



Food for Thought: Supplementary Livestock Feeding During Drought

Background

A livelihoods-based drought response in pastoralist areas could aim to protect key livestock assets and support rapid rebuilding of herds after drought. One aspect of developing such a response requires decision makers to understand the relative importance of different causes of livestock mortality during drought. For example, if most animals die from disease, then it makes sense to invest in veterinary care. However, not only is overall livestock mortality difficult to measure, until recently very little information was available on specific causes of livestock death during drought.

Why do livestock die during drought?

Research conducted by the Pastoralist Livelihoods Initiative in Afar, Borana and Somali areas of Ethiopia aimed to quantify different causes of livestock mortality during 'normal' and 'drought' years.

Livestock leaving pastoralist herds in normal and drought years

Reason for off-take or loss from herd	Afar herds		Borana herds		Somali herds	
	Normal year	Drought year	Normal year	Drought year	Normal year	Drought year
Starvation	0%	19.5%	0.7%	13.1%	0%	15.5%
Disease	10.1%	16.7%	12.5%	11.9%	12.6%	7.3%
Sales	6.0%	6.5%	8.4%	8.5%	7.0%	5.1%
Slaughter	0.6%	0.4%	1.7%	1.8%	4.1%	3.1%
Predation	4.7%	5.1%	6.8%	6.1%	6.1%	4.6%
Other	6.1%	5.3%	7.0%	6.2%	2.9%	1.2%
Total	27.5%	53.5%	37.1%	47.6%	32.7%	39.8%

Source: unpublished field data collected by Dr. Gezu Bekele, Dr. Tesfaye Rufael, Dr. Tesfaye Haile, Dr. Bayou Abera, and Dr. Gezahegn Eshete in 2006 for the Livestock Policy Forum, Ministry of Agriculture and Rural Development, Ethiopia.

These figures show that:

- most of the *excess* livestock mortality recorded in drought years is caused by starvation
- disease is an important cause of mortality in both normal years and drought years, indicating weaknesses in veterinary services in both situations; disease-related mortality does not always increase during drought

Evidence from impact assessments in southern Ethiopia showed that when some livestock were de-stocked, pastoralists chose to use part of the resulting income on both animal feed support (up to 31% of income) and veterinary care (6% of income)². This pattern of investment contrasted with a typical aid response for livestock during drought, which focuses heavily on veterinary treatments or vaccinations.



In northern Kenya it was 3 times more expensive to restock a core herd of animals than keep animals alive through feeding.

In Afar region, Ethiopia, restocking sheep and goats costs around 6.5 times more than supplementary feeding. Restocking cattle costs 14 times more than feeding.

Livestock feed supplementation – costs and benefits

Northern Kenya

An analysis of supplementary livestock feeding programs in northern Kenya in 2001 assumed that feed was provided for 8000 sheep and goats for three months during drought¹. Each animal was fed 250g concentrate/day. The cost was compared with the cost of replacing these animals by restocking after the drought. Whereas the feed program cost ~US\$ 82,353, the restocking would have cost US\$ 258,065 – it was around three times more expensive to restock than to keep sheep and goats alive during the drought through feed supplementation.

Afar region, Ethiopia

A hypothetical analysis of feed, transport, operational and administration costs for delivering 2000 quintals of concentrate feed to Afar region indicates a cost of US\$19/quintal or total cost of US\$37,694.

- *Sheep and goats* - assuming a ration of 250g concentrate/day, 2000 quintals would support 8,890 sheep and goats for three months. The cost of replacing these animals through a restocking project would be US\$246,397 or 6.5 times more expensive than supplementary feeding.
- *Cattle* – assuming a ration of 1kg concentrate/day, 2000 quintals would support 2223 adult cattle for three months. The cost of replacing these animals through restocking would be US\$ 530,000 or 14 times the cost of feeding.

Key policy and programming issues

- The livelihoods objective of supplementary feeding is to protect a core herd of breeding animals, and encourage post-drought recovery. This requires participatory assessment with pastoralists to agree on the composition and size of core breeding herds before drought occurs.
- Supplementary feeding is not a stand-alone intervention – it should be part of an overall drought cycle management approach which combines early de-stocking and preventive veterinary care. However, in terms of proportional investments in different types of livestock intervention, far more investment should be made in supplementary feeding and this investment should probably exceed expenditure on veterinary care.
- Feeding can start during the alarm phase of a drought with high energy, high fat and high protein concentrates – this is very cost-effective compared to restocking after drought. Some roughage, such as hay may also be needed.
- Maintaining drought-stricken herds on roughage alone may not be very effective as weakened animals cannot regain body weight and strength in a short time to cope with the situation. Hay is also relatively expensive to transport due to its physical bulk.
- Optimal feed provision in pastoral areas should be planned for a maximum of three months at a time, as most droughts (or the need for additional feed from outside) do not last longer than that.
- In normal periods agencies need to assume that livestock feed purchase and distribution will be required in the next drought. Procurement and transport costs need to be anticipated, and reliable sources of feed identified. This type of planning will assist rapid buying and distribution of feed.
- Good planning and coordination can reduce transport costs. If combined with destocking, vehicles moving feed into drought-affected areas can be back-loaded with livestock.

¹ See Aklilu, Y. and Wekesa, M. (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.

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