Karamoja Cattle Market Assessment Report

Sustainable Transformation in Agriculture and Nutrition (SUSTAIN) Project

Funded by USAID/Food for Peace (FFP)

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Executive Summary

Things to focus on:

1. The key 'market' issue is the limited supply of cattle in local markets (in terms of number and quality) given the potential for production (existing rangeland and livestock resources). Addressing this will require:
   a. Involvement of the animal health care system in general, but demand for veterinarian services in particular
   b. Demand for financial services (substitution of livestock as a savings mechanism)
   c. Demand for markets (for opportunities to sell high quality animals).
2. Supply of more and higher quality animals will also be improved by the adoption of improved production practices. These can be identified and implemented/facilitated via the current protected kraal system.
3. Information systems for markets will be important for reducing information asymmetries. Drought warning systems need to enable early off-take.
4. Traders associations may emerge to improve advocacy for a favorable business environment to better link with producers (and facilitate demand by producers for markets).

Things not to focus on:

- The actual core market is operating efficiently—there are sufficient numbers of buyers and sellers competing actively, barriers to entry (on either side) are limited, and information flow are reasonable.
- While there may be justification for some small scale infrastructure, there is no justification for larger or widespread infrastructure development.
- Similarly, actions related to various value addition activities (such as meat processing) will not be appropriate for several years.
- Working capital for traders is not a major constraint at this stage. If market volumes were to increase significantly and quickly (e.g., in a drought destocking scenario), then improved access would enable them to continue to compete actively for the greater volumes (and thus maintain fair market value prices).

Given MC's current breadth of activities, the priority cattle market activities include:

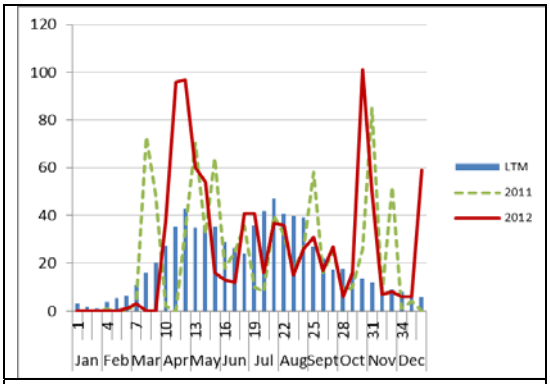
- For the next 3 months, focus on existing implementing plans (results chains).
- Then, when time permits in months 3-6 perform the 'pre-drought' activities for commercial destocking (organize a forum, put loan guarantee agreements in place with banks, develop knowledge for farmers, and strengthen the current ACTED drought warning system). While working on the drought warning system, perform the market information work. As soon as the animal health and finance teams have time, work on 1a and on 1b/c respectively (perhaps in 12 months).
- Then, as soon as SUSTAIN's core activities are up and running smoothly (i.e., months 12 – 18), look at the kraal pilot and support to traders associations.

Introduction

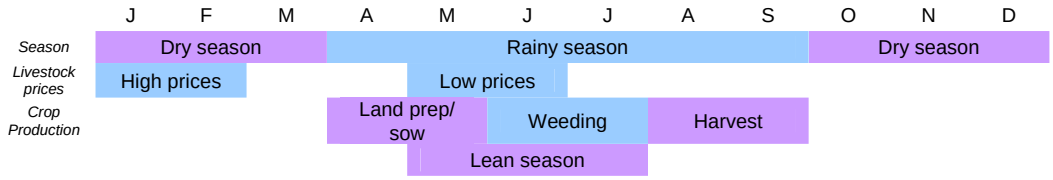
This assessment seeks to better understand the current state of the cattle market system, important trends, key gaps or bottlenecks, and opportunities for improvement. The findings are used to outline some broader recommendations that could complement Mercy Corps SUSTAIN project. In particular, the relevance of a commercial destocking initiative is investigated, and the approach and nature of such an activity is outlined. Mercy Corps' animal health team (Regina Akello, Juliet Aduto, and Gratian Nareebah) and a consultant used a series of key informant interviews, focus groups, observations, and secondary information as the primary tools for the research. The work was completed between the 5th and 25th of May, 2013[1].

Core market and key actors

Farmers – Livestock owners in Abim, Kotido, and Kaabong vary according to the number of livestock owned, and the relative importance that livestock play in their livelihood systems. In Kaabong and most of Kotido, there are more 'pastoralist' producers, while in Abim livestock play a lesser role in livelihoods, with crops being of primary importance. Over recent years, a general trend towards cropping has been observed[2]. On one hand, cropping has the following benefits: complementing livestock production via the provision of crop residues as supplement feed; raising the demand for draft power; as a form of diversification through benefitting risk management diversifying income sources and household access to food types); and evening out household cashflow. On the other hand, crop production is inherently risky (largely stemming from climatic variability—the annual rainfall in Kotido is about 550 ml, see chart below), cultivation is encroaching on the best rangelands (reducing the livestock feed resource), and in some places is limiting stock movement between grazing lands and water sources.



Source; Drought Bulletin, December 2012 Kotido



Prior to 2008, insecurity has been a major problem with violent livestock raids being common and accountable for substantial livestock losses and redistribution. Since then however, the security situation has improved substantially, and now people are generally free to move, graze and access markets unimpeded by the threat of violence or of their livestock being raided[3]. Nonetheless there exists an ongoing sense of unease that the situation could worsen again should security personnel be removed. Keeping livestock in guarded kraals

[1] See annex for a complete list of the stakeholders engaged in the research.
[2] The *FAO Karamoja Food security Assessment report 2012* reports increased importance of crop production in the pastoral zone as a source of food (>30 percent vs. <10 percent in 2008)
[3] A Mercy Corps assessment of cattle raiding in Karamoja conducted in June 2011, is now largely obsolete—the security situation has improved dramatically since that time.

continues to be practiced in most places and while this has been (and will continue to be) important for security reasons, it is having a negative effect on livestock production[4].

Degree of livestock commercialization – The producer households interviewed varied in their livestock ownership from 1 to upwards of 100 cattle and 150 goats. A key role of livestock is that they serve as a form of stored wealth in a financial sense—when cash is needed, the livestock can be sold. Other roles include; a source of dowry, milk, and draft power. Livestock owners repeatedly stressed that ownership nowadays is not at all for purposes related to power or prestige or social standing—that ownership is for genuine 'livelihood' reasons. That said, it is clear that livestock are not owned for purely commercial reasons—they are not vaccinated/treated on a timely manner, there is little to no emphasis on capitalization of the breeding potential (reproductive rates are low[5]), and non-productive cattle (i.e., other than immature, oxen, reproductively active females) are often kept long after they should have been sold (from an economic perspective)[6].

The main income sources are from the sale of surplus crops and from livestock sales. Other income is sourced from the sale of milk (very rarely), non-farm labor, brick making, and charcoal production. In addition, many women make money from the sale of local brew. Any cash surpluses are reinvested in livestock if they are not needed to meet immediate household needs. Households only sell livestock when there are immediate household needs, and when these cannot be satisfied via any other means. The most commonly reported reason for livestock sales was for school fees[7]. Sales to fund food purchases during the lean season were also commonly reported, and occasionally sales to fund the provision of medical services (largely transport to hospital) were reported.

District production officers and local leaders have varying views on how to promote/enable a more commercialized approach. In general, they strongly agree that a more commercially oriented approach to livestock production and marketing is necessary from a sectoral and household perspective. In practice, they have limited resources to do anything to facilitate change. Dr. Frederick (Kaabong PO Head) states that the biggest constraint to livestock owners becoming more commercialized is a combination of limited knowledge about certain cultural norms which influence different facets of livestock production (particularly health, feeding, and selling decisions). Mr. Bradford (DVO officer, Kaabong), strongly agreed with this, and his colleague also said that there was a need for free vaccinations, new spraying facilities, more boreholes, 'facilitation' (e.g. per diems etc.), for DVO staff and CAHWs. The head of the PO in Abim has moved away from handouts such as free goats (for restocking) because these have not worked, and is now focusing on improving knowledge and information. There is a network of farmer forums that could serve as a mechanism for helping local leaders facilitate change. In some areas (e.g., Kacheri) these are good, but in others these are empty shells (e.g., Morluem).

[4] The draft *April 2013 Kotido Drought Bulletin* shows that calf mortality varies between 20 and 59 percent. The *Kaabong Drought Bulletin* (May 2011) shows that it has been as high as 87.9 percent.

[5] It is difficult to accurately estimate the average reproductive rate, but two calves per year out of a herd with 6 reproductively active females is common (a rate of about 30%). See Annex for details.

[6] This is consistent with the findings of Ezaga OP. 2010. *Markets for Livestock and Food Crops in the Karamoja Sub-region.*

[7] The extent that this is uniform is evident by the occurrence of greater volumes of livestock on some markets during the months that school fees are due (February, May, and August). School fees are due at the start of every term (three terms per year), and vary from UGX 20k to 500k per child depending on the level of education (primary and secondary), and weather the child is boarding or not.

Livestock species – the type of livestock held varies significantly. Small livestock (mainly sheep and goats, but occasionally chickens and pigs), are often used as a stepping stone to acquire cattle. Nonetheless, most livestock owners, irrespective of the total size of holding, maintained a diversified mix of shoats and cattle. In Abim the mix was often two thirds shoats and one third cattle. In Kaabong and Kotido the mix was often half and half. This is corroborated by various livestock statistics (below). These mixed holdings are partly a form of diversification with an objective of producing a variety of outputs (e.g. draft power, goat milk), and partly a form of risk reduction (e.g., against raids, disease). Livestock are often grazed collectively (several households will run their stock together), and usually shoats and cattle are run together. Sometimes calves are run separately with shoats so that they can't suckle from their lactating mothers (they get time to suckle briefly once they get back to the kraal at night). To a large extent the findings of this study are equally applicable to both shoats and cattle. For instance, livestock owners are equally as reluctant to pay for services for their shoats as they are for their cattle.

Capabilities and constraints – Important capacities of livestock owners include: their livestock rearing skills, their knowledge of the local environment (including rangeland resources and climatic patterns), an emerging knowledge of crop husbandry, and social networks and relationships (both within and outside of their communities). Various formal and informal meetings/gatherings are an important part of the local culture, and include: meetings of the council of elders, church meetings, social gatherings, local government meetings, and 'special issue meetings.' Often they have a specific purpose, but typically they are also used as a forum for sharing information, networking, and learning.

An important cultural norm is to **retain livestock unless cash is immediately and absolutely required**. It is 'frowned upon' by the larger community, if a household sells livestock unnecessarily. Another consideration is that **people don't like handling or storing cash**. At their own admission they don't trust that their house won't burn down (with their cash in it), or that someone else won't steel it, and most importantly they don't trust themselves not to spend it unwisely (e.g., on brew). Consistently we were told that "*money (cash) is funny,"* and "*money (cash) runs away."*

Also, people have a general mistrust and/or misunderstanding of financial service providers and the services that they offer. Interestingly, many of the interviewees were involved in VSLAs[8]. People said that these were useful for saving and borrowing small amounts of money (2,000 to 10,000 UGX). They valued the interest earned, and appreciated the exposure to a non-livestock form of saving and borrowing. Problems noted by members included the small volumes of money and the inability to save and borrow according to household or business needs. Very few people utilized services from SACCOs or commercial banks (less than five percent according to Burns et. al., 2013). People interviewed repeatedly noted that banks "*eat"* or "*chop"* money. In the infant days of the commercial banking sector there was only one service provider—the fees were very high (50,000 UGX to open an account and 12,500 UGX monthly fee, among other fees). The few people that tried these banks' services often lost money quickly, and word of this soon spread within local communities. When asked if any other banks were providing services, no respondent was able to say which alternatives (to the original provider) existed, let alone the nature of that service (fees, interest rates, etc.).

[8] About 30 percent of the people in the project area are involved in VSLAs (*Livelihood Dynamics in Northern Karamoja, May 2013).*

Together, this social norm of retaining livestock, and this misunderstanding about current financial services available, means that non-productive animals are not sold[9]. **The result of this is that these non-productive assets are depreciating in value (the older they get, the less they are worth on local markets), there is a significant risk element (disease, and possibly theft), and they are consuming feed, water, and healthcare resources that if allocated to productive animals, would greatly improve the productivity of the herd**. The consequences of not selling unless necessary are greatly amplified in a drought situation—by the time producers are forced to sell, livestock prices have plummeted and food costs have skyrocketed.

A further constraint relates to the observed **sub-optimal utilization of veterinarian services**[10]. The root cause of this under-utilization is some combination of an expectation that the services will be provided for free, an inability to quantify the value of the improved production that would result from improved use of services, and a limited supply of services. Interviewees repeatedly stated that livestock performance increased when good health services were provided. However they could not *quantify* the benefits (either in terms of physical or financial parameters—e.g., extra milk production, or value of that extra milk produced).

> Moses was selling a fairly skinny 7 year old bull at the Komuria market. When asked when one of his cattle last died, he explained that he lost one to disease about three months ago. Prior to its death, if he had known that it was going to die, and that it could have been saved with appropriate treatment, he would have been prepared to pay 1,000 UGX to treat it. When asked how much that bull would be worth at today's market if it had survived, he said that it would fetch between 1.1 and 1.2m UGX. When asked again how much he would have been prepared to pay for treatment, he said 1,000 UGX.
>
> Alongside Mr. Moses was Ochieng. He was selling a large, fat five year old bull (much larger and fatter that most animals in the market, for example that of Moses' 7 year old). Ochieng explained that he was able to produce such a good beast because he had "*good knowledge*" about health, feeding and watering. He also knew that he must look after the calf, "*let the calf have plenty of milk from mum; take as little as necessary for your family—you'll be rewarded in the long run.*"

In summary, sub-optimal utilization of vet services and retaining non-productive livestock are negative behaviors. The reasons behind this behavior include a lack of knowledge about the advantages of sales and vet services, social stigmas around sales, limited money management skills, and a lack of understanding of alternative forms of saving. Facilitation of change would involve improved understanding of the benefits of strategic livestock sales, improved use of veterinary services, and improved knowledge of basic financial management including the range of services currently available. Discussions with producers have indicated that if this were to occur, producers would at least begin seeing a small change. The extent that new behaviors are adopted will depend on the relative influence of various factors that promote current practices. These differ among households (more-so than among communities or geographic areas). Some said that they would pilot change at a large scale fairly quickly (e.g., if given reliable drought information, one would sell his whole herd), while others would change much more incrementally (might sell one or two for a start). Another key constraint is

[9] Productive animals are a) calves that are still growing, b) reproductively active females, and c) oxen. Non-productive animals are males that are beyond the point of physiological maturity and are not used as oxen (for draft power), and females that are not reproducing.

[10] Defined in this report as the drugs and the diagnosis, prescription and drug administration services offered by livestock health professionals.

that livestock are kept in protected kraals overnight. This has a number of implications for livestock productivity (see below).

One of the biggest risks faced by livestock producers is the failure of their crops (drought being the most likely culprit, but also heavy rains at harvest, and crop pests and diseases). Activities that reduce the risk of crop production (via use of improved seeds, early maturing varieties, improved land preparation, improved time of sowing, etc.) will reduce food and income risks faced by producers. This could have mixed effects on their livestock production activities. On one hand, there may be less of a need to sell livestock (crop production will be higher and more reliable), and on the other hand they may have more resources to invest in their livestock (cash from the sale of surplus crops to invest in feeding and health management of their livestock, resulting in greater productivity, and more high value stock for sale).

Mapping livestock potential – the relative importance of livestock varies across sub-counties, and across villages within any one sub-county. In the higher rainfall areas with better soils, crops are relatively more important. For instance, in the whole of Abim, the cattle population is estimated to be about 15,000 (DVO). In the drier areas, livestock tend to be more important on the basis of contribution to household food and income sources. Interestingly, respondents in all areas were very reluctant to state which was more important (crops vs. livestock). In the sub-counties where livestock are more important, there also tends to be the highest concentration of livestock (on a per head basis).

The figures in the table below are useful for showing the relative importance of livestock in various sub-counties. The accuracy of the absolute values is highly questionable. It shouldn't be too difficult to get reasonably accurate livestock numbers from the kraals—most kraals claim to count livestock numbers daily (and can tell you for instance that 3471 cattle slept here last night), while the others have at least good estimates of numbers. This information will be important (especially for planning a commercial destocking initiative), and should be relatively easy to get on an ad hoc basis as the project progresses and is able to better understand where the kraals are, their movement patterns, and the proportion of livestock that are actually kept in the kraals.

A useful approach to further understanding the relative importance of livestock to a household's food, income, and risk profiles, is the livelihood zone profiling well analyzed by Levine et. al[11]. Levine et. al. show all of Abim as the *simsim, groundnut, sorghum cattle zone*, and crops as the center of a household's livelihood. All of Kotido and the center of Kaabong (most of Lolelia, Sidok, Kaabong, and most of Kalapata) are shown as the *livestock, sorghum, bulrush, millet zone*, with livestock having a central importance to the livelihoods of local people. The east of Kaabong (Loyoro) is the *pastoral zone* and livestock are the principle basis of households' livelihoods.

There are some advocates for expanding livestock numbers[12]. The appropriateness of this is not clear—the key telling factor will be livestock and rangeland conditions at the end of a typical dry season. FEWSNET drought bulletins indicate that over 40 percent of livestock are

[11] Levine, S. (2010) '*What to Do About Karamoja? Why Pastoralism is not the Problem but the Solution*'. Food Security Analysis of Karamoja for FAO/ECHO

[12] See for instance; Levine, S. (2010) '*What to Do About Karamoja? Why Pastoralism is not the Problem but the Solution*'. Food Security Analysis of Karamoja for FAO/ECHO, and Burns et at (2013), *Livelihood Dynamics in Northern Karamoja.*

considered to be in 'poor' to 'fair' condition at the onset of the first rains of the wet season.[13] This would be indicative that the total herd population is at the upper limit of what the natural environment can support. Given this, the current kraal system, and the existing mixed condition of livestock in the project area, it would be appropriate to **focus first and foremost on improving productivity of the existing resource base (rangeland and livestock herd) rather than increasing the size of the herd itself.**

KAABONG	
Subcounty	**Estimated cattle population**
Kalapata	25,000
Town council/Sidok/Kaabong/Loyoro	15,000
Lolelia	10,000
Kathile	10,000
Total (Cattle)	60,000
Total (Sheep and Goats	135000

KOTIDO					
Sub county	**Cattle estimates**	**Goat estimates**	**Sheep estimates**	Year	# of cattle
Rengen	25,198	8,434	29,167	**2002**	700,000*
Panyangara	24,299	12,342	21,199	**2007**	500,000
Nakapelimoru	21,162	19,015	27,824	**2008**	350,000
Kacheri	14,858	19,302	27,508	**2010**	178,000
Kotido	13,582	8,073	12,723	**2011**	181,000
Town council	6,663	2,751	6,152	**2012**	240,300
Totals	105,762	69,917	124,573	**2013**	250,000

ABIM		
Livestock Type	**Estimated #**	*Across the whole of Abim, livestock play a smaller role in the HH's livelihood (compared to Kotido and Kaabong)*
Cattle	15,000	
Goats	30,000	
Sheep	Very few	

Notes;

- ***These figures must be treated with care.*** *At best, they can serve as an indicator of the relative importance of various sub-counties with respect to livestock population. No accurate numbers currently exist.*
- *These figures are taken from various sources, at various times, some as far back as 2010.*
- *Changes in the geographic coverage of districts has may have confused data collection, especially prior to 2007*
- *Many have been based on vaccination campaigns, the coverage of which is typically variable and incomplete.*
- *Per Production Office Head, the more likely number of cattle in Kaabong is 50-60,000.*
- *This is more reasonable given that there are 9 large protected kraals, and the populations of five being 3791, 3010, 988, 3867, and 700 (approx). there are 12 smaller kraals as well. Assume an average population of the large ones of 3,000 and 500 for the smaller ones, and assume that 10 percent don't use the kraals (stay in manjetta's), then that leads to an estimate of 35 – 40,000*
- *The last census was done in 2008 and only includes information at the district level.*
- *The vaccination figures probably include the vaccination of calves. However calves are not included in most reports of numbers (by kraal leaders, DVO's, producers, etc)*
- *For Abim, the most populated sub-counties are Abim, Lotuke, Alerek, and Morulem respectively.*
- *It is interesting to note that in both Kotido and Kaabong, the number of sheep and goats is about twice that of cattle. This means, that on a per standardized 'stock unit' basis, the importance of sheep and goats is about one half of that as cattle.*

Assuming that there are 200,000 adult cattle across the three districts (60,000 Kaabong, 120,000 Kotido, and 20,000 Abim), and assuming that half of these are female, and that

[13] See for instance; *Kaabong Drought Bulletin*; May 2011

number 80 percent are reproductively active. We know that sales and consumption are about 500 cattle per week (25,000 per year). Assuming a birth rate of 50 percent (40,000 calves per year), then deaths are 15,000 (7.5 percent). Let's assume a per head value of sales animals of 500,000 UGX. *Then the total value of output from the **status quo** is 12.5 billion UGX.*

Let's compare this with an 'improved state' where there is the same number of total animals. Non-productive males are sold early, and so 70 percent of the population is females. And assume that a death rate of 5 percent is reasonable for an 'improved state' of the cattle sector, and that the rate of reproduction is 80 percent. Thus the total annual number of cattle available for sale is 102,000. Let's say that the per head value has increased to 600,000 (due to improved quality—younger, fatter, healthier animals), then the *total value of output from an '**improved status**' is about 60 billion UGX*. Note that realistic targets for reproductive rates, death rates, etc., won't be known until more thorough investigations are made of the livestock production system, and in particular, the impacts of the protected kraal system and opportunities for its improvement.

Participation by non-livestock owning households: In the rural areas visited, there are some households that don't own livestock. In general, these are 'poorer' households that have fewer total assets, and lower incomes. They rely on some combination of crops, non-farm income (brewing, charcoal, bricks), and paid employment (particularly casual labor for crop production). There is generally insufficient income to invest in livestock after having met the household needs. If there is, then households may begin rearing chickens because of the low entry costs. Improving livestock production and markets won't have direct impacts on these households. However, there will be positive indirect impacts—there will be more and cheaper milk available locally, there will be more money circulating in the local economy (from greater sales, by volume and value, of livestock), and there will be more employment opportunities from expansion of the supporting service sector. These benefits will be very slow to filter through, and very incremental in nature.

Facilitating livestock ownership for these households will not be easy. Past restocking initiatives have been largely ineffective. Livestock prices are not likely to decline due to improved production and marketing (and so entry costs will not be lowered). The risk of livestock ownership should be smaller (with improved health service provision), and the benefits of livestock ownership should be greater (more output), and so the economics of ownership will be more favorable. However, these households will continue to be constrained by a lack of capital, primarily financial resources, but also time, experience, and knowledge, to invest in livestock.

Financial services that enable these households to engage do exist, for instance there are those that allow households to borrow enough to invest in a couple of goats for instance, but there is limited knowledge of this. Improving knowledge about financial services, and perhaps working with service providers to facilitate easier engagement may well be useful (e.g., opening a branch in Kaabong, reducing the complexity of the application process, etc.). Aside from the above-mentioned resource constraints, there are few other limitations—poorer households get fair prices in markets, they gain equal access to grazing, and are adopted well into the kraal system. In sum, improving the understanding of the local financial service offering may go some way to facilitating engagement of poorer households in the livestock sector. However, broad and meaningful benefits for poorer households as a result of most livestock-oriented initiatives will be indirect and realistically will take several years to transpire.

Traders[14] – Traders make a profit by purchasing livestock in one place, and selling it in another at a price that covers all costs and provides for a profit margin sufficient to reward the trader for his investment in terms of time and capital. Traders vary primarily according to the volumes traded and the markets traded on. All traders are men—women are not even present in the livestock area of a market (they represent the majority of foodstuff and merchandise traders, and are exclusively the traders of brew). All traders, including (and often especially) large traders, are intimately involved in the various tasks of trading (negotiation, loading, etc.). The traders themselves are often doing some of the hardest manual labor (e.g. loading the most stubborn animals). While sellers stand in the sale area waiting for traders to drop by and negotiate, the traders themselves are working hard, non-stop—at times it was very difficult to get time to speak to them. However, when spoken to, they were very forthcoming with information. An outline of where they are from, their purchasing preferences, their risks, their capacities, and their constraints, is as follows:

- *Farmer to farmer trading* – At the very local level, farmers will occasionally trade amongst themselves—one farmer may purchase from another (a cow, for instance—usually no more than one or two animals for any one transaction, and generally very few transactions per year). The initiative to sell may come from a need for cash on behalf of the seller, or it may come at the initiative of the buyer (looking for an ox to complete his oxen team, for instance). In these closed transactions, there is a high degree of trust between the buyer and seller, and because there is a high degree of interest in maintaining the existing social relationship (because they are inevitably within parish trades) they will agree on a mutually satisfactory price that may or may not reflect existing fair market values, but which is deemed as fair by both parties. The buyer may have ready cash (from savings or from the recent sale of other livestock such as a bull ready for slaughter), or may have to sell livestock in order to make the purchase (e.g., sell 4 goats to purchase one lactating cow and her calf).
- *Local traders* – local traders generally buy from one local market (i.e., within the project area or it's immediately surrounding districts), and sell in another local market. Sometimes they will purchase directly from farmers at the village level. They often trade full time, but supplement their incomes with crop production at their home base (which is in the project area or immediately surrounding districts). Sometimes they will take livestock home either to fatten, or because they failed to sell for the target price in one market, and want to wait to sell in a better market. They usually purchase from farmers (as opposed to other traders). Sometimes they will sell to other traders, other times they will sell to farmers, and other times they will sell to end markets (butchers procuring meat to slaughter and sell in the district or sub-county town). They will often trade according to what they know a certain market or client will want. For instance, Lokuda was purchasing two oxen in the Orwamuge market knowing that there would be interest from at least two farmers in the Moroto market. The specific volumes vary significantly between traders, between districts, and across time, but in general range from 5-10 animals traded per week. The traders have good information on market conditions (prices and volumes)—mostly through regular participation in local markets, but also via networks with traders in markets further afield. When questioned on why they don't participate in bigger and potentially more lucrative markets further away (regional hubs and export markets), they cited reasons relating to costs, different cultures and languages, and working capital. Their interest

[14] Owners are traders in that they sell, butchers are traders in that they buy—here we refer to traders as those that buy live animals and sell live animals as their primary livelihood.

in venturing into these markets was lukewarm at best—they seemed to have good knowledge of prices and costs and expected profit margins, and were not particularly interested in the work given the additional non-financial issues involved (travelling further from home, dealing with a different culture, learning a new language, increased risks, etc.). Given the relatively modest profits made by the existing 'larger' traders, it appears to be a fairly rational decision to remain operating in their current markets (see table below). The main constraints that they face with their existing business model relate to poor roads, deaths on trucks (smothering due to over-loading), fees and licenses, the possibility of purchasing stolen cows, and paying too much in a declining market.

- *Regional and export traders* – At a much larger scale are traders that purchase from the larger markets in the project area (primarily Kaniwat, but also Kamuria and Kakurai) and sell in large national markets or even export. Frequently, these traders are based in Tesso (of traders that export to Sudan, over 40 out of an estimated 50 are from Tesso, with the remainder from the western regions). These traders are generally supplying end markets (rather than other traders/intermediaries) for slaughtering, and so usually prefer fat, healthy animals that have just hit maturity. They don't like thin or unhealthy animals; often refusing to buy seemingly good animals for seemingly small flaws (e.g., Julius refused to buy a bull because of a small problem with the one of its eyes, unobservable from ten meters). If an animal is 'a bit thin' then they may transport it back to their base (e.g., Amuria) treat it (spray and de-wormer) and fatten it on good pastures for 5 to 20 days, before selling. They source cattle from the North and East of Uganda. In the project areas, they select the best local animals for purchase, and also purchase cattle that have arrived from Kenya. These traders will often come to a market aiming to procure a full truckload of animals (to ensure minimum transport costs), however, the actual number procured may be as little as 2-3, depending on the volumes and prices of the day. Often these traders will have their own agents procuring for them (sometimes it's the 'local traders' above, and sometimes its agents from elsewhere). When purchasing directly from markets, they will send other people to do their purchasing while they wait at the loading area of the market. This is so that local sellers don't ask more than the current market prices for their livestock. Common constraints, risks, or problems faced by this group of traders included: low quality of cattle in the Karamoja markets (thin, sometimes diseased, tattooed, and often old)[15], poor roads, deaths on trucks, fees and taxes, exchange rate fluctuations, and occasionally access to working capital and price volatility in their end markets[16]. Interestingly, the traders exporting to South Sudan (invariably Juba) made money from the exchange of foreign currency (Pound sterling to US Dollar to Ugandan Shilling). They often have outside business interests (including farming, small scale milling, and sometimes the trade of foodstuffs).

Trader profile					
	Home base	**Markets**	**Markets**	**Preferred**	**Constraints**

[15] The lower quality compared to other reasons is partly because of a less favourable production environment (lower and more variable rainfall), partly because of greater reluctance to use vet services, partly because animals are only ever sold as a last resort, and partly because of cultural norms including the bleeding of live animals to provide blood for drinking. Interestingly some of the literature mentions that Karamojong cattle are valued for their flavour. In a few instances (e.g., the Kotido DVO) there was agreement with this, but none of the butchers or traders mentioned this. Traders considered that they best way for producers to increase quality was through better healthcare, and selling male animals as soon as they are ready for slaughter (don't hold onto them until cash is needed)

[16] About 18 months ago, there was an influx of CAR cattle onto the Juba market, and this decrease prices.

		purchased from	**sold to**	**animal**	
Local traders *#'s – out of 20 traders in one market, there are about 12 local traders*	Within project districts or immediately surrounding districts	Households (at village level), small local markets, bigger local markets (project area and immediately surrounding areas)	small local markets, bigger local markets (project area and immediately surrounding areas)	Any type of animal is traded	Market fees and licenses, roads, deaths on trucks, paying too much in a declining market, unknowingly purchasing stolen cattle
Regional traders *#'s – out of 20 traders in one market, there are about 5 regional traders, and 3 export traders*	Mostly from Tesso, but also Lira. Occasionally from within Karamoja	Larger markets in project area, Tesso, Acholi, Kenya	Large regional markets (Soroti, Moroto, Lira, Juba)	Large, healthy, young animals. Often males.	Market fees and licenses, roads, deaths on trucks, volatility in end markets, sometimes working capital, small volume of quality cattle, exchange rate fluctuations

At the major markets, there are between 5 and 15 traders purchasing stock (in these markets, about 3-5 are the larger regional traders and the remainder are local traders). At the markets visited, it appears that they compete actively against each other for livestock. Similarly there are numerous (10-30) livestock sellers. It seems clear that these numbers of buyers and sellers are sufficient to provide for active competition among buyers and sellers so that true fair market prices resulted from the negotiation process—bargaining/haggling are normal and expected and used by both buyers and sellers. Two exceptions exist. First, most owners interviewed stated that they actively researched markets to identify where the best prices would be achieved (net of sales costs). However when tested, it is clear that they do not all have good market information. In these cases, they may well receive less than what their stock are worth. Secondly, in times of a forced sale and when the buyers are aware that the seller is in a forced sale position, then the seller will receive a sub market price for their livestock. This may occur on an ad hoc basis (a household needs cash urgently to take a sick person to the hospital), or when a region is faced with a crisis and most households need cash urgently to meet immediate household needs (most commonly this is in a drought, but also when the 2012 rains during harvest ruined much of the crops).

Livestock are always marketed by the household directly—there is no form of collective marketing. Households value their ability to do the negotiation themselves. They do typically go to the market with a reserve in mind, but after a long morning in the market, they often end up for selling for less than what they wanted (which may or may not be the current market value). Similarly, all traders act individually.

In a drought situation, owners are faced with a double-whammy—livestock are in poorer condition so are genuinely worth less (up to half as much), and buyers know that sellers are forced to sell—and will offer as much as half the fair value; in good times households may end up selling for about one quarter of the value of the animal.

In normal circumstances, traders are making a living, but are not making huge profits—they are making enough to get by, but not too much more. The barriers to entry are not huge and are mostly working capital, and knowledge of the markets and relationships within the market

system. There is no sense of animosity between traders and livestock owners, and often traders have their own crops and livestock that form an important component of their income. Sometimes there are language and cultural differences between buyers and sellers, but by in large, this does not affect the ability to negotiate—occasionally translators are engaged, but this represents a negligible transaction cost.

	Farmer	Local trader	Export trader	Butcher
Purchase price	700	850	1050	1050
Time	20	4	1	30
Licence	3	3	5	5
Inspection fee	1	5	5	5
Loading		2	2	
Market fee			5	
Food and lodging	5	15	15	
Getting home	15			
Transport to market		15	230	
Licence		5	22	
Inspection fee		3		3
Total Costs	744	902	1335	1093
Sales revenue	850	1050	1400	1280
Profit (per head)	**106**	**148**	**65.13**	**187**
Turnover	2 (/ year)	10	20	3
Profit (per week)	**na**	**1480**	**1302.6**	**561**
Risk	Low	Medium	High	Low

Notes
- All prices are in '000 UGX
- All transactions are for one healthy young bull ready for slaughter
- For the farmer trader, the profit reflects the extra net income compared to what would be achieved from selling the same animal in his village
- Included here is a reflection that for some traders there is a doubling up of costs (e.g., transport to one market to procure, and then transport to another to sell).
- Traders in the Juba market also make a profit from the trading of foreign currency
- Butchers are also earning income from the sale of sheep and goat meat

A constraint faced by some traders, particularly local traders, is working capital. They say that they might be able to trade more and improve their profit, if they had access to more working capital. Note that the emphasis is on expanding their volume traded—not on being able to improve competitiveness by being able to reduce their required profit margin due to higher volumes traded and offering sellers more for their livestock, nor is it because it would enable them to access bigger more lucrative markets. Some traders were wary about taking loans from commercial banks. Some have tried it in the past, and have been 'burned'—they have had to sell assets to repay outstanding debt and interest. Others cite the need to provide collateral as the key problem, while others said that they'd have to consult with family members (some combination of fathers, brothers, and children) and would not get permission. It is clear that in the early days of commercial banking, when one bank had a monopoly on the financial service provision market it was expensive and risky to take loans.

Most of the bigger traders met at least some of their working capital requirements from loans from commercial banks—some of them are able to access much more than they need, while for others access is constrained by a lack of assets for collateral. The loan size for these traders varied from about 2 to 20 million UGX. For those with constrained access, it is not likely that they would borrow substantially more, or trade more livestock, if access was improved. The cost of working capital was very rarely mentioned as a problem (i.e., when

working capital was a constraint, it was generally related to availability rather than affordability). For these bigger traders, the key constraint is the limited numbers of high quality cattle.

Of the local traders interviewed, few understood that there are more banks, now providing more competitive products. Certainly most of them would struggle to meet the collateral requirements of banks (for this category of borrowers, it's now mostly formal land titles). Most of them said that their access to working capital is limited, but many noted that even if they could secure additional working capital they would be reluctant to borrow any more than they currently use. This, they generally said, was partly because they are still wary about taking out big loans, and partly because there is not enough high quality livestock on the local markets to justify borrowing more.

However, there is no clear rational that facilitating widespread access to working capital for traders would result in greater market efficiency. It seems that the number of traders is about right for the volumes of animals traded, and that these traders have found reasonable ways for accessing working capital (various types of loans, and their own cash reserves). Enabling more traders to enter seems unnecessary (they currently compete actively against each other from the procurement of local cattle), and current traders are not able to expand procurement within the existing region, without another trader losing out. It appears clear from observations in the market, and financial analysis (see table), that there are sufficient traders operating so as to provide for healthy competition among traders—livestock traders cannot afford to pay more without compromising the sustainability of their current business model.

If the numbers of animals on local markets were to increase substantially, and provided those animals were of sufficient quality, then traders in general would need, and be helped by, access to greater amounts of working capital. In the case of an emergency situation (e.g., in a drought), then it would be easier and less risky to work with the regional/export traders that are better integrated into bigger markets, and are more familiar with borrowing from the formal financial sector. In a 'less urgent' scenario, the capacity of local traders could be strengthened through facilitating their access to working capital from the formal financial sector.

Trader associations – There are district level trader associations. The Kotido traders association was registered in 2007. Members pay an annual sub of 20,000 UGX and prior to last year, this was sufficient only for writing a few applications for funding. There are currently 250 members (90 percent of which are thought to be cattle traders). Last year they received a one-year 128 million UGX grant from Oxfam. To date, the top two management people have been given notice on suspected pilfering of the Oxfam grant, and a replacement manager is being sought. Since the beginning of the 'project', activities have included; trainings for traders (business skills, etc.), facilitating VSLAs starting their own business initiatives (running defunct granaries as sustainable businesses, for instance), and protecting traders from unknowingly purchasing stolen animals[17]. Oxfam have a business development coordinator overseeing this project, who could be contacted for more details if necessary. From the traders' perspective, it appears that the new Oxfam-funded activities are valued, and

[17] They have a person at the market recording the contact details of sellers (these are verified by the local LC), so that if an animal has later been found to be stolen, then the seller can be located, and the trader reimbursed—if nothing else this system would serve as a strong deterrent from selling stolen animals, if it is implemented correctly. The extent of implementation of this system was not clarified (there was no obvious sign of this at the markets visited) but its worth look at in more detail.

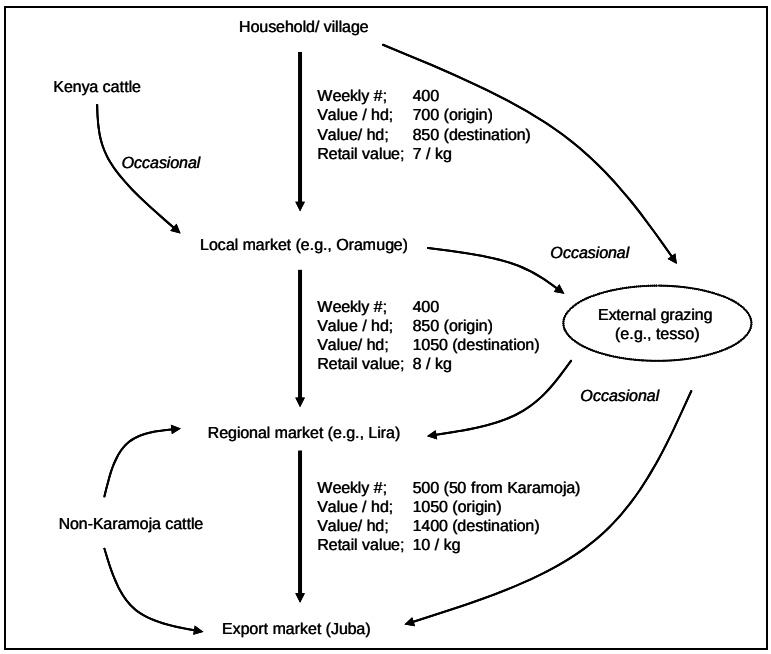
some of the traders actively participated. Others did not. Outside of this, many traders mentioned the need to work together to lobby the government for improved roads, and reduction in the costs of trading (the market fees and licenses, etc.). Those that didn't state this unprompted were strongly in favor of the idea when asked what they thought of it. Some traders also thought that working collectively they could help producers better respond to market signals providing more when markets wanted more, and provide higher quality animals. One trader outlined that when working together, traders in Tesso had had success with this sort of initiative. The traders association in Kaabong has 500 members. Their financial resources are limited to their annual subs (20,000 UGX per member), and generally focus on applying for contracts and grants. The biggest constraint was the lack of knowledge about business skills for its members (business management, compliance, relationship management, procurement). Other problems faced by the members of the association were: transport, fees and bureaucracy, and little support from the district office. Their ideas were for trainings about business skills for members, working together to more actively lobby the government for a better business environment (regulations and roads, etc.), and developing a wholesaling business to provide a bigger income stream for the association.

The end markets[18] – the final consumers of Karamoja beef are outlined below;

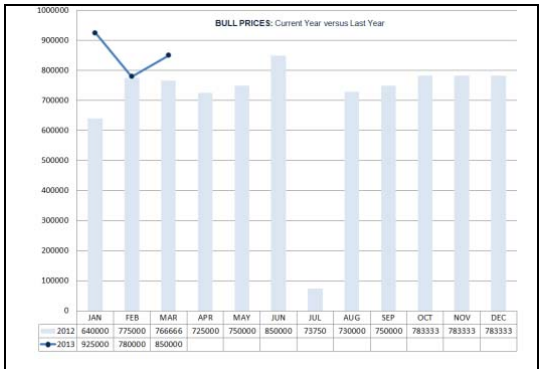
- **Households** represent a market for livestock in the form of a) consumption, and b) purchases for production. For consumption, many of the owners of larger herds (greater than 20 head of cattle) would occasionally (about once per year) slaughter a beast for a festival or special occasion (e.g., marriage). In terms of volume, this represents a very small end market (most households cannot afford to eat meat on a regular basis—they would rather sell a beast and use the proceeds to purchase staple foodstuffs). Producers will purchase animals for production. They may choose a young heifer ready for mating, or an ox for ploughing. This represents a type of intermediary market. Often they will sell an unproductive animal (e.g., an old cow or an injured ox) and purchase young productive animals. This represents a form of upgrading their herd.
- **District centers and larger sub-county villages.** In these areas, local butchers will purchase cattle (either directly from local markets, or from traders that procure on their behalf). It is estimated that about 50 head of cattle are consumed each week in these markets. The price of beef at the retail level is 7,000 UGX and this underpins the prices in local markets. Butchers are able to estimate the carcass weight of a beast, and based on this and the knowledge of the costs associated with slaughter, butchering, and retailing the beast, are able to procure at prices that enable them to make a sufficient margin to reward them for their efforts. The numbers slaughtered in these centers range 2-5 per week. It is important to note that there is some sort of 'combined initiative' to 'set the price for retail meat.' It is not yet clear exactly how this happens, but it seems that some combination of the butchers association, the traders association, and local government are involved. This 'intervention' would seem unnecessary and undesirable in most market situations. However, first hand observations of the retail markets in the project area, and secondary information about markets further afield, indicate that the current retail prices do in fact fairly accurately reflect natural supply and demand forces—there were no market surpluses or shortfalls observed or heard of.

[18] The assessment team did not observe or hear of NGOs procuring livestock locally. However, various reports site NGO involvement (buying) as being significant at times.

- Regional hubs – including Moroto, Lira, Soroti, and Juba represent a larger version of the local consumer markets. The main difference is that animals travel further, and that more are consumed in these markets. The retail price of beef in the regional hubs is 8,000 UGX (prices are set as explained above). In Juba it is about the equivalent of 10,000 UGX and this 2,000 UGX premium over domestic markets is sufficient for some traders to operate profitably in this market given the additional costs of supply (extra transport, fees, lodging, etc.). The main variable influencing the size of profit (or loss) for these Juba traders is the pound-USD and USD-shilling exchange rates. It has been difficult to quantify the size of this market accurately but the best estimate appears to be 1,000 cattle traded daily in the local market, and 200 slaughtered daily for Juba consumption (the remainder being moved to other intermediary or end markets). In the regional hubs, much larger volumes are consumed. For example, in Soroti, about 20 cattle per day, and in Lira, about 200 to 250 cattle are slaughtered each day (only a fraction of which is supplied from the project area).



Pricing patterns – there seems to be no universal seasonal pricing patterns across markets and across years (see chart to the right—note the big increase in price from January to February last year, and the big decrease this year). There are a number of forces that influence market prices, and these are outlined in the table below. Interviewees within any one market have different perspectives on when the highest and lowest prices are, and what the underlying forces of this are. There is no doubt that prices fluctuate, but they don't tend to be hugely volatile, and they don't appear to follow any strong seasonal trend. One possible trend is that prices are often lower in the wet season because the roads are in poorer condition, which increases the costs for traders, and to



Source; March 2013 Drought Bulletin (note, July data is missing a '0'; it is very similar to the August price)

a certain extent reduces the number of traders in the market. Traders say that they are still able to access the more central markets (Kaniwat, Kumuria, Kukuria) but that it costs more (both in direct costs, higher payment for transport, and indirect costs—getting stuck means it takes longer, animals lose condition, and markets may be missed resulting in increased costs for holding animals for longer)[19]. Also, the prices of different categories of stock fluctuate depending on the season. The price for oxen is high prior to and during the land preparation season (March to May), while prices for heifers at that time are relatively low. It seems that demand forces are relatively stable, and that most price fluctuations are attributable to supply side forces. Overall, the most obvious and universally consistent pattern is that higher quality animals (fat, healthy, and not too far past adulthood) are sold for higher prices. This is consistent across markets, seasons, and years.

Factors that increase supply (decrease price)	**Factors that increase demand (increase price)**
• School fees are due (Feb, May, Aug) • A poor harvest (resulting in increased need for cash to buy food) • Post land preparation season (increased supply of oxen because people have finished plowing) • People finish crop duties (people often don't have time to take animals to markets during the times of peak labor requirements for cropping) • Lean season (people need cash to fund household food shortages). • Wet season finishes (during the wet season, supply is restricted because some people are unable to access markets). • Quality of livestock improves (if possible, owners will wait until the quality (health and fatness) of an animal improves before selling so that they can get a higher price) • Difficulties in the household (if someone gets sick, then livestock will be sold to meet immediate household needs). • Drought (can increase distressed sales (of skinny, diseased, or dying animals)	• Increases in the incomes and wealth of local people • Sowing season (increased need for oxen for plowing) • High crop yields and crop prices (increased cash surplus invested in livestock) • Within market price differentials allowing for herd upgrading (high prices for oxen resulting in increased demand for heifers) • Ability for traders to access markets – increased access (especially reduced transport costs) increases prices traders are able to pay. Secondary impact is that there are more traders in the market • Quality of livestock (not too old, healthy, fat). The higher the quality, the higher the prices. • Also, higher quality and quantity in the market increase the number and type of traders in the market. • Tightening of supply in competitor markets (Amuria for instance) • NGO procurement for various 'restocking' activities

Examples of quality premiums					
Market	*Low quality*	*Price*	*High quality*	*Price*	*Premium (%)*
Orwamuge	Light heifer hight of my bottom rib, unknown age	400	Heavy heifer, height of belly button, young	630	58
Kanawat	Bull with eye infection. Fat and young	870	Fat young bull	1,000	15
Komuria	Big framed, wormy looking (light) bull	790	Smaller framed, younger and fat bull	960	22

Supporting roles (and their levels of function and utilization)

Livestock health services – Livestock disease in the project area is responsible for a large part of the decline in animal numbers over past years. **Livestock are not provided with the correct vaccinations or treatments on a timely basis**; most often they are not provided with

[19] A transport operator verified this, saying that fuel consumption alone can increase by 25 percent in the wet season.

medicines and when they are, they are often the wrong ones, ineffective ones (e.g., expired or unlicensed ones), or are provided too late. On the demand side, there is a reluctance by owners to seek vet services when there may well be free and easily accessible provision at some stage in the future and there is a clear sense of dependency given the multiple and ad hoc provision by a the government and a plethora of NGOs. Further, it is clear that owners lack an understanding of the true economic value of appropriate vet services. They certainly know that the value is big—nearly always owners would cite lack of services as a major problem. But when asked how much they were prepared to pay, they were very reluctant to pay more than 1,000 UGX per head per vaccine or treatment. This was corroborated by CAHWs that often cited lack of willingness to pay as a major problem in their existing activities, and the principle constraint to business expansion. On the supply side, CAHWs lack skills, capital, access to a reliable supply of drugs, and other resources (means of transport). The drug supply is inefficient, and private sector investment is stymied by frequent bypassing of NGOs and the government implementing mass vaccination programs. **The overall result is inadequate provision of health services, and this combined with the protected kraal system results in a high incidence of disease and death, resulting in productivity levels far below their potential**. In terms of 'supporting roles' this is the area in which improvements would lead to wide spread and highly valuable productivity increases.

Livestock feed – the most important input to any livestock production system is feed. The feed resource in the project area is communal grazing lands. Animals are fed crop residues post-harvest. But this is because it is available and convenient. No residues are stored although a few interviewees were familiar with the idea. No grazing reserves were stored for drought times. Owners simply graze further away as nearby feed and water resources become depleted. Because there is no value associated with feed (it is viewed as 'free' by owners—a typical 'tragedy of commons' scenario), then there is little incentive for feed budgeting. Crucial to understanding the appropriateness of the current stocking rate will be monitoring, in a 'normal' season, the volume and quality of rangeland feed resources at the onset of the first rains at the end of the dry season.[20] The kraal system exacerbates underfeeding. Livestock are kept in the kraal from 5pm to 8am. This upsets their preferred diurnal grazing pattern of early mornings and late afternoon. Further, oxen are often required to work from the time they get out of the kraal through to between 12-2pm. This leaves very little time for grazing.

Financial services

For producers – about one third of the interviewees were actively involved in VSLA activities. Typically these were for transactions of small value (1000-5000 UGX) and were for short term loans (1-3 months) for the purposes of household expenditure. Participants in these appreciated the value of the loans, were happy to pay interest on the loans, and valued the interest that accumulated on their savings. These VSLA related activities were not really used for (or useful for) savings or borrowings related to livestock production (i.e., did not allow for large enough savings or borrowings, and did not provide for sufficient loan durations). Producers in general were very reluctant to save with or borrow from banks because they know of instances when in the past their peers have tried this and have had bad experiences due to exorbitant bank fees. The commercial banking sector is much more

[20] The *ACTED/DCA Drought Bulletins* show that livestock conditions at the end of the dry season are at the lowest point. The extent that this is because regional livestock numbers are at the upper limit of what the environment can support, or due to inadequate provision of health services, remains unclear.

competitive today[21]. For savings accounts, fees are reasonable and deposits accrue a rate of interest of about 7.5 percent per annum. In the case of loan facilities, collateral requirements have relaxed for at least one of the banks (an official land title is no longer necessary—rather any documentation showing that the applicant is the owner will suffice), and in this case, personal loan guarantors are required (i.e., someone from within your community who also has a history with the bank). Interest rates are reasonable (about 20 percent per annum, compared to 120 percent per annum from VSLAs). For banking in general, the use of cell phones as a banking tool is common (depositors get a text message as soon as their deposit has been cleared). Commercial banking is fairly new to the project area, and the extent to which banks are able and willing to expand the availability of savings and borrowing services has yet to be determined. If the current service offering is sufficiently profitable for commercial banks to at least continue the existing offering (if not expand its geographic coverage), then substituting commercial banking services for livestock as a means of saving will be a big opportunity.

For traders – traders' biggest financial requirement is working capital (as opposed to savings facilities or long term loans). The biggest constraint hindering their access to loans is the requirement for collateral (for this category of borrower, they still need formal land titles). With interest rates of 22-24 percent, affordability is a much lesser concern. There is differing willingness to engage in the formal financial sector by different types of traders. In general, local traders are more reluctant to take loans partly because they still do not understand the service offering, partly because of the fear of not being able to make repayments (i.e., not being able to manage or control normal business risks such as an escaped animal, or a major transport delay), and in some instances due to a reluctance by their family. For the larger traders, they are much more willing to take loans – they have a much better understanding of the product and don't seem as risk adverse as their local counterparts, although they don't necessarily have a better capacity to control risk. Their ability to take loans is sometimes limited by their ability to meet collateral requirements.

Information and knowledge – Livestock owners cited access to information about livestock husbandry techniques or market information frequently; sometimes they would cite this as a key problem or need when asked about major issues. If they didn't cite these speificially, they would certainly recognize that more knowledge in the areas of livestock production and marketing would be very valuable when asked about knowledge gaps. It is clear that there are gaps in husbandry skills, and there are certain information asymmetries (e.g., when asking individuals in a group what they thought the cow under that tree was worth if it were sold at yesterday's local market, answers would range up to 400,000 UGX). Information asymmetries transition from being high at the village level (in cases where a household is forced to sell quickly from their home, they often don't have the time or resources to identify what the animal/s are worth), through to the larger district markets (e.g., Kaniwat) where information is much more accurately and widely disseminated. A series of probing questions were asked to try and identify to what extent knowledge really is a constraint, or if the knowledge exists and behavior change is stymied by some other actor, force, or issue. It seems clear that while certain social and cultural norms do exist and have a large influence over current practices (or resistance to change), knowledge gaps are also very real. Three key areas where livestock owners could benefit significantly from improved knowledge and information relate to: understanding livestock health and the economic value of effective

[21] With a lending rate of 20-25 percent, and a savings rate of 7.5 percent, banking should be fairly profitable. This sort of margin however is not unreasonable. Advertised currency exchanges at the Kotido branch of Centenary appeared more competitive than buy/sell rates in most other countries world wide.

treatments and preventative actions, understanding the pros and cons of strategically marketing their livestock, and information about existing financial services and knowledge about how these could be utilized to the advantage of the livestock owning household. It is clear that other forces are hampering change, but these are largely able to be addressed. For example, establishing an effective drug supply system and improving the capacity for CAHW's to diagnose and treat diseases. Cultural norms are important (e.g., don't sell animals unless you absolutely need the cash), but discussion about norms in both focus groups and individual interviews indicated that while it would have some bearing on the extent of change, it wouldn't prevent change.

Infrastructure – in the wet season, road access to/from many parts of the project area is difficult or limited. This reduces access to markets for both buyers and sellers, and reduces access to required inputs such as veterinarian services. The net result on market outcomes depends on whose access is restricted the most—if traders can't get to the markets, then prices are a bit lower because there is less competition, while if livestock owners are unable to get their animals to markets, then it's the traders that end up bidding up the price of livestock. Observations indicate that the road network is being improved, but access will continue to be a large constraint for some time. In some places (particularly Abim), access to water was cited as a key problem in the dry season. At the time of research, access to water was not a problem—it would be useful to reassess the extent and implications of access to stock-water during the dry season. It is clear that communities lack the capacity or willingness to maintain water infrastructure—there is no shortage of boreholes, etc., but many are defunct, some of which could be fixed relatively easily. Similarly, it is clear that investments in market infrastructure have had mixed impact. Loading ramps appear to be an excellent investment, while fences seem to be a waste of time (in Kaniwat, the wires are all broken, and in Kokuria, traders trade outside of the fenced perimeter). Granaries, dips, and crushes are all examples of other past donor funded initiatives that have been unsuccessful.

Value addition – there is very little value addition beyond the rudimentary process of slaughtering and butchering animals to provide local consumers with basic and affordable cuts of meat. Unreliable roads, unreliable (or absent) electricity supply, no cold-chain facilities, and an unwelcoming policy/regulatory environment mean that the private sector will not invest. While demand for meat products with a greater value add component (canned, processed salami, etc.), is likely to grow in Kampala, processing will continue to be concentrated in areas where there is a better enabling environment, that are closer to the end markets, and that are closer to a supplier base capable of providing higher quality livestock more consistently. Perhaps in long term (10 to 20 years' time), processing may become more relevant to Karamoja.

Rules

Security (and perceived security) – the security situation has increased substantially over recent years. Raiders interviewed (both Jia and Dodoth) stated that since disarmament, they've completely stopped raiding—without their guns they have no power and no ability to raid. The ongoing presence of security agents appears to remain an important part of maintaining a peaceful environment, and security personnel interviewed (albeit relatively lowly ranked) stated that there were no plans of reducing security resources in the short to medium term. Although uncommon, there were reports of raids—some of these were legitimate (a Sudanese raid of a village in northern Kaabong 8 months ago), some were found to be thefts (e.g., of one lady's food-stock in Kawalakol), and others were unable to be

verified. Thefts are relatively more common and often involve people from within villages or between neighboring villages, stealing from each other. The assessment team heard little of the Bolus E-traceability scheme, but it is clear livestock owners continue to seek means for identification of their livestock (tags and associated tag registration papers, earmarks, and branding). Some traders mentioned that unknowingly purchasing stolen cattle remains a threat to them (these can be reclaimed without compensation for the trader). Traders' mechanisms for checking that the livestock are legitimate are fairly rudimentary and rely on knowing if the trader is local or not, and observing how hard they barter for a high price (i.e., if they are not just looking for a quick sale). Occasionally owners and traders mentioned the risk of being raided (or thieved from) on their way to and from markets, but this threat did not appear sufficient enough to prevent widespread market participation. Based on the findings of a Mercy Corps report in May 2011, it appears that the security situation has improved substantially[22]. The practice of keeping livestock in protected kraals will continue into the foreseeable future, and this practice has major implications for productivity—limitation of access to grazing and water, time to take to get to grazing, time spent grazing, disease incidence from congregation, calf mortality, and time available for plowing.

Overall, we found that the security situation is stable. 'Incidents' (thefts and sometimes raids) do still occur. People are still very wary of security. However, observations indicate that the actual and perceived situation is stable enough to allow for fairly normal production and marketing activities (free movement, etc.). Programming will need to consider this situation, but by and large the scope and nature of activities will not be limited by the security situation at this stage.

The research team witnessed firsthand the immediate aftermath of a raid and subsequent security response. A three person team of Dodoth raided the kraal closest to Kokoria. In the process they killed one boy. They escaped with about thirty cattle. The security forces quickly caught up with the raiders and shot and killed one of them, and shot and injured another. The third escaped and was still being sought. While waiting to be taken for medical treatment, the injured raider explained to us that he did it so that his friend could get enough cattle to pay the bride price required for another wife.

Aid dependency – local stakeholders, especially local livestock owners and local government, have come to rely on and expect free and/or subsidized goods and services. This reliance and expectation comes from the likes of: seed distributions, mass vaccination campaigns, food distributions, cash/food for work programs, subsidized or free credit, livestock restocking initiatives, free trainings and business development services, and subsidized or free tillage services. These activities in themselves have undermined the ability of any local private sector actors to compete. And secondly the expectations formed and reinforced have destroyed private sector willingness to do business in the region. Communities have been visited by countless NGOs doing various assessments, reports, mobilization, and sensitization activities, and have come to learn that the greater they understate their wealth and income, the greater the flow of NGO resource to them or their communities. With respect to the local government, on one hand NGO/Donor actions have undermined the government's status as the provider of public goods and services, but on the other hand it has created the expectation by local government that they are entitled to resources from NGOs to perform their functions.

Culture – a number of cultural practices and norms affect the livestock market system:

- *Traditional livestock husbandry* – Draining blood from living animals for consumption is commonly practiced in Karamoja. Treating livestock with local herbal

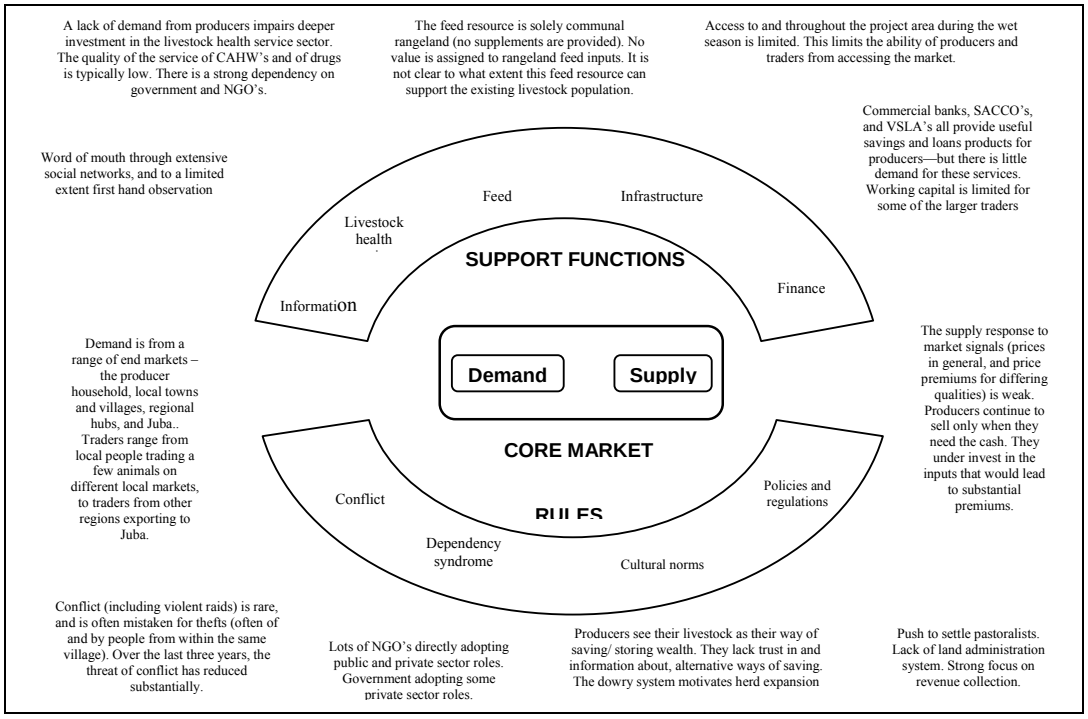
[22] *Cattle Raiding in Karamoja: A Conflict and Market Assessment*, Mercy Corps. June 2011

remedies occasionally happens (but is mostly practiced in chicken rearing). Letting bulls and cows run together all year round is the norm. These local practices do not entirely fit with a more commercialized approach to livestock production and marketing. The implication being that any approach to commercialization must accommodate for the degree that certain practices conflict with modern practices, and the importance of these traditional practices to local people.

- *Social importance of livestock* – traditionally livestock ownership was a measure of a persons or households status and standing within a community. All interviewees stated that nowadays, while it remains a common measure of wealth, keeping livestock for purposes relating to status, standing, or power was not a norm. While they don't keep them largely for 'commercial' purposes, they do keep them mainly (if not entirely) for 'livelihood' purposes. Another important phenomenon is that people are reluctant to state the number of livestock they have—upon probing, it was noticed that some respondents incorrectly stated (understated) the number owned.
- *Dowry* – livestock continue to be used for dowry (payment by the prospective husband or his family to the father of the prospective bride). However, the size of dowry has reduced substantially (e.g., in Kumuria from about 100 head of cattle ten years ago, to as little as two head now). Also commonly practiced (particularly in western Kotido) is the payment by a newly married couple to the wife's father, a sum of ten cattle for every son produced, and ten cattle and ten goats for every daughter produced.
- *Money* – routinely, interviewees made statements that '*money is funny'*, '*money goes away'*, '*money evaporates'*. Not only do people save in the form of buying livestock because in the past there have been few alternatives, but also because they don't trust themselves to handle money sensibly. They don't trust other people in the village not to steal, and they don't trust themselves not to misuse cash resources (particularly via expenditure on local brew). It appears that a large part of this is due to a culture of sharing and helping friends and family if you are in a position to do so.
- *Brew* – many people, mostly men, spend a considerable amount of time in a state of drunkenness. This results in large amounts of idle time. In the villages visited, it was common to observe drinking and drunkenness from mid-day onwards. Women make the local brew, and sell it to local and visiting men. Thus the money spent on drink stays within the community and represents a transfer from men to women. Nonetheless, the time and effort spent on brewing (not to mention the time spent drinking and being drunk) could be gainfully allocated to more productive purposes (even during the height of the plowing season, much time is spent drunk).
- *Gender implications* – Women have a fairly low status within Karamojong communities and households. Wives are effectively bought with dowry varying in size from 2 to 100 head of cattle. Some interviewees noted that to cope during times of raids, he would use his cattle to acquire more wives so that if he was raided, at least he would still have something. Unless they are widows women don't own livestock other than chickens. Livestock interventions that benefit women directly are largely limited to engaging them in CAHW work (they usually have the prerequisite livestock rearing skills), and focusing on chicken rearing activities. This would likely mirror broader livestock actions, particularly facilitating access to health services (for chickens), and helping understand and adopt a more commercial approach to production and marketing.

<u>*Government policy and regulations*</u> – a policy and regulatory environment facilitating competitive markets provides a sounds legal system, an equitable revenue collection

mechanism, an effective land administration system, and regulations to provide for hygiene and food safety. Important gaps in the local context relate to formal land titles (for cropped land) and effective mechanisms for trading land (together these gaps make securing loans very difficult). It is not clear to what extent the absence of enforcement of any food hygiene regulations presents a food safety risk to consumers. The government's emphasis clearly appears to be on revenue collection—in the markets visited, there were always 'inspectors' charging various fees and levies. Often these were 'bypassed' by paying the inspector (often with local brew). Buyers and sellers are both required to pay the levies. From the perspective of both parties, this represents a significant cost and administrative burden. They consider it unnecessary, and don't see any benefit from the payment of these fees. Levy collectors stated that the local government used the fees for general purposes (not market support activities). The local governments were not clear about expenditure, but considered the fees fair given the value of the transactions. To a large extent it is not just the cost that traders resent, it's the complexity of the system.



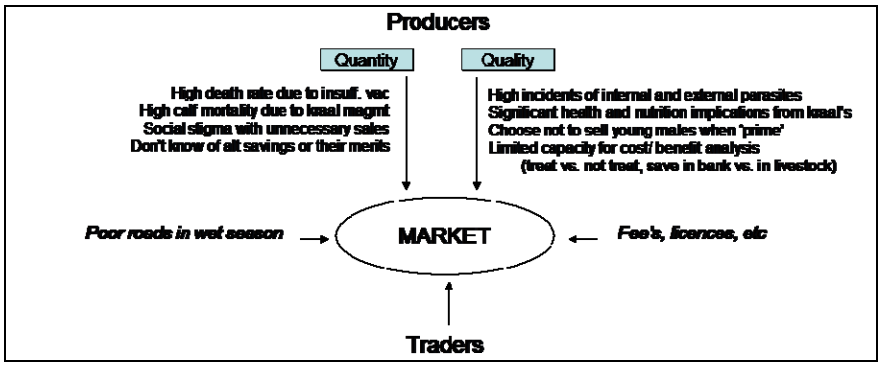
Important recent trends and their projections

A growing acreage and importance of crops	The increased crop acreage is reducing the area available for grazing, and is in some cases hindering stock movement between grazing areas and water points. More importantly, increased reliance on crops for food and income means that households are much more exposed to drought risk – complete crop failures are not uncommon. This means that livestock are increasingly important as a coping mechanism in a drought—livestock are increasingly becoming the 'insurance policy' for crop producers. It is not clear to what extent livestock sales have changed (decreased) as a result of decreased need for cash for food (that is not produced by the household itself)
↑	*Projection: Both the acreage and importance of crops will continue to increase rapidly for a long time yet due to the much greater profitability of crops, even after costing in the associated risks—see the relative economics of each in the annex.*
Increasing	It is difficult to quantify this, but figure one (page 2) shows the rainfall patter over

climatic variability	the last two years, compared to long term averages. DPO staff repeatedly cited climate volatility as a real and important trend (increasing volatility i.e., increasingly unpredictable rainfall). The implication is that crop production becomes increasingly risky and so livestock as an insurance policy becomes increasingly important, but livestock themselves have limited capacity to withstand extended dry periods.
??	*Projection: unknown*
An evolving market	It seems fair to assume that there has been a steady increase in the region-wide demand for meat (given increasing populations and increasing purchasing power of the 'middle class'). No effort has been made to verify this. There has been an increase in the number of traders on local markets, and increased penetration of more distant markets (e.g., Juba). Buyers and sellers are both better integrated into the bigger market system in terms of market information.
=	*Projection: there will be a stable increase in the demand for meat. Gains from the efficiency and competitiveness of local markets will slow, and depend largely on improvements in transport infrastructure. If not addressed, the supply side constraint will continue to limit the prosperity of the local cattle market.*
Increasing security	Over the last 5 years, there has been a general increase in security. This has enabled greater freedom of movement, market participation, and access to services.
=	*Projection: according to security people, security forces will remain present for as long as necessary to maintain at least the current degree of security. Increasing thefts may be observed if absolute poverty increases and disparity of income and wealth increases.*
Reducing importance of cattle as a sign of stats/prestige	Concurrent to the increase in livestock as a means of crop insurance, there is a decreasing importance placed on cattle as a sign of status, wealth, power or prestige. Related to this is the decreasing cost of brides. This reflects an important step towards a more commercial approach to livestock production.
??	*Projection: the extent to which owners take a more commercial approach to production and marketing will depend on how easily knowledge gaps can be addressed, and how strongly social norms stymie change (store wealth in livestock; don't sell unless critical).*
Increasing breadth/depth of financial services	The availability of financial services from VSLAs, SACCOs and commercial banks is increasing quickly. The rate of increase in accessibility and affordability is increasing substantially as well.
=	*Projection: the quality and appropriateness of the financial service offering will soon peak. It is yet to be seen how quickly uptake of these services will occur. Using cell phones for banking services could accelerate this process.*
Increasing uptake of technology	Technologies such as cell phones (and network coverage), radio and TV, and solar energy sources are increasingly seen in the project area. Cell phones have enormous potential to revolutionize the financial service sector.
↑	*Projection: there will be development and adoption of new technologies that provide locally appropriate solutions. By nature, there is no way of predicting which technologies, which solutions, or at which time, these will be available.*
Unknown rate of change in poverty and inequality	The variability of income will be increasing in tandem with the increasing climatic variability. It is not clear to what extent poverty levels are changing. Increasing reports of thefts would indicate that there is some combination of poverty and inequality increase.
??	*Projection: The direction and rate of change is unknown, but will have an important bearing on social and market development.*

Broader recommendations[23]

A summary of the key constraints is outlined below. Given that there are many buyers and sellers engaging competitively in local markets, the actual markets themselves are relatively well functioning. There is significant potential for improved production (output volume and value) from the existing resource base (grazing land and livestock population).



Summary

Actions that improve:

1. Demand for veterinarian services
2. Demand for financial services (substitution of livestock as savings mechanism)
3. Demand for markets (for sales opportunities for high quality animals).
    a. *Combined, these will lead to increased supply (in terms of both quantity and quality) of livestock.*

Information systems:

1. Markets, for the dual purpose of
    a. Reducing information asymmetries
    b. Providing another tool for encourage demand
2. Early warning systems to enable early off-take

Kraal pilot to identify production problems and test alternative solutions.

Traders associations

1. To benefit traders (business skills)
2. To improve advocacy for a favorable business environment (*outcome 1.3.1*)
3. To better link with producers (and facilitate demand by producers for markets) *outcome 1.2.1*

Commercial destocking (early response in an emergency to reduce impacts) - *outcome 1.3.3*

[23] ***General note*** – these recommendation have been made bearing in mind the planned activities for the SUSTAIN project. Without this knowledge, these recommendations would have most likely included: deeper actions in livestock health, more on transport (roads in particular), support for businesses providing essential services, and more comprehensive action relating to financial services. Because SUSTAIN is addressing these issues, they are not elaborated upon here. Should there be interest in a proposal for a standalone cattle/livestock market development project, it may be useful to include some elements of these in it. Also, it would be highly valuable to make any effort at coordinating interventions by different actors in the livestock sector, and where possible, aligning these more with 'market development' principles rather than 'emergency assistance' principles. Again, the SUSTAIN team are developing plans to facilitate this, so it is not included as a 'broader recommendation' here.

1) Increase producer demand for livestock health care[24]

I. Problem: knowledge that producers have of the economic value of livestock health care is minimal (and so demand for health services is impaired).
II. Mercy Corps could draw from existing training/learning materials to develop a concise 'message' for producers quantifying and explaining the rationale for expanding their demand for livestock health services. This 'message' would mostly likely take the form of a simple (one page) visual demonstration of the status quo scenario ("don't worry about prevention unless it's provided for free, don't treat unless the animals almost dead") vs. a 'higher input' scenario ("seek out opportunities for disease prevention, and treat as soon as possible"). The message would need to show the advantages and disadvantages (both financial and non-financial). For example, the advantages of 'high input' would be: more milk (put a value on this), more calves, fatter animals so better sales prices, less likely to die due to disease, better able to survive through a drought). The obvious disadvantage is the increased cost (of both the drugs, and the provision of service by the CAHW), but also possibly extra effort or cost to call the CAHW, take the animals to the CAHW, maybe the animals have to go for a day without grazing to access the services, can't drink blood due to with-holding periods of the drugs, etc. The messaging could demonstrate the collective benefit if everyone adopts this approach (i.e., everyone sprays for ticks, and does this in a coordinated manner—in the case of spraying and deworming, all at the same time). Developing this message could be relatively low cost, or it could involve calling in some experts (Kampala-based marketing and design specialists, for instance), to design and print 'glossy' messages that illustrate messages in ways that are tailored to the knowledge, humor, and culture of the Karamojong livestock owners as the target audience.
III. This messaging/training could be implemented/delivered via CAHWs, DVOs, kraal leaders, and possibly the emerging local drug suppliers.
IV. Timing – Ideally this would happen as soon as possible (within the next 12 months). However, important preconditions that will enable sustained change include: the CAHWs are competent, that a reasonable supply of appropriate drugs is in place, that the fair market value of these drugs at the 'farm-gate' is in fact fair, and that the government/NGO/donor community, at a minimum, don't increase the frequency and breadth of their ad hoc free provision of drugs and associated service delivery. Thus it may be more appropriate to facilitate increased demand for services during months 12-24 (after these preconditions have been met—after the animal health team has made good inroads into improving the drug supply system and the capacity of the CAHWs).

2) Producers gain the knowledge necessary for a more market led approach to livestock production and marketing

I. Problem: knowledge of the economic advantages of planning livestock production and marketing activities around the specific market demand is limited.
II. Mercy Corps could quantify the relative merits (economic and non-economic) and potential disadvantages at both the household and community level for more strategically selling livestock in local markets. More specifically, choosing to sell when prices are high and long before the household is in a position of having to sell, selling

[24] The Livestock Health Team has assessed the sector (see: *Animal Health Sector Assessment Report.* Nareebah et al., 2013) and have developed an implementation plan and results chain. This section on improving demand seeks to augment the proposed work of the livestock health team which at this stage largely focuses on the *supply* of drugs and services, rather than *demand* for them.

those livestock that are non-productive (mature males, non-productive females), and aiming to target production to meet specifications that traders will pay higher prices for (fat and healthy animals). *One trader from Tesso explained, that he and his peer traders actually explain precisely these three messages to their livestock producers at the point of sale, back in Tesso*[25]. There are producers who practice, at least in part, some of these principles—it would be useful to engage these individuals in the demonstration of certain production/ sales strategies/ behaviors, and explain the outcomes. This message would double as a means of 'sensitizing' livestock owners to the advantages of destocking early in a drought situation (see commercial destocking section).

III. Timing – again, this could begin anytime, but to provide a local face to implementation, it may be best to wait until relevant local actors are ready (in particular, until local traders associations are in a position to support the proposed activities). It would seem appropriate to begin this work in Kotido where there is a large market frequented by many buyers seeking a variety of livestock types. This will ensure that producers are rewarded (via higher prices) for making economically rational sales decisions.

IV. This messaging could come from traders (especially the explanation of what qualities they prefer and why they are paying higher prices for them), LCs, DVO staff, farmer forums, kraal managers, and to a certain extent providers of financial services and CAHWs.

3) Assist producers to gain the willingness to save through means other than livestock (substitute non-livestock savings mechanisms, for livestock as a form of saving).

I. Problem - Knowledge about the availability and merits of 'non-livestock' forms of saving is limited. Livestock owners primarily (and in general, solely) use livestock as a form of saving. This is risky, low cost/low return, and hinders the productivity of the herd.

II. Mercy Corps could work with financial service providers to build on existing tools/materials to provide clear and concise messaging that addresses the needs of the livestock owners in the project area. The assessment has shown that there is a clear lack of understanding about existing savings products and the merits or otherwise of each. The population does have genuine concerns (e.g., the time and cost associated with getting to and from formal service providers), but in the absence of fairly complete information are unable to select if and how to save (be it livestock, VSLA, cash on person, cash in house, commercial banks, etc.). In the absence of this information, it is clear that they are continuing to choose the default option (livestock). Two commercial banks say that they have representatives on the ground trying to get these sorts of messages out. However, in the field these 'information (or sales) agents' clearly have limited reach and effect. Mercy Corps could adopt the role of providing a forum for information dissemination. This would not only increase the knowledge of local savers (borrowers), but would also provide an incentive for financial service providers to offer the best possible service. It is important that Mercy Corps doesn't get involved in helping savers/borrowers make the decision about how/where to save. It is clear that social norms continue to hamper adoption of non-livestock saving, but the assessment has found that it is probable that these are not so strong that change is prevented, given more complete information. Thus, it is expected that resulting from this activity, livestock owners will at least in part, substitute non-livestock saving for livestock saving knowing that it is more secure (i.e. lower risk – won't get diseased, won't get

[25] Mr Julius, 0751950086

hungry, won't die, won't get stolen), equally profitable (see annex), a diversification of savings, much more liquid, and more valuable (higher returns from a non-forced sale).

III. Timing – ideally, this messaging ought to be delivered sufficiently prior to the receipt of any cash available for sale (e.g., the sale of a cattle beast). That is, it could begin as soon as possible, and particular emphasis should be concentrated a month or two prior to any possible commercial destocking (focus on March/ April 2014). However, it should happen after the financial service sector team has had time to at least better understand, if not improve, the supply side of the financial service sector. It will take time to work with VSLAs, SACCOs and commercial banks to clarify the details of their 'product', and assist in building their capacity to provide more competitive and/or locally appropriate services.

IV. Providers of financial services would be the logical entities to deliver this messaging. An obvious problem would be that they would each have their own biases in favor of the institute that they represent. Having a small forum of various providers (the banks, SACCOs and VSLAs) and agreeing on fair and honest message content could be useful given that there would be a collective objective of drawing livestock producers into the formal/semi-formal financial service sector. Various 'BDS providers' might be engaged, and the traders association could also play a role.

Generic notes on the above three recommendations: There is a clear need to develop, strengthen and augment knowledge in the above areas. With improved knowledge, supported by the skills necessary to change (e.g., skills in basic cost/benefit analysis) and conviction in the proposed change (resulting from grounded understanding of the tangible benefits from change), producers will be incentivized and capacitated to adopt more strategic approaches to production and marketing. When complemented with feedback mechanisms (high prices) that reward behavior changes, these practices will be repeated unprompted (without the need for continued support of any form). Relevant points include:

- It will be essential that the messaging appeals to the objectives of the producers—income, wealth, and the security of both.
- Messaging must be simple and depending on time and resource constraints could be quick and low cost (drawing from locally available materials), or could involve the use of marketing and design experts to develop a more creative product (glossy materials, fun pictures, great layout, etc.).
- It may be possible to develop the 'messages' jointly, or even disburse them together. It could be possible to contract out the development of all three 'messages' to one agency.
- Demonstration and role-modeling will be a critical component, and competitions may be useful (who can achieve the highest prices, for various classes of cattle, for instance). Local leaders have stated that engaging some of the more 'open-minded' producers will be a key way for encouraging change.
- And to ensure that behavior change is sustained, a minimum set of pre-conditions must be present to ensure that the producers are suitably rewarded for their efforts.
- That is, in general, these activities may be best implemented in the 'secondary phase' of the project after understanding of and improvements in, the supply sector has been made (e.g., supply of drugs, product offering of financial service sector).
- That is, the sequencing of the training/messaging/capacity strengthening will be important—make sure that the supporting environment is conducive to sustained change before beginning. This won't be easy in all cases (e.g., from the perspective of the CAHW, it'd be ideal if the demand from owners was there before they were facilitated with improved ability to treat livestock. From the perspective of the producer, the drugs and services should be there when their demand increases).

There are instances where the knowledge exists, but behavior remains unchanged. In these cases, there usually exists some combination of social norms/expectations preventing change, or a lack of supporting and/or rewarding conditions to allow change or incentivize sustained change. For instance, most producers know that if they sell early in a drought, they can capitalize on high livestock prices and low food prices. However, a combination of a) not knowing when a drought is coming, b) not wanting to change because of the social expectation that livestock shouldn't be sold unless absolutely necessary, and c) there is no attractive way of saving the revenue from livestock sales, prevent early destocking. Addressing these multiple issues needs to happen in a well-planned manner.

SUSTAIN's Facilitation Approach: A key principle of the SUSTAIN project is that it wont directly provide assets, inputs, and services to the local community. Rather it will facilitate service provision by local actors. There exist a range of local actors through which these activities can be implemented (as opposed to doing it directly). These include: LCs (1,2,3,5), DVO, CAHWs, BDS providers (although not necessarily local ones), bank staff, Farmer Forums, kraal leaders, traders, traders associations and local role models or positive deviants. At this stage it appears that these local actors do have the capacity (including local influence) and willingness to work with the project to address knowledge gaps and in doing so enable better decision making (better resource allocation – spending a little more on health care), and better outcomes (increased incomes and reduced income risk). In engaging them it will be important to consider:

- Do they have the technical skills?
- Do they have the teaching skills?
- Do they understand the local circumstances?
- Do they have great relationships with the local community?
- If and how to 'motivate' these change agents?
- What resources do they need?
- Will they be required to sustain the training activity post-exit? In some cases (e.g., embracing saving in the formal financial sector) the answer may well be 'no', if a quantum shift in behavior can be accomplished.

That said, a 'hands-off', 'arms-length', or 'facilitation' approach will not be the most appropriate in all circumstances. Where there is a desire for a change in behavior, and where this will in part be accomplished through improved knowledge (via trainings, demonstration, awareness–raising campaigns, etc.), then one-off direct interventions (by MC) that facilitate this change, are not unreasonable.

4) Market information – MC could facilitate the emergence of a simple market information system. Currently LC2s are collecting basic market information as part of the EWS supported by ACTED and FEWSNET; the LC2s collect price information for bulls and goats along with various foodstuffs, charcoal, etc., from each local market in each sub-county, each week. At the end of the month, this information is relayed to the local government office and it is then used to produce a drought bulletin which is published one month later. The data the LC2s collect is entered into special mobile phones designed for such purposes. It appears that it wouldn't be too difficult to send the livestock information in on a weekly basis, quickly consolidate it, and then disseminate it to producers throughout the project area. It could encompass 2-3 different cattle and shoat categories (e.g., young heifer, old cow, middle aged bull), and could also include sales volumes at each market. This could be supplemented with information from wider markets (e.g., from FIT Uganda). Disbursement methods could include; the radio, written notices, kraal leaders, broadcasts to mobile phones, and via various existing meetings and social gatherings (the farmer forum, LC meetings, meeting of the council of elders, etc.). The information would not only help producers stay informed of market prices and so be better positioned to negotiate fair prices when they sell their stock, but also serve as a consistent reminder that the sale of fat healthy animals for high prices should be an ongoing objective for each livestock owner. The information could also be provided to traders (perhaps through the traders associations, see below) and serve to encourage more traders to come to local markets. If 'tagging-on' to the existing ACTED information system is not possible then other fairly low cost options exist. It could be possible to have representatives from the loaders association (people who load cattle onto trucks at the local markets, for a small fee) could collect information (their incomes are not commission based and so they would have no interest in biasing the prices). They could

forward (perhaps via text message) the information to LCs, kraal leaders, CAHWs, etc. for wider distribution.

It would be clear that the local government was involved (LC2's would be in the markets collecting the information on a weekly basis). It's possible that sponsorship from local business (e.g., the traders association, local banks, phone companies, etc.) could be sought, provided that this didn't reduce the perceived accuracy or relevance of the information. A range of mechanisms would be used for dissemination (see above).

Timing: this could happen immediately.

5) Compilation of a drought warning system – (refer to the Commercial Destocking section for more details). In sum, this would involve bringing together existing measures/mechanisms (the ACTED/FEWSNET EWS, local traditional indicators, and the MC field teams' own observations) to provide timely information to livestock owners (the existing information is currently only available for distribution at the end of the month after the information was collected). This would then be distributed widely and meaningfully (producers all cited lack of drought forecasting as a key factor limiting early livestock sales, and none of them mentioned the presence of the existing ACTED EWS). The system would use exactly the same platform as the market information system (using the LCs for data collection, and ACTED's fancy data phones and software for quick and effective data communication, entry, and analysis). That is, from a programmatic perspective, developing these market and drought warning systems (i.e., building upon existing systems) would happen concurrently. It would involve sitting with the ACTED crew, and possibly the focal point at the local government (e.g., Christine in Kotido's Forestry Office) to figure out the mechanics of the system and resource requirements (technical phones, software, etc.). Then seek the fairly minor alterations in data collection (instead of a rough estimate of what a bull is being sold for, specify the quality of the bull, and also add in the collection of information for a specific type (size and age) of cow). And then agree on the most appropriate combination of delivery mechanisms (getting the info out to the community quickly).

The local government (especially LC2s), but also DVO's, CAHW's, etc., could be the face of this activity. When asked who they would listen to and respond to, producers consistently mentioned relevant 'technical people' (DVO and CAHW) and their local government authorities (LCs).

Timing: this should be put in place reasonably quickly. It certainly ought to be established and operational by April 2014 (before the next high risk drought period).

6) Improved livestock production in kraals.

Keeping livestock in large, central, protected kraals is a relatively new phenomenon. The main advantage of this is the security of livestock—this was strongly corroborated by livestock owners—they appreciate the protection, and consider that the protected kraals will be necessary for some time yet. In Kaabong, all livestock are kept in the protected kraals, while in Abim and parts of Kotido, some animals (mainly milking animals and calves) are kept in the manjatas. The security personnel spoken to indicated that there is no intention of abandoning this practice in the near future. (However, we need to confirm with relevant officials that the protected kraal system will be used well into the foreseeable future.) Keeping livestock in such kraals presents several problems. Animals are released at about

8am, and return about 5pm. Not only do livestock have less time grazing, but they are unable to graze during their preferred times—early mornings and late afternoon. Keeping so many animals in such a confined space has obvious health issues. Mortality is high (especially for calves). Nutrient loading in kraal sites possibly threatens water quality and takes nutrients away from grazing lands, animals have to walk further to grazing areas, and there is greater possibility for mix-ups. Combined, these factors contribute to lower output (fewer animals for production/sale, and lower per head performance in terms of milk yields, etc.) and lower quality of animals (lower market values). It would likely be useful to identify one kraal that would be able and willing to pilot some approaches that may help address some of the negative consequences of large protected kraals. Options worth exploring may include:

- More frequent shifting of the kraal
- Smaller kraals (having more kraals, with fewer animals in each)
- Greater internal division
- Allowing newborns to stay with their mums during the evenings (in a partitioned space)
- A coordinated approach to vaccination and treatments
- Extending the hours of grazing (reducing the hours kept within the kraal)

Monitoring of the pros and cons of these different approaches will be necessary, with the findings documented, and any best practice type guidelines documented and shared. Criteria for selection of the kraal to target will include: quality of management, visibility (can a wide population observe and learn from the initiative), presence of an excellent CAHW (or maybe two), buy-in from the local government and other relevant stakeholders, level of actual and perceived security in the area, and representatives (of other kraals).

Timing: this can begin immediately. A fairly large effort will be required to fully understand which kraal to use, and what specific changes/approaches should be used. This may take up to 6 months. The actual pilot may then best be implemented over two years, and then any good practices identified could be scaled out to other kraals in years 4 and 5 of SUSTAIN.

7) Supporting an active and effective trader association – Key problems faced by traders are: roads, fees paid for participating in markets, and the quality and quantity of livestock from the Karamoja area. Traders often expressed a clear interest in working together to address these issues. The Kotido association has had a major influx of capital from Oxfam and this appears to have muddled the direction and objectives of the association. This funding is due to cease in June or July, 2013, and it is not clear if further funding will be granted.

The objective would be to enable the associations to use their own resources (very little UGX from the annual subs of members, but most importantly the knowledge, skills and time of key members) to advocate for a more conducive environment for trading cattle in Karamoja. Activities would include trainings, exchange visits (for example, to the Tesso traders association), and technical assistance to enable them to engage in a working dialogue with the local government about issues that are hampering trading cattle in local markets. The associations are invariably interested in developing their own business ideas that could provide a cash flow that would augment funds from the annual subs from the members. For example, the Kaabong association wants to develop a warehousing business, and the Kotido association is interested in meat packing and milk collection. It is not yet clear to what extent these ideas are viable or needed, nor is it clear whether it is appropriate that collective entities such as traders associations should be engaging in these activities (or could do so successfully), compared to private sector entities.

Timing: this activity could happen immediately (apart from in Kotido—any activities here need to wait until the dust settles from the Oxfam led initiatives). This could end up being part of, or morphing into, the proposed development of the KCoC.

8) Commercial destocking (for details, please see next section)

Summary of broader recommendations		
Area of opportunity	**Nature of activity / intervention**	**Timing**
1)Demand for livestock health services	Capacity strengthening/ trainings/ skills development/ type actions	Yr2
2)Selling livestock to meet demand		Yr2
3)Participating in non-livestock savings options		Yr2
4)Producers have regular access to market prices	Information systems	Yr1
5)Producers have access to reliable drought forecasts		Yr1
6)Improved production in kraal system	Pilot project	Yr1
7)Trader association active, effective and sustainable	Targeted assistance for associations	Yr2
8)Early off-take in a drought situations	Commercial destocking.	Yr1*
**Preparation; drought warning system operative, loan guarantee agreements in place.*		

Other possible areas of support include:

- Fodder production or feed conservation – The growing of fodder crops (e.g., alfalfa), or the conservation of feed, are relatively expensive activities. Of the two, conservation of crop residues to provide as a supplement in dry (or drought) periods could well be appropriate, but probably not until existing bottlenecks have been addressed—particularly improving livestock health, and making better use of the existing rangeland feed resource. If however there was a local business serious about engaging in fodder production/feed conservation, and was able to demonstrate that it was likely to be economically viable, then it may be worth targeting support to such an enterprise to trail its appropriateness in the local context.
- Support (loan guarantees or grants) for businesses providing 'essential functions,' or even 'high potential/innovative' ideas (milk collection, hides and skins). Apart from suppliers of drugs and vet services, there were no clear 'missing elements' of the cattle production and marketing sector. However, if interesting ideas emerge from the local community and these are assessed as appropriate and economically viable, then support could be warranted.
- Large scale training activities (livestock husbandry, etc.). It seems clear that past attempts at this have not worked well—local people don't like being 'shut in a classroom' for extended periods of time.
- Support for crop production. Demonstration sites could be hugely beneficial. There is no shortage of land (for the site), and there is a huge gap in knowledge (see Annex IV). This would decrease the need for 'livestock as a safety net' and would increase the ability and willingness of livestock owners to have 'livestock as a commercial activity.' At this stage, probably the biggest need and opportunity for improving income and food security in the region is improved crop production (not necessarily expanded crop production).
- Value addition initiatives – meat processing, hides and skins, milk production and marketing etc. Unreliable roads, unreliable (or absent) electricity supply, no cold-chain facilities, and an unwelcoming policy/regulatory environment means that the private sector will not invest. Further, the local supplier base is not one capable of

providing high quality livestock consistently. Perhaps in the long term (10 to 20 years' time), processing may become more relevant to Karamoja.

- Water infrastructure – bores/dams (for livestock). This could be useful in some areas, but there may need to be concurrent investment in 'feed.' Apart from in Abim (we think), it appears that water and feed resources tend to be depleted at the same time, and so it's then time to move on. It might be plausible to improve a water point, but there is no practical way of improving the grazing around it. Also, there are many water points that are now useless because the local community have been useless at maintaining them.
- Breeding program/objectives – improved breeds were occasionally mentioned. The current gap between existing performance and the genetic potential of the current herd is huge. Before looking into brining in new breeds, there must be massive improvement in the performance of the existing breed. General skills in 'breeding management' (selection of sires, castration of non-selected males, etc.) will be important.
- Improved financial service offerings and utilization – see 'suggestions for the financial service sector team' (See Annex III).
- Producer coops for collective marketing (or other collective action) – Producers stated that they have very strong social networks and relationships. These appear to be both deep (strong – lots of information shared), and wide (with many people from beyond their immediate village community. However, they were very reluctant to work in groups for any planned production or marketing purposes (they do work collectively for some crop activities such as weeding).
- Market infrastructure including toilets, shade, cattle crush, loading ramps, yards, slaughtering, butchering, etc. A lot of donor supported infrastructure is now hopelessly degraded and has not been used for years. When asked why they hadn't maintained it (or don't rehabilitate it) themselves, community members clearly don't have the impetus to make small contributions (in either time or money) to do so—they'd rather wait for someone else to provide it for them. There are instances where small investments may be warranted – these ought to be public good in nature, and should be very easy to be maintained (e.g., cattle loading ramp).
- Formal crop/livestock insurance products – possibly a part of the financial service team's work in the later phase of the project?
- Working with government on the regulatory system (transaction costs, compliance) and/or working with the government on implementing a great land administration system (to facilitate increased access to loan facilities from commercial banks)
- Actions to increase demand for meat – advertising campaigns, etc.
- Food hygiene and safety standards

Possible ways to spend larger amounts of money (without distorting market or incentive systems)

- Engage an outside marketing/design agency to develop great 'messaging' tools for the first three 'broader recommendations' suggestions.
- Pump money into the pilot kraal management activity to really see quickly what the production possibilities are, and test which changes are economically viable and fit within the local norms
- Significant investments into ACTED's technical system for gathering, sending, and analyzing data may be warranted (special phones, and the software system to analyze the data).
- Excellent demonstration plots to clearly show the benefits (or otherwise) of alternative (improved) crop husbandry techniques that reduce crop production risk and increase output.
- Strategic training exercises will ideally be provided by local actors (e.g., CAHWs to be trained by drug suppliers). However, their capacity to do so may be limited, and in cases where this stands, it'd pay to

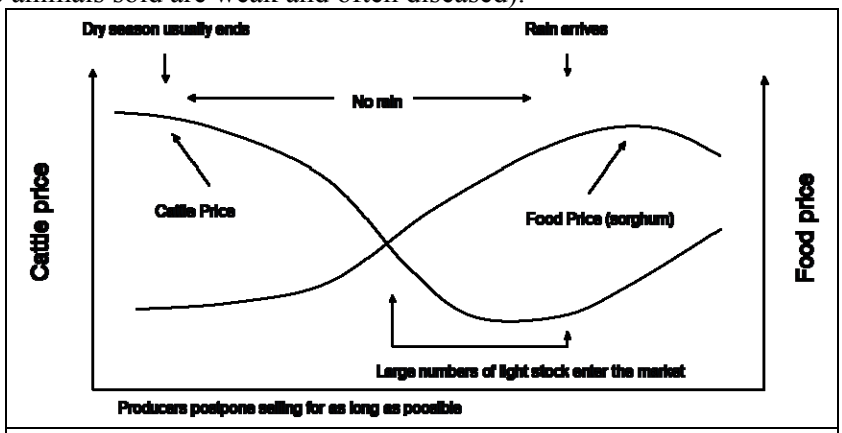
involved them, but don't hesitate to spend on bringing in good trainers with great technical and teaching skills. Clearly not sustainable, but highly effective.

Commercial Destocking

The nature of drought in Karamoja

At the onset of a drought (early in the wet season), most people still have food from the last harvest, 3-5 months ago. By observing a range of indicators producers seek to predict a drought. These include: weather patterns and river flow volumes, the patterns in goats intestines, and the presence of certain birds. Nearby rangeland feed resources become depleted first and people start to graze their animals further afield. Then feed resources here dwindle, an after these are depleted, livestock lose body weight. Water resources start to dry up and livestock congregate around the remaining water points that continue to yield water. Nutritional stress and congregation accelerate livestock disease, and disease combined with hunger cause death. Additionally, crops fail, or yield very little, and at various stages through this process, farmers begin to sell livestock. The key motivating factor for livestock sales is the need for money to buy food. However, the need for cash to buy food is typically not until the livestock condition has deteriorated, livestock prices have fallen, and food prices have risen. Other coping strategies (aside from livestock sales) include petty trade, menial labor, migration, or gathering firewood, making bricks.

The erosion of asset value comes from the loss of condition of livestock, and ultimately death of livestock (from hunger or disease). This is an absolute loss—not a transfer of value from livestock producers to livestock buyers. Exacerbating this is a value transfer in the forms of sub-optimal prices paid to producers in a forced sale scenario. Further, producers are forced to pay high prices for foodstuffs—the terms of trade have turned severely against producers. From a demand and supply perspective, demand remains fairly constant throughout the period (given that most livestock is supplied to 'outside' markets where consumers are not affected by the drought). Supply is limited up until the mid to late stages of the drought because producers still have some food and (perhaps more importantly) are reluctant (or unwilling) to sell unless they absolutely need the cash. In normal circumstances, traders are competitive but when producers are in a 'forced sale' position, the traders are able to screw the price down. And they are unable to pay reasonable prices for an unreasonable quality of animals (the animals sold are weak and often diseased).



Stylized graph of prices in a drought situation

The obvious advantage of selling early in a drought situation is that a producer is able to realize high prices for their livestock. If they choose to buy food stocks, then they are able to do so at normal prices (substantially lower than drought prices). Interviewees all very quickly and readily acknowledged this benefit of selling early if they had good drought warning information. Another important benefit of destocking early is that it means that there are less animals competing for a very limited pasture and water base. That is, there will be fewer animals to feed and water with local resources and so the animals that remain, will be more likely to survive the drought, and will recover quicker post drought. Interviewees only recognized this when specifically asked about it (when simply asked 'what would be the benefits of destocking early?' this was only once mentioned). This is a reflection of the fact that little value is placed on livestock feed. A key emphasis in promoting early destocking will be to outline there is substantial benefit to one household if it offloads early, but if everyone off-loads reasonable numbers early, then there will be substantial benefits for everyone (everyone's remaining livestock will cope and recover better).

Is it relevant, do the pre-conditions exist and where is the market failure?

Willingness and demand from producers to participate: Farmers are not currently destocking naturally in the very early phases of a drought. They are not actively seeking out opportunities to destock—the problem is not one of and inability to destock (due, for instance, to inadequate market access), but one of an absence of demand for destocking. Instead of seeking sales opportunities that would ease the pressure on the grazing resource and free up cash when livestock prices are good, they wait until they are forced to take their animals for grazing elsewhere (20 to 120 kms away), they prey, and they start to seek off income sources from elsewhere. Eventually they start to sell household items, and then sell livestock. The key constraints to selling early are:

- Farmers don't know when a drought is coming, and they don't know when the rains will come – this is the biggest constraint.
- By the time they even realize that a drought is here, livestock buyers and food sellers have adjusted their prices.
- At the onset of drought they still have household level food stocks, and because they have stocks they don't think to sell (there exists an ingrained mentality that stock sales are only appropriate when there is a need for cash).
- They don't have a way to store/save cash.

Nearly all the producers interviewed easily grasped the concept of selling some livestock early at fairly high prices so as to reduce the risk associated with drought and possible livestock losses, low livestock prices, and high food prices. They were able to quantify how many livestock they would sell, which markets, at which prices, and what they would do with the revenue. They generally accepted that early in a drought livestock prices may have already begun their downward trend, but they were still prepared to sell at slightly lower prices given the knowledge that drought was coming. Thus, the key need is to:

- Ensure that there is widespread awareness among farmers of the benefits of destocking early;
- Help provide them with reliable information about expected drought patterns; and
- Enable them to handle money effectively, possibly through facilitating their access to savings services offered by the formal financial service sector.

Traders and markets: there exists a variety of traders routinely participating in local markets. Some of these trade relatively small numbers (5-10 animals per week), while others trade more animals (20 plus per week) between local and more distant markets. Many of these traders have the interest and capacity to trade larger volumes of cattle—they expressed a clear interest and ability in trading more as part of any destocking initiative. The main precondition is that the cattle are healthy and in good condition. If they are healthy but not yet fat enough for their end market requirements, then many have the capacity to fatten the animals elsewhere for a few weeks before selling. These traders already have the required relationships, logistical arrangements, and knowledge to expand volumes quickly and effectively. The markets that the more regional/export oriented traders engage in include regional hubs (Soroti, Lira, etc.) as well as Juba. These markets (especially Juba) appear to be big enough to handle larger volumes without forcing down the market price substantially[26].

Financial service providers: In a destocking initiative, traders will need access to much larger amounts of working capital than they currently require (to trade the increased volumes). Currently access is limited not by the absence of financial service sector actors, but by the traders' inability to provide the collateral necessary to secure loans of sufficient size. DFCU bank and Centenary are both operative and experienced in the geographic area, and are willing to work with the project to provide working capital loans to traders. There is a clear opportunity to better link livestock traders with these permanent financial service providers for continued relations after the drought.

Existence of a reliable EWS: ACTED, the government, and FEWSNET are currently providing a form of early warning systems via monthly bulletins for Abim, Kotido and Kaabong. These include information on a variety of prices (goats, sorghum, etc.) and other relevant data (rainfall, livestock condition, etc.). The LC2s perform the data collection at the parish level. There are 11 parishes in each of Kotido and Abim and 13 in Kaabong. If there are markets where this data collection can be done, they do it in at least three markets per month (otherwise they get the information from households). This is then texted to the District level Forestry Department, and a staff member produces a draft report. The information is texted in on the 28th of each month and the draft ready within 2-3 days. This is then reviewed and discussed by the relevant technical heads, and commentary is documented. It is then approved by the CAO and sent to the ministry in Kampala. Once all the districts reports are received, they are loaded onto the internet[27] and otherwise distributed. A two page bulletin summary is sent to the LC2s who share this information with the community[28]. They share it via radio and drama as well. FEWSNET's role appears to be one of coordination, compiling quarterly reports on a district basis. The project has been funded by ECHO and has funding until September this year. Funding has been sought from various donors, and the World Bank is considering providing funding. FEWSNET also provides monthly food security updates that have information pertinent to projecting the likely scenario in the project area[29].

In addition, a monthly and quarterly weather report is prepared by the meteorological department and this is a related but separate information source. This weather forecast is

[26] The importance of having a ready, large (outside) market into which livestock can be sold was important for a destocking activity in Ethiopia. See Catley, A., and Cullis, A., 2012. *Money to Burn? Comparing the costs and benefits of drought responses in pastoralist areas of Ethiopia.* The Journal of Humanitarian Assistance.
[27] http://www.disasterriskreduction.net/east-central-africa/library/?querystring=drought%20bulletin
[28] http://reliefweb.int/report/uganda/kotido-drought-bulletin-january-2013
[29] http://www.fews.net/pages/countryarchive.aspx?pid=500&gb=ug&loc=2&l=en

available within the first week of each month (no monthly forecast is produced for the first month of a three month forecast). Sylvestry, from ACTED thinks that for the last two years, these forecasts have been very accurate, and this was verified by at least two of the LCs interviewed. If these two information sources (drought bulletin and weather forecast) are combined with observations from MC's field team as well as input from producers with respect to their own traditional drought indicators, then it would seem that reliable predictions could be made about the likeliness of a drought.

Potential for coordination: Given the number of entities involved directly and indirectly (including other agencies implementing potentially conflicting actions), sound coordination of activities will be critical. The local government has expressed clear support of the concept, and has shown an interest and willingness to lead coordination.[30]

Targeting: Often the poorest households don't have livestock, or have few livestock. And if they do, it is often lower value livestock (sheep and/ or goats). It could well be worth allowing sheep and goats to be a part of any CD initiatives. Traders must have access to sufficient working capital to purchase the volumes available for sale from the entire region. Also, coordination and linkage efforts should aim to enable the more remote to participate. Targeting specific households eligible for participation is not really appropriate or necessary—it would add an element of complexity that would potentially hamper the ability to act quickly. Also, given the communal nature of society, the proceeds from sales by livestock owners will filter through to those that do not have livestock. Additionally, this won't be seen as an NGO initiative—it will simply be observed as a market functioning well. Trying to exclude 'better off' producers would undermine this.

Types of animals to be destocked: Producers interviewed were able to quickly articulate which livestock they would prioritize for sale (regardless of whether it was part of a drought mitigation mechanism (destocking) or any other reason). The order was as follows: mature unproductive animals, less productive animals (e.g., old oxen or females approaching the end of their reproductive life), and finally young. They would be very reluctant to sell their young female animals, even as a last resort. There is no need for involvement in, or support of, this decision making process[31].

The security situation: There have been substantial improvements in the degree of security in the situation over the past 3 years. Recent raids were rarely reported, and when questioned amounted to losses of 3-5 animals. Occasional thefts are heard of in more remote locations. Thefts/high-jackings on the roads are not currently a problem. Pickpockets at markets remain an issue, as they are in public markets worldwide. The ongoing presence of security personnel is the main factor enabling this peaceful operating environment. Provided this remains the case, then there ought to be no potential of insecurity affecting the implementation or outcomes of the destocking initiative.

Market access and infrastructure: In a drought scenario, road networks are likely to be in good condition. Market infrastructure is generally adequate, although relatively small upgrades might be necessary (e.g., loading ramps) or desired (fenced facilities to avoid

[30] No government officials higher than the Production Office have been consulted, although those in this and lower offices all supported the concept and considered that higher officials would have no reason not to, and would be very receptive to the opportunity to take a lead role in coordination.

[31] This has been demonstrated by a commercial destocking activity in the Moyale district of Ethiopia. Abebe, D., et, al (2007). *Impact of a commercial destocking relief intervention in Moyale district, southern Ethiopia*.

inefficiencies involved with catching escaped animals). Watering points at markets in a drought situation needs further assessment as information about the reliability of water sources in a drought year was sometimes contrary. It is possible that small investments in temporary holding facilities and loading ramps may be needed, but this will need to be assessed at the time once the extent and coverage of the drought is known.

Livestock prices: In a 'forced sale' in which the buyer is aware that the seller must sell, the buyer is able to negotiate the price down substantially. This explains part of the very low prices observed in a drought situation; other contributing factors include the large increase in supply on the market without any concurrent increase in market demand, and the very poor condition of livestock. A principle rationale of the commercial destocking approach is that producers are not yet in a position of being forced to sell. Also, the livestock are still in good condition, and the influx of stock on local markets is able to occur over a longer period so as not to flood the market. Thus there is no real justification for being involved in market pricing—demand and supply forces will continue to work effectively to set a fair equilibrium price. Given the increase in supply on the market, it is likely that prices will be somewhat lower than at the same time in a 'normal' season. However, producers have communicated that they would expect this and would be happy to accept somewhat lower prices knowing that the prices will most probably be substantially lower in a few weeks or months. The commercial destocking program in Ethiopia found that without any interventions in the area of livestock prices, the households involved were satisfied with the prices offered by traders.[32] The key to enabling households to get good prices is to act early—before households need the cash and before livestock condition has declined. If this does not occur, the effort is pointless—nothing has been done to address the problem.

When to do it: In a drought, local grazing areas are grazed out and livestock are moved to increasingly remote areas for grazing. Eventually these grazing areas are depleted, and at the same time water resources dry up. Livestock become thin from lack of food, and this combined with crowding around water points and consumption of poor quality water, results in the onset of various diseases. Hunger and disease will subsequently result in death. At some stage during the drought, livestock sales begin. This is usually late—when feed reserves have been depleted (meaning that there is little feed available for the strategically important livestock), animals are in poor condition, and the terms of trade have turned severely against producers. Commercial destocking must begin (and finish) early in a drought. According to the drought cycle management, alert and early alarm phases are appropriate periods for carrying out commercial destocking operation.

How to do it: Actions could be considered in two parts a) prior to any drought (getting everything all set up to facilitate a quick and effective response), and b) once the decision has been made that the trigger indicators are warranting the initiating of commercial destocking.

A) Prior to a drought:

Increase producers' awareness/knowledge – Farmers will need to understand the advantages and disadvantages of selling early in a drought. This could involve a form of simple messaging outlining the typical drought scenario and its implications for livestock owners (wait as long as possible, sell at very low prices, buy food at very high prices). The alternative of destocking could then be outlined—selling earlier at good prices, and then using the money for some combination of; saving, foodstocks,

[32] *Case Study: Commercial Destocking in the Somali Region of Ethiopia*. Mercy Corps, 2013

and safeguarding the health (via nutrition and vet services) of remaining livestock. If helpful, the economic outcomes of these could be provided. During the assessment, owners were able to easily grasp the concept of selling early. It is clear that there remains a strong culture that livestock are not sold until cash is absolutely necessary (in a drought situation, this is not usually before livestock values have depreciated substantially). There were some doubts about an early warning system being able to accurately predict a drought. The downside of early destocking is that if a producer sells early and then rains come, it's not likely that they will be able to buy back the pre-drought number of livestock. This risk will need to be outlined clearly to farmers—those interviewed seemed to understand this risk, and be prepared to accept it (some said that they would alter the numbers sold according to how much confidence they placed in the information provided).

Establish EWS - Perhaps the single most difficult decision will be if and when to initiate the destocking program. Below are some of the key early warning indicators that could be used as a basis for triggering the implementation of a destocking initiative:

- **Various early warning mechanisms**: the ACTED supported EWS outlined above will be a valuable tool for forecasting drought. The lag between the delivery of raw data and the public dissemination of the relevant bulletins is currently about 28 days. MC staff should try to get access to the draft report which is usually complete by day 3 or 4 (i.e., the first 3-4 days of the each month) so that this process can be fast-tracked.
- **Deviation in pasture and water availability**: if producers start taking their animals further for grazing than usual, or start moving earlier, then that's an indicator that the situation is worsening. It is at this time that economically rationale producers would sell non-strategic livestock assets and less productive animals. Livestock conditions will also serve as an indicator—the livestock health team will be valuable in this, although it will remain difficult to distinguish between condition losses induced by disease, and those caused by hunger.
- **Changes in market prices**: producers occasionally claimed that livestock buyers and food (sorghum) sellers were quicker at knowing when a drought was coming, and would adjust their prices before livestock owners have had a chance to respond. If there are significant changes in the terms of trade (price of local foodstuffs relative to that if livestock), then it could be time to act.
- **Other**: producers have a large number of other drought indicators. Some are logical to an outside perspective (crop germination, crop disease, and various weather patterns including wind patterns and cloud formations, certain trees failing to bear fruit). Others are a bit more difficult to fathom (the patterns/ nature of goat intestines). It would be sensible for field staff to be aware of these and use them to complement or corroborate the other indicators above.

It could be a good idea to have a program officer with the relevant skills, knowledge and linkages spend an hour or two a week monitoring these indicators and reporting to the DCOP—programs. It will be important to qualify the nature of the drought—this will have a large bearing on if and how to proceed with a destocking initiative. The speed of onset, degree of confidence in the duration and severity, and the likely geographic coverage of the drought will all be important. From a market perspective, if the drought is very widespread (whole of northern half of Uganda), then the

volumes being marketed could be large enough to substantially reduce market prices and so producers may be more reluctant to sell early. Such a widespread drought could also have a negative impact on demand (thus amplifying the price decline).

Agreements with banks – While VSLAs and SACCOs are present and active in the target area, they are generally unable to cater for the large working capital requirements of traders. Commercial banks are better placed to offer the type of product required by traders. The simplest form of 'loan facilitation' would appear to be a simple cash deposit guaranteeing the balance of a loan that a potential borrower is unable to guarantee. Both Centenary and DFCU are either well practiced in this approach, or are currently using it with various NGOs. To provide for a sense of competition and avoid accusations of any form of bias, banks could be invited to participate in the scheme provided they are agreeable to the specifics of the MC guarantee. A MoU could be agreed upon outlining the nature of the loan guarantee scheme.

Coordination approach framed – Establishment of a CD forum will be important for clarifying roles and responsibilities and providing for a coordinated and coherent approach. The forum would include CAO, LC5s, District production office(s), District veterinary office(s), Mercy Corps, the CAHW association rep(s), and possibly other NGOs working in the early warning sector (e.g., ACTED) or drought response area. The roles and responsibilities should be defined and documented. Ideally the local stakeholders will take lead roles in the process, and the local government has indicated a clear willingness to do this. The forum could collectively review the existing policy and regulatory environment and if any possible changes may be required. A key role for the forum will be to invest time in the early stages of the drought understanding the nature of the drought and the implications of this for the planned CD. The local government (Production and DV Offices) indicated that a MoU/intent statement may be useful to clarify roles, and make sure communication within and between various local government entities (of the intent and approach) is clear and constant.

B) Once the decision to proceed with commercial destocking has been made:

Tell farmers – the LC1s and LC2s would take the lead role in the distribution of the drought indicators, and the interpretation/description of the implications and recommended actions. It will be important that the pros and cons of both selling some animals early, and not selling anything, are clearly outlined. It must be clear that it is up to the livestock owners to decide whether they want to sell. The DVO would be closely involved with this, and CAHWs may well take part.

Mobilize traders and extend loans – traders must be made aware of the initiative so that they can plan for the procurement of more stock, and so that if necessary they can apply for a working capital loan (with partial security from MC).

Oversee the trading process – the general principle is to leave buyers and sellers free to interact, as per usual market conditions. For M&E purposes, volumes and values may be recorded, possibly along with livestock condition, and some form of survey of buyer and sell perspectives as to the impacts of the initiative. Depending on the nature of the drought, and local circumstances at the time, other relatively minor actions may be considered. They may include:

- Supporting temporary holding grounds in more remote areas (at this stage it appears that sellers are able to get to existing facilities relatively easily, but this may change)
- Water provision – it is not clear to what extent water resources are reliable at market sites. If bores have been known to dry up in the past, it may be worth securing more reliable access prior to a drought. If water sources run dry after the drought has been declared, it may be possible to truck water to meet livestock needs.
- Vet services (for remaining livestock) – it could be useful to link the work of the animal health teams with livestock owners. A part of the proceeds of livestock sales ought to be spent on protecting remaining livestock from disease.
- A transport subsidy could be a good idea—for example, 5k per head if collected from Kaabong, or $40 per truck. (i.e., meeting the cost of sending a truck from the Kotido market to Kaabong), encouraging traders to engage in 'more remote' markets.
- Helping with the management of the funds realized by livestock owners from the sale of livestock – assisting with opening bank accounts (if there is demand).
- Possibly linking traders to areas where they can access grazing (Pader, Kitgum) if the livestock need fattening prior to onward sale.

Expected impacts

1) Beneficiaries are better able to cope through the drought, and able to recover faster;
2) Livestock are better able to cope through the drought, and able to recover faster;
3) Move to a more commercial approach to livestock production;
4) Linkages to financial markets for traders; and
5) Possible linkages to financial service providers for producers.

It will be difficult to set up a complex and comprehensive monitoring and evaluation system for the destocking component of the project. Given that success will largely depend on timely intervention, and that there will be little time for planning, resources will be best spend on ensuring quality implementation (rather than monitoring and evaluation).

Risks

- Farmers still don't want to sell despite a clear directive that a major drought is beginning.
- Drought is declared and livestock are sold, and then it rains. Producers could be left worse off than they would have been if they hadn't sold.
- Traders remain reluctant to take loans, and don't expand their sales volumes.
- End markets are not sufficiently large enough to cope with the extra volumes so prices fall.
- Pricing mechanism doesn't work organically – traders screw prices down.
- Traders don't repay loans.

Budget

It's difficult to project the animal off-take volumes and estimate the additional number of animals that would be available for sale. One way is to look at the total cattle population (say 150,000 in Kaabong and Kotido), and aim for a 20 percent off-take (30,000 animals) as an 'ideal' scenario. Let's say that half the livestock-owning population is convinced that off-take

is sensible, and they decide to sell half their 'optimal' off-take level (i.e., this half sells one eighth of their herd). Thus the off-take would be 7,500 animals. An alternative way of considering it is as follows—it's not unreasonable to expect that the additional number available for sale would be equivalent to the number sold in non-drought circumstances[33]. If this were the case, the additional number for sale would be 400-500 per week. Assume that off-take is supported for a two month period, the total would be 4,000 head of cattle. The expected average value of these would be 600,000 UGX, or 250 USD, each. Multiplied by 4,000 animals, the total value of the additional sales would be about 1 million USD. Given discussions with traders, it is expected that about three quarters of them would want support in the form of a loan guarantee, and that this would be for 'most' of their extra working capital requirements (say 80%). Thus the MC cash required to guarantee loans would be about $600,000 USD. *(Note: all of these figures will need to be verified again in the early stages of a drought.)* A summary of the expected resource requirements would be as follows:

Likely Resource Requirements of a Commercial Destocking Initiative

Set up costs	USD	
Raising awareness for producers	10,000	General logistics, staff time, printing
Early warning system (setup)	10,000	Staff time, alter software program, ACTED mobile phones
Early warning system (running)	10,000	2k per year contribution to data phone
MoU with banks	2,000	Staff time and logistics to set up
Coordination forum established	5,000	Meeting - costs, printing
Implementation costs		
Informing farmers of drought	3,000	Transport and per diems
Extend loans to traders	600,000	Loan guarantee fund
Misc support	10,000	e.g., 2000 animals from kabong ($5 per head subsidy)
General oversight	20,000	Staff time and logistics
Cash requirements	**670,000**	
Net cost	**130,000**	Assume 90 percent repayment of loans

[33] During the Mercy Corps supported destocking in Ethiopia, 10,600 livestock were sold, but it's not clear how many would have been sold had the intervention not taken place, perhaps an additional 4000-5000? A different destocking program in Ethiopia in 2006 resulted in an off-take of 20,000 animals; but again it is not clear if this is an *additional* 20,000. A large number would probably have been sold in the normal course of business had there been no drought.

ANNEX I: Livestock production – Reconciliation, profits, and relative profitability

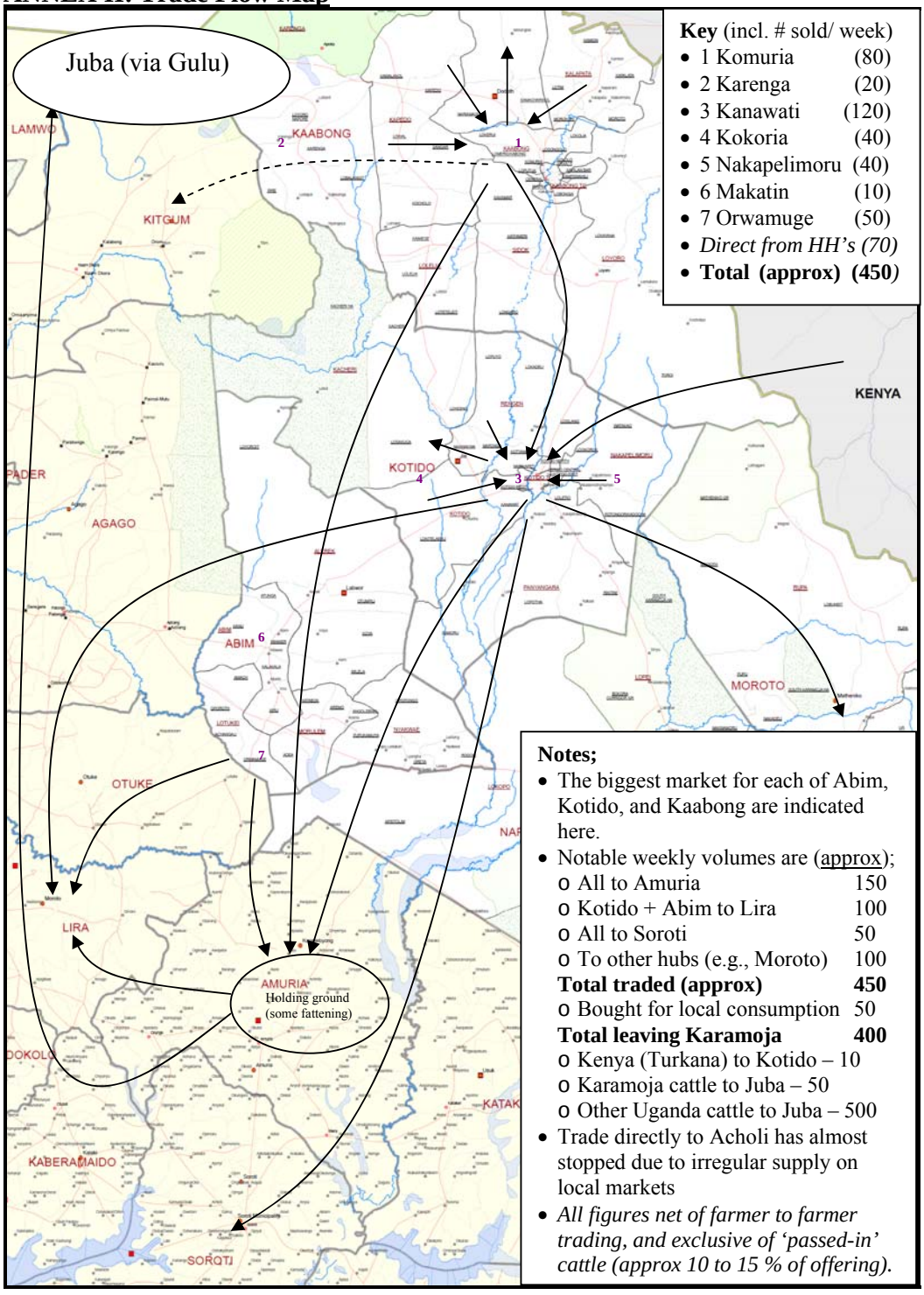
Livestock Reconciliation (20 cow herd)									
		Outgoing		***Incomings***				***Value***	
Bulls	5	Sales	3	Purchase	3	Bulls	5	1000	5,000
Oxen	3	Slaughter	1	Birth	3	Oxen	3	1000	3,000
Cows	6	Death	2	Other (marriage)	1	Cows	6	800	4,800
Yearlings	6	Theft	1			Yearlings	6	600	3,600
Calves	2					Calves	2	150	300
Total	22		7		7		22		19,700

Livestock production income statement		
Income		
Sales	Three mature oxen @ 1 m	3000
Plowing	4 ha's at 25k / ha	100
Milk	3 l / day @ 1k/ l (200 d)	600
Slaughter	1 @ 800k	800
Reproduction	3 calves @ 200k	600
Capital gain	3% of herd value (estimate)	600
	Total	**5700**
Expenditure		
Vet services	5k per head	100
Deaths	2 @ 800	1600
Theft	1 @ 800	800
Replacement	3 calves @ 200k	600
Purchases	3 @ 600k	1800
Labor	What's the opportunity cost of a boy's time?	
Feed	The biggest cost (assigned no value in practice)	
	Total	**4900**
Net revenue		**800**
Average per head	*Showing 5 animals are as profitable as one acre of crop*	**40**
Opportunity cost of capital (estimated result if the herd was sold, and money saved)		
Income		
Interest	4 % @ 19700k (interest rate (7.5) less rate of inflation (3.5)	790
Expenses		
Fees	1.5k *12	18
Travel	6 trips * 2k	12
Net income	*(Interesting how similar this is to ownership).*	**760**
Cropping (one acre of sorghum) *Kaabong/ Kotido scenario (Abim would be more profitable)*		
Income		
Crop	1 acre @ 200 kg's @ 2.5	**500**
Expenses		
Plowing	25k / ace for ox plough	25
Hoeing	5ive people 2 days @3 k	30
Seed	5 kg/ acre @3.5	17.5
Sowing	2 days @ 3k	6
Weeding	5 people 1 day @ 3k plus brew (14k)	29
Harvest	5 people 1 day @ 3k plus brew (14k)	29
Threshing	5 people 2 day @ 3k plus brew (14k)	58
Cartage	5 people .5 day @ 3k	7.5
Rent		15
	Total	**217**
Total Profit	(sorghum crop per acre)	**283**
Drought profit	Lost value of seed, plowing, sowing	**-78.5**
Overall average	Assuming one out of five years is a drought year	**158**
Livestock profit	(per acre) 3K Dm/ acre/ year – would support 0.6 cattle/ year	**24**
Status quo sales vs. commercial destocking in a drought year		
Livestock (drought)	One third die; one third sold at 1/4 of value (-6560+1640)	-4,925
Livestock (drought) (CD)	10 percent die, half sold at 80 percent of value (-1970+7880)	5,910
Notes and assumptions;		
• *The 20 cow herd is not necessarily representative of the average herd size – it was selected on*		

the basis of being sufficiently large enough to average out some of the anomalies of smaller herds (e.g., some herd might be 4 cattle (two teams of oxen), or four cattle (four lactating cows). It is representative of a 'good average' year (not a drought year).

- *The incomings, outgoings, and values assigned are indicative of averages that were observed during the study trip*
- *The opportunity cost of capital reflects what the net cash outcome would be if the herd was sold and the proceeds were put in a savings account with a commercial bank (e.g., DFCU or Centenary)*
- *The crop production analysis is based on a 'good average' year (not a drought year).*
- *Overall averages reflect a scenario in which one in five years is a drought year*
- *The livestock analysis in a drought year accounts for livestock loses and sales revenues. It doesn't account for the decline in livestock numbers which has been standardized (the decline in both circumstances (CD and non-CD) is two-thirds of the total herd).*
- *All values are '000 UGX*
- *Livestock, crop, and savings income statements all based on a 12 month period*

ANNEX II: Trade Flow Map



ANNEX III: General thoughts on financial service sector support

Our assessment of the sector will no doubt have been much 'thinner' than that of your financial sector assessment and ours was much more focused on relevance to livestock owners and traders. Two of our key findings can be generalized as (see below for more details):

1. The demand for financial services is the main constraint.
2. The supply of financial services is good (although there are constraints – mainly coverage).

Other general points include:

- A lot of your emphasis is on building the capacity of VSLAs and SACCOs.
- Improved capacity of these entities will be important to service the needs of some segments of the community (the poorest, the most remote, the landless etc.).
- I would argue that for the majority of farmers and livestock owners and small business operators, there is sufficient justification for linking them to the commercial banks directly.
- Effectively, the savings and credit products are sufficiently good that there is no 'missing middle' … it's an easy graduation from utilizing VSLA services to utilizing those from commercial banks.
- The main problem is that potential clients (farmers, livestock owners, small businesses, etc.) don't have the knowledge of the existing services—they all know of other people that have not liked the services provided by Stanbic when it was the only provider, so they have a negative perception. <u>This lack of knowledge combined with a lack of financial literacy in general, prevents a real demand for financial services.</u>

So, in summary, with respect to thinking about how your results chain might evolve as you continue to implement SUSTAIN:

- <u>Improve demand (by farmers, business people, etc.) for financial services</u> (from VSLAs, SACCOs, CBs). Train people. Have 'information' days/ sessions. Use satisfied customers as mentors, engage loan officers, even do it yourself or bring in outside (Kampala-based) consultants to improve understanding and knowledge. Demonstrate the pros and cons of services from each of the different providers, as well as 'traditional' banking mechanisms (livestock).
- Don't worry too much that this is a direct intervention and is not sustainable. The main objective is to get better utilization of existing services. When that's done, it doesn't matter whether or not 'training' type activities continue.
- Secondly, it's okay to maintain a focus on the VSLAs and SACCOs, but don't dismiss the opportunity to link farmers/ businesses etc. directly to CBs.
- Sure, there are issues—perhaps the main one being the physical distance from bank branches. But there are ways around this (look at the role of Joseph and Centenary's loan officers play in better reaching Kaabong clients).
- You might like to think about how MC could fast-track getting a Centenary branch in Kaabong. Ask Centenary. Maybe they could be an 'essential service provider' and so worthy of a grant? What are their costs and risks, etc.? Maybe MC could 'grant' the account opening fee (25k) for the first 500 new customers to open an account (2,500 USD)? This would help them get to their required minimum scale more quickly? And it would help incentivize new customers to participate (open an account).
- You mention the development of various insurance services / products in your report. I think it's a great idea to do some work in this area in the later phases of the project (crop, livestock, loan, especially) if possible. But I've no real insights on how to go about this, at this stage.
- You also touch on mobile money – there is great potential here for better servicing the needs of clients with the use of cell phones – currently bank clients are thrilled when they get a text saying that their deposit of *x* UGX has been processed and their account balance is now *x* UGX.

The above two points could happen really late in the project, and the rest of the 'demand' stuff could happen around the midpoint – after some of the supply side stuff has been done (and by this time you'll have a much better idea about what is really constraining utilization of services … knowledge, social norms, info, or perhaps the quality of supply.

ANNEX IV: Thoughts on input sector work

We interacted with heaps of different crop farmers in each district. Our questions didn't really focus on crops though. However, one key observation is that:

- Existing cropping farmers are new to crop production. For various reasons they are not implementing crop husbandry practices that would simultaneously optimize yields and minimize risks.
- It is highly likely that they don't know about these practices, or if they do, they do not know how substantial the benefits are.

Examples of 'unimproved practices' include; inadequate tillage, broadcasting seeds, buying seeds at the last minute at expensive prices from local food suppliers (i.e., the same seed that they harvested last year as food), and not getting their crops sown at the right time. There do exist a few people doing a great job (their crops are heaps better than their neighbors) indicating that improved practices lead to better results.

- There is a clear need/ opportunity to address this knowledge gap,
- In doing so, you will be **creating demand for the inputs** for which you are trying to increase the supply of (specifically seeds and tools, but in the longer run this will include crop protection products and fertilizers etc.).
- Without increasing demand for seeds, you're wasting time addressing the supply side issues (that your results chain currently concentrates on).
- Jacob and his team are aware of this and thinking about how best to facilitate the implementation of trainings (e.g., seed suppliers embedding trainings in their 'product' delivery). However, it really ought to be a key (if the central) pillar of the results chain/ implementation plan.
- It's clearly not consistent with SUSTAIN's 'facilitation' approach, but I'd suggest some fairly serious 'direct support' here. I'd say concentrate on Abim first (crops are more important, and the cropping environment is more favorable – this season just select one appropriate sub-county to run with). Get a demonstration farm/ plot up and running now (get seeds in the ground by the end of this week). Work with the Farmer Forums, but don't get too held up by local bureaucracy. Land is available. Trail; tractors/ oxen, hand hoes. Seeds, sowing dates, sowing methods, pest protection, etc. Thump in the money – don't worry about sustainability of the provision of the training services – just do it yourself. Keep good records of what is trailed (record various sowing dates etc.), and get very good records of the results (different yields, different maturity dates, etc.). In years 2-4, scale this out to Kotido and to Kaabong. This sort of work is fairly well in line with *outcome 1.1.1*
- Later you can plan field days and trainings etc. around these demonstration sites.

ANNEX V: Summary of stakeholders engaged in assessment

Mon	Kampala	Literature review and survey prep
Tues	Travel	Travel; Kampala - Kotido
Wed	Kotido	Farmers, traders at Kitido market and brigade captain and police man
Wed	Kotido	Producers in Kanawat
Wed	Kotido	Rapheal (CAHW) - Panyangara
Thurs	Kotido	Noor – Project partner and local farmer
Thurs	Kotido	Farmers in Kotido SC
Thurs	Kotido	Farmers in Kacheri SC
Thurs	Kotido	Trader (Kacheri)
Thurs	Kotido	Butcher (Kanawat)
Thurs	Kotido	Chair of farmer forum (Kacheri)
Thurs	Kotido	Farmer and past chief (Mr Timothy – near Kanawat)
Fri	Abim	Martket participants Abim market
Fri	Abim	Farmers in (Abim SC)
Fri	Abim	Recent returnees (Abim SC)
Fri	Abim	CAWH (David)
Fri	Abim	Dr Sam (local vet)
Sat	Abim	Slaughter pad (Abim town)
Sat	Abim	CFCU (Alex – branch manager)
Sat	Abim	Farmers in Alerek
Sat	Abim	Butchers in Abim and chair and sec of local butchers association.
Sun	Abim	Farmers in Morluem
Sun	Abim	Women farmers in Morluem
Sun	Abim	Farmers in Nyakwae
Mon	Abim	Orwamuge Market – sellers, buyers, inspector, CAHW
Mon	Abim	Production officer (head) - Abim
Mon	Kabong	Kabong farmers
Mon	Kabong	Large kurral manager
Mon	Kabong	Farmers Kathile
Tues	Kabong	Farmers in Kapedo
Tues	Kabong	Security officer Kapedo
Tues	Kabong	Kurral leader Kapedo
Wed	Kotido	Various traders in Kanewat
Wed	Kotido	Sellers in kanewat
Wed	Kotido	Truck owner/ operator
Wed	Kotido	Kotido DVO
Wed	Kotido	Oxfam (Benjiman)
Wed	Kotido	Centenary Bank (Alex and Moses)
Thurs	Kotido	Team brainstorming session
Thurs	Kotido	Meeting with ACTED
Thurs	Kotido	Writing
Fri	Kotido	Acting head of Kotido traders association
Sat	Kotido	Kokoria market
Sat	Kotido	Kokoria kraal
Sat	Kotido	Intelligence officer (Kotido)
Sat	Kaabong	Joshua (Kabong business man and financial service facilitator)
Sun	Kaabong	Kraal and kraal manager (Kaabong – Soroti).
Mon	Kaabong	Market – buyers, sellers and Sub-County chair and woman trader
Mon	Kaabong	LC1 and Sub-county chair
Mon	Kaabong	DVO and Head of Production Office
Mon	Kaabong	Head of Kaabong Traders Association (Simon)
Tues	Kotido	Team meeting – discussion of findings, ways forward. Writing
Wed	Kotido	Writing. Input team / finance team logframes. Livestock health logframe
Thurs	Kotido	Writing.
Fri	Travel	Travel Kotido-Kampala

ANNEX VI: Weekly Market Schedules

Days	**Districts**		
	Abim	Kaabong	Kotido
Monday	Orwamuge	Komuria	Nakapelimoru
Tuesday			
Wednesday	Abuk	Karenga	Kanawati
Thursday			
Friday	Makatin		Rokitelebu
Saturday			Kokoria
Karenga market takes place on every last Wednesday of the month			