Millet, Cowpeas & Groundnuts Livelihood Zone

Northwest States, NIGERIA

Household Economy Analysis (HEA) Baseline Profile

Save the Children

September 2014

The Research Team

S/N	First Name	Surname	Organization
1	Auwalu. M	Bello	Min Budget&Planning
2	Ibrahim	Turaki	Min Budget&Planning
3	Anthony	Chinedu	SC M&E Officer
4	Shehu	Abubakar	M&E- ADP
5	Maryam	Shehu	Desk Officer-Ministry for LGAs
6	Bilkisu	Imam	Education Officer-Ministry of Education
7	Sadiya	Murnai	Extension Officer-IFAD
8	Nafisah	Gullah	Research Assistant
9	Benjamin	Morris	Volunteer CSO
10	Najibu	Musa	M&E Nigeria Red Cross
11	Altilina	Simon	Relief Officer-Nigeria Red Cross Society
12	Ese	Awharitoma	SC Health & Nutrition Advisor
13	Amenogu	Augustus	ACF M&E Officer
14	Ismail	Mohammad	Field coordinator FEWSNET
15	Nelson	Barde	HEA Coordinator
16	Amadou	Diop	HEA Senior Roving Technical Coordinator

Participated in Training without Field Survey

1	Jennifer	Bush	FEG Consultant
2	Christy	Yunana	Economic Growth- National Planning Commission
3	Nnenna	Okolie	Economic Growth-Asst. Director
4	Patrick Aso	Vakporaye	Economic Growth- National Planning Commission
5	Atiku	Yola	FSL Manager-ACF

This report was written by Nelson Barde, Nigeria Focal Point (SCI), with Julius Holt, Food Economy Group consultant

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The Currency Rate:

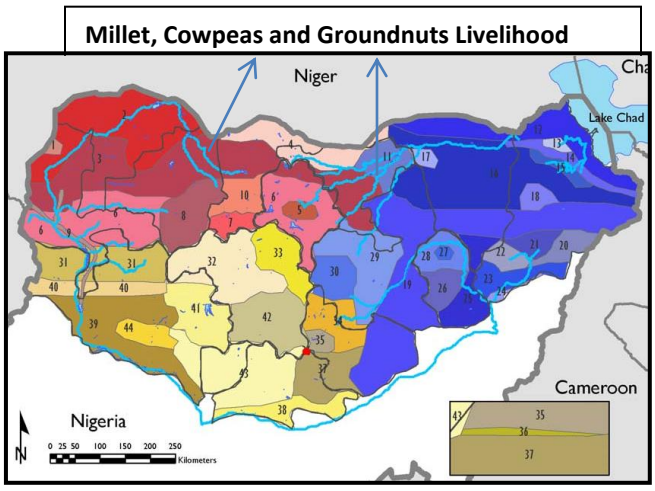
At the time of fieldwork, in February 2014, the value of the Nigerian Naira was NGN 163 = USD $1.

Fieldwork for the current profile was undertaken in February 2014. The information presented in this profile refers to a single reference year starting in **September 2012** with the beginning of the main harvest and ending in **August 2013** just before the new harvest. Provided there are no fundamental shifts in the zone's economy, the baseline information in this profile is expected to remain valid for at least five years (i.e. until 2019).

Introduction

The Millet, Cowpeas and Groundnut Livelihood (MCG) Zone is one of 44 livelihood zones formerly identified across the 15 states of northern Nigeria in a FEWS NET zoning exercise in 2007. Livelihood zones are geographical areas in which households essentially share the same production and income options, as well as similar market access. The MCG zone forms a wide west-to-east band covering greater or lesser parts of Kebbi, Zamfara, Katsina, Kano and Jigawa states.

Livelihood Zones map of Northern Nigeria (FEWS NET 2009)



The present HEA exercise added to the store of baseline data on livelihoods and food security in northern Nigeria. It also aimed at increasing the capacity of government officers and the staff of partner NGOs to understand and use the HEA analytical framework, in order to institutionalize the approach and analysis within the Nigerian government's food and nutrition policy, and to contribute to the Early Warning System and to emergency response. SCI staff and partners from Abuja, Zamfara and Jigawa States took part in a five-day classroom training conducted from 13th to 17th February 2014 followed by field level data collection and analysis up to 7th March 2014. The HEA baseline assessment investigated the household economy of one livelihood zone, the Millet, Cowpeas and Groundnut Livelihood Zone. Eight villages were selected purposively to represent the livelihood pattern of the zone. The HEA baseline focuses on household food and cash income access as well as expenditure patterns according to wealth groups. These three elements, together with an asset profile, provide a rounded view of household food and livelihood status.

There are three main steps in the HEA baseline assessment. First, at the State and LGA level, secondary data on production, prices, population and hazards are collected and local units of measure are verified. A minimum set of 8 villages representative of the zone is purposively selected (in this case 4 in Jigawa State and 4 in Zamfara State). Then at the village level a meeting with key informants is held to develop a seasonal calendar and a five year timeline of major events affecting food production and food security, as well as a summary of the characteristics of very poor, poor, middle income and better-off households in the village (as defined locally). This wealth breakdown exercise allows the third step to be organised, in which eight household representatives from each wealth group are selected as focus groups and interviews are conducted separately for each focus group. As far as possible, equal numbers of male and female household representatives are chosen for each focus group. During the three to four hour interview, household representatives are asked to provide quantified information about the amounts of

food typically secured during the reference year by households in their wealth group from the different sources: in this case from own crop production, from own livestock (meat and milk), from market purchase, and from payment for work directly in the form of grain ('payment in kind'). They are asked about the sources and amounts of cash obtained during the year (from produce sales, paid work etc.) and about the pattern and amounts of expenditure. This data is entered in a baseline storage spreadsheet. In future, it can be used in conjunction with a livelihood impact Analysis spreadsheet (LIAS) to predict the impact of given shocks or changes (Outcome Analysis).

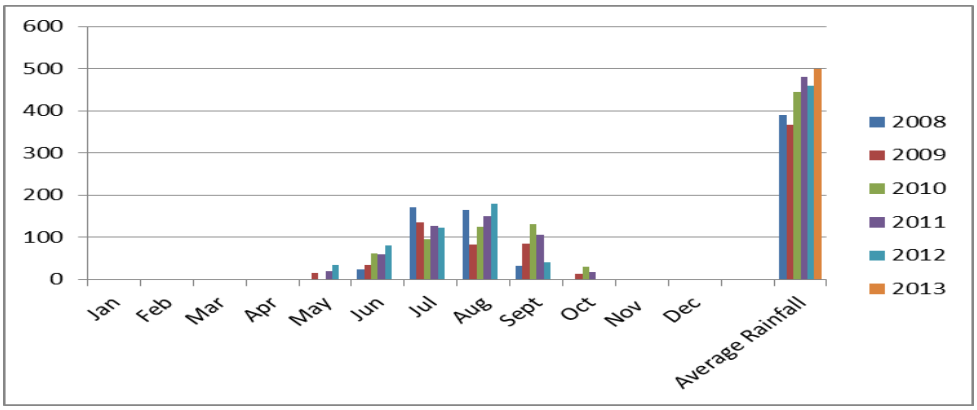
The present study stands beside the equally recent Sorghum Cowpeas and Groundnuts Livelihood Zone study led by SCI with support from local partners. These Five HEA baseline assessments will be used to help design hunger and poverty reduction programmes in SCI and partners operational areas. The baseline data is linked directly with the Livelihood Impact Assessment Spreadsheet (LIAS) that allows planners to make a quantified prediction of the magnitude of seasonal and/or annual food and income gaps measured against defined survival and livelihood protection thresholds. This type of analysis is useful in determining how much support is needed and when, to meet what type of need.

The reference year selected for this study was the 2012-2013 'consumption' year beginning with the harvest in **September 2012** and ending in **August 2013**. This was an average rain-fed production year but marked by fairly low dry season production.

Overview of the Livelihood Zone

The Zone is located in Local Government Authorities or LGAs of North West States. The 8 villages selected for the HEA baseline assessment were located in 5 LGAs: 3 from Zamfara; Anka (Kwanar Maje), Bukkuyum (Zarummai, Masamar, Mudi) and Gummi (Gamo) and 2 in Jigawa; Buji (Yayarin Kachauri, Lelan Kudu) and Gagarawa (Sarkin Dare, Garin Ciroma). The economy is dominated by smallholder agriculture that engages over 80% of the population, *according to Agricultural development Project Monitoring and Evaluation Progress Report 2012*. The zone has a tropical climate defined by a single rainy season between May and September with thus the dry season between October to April, with maximum daytime temperatures of about 40◦C between March and September, while minimum daytime temperatures of 11◦C occur between October and February. However, there is a substantial temperature variation within these periods. The average annual rainfall is between 450-500mm, but there is considerable variation in localities across the zone. The ecology is essentially Sudan Savannah, with vast, fertile stretches of arable land that favour the production of cereal and legume crops. There is also some market gardening of vegetables and some production of paddy rice on flood retreat plains (*fadama* farming).

2010-2013 Monthly and total annual Rainfall (in MM), Jigawa State
(Source: ADP Jigawa State)



The zone is also characterised by extensive savannah grazing lands as well as some flood-plains grazing areas, favouring cattle. Goats and sheep are kept by most farming households, as well as poultry. But cattle is only kept by the wealthier quarter of rural households, for milk, for draught power and as a repository of wealth. Some better-off households keep horses (although mainly for festivals rather than for draught power). Both Hausa and Fulani farming households keep mixed herds although the Fulani are associated with the larger herds of cattle.

There are few industries in the zone, and most industrial activity is related to agro-processing. Agro-based industries include the processing of fruit, dairy, and sugar as well as flour and rice mills. There is a wide variety of mineral resources but formal sector mineral extraction is limited.

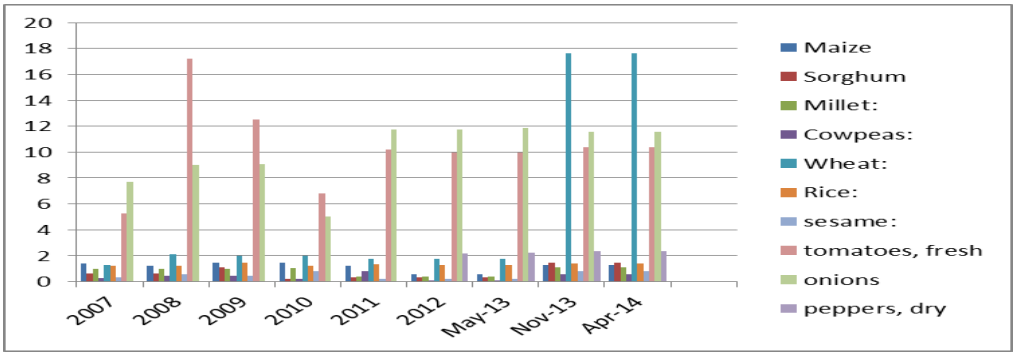
Crop Production

In northern Nigeria, land is measured in *ridges* of 0.75m by 100m. Approximately 133 *ridges* equal one hectare. Different plots of land are acquired separately as both husbands and wives inherit land. Land can also be rented in or out or purchased. As a result, most farmers cultivate plots of land that are scattered rather than consolidated. In total, very poor and poor households own about 1 – 1.5 ha. This contrasts with middle income and better-off households whom own an estimated 7.5 – 12 ha. Most of this land is cultivated at any one time. Production is overwhelmingly of food crops, but quantities are sold by farmers, so that they could also be considered as cash crops – especially cowpeas. *Fadama* vegetables are mainly grown for cash.

Crop output is measured in *bundles.* Once threshed, grain and pulses are measured in *tiers*. There are a different number of *tiers* in a *bundle* depending on the crop. For millet and sorghum, a bunble has 8 tiers, and each tier is 2.45-2.5 kilogrammes, do that there are 40 tiers to one sac of 100kg. These local units of measure were verified both in the market as well as in each village to ensure accurate calculations of output and consumption in kilogrammes (kgs).

Looking back over the last five years of production data, there is little evidence of a uniform production pattern for all crops. See graph below, which however covers a state which goes beyond the present zone (e.g. in the MGC zone no wheat is grown). Maize, in particular, has shown trends that differ from wheat and rice (note the example from 2010 to 2013). In fact, the variety of grains grown is an advantage for farmers in the zone because it allows for risk spreading.

Yields of Major Crops (in MT), Jigawa State, 2007-2013



The production pattern for irrigated market vegetables is similar to the production trend for rice. See graph above. Production rose in 2008 and 2009 then fell in 2010 but rose again in 2011 and remained stable in 2013.

Livestock Production

The Zone is an area relatively rich in livestock. The floodplains provide good grazing although there are competing land use demands between farmers and herders. During the wet season, cattle are usually taken to pastures outside of the intensively farmed areas. In the dry season, post-harvest (i.e. from around January) cattle are brought back to feed on crop residues and to graze locally.

Livestock have many functions. Milk is both consumed and sold; livestock are sold for cash income; rams are slaughtered for meat during certain religious festivals, and new animals are purchased as a safety net against harvest failure or simply as a way to 'bank' savings. Manure is used to fertilise fields and oxen provide draught power to pull a plough or to transport goods.

In the wet season, dairy cows produce about 2 L per day per cow over a 6-month period. Yields drop in the dry season to about 1 L per day per cow over a 3-4 month period. In the reference year, the middle-income and better-off owners sold some 33-66% of the milk produced.

Cattle are rarely slaughtered for meat, but they are sold to meet pressing, major cash needs. In the reference year, middle-income and better-off households typically sold about 16% of the cattle herd.In addition to cattle, almost all households own sheep and goats. Small stock and poultry are kept (particularly by women) as an investment to be sold when cash needs arise.

Markets

Market Routes, Demand and Supply

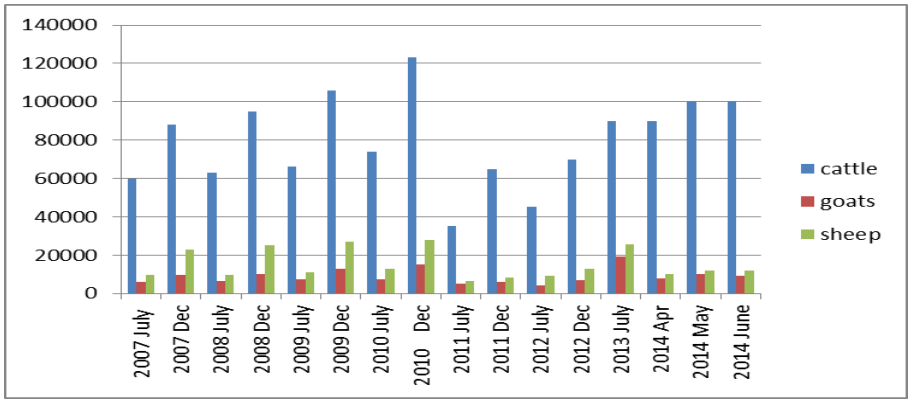
Market routes depend on the item sold. In general, the market flow for livestock is from north to south. The livestock trade originates in the northern states of Nigeria as well as from Niger then travels south to meet demand in the major urban centres of central and southern Nigeria (including Kaduna, Zaria, Abuja, Lagos, Port Harcourt, and so on). See Annex 1.

In contrast to livestock`s southern market flow, grains and legumes are typically exported north to Niger. Overall, Jigawa State is a net exporter of grain, particularly wheat and rice. In 2012, the government put a temporary ban on cross-border exports of grains due to concerns about prices rising locally after a poor production year. Notwithstanding occasional trade restrictions, Niger and other neighbouring sahelian countries are a major destination market for Nigerian grain, including crops from the livelihood zone.[1] Typically, grains are exported first to Kano State (Dawanau market) or to Yobe, Katsina, Borno, Zamfara and Sokoto States where wholesalers amass the grain for onward export to Niger.

During the hunger season, millet and maize are bought by local farmers for home consumption. This grain is local, originating from markets within the Gujungu and Dawanau. In drier years, local grain is supplemented with grain brought in from neighbouring states, such as Kaduna (Makarfi market), Bauchi and Yobe.

Livestock Price Trends

Livestock prices also have seasonal highs and lows which reflect seasonal trends in demand as well as trends in animal health and condition. Prices peak during religious festivals in November / December when demand is highest. Sales are also high in April/May at the start of the growing season when farmers need to pay for inputs. Over the last two years, prices have risen slightly.



Seasonal Calendar

The calendar below presents the production activities and other factors that are dominated by seasonality. It is seen from the point of view of poorer households in such matters as when food purchase begins and the months of the lean season.

Source of food / Income generating activity	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Rainfall months												
Agriculture												
Millet					Land Preparation		Seeding	Weeding		Green Harvest		
Sorghum						LP	Seeding	Weeding				
Cowpeas							Seeding			Green Harvest		
Groundnuts	Sales						Seeding			Green Harvest		
Maize							Seeding					
Upland rice												
Cotton												
Yams												
Livestock												
Cattle - milk production												
Grazing migration of cattle			departure									
Animal diseases								livestock diseases				
Purchase of animal feed / inputs												
Sales of livestock								livestock sales				
Collection from the bush												
Items collected (specify)					locust bean seeds, tamarind fruit, shea nuts							
Other												
Local agricultural paid work												
Other local paid work												
Handicraft sales												
Work migration												
Lean season months												
Loans taken and reimbursement			reimbursement					loans taken				
Malaria / other illnesses									malaria			
Purchase of staple food						purchase of staple food						
Festivals, social engagements etc.												

LP = land preparation; P = planting; W = weeding; GH = green harvest; H = harvest

In the Millet, Cowpeas and Groundnuts livelihood zone, agricultural activities are mostly rainfed. The agricultural season gets underway with land preparation in April/May. Farmers plant their crops when the first rains begin. June-July-August marks the period of weeding while crops are growing. By mid to late August, maize can be eaten fresh, or 'green', from the field, but this does not entirely break the lean season, when stocks from the last harvest have long gone, food prices are at their annual peak, and poorer people, now almost entirely dependent on the market or payment-in-kind for basic food, live by what can be earned from casual employment, self-employment (e.g. selling firewood) and petty trade. From September through to October, maize, millet and cowpeas are harvested. The sorghum harvest follows in October-November (and into December). Rainfed (upland) rice is harvested during this same period.

Dry season irrigated production for those with *fadama* land begins once the rain-fed harvest has been threshed and stored. The produce is mainly vegetables and some paddy rice, mostly destined for the market. Land preparation and planting are carried out in late December-January, followed by weeding in February. Crops are harvested in March-April-May. This season may be anticipated by flood-retreat planting between October and December where conditions are conducive. Fishing is also a minority activity during these months.

Milk production from dairy cows peaks during the rainy season when good pasture is more commonly available. However, this is the time when planted crops are in danger of damage by cattle, and so cattle are often taken to rainy season pastures away from the farms. As a result, access to milk by the cattle owners, as opposed to the contracted herders, can be a problem.

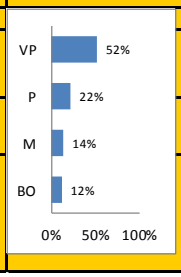
Apart from the modest amount of *fadama* cultivation, dry season activities for poorer people include brick-making, house construction and domestic work in local towns, and then from March employment on land preparation for the coming rainy season. Poorer people may obtain casual work in these various forms intermittently over a period of up to eight months.

Household expenditures have seasonal peaks and lows. Farm input expenses tend to be highest in January when workers are paid off for harvest work and in April when fertiliser is purchased. School uniforms and writing etc. materials are due in January, and the other school terms begin in April and September Better-off and middle-income households typically sell cattle to pay for these major farm inputs. Health and education costs are other key seasonal expenses. Treatment drugs – if they can be afforded – are often paid for through smallstock sales. Malaria is highest during the rainy season but the cooler dry season brings coughs and colds too.

The Wealth Breakdown

A glance at the table below will show why the first step in the field methodology is to discuss with the villages their definition of the characteristics of poorer and wealthier households. Within the same village, with the same basic livelihood factors, there are great differences between one household and another as regards the number of members 'eating from the same pot', the amount of land cultivated, the assets in livestock, and the possession of ploughs or other productive assets. As the livelihoods are based on primary production, these are considered by villagers the prime elements which dictate wealth status. Further discussion then brings out details: the number of wives tends strongly to increase with wealth and so the size of households too; poorer people may have more dependents, mainly younger children, as a proportion of the household whatever its size, and by the same token fewer working adults to support the family – sometimes too few even to be able to cultivate their land properly. We note that the limited amounts of flood retreat/irrigated *fadama* land belong to the wealthier households, especially the better off. Wealth and education are also related, at least in that the children of the wealthier will not only complete primary school but go through secondary school too, while amongst the poorer some children do not complete even primary school and indeed some do not go to school at all.

	Proportion of households	Proportion of the total population	Household size	Total area cultivated (hectares)	Area under staple crops (hectares)	Area under cash-crops (hectares)	Livestock possessed	Other productive assets
Very Poor	52%	34%	7	1	1	0	2 goats, 10 hens	
Poor	22%	21%	10	2	2	0	4 goats, 3.5 sheep, 10 hens	
Middle	14%	20%	15	6	5	2	8, cattle12 goats,11 sheep,20 hens	2, plough
Better Off	12%	26%	23	16	13	4	39 cattle,33 goats,29 sheep,60 hens, 3, donkeys	4 Plough, 1 Cart



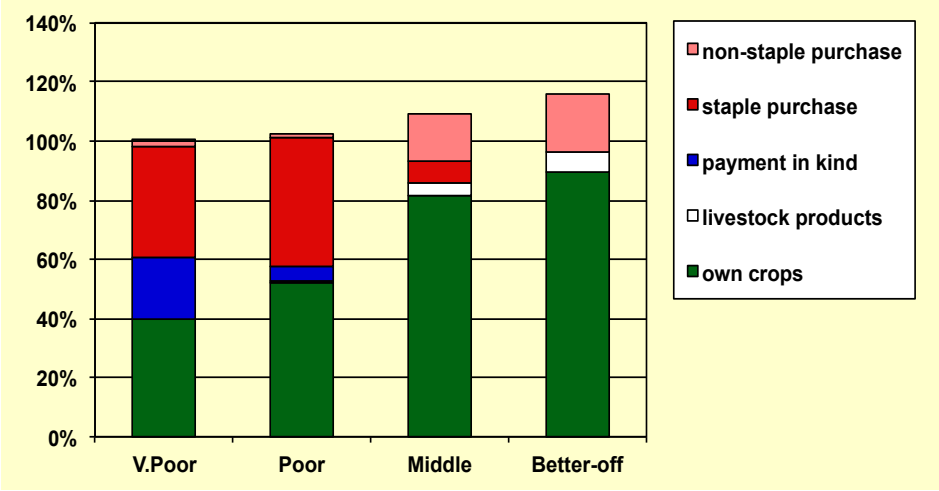
Notes: Values are centres of ranges. Land is locally measured in *ridges*: there are 133 ridges to 1 ha.

The percentage breakdown of wealth in the zone was found as follows:

In terms of household numbers, the poorer households are in a big majority of 74% - 52% very poor, 22% poor, while the middle are 14% and the better off 12 percent. However with household membership ranging from around 7 for the very poor to some 23 for the better off, it is necessary also to see what proportion of the population the different wealth groups represent. This gives a somewhat different picture, with a far less extreme skewing towards the poorer end. However the very poor at 34% still represent a high proportion, and they and the poor, at 21%, make up 55% of the population. It is interesting that here the better off make up a larger percentage, at 26%, than the middle at 20%. But we may reflect that within the better off households there are likely to be not only many children and maybe one or two elderly parents or uncles/aunts being cared for but also a good number of working adults who earn money beyond the farm profits from trade and other activities; and together with the cash obtained from crop and livestock sales, as we shall see in the sections below, a good part of their income goes to hiring the many poorer people who depend on performing casual labour for a good part of their living.

Sources of food

Annual Household Food Sources in the reference year as percentage of minimum energy requirement (2100 kcals pppd)



Regarding the poorer majority of households the message of the graph is rather clear: even though they sell little or none of their cereals harvest, they are only able to provide themselves with half or less of the calories they consume in the year, and nearly all the balance they purchase or receive as direct payment for labour. Their purchase of non-staples is very small, not because they grow many vegetables – the *fadama* land is not theirs – but because they have other essential needs to cover with the cash. This means that their diet – virtually totally lacking in milk too – is not varied or well-balanced nutritionally, as well as just skirting the minimum calorie requirement threshold (for the very poor by virtue of a few food gifts). All of this is a testament to deep poverty.

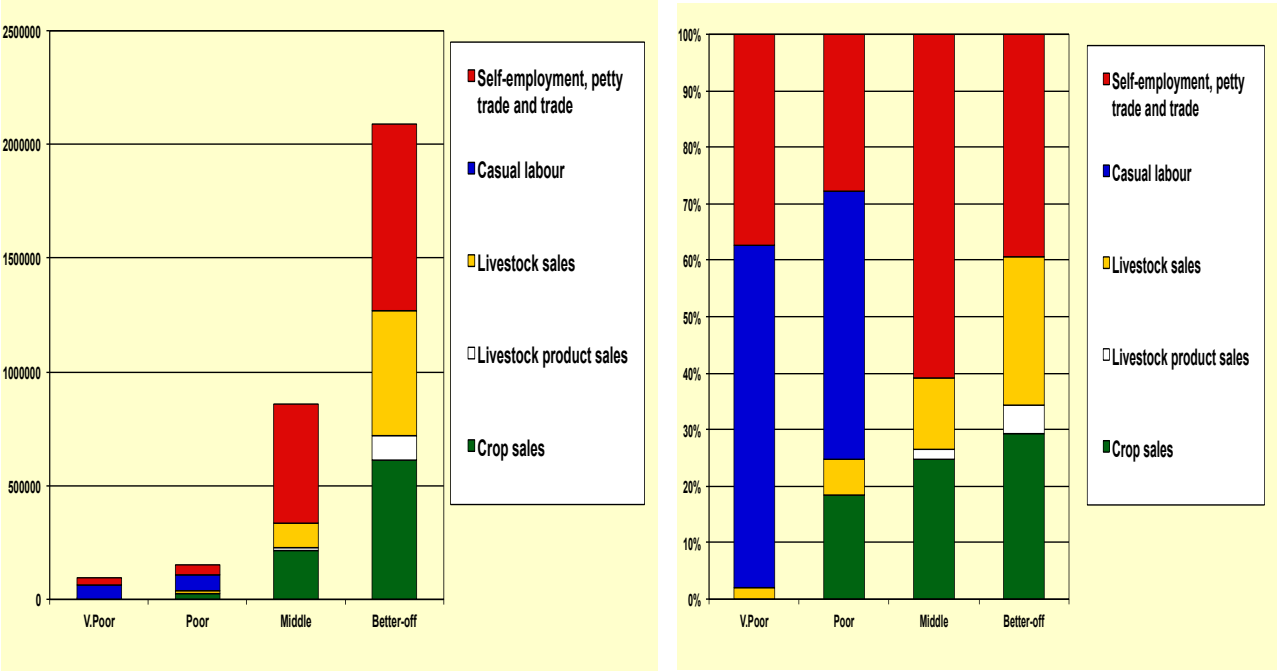
For the better off the story is also fairly clear: they eat very largely from their own produce, including significant amounts of milk, and what they spend they spend on non-staple food, further varying their diet. The difference between them and the middle households is not about potential self-sufficiency: both groups sell substantial amounts of grain, the middle far more than they purchase. But the better off produce nearly a tonne of rice, and although they sell about two-thirds of it, they evidently do so on the basis that they are satisfied to consume only the three bags that remain – perhaps especially with guests

or on festive occasions. For the middle, who produce only one-quarter of a tonne and sell somewhat more than half of this at harvest, their preference for rice needs to be satisfied by purchases later that amount to more than the amount they have sold and 8% of annual calorie consumption. There are evidently financial pressures and opportunity-cost decisions that lead to this situation.

With their milk and purchases of non-staple food, the diet of the better off and middle is clearly far more varied and balanced than that of their poorer neighbours. And certainly far more palatable: they obtain 13-14% of their calories from oil alone compared with 2% for the poor and very poor, and 3-6% of calories from sugar which the poor and very poor don't purchase at all.

Sources of cash

Absolute and proportional cash income by wealth group in the reference year (Nigerian Naira)



The income gap between the wealthier and poorer households looks dramatic, with the better off earning 22 times more than the very poor. It is less dramatic – but still remarkable - if we take account of household sizes, when we find that *per capita* the better off earn just under 7 times more than the very poor. On the same basis the better off earn a bit more than twice what the middle earn, but the middle in turn earn three times what the poor earn. It is interesting to note also that per capita the poor earn slightly *less* than the very poor; insofar as this is not the result of a marginal underestimation of the earnings of the poor, it is important to observe the *sources* of their income: they are able to get some 25% of their cash income from their own crop and livestock production, while the very poor get virtually nothing from these sources, and must make up for that with casual employment and self-employment.

The dependence of the poorer households on labour income is very high, and it is still greater when we remember the substantial addition of direct food income (payment-in-kind) for the very poor seen in the sources of food graph. The work is mainly agricultural labour, but brick-making and house building also offer a certain amount of employment. However the very poor do manage to gain 40% of their calorie consumption from their fields, as also seen in the food sources graph, and this prevents them at present from being simply a rural casual labour force, although that may be increasingly the line of travel in the future if their children remain in the village as farmers on the same amount of family land. The poor are, as we have said, more substantial farmers, and on top of product sales they obtain a little over 50% of their staple food from their fields.

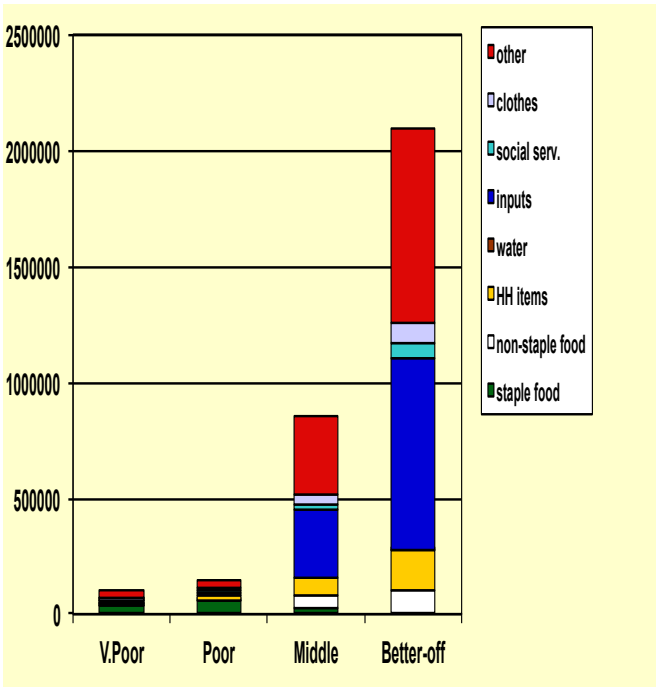
The red bar (for self-employment, petty trade, bigger trade) for the very poor households means mainly cutting and selling firewood from the bush, including some processed into charcoal, and to a lesser extent engaging in petty trade. For the poor the emphasis is the other way round. But perhaps the most surprising element is the red bar for the middle, which amounts to more than 60 percent of their total income. By far the greater part of this is trading, including wholesaling grain bought from their village neighbours. But livestock also figure in the mix. The trade in livestock from the north to the south of Nigeria is a big sector, given the huge demand for meat of the southern cities and and northern Nigeria as the main producer of cattle and sheep and goats. In this and other zones, members of the better off and middle households are deeply involved in this trade, both as middlemen (*dila*) in selling and buying transactions between individuals but as collectors together of numbers of animals for traders to truck south. The commission or profit on these activities furnishes the middle households with 20% of their self-employment/trade income and the better off with 44% (and 17% of their total annual income). General trading of grain and other commodities gives the better off 22% of their income.

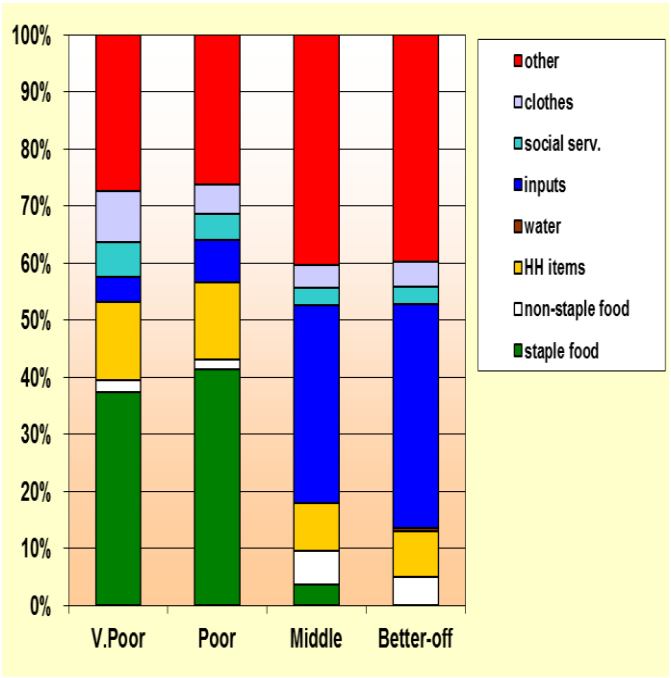
The big difference between the middle and better off is that the latter have far more substantial income from selling livestock and livestock products and so are less dependent on trading. Taking all the wealth groups together, livestock are the source of more absolute income than crops. This doesn't mean that the zone is not productive in grain and other crops; but perhaps what it lacks is substantial irrigated land where the more high-value cash-crops, including rice and vegetables, could be grown in greater amounts.

Expenditure

The biggest difference that meets the eye within the graph is between the green bars and the blue bars. The poorer households devote around half of their budget to buying staple foods, with a very small additional expenditure on non-staple foods. It looks as if the very poor have less need to buy staples than the poor; but in fact the green bar for the very poor would rise well above the 50% mark if we added the cash value of the grain that they receive directly as payment-in-kind for labour. The wealthier households spend little or nothing on staples, but more on non-staples.

Absolute and proportional expenditure by wealth group in the reference year (Nigerian Naira)





The blue bars, representing production inputs, show how much more the wealthier spend in proportionate as well as absolute terms. In fact the better off spend nearly 9 times more than the poor on agricultural inputs per hectare of land cultivated; and while the poor spend just 1% of the total budget on livestock inputs (on veterinary drugs) the better off spend 18% of their budget on livestock, of which more than 85% is devoted to purchasing new animals to increase their herds and flocks and/or to replace animals sold, slaughtered or lost to disease. As regards agricultural inputs, nearly 70% of the expenditure by the better off is on the hire of labour, mostly from among their poorer village neighbours.

Expenditure on 'other' includes transport and cellphone communications, very important for trade, as well as payments for social obligations and festivals, both of which are costs for the poorer as well as the wealthier households. 'Household items' means such costs as milling, lighting, firewood, cooking utensils, and everyday condiments including, for instance, tea and Maggi cubes. Expenditure on social services means education and medical matters and is modest all round. Expenditure on clothes also seems rather modest for the wealthier, and there may be a degree of underestimation here.

Hazards and Coping

Year	Season	Rank	Events
2013-14	rains-harvest	4	Bumper harvest, food prices remained stable
	dry season		Widespread animal rustling led to major losses for cattle owners
2012-13	rains-harvest	3	Excess rains resulted in some flood damage to crops and some foot-and-mouth disease in cattle
	dry season		Flood retreat (fadama farming) was good and complimentary harvest was good
2011-12	rains-harvest	1	Excess rainfall caused serious flood-damage to crops, fuel scarcity further increased food prices
	dry season		Post election violence and fuel scarcity further affected access to food and income
2010-11	rains-harvest	2	Late rains and drought in some areas affected incomes and food prices
	dry season		High prices of food; disease outbreak decimated poultry
2009-10	rains-harvest	2	Drought, poor production and livestock diseases
	dry season		No production due to high prices of inputs and water shortages

Hazards may be chronic or periodic. Here we are mainly concerned with periodic hazards as seen in the timeline table above. But we may note that the main chronic constraints identified by households were access to basic education, the bad road network linking more remote villages to markets, and access to subsidised inputs or credit facilities to purchase seed, fertilizers, and water pumps for *fadama* cultivation. In 2012, leading up to the harvest that began the reference year, the zone joined much of the country in suffering floods, the damage was not pronounced and some recompense was gained by utilizing the flood retreat plain to grow extra cowpeas, a prime cash-crop as well as food crop. Livestock migration and sales increased in 2012 but significantly reduced in 2013 as a result of early rains and the expectation of particularly good local grazing. The early rains also meant that migrant workers returned early to begin the agricultural cycle.

Farmers adapt to a poor start to the season, due to late or hesitant rainfall, as they do to flood damage, trying for short cycle crops, i.e. millet, short-cycle hybrid maize well as groundnuts and cowpeas. When there are major production shortfalls, households have three basic options: increase income; reduce non-essential expenditure and switch it to buying staple food; and reduced food intake as a last resort. However a reduced quality of diet comes sooner, through the switching of expenditure from non-staple foods to staple purchases.

The table below shows the major options for expenditure reduction reported by households for times of hazard to deal with threatened shortfalls in the capacity to pay for basic food and other essentials.

Very Poor, Poor	Middle, Better-off
Reduce:	**Reduce:**
Festivals	Festivals
Clothes	Clothes
Transport	Firewood
Grinding	Transport
water	Communication
Seeds	

Individual households faced by unusual economic hardship or misfortune may turn to better-off relatives to secure gifts of food or cash. Without such support, and under high stress, they may decide to pull children out of school, especially girls, to support the family by for instance selling processed food or cooked meals in the market centres, or collecting baobab leaves and fruits and other bush items for sale. Children may even be sent out begging. Poorer households may begin selling their productive assets, beginning with their handful of livestock but in the extreme going on to sell part of their inherited land.

Application of HEA in Understanding Early Warning, Coping Strategy and Intervention

If incorporated into Early Warning Systems (EWS), HEA result can provide household level information that complements other information, and gives an accurate picture of the household situation often a component lacking in EWS. This would enable a much more timely intervention, because most EWS information has to do with rainfall, crop production, prices, and markets all of which are related to food production, but don't directly reflect the issue of access to adequate food.

Incorporating HEA information into EW information has the added advantage of providing baseline information for the Coping Strategy so that programmers and Managers have a target level of household food security, as indicated by the HEA tool, which an emergency intervention should aim to restore. If enough information is collected, an analyst can get an idea of roughly what level of Coping Strategy Index score represents the norm for a given location, adjusted seasonally, so that there is some idea of the range of scores above which the situation is clearly deteriorating (note such a range should not be reduced to a "cut-off" point, and any range is probably situation-specific).

HEA can be used in conjunction with other methods to assess food insecurity and to estimate the requirement for Safety net i.e food aid and Cash Transfers and well as for prevention and management of food crisis. However, HEA is not appropriate as a stand-alone tool for this purpose. Its main application in analysis is to provide triangulation or verification of other indicators that defines parameters like *food access, income, expenditures and coping strategy*, to get a more overall analysis of household food insecurity.
Because each HEA parameter is specific to its context, there is a designated threshold (Minimum Energy Requirement of HH) or Survival and livelihood protection thresholds in which a household would be considered "food secure" and below which it would be considered "food insecure." But it can be used in cross-sectional analysis to determine which households are better off and which are worse off, and what is the correlation between these two kinds of households. This is important in assessment, and particularly in household targeting. If monitored overtime, the HEA- Outcome Analysis can also help to distinguish transitory and chronic food insecurity a necessary distinction in assessments.

Conclusions and Recommendations

With their one or two hectares the very poor and poor households are typically only able to obtain food from their fields to give them respectively 40% and just over 50% of their annual calorie consumption. In both cases by far the main way they make up the gap, and also see to all their non-food needs, is by undertaking paid labour for their wealthier neighbours. This in turn allows their employers not only to produce enough food on their land to make them more or less self-sufficient but to concentrate their income earning efforts on other things, notably trade, and most notably the livestock trade. Meanwhile, if the very poor did not earn substantial food as direct payment for labour they would have to spend over 50% of their household budget just on basic food. This and the fact that their total budget is extremely marginal – seven times less per capita than for the better off – means that they must be considered food insecure. The position of the poor households is not much different, although they do make some money from crop and livestock sales.

For both groups, a modest failure of their crops, and/or a dip in their employment, would put them in peril of hunger, and for the very poor in particular, selling their couple of goats would not tide them over for very long. But with their one or two hectares of land it is likely that for these groups any

permanent improvement in their economic status, short of regular welfare payments, must come from further off-farm activities. In this respect the best help in adding value to their work might be in terms of improved skills, e.g. carpentry, masonry, or in capitalising certain activities: for instance, access to an ox-cart, even if the ox has to be hired, would give a man a significant capacity to earn more income from transporting goods and people.

Consideration might therefore be given to aid assistance boosting activities in:

- Infrastructural development: Irrigation, output market and road linkages.
- Safety net should be an option during lean season to allow very poor and poor households access to food and income for survival.
- Stable access to land and livestock by the poor for asset recovery
- Linkages between research and extension should be encouraged and diversification in the output market.
- Value chain: Reduced cost of production, stable price and credit service policy to enhance access to income and food by the poor.

ANNEX 1: Markets

Trade routes of main products

Livestock trade route ⟶

Grains and legumes trade route ⟶