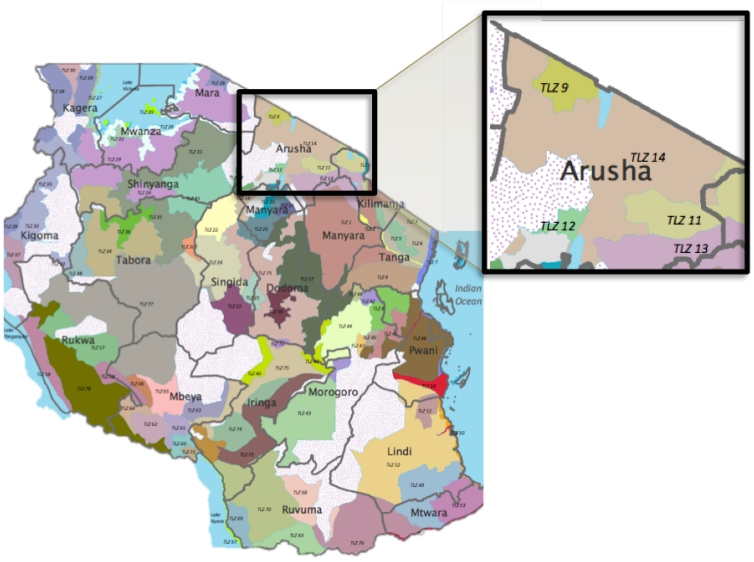
Tanzania Livelihood Baseline Profile

Northern Maasai Pastoral Livelihood Zone (TLZ 14) October, 2014[1]

Zone Description

The *Northern Maasai Pastoral Livelihood Zone* is comprised of Longido, Ngorongoro and Monduli districts in Arusha Region along with a small part of Kilimanjaro's Rombo District. The zone, which is part of the great Rift Valley expanse, includes Oldonyo Lengai Mountain and Lake Natron. It is situated on the border between Tanzania and Kenya and adjacent to both the Ngorongoro Conservation Area and Serengeti National Park. The local population is made up of Maasai, who extend up into neighbouring Kenya. Population density is low, with around 16 people per square kilometre. The annual average temperature ranges from 20C – 35C.

Northern Maasai Pastoral Livelihood Zone



The zone includes semi-arid lowland areas where vegetation consists of open short grasslands and it extends to higher plateau areas with rolling grassland interspersed with acacia woodlands. With relatively low rainfall (between 600-800 mm in the highlands and 400-600 mm annually in the lowlands), the area is not ideal for crop production. Pastoralists in the zone move regularly between low and highland. The lowland areas are richer in minerals but grass cover is limited because of lower rainfall, providing ideal wet season grazing lands; highland areas have greater moisture reserves but lower mineral content, offering fodder in the dry season. Movement between the two areas is an essential part of the annual cycle in this zone. Water sources, shared by both humans and animals, include seasonal rivers, ponds, and bore holes with hand pumps during the rainy season; and ponds and bore holes with hand pumps during the dry season.

The Maasai pastoralists in this zone are almost fully dependent on their livestock to meet both food and cash needs. Livestock provide direct food in the form of milk and small amounts of meat; and they also provide the main source of cash used to purchase staple grains and pulses. For poorer households, whose herds are not big enough to cover their cash requirements, additional income is sought by working in towns as security guards and engaging in self-employment activities like selling soda ash or gravel.

Pastoralists in this zone benefit from their proximity to the larger Kenyan livestock markets at the international border which keep livestock prices higher than in other parts of Tanzania. Cattle ownership is the essential determinant of household wealth. Every household also owns goats, sheep and donkeys.

[1]Fieldwork for the current profile was undertaken in August 2014. The information presented in this profile refers to the reference year, the year that started in January 2013 and ended in December 2013. 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 end of 2018). All prices referred to in the document are for the reference year.

Services are minimal in this zone. Drinking water comes from rivers, dams, natural wells and protected spring water. Some better off households also purchase water. Water for cleaning and for livestock is obtained from dams and boreholes and wet season ponds near the villages. There are no formal sanitation services, with pit latrines and the bush used extensively. There are very few health centres in this zone and as there are no dispensaries, people who live here typically travel to nearby towns to find medicines and health care. No electric services are available. Poorer households use kerosene lamps and battery-operated torches for light; better off households may own solar lamps as well. The cellular network extends throughout the zone and most households have at least one mobile phone. Most households send their children at least to primary school; better off households usually send their children to secondary school as well. There are no formal sources of credit nor are there local savings schemes. The NGOs operating in this zone include AWF TANAPA, World Vision, NGONET, and PALISEP.

Markets

The *Northern Maasai Pastoralist Zone* benefits enormously from its position on the border with Kenya. The demand for livestock from the Kenyan market ensures that cattle, goat and sheep prices are consistently higher than in other parts of the country.

Market access is relatively good, with the exception of Ngorongoro. Longido, located along the main road to Kenya and Monduli market, is on the road from Arusha to Karatu. Both have good tarmac roads. In the wet season Ngorongoro District has limited market access due to rough earth roads that become difficult to traverse; the area is also located at quite a distance from the main markets and towns.

Livestock are the main commodity sold by local households. Cattle are sold when they reach 3 – 5 years old; Goats and sheep are sold at around 1 – 2 years old. Milk and hides are also sold, with milk bringing in significant amounts of income for middle and better off households. Livestock are also purchased by local households every year to replenish herds; many of these cattle are high quality Boran cattle purchased from neighbouring Kenya. Isiolo goats, known for their milk and meat production, are also imported from Kenya and Dorper sheep, known for high rates of reproduction and their good market value, are also brought by small traders into the zone.

Cattle and shoats traded along three main routes: 1. Longido to Namanga to Bisi to Nairobi; 2. Longido to Oldonyosambu to Naibili to Weruweru; and 3. Oldonyosambu to Meserani to Dar es Salaam.

Purchased maize and beans originate in Arusha town or Manyara and are transported to Longido, Oldonyosambu, or Ngorongoro where they are distributed onwards through local markets.

Timeline and Reference Year

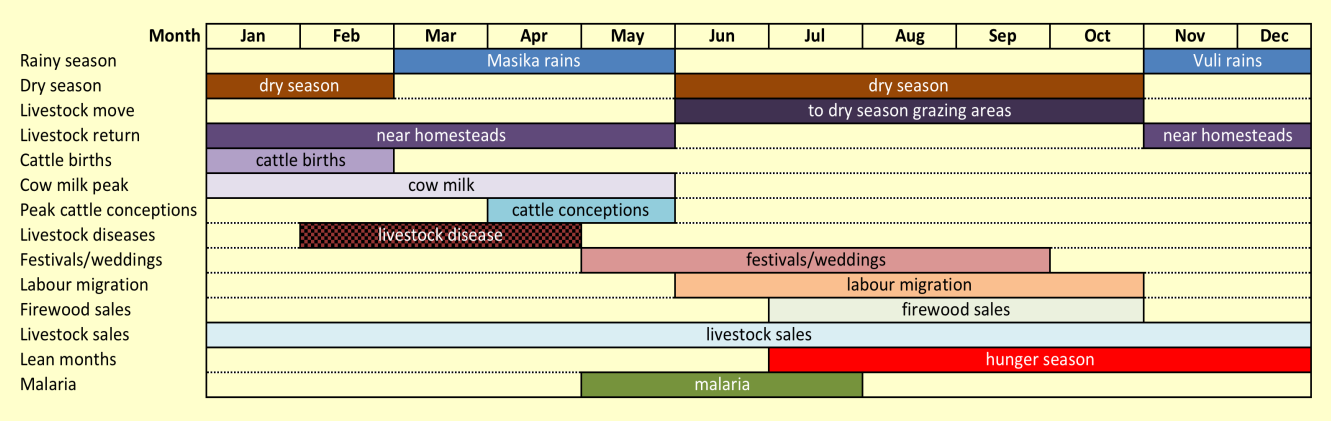
The baseline assessment refers to a very specific time period called the reference year. In the *Northern Maasai Pastoral Livelihood Zone* the reference year covered the period from January to December 2013. During community leader interviews, key informants were asked to rank the last five years in terms of seasonal performance with '1' indicating a poor season and '5' an excellent season. The table below, which summarizes the responses of the community leaders, shows that the reference year was ranked as good, with good rains and good livestock migration. The baseline information presented in this profile, therefore, provides a view into how households in this livelihood zone make ends meet in a typical year, drawing on a normal range of options.

Calendar Year	Rank	Critical Events
2013	**4**	Good rains and good livestock production
2012	**3**	Average, normal livestock migration
2011	**4**	Good, normal livestock migration

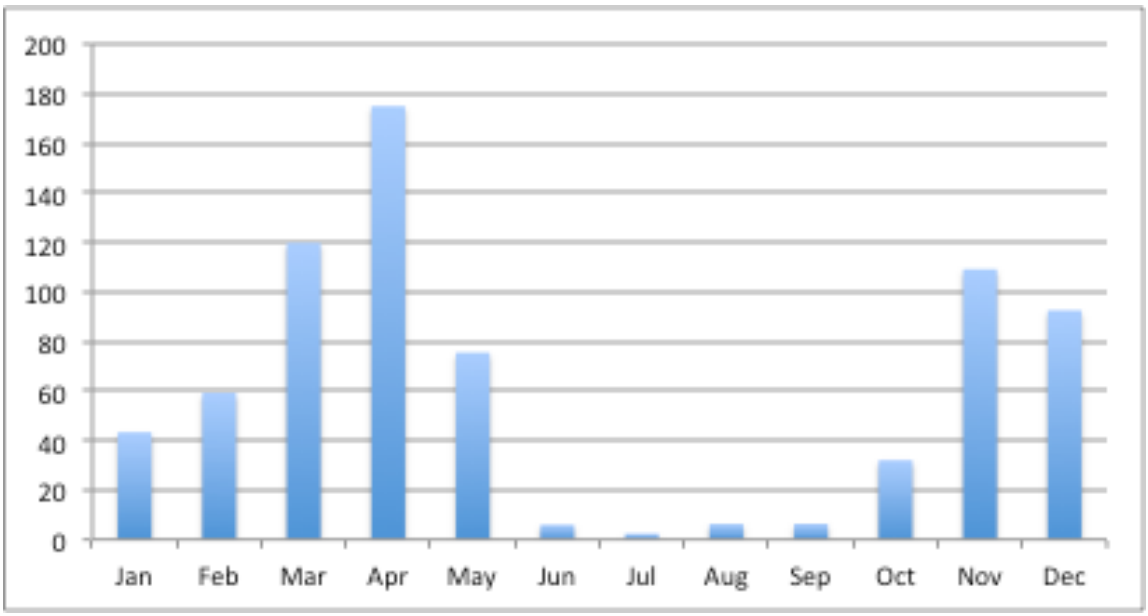
2010	**3**	Average, normal livestock migration
2009	**1**	Drought, abnormal livestock migration, food aid distribution, increased livestock sales and labour sales

5 = an excellent season for household food security (e.g. due to good rains, good prices, good milk yields, etc)
4 = a good season or above average season for household food security
3 = an average season in terms of household food security
2 = a below average season for household food security
1 = a poor season (e.g. due to drought, flooding, livestock disease, pest attack) for household food security

Seasonal Calendar for Reference Year



The graph to the right shows monthly rainfall for Arusha Region in mm based on a 10-year average (2004 – 2013) Source: TZ Met. Dept.



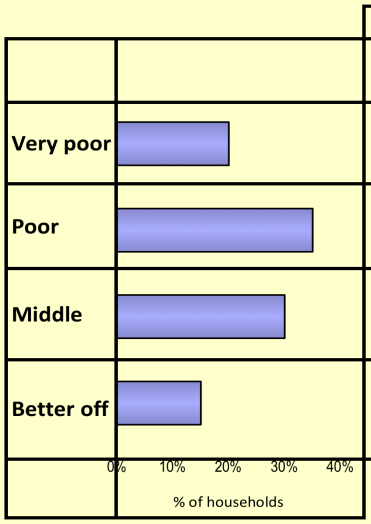
The main rains in the *Northern Maasai Pastoralist Livelihood Zone* occur in two peak periods: from November through December (the *Vuli* rains) and then again March through May (the *Masika* rains). The dry season takes place from June through October. During typical years, livestock stay within the zone, capitalizing on local pastures and water points by moving to lowland areas in the rainy season and highland areas during the dry season. Men are mainly responsible for looking after livestock; they determine where to take the herds during each season and make critical decisions about livestock health and well-being. They are also responsible for taking the livestock to market and negotiating sales.

In pastoralist zones the consumption year begins when milk starts to be available on a regular basis, coinciding with the peak calving period. In this zone, January marks this onset. The peak cattle conception period starts in

April, half way through the Masika rainy season, when animal condition is good after consistent access to replenished pasturelands. Just over nine months later, starting in January, calves are born, providing access to an important source of calories for these pastoralist households. Women are responsible for milking the cows and goats and taking care of young animals around the homestead.

The annual lean season, when less milk is available for consumption, occurs from July through December. During much of this time, men from poorer households seek employment as security guards and watchmen in towns. Maasai men are sought after as guards as they have built up a good reputation in this area of employment. This pattern of movement to town is normal even in good years since poorer households need the extra cash because they do not have enough livestock to cover annual expenditure requirements. In bad years, when the local labour market tends to be flooded, Maasai men might travel as far as Dar es Salaam, Mwanza and even Nairobi to seek employment. They also extend the time away from home to earn additional income. Those members of the family not engaged in town labour may try to generate cash in other ways, such as gathering and selling firewood or charcoal, or selling soda ash in areas where this activity is supported.

Wealth Breakdown



	Wealth Groups Characteristics				
	HH size (per wife)	Number of wives	Large stock holdings	Small stock holdings	Other
Very poor	4 - 8 (6)	1	1 - 9 cattle	1 - 15 goats; 4 - 9 sheep	1 - 3 donkeys
Poor	5-9 (7)	1 - 3	10 - 15 cattle	20 - 60 goats; 10 - 25 sheep	2 - 4 donkeys
Middle	5-9 (7)	3 - 5	20 - 80 cattle	60 - 100 goats; 25 - 75 sheep	2 - 8 donkeys
Better off	6-10 (8)	6 - 9	80 - 240 cattle	100 - 350 goats; 80 - 320 sheep	5 - 15 donkeys

Note: The wealth breakdown percentages represent the mid-point of a range.

The wealth breakdown above provides a summary of the percentage of households falling into different wealth groups, as well as some key assets associated with each of these groups.

The main determinant of wealth in the *Northern Maasai Pastoral Livelihood Zone* is ownership of livestock, especially cattle. The more cattle a man owns, the greater his capacity to support a large family, and the greater his need for labour to take care of the livestock. Thus, the richer a man, the more wives he has. Men and young men (the fathers and sons in the household) provide the labour required to herd the livestock. Women and girls (the mothers and daughters in the household) milk the animals and care for the young livestock among many other tasks, so having more wives is both a status symbol as well as an important economic strategy for maintaining large herds. Very poor households have only one wife, whereas better off households have as many as nine.

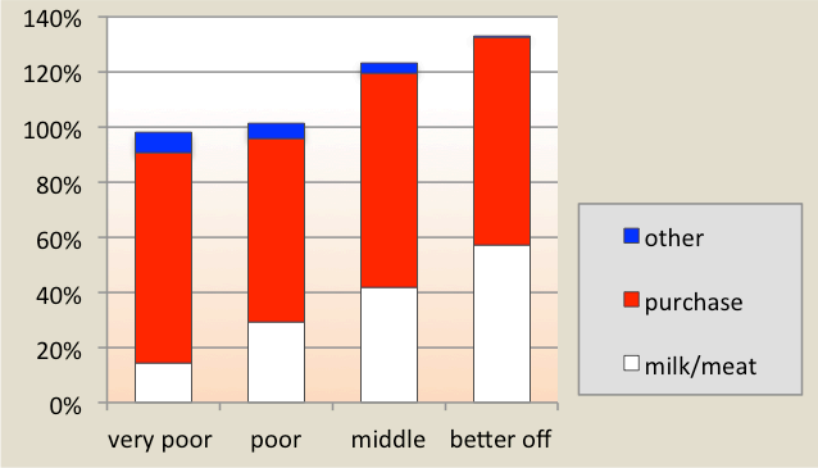
Around 15 – 25% of households fall into the very poor group; 30 – 40% are considered poor; 25 – 35% are middle; and 10 – 20% are better off. The poorest households have fewer than 10 cattle and around 5 – 24 shoats. The better off can have up to 240 cattle as well as many hundreds of shoats. Donkeys play an important role, helping to transport water, grains, pulses and other goods from market. Better off households are able to meet all of their food and cash needs by drawing on their large herds of livestock. Poorer households need to

supplement with cash generated from in-town labour and various self-employment activities. They also rely on gifts from and sharing arrangements with better off households. These are especially important in bad years.

There are strong social contracts in Maasai communities binding poorer and richer households through a traditional system of rights and obligations. Sharing is one manifestation of this system and is a common practice amongst the Maasai; milk, meat and meals are regularly shared as well as livestock. It is very normal for a better off household to lend a milking cow or several goats to a poorer relative or neighbour. In exchange the poorer household cares for the animal, meanwhile benefiting from the milk it produces. In some cases the poorer household can keep the offspring produced by the loaned animal. When it comes time to sell the cow or goat, the better off household benefits from the income from the sale without having had to invest the labour into caring for the animal. In bad years it is understood that better off households will help cover the basic needs of poorer households; in turn these poorer households help better off households with herding, fencing, and digging labour.

Sources of Food

The graph to the right presents the sources of food for households in different wealth groups in the livelihood zone for the period January – December 2013. January represents the start of the consumption year because it marks the time when milk becomes more available as cattle births peak. Food is presented as a percentage of 2100 kcal per person per day for the 12-month period.



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

Purchased food is the most important source of calories for all wealth groups.
Maize is bought by all households throughout the year and comprises the majority of all purchased calories, making up 60% of annual food needs for very poor households and between 45 - 50% for the other wealth groups. Sugar and oil also contribute substantially, making up between 10 – 17% of the annual calorie needs of Maasai households. Purchased beans comprise around 6% of annual calories for the poorer wealth groups and 9% for the upper two groups. Small amounts of rice and potatoes are also purchased.

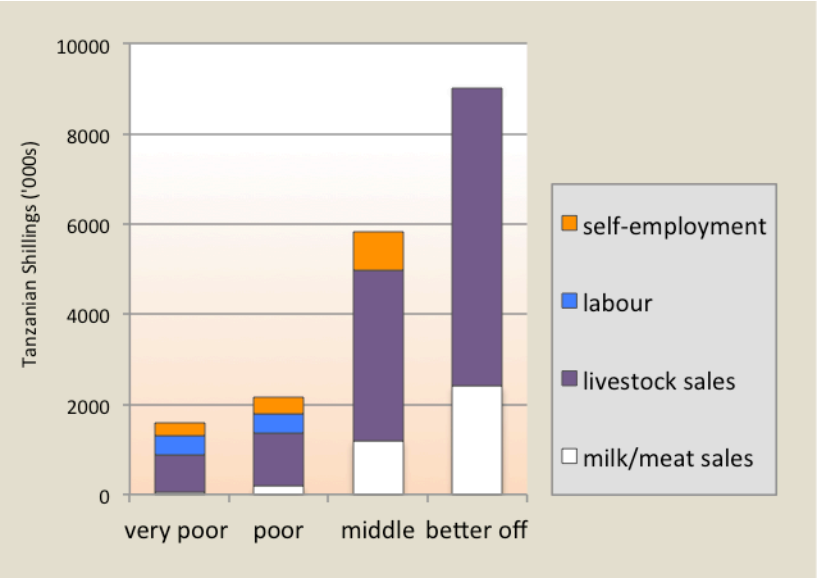
Better off households obtain more than 50% of their minimum calorie requirements from their own milk and meat. A typical better off household has as many as 30 cows milking for 210 days of the year. This provides them with over 10,800 litres of milk, 4,000 litres of which are sold. The milk that doesn't get sold is consumed by the household and also given away to poorer households, making up a large proportion of daily calories for much of the year. Very poor and poor households also benefit from cow milk, but have much smaller herds to draw on; they supplement with goats' milk. Very poor households typically have around 4 milking goats and poor households have approximately 18. These generate around 180 and 810 litres of milk per year respectively. Meat from cattle, goats and sheep slaughtered during festivals and weddings also contributes to the annual calorie total, but this contribution (1 – 7% of annual calories) is much smaller than milk's (13 – 50%).

Gifts of meat from better off households contribute 7% of annual needs to very poor households, 5% to poor, and 4% to middle households. Some of the milk obtained by the very poor and poor are also gifts from better off households via animals loaned in exchange for herding labour.

Sources of Cash Income

The bar graphs to the right show annual cash income broken down by source for the four wealth groups. The table below the graph provides a summary of total annual income for the reference year by wealth group in Tanzanian Shillings (TZS).

The most important source of cash for all wealth groups is livestock sales. Men from the household sell cattle, goats and sheep throughout the year at open markets. Cattle are, by far, the most valuable of the livestock raised, and even very poor households are able to benefit from their sales. But it is really the middle and better off groups that rely most heavily on cattle to meet their annual cash needs, selling from six to ten cattle every year, and generating 2.4 million to 4 million TZS on these sales alone.



The graph provides a breakdown of total annual cash income in Tanzanian Shillings according to income source.

INCOME SUMMARY TABLE (in Tanzanian Shillings)				
Wealth group	**Very poor**	**Poor**	**Middle**	**Better off**
Annual income per household[2]	1,400,000 – 1,800,000	1,800,000 – 2,400,000	3,500,000 – 7,500,000	7,500,000 – 12,000,000

Sales of goats and sheep (shoats) are an important additional source of cash. Very poor households sell on average 4 shoats every year, making around 210,000 TZS; poor households sell around 7, making approximately 385,000 TZS; middle households sell around 26, which garners them 1,375,000 TZS; and better off households sell as many as 50 shoats, bringing in an additional 2,650,000 TZS.

It is not only the sale of livestock themselves that local people rely on, but also the sale of livestock products, in particular, cow milk. Very poor households make next to nothing from milk sales, given the small quantities of milk they generate, but better off households can earn well over 2 million TZS a year from selling milk, making up almost a quarter of their total cash income.

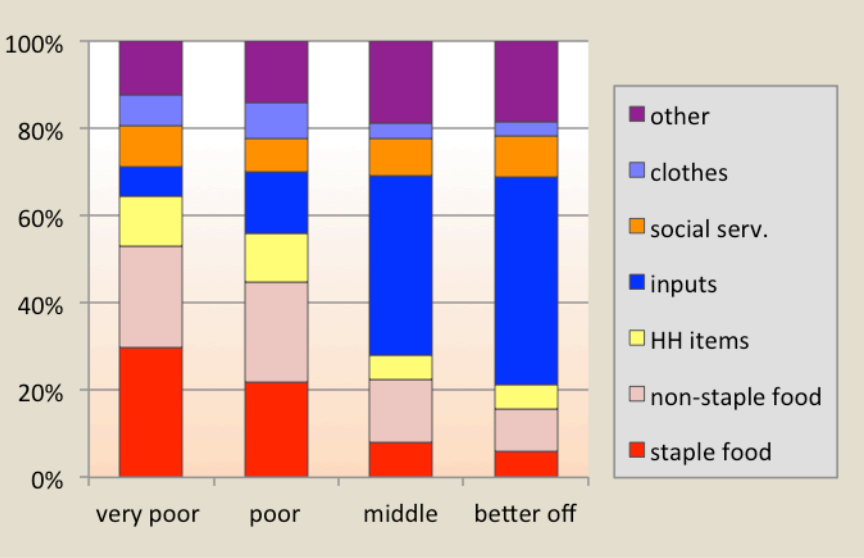
Unlike better off households, very poor and poor households do not generate enough cash income from their livestock alone and need to engage in self-employment activities and paid labour to meet annual needs. Paid labour mainly refers to working as a guard for a business or home in a town outside the livelihood zone, such as Arusha, Kilimanjaro or even Dar es Salaam. A young male from the household typically engages in this activity for around six months of the year, bringing in just over 400,000 TZS. Self-employment activities mainly include selling soda ash, which is especially important around Lake Natron, or selling gravel. Even middle household members engage in the more lucrative self-employment activities such as selling soda ash, helping them raise cash for things like school fees and purchasing additional livestock.

[2]The average exchange rate from January – December 2013 was US$1 = TZS1,550

Expenditure Patterns

The graph presents expenditure patterns for the reference year January – December 2013. While total expenditure increases with wealth (as shown in the cash income section), the expenditure breakdown by per cent in this graph shows the *relative* amount of income spent on different categories.

Households in this zone do not produce any of their own staple grains, and therefore need to buy all their food (other than milk and meat) for the year in addition to all the other goods and services needed throughout the year.



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

At the top of the expenditure list is food in the form of staple grain and pulses. All four wealth groups purchase all of their grains and pulses every year. Food purchases comprise over half of the annual cash income of very poor households. Better off households, with larger household sizes actually purchase the most food in absolute terms. But because their total income is around ten times higher than the very poor, the relative amount spent on food is the lowest of all four wealth groups. This leaves them with more than 80% of their cash to devote to other spending priorities. Both better off and middle households devote the most spending to inputs, which include veterinary drugs and livestock purchases. Almost half the money these households earn from livestock sales gets ploughed back into upgrading the herd by purchasing younger, more productive livestock. Very poor and poor households also purchase new livestock in a typical year, and also veterinary medicine, but their ability to invest in their herds is limited by their much lower incomes.

Household item expenditure (on tea, salt, soap, kerosene, grinding) takes up a larger proportion of income for very poor and poor households than it does for households at the upper end of the wealth spectrum. These regular outlays, small as they may seem on a daily or weekly basis, add up at by the end of a year, costing these households more than school and medicine combined.

School fees (included in 'social services') appear in relative terms to be similar across wealth groups; but in absolute terms better off households spend almost five times more than very poor households on educating their children, giving them a much better chance of a successful future.

The 'other' category includes expenditure on things like phone credit, beer, tobacco, transport, etc. This component of the graph provides some indication of the 'wiggle room' in households' budgets, showing the extra money that could be drawn on in case of unforeseen events.

Hazards

The *Northern Maasai Pastoral Livelihood Zone* is subject to a number of hazards, some of which undermine food security every year while others threaten food security periodically. The main hazards affecting the zone, in order of frequency, are:

Livestock diseases, such as Anthrax, Foot and Mouth Disease, tick borne diseases like Heart water, ECF, Anaplasmosis, CBPP, CCPP and external parasites. Livestock are exposed to these diseases every year.

Drought Severe drought, leading to loss of pasture and water resources and requiring unusual migration of livestock to far-away grazing areas, occurs once every five years.

Floods Flooding caused by excessive rains, leading to increased livestock and human disease and the destruction of property occurs once every five years.

Conflict Occasional conflicts flare up due to competition over grazing land and water points. These occur mainly what the Maasai migrate to highland areas in the dry season and in bad years in search of pasture and water, particularly in Ngorongoro district. These conflicts can limit movement and access to markets.

Response Strategies

Households engage in a number of strategies in an attempt to cope with hazards and bad years. The following section summarizes the main strategies used by poorer and better off households.

Poorer households send more members of the household to seek employment in towns. They also increase the collection and sale of firewood and charcoal, and attempt to increase their cash income by selling more goats and sheep. In addition, they minimize their expenditures on non-essential items, diverting this cash to buy food or other essential items instead. All of these responses are limited to some extent. In bad years competition for a limited labour market means that many people will not find work, and if they do, it may be at reduced wages. Similarly, there is a limit to any one household's ability to expand sales of firewood and charcoal, especially in a bad year when other households are trying to do the same thing, and better off households may have less money to spend on this commodity.

Better off households take their livestock to grazing areas with better prospects. They are able to garner the labour and resources to make longer treks than poorer households. In addition they increase their sales of livestock and minimize their expenditure on non-essential items.

Key Parameters for Monitoring

The key parameters listed in the table below are food and income sources that make a substantial contribution to the household economy in the *Northern Maasai Pastoral Livelihood Zone*. These should be monitored to indicate potential losses or gains to local household economies, either through on-going monitoring systems or through periodic assessments.

It is also important to monitor the prices of key items on the **expenditure** side, including staple and non-staple food items.

Item	Key Parameter – Quantity	Key Parameter – Price
Livestock production	• Livestock herd sizes for cattle, goats and sheep • Milk yields for cattle and goats	• Livestock prices for cattle, goats and sheep • Milk prices for cow milk
Other food and cash income	• Labour opportunities in towns • Self employment demand	• Casual labour rates • Self employment rates
Expenditure		• Maize price – consumer price • Bean price – consumer price

Programme Implications

The wealth group-specific longer-term programme implications suggested below include those that were highlighted by the wealth group interviewees themselves and those made by the assessment team following detailed discussions and observations in the field. These represent potential areas of further investigation and would require detailed feasibility studies and cost-benefit analyses.

All wealth groups suggested the **development of better road and market infrastructure** to improve the ease of selling livestock and buying staple grains and pulses and other basic commodities. This could help reduce the cost of staples and increase the purchasing power of local communities.

Another idea worth exploring is the provision of **hybrid cattle and goats**, which produce more milk and have a higher market value. This practice is common in the adjacent Maasai district in Kenya and could be expanded to encompass the wider Maasai community in Tanzania.

The bottom two wealth groups advocated for the **provision of credit services** to help them obtain loans so that they could purchase additional livestock. They also proposed investing in **alternative income generation schemes** to help them raise needed cash income.

An idea relevant for all groups was the development of sustainable water sources, to provide drinking water for both people and their livestock.

The top three wealth groups argued for **improved veterinary service and outreach**.

Finally, the bottom two wealth groups suggested the provision of **free education** to reduce the burden that school fees imposed, and to increase potential access for all children.