

FOOD SECURITY ASSESSMENT OF MANDERA PASTORALISTS

With Comparison to Riverine Populations

1. Introduction

1.1. Background to the report

The Arid Lands Resource Management Project (ALRMP) has been operating an early warning component in Mandera since 1996. This collects food security monitoring data on a monthly basis. As a part of the project's aim to strengthen the monitoring system, food economy training was carried out in Mandera with Wajir and Mandera staff. The objective of the training was to introduce ALRMP staff to the food economy approach to facilitate discussion on its applicability to strengthening early warning and needs assessment within the current system. During the training, intensive field-work procured information on the pastoral economy of Eastern Mandera. This has been analysed and forms the basis of this report.

The report aims to highlight the various livelihood options employed by the people of Eastern Mandera and some of those living on the Dawa River. It draws attention to how people were living just before the effects of the current drought really began to be felt. It shows ways in which the pastoral community have tried to cope with the drought in North Eastern Kenya. Certain issues and questions are identified which may need follow-up, particularly with regard to planning future interventions.

1.2. The Food Economy Framework

Food economy is an approach to food security assessment that builds on a quantified understanding of livelihoods. The **food economy framework** provides a means for analysing the impact of a shock (such as a drought) on food security at household level. It is based on a quantified description of the ways in which households obtain food and cash income in a 'baseline year' and an analysis of how those sources of income might change in the current year – a year of continued drought in the case of Mandera. Further details of the framework are in Appendix One.

1.3. Livelihoods in Mandera District

Mandera is at the tip of North-Eastern Province, and it shares a border with Ethiopia and Somalia. It is one of the ten arid districts in the Arid Lands Project and is primarily populated by pastoralists. Previous work done by ALRMP and partners has identified six livelihood zones in Mandera – three pastoral, one riverine and two urban. The assessment visited the pastoral Eastern Flank and riverine zones.

2. The Different 'Pastoral' Livelihoods in The Eastern Flank.

Within each livelihood zone there are distinct differences in the wealth of households and their access to resources, such as land and labour. In the pastoral zone the community grouped the households into five categories. Wealth in this area is manifest in livestock ownership. Although people state that a household can move between categories through a combination of hard work, luck¹ and support from benefactors, acquiring livestock is the mechanism by which people become richer. It is important to understand that households that have larger herds are more likely to come out of a drought with animals. They can sell livestock to pay for the cost of moving herds out of the district. They have flexibility in splitting herds or altering their herd composition, and if a percentage of the herd perishes they may still be left with some. Given herders have learnt that those who have larger herds survived previous droughts, striving to increase herd sizes becomes a livelihood and drought management strategy, which people may be reluctant to let go of no matter what implications it has for range management.

The breakdown of wealth groups in the Eastern Flank was found to be:

	% of families	No. of wives	No. of goats	No. of camels	No. of cows	TLUS per family (using midpoints)
Very poor	5-15 (10)	0-1	0-5	0	0	
<i>Tagoley</i>	15-35 (25)	1	5-20	0	0-5	2.5
<i>Henley</i>	25-35 (30)	1-2	10-40	0	5-10	7.7
<i>Zakalay</i>	20-30 (25)	1-3	40-100	5-20	10-30	35.3
Better-off	10	2-3	>100	>20	>30	Minimum 60.8

Tagoley are literally, the labourers. *Henley* are the small herders. *Zakalay* are those who have to pay the Islamic tith of Zaka, i.e they have more than 40 goats.

To gain a more in-depth understanding of the rural economy, three types of household were focussed on and analysed.

Specific points on wealth spectrum illustrated in analysis			
	<i>Shoats</i> ²	<i>Cattle</i>	<i>Camels</i>
<i>Tagoley</i>	10-20 (7-10 milking)	1-2 (1 milking)	0
<i>Henley</i>	30 (10-15 milking)	7 (3 milking)	0
<i>Zakalay</i>	70 (30-35 milking)	20 (7 milking)	10-15 (3-4 milking)

All of these households view themselves as pastoralists. However, not all live with their herds in the *badia*³. *Tagoley* households live in small settlements, with their goats nearby. They depend heavily on casual work and the collection and sale of bush products, like firewood, to earn cash to buy food. Most of these households settled before the current drought, and it seems that many of the settlements grew up following the sinking of a borehole. The *henley* aren't very mobile, as they also need to supplement their income from livestock and livestock products through other means. It is only the *zakalay* and better-off who have whole families living and moving with livestock. It is only these groups who can be said to have viable herd sizes, in that they can depend on their livestock to meet their food (through sale of animals and products) and cash needs.

¹ Within this people include whether or not they are subject to hazards like drought or banditry.

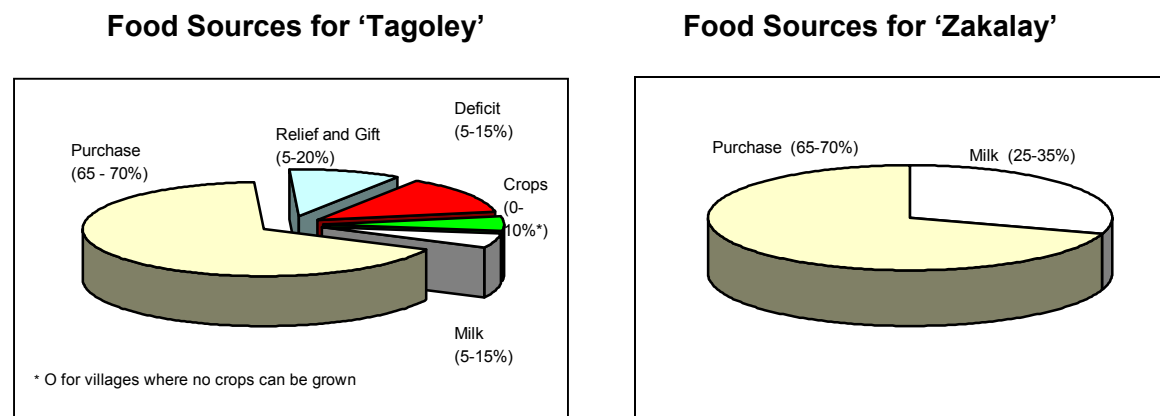
² Shoats = sheep + goats.

³ "Badia" is the grazing reserves, the bush areas of Mandera.

3. Food and Income Options in The Eastern Flank in a Baseline Year

The baseline year for Mandera was considered to be from the late 1998 to late 1999. Grazing was good or reasonable after the El Nino rains of 1997/98 up until after the 'derr' rains failed in 1999. The baseline year represents a typical year for rural community – the type of year that occurs frequently - rather than necessarily a good year.

In the baseline year all of the households buy the bulk of their food. This not surprising because, given the normal, but low, milk yield of animals in North Eastern Kenya a household of seven needs to daily milk 20 cows to meet its food requirements.⁴ All households buy the same type of food, mainly maize and sugar for tea with a little oil and beans.



The *tagoley* tend to send all their children to primary school, and the meals they receive there accounts for the food from relief, when combined with the 1-5% of needs met by Government relief maize. The *tagoley* have a food deficit every year, but the size of this deficit depends upon their access to gifts from neighbours. They frequently receive small amounts of sugar or maize. In bad years, the *tagoley* increase the contribution of gifts through either eating with better-off households or sending a family member to live with relatives.

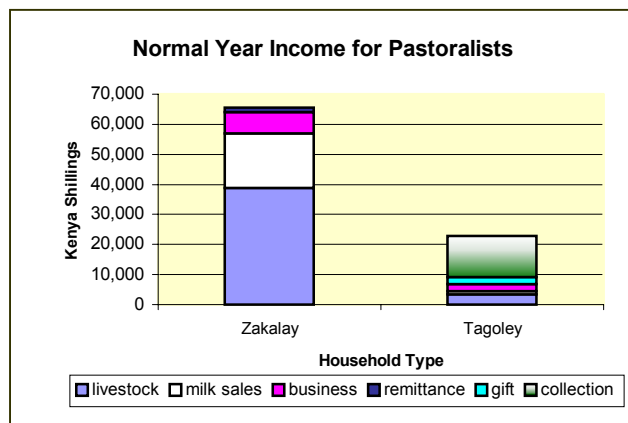
The *tagoley* consume milk from a cow, which may have been given to them through '*irmansi*'⁵, and goats. The *zakalay* from cows, camels and shoats. Both groups sell milk in a normal year. In a normal year, the *zakalay* keep their livestock in the grazing areas reasonably close to the settlements and water points⁶ and daily bring in milk for sale. In the dry season the animals tend to move further away for grazing, but ideally the shoats and the milking cattle will be left closer to the village.

The major difference between households is how they access cash income. The importance of livestock sales as a source of income increases with wealth, ranging from less than a quarter of income (16%) for *tagoley* families to over half of income (59%) for *zakalay*.

⁴ One cow in Mandera was said to yield 1 litre per day, and a household of seven needs 21 litres/day to meet all its calorific requirements if it were to drink milk alone. Remember cows only milk for six months.

⁵ In this system the poor are given an animal (usually goat, or perhaps a cow) to keep by better-off, zakat-paying households and the poor gain milk from this, whilst the better-off household can ask for it back (for sale) at any time. *Irmansi* is not often given in drought as the better-off households want to ensure their livestock is taken good care off. For this reason it isn't often given to the poorest households.

⁶ These are either the one of the fourteen boreholes in Mandera, or The Dawa river or the shallow wells of El Wak.



Male animals and those females whose reproductive life is over are usually sold, thus maintaining the reproductive capacity of the herd.

The majority of the *tagoley's* income is from selling firewood, poles and gums or resins such as frankincense. They sell around five goats per year, at an average price of 700 shillings. Income is raised from petty trading, like tea kiosks or activities like carrying water. The *zakalay* get their income from livestock and some men are involved in livestock trade.

4. The Nature of the Drought

During the guu or long rains⁷ of 1999, the livestock grazed in the local badias. From the end of 1999 it became a drought situation with large-stock herds moving to Ethiopia to find grazing. Ever since then the herds have been moved around in Kenya, Somalia and Ethiopia looking for grazing.

This drought is reported to be the worst in living memory⁸, although the 1996 and 1975-77 (Othi kawen – Bigger Even Than our Fathers) droughts were also extremely bad. It is not just the lack of rainfall in Mandera that determines the severity of the problem. A bad year for the pastoralists is when they can't find grazing. Although they move to find grazing, in a severe drought that strategy is thwarted: this time because of the widespread nature of the drought.

From field information, now is considered to be the second year of drought, although coming up to the third. In the first year of the drought, pastoral households attempted to cope by sending more livestock, further away, for longer. Despite this, milk yields declined to about half of normal. In the last year this strategy has started to fail; livestock are no longer yielding milk and losses of around 30% are being recorded.

5. The Problem faced in The Current Year

Once the baseline picture has been established, it is possible analyse how the shock - the drought - affects the different types of household. Firstly the problem has to be defined, or quantified. To estimate to what degree people could make up their food needs in the second year of drought, a scenario has been established that attempts to control for immediate effects of food aid, such as the stabilisation/decrease in consumer maize prices.

Hence the problem for the current year is defined by the following assumptions:

- ◆ livestock prices 70% of 'baseline' (this is based primarily on information gathered in the field rather than from ALRMP data, e.g. the price of goats falls from 700 to 500);

⁷ This is the first rainy season in the year, typically between March and May. The second is the derr – October-December.

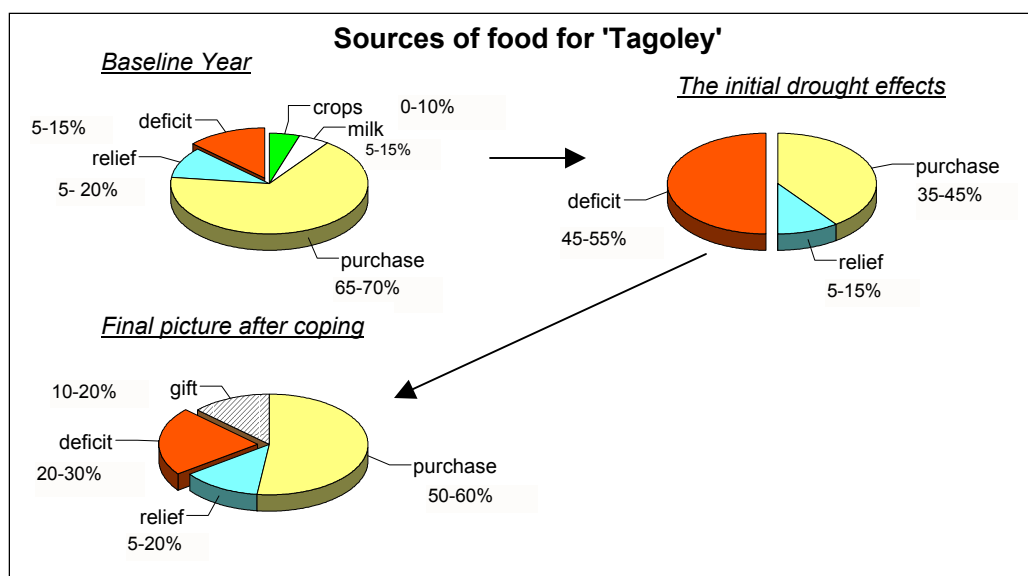
⁸ For example, in an drought timeline interview with elders in Libeliya.

- ◆ no income is available from selling collected gums and resins as none have been available since 1999. This particularly affects the *henley* households.
- ◆ cereal prices 130% of 'baseline' (this is based primarily on information gathered in the field rather than from ALRMP data);
- ◆ milk is not available for sale or consumption;
- ◆ 30% of livestock have been lost, and declining herd size affects the number of livestock that people have available for sale. For example, the *tagolay* in the first year of drought sold about 6 shoats from 15, births were slightly below normal and deaths slightly above normal, leading to a decline in number by end of the first year. This and increasing death rates affects the number that can be sold in the second drought year, i.e. down to 50% of normal.
- ◆ minimum calorific needs 2100 kilocalories per person per day rather than 1900 (since this is the basis for decision-making in the current WFP EMOP).

The following sections illustrate the results of a food economy analysis of how households cope with this problem. However, it should be noted that the accuracy of the analysis of the current year problem depends on the accuracy of the above assumptions. Some of them, like the price of maize, can't be checked without long time series data to show what happened to prices in Mandera in previous drought years when there was no large relief operation. Some information, like the price and availability of firewood, are not available through the ALRMP⁹.

6. Scenario: How Households Would Cope in the Absence of Relief

In droughts households get little (early in the drought) or no (in the second year) milk and cultivation isn't possible. Income also declines due to a decline in livestock related income. In normal years poor households collect firewood every second day, so it is difficult to increase this income source. Therefore, to cope with a bad year these households have to fall back on gifts (including *shaahad*¹⁰) from relatives and neighbours. Despite this assistance *tagoley* households face a significant food deficit in the drought, of over a quarter of their food needs.

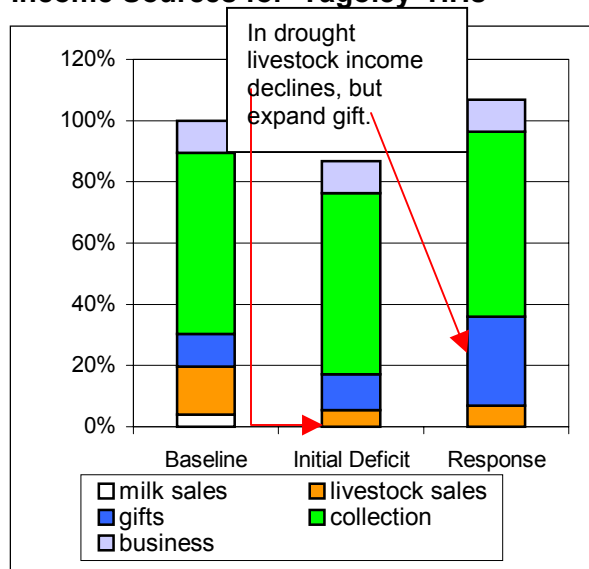


⁹ We were assured by many key informants that the price of firewood does not decrease in the drought, and that the market is still buoyant. This maybe because more people come to the towns in the drought, and there are still a significant number of better-off households who can afford to buy firewood.

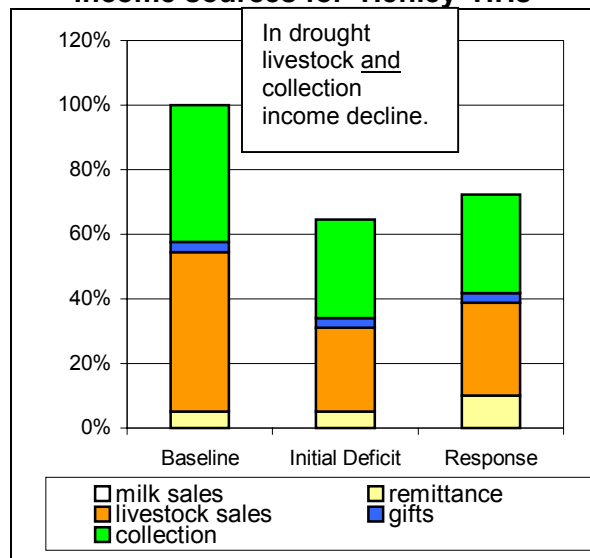
This larger than normal food gap wouldn't occur in a situation where purchased food prices remain at baseline levels. This is the current situation, where relief food is keeping prices low.

In drought, *henley* households face a far greater food deficit than the poor. This is because their income sources are more severely affected by drought, and they can only purchase 60-65% of the amount of food they'd buy in a baseline year. If staple food prices were to remain at normal levels they'd have a deficit of just less than half of their annual food needs.

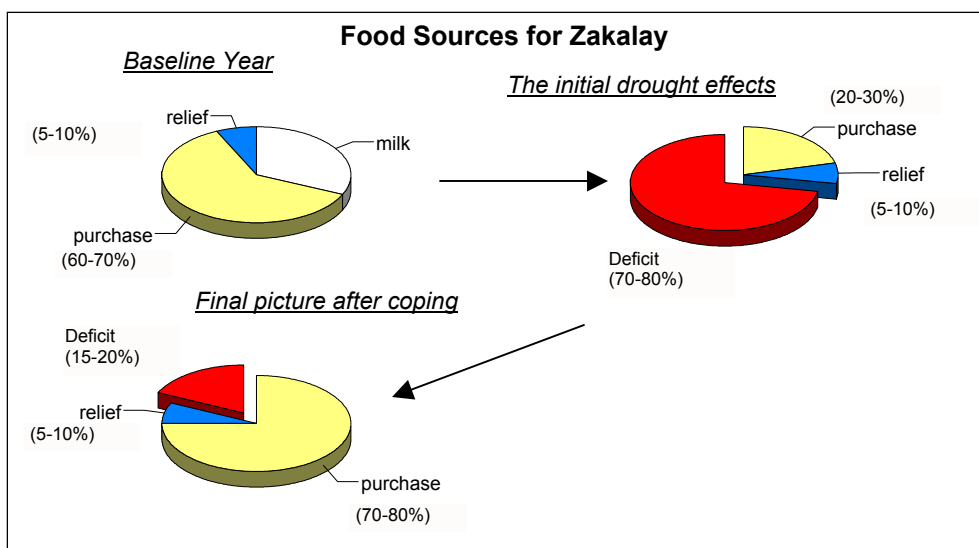
Income Sources for 'Tagoley' HHs



Income sources for 'Henley' HHs



Baseline food and income options are dramatically changed by drought for the *zakalay*, i.e. they have the greatest 'initial deficit'. However, they are a group who have an ability to cope with the drought effects: they are able to increase their food purchase over and above normal levels. They have sufficient flexibility in their expenditure to change from buying less essential items to buying food. The level of income for the poorer groups is so low that they can't do that.



¹⁰ This is a gift which is not given freely; rather the poor person has to go to other to ask for assistance.

Conclusions

- In a normal year all households buy more than half of their food: this is mostly sugar and maize.
- Wealth is related to livestock holdings
- As you go up the wealth spectrum the relative importance of livestock (sale and sale of milk) to a household's income increases
- Wealthier households are immediately most affected by drought because of their higher reliance on livestock for food and income. Yet they have a higher capacity to cope than other groups so in the first two years of drought won't face such large food deficits as the small livestock owners (*henley*)
- Poor households face problems making ends meet in all years. They have already diversified out of pastoralism and rely heavily on collection. Because their baseline food and income sources are less immediately connected to livestock, the drought has less of a direct affect upon them than on other groups.
- Poor households see themselves as pastoralists, and want to accumulate livestock to climb the wealth ladder
- The small livestock owners, the *henley*, have the greatest food shortages in a drought.
- As the drought progresses, for example now, as it enters its third year, the richer households become increasingly food insecure. The poor less so.
For the animal owners, when pasture becomes ever harder to find more livestock die and this has an escalating effect on their food access and livelihood. Unlike in other (mainly agricultural) economies where the better-off households can weather shocks through temporarily diversifying their income sources, e.g. by engaging in labour activities, there is no short-term option for the pastoralists. As the drought continues the scenario of more of the pastoralists losing stock up to a level where they become like the *henley*, with non-viable herds, becomes real. Currently, it is vitally important for them to keep their herds alive. This requires grazing, or livestock fodder.
- The only alternative income earning options mentioned by pastoralists involves diversifying their livelihoods and going to farm on the river. Those who have done that don't express any desire to go back to the more nomadic, pastoral way of life. The riverine livelihood zone is less affected by drought. However, it is not clear how great the potential is for more pastoral households to settle there.

7. The Riverine Livelihood Zone

a) A description of the zone

The people settled on the banks of The Dawa River are from all of the ethnic groups found in Mandera, i.e. there are people from 'the corner tribes' (who traditionally farm) and traditional livestock herders who have relatives who are still pastoralists. The former are found in the villages closer to Mandera, and are thought to be less affected by drought due to their diversified livelihoods and relatively easy access to water from the river for farming. The assessment team visited Murali villages further down stream. Most of the people there had settled in the last twenty years, because of declining livestock numbers due to droughts. Some had bought land, others had traditionally used the land for grazing, and had 'grabbed' it and begun to cultivate. All keep some livestock, and some have enough to warrant sending them away to the *badia* for grazing.

The main parameter of wealth in these riverine villages is access to irrigation. Rich households are called 'enginelay' as they own pumps; they own land too and cultivate around 3 acres per season. In some villages there are no pump owners; there the rich are those who have enough cash to hire pumps. Medium households are likely to own their own land, but not pumps. However, they have enough cash to pay for the hire of pumps and sufficient diesel to irrigate well. This group often own a considerable number of livestock, e.g. 5-15 cattle and 30- 60 goats. The poor don't have their own land and don't have enough money to irrigate as often as the better-off groups. The poor access land as a gift (occasionally they pay in kind, e.g. with straw) and some are also given some irrigation by richer relatives. One constraint they face is that they have to change farms every few years. They are highly dependant on labour as a source of income. The people living along the Dawa have closer links with Mandera than the pastoralists in the Eastern Flank - labour is supplied from Mandera to the farms; the farmers regularly sell produce and duom palm products in the town and in bad year poorer farms go to Mandera to seek work or gifts.

All types of households grow the same annual crops, but the better-off households are more likely to have mango or banana trees. People expect to be able to plant twice per year: once in the 'guu' and once in the 'derr'. In a good year, less irrigation is required as the rains will also provide moisture for crop growth. Maize and beans are grown, but the harvest of the latter is generally very little. The crop residue from both is valuable as fodder for livestock. Livestock (especially milking cows) are kept close to the farms, and farmers with their own land will graze the cattle around the edges of the farms and leave some land for pasture growth. Most people grow tomatoes, but it is said that the market (which is only Mandera) is saturated, and the prices are low.

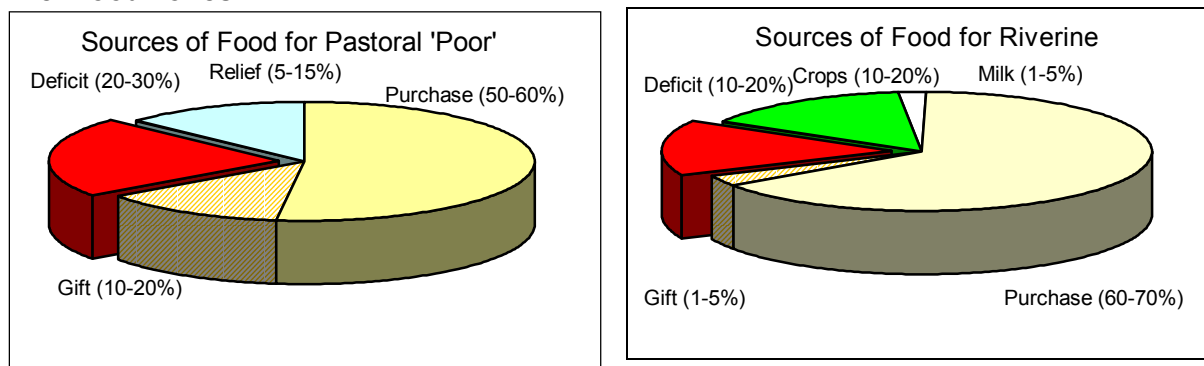
b) The effects of drought on the riverine zone

The Dawa River dries for three months in every year, normally from around December time. However, in a drought people perceive that it dries for longer, e.g. four months. In a drought more irrigation is required to grow the crops. This is less of a problem for wealthier groups who have sufficient cash to pay for diesel, but a particular hazard for the poor. They also are negatively affected by the decreasing availability of duom palm products (such as the fronds which are used for thatching), which they pick and sell. However, labour opportunities are still available in drought years, so they increase the time they spend on casual work.

Drought can lead to reduced crop yields or perhaps a late planting, or a missed season. However, even in this drought a total crop failure hasn't occurred. Interestingly, many of the reported negative effects of drought are linked to livestock. In a drought it is much more difficult to find pasture for livestock. This has knock-on effects on crop yields - people say they spend more time looking for grazing and fodder for livestock at the expense of caring for their farms; livestock become thin and worth less which affects income and the ability to irrigate farms, and crops are cut early to feed the livestock. These factors tend to affect middle groups more than the rich. The latter have generally taken a decision to invest more in their farms, whereas the former have a closer affinity to the pastoral livelihood.

During this drought, the usual harvest from the end of year planting was missed in 2000/01. However, people have recently planted and a harvest is expected before the *derr* rains. Even with this problem of food from own crops being reduced by half of normal, households in the riverine area don't have such a severe food gap as the pastoral households.

Comparison of food sources in a drought for poor households in riverine and pastoral livelihood zones:



In the riverine, households slightly wealthier than this group may be more vulnerable to food shortages, because they have a higher reliance on livestock. Whether or not they would suffer a food deficit (and one greater than the poor) depends on the amount of land they cultivated last year, the soil quality and the amount they irrigated. The proportion of households in this more livestock dependent category varies from village to village, but it is unlikely to be more than 20% of households. The better-off households are unlikely to suffer a food shortage.

8. The Situation This Year and Conclusions for programming

The drought this year is particularly severe because it's so widespread. The Mandera pastoralists will utilise grazing all over North–Eastern Kenya, Ethiopia and Somalia, and currently practically all their large stock are in Wajir or Somalia. However, this year the grazing in these areas is extremely limited. This directly leads to livestock deaths. The loss of livestock for the better-off groups, who have a viable herd size, is serious economically, as it brings them down to the level of the *henley* and *tagoley*. Those households are less dependent on livestock, but their income options are limited to collecting and selling natural products and a high reliance on gifts. More households in these categories means more damage to the natural environment. It also means more people reliant on assistance from the wealthier salaried and livestock owning households. In the absence of alternative livelihood options in Mandera, it is important to try to maintain the (livestock) wealth of the better-off pastoral households. For this the pastoralists need to find fodder or grazing for their livestock. Therefore interventions that provide food for livestock should be seriously considered and costed.

For planning longer term interventions, it has to be noted that options to diversify out of a pastoral livelihood and to earn cash through other means that livestock sale and trade are extremely limited. Planning suitable interventions with pastoralists is still likely to focus on assisting them to maintain their herds and obtain an improved market price for livestock. Promoting the understanding of the changes in grazing patterns and natural resource utilisation; management of grazing and the conservation of contingency or emergency grazing area can help pastoralists manage drought.

Those who have lost livestock and had to diversify out of pastoralism whilst staying in Mandera face extremely limited options. They are cash poor but buy 60-70% of their food. A large amount of support is provided to them, and the pastoral households, from wealthier kin, many of who have been educated and have formal employment and/or are living in Nairobi.

There is uncultivated land on the Dawa River, but it isn't clear to what extent this can be exploited. It may not be accessible due to clan or individual claims to ownership. Even it were accessible, it isn't clear how much water can be taken out of the Dawa for irrigation without affecting its flow and other users.

The Role of Food Aid

The scenario in section six looked at the food deficit households would face without food aid this year. It is clear that all households, except possibly the 10% richest¹¹, face food shortages in the second year of drought. The implication is that the **need for relief food is widespread** in the pastoral areas of Mandera. Poor families are not the only ones in need of food; indeed they are not even the families most in need of food. The 'poor' are facing a deficit of 20-30% of annual food needs over the current year. But the middle, *henley*, group faces a 50-60% deficit. This deficit is going to continue well into next year. Food will be required at least up until May, because the livestock are in poor condition and significant rains are required in October/November to regenerate pasture, which will lead to livestock breeding again. The food deficit faced by the *henley* and better-off households will increase up to then if livestock deaths increase.

Given that nearly all households face a significant food deficit, targeting at community level maybe difficult and not a useful investment.

If we were to assume that the food distributed to-date had not been targeted by the community, the amount of food aid going to the pastoral divisions is just about covering their needs. For example, the amount of food (under the EMOP general ration) distributed to the areas covered by El Wak distribution point in the last quarter of 2000 covered 56% of the food needs of the population there.¹² This is the level of food aid required.

Food shortages are not as great in the riverine zone as in pastoral areas. There is an argument for ensuring that riverine villages receive far less food, e.g. a half ration, and that food to this area is retargeted to the pastoralists, particularly after the upcoming harvest.

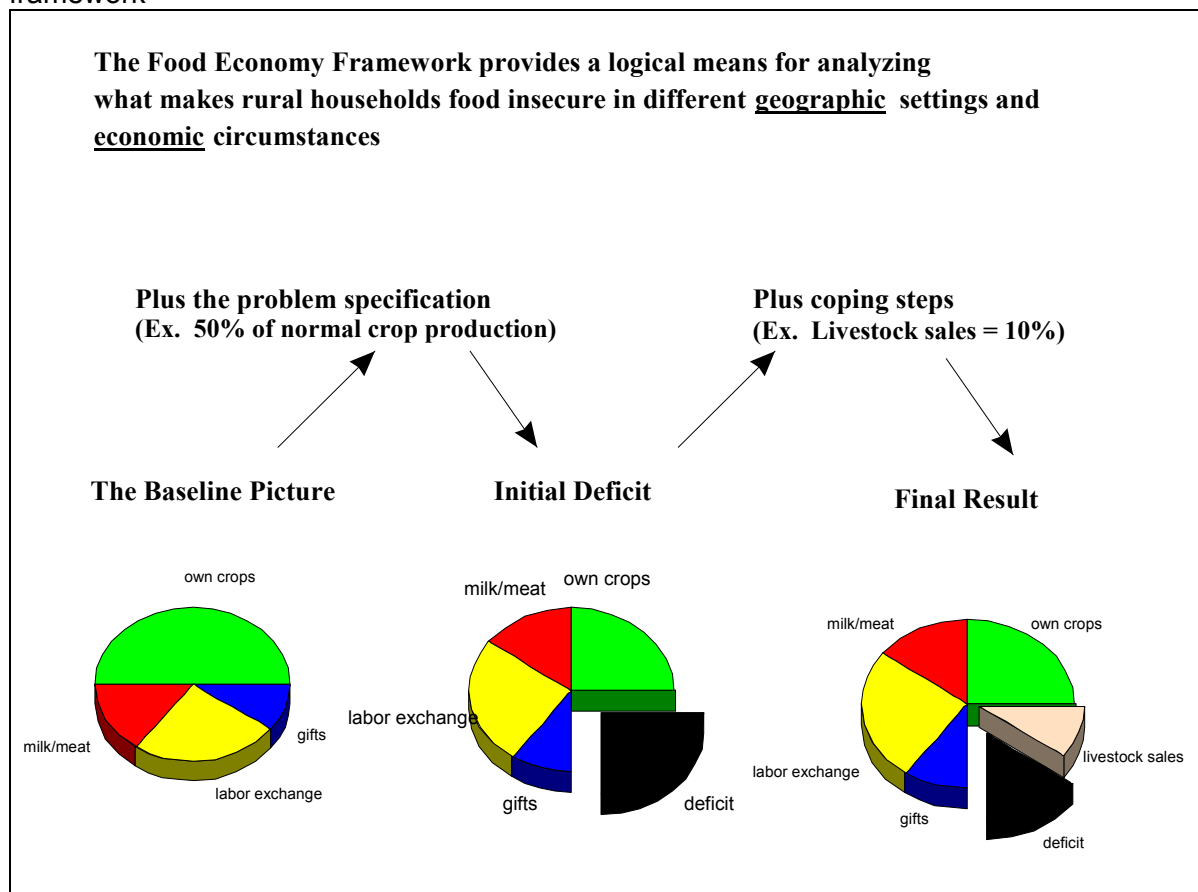
Although this exercise was not designed to evaluate the role of food aid in Mandera, it was clear that the food assistance there has had several positive effects. Not least it has helped people meet their calorific needs in a time of extreme drought. For all people met in the assessment, the food aid has decreased the amount of food they have had to buy. This is positive because in many cases households are extremely short of cash. It is probably why the price of cereals in Mandera is relatively low: the demand is small. Through decreasing the need for households to buy food, the aid has decreased the number of shoats *henley* households have sold. This is positive as these households are living a precarious existence on the edge of pastoralism. As the drought deepens and livestock die they need to be conserving their assets if they are to be prevented from becoming more dependent on towns, casual labour, gifts, relief and firewood sales in the future. Also, the food aid has had a positive effect in decreasing the need for poor households to collect firewood, for sale. This maintains the price (reportedly, it has increased the price) for those who are still forced to collect. More importantly, it is a limiting the harm this activity does to the environment.

¹¹ This group was not analysed.

¹² Although it is a 100% ration, pipeline problems lead to less food being distributed than planned. The food is planned at a 100% ration when targeted, this scenario assumes it is distributed evenly across the whole population.

THE FOOD ECONOMY ANALYTICAL FRAMEWORK

The graphic illustrates, using a very simple format, the food economy analytical framework



The framework draws upon three types of information:

- Information on baseline access to food for a typical household defined in terms of its economic circumstances and geography
- Information on a 'problem', or a change in access to food, compared to the baseline (e.g. 50% of baseline crop production)
- Information on the coping steps utilised by typical households to increase their access to food in response to a problem.

Information on baseline access and on possible coping steps is normally collected during a food economy baseline assessment. In principle, this type of information does not need to be updated on a very regular basis. Problems of current access are, on the other hand, normally defined using information collected regularly, e.g. information on current crop production, or current market prices, and so on.

Information on baseline access and on coping steps provides the context for interpreting the likely impact of a problem on household access to food. This information is stored in the food economy spreadsheet, keeping it readily accessible and amenable to analysis.

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