

Impact of a commercial destocking relief intervention in Moyale district, southern Ethiopia

Dawit Abebe, Adrian Cullis, Andy Catley, Yacob Aklilu, Gedlu Mekonnen and Yodit Ghebrechistos¹

A commercial destocking intervention was piloted in southern Ethiopia during the drought of early 2006. The intervention led to the purchase of an estimated 20,000 cattle valued at USD 1.01 million. On average, destocked households received USD 186 from the sale of cattle—approximately 5,400 households were involved. In terms of aid investment, the approximate cost–benefit ratio was 41:1. During the drought, income from destocking accounted for 54.2 per cent of household income ($n=114$ households), and was used to buy food, care for livestock, meet various domestic expenses, support relatives, and either pay off debts or augment savings. Seventy-nine per cent of the income derived from destocking was used to buy local goods or services. Expenditure on livestock care amounted to 36.5 per cent of local spending, and included the private transportation of livestock to better grazing areas. The buoyant livestock export trade was considered to be an important driver of commercial destocking, demonstrating a positive link between livestock and meat exports, and pastoral vulnerability during drought.

Keywords: commercial destocking, cost–benefit, Ethiopia, impact assessment, pastoralists, policy

Introduction

Destocking and drought response

It is widely recognised that recurrent drought has a major impact on the vulnerability of pastoralists in Ethiopia. While opinions vary on the severity and frequency of drought over the past 20 years or so, few would argue that it continues to result in excessive loss of pastoral livestock, cause severe hardship to pastoralists, and lead to repeated bouts of humanitarian assistance. Boran and Somali pastoralists reportedly expect a widespread failure every four or five years and a major drought every ten years (Hogg, 1997).

More than 20 years ago, an analysis of the humanitarian response to the 1984–85 famine in Darfur, Sudan, showed how most people affected by famine survived not because of aid, but due to their own resourcefulness and survival skills (de Waal, 1989). Food aid may have played a part in reducing impoverishment, but it was suggested that other relief interventions would have been more effective in preventing destitution. On recognising the importance of livestock to farmers and pastoralists, it was proposed that the early purchase of animals and the use of ‘fodder aid’ rather than food aid would have helped people to protect better their primary

resources and way of life. Around the same time, the drought-related purchase of livestock and the distribution of dried meat occurred in pastoral areas of Mali (Oxby, 1989); over the past 15 years, the concept of destocking has often been presented as an appropriate drought response in pastoral areas (see, for instance, Toulmin, 1995). Specific information on experiences of destocking can be gleaned from areas such as northern Kenya (Aklilu and Wekesa, 2002; Morton and Barton, 2002). Destocking and other types of livestock-related drought assistance fit well with the concept of saving lives and livelihoods. When viewed from a livelihoods perspective, destocking is a way to exchange some animals for money, thereby giving pastoralists the financial resources they need to buy food, maintain a core herd, and access the services that they want to (rather than those that aid agencies provide). This herd maintenance might involve the purchase of fodder or veterinary care, extending support to local markets and service providers.

In Ethiopia, the importance of safeguarding livestock assets in pastoral areas during drought was recognised in the National Policy for Disaster Prevention, Preparedness and Management, prepared soon after the fall of the regime of Mengistu Haile Mariam (Transitional Government of Ethiopia, 1993). In the policy, each district was required to respond to drought by preparing an action plan describing interventions to save livestock, including the supply of feed and water, veterinary inputs, livestock purchase centres, and mobile abattoirs. However, these types of emergency livestock-related intervention were not widely applied and food aid has remained the dominant response in pastoral areas since emergency interventions began in the 1970s. Similarly, despite the apparent rationale for destocking as a drought response in pastoral areas of Ethiopia (Hogg, 1997), its application in Ethiopia was limited up to 2006.

Livestock marketing in Moyale district, southern Ethiopia

This paper describes a destocking intervention in Moyale district in the far south of Ethiopia, during the drought of early 2006. In normal times, pastoralists in Moyale sell their animals (mainly cattle, sheep, and goats) across the border with Kenya because the price is more attractive than at home. In addition, big livestock traders from Ethiopia tend not to operate in Moyale markets because they have access to livestock from highland areas. The Ethiopian government has not endorsed this informal cross-border trade between Moyale and Kenya and hence accurate data on the volume of animals traded is not available. Some studies, though, indicate that on average, 400 head of cattle per day are sold through cross-border trade in normal times (Aklilu, 2002). Many of these cattle are moved down to the major Dagoretti livestock market just outside Nairobi. In general, drought in Moyale in recent years has coincided with drought in northern Kenya, leading to the collapse of the livestock markets on both sides of the border, deterioration in the condition of the animals, and dwindling supply.²

Around 2003, Ethiopia started to export chilled mutton and goat meat to the Gulf States. This resulted in a reduction in the flow of sheep and goats marketed between

Moyale and Kenya, as Ethiopian export traders began to source large numbers of animals from pastoral areas in southern Ethiopia (Aklilu, 2004). However, the export of chilled mutton and goat meat did not stop the informal cross-border trade of healthy cattle and larger sheep and goats between Ethiopia and Kenya. Although Ethiopia has also started to export chilled beef and live cattle in recent years, up until 2006 livestock export traders did not source these cattle from pastoral areas and they continued to rely on their traditional sources of supply in the highlands.

In Moyale district, private-sector livestock services were evident in the form of veterinary pharmacies in Moyale town, some of which supplied community-based animal health workers to more rural areas. Livestock feed was also available through private suppliers, but again, it was largely limited to Moyale town and its environs.

The Pastoralist Livelihoods Initiative

The Pastoralist Livelihoods Initiative (PLI) supported the commercial destocking intervention assessed in this paper. The United States Agency for International Development (USAID) funded the two-year programme, which sought to ‘mitigate the impact of drought and other shocks by sustainably improving preparedness, livelihoods and incomes of pastoralists’ in Ethiopia (Anonymous, 2005). The programme started in October 2005 and was implemented by four consortia of non-governmental organisations (NGOs) working with regional governments and federal government departments—Save the Children US (SC US) headed one of the consortia. Although livestock marketing initiatives in pastoral areas have a long and somewhat disappointing history, various international trends indicated that renewed investment in livestock marketing by programmes such as the PLI was appropriate. For example, Ethiopia had made substantial progress towards the national eradication of rinderpest, a disease that effectively prevents a country from engaging in a formalised livestock export trade according to international standards. In addition, greater private sector involvement in livestock exports included the appearance of private export abattoirs and the export of chilled meat. Partly responding to an increasing demand for chilled meat in the Gulf States and Egypt, private companies were seeking to meet export quotas, which in turn, meant purchasing livestock from pastoral areas (Aklilu, 2006). A complementary strategy of the PLI was to support privatised primary-level veterinary services in pastoral areas, believing that improved animal health provides direct advantages to pastoral households through improved milk supply and other benefits, while also reducing livestock mortality and boosting the number of animals available for sale.

Another component of the PLI programme focused on learning and policy development. This component was a response to the limited information available on the impact of emergency interventions in pastoral areas of the Horn of Africa, particularly the consequences for livelihoods. Many agencies monitored and reported on the implementation of project activities, but their effect on people’s lives was rarely assessed. Given the operational constraints in pastoral areas and the difficulties of using conventional research approaches, the PLI aimed to build the capacity of partner

NGOs in participatory impact assessment (PIA) and to use the results of the PIA to inform policy dialogue. Participatory approaches and methods are often viewed as purely qualitative, but some standardisation and repetition of participatory approaches and methods allows numerical data to be collected and analysed using conventional statistical tests. This adaptation of participatory approaches and methods has been widely applied by veterinary epidemiologists in marginalised areas (Catley, 2005; Thrusfield, 2005) and was used in Ethiopia prior to October 2005 to assess the impact of community-based animal health programmes (Abebe, 2005; Admassu et al., 2005). The PIA also fitted well with the developmental programming of many of the NGOs engaged in the PLI, which were using community-based and participatory approaches that involved communities in project design and implementation. A final consideration when using the PIA in the PLI was the need to utilise methodologies that NGOs could employ in the long term without too much specialised technical support.

Almost as soon as the PLI programme started in late 2005, it was evident that a major drought was evolving in parts of southern Ethiopia. The price of cattle in October 2005 was around Ethiopian Birr (EB) 1,200 (USD 138) per head, but over the following months it started to fall, and by March–April 2006 stood at only EB 438 (USD 50) per head. Although the PLI was not designed as a humanitarian programme, project partners working in drought-affected areas began to design and implement relief interventions. Drawing heavily on experience gained in northern Kenya during its drought of 1999–2001, best-practice guidelines were prepared to assist PLI agencies in designing livelihoods-based livestock interventions (Aklilu et al., 2006). It was also recognised that contrary to the Kenya experience, it might be possible to test alternative interventions such as ‘commercial destocking’, based on linking private livestock traders and drought-affected pastoral communities.

The commercial destocking intervention

Preparing for commercial destocking

The SC US proposal for the PLI acknowledged the possibility of drought during the two-year programme and thus included an emergency destocking fund for use in the alarm and emergency phases of the drought cycle. The proposal earmarked USD 25,000 for emergency destocking, but emphasised that this fund would be boosted through the diversion of development resources in the event of a drought during the life of the project. At the start of the PLI, programme-wide guidelines were produced that highlighted the need for a pilot to assess commercial destocking (Aklilu et al., 2006).

Linking traders to communities

Following a drought assessment by SC US in mid-December 2005, the agency participated in a series of meetings organised by the Ethiopian Ministry of Agriculture and Rural Development’s Department of Fisheries and Livestock Marketing, and

encouraged the formation of a multi-agency 'Commercial De-stocking Working Group'. At the request of the Marketing Department, SC US supported an awareness-raising meeting in Addis Ababa for livestock traders involved in supplying livestock to local and export markets; it was assumed that most of the traders with the capacity to mount a large-scale marketing response were based in and around the capital. A series of radio and television announcements served to invite people to the meeting on 17 January 2006. Convened by the Marketing Department, the meeting was attended by more than 40 livestock traders and abattoir owners as well as by government officials and NGO representatives who were working on livestock-related issues. The meeting was largely successful and a number of traders expressed an interest in travelling to the drought-affected areas to explore the possibility of purchasing drought-affected livestock. The Marketing Department convened two subsequent meetings to organise familiarisation trips to drought-affected areas; 21 livestock traders

Box 1 Some key features of the commercial destocking initiative in Moyale woreda

Initial discussions

SC US first introduced the traders to the district officials and then community meetings were held in areas where livestock were concentrated, namely Afdher and Liben Zones (Somali region) and Borena Zone (Oromiya region). Local government staff, SC US personnel, and traders and pastoralists attended the meetings and provisional arrangements were made for the establishment of 'commercial destocking markets'. Subsequent meetings were held between these same parties in the Moyale area when the two traders expressed serious interest in the purchase of cattle. SC US staff provided vehicles so that traders and officials could travel to areas of livestock concentration.

Selection of destocking sites

As a result of the meetings with the two traders outlined above, further meetings were held with pastoralists in convenient roadside locations. The traders felt that they would be able to buy all the stock they wanted near the road and were aware that the interior roads were poor and transporters would charge higher rentals, which they wanted to avoid. The exact locations of the destocking markets were negotiated between the traders and pastoralists.

Selection of livestock species to be destocked

Bearing in mind that cattle are particularly susceptible to drought and would suffer the highest rates of mortality, SC US suggested to the traders that cattle should be purchased. The purchase of cattle was also thought to be a more rapid approach to stabilising livestock prices generally, and it was known that Ethiopia was encouraging the export of cattle to Egypt. Initially, pastoralists were sceptical about the traders, but soon after the commencement of purchasing, they saw that the traders would buy thin cattle for high prices, and realised that they could sell cattle and use the money to feed goats and sheep.

Purchasing arrangements

Groups of pastoralists nominated a person to represent them in the destocking markets. This was a common practice already employed in the area because many pastoralists were not confident about negotiating with traders and were unsure of reasonable prices. The traders also liked this system as they could negotiate the purchase of large numbers of animals through few people.

Sale price of cattle

Prices were determined in negotiations between traders and pastoralists. The destocking markets were not normal 'open markets' with lots of traders, but much more closed with few traders—hence normal market values did not apply. In some cases prices were lower than in 'normal markets'; in other instances they were considerably higher. The trend towards higher prices was influenced by the export of cattle to Egypt.

visited five drought-affected districts in southern Ethiopia in early February 2006. However, only two traders felt that a link with local traders and concentrations of pastoralists would be worthwhile. These two traders expressed a particular interest in Moyale and therefore, SC US field staff in Moyale linked them to communities, thereby initiating the purchase of livestock. Box 1 summarises some of the key features of the purchasing at the community level.

Between 5 and 25 February 2006, the traders purchased 6,292 male cattle (many of them highly emaciated), which were either transported directly to holding grounds (in Awash, Metehara, and Nazareth) or held in the Moyale area, where they were provided with fodder until they were healthy enough to travel. The traders received no financial support from SC US for the purchase of these livestock.

Loans to traders for destocking

At the same time that SC US was working with the Marketing Department to organise visits by traders to drought-affected areas, a multi-agency 'Commercial Destocking Working Group' was established. It met in late January and early February 2006, and prepared and circulated *Modalities for the Provision of Short-Term Loans to Livestock Traders*, which included an application form and cover letter, and a legal agreement that clearly outlined the obligations of the lender and the borrower. It was proposed that the PLI partners avail a total of USD 2 million (or seven per cent of the total PLI budget) for this operation. USAID endorsed this proposal on 14 February 2006.

Following USAID approval of the loan scheme, SC US informed the two traders who had already purchased more than 6,000 cattle that they were eligible for loans. Each received an interest free loan of USD 25,000 on 28 February 2006. The agreement stated that, based on their performance, the two traders would each be eligible for a second loan of USD 25,000. However, the onset of rain resulted in the withdrawal of this offer, as livestock prices started to recover. The two loans were repaid on 1 August and 9 October 2006.

Cost-benefit estimation

In terms of the number of animals purchased, the results of the destocking activities are encouraging. In addition to the 6,292 cattle bought by the two traders, it became evident that they had influenced other commercial livestock traders to buy animals. The result was an additional 3,778 male cattle purchased from the Moyale area, bringing total cattle purchases during February and March 2006 to 10,915. It is important to note that SC US did not physically monitor all sales and when interviewing traders in September 2006 it became apparent that they had previously understated their acquisitions. At this point, the traders were adamant that they had bought at least 20,000 cattle.

An initial sample of 2,110 sales in February 2006 indicated a total purchase price of EB 924,154 (USD 106,225); the average purchase price was EB 438 (USD 50.34) per head and on average, 3.7 cattle were sold per household. Using the average

Table 1 Approximate cost–benefit ratio for the commercial destocking intervention in Moyale woreda

Benefits	Items and costs (USD)	
20,000 cattle purchased at an average price of EB 438 (USD 50.34), resulting in EB 8.76 million (USD 1.01 million) cash transfer	Save the Children US costs:	
	SC US staff salaries	5,090
	Vehicle costs	7,472
	Workshops/meetings	1,150
	Temporary hires	542
	Per diems	161
	Administration support	100
	Subtotal	14,515
	SC US overhead at 17 per cent	2,468
	SC US total costs	16,983
	Marketing Department costs: staff and vehicle provision (estimate)	7,500
	Total	24,483

Notes:

The cost–benefit estimation was calculated by dividing the value of the cash transfer derived from cattle purchases by the total costs incurred by the implementing agencies (USD 1,010,000/USD 24,483 = 41:1).

The number of purchased cattle used in the calculation was 20,000, based on estimates by the two traders involved in the destocking.

Two loans were provided to traders, valued at USD 50,000. The loans were fully repaid and hence were not included in the costs.

purchase price and assuming that 20,000 cattle were purchased, the total value of cattle destocked was approximately EB 8.76 million (USD 1.01 million); some 5,400 households benefited from the intervention.

Using the trader's minimum estimate of the number of cattle purchased and the value of these cattle, the total value of cash transferred to pastoralist households was calculated to be USD 1.01 million. A cost–benefit estimation was then produced by comparing the cash benefits to households with the costs incurred by the implementing agencies (Table 1). With regard to aid investment, the approximate cost–benefit ratio was 41:1 for this intervention.

Livelihoods Impact Assessment

Assessment methodology

The impact assessment of the destocking initiative combined participatory approaches and methods with conventional sampling methods and statistical analysis, and was adapted from methodologies previously used in pastoral areas of Ethiopia (Admassu et al., 2005; Abebe, 2005). Results from participatory approaches and methods were cross-checked against the project process monitoring data presented above. The

Table 2 Participatory methods used in the assessment of commercial destocking in Moyale woreda

Method	Use	Sample size
Timeline	To determine the times when the intervention started and ceased	Seven groups of informants (one group per kebele; 10–15 people per group)
Proportional piling	To determine relative proportions of different sources of income and expenditure	114 households
Matrix scoring	To compare different food and non-food relief interventions using community-defined impact indicators	114 households
Semi-structured interviews	Used with all other methods to cross-check information and clarify responses	114 households

assessment was carried out in seven kebeles (a cluster of villages representing the smallest administrative unit in Ethiopia) where commercial destocking had been conducted. A list of 570 households that had destocked cattle during the drought was obtained from the Moyale District Pastoral Development Office. From each kebele, 20 per cent of destocked households were randomly selected, giving a total sample size of 114 households. Table 2 summarises the participatory approaches and methods used in the assessment. The proportional piling and matrix scoring methods were standardised and repeated with all 114 informants. Semi-structured interviews formed part of each of these methods, providing a flexible opportunity to verify and probe responses, and to clarify information as necessary.

Results

Timing of the intervention

The timeline results from the seven kebeles were compiled and are presented in Table 3.

Impact of destocking on livelihoods: income and expenditure during the drought

Figure 1 shows the relative proportions of different sources of income for destocked households. On average, 54 per cent of household income was derived from the sale of animals during the drought, significantly higher than any other source (at the 95 per cent confidence level). In absolute terms, this amounted to approximately EB 1,618 (USD 184) per household, and therefore represented a substantial injection of cash. The second most important source of income during the drought was labour (safety net), which, on average, comprised around 21 per cent of total household income, significantly higher than all other sources apart from destocking (at the 95 per cent confidence level).

Figure 2 summarises use by households of income derived from destocking; 11 main types of expenditure were identified. Although the purchase of food for people was

the highest single item of expenditure (28 per cent), pastoralists also invested heavily in safeguarding their remaining livestock. Expenditure on livestock accounted for 37 per cent of the money obtained from destocking, comprising feed for animals (19 per cent), transporting animals to other grazing areas (12 per cent), and veterinary care (six per cent). Livelihoods-based interventions, such as destocking, are partly justified on the basis of supporting local markets and economies. With this

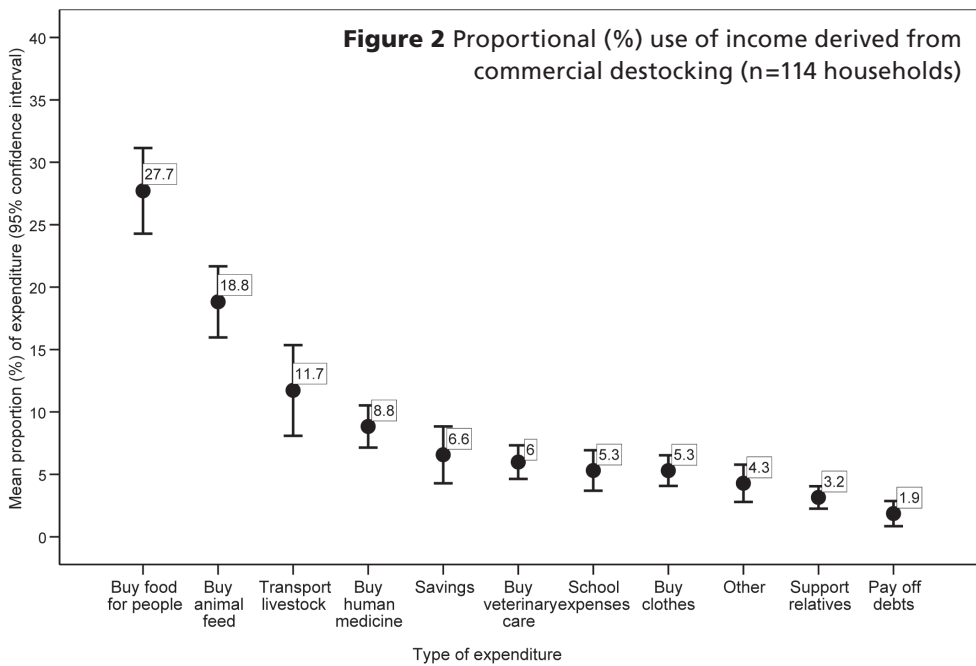
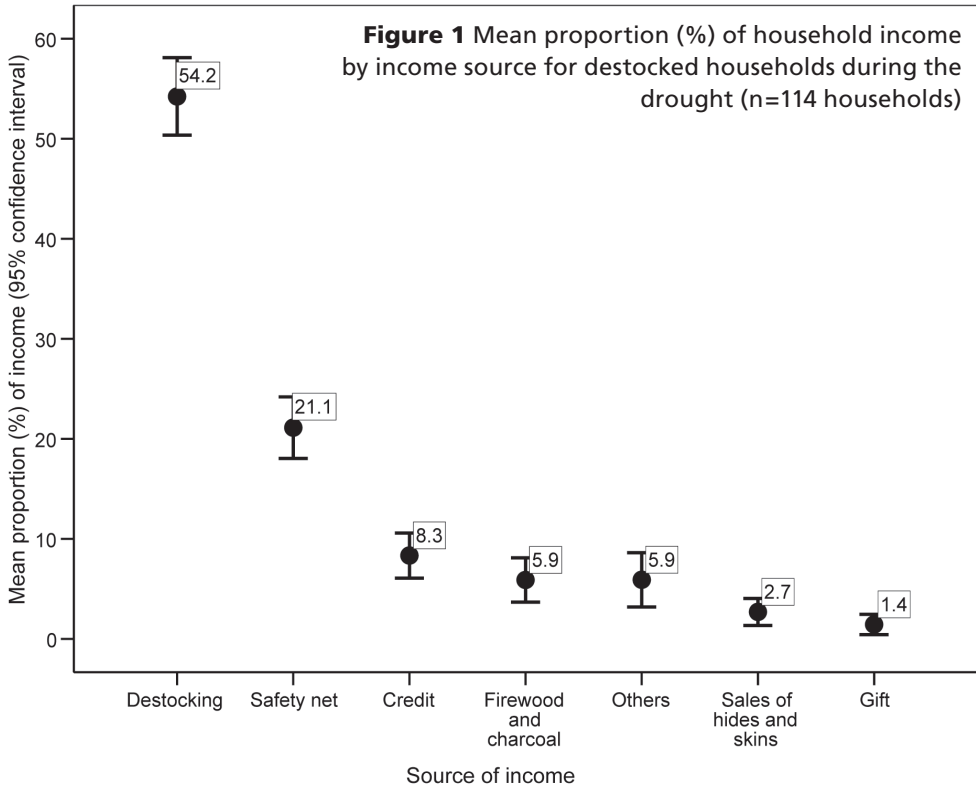
Table 3 Key events during the 2005–06 drought, Moyale district

	Month/season	Events
	Gaana*, 2005	<ul style="list-style-type: none"> • Late and insufficient rain. • Rain supposed to start in Gurandhala but comes late to Bitotessa and for a short period. • Pasture does not grow well.
	Hagya**, 2005	<ul style="list-style-type: none"> • Late and insufficient rain. Rain starts in Chika instead of Hagaya or Bira.
	Sadassa, 2005 (November)	<ul style="list-style-type: none"> • Livestock start to die, beginning with calves, followed by adult cattle, sheep, and even donkeys.
	Abrassa, 2005 (December)	<ul style="list-style-type: none"> • Dams completely dry up; no water available for livestock and human beings. • Different livestock diseases emerge, such as Awarssa, Luxxa, and Sombessa.
	Amaji, 2006 (January)	<ul style="list-style-type: none"> • Food shortages occur and people start to starve. • Food aid initiated by government and GAYO (a local NGO). • Migration to towns and different areas starts. • Large number of cattle die. • Abdhuba Abakude, a pastoralist from Tuqa Kebele, kills himself after losing all of his cattle.
Support for destocking begins	Gurandhala 2006 (February)	<ul style="list-style-type: none"> • Destocking started by traders, supported by SC US. • Pastoralists transport some of their remaining animals to other places (Arero, Didera, Fincha, Liben–Dawa River, Surupa, and Yabello). • Government starts delivering food aid and water using tankers. • Red Cross assists with water tankering and provides water containers and water purification medicines. • CARE and GAYO begin to offer livestock feed supplement. • Road construction under safety net programme started as a source of cash for the community.
Support for destocking ends	Bitotessa, 2006 (March)	<ul style="list-style-type: none"> • Destocking stops. • Rain starts. • Water tankering ends. • Pasture starts to emerge but not in all places.
	Chamssa, 2006 (April)	<ul style="list-style-type: none"> • Livestock in better condition. • Migrated livestock start to return.

Notes:

*Ganna is the long rainy season (Gurandhala: February; Bitotessa: March; and Chaamsa: April).

**Hagya is the short rainy season (Hagaya: August; Bira: September; Chika: October).



in mind, 79 per cent of the money acquired through destocking was used to purchase local goods or services: food for people (28 per cent), feed for animals (19 per cent), trucking fees (12 per cent), human medicines (nine per cent), veterinary care (six per cent), and clothes (five per cent). In addition, people were able to use some of the money from destocking to pay school fees, wipe out debts, offer support to relatives, and augment savings.

Table 4 shows a comparison of different relief interventions. The indicators reflect both short-term and longer-term needs, such as 'Saves human lives' and 'Helps fast recovery and rebuilding herd', respectively. Looking at each in turn, the indicator 'Helps us to cope with the effect of the drought' reflects the value of an intervention to buttress a household's capacity to cope with the shocks and stresses caused by the drought. Destocking was considered to be the most useful intervention (mean score 9.1), with a significantly higher score (95 per cent confidence limit) than any other intervention. In follow-up interviews after scoring this indicator, all informants confirmed that they were able to buy their own food with the money obtained from destocking, instead of having to wait for food aid as they did during droughts of previous years. They also described the advantage of destocking over food aid, explaining that money from destocking could be used to buy other things, such as medicines and clothes (as confirmed in Figure 2). Food aid was perceived as the second most important intervention to help people cope with the effects of drought (mean score 6.9).



























The indicator 'Helps fast recovery and herd rebuilding' reflects the value of an intervention in terms of its ability to assist with post-drought recovery, particularly the rebuilding of herds. Again, destocking was scored significantly higher than any other intervention (mean score 11.1); informants explained this score by describing the applications of money derived from destocking. Almost all informants said that they were able to use some of the money from destocking to buy animal feed and veterinary medicines, thereby protecting their remaining livestock. Some also said that they saved some money from destocking and used it to restock after the drought (often purchasing goats). Feed supplementation (mean score 5.7) and veterinary support (mean score 4.4) were also important. Some food aid was fed to livestock, a practice that explains the scores allocated to food aid for this indicator (mean score 4.9).

The indicator 'Helps the livestock to survive' reflects the value of an intervention vis-à-vis saving livestock, and therefore, partly overlaps with the previous indicator. Destocking (mean score 10.3) and feed supplements (mean score 8.9) were considered to be the most useful interventions and again, income from destocking was mentioned as a means to buy veterinary care (mean score 4.9). Informants noted that unlike the past drought, it was possible to save most animals that otherwise would have died through destocking and feed supplement interventions.

The overall preference indicator was used to measure informant's overall preference in relation to the different relief interventions during the drought. The four most-preferred interventions were destocking (mean score 10.6), feed supplementation (mean score 6.2), food aid (mean score 4.7), and veterinary care (mean score 4.2).

Table 4 Community perceptions of interventions during and after the drought

INDICATORS	MEAN SCORES (95% CONFIDENCE INTERVAL) FOR INTERVENTIONS							
	Destocking	Veterinary support	Livestock feed supplementation	Food aid	Water supply	Labour (safety net)	Credit	Others
Helps us to cope with the effect of the drought	••• ••• •••	•• ••	•• •• ••	•• •• •• ••	•• ••	•	•	
	9.1 (8.5, 9.7)	3.5 (3.2, 3.9)	5.7 (5.1, 6.2)	6.9 (6.5, 7.4)	3.0 (2.4, 3.6)	0.8 (0.5, 1.1)	0.5 (0.2, 0.8)	0.4 (0.2, 0.7)
Helps fast recovery and herd rebuilding	•• •• •• ••	•• ••	•• •• ••	•• •• ••	•• ••	•	•	
	11.1 (10.5, 11.7)	4.4 (3.9, 4.9)	5.7 (5.0, 6.3)	4.9 (4.4, 5.6)	1.9 (1.5, 2.4)	0.9 (0.5, 1.4)	0.6 (0.1, 1.1)	0.4 (0.1, 0.7)
Helps the livestock to survive	•• •• ••	•• ••	•• •• ••	••	•• ••			
	10.3 (9.5, 11.2)	4.9 (4.4, 5.4)	8.9 (8.1, 9.7)	2.3 (1.8, 2.8)	2.8 (2.2, 3.5)	0.2 (0.1, 0.4)	0.3 (0.1, 0.6)	0.2 (0.0, 0.4)
Saves human life better	•• •• ••	••	•• ••	•• •• •• ••	•• ••	•	•	
	9.8 (8.9, 10.6)	2.4 (1.9, 2.8)	3.7 (3.1, 4.3)	8.8 (8.1, 9.6)	3.6 (2.9, 4.3)	0.9 (0.5, 1.3)	0.5 (0.2, 0.9)	0.3 (0.1, 0.5)

Benefits the poor most								
	7.6 (6.7, 8.6)	1.9 (1.6, 2.3)	3.2 (2.5, 3.8)	11.0 (10.1, 11.9)	3.7 (2.8, 4.3)	1.6 (0.9, 2.2)	0.7 (0.3, 1.1)	0.5 (0.1, 0.8)
Socially and culturally accepted								
	11.5 (10.6, 12.4)	5.1 (4.7, 5.6)	5.8 (5.1, 6.4)	3.4 (2.8, 3.9)	2.6 (2.1, 3.2)	0.9 (0.5, 1.4)	0.3 (0.1, 0.5)	0.3 (0.1, 0.5)
Timely and available								
	8.4 (7.8, 9.0)	3.3 (2.9, 3.7)	4.3 (3.9, 4.6)	8.5 (7.9, 9.1)	3.5 (2.8, 4.1)	1.2 (0.7, 1.7)	0.5 (0.2, 0.8)	0.3 (0.1, 0.5)
Overall preference								
	10.6 (9.9, 11.2)	4.2 (3.8, 4.7)	6.2 (5.5, 6.9)	4.7 (4.1, 5.2)	2.6 (2.1, 3.2)	1.0 (0.5, 1.5)	0.4 (0.1, 0.6)	0.3 (0.1, 0.6)

Notes:

n=114 households. Results derived from matrix scoring of each indicator using 30 stones; mean scores (95 per cent confidence interval) are shown in each cell. The black dots represent the stones used during matrix scoring. CARE implemented the animal feed and water tankering interventions under the Pastoralist Livelihood Initiative/Enabling Afar and Borana Livelihood efforts (PLI/ENABLE) programme. Veterinary support was a joint effort led by the Lay Volunteers International Association (LVIA) under the SC US PLI consortium, and involved veterinary medicine and vaccines provided to LVIA by the Food and Agriculture Organization of the United Nations (FAO) through the Oromia Pastoral Development Commission.

Informants recognised the value of destocking as a way of saving their remaining livestock and contributing to herd rebuilding.

Discussion

To our knowledge, this paper describes the first attempt at commercial destocking as an emergency response in pastoralist areas of Ethiopia. The intervention was not pre-planned in detail and SC US staff and partners, such as the Marketing Department, had to respond quickly to conditions on the ground and to design the operation intuitively as it progressed. This somewhat ad hoc but expert-driven approach reflects the realities of designing and implementing innovative approaches in emergencies, particularly when there is only a narrow window of opportunity. In the case of commercial destocking, it is generally assumed that commercial offtake will only occur while animals are in reasonable bodily condition or at least capable of recovering following feeding on holding grounds. At some point, animals will become too thin and weak for transport, leading to emergency slaughter and meat distribution, the next option (see, for example, Aklilu and Wekessa, 2002). Although SC US had been implementing development activities in Moyale district, its programmes had not included livestock marketing. Baseline data on livestock marketing in the area was limited.

The impact on livelihoods of destocking

Despite the involvement of only two traders in the destocking initiative, and the rapid design and implementation of the work, dramatic results ensued. Not only did destocking provide more than 50 per cent of household income during the drought (Figure 1), but also this income was used in very rational ways, to meet immediate household needs and to protect assets (Figure 2)—expenditure on livestock accounted for 37 per cent of income derived from destocking. The transportation of some remaining cattle to grazing areas is a novel approach to protecting assets and was organised in the absence of advice or support from government or aid agencies. This is a good illustration of people using their resources wisely, when resources are available. Up to 79 per cent of the money procured through destocking was used to buy local goods or services, highlighting livelihoods benefits in terms of supporting local markets and services required for post-drought recovery.

A comparison of livestock-based inputs, food aid, and safety nets (Table 4) reveals that food aid was the third most preferred option and was a particularly important type of support for poorer households. The safety net was not perceived as a useful approach during the drought, but it did account for 21 per cent of household income (Figure 1). These findings indicate a need for better integration of non-food and food-based responses, and suggest a need for analysis of the right balance of non-food and food inputs by wealth group.

The impact assessment did not aim to disaggregate by wealth, but in general, one might expect wealthier households to be more likely to own cattle in pastoralist areas.

If so, the focus of the commercial offtake on cattle rather than other livestock species might have benefited the wealthy. In part, this possibility is reflected in Table 4, and in the high scoring of food aid relative to destocking for the indicator 'Benefits the poor most'. However, baseline livelihoods data, which became available after the destocking initiative and covered part of Moyale district, indicated that poor and middle wealth groups mostly owned cattle, whereas the wealthiest herders tended to keep camels (Save the Children UK and Disaster Prevention and Preparedness Agency, 2006).³ The impact assessment noted that the main source of income for livestock-owning households was the sale of livestock, and that poor households sold cattle and goats. It mentions also a 'very poor' wealth group, comprising around five per cent of the population, that seemed not to own livestock but which received gifts from the middle and better-off wealth groups. Further research is needed to understand the impact of the destocking on poorer groups, but it is possible that destocking of cattle did indeed assist the least wealthy groups that actually owned livestock, whereas food aid was perceived by communities as being of particular benefit to those who did not own any livestock.

The use of some income to buy livestock feed and veterinary drugs (Figure 2) demonstrates support for local markets and services, but also it indicates that free provision of livestock feed and veterinary care by NGOs or government may not be needed if an adequate destocking response can be organised. In the event of such a response, pastoralists should be able to purchase these inputs as required from the private sector.

One way to consider destocking is as an indirect method of cash transfer to pastoral households during drought. As such, assessments of destocking are relevant to wider debates about cash distributions during emergencies and the ways in which people use this money. Cash-based approaches are not new in Ethiopia, dating back to the United Nations Children's Fund (UNICEF)'s Cash-for-Food programme during the famine of 1983–85, which targeted 95,000 people. A UNICEF evaluation team examined expenditure patterns and was surprised to discover that even among famine-affected populations, only 75 per cent of the money was spent on food (cited in Peppiatt, Mitchell and Holzmann, 2001). The remainder went on clothes, animals, seeds and tools, land taxes, peasant association dues, and debt repayments. More recently, renewed interest in cash-based programmes has generated an increasing body of evidence to support the notion that in crises, people use money effectively (Harvey, 2007). In addition to the findings of the two case studies in this report, cash-based approaches in other parts of Ethiopia (Knox-Peebles, 2001), as well as in Somalia (Narbeth, 2004; Ali, Toure and Kiewied, 2005), Malawi and Zambia (Harvey and Savage, 2006), are among the examples of appropriate use of cash by recipient households. While proponents of 'food-only' approaches may argue that food aid should remain the dominant response during drought because markets are weak or because communities are unable to manage money properly, experience in Ethiopia dating back more than 20 years indicates otherwise.

Timing of the intervention

The destocking intervention was rapidly designed and with limited prior experience of supporting this kind of initiative in Ethiopia. Although the results of the assessment and the cost–benefit estimation show the advantages of destocking, Table 3 indicates that the intervention occurred late in the drought—drought was declared in November 2005 whereas destocking took place in March 2006. As noted above, the price of cattle in October 2005 was around EB 1,200 (USD 138) per head, but by March–April 2006 it had fallen to EB 438 (USD 50) per head. If destocking had happened in January 2006, it is likely that pastoralists might have received twice the amount for their cattle, indicating that better contingency planning and preparation of traders are needed for future droughts.

Involvement of traders

The involvement of livestock traders in destocking and the particular strategy used by SC US and government partners should be viewed in the context of two main types of marketing channels present at the time. The more well-established system of livestock marketing in and around Moyale included the cross-border movement of livestock from Ethiopia to Kenya, as outlined above. This trade was handled by Somali traders and was perceived by the Ethiopian government as informal and inappropriate. Although when viewed from a livelihoods perspective the trade was clearly beneficial to pastoralists, we did not feel that a drought situation was the right time to raise sensitive policy issues related to the cross-border trade or to attempt to offer direct support to the traders involved. As the drought was also affecting northern Kenya, the demand for drought-affected livestock in Kenya was also questionable. Instead, the programme focused on the formalised livestock trade in Ethiopia and sought to link traders involved in the export trade to pastoralist communities in Moyale.

Twenty-one livestock traders visited drought-affected areas and up to USD 2 million was made available in the PLI budget, yet only two traders intervened during the drought. As noted above, the formal livestock export traders tended to be highland-based and many were unfamiliar with pastoralist areas of the country. We did not survey the reasons for the limited interest of these traders, but it is likely that pastoralist areas continue to be perceived as insecure, with very high transaction costs due to poor roads. There are also important ethnic, cultural, and religious differences between traders based in and around Addis Ababa, and pastoralists in Moyale.

Despite the problem of poor roads, transport subsidy was not considered to be a useful option in Moyale. A review of transport subsidies utilised in the drought in northern Kenya in 1999–2001 showed that traders managed to access the funding without actually moving livestock (Aklilu and Wekesa, 2002), and in southern Ethiopia, it would have been difficult to establish a stringent control system for an effective transport subsidy operation in more inaccessible areas. There was also an implicit understanding among the implementing parties not to introduce livestock traders to a new kind of dependency by familiarising them with the transport subsidy.

To a large degree, the commercial destocking intervention was an exercise in communication between traders previously unfamiliar with drought offtake opportunities in Moyale, and pastoralists. However, there are still major communication gaps between traders and pastoralists, and hence there is a need for ongoing awareness-raising involving individual traders and the various livestock marketing associations in Ethiopia. The Marketing Department has an important role to play in convening events in which representatives from pastoralist communities and traders can discuss marketing opportunities.

The assessment did not aim to examine the impact of the ‘new’ destocking trade on existing local traders in the area, yet we reached the conclusion that this was likely to be minimal for two reasons. First, local traders tend to be more involved in the cross-border Ethiopia–Kenya trade than in the formalised export trade between Ethiopia and countries such as Egypt. In part, the cross-border trade is facilitated by the presence of Somali communities on both sides of the border. Second, the new trade was actually short-lived because Egypt imposed a ban on live cattle imports from Ethiopia in mid-2006 (see below).

Requirements for scaling up commercial destocking

This experience of commercial destocking provides useful indicators for the wider application and institutionalisation of the approach in Ethiopia. Perhaps the first point to note is that although we sought initially to cover five districts and traders were exposed to these districts, traders opted to focus on only two districts. The main reason for this restricted coverage was the appalling condition of the roads in the area, and therefore there was a desire to limit activities to the vicinity of the main asphalt road to reduce transaction costs. This shows how poor roads and infrastructure in pastoralist areas hinders opportunity and in the case of commercial destocking, most likely limits the approach to relatively accessible communities. If stronger livestock marketing systems are to evolve in these areas, the need for better roads is self-evident.

The provision of loans to traders during the intervention was in response to requests from traders, and probably bridged a short-term gap in capital flow during the drought. Clearly, the purchase of animals by traders to the value of around USD 1 million vastly exceeded the USD 50,000 provided in loans. Given the current loan arrangements offered by the government and private banks in Ethiopia, particularly for livestock activities, there is a need to design and institutionalise ‘fast-track’ loan schemes to support large-scale destocking during the early stages of a drought. NGOs might also offer loans, but this is not a long-term solution and besides, many NGOs are constrained by their own financial management systems. While private banks might also be an option, these are profit-orientated actors and will only provide loans if the return outweighs the risk. A third possibility might be to use a central relief fund within a United Nations (UN) coordinating agency to provide quick loans to traders, with a technical group of governmental and non-governmental agencies screening applications. A central contingency fund could also finance other

forms of livelihoods-based support, such as feed supplementation and veterinary care. This kind of arrangement fits well with risk-management initiatives in Ethiopia intended to promote timely emergency financing through contingency funds, based on a pre-agreed livelihoods protection index. This index is being developed using conventional, quantitative modelling techniques, data on the number of beneficiaries and the level of exposure, and rainfall and vegetation cover estimates (Hess, Wiseman and Robertson, 2006).

During a drought, livestock in pastoralist areas become thin and in some cases, unfit for transport. Traders require holding facilities for these animals, either in pastoralist areas (for animal too weak to travel) or in or around abattoirs. At present, limited holding grounds are a constraint, and both traders and government need to allocate holding zones prior to the onset of drought and agree modalities for utilising and maintaining these facilities. Moreover, frequent customs and taxation points along the route hindered the transport of purchased livestock away from drought-affected areas to holding grounds. Temporary suspension of these payments should be considered during droughts periods.

At the time of the destocking, the export of livestock from Ethiopia to countries such as Egypt and the United Arab Emirates was well established and undoubtedly was one of the main incentives for livestock traders to buy animals for pastoral areas. However, in mid-2006, outbreaks of foot-and-mouth disease in Egypt led to a ban on live animal imports from Ethiopia. Similarly, outbreaks of Rift Valley fever in Kenya and southern Somalia in 2006 resulted in a ban on livestock imports by the Gulf States. While the technical justification for these prohibitions remains open to question, at the time of writing (in early 2007), livestock exports from Ethiopia had markedly declined relative to the situation in early 2006. If interventions such as commercial destocking require a reasonably robust and pre-existing livestock marketing system, then such interventions are closely linked to a range of marketing issues, including international animal health standards governing trade, and the capacity of countries such as Ethiopia to negotiate in the face of trade bans. In turn, this capacity relates to the status of government veterinary services and the credibility of these services as perceived by trading partners.

Policy-related initiatives

One component of the PLI programme was the establishment of a National Livestock Policy Forum in Ethiopia, convened by the Ministry of Agriculture and Rural Development. Its initial task was to develop national best-practice guidelines for emergency livestock interventions in pastoral areas. Five working groups were set up to examine specific interventions and by early 2007, they comprised more than 65 experts drawn from government, NGOs, research centres and universities, international agencies, and the private sector. The assessment described in this paper is contributing to the development of national guidelines on destocking in pastoral areas of Ethiopia, as well as informing the development of global Livestock Emergency Guidelines and Standards.⁴ The latter is intended to complement the Humanitarian

Charter and Minimum Standards in Disaster Response. An important principle being applied in the emerging Ethiopian guidelines is the notion of drought as 'normal' and therefore, an event that ultimately should be predicted and planned for in long-term development processes rather than being treated as a recurrent emergency. This concept is not new, having featured in discussions on drought response in Ethiopia for at least 10 years (Hogg, 1997) and in the wider literature on drought management in pastoral areas (Barton, Morton and Hendy, 2001). While livelihoods-based approaches to relief programming in pastoral areas can provide more appropriate assistance than typical emergency relief, to some extent livelihoods-based programmes necessitate the pre-existence of livestock services and markets. A strong, pre-existing livestock export trade will drive commercial destocking. A strong, pre-existing network of primary veterinary service delivery will provide a system through which emergency veterinary care can be delivered.

There are considerable opportunities to improve linkages between pastoralists and livestock traders during normal periods and during drought. Based on the case studies presented here, policymakers need to question the myth that pastoralists refuse to sell their animals during drought. Not only will pastoralists sell animals, but also they use the income in entirely logical ways to satisfy their immediate food needs and to protect their remaining livestock assets.

Further research needs

Cost–benefit analysis

In general, cost–benefit analysis has not been as widely applied in humanitarian programmes as it has in development programmes. This difference in application probably relates to the humanitarian emphasis on saving human lives and the difficulty of assigning a monetary value to human life (Venton and Venton, 2004). However, as livelihoods programming may seek to protect assets or maintain services, cost–benefit analysis becomes useful in cases where assets have a clear financial value or where one can estimate the cost of re-establishing a defunct service. In the case of livestock interventions, livestock has a market value that is usually easy to define for different species and types, in different states of condition. It is also possible to predict and quantify the productive potential of livestock in terms of milk production, sale of offspring, or other relevant variables. For these reasons, there are opportunities to make greater use of cost–benefit analysis as a complement to a participatory impact assessment of livestock relief interventions. Given the dominant role of food aid in emergency responses in pastoral areas, comparative assessments of livestock and other livelihoods-based inputs versus food aid would be valuable.

Combining livestock interventions and food aid

Pastoral communities in Moyale regarded food aid as an important form of drought assistance, particularly as a short-term measure for poorer households during drought (Table 4). A weakness in the methodology used to produce the results in Table 4 was that the definition of poor households was not clear when using the

indicator 'Benefits the poor most' and therefore, it was not known whether this indicator referred to the very poor who owned no livestock or to poor households who owned livestock (including cattle). Similarly, safety nets were also viewed as relevant to the poor and comprised 21.1 per cent of household income during the drought (Figure 1), but again it was unclear who these poor people actually were. Further research is needed to examine these issues and to determine what combination of food aid and livestock support is appropriate by wealth group.

In some agencies, there is also a need to improve the capacity of their emergency units to design and implement livelihoods-based support, particularly if these units currently focus on food aid. Experiences to date indicate that livelihoods-based programmes are most effective and timely when relief and development thinking is combined within a single team or unit within an agency. The impact of these new organisational arrangements needs to be assessed, yet to date, some of the best livelihoods-based relief work can be found within development programmes, which have an in-built capacity to respond to drought.

Environmental impact

From time to time, destocking has been advocated as a means to protect diminishing grazing resources in times of drought, by removing livestock from the rangeland. The assessment presented in this paper did not aim to evaluate the impact of destocking on the environment, although previous studies have suggested that the relatively limited number of animals destocked results in minor changes in grazing pressure (Morton and Barton, 2002). In Moyale, the destocking of approximately 20,000 cattle during a period of four-to-six weeks is large compared to other destocking initiatives. Further research is needed to assess the environmental consequences of commercial destocking and to suggest which environmental impact indicators might be used in future destocking interventions.

The impact on the local market

The impact assessment described here did not seek to consider the consequences of the interventions on local markets. However, the cattle purchased were drought stricken and experience indicated that such animals would not have been sold locally and that some would probably have died during the drought. If so, the intervention probably had a limited impact on local markets in Moyale. During drought, livestock prices rise as animals die and market supply falls. Although we assumed that this trend would manifest itself regardless of whether the intervention took place, further research is required.

Conclusions

This paper provides evidence that commercial destocking is a viable and useful drought intervention. In Ethiopia, the presence of an active livestock export trade was a key incentive for traders and showed the links between private sector investments in livestock

marketing and infrastructure, and humanitarian response. Similarly, drought management requires government, relief agencies and donors to assume that drought is inevitable in pastoralist areas and therefore, to develop harmonised development and relief strategies. In the case of destocking, long-term investments in domestic and export livestock marketing could support better risk assessment of drought, contingency planning, clear triggers for intervention, and mechanisms for the rapid release of funds. In the event that strong livestock marketing systems are in place, the facilitating role of government and NGOs can be very cost effective and might involve loans to traders. The potential for commercial destocking to reach the most vulnerable pastoralist households requires further research, as does the most appropriate combinations of livelihoods-based interventions such as destocking, and food aid.

Acknowledgements

The Pastoralist Livelihoods Initiative was funded by the United States Agency for International Development. It involved various actors, including the Department of Fisheries and Livestock Marketing and in particular, the Head of the Department, Mr. Belachew Hurissa Dadi.

Correspondence

Dawit Abebe, Feinstein International Center, Friedman School of Nutrition Science and Policy, Tufts University, PO Box 1078, Addis Ababa, Ethiopia. E-mail: dawit.abebe@fic-et.org.

Endnotes

- ¹ Dawit Abebe is Research and Policy Specialist at the Feinstein International Center, Friedman School of Nutrition Science and Policy, Tufts University, Addis Ababa, Ethiopia; Adrian Cullis is Team Leader, Food Security Unit at Save the Children US, Addis Ababa, Ethiopia; Andy Catley is Principal Investigator and Senior Policy Analyst at the Feinstein International Center, Friedman School of Nutrition Science and Policy, Tufts University, Addis Ababa, Ethiopia; Yacob Aklilu is Senior Pastoralism and Trade Advisor at the Feinstein International Center, Friedman School of Nutrition Science and Policy, Tufts University, Addis Ababa, Ethiopia; Gedlu Mekonnen is Livestock Advisor at Save the Children US, Addis Ababa, Ethiopia; and Yodit Ghebrechirstos is Monitoring and Evaluation Officer at Save the Children US, Addis Ababa, Ethiopia.
- ² More detailed information on livestock marketing in southern Ethiopia can be found, inter alia, in Teka, Azeze and Gebremariam (1999).
- ³ For the Moyale Wayamo Pastoral Livelihoods Zone, cattle holdings among poor, middle, and better-off households were 8–15, 25–30, and ‘few if any cattle’, respectively. In contrast, camel ownership among the same wealth groups was 7–15, 25–35, and 60–70. Sheep and goat ownership was 15–25, 20–35, and 35–60 (Save the Children UK and Disaster Prevention and Preparedness Agency, 2006).
- ⁴ More information on the Livestock Emergency Guidelines and Standards can be found at <http://www.livestock-emergency.net>.

References

- Abebe, D. (2005) *Participatory Review and Impact Assessment of the Community-based Animal Health Workers System in Pastoral and Agro-Pastoral areas of Somali and Oromia Regions*. Save the Children US, Addis Ababa.
- Admassu, B. et al. (2005) 'Impact assessment of a community-based animal health project in Dollo Ado and Dollo Bay districts, southern Ethiopia'. *Tropical Animal Health and Production*. 37(1). pp. 33–48.
- Aklilu, Y. (2006) 'A review of policies and their impact on livestock trade in Ethiopia during three regimes (1965–2005)'. In J.G. McPeak and P.D. Little (eds.) *Pastoral Livestock Marketing in Eastern Africa: Research and Policy Challenges*. Intermediate Technology Publications, Rugby. pp. 187–202.
- Aklilu, Y. (2004) *Pastoral Livestock Marketing Groups in Southern Ethiopia: some preliminary findings*. Paper presented at the Access to Markets Workshops, Nazareth, 2–3 November 2004. Cordaid, Ethiopia.
- Aklilu, Y. (2002) *An Audit of the Livestock Marketing Status in Kenya, Ethiopia and Sudan*. African Union and Interafrican Bureau for Animal Resources, Nairobi.
- Aklilu, Y., B. Admassu, D. Abebe and A. Catley (2006) *Guidelines for Livelihoods-based Livestock Relief Interventions in Pastoralist Areas*. USAID Ethiopia and Feinstein International Center, Addis Ababa.
- Aklilu, Y. and M. Wekesa (2002) *Drought, livestock and livelihoods: Lessons from the 1999–2001 emergency response in the pastoral sector in Kenya*. Humanitarian Practice Network Paper 40. Overseas Development Institute, London.
- Ali, D., F. Toure and T. Kiewied (2005) *Cash relief in a contested area: Lessons from Somalia*. Humanitarian Practice Network Paper 50. Overseas Development Institute, London.
- Anonymous (2005) *Pastoralist Livelihoods Initiative Design*. USAID, Addis Ababa.
- Barton, D., J. Morton and C. Hendy (2001) *Drought Contingency Planning for Pastoral Livelihoods*. Policy Series 15. Natural Resources Institute, Chatham.
- Catley, A. (2005) *Participatory Epidemiology: A Guide for Trainers*. African Union and Interafrican Bureau for Animal Resources, Nairobi. <http://www.participatoryepidemiology.info/PE%20Guide%20electronic%20copy.pdf> (accessed March 2006).
- de Waal, A. (1989) *Famine That Kills: Darfur, Sudan, 1984–1985*. Clarendon Press, Oxford.
- Harvey, P. (2007) *Cash-based responses in emergencies*. Humanitarian Policy Group Report 24. Overseas Development Institute, London. <http://www.odi.org.uk/hpg/papers/hpgreport24.pdf> (accessed August 2007).
- Harvey, P. and K. Savage (2006) *No Small Change: Oxfam GB Malawi and Zambia Emergency Cash Transfer Projects, a synthesis of key learning*. Humanitarian Policy Group, Overseas Development Institute, London, and Oxfam GB, Oxford.
- Hess, U., W. Wiseman and T. Robertson (2006) *Integrated risk financing to protect livelihoods and foster development*. Discussion Paper. World Food Programme, World Bank and the United Kingdom Department for International Development, Addis Ababa.
- Hogg, R. (1997) *Drought Contingency Planning to Support Pastoralist Livelihoods in Ethiopia*. United Nations Development Programme Emergencies Unit for Ethiopia, Addis Ababa. http://www.africa.upenn.edu/eue_web/pastoral.htm (accessed July 2007).
- Knox-Peebles, J. (2001) *Impact assessment of Save the Children's Cash for Relief Projects in Legambo and Meket (Wollo), Ethiopia*. Save the Children UK, Addis Ababa.
- Morton, J. and D. Barton (2002) 'Destocking as a Drought-mitigation Strategy: Clarifying Rationales and Answering Critiques'. *Disasters*. 26(3). pp. 213–228.
- Narbeth, S. (2004) *Emergency cash relief to drought-affected families of Sool plateau. Post distribution survey findings*. United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) Somalia, Nairobi.
- Oxby, C. (1989) *African Livestock Keepers in Recurrent Crisis: Policy Issues Arising from the NGO Response*. International Institute for Environment and Development, London.

- Peppiatt, D., J. Mitchell, J. and P. Holzmann (2001) *Cash transfers in emergencies: evaluating benefits and assessing risks*. Humanitarian Practice Network Paper 35. Overseas Development Institute, London.
- Save the Children UK and Disaster Prevention and Preparedness Agency (2006) *Managing Risk and Opportunities: an understanding of livelihoods in Somali Regional State, Ethiopia*. Save the Children UK and Disaster Prevention and Preparedness Agency, Addis Ababa.
- Teka, T., A. Azeze and A. Gebremariam (1999) *Cross-Border Livestock Trade and Food Security in the Southern and Southeastern Ethiopia Borderlands*. OSSEREA Development Research Report Series No. 1. Organization for Social Science Research in Eastern and Southern Africa (OSSEREA), Addis Ababa.
- Thrusfield, M. (2005) *Veterinary Epidemiology*. 3rd edn. Blackwell Science, Oxford.
- Toulmin, C. (1995) 'Tracking Through Drought: Options for Destocking and Restocking'. In I. Scoones (ed.) *Living With Uncertainty: New Directions in Pastoral Development in Africa*. Intermediate Technology Publications, London.
- Transitional Government of Ethiopia (1993) *National Policy on Disaster Prevention and Management*. Transitional Government of Ethiopia, Addis Ababa.
- Venton, C.G. and P. Venton (2004) *Disaster preparedness programmes in India: a cost-benefit analysis*. Humanitarian Practice Network Paper 49. Overseas Development Institute, London.