

# Livelihood Profile Tessaoua District

## North Settled Livelihood Zone<sup>1</sup>

## September 2007<sup>2</sup>

### Zone Description

This livelihood zone represents the North Zone as defined by the Tessaoua local government Agricultural Service, i.e. the area of settled agriculture and livestock rearing lying between the Central Zone and the purely pastoral zone which occupies the far north of Tessaoua Department. The 10 villages which were the sample for this survey are from a wide band of this zone from east to west, but avoiding the southern edge which might form a transition area between North and Central, and likewise avoiding the far northern fringe which has patches of cultivation at the very limit of viability in terms of average rainfall.

The North Settled Zone covers some 40% of the territory of Tessaoua but has a distinctly lower population density than the Central and South Zones as defined by the Agricultural Service. The population may be estimated at around 100,000 out of the departmental total of c410,000<sup>3</sup>. The population dealt with in this survey are the Hausa cultivators who greatly outnumber the other resident ethnic groups; the main group are the Fulani (Peulh), who are also a settled population but whose mode of life is more accented towards livestock herding, including transhumance (annual movement of herds to far grazing, taken by some men whilst the rest of the households remain at home). The Tuareg pastoralists tend to have more mobile livelihoods, moving regularly in search of grazing; they are far fewer than the Fulani. Historically this area was a rangeland occupied seasonally by both Fulani and Tuareg pastoralists, and non-resident groups still come down seasonally from the north to use pastures here. But from around 150 years ago, and accelerating during the last century, Hausa settlers set up pioneering villages in the north of the district as offshoots of villages further south, which in turn were founded by settlers from what is now Nigerian territory. The North Settled Zone hosts the last push north of the Hausa population, unless in the future some major scheme were to materialise which brought enough water to compensate for average rainfall levels below the tolerance even of the quick-cycle millet species which are favoured at the current northern limits of settlement.

The lower density of population here is not simply for historical reasons, but for reasons of current ecology and economy. One limit to settlement is the availability of water for both human and animal consumption. Secondly, there are wider fluctuations in annual rainfall and therefore in crop performance here than further south, so that frequently low harvest performance needs to be compensated by assets in livestock. This in turn means that the continued practice of extensive grazing is highly advantageous if not indispensable. A more positive way to put this is that not only the Fulani but the Hausa population take good advantage of the pasture assets in this area which as yet is not overcrowded by fields. However, even if northward movement of Hausa settlers has more or less ceased in recent decades, the natural increase of the population already present has begun to impose strains on the available assets. The signs of this are increasing tension between Fulani herders and Hausa cultivators as regards the encroachment of fields on pastureland, and the encroachment of herds on planted fields, and the over-burdening of water-points. In some villages it was said that given worsening relations, Hausa cattle owners preferred to send their own men to take cattle to far grazing rather than entrust them to Fulani herders in the traditional way. In other villages it was reported that in recent years poor Hausa households have sold land to Fulani settlers; this may herald increased cultivation by Fulani, or it may be part of a strategy to claim land for cultivation whilst actually intending to protect pastures, since although protection of pastoral 'commons' is enshrined in Niger's laws, this is not much enforced.

Although land holdings are greater than in the south (see the Wealth Breakdown section below) and crop performance here varies more greatly than in the south from year to year, the agricultural system is not very different in terms of cropping patterns. Intercropping variously of millet, sorghum, cowpeas (niébé) and groundnuts is the norm, although fields of a single crop can be found. Millet is by far the biggest staple, but some sorghum is grown by most people, and there are a few localities where the soil favours sorghum to the extent that it rivals millet, and in a good year it can far out-do millet in terms of yield. Less sesame is grown than in the south, and considerably fewer groundnuts on average, although they are still a profitable cash crop in a good year, and may rival cowpeas as a money-earner. For wealthier

<sup>1</sup> The area included in the field study extended a little west into Mayadi Department, from which two villages were included in the sample.

<sup>2</sup> Field work for this profile was undertaken in September 2007. The information presented refers to October 2006-September 2007), a good year by local standards. Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately five years (i.e. until 2012)

<sup>3</sup> According to the 2001 census, the population of Tessaoua was 343,700 inhabitants. With a population growth rate of 3.7%, this extrapolates to an estimated 412,168 people in 2006.

farmers a good harvest brings a substantial surplus of cereals, some of which is marketed (although rarely sorghum), but much may be stored too: the Better Off here try to keep at least one year's supply in store, a habit now less evident in the south. It makes sense for northerners to keep a substantial stock if they can, because poor harvest years are frequent, grain becomes expensive in relatively isolated markets, and they need grain not only to eat but to pay workers to prepare the next harvest – about which they must always remain hopeful.

Although the Hausa population in this northern area are serious producers of grain, the true wealth is in livestock, especially cattle.

## Markets

It appears from private trader information that only in exceptionally good periods is this zone a substantial net exporter of grain. For the most part, post-harvest exports are somewhat less than later imports on the market. However, both groundnuts and cowpeas are sold in any year, good or bad; the cowpeas in particular answer a great demand in Nigeria. Even when agricultural production has been relatively good, the wealthier households within this zone, who are able to produce much more than they need for their own household consumption, tend not to sell more than a relatively small proportion of their cereal crop. In general, it appears that the bulk of the cereal which enters the markets especially from this northern zone, is the composite result of sales by the poorer rather than the wealthier households. This surprising event is explained by the fact that although these poorer households sell only small amounts of cereal at a time, they make up the majority of the population, thus the cumulative amount becomes significant. The implication of this is that simply seeing high volumes of cereal on the market after harvest do not mean that it is a year of surplus production. The wider northern or agro pastoral zone of Maradi and Zinder may put impressive amounts of grain on the market in exceptional years, and there may be some areas which are usually more productive than north Tessaoua. North of Tessaoua is known as a substantial surplus producer of cereal on the basis of availability on the markets. From the results obtained in this survey, this zone does not match such a description; but this forms only a small part of a much wider market chain including Tanout in the north and Mayayi in the west, both of which are reported to be more productive areas.

Crops leaving the area are mostly traded through the main local collection markets of Ourafan and Gararé, from where they are traded on to Tessaoua and eventually feed the markets in the North (Agadez and Arlit) or West (Niamey). However, traders specialising in the Nigerian market may solicit farmers directly for cowpeas.

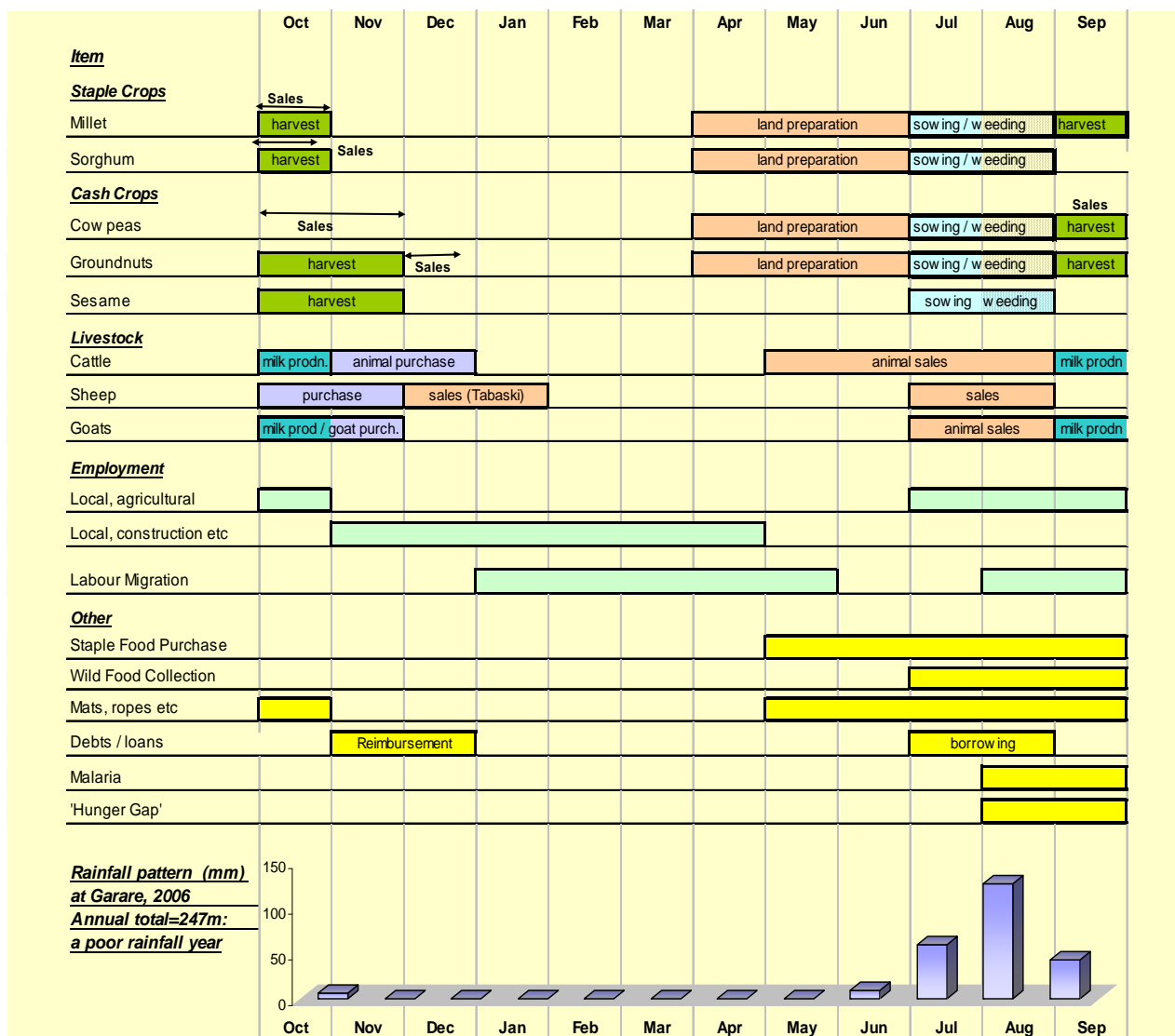
In the months just after the harvest, from the end of September until December, cereal prices are at their lowest, reaching roughly 200 – 300 FCFA per tia<sup>1</sup> of millet at the end of 2006. This represents the period of main inflow to the local markets. Cereal prices reached a peak of 350 – 400 FCFA per tia for millet from June 2007 (planting time) until the harvest started at the end of September 2007. Nigerian traders travel up to Tessaoua market to purchase cow peas.

Livestock prices vary according to the age and sex of the animal as well as its condition and the season. The main collection markets for livestock traded by households in this zone are Gararé, Tankari and Kondoumawa, with Nigeria as by far the main ultimate destination. The Moslem festival of Tabaski took place in December of the reference year and the price of male sheep increased up to 50,000 FCFA for a large male, compared with 15,000 – 25,000 FCFA for a typical sheep purchased between May and July 2007.

## Seasonal Calendar

This calendar represents the typical picture for the North Settled Livelihood Zone. The harvest of millet is spread out over 2 months, starting with the harvest of what key informants called 'petit mil' and which they described as mature but incomplete grains which have developed more quickly and will not develop any further. This slightly bitter smaller grain is available 2-3 weeks before the main millet harvest and serves the valuable function of ending the hunger gap. Wealthier patrons often invite poorer farmers to take this grain from the field for free. Compared with the South Central Zone, the sowing and harvest periods are shorter but more time is spent on land preparation. Sales of the main crops start almost immediately after the harvest due to the need to reimburse loans and to pay for other household essentials. Harvest time is also when people can think about purchasing livestock if they can afford it; but for poorer people it is the time when they are expected to pay back debts to their local creditors, and this is what brings their grain onto the market early at relatively low prices, even in a poor harvest year when they will have to take on more debts.

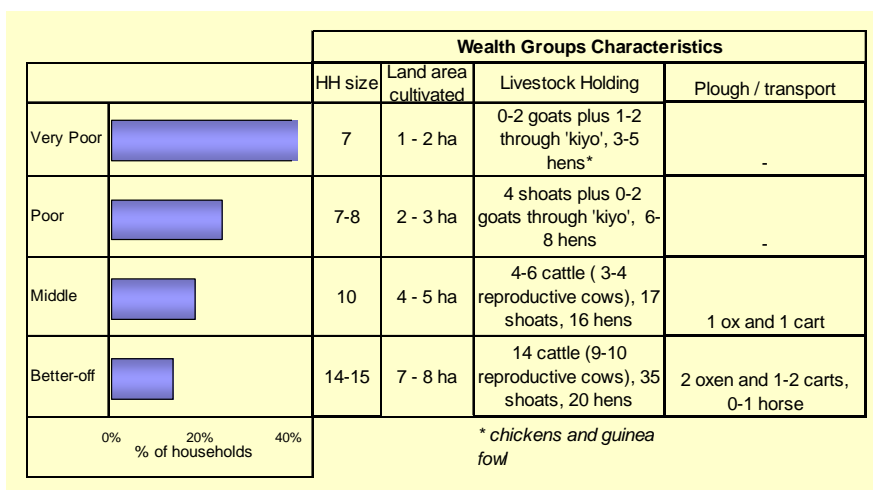
<sup>1</sup> A 'tia' is a bowl used as a standard local measurement. The tia used to measure production within the villages is slightly larger than that used for market transactions. A tia of millet at the market weighs on average 2.5 kg.



Agricultural activities occupy much of the year, even when the previous harvest has not been successful (for example in villages on the west of the zone in 2006). The logic behind this is that while there will be a reduced need for time spent on harvesting, households must still invest the normal amount of time and effort in preparing their fields for the following season, just in case the rains are good. For the poorer households, this provides them with the opportunity to earn cash and sometimes food in return for working on the fields of wealthier land owners. But this limits their ability to cultivate their own fields, however small they may be, and thus their yields are generally low. Interestingly, information from key informants showed that the rate of pay for daily agricultural labour in villages where the previous harvest had failed was slightly lower than where the previous harvest had been good. Villagers explained this by the law of supply and demand. Where the previous harvest had failed, the poorer households were even more desperately in need of work to make ends meet than they usually are, and some people will be on the labour market - even from Middle households – who are not normally there. On the other hand, where the previous harvest had been good, the poorer households would have been more able to spend time on their own land, and their wealthier employers had have to increase the payment rate to ensure that they get sufficient labour for their fields. The charity or patronage shown by wealthier people is partly aimed at keeping the attention of trustworthy workers in good times

Temporary work migration is an important income earning strategy for many households in this zone. Most people (usually men) look for work in Nigeria and some travel to Libya. Others find work within Niger itself, including Agadez (labour for onion growers or cattle herding) or daily paid work on construction sites / making bricks / kitchen gardens / small scale trade etc in the bigger villages such as Gazaoua or Giga. Within the village or in neighbouring villages, people are employed to make bricks, or do agricultural labour.

## Wealth Breakdown



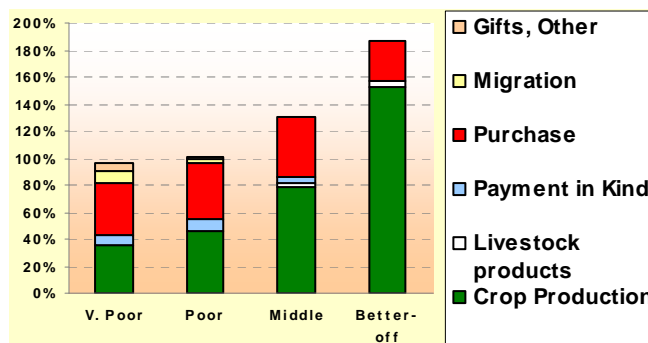
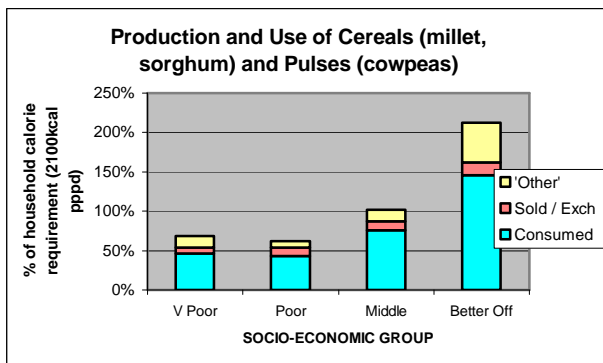
People in this zone have more land available to them than in the south, but this does not mean that they cultivate all that is available. As a farmer from the Very Poor group said: “We have endless bush we can clear, but we don’t have the means to use more land than we do.” The Poor and Very Poor cannot hire labour, and given the risks of a poor harvest, they are under pressure to seek safety in employment by others rather than expending optimal labour on their own fields. As it is, the Very Poor and Poor here cultivate two to two-and-a-half times more land than their counterparts in the south. Amongst wealthier farmers there are a few who may invest in as many as 20 hectares, but the majority own about half of this and cultivate less. They may put two hectares into fallow, where valuable grass can be harvested. But decisions on how much land to cultivate turn on risk and profit, in terms of the value of the harvest versus the cost of hired labour. The contrast of the good harvest and poor harvest situations in the section below shows in graphic form how acute the risks are within normal yearly variation, without considering the much rarer crisis year. The Middle group are constrained in how much labour they can hire, and this limits both the land they can deal with and the yields they obtain.

Livestock ownership is more important here in the north than in the south. This is more than simply a function of having more space to graze animals; with the greater risk of failed rains, it is essential to have something to fall back on. More than in the south, Very Poor have access to smallstock mainly through the system of ‘kiyo’ where they look after one or two animals for a Better Off owner and in return take one in three of the young, although pressing financial demands mean that they may sell these before they have been able to generate further stock. But the big difference here is the ownership of cattle – for milk, for transport and for fattening. Unlike in the south, it seems rare for Poor households to be lent an ox. This could well be because the Better Off are not so pressed to find someone to take care of their animals; there are far more grazing commons in the north than in the south (and many Better-Off households reported keeping fields fallow for grazing); and many maintained good relations with the Fulani who take their herd to far grazing for up to six months of the year.

### GOOD HARVEST VERSUS BAD HARVEST

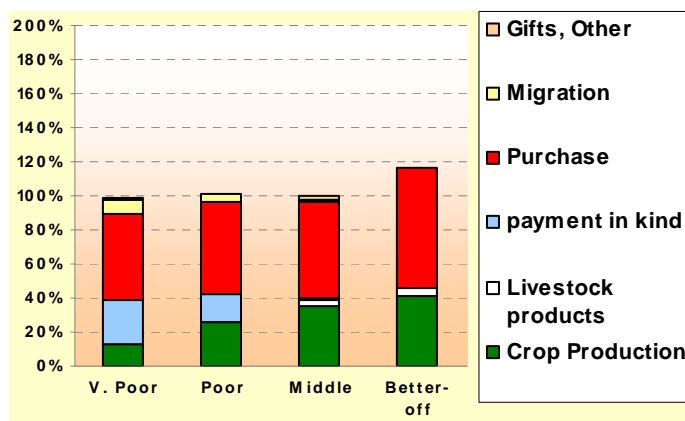
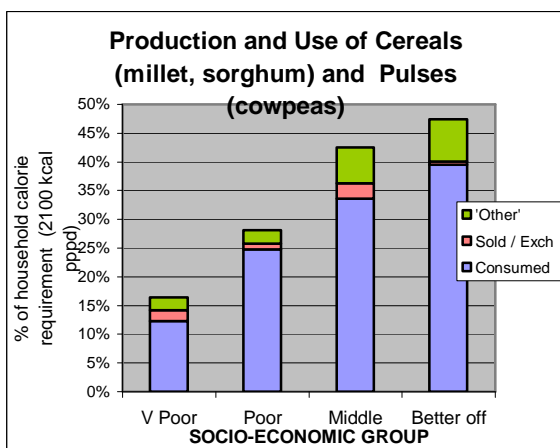
The reference year of the survey was from the start of the main harvest in 2006, i.e. from the end of September, up to late September 2007, the time when the survey was undertaken. It is well known that in the sahel, rainfall and crop performance in the same season can vary quite acutely even between small localities very near to each other. But by chance, for the reference year in question what was found was a distinct geographical split between villages in the west of the Livelihood Zone which had experienced a good-to-very-good harvest and villages in the east which had experienced a bad-to-very-bad harvest. It was decided that rather than mix together the two sides to give a ‘mean’ picture, advantage would be taken of the situation and with a little extra fieldwork two pictures would be sought and compared, both typical of the northern sahel: how do people fare in a good harvest year? How do they cope with a poor harvest year? Therefore what follows below is a double presentation. However, it should be stressed that this is not a proxy for a ‘very good year’ versus ‘crisis year’. In particular, market prices for both staples and for livestock did not show unusual peaks or troughs: they reflected overall supply and demand and were influenced by a wider economy than that of the two parts of a limited zone. What are offered, rather, are two aspects of a ‘normal’ year in the northern sahel.

### Sources of Food – with a good harvest



In the graphs, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcal per person per day.

### Sources of Food – with a poor harvest



In the graphs, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcal per person per day.

The above sets of graphs show how households use the staples they produce (left-hand graphs), and where they get the food they actually eat (right-hand graphs). This allows a comparison of the effects of a good harvest and a bad harvest. The major point is that people of any wealth group do not eat all the food they produce, even when they are in acute deficit; everybody uses the market both to sell and buy food according to different requirements and strategies.

The left-hand graphs show how great the differences are between the two qualities of harvest, even though the poor harvest did not induce a local food crisis. The good rains would allow the Middle group to feed themselves entirely and gives the Better Off a surplus equal to a bit more than their year's consumption requirement: with good rains their yield are high because they are able to afford substantial inputs of manure and of labour for optimal preparation and weeding etc.. But a poor harvest means that even the Better Off do not produce half of their consumption requirement, because the crop yields on their fields are a quarter or less than for a good harvest: the effect of poor rains is such that their inputs for production have little effect, and their production per hectare is little different to that of the other groups who cannot afford such inputs. The risk of such losses on investment limits the amount of land that Better Off farmers are willing to put under cultivation. In case of the poorer two groups, both are able to produce somewhat more than half of their requirement with a good harvest, but like the Middle group, their production goes down by half or more with poor rains. The fact that they are always limited in fertilizer and labour inputs means that the difference between a good and a poor harvest is less marked than amongst the Better Off. The Poor do better than the Very Poor in a bad year, and this

is likely to be because they are still able to devote serious labour to their fields, whilst the Very Poor hardly can, since they must urgently seek earnings elsewhere, including from work migration. But this is not drought: that can leave all parties with only handfuls of grain or none at all.

Still looking at the left-hand graphs, the 'other' uses of grain include setting aside selected seed, paying the *zakat*<sup>1</sup>, and contributing to baptism or other celebrations, social obligations touching even poorer people. For the Better Off, a substantial part of 'other' goes to payment of workers in-kind, although in a poor harvest year most of this must come from their previous stocks or from purchases. At the same time, their domestic consumption is far above their minimum need, not simply because they eat better than other people but because within this calculation is included food given to children of Very Poor households who regularly join in the household meals, and gifts of grain to other poor neighbours (although not formally as *zakat*). This is all common practice which contributes to the high status of the Better Off (as well as to that of Fulani whom the poor also solicit for gifts and loans), and inter alia cements their ties with kin and neighbours who work for them and who sell grain to them for retailing. As regards sales of own crops, it will be seen that the Better Off sold virtually nothing with a poor harvest (in fact a few groundnuts and cowpeas amounting to under 1% of their total income for the year). But even with a good harvest, their crop sales were relatively modest (amounting to about 9% of their total income). It was explained that they were still building up their stocks after the crisis two years earlier; with a further good harvest in prospect, they were likely to sell more of their surplus in 2007-8. The other groups are not able to stock grain from year to year, and all must sell some of their harvest in order to pay pressing debts and other essential costs. The Middle group are usually able to delay some of their sales to benefit from rising prices beyond the harvest season; the poorer households must sell immediately, at the low prices of a buyer's market. They must then begin to buy grain a few months or even weeks later, at higher prices. It is expensive to be poor.

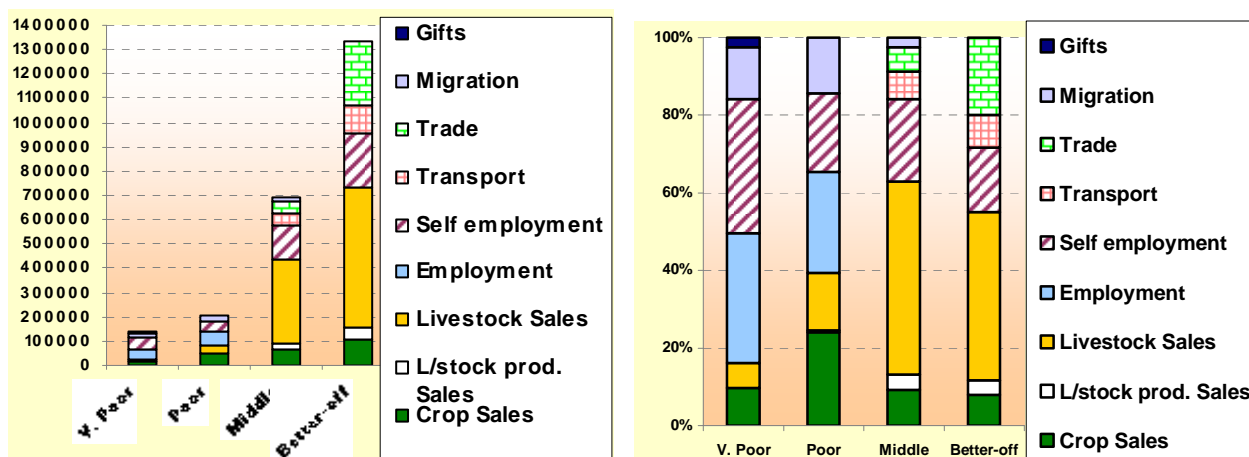
Turning to the right-hand graphs, given that they never produce sufficient grain for a year's consumption, it is clear why for the Very Poor and Poor, purchase forms such a big part of their sourcing of food, even with good rains. It is also clear that they buy more in a bad year, but they also receive more grain in direct payment for labour than in a good year, although it is not clear whether this is their preference or that of their employers. (The Middle also use a bit of their household labour in working for others, to top up the household budget, and some of this is paid in-kind.) The Middle and the Better Off also evidently buy very substantially for domestic consumption with a poor harvest, but as with their 'excess' consumption of their own grain, explained above, so also with their purchases: the Better Off even with a good harvest buy up a certain amount of grain; but it is likely that when they are more comfortable with their stock levels from their harvests, they will purchase less and disburse more of their own grain for the various purposes.

The 'migration' consumption for the Very Poor and Poor represents the meals 'saved' by the household on one or more men who are absent for a period. With a poor harvest, the pressure is greater to migrate for work, and the food 'saving' amounts to some 8% and 5% of the basic annual food requirement of the whole household, a major contribution when food access is so especially marginal. Even with a favourable harvest, work migration continues and contributes 3-4% in household calorie 'savings'. Milk and meat consumption from own livestock is negligible amongst the poorer two groups, but amongst the Better Off and Middle it provides 4-5% of calories (mostly from milk) whatever the harvest. This is modest by the standards of the neighbouring pastoralists, but it contributes very significantly to the quality of the diet. These people, with sufficient milking cows at their disposal for a good part of the year, tend not to buy milk. But the Very Poor and Poor do: the 10-15 litres they buy for entire families during an entire year is negligible in calorie terms, but the small ladle-measures which they purchase on each occasion go some way to making the millet or sorghum based porridge palatable; one might equate this to a flavouring rather than a food contribution.

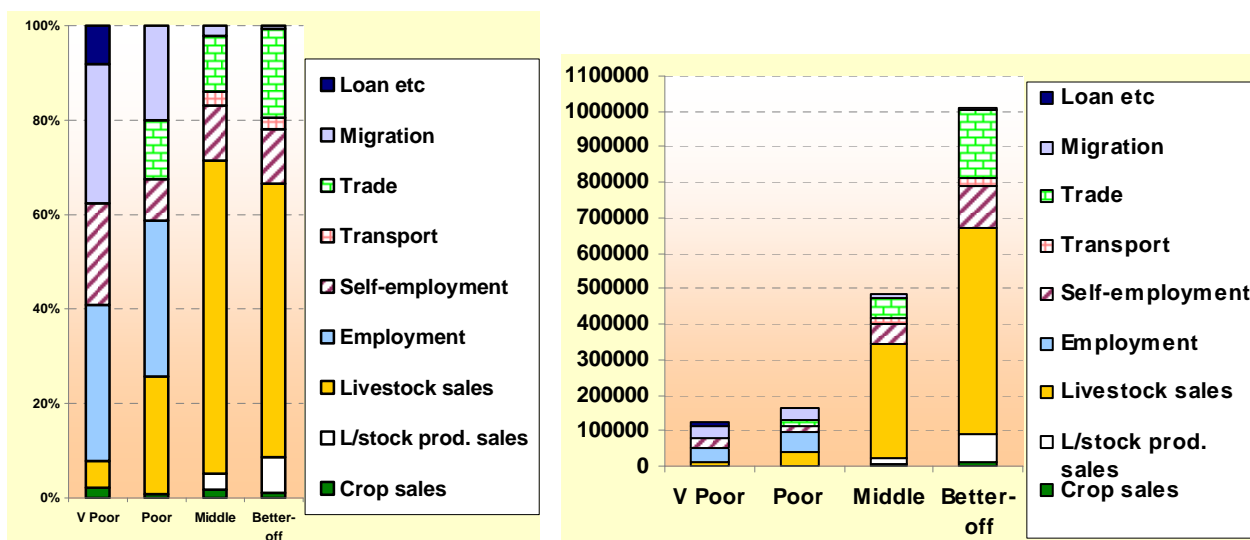
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<sup>1</sup> *Zakat or zaka* is the obligatory giving of a set proportion of a Moslem's annual earnings or production as charity. Locally this amounts to 10% of the cereal and pulse harvest where the total production of an item is ten measures or above. However it is not always clear that *all* classes actually give this amount of their production.

Sources of income – with a good harvest



Sources of income – with a poor harvest



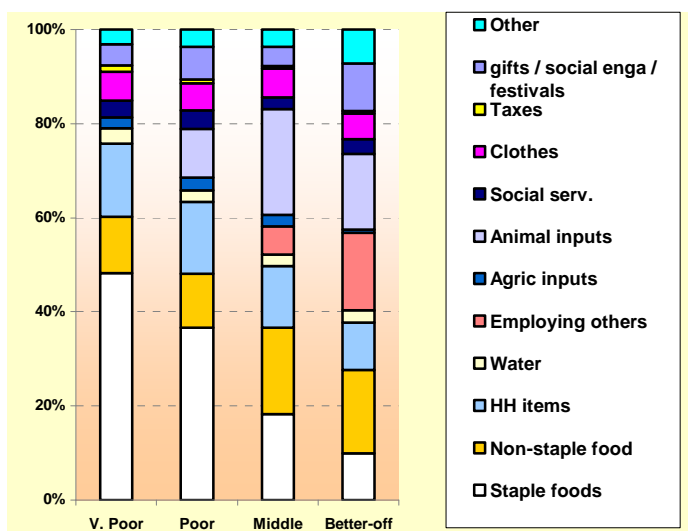
It is in these graphs that we must look for the reason why the villages with a poor harvest did not suffer a food crisis, however economically hard the year was otherwise. The big question, for the Very Poor and Poor at least, is how were households able to make the increased food purchases in such a bad time? It is clear that the contribution of own crops to incomes collapsed across the board. But it is actually more important to look for what *didn't* change so drastically; and here two things are striking. First, although everybody had a lesser income with a poor harvest than with a good harvest, there was not a collapse of incomes for any wealth group. The Middle group show the biggest change at 27% less overall income as between the good harvest and poor harvest situations; the change for the Poor is 22%, for the Better Off 14%, and for the Very Poor only 2%. It should be admitted that the reason for these precise differences between all the groups is not quite clear; but there can be little doubt about the explanation for the Very Poor suffering so little difference between the two situations. They are at the margin of survival in any year, since they produce little for themselves. At that margin, there is an irreducible minimum of income they must get. With a bad harvest they must try even harder than usual, especially when local harvest employment may be reduced, and other people's tighter budgets mean that they are asked for less fetching and carrying services etc. One way is to increase work migration; another is to borrow more money than usual, although there is a limit to this as Better Off patron/creditors must think how much their clients will ever be able to repay, whether directly or in labour or even by mortgaging land. But even with all this, it seems an element of charity intervenes: there is increased cash-paid employment for the poor over the good-harvest scenario, on top of the increase in payments-in-kind seen in the previous section.

What is equally striking is the role of livestock sales. This is the backbone of the income of the Middle and Better Off,



and is hardly different between the two harvest situations. And that suggests the difference between a poor harvest year and a crisis year: a crisis occurs when the *livestock* sector is under attack, whether through a critical lack of pasture or, as in 2005, through a combination of harvest failure, plus unprecedented high market prices for food, plus mediocre grazing conditions, which together forced high sales of livestock at very low prices. It is true that in 2006-07 the Poor depended more significantly on livestock sales (even if of only one extra goat) with the poor harvest than with the good harvest. But if this made a difference it was because livestock prices did not collapse: this was not a crisis. For the Better Off, the poor harvest not only takes away crop-sales earnings and forces them to buy a good deal of grain, but it seems also to affect their transport and trade earnings, since these are allied in good measure to the volume of crop production via the retailing of local grain and providing ox-cart transport between markets.

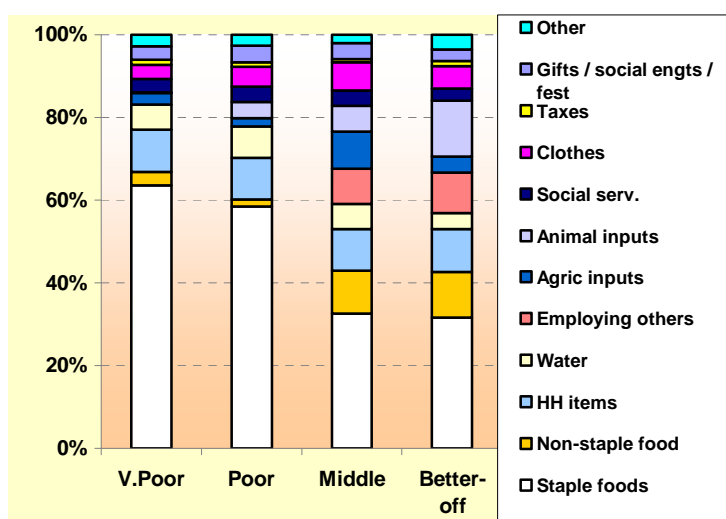
### Expenditure Patterns – with a good harvest



There are notable differences between the wealth groups in the proportion of expenditure on basic foods by each wealth group when there has been a good harvest. This is unlike the southern zone where there was not much difference in this respect between the two poorer wealth groups and between the two better off wealth groups. This graph shows the expenditure as a percentage of annual income. In absolute terms, however, the Poor and Very Poor purchased a similar percentage of their annual household basic food needs and spent similar amounts of money (75,800 FCFA for the Very Poor compared with 90,800 FCFA for the Poor). But unlike the poorer households, the Middle and Better Off spent more on non-staple foods for ‘sauce’ than on staple foods, and of course much more in absolute terms than the poorer, indicating a better quality of diet.

The graph provides a breakdown of total cash expenditure according to category of expenditure.

### Expenditure Patterns – with a poor harvest



There is an evident increase across the board in the proportion of expenditure on purchasing basic foods when there has been a poor harvest. However differences are less marked between the Middle and the Better Off and between the Poor and Very Poor. Expenditure on non-staple foods, and therefore the diversity and quality of diet, also reduce significantly. Even the Middle and Better Off households spent more on purchasing staple foods than on ‘sauce’ but nevertheless they spent more per person on these non staple commodities than the Very Poor or Poor after a good harvest: just under 5,000 FCFA pppa for the Middle and just over 6,000 FCFA pppa for the Better off after a mediocre harvest, compared with 2,700 FCFA and 3,500 FCFA for the Very Poor and Poor respectively after a good harvest.

As is to be expected, all wealth groups purchased a larger percentage of their basic food needs than when there is a good harvest and spent a larger proportion of their annual income on food purchases. As pointed out in the section on Sources of Food, this did not make much of a difference for the Very Poor in terms of calorie requirements as even



when there has been a good harvest the contribution of their own production to annual household food requirements is very small.

The Middle spent much the same absolute money terms on employing others to work in their fields regardless of the harvest outcome. The Better Off on the other hand spent roughly twice as much in the year following a good harvest. This is likely in part to be the result of having to increase the rate of payment to entice sufficient labour from the Poor and Very Poor when many would prefer (and can just about afford) to work on their own land. It is likely also that more payments are made in cash rather than in food in such a year. All households incur other expenses on agricultural inputs. These include seeds, tools, chemical inputs and rental of land (not as common in this zone compared with the South). Poor and Very Poor households are constrained to purchase only small quantities of seeds and spend a little on repairing their tools. In absolute terms, after a mediocre harvest, all households except for the Better Off spend more on agricultural inputs that they do in the South; a reflection of their larger land holdings.

Expenditure on animal inputs includes the cost of purchasing livestock as well as fodder and veterinary costs. It is apparent that, following a good harvest Middle households spend surplus cash on restocking, no doubt in an effort to reconstitute their herds after the losses from 2005. In absolute terms, all wealth groups spend more on animal inputs following a good harvest (except for the Very Poor who spend a negligible amount).

Expenditure on Social Services combines health care and education, representing 4-5% of total annual income for the Very Poor and Poor households and a slightly lesser proportion of income for the Middle and Better Off. In absolute terms, this equates to about 6,000 to 10,000 FCFA per annum for the Very Poor and Poor, 15,000 to 17,000 FCFA for the Middle and 25,000 to 35,000 FCFA for the Better Off. For all except the Better Off, this expenditure is roughly evenly divided between health and education. Better Off households spending on education was 1.5 to 2.5 times more than expenditure on health.

## Hazards

The main hazards facing households within this zone are summarised in the table below:

Crop	Late rains Insufficient rain overall Poor spread of rain Insects (caterpillars, locusts) Birds Crop diseases
Livestock	Insufficient grazing land (e.g. due to overgrazing – it is shared with Transhumant herders) Insufficient / Lack of fodder Poor quality fodder (e.g. if poor rainfall prevented proper development of the plants) Livestock diseases Insufficient water points

When faced with these problems, people respond in a number of ways, depending on their capacity, the problem and the timing. For example if the planting rains are inadequate or are followed by a lengthy dry spell, farmers re-seed their fields. The men from the poorer households are more likely to migrate in search of work earlier than normal, before waiting for the harvest.

If there is insufficient quality fodder then those with livestock and the means purchase grass and supplement for their animals earlier and in greater quantities than normal. The poorer households, without animals, can often benefit from selling off their crop residue / collecting grass etc for sale. As there is competition with the Fulani herders to feed their animals, the price of fodder is reported to rise during such times thus increasing the potential cash earning from this income source.