better-off households combine trade and livestock (and milk) sales to raise cash whereas the poor and very poor combine petty sales with seasonal labour opportunities.

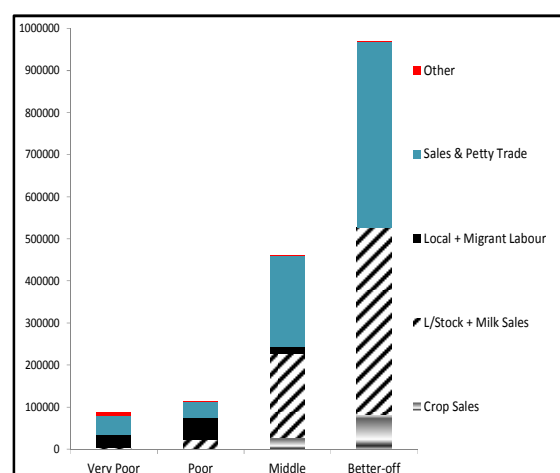
### Proportional Importance of Annual Income Sources



The graph above illustrates this rule of thumb. The black bar shows the proportional importance of labour income for the poor and very poor. By contrast, the striped bar shows the proportional importance of livestock and milk sales for the middle income and the better-off. Thus, what labour income is to the poor, livestock income is to the better-off: roughly 40-50% of their total annual cash earning.

Overall crop sales, in proportion to the cash earned through livestock and milk sales, and trade, is relatively low. In a good or very good harvest year, this proportion would likely rise. However, even when the actual income earned is graphed (rather than the proportion), it is clear that despite being a zone known for sesame, cow pea and groundnut production, much more income is earned through livestock and milk sales than through crop sales (see graph at right).

### Annual Income Sources in Naira, 2009-2010



Within the zone, the most typical types of off-farm employment for men include brick making, construction, loading, hauling water, and cutting firewood. Work can also be found on irrigation schemes between October to December, digging ditches, applying manure and fertiliser to plots, and de-silting canals. On-farm labour opportunities begin in April. If employers cannot (or will not) pay in grain – which is the preferred form of payment at this time – then labourers receive cash for their work, preparing land for planting; weeding; and, harvesting.

Women earn income by pounding grain, and by selling firewood, milk, fruit, sugar cane, groundnuts, groundnut oil and prepared meals or snacks. They also earn cash through hair weaving. Although some poor women leave their compounds to engage in sales and petty trade, in many cases, children do the marketing for their mothers.

Middle income households also earn cash through some forms of labour but it is typically more skilled work, for example as a brick layer, mechanic, tailor, driver or watchman.





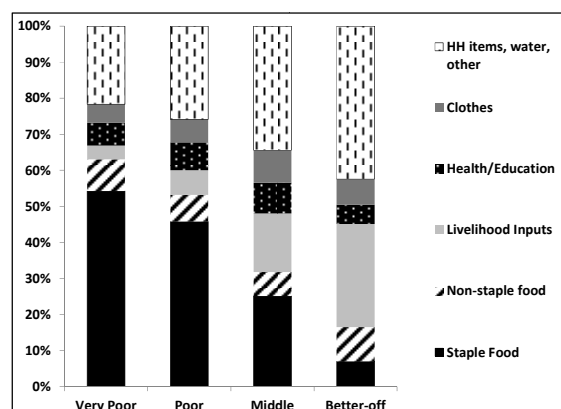
Middle income and better-off households also trade higher value goods such as livestock or meat, or they run a small village shop.

It is likely that more households than are captured in this HEA study receive some remittances. The question was not well understood at the time. Hence, food or cash that is sent by adult children working full-time away from the village to support their families back home was largely missed.

## Expenditures

A major proportion of spending by the very poor and poor is on staple food. The black bar in the graph at right illustrates staple food spending. In the reference year, about 45-55% of total spending was on staple food. Put another way, about half of what was earned during the year, was spent on staple food.

Proportional Expenditures 2009-2010

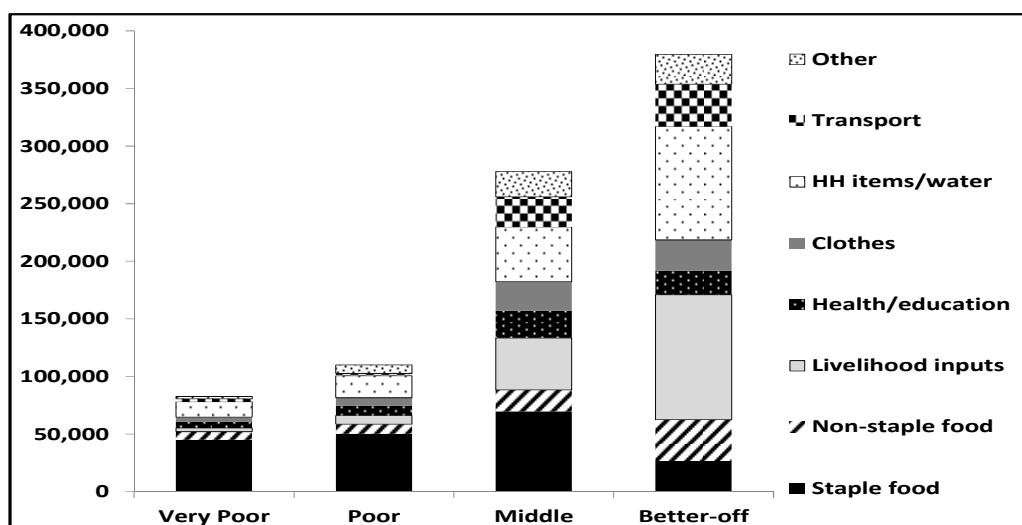


By contrast, staple food is about 25% of total spending by middle income households (and even less for the better-off). Middle income households actually spent more cash buying food during the year than did the poor (see graph next page). Nonetheless, staple food spending was a smaller proportion of total expenditures for the middle income than for the poor. It was also a smaller proportion of their total income (just 15%).

The other major expense for all households was essential household items including salt, soap, kerosene, firewood, water, and grinding expenses (see graph next page). Notably, transport costs are a significant expenditure for middle income and better-off households. Payment for motorcycle fuel, or truck rental to transport goods to market comprises about 10% of total annual spending by wealthier households.

Small amounts of sugar, oil and spices – the non-staple food category - are bought by the poor. The better-off buy non-staple rice and pasta. Not all of these foods need to be bought. Many households own traditional bee hives from which they make their own honey. Middle income and better-off households also press groundnuts, producing their own oil.

Annual Expenditure in Naira 2009-2010

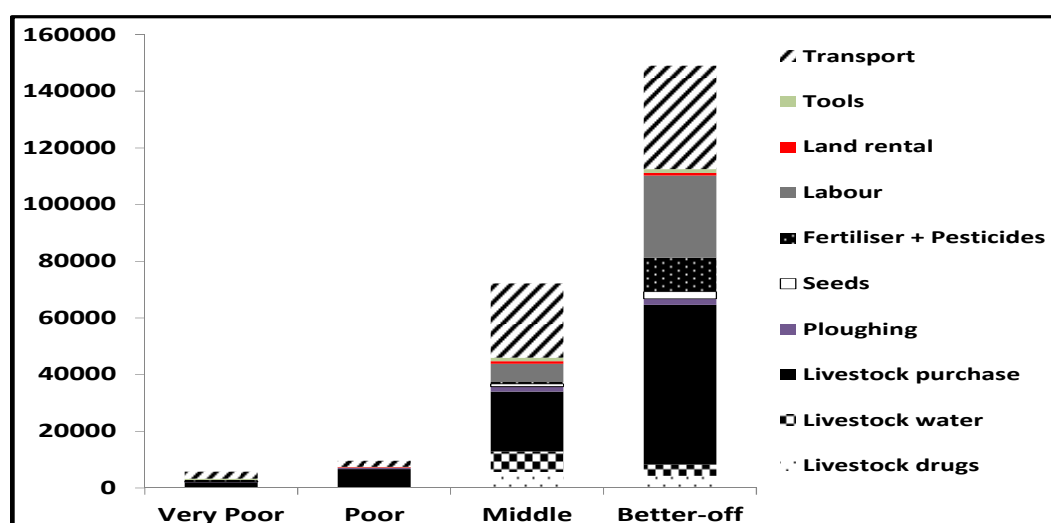


On feast days, they slaughter their own sheep, goats or chickens. This provides a little meat.

Health and education spending comprises a small proportion of overall expenditures. The poor often try to set aside some money during the year to pay for medical emergencies (i.e., Naira 3,000-5,000). It is very difficult to borrow money to pay for a sudden medical need, perhaps because the potential lender knows that the money is unlikely to be re-paid.

Livelihood inputs absorb significant cash during the year for middle and better-off households. This category includes a number of items (see graph below). Only a few of the very poor and poor spent money (and only small amounts) on seeds, tools, fertiliser, land rental, ploughing, and livestock purchases. By contrast, most better-off and middle income households purchased livestock during the year. They also paid for other inputs, including casual labour, drugs and water for livestock, and fertiliser.

Annual Spending on Livelihood Inputs in Naira, 2009-2010





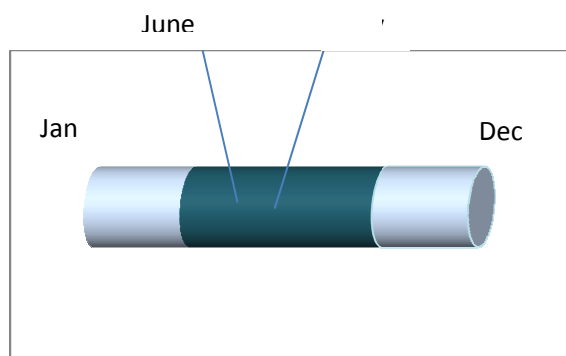
Overall, the poor spend what they earn. Better-off households put aside savings, for instance for weddings, dowries and other major one-off expenses.

## Hazards, Coping and Indicators of Stress

During extreme weather events, or in years of significant pest outbreaks, households fall back on a few specific response strategies. In a very poor year, households respond in three ways:

- Reduce food intake (reduce number of meals and the sauce foods)
- Increase income (see below);

Very Poor, Poor	Middle, Better-off
<p><b>Early labour migration (in June); Go for 8 (not 4) months. Send 2 people to migrate.</b></p> <p><b>Increase firewood sales by 50%;</b></p> <p><b>Collect wild greens;</b></p> <p><b>Sell 4-6 shoats</b></p>	<p><b>livestock sales ; increase sales ; cattle and 5-oats;</b></p> <p><b>increase brick laying from 3 to 6 hrs; 3-5 people search for work;</b></p> <p><b>firewood</b></p>



- Reduce expenditures on non-essential goods and switch expenditures from more expensive foods to less expensive foods. Delay weddings (and other ceremonies) until a good year.

Very Poor, Poor	Middle, Better-off
<b>Reduce:</b>	<b>Reduce:</b>
clothing	festivals
kerosene	kerosene
transport	firewood
grinding fees	tea
festival expenses	clothes by 25%
soap	transport by 30%
	livestock purchase by 50%
	agricultural labour

Finally, the very poor look to better-off relatives to try secure gifts of food and cash during years of severe food stress. Livestock sharing mechanisms are also drawn on during times of stress. In Shararwa, for example, the very poor reported that the last time they received livestock through sharing was in 2007, a very poor year.

### Development Priorities

When asked about development priorities, village leaders focused on ways to improve the main driver of the economy: agriculture. Their priorities included: better access to, and affordability of, fertiliser; better pest control; and, more reliable water inputs (i.e., through irrigation). Low and unreliable rainfall, as well as pest outbreaks, were ranked as the main constraints to production. Improved livestock disease control was another priority. Finally, there was some emphasis on better access to essential health and education services. Only in Kampa Yashi – the most remote village visited during the HEA study – was income support identified as a development priority.

## Implications of HEA Results

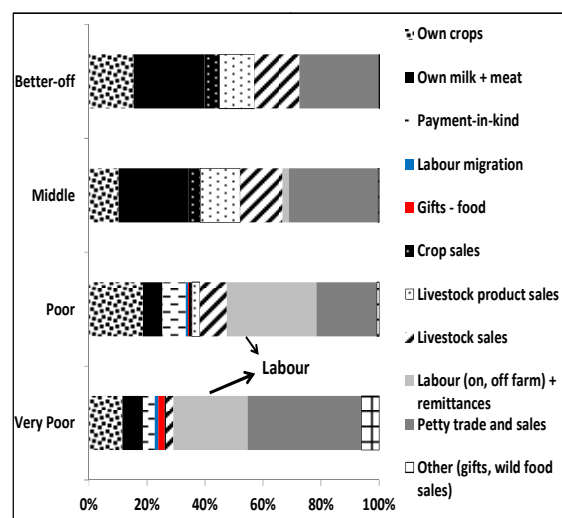
### Malnutrition and Chronic Poverty



#### Summary of HEA Findings

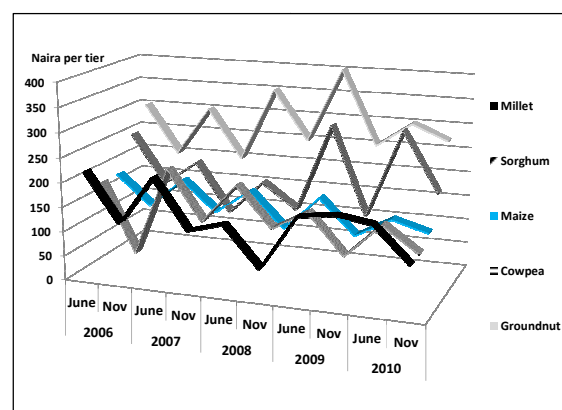
The HEA results provide a rounded picture of the local economy during a middling to poor year. It is a livelihood profile, in short, of an economy under some stress but not in crisis. In such a year, the majority of villagers managed to secure sufficient food. However, own farm produce makes up only a small proportion of most people's annual food energy. The principal way to secure food is to earn cash both by working on other peoples' farms as well as by finding off-farm work. Hence, the food security of the poor is dependent on the market and labour situation. The demand for unskilled labour, and the availability of jobs locally or in urban centres, plays a large role in whether the rural poor make ends meet. See graph, at right.

#### Proportional Importance of Total Food + Income 2009-10



Given the importance of food purchases during the year, price trends of staple crops (and their relation to labour rates) are a key parameter in food security monitoring. The graph below depicts price trends over the last five years. Annual price trends, as well as the peaks and lows of seasonal prices are shown for five crops. The price outcomes reflect both local and **regional** production outcomes. 2008 was a very good production year. Hence, **millet** prices were at their lowest level post-harvest in November 2008. For most crops (with the exception of groundnuts), prices peaked in June 2006 and June 2007 following the 2005 crisis.

#### 5 year Price Trends of Major Crops in Daura LGA



Low prices clearly disadvantage producers. High prices, however, disadvantage consumers: not just urban consumers but also the majority of rural villagers who purchase food for much of the year. Years of high cereal prices usually coincide with a difficult year. Price trends alone rarely cause a major food crisis. However, experience shows that high staple grain prices are a very important contributor to hunger amongst the poor in the Sahel. To understand at what point high or rising prices may contribute to food insecurity, more research on past trends is needed coupled with ongoing price monitoring.

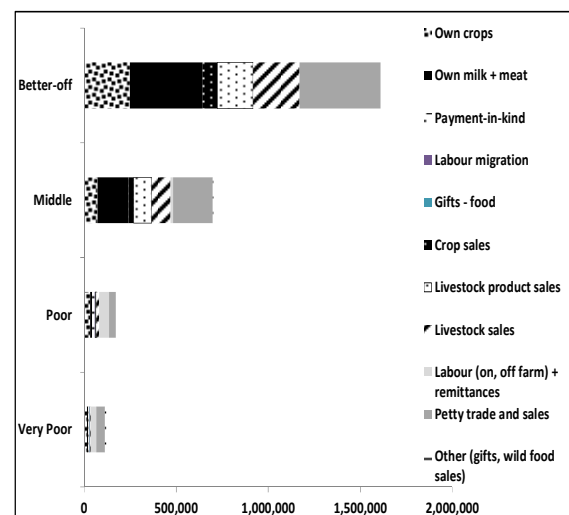
### ***Seeing Poverty as one piece in the Malnutrition Puzzle***

Widespread rural poverty appears to be closely linked to relatively high malnutrition rates amongst the under-5s in Daura LGA. The poor secure their survival needs but little more. Moreover, their diet is comprised primarily of cereals with almost no supplementary meat, eggs, milk, oil or butter. The region produces these products: legumes, oil crops, livestock, hens and bee hives are all grown locally. However, poor families are chiefly concerned with securing sufficient staple grain. Hence, higher value protein products are sold or exchanged for lower value cereals. Moreover, any addition income is spent on other essential services rather than on non-staple food.

Tackling chronic malnutrition requires an integrated strategy of food, income and expenditure support. The goal is for income to reach levels that adequately cover both diet diversity as well as health costs during seasonal disease outbreaks - including transport to health services.

**HEA and Cost of Diet:** HEA data can be used to address how much total income is needed to adequately cover household food and health needs. In order to address whether the poor can afford a full diet, for instance, total income (i.e., all annual food and income sources converted in Naira) is calculated by wealth group using HEA data. The graph below shows the actual amount secured by each wealth group. In the reference year, the total food + income produced or earned was about Naira 120,000 for the very poor; around Naira 172,000 for the poor; about Naira 700,000 for middle-income households; and for the better-off, about Naira 1,610,000.

**Total Food + Income Sources, in Naira, 2009-2010**



These amounts can be compared to the Cost of Diet - a calculation that shows the overall cost of a fully nutritious diet. The Cost of Diet calculation – in conjunction with the HEA data - shows to what extent total income is sufficient to cover a complete diet. In many cases, even for the poor, total income may be sufficient overall but the result of shifting all cash toward a diverse diet will be an expenditure deficit in most other items.

### ***Tackling Malnutrition from a Livelihood Perspective***

Where poverty and malnutrition are chronic rather than temporary (i.e., due to an extreme event), there can be no quick fix. Exit strategies – or thresholds on which to base the exit strategy – are essential to establish at the outset even though it may take decades to reach these exit thresholds. From a (HEA) livelihoods perspective, exit strategies are designed around both essential food energy needs – the Survival Threshold– as well as essential livelihood needs. The Livelihood Protection Threshold is set by developing a Minimum Expenditure Basket in which the cost of a diverse diet, as well as health and education services, and livelihood inputs are calculated. Once households reach these food and expenditure thresholds, they graduate out of the safety net target group.

When reducing malnutrition is the primary objective, general livelihood thresholds should be refined with nutritional goals. Tight budgets always mean choosing between equally important but competing priorities. In order to reach nutrition goals, hence, poverty reduction projects must also have an explicit nutritional component. Trial projects should allow planners to determine which combination of interventions is most effective at both boosting food and income access **and** prioritising expenditures on health and nutrition. Income support initiatives - such as ram and cattle fattening, or safety net (cash) transfers - for instance, should be linked to improved nutrition goals by combining them with disease prevention and treatment interventions. Furthermore, poverty reduction measures (through income support or cash transfer s) may require extensive community awareness

building, or even conditionalities, in order to meet specific nutrition goals.

The range of possible interventions in disease prevention and treatment is extensive. Interventions include: improving water access and sanitation; distribution of mosquito nets and/or support for the local production and marketing of nets; provision of supplementary milk or legume protein foods; support for extended breastfeeding; distribution of high protein snacks at school; and so on. These can be coupled with disease treatment interventions such as decentralisation of health clinics or mobile staff; improving the availability and affordability of treatment drugs; provision of transport subsidies for health visits; supplementary feeding, and so on. One important component should be support to women to take pro-active health decisions for their young children - even when husbands or brothers have migrated away for work.

Thus, where chronic poverty affects nutrition outcomes, measures to improve nutrition require a livelihood perspective. The reverse is also true. Livelihood support requires an explicit nutrition component to meet both goals.

