LEGS

Livestock Emergency Guidelines and Standards

Supporting Livelihoods and Livestock During Drought in Pastoralist Areas

The livelihoods and nutritional impacts of LEGS interventions

LEGS Briefing Paper | March 2018

INTRODUCTION

Across the Horn of Africa, pastoralist and agropastoralist communities continue to be seriously affected by drought, and combinations of drought, conflict and food price instability. Since 2011, drought has led to large-scale humanitarian programmes in southern and eastern Ethiopia, northern Kenya, southern and central Somalia, and Somaliland. In 2011 to 2012, drought contributed to a famine in Somalia that killed 260,000 people[1]; in Sitti Zone in the Somali Region of Ethiopia, drought between 2014 and 2016 caused livestock losses estimated at USD 275 million[2] and in 2015, led to a country-wide humanitarian programme targeting 10.2 million people and costing USD1.2 billion[3]. Two million of those affected were in the mainly pastoralist areas of Afar and Somali regions; the same number of people in these two areas were also targeted for humanitarian assistance in 2017[4].

Two of the main factors that determine how people cope with disasters and recover, are their financial status at the onset of the crisis, and, their ability to draw on social networks and so receive assistance from relatives and friends. In pastoralist areas, livestock are central to both financial and social capital. Financial capital is held primarily in the form of livestock, and loans and gifts of animals and animal products are the basis for social ties within and between individuals and families. Therefore the use and protection of livestock assets is critical to enable pastoralists to survive drought, and rebuild their assets after drought. At the onset of drought, pastoralists often use management practices that focus their resources to protect key breeding animals, especially adult females. Other stock will be subject to disposal, through slaughter or sale, or are not targeted for specific attention during drought. Notably, pastoralists do not usually aim to maintain their entire herds as drought progresses, but instead, try to protect a core herd.

The Livestock Emergency Guidelines and Standards (LEGS) are structured around three livelihoods objectives that reflect the importance of livestock as livelihood assets, as follows:

> **Objective I:** To provide immediate benefits to crisis-affected communities using existing livestock resources
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> **Objective 2:** To protect the key livestock-related assets of crisis-affected communities
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> **Objective 3:** To rebuild livestock-related assets among crisis-affected communities

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[1] Daniel Maxwell, Nisar Majid, Heather Stobaugh, Jeeyon Janet Kim, Jacqueline Lauer, Eliza Paul (2014). Lessons Learned from the Somalia Famine and the Greater Horn of Africa Crisis 2011–2012: Desk Review of Literature. Feinstein International Center, Tufts University: Medford, USA http://fic.tufts.edu/publication-item/lessons-learned-from-the-somalia-famine-and-the-greater-horn-of-africa-crisis-2011-2012/

[2] Levine, S., Kusnierek and Sida, L. (2017). The contributions of early emergency response and resilience investments to helping people cope with crises: A study of the 2014-16 drought in Sitti and WestHararghe Zone, Ethiopia. Valid Evaluations, in press

[3] Ethiopia: Humanitarian Requirements Document 2016 https://reliefweb.int/sites/reliefweb.int/files/resources/ethiopia_hrd_2016.pdf

[4] Ethiopia: Humanitarian Requirements Document 2017 https://reliefweb.int/sites/reliefweb.int/files/resources/2017_hrd_40final_.pdf

Similarly, the importance of livestock ownership or access to livestock products in communities affected by disasters is recognized in the Sphere Minimum Standards in Food Security and Nutrition[5]. In pastoralist areas, animal milk is often a critical food for young children, and declines in animal milk supply during dry seasons or droughts are associated with child malnutrition[6]. Therefore, there is increasing interest in livestock support during drought that specifically targets milking animals near to homesteads, where women and young children are living[7].

This Briefing Paper summarizes the livelihoods and nutritional impacts of LEGS interventions during drought, and then examines these impacts in relation to recent trends in aid funding to livestock-related support in the Horn of Africa. Information on the impacts of LEGS interventions was obtained mainly from reports in the online LEGS Impact Database[8].

IMPACTS OF LEGS INTERVENTIONS

The main LEGS interventions that are used during or after drought are: commercial destocking, slaughter destocking, supplementary feed, veterinary care, and restocking. Using the drought cycle management model[9], the timing and technical relevance of each of these interventions varies according to the stage of the drought. When designed well and implemented at the right time, these interventions can have strong livelihoods and/or nutritional impacts, as shown in the examples from Ethiopia and Kenya.

COMMERCIAL DESTOCKING[10]

Overview

- Involves liaison with livestock traders to promote commercial purchases of livestock in drought-affected areas.
- The prices, numbers, and types of animals purchased are determined by market conditions.
- Commercial destocking is most useful during the early stages of drought i.e. alert or alarm stages.
- It is a form of indirect cash transfer, drawing heavily on traders' own finances for livestock purchases.

Impact examples

- During commercial destocking in Ethiopia, an average amount of USD186 per household was received from livestock sales.
- The main uses of this income were to buy food for people, food for animals, and to transport animals to distant grazing areas by truck. Therefore, the project provided human food security benefits, while also assisting people to protect their core livestock assets.
- Overall, 79% of income was used to buy goods and services from local suppliers, and 37% of income was used to protect livestock.

SLAUGHTER DESTOCKING[11]

Overview

- Involves the purchase of livestock by a project, when animals have limited market value or when market demands have been met i.e. it should take place after commercial destocking.
- The project sets the prices, numbers, and types of animals to purchased, in consultation with communities.
- Like commercial destocking, this is another form of indirect cash transfer, and also provides fresh or dried meat for local consumption; meat distribution can be targeted e.g. to pregnant and lactating women, and children.

Impact examples

- In a slaughter destocking project in Ethiopia, the income derived from destocking averaged USD 23 per household.
- The main uses of this income were to buy food for people (45% of income) and care for remaining animals (25% of income). The project provided human food security benefits and assisted livestock protection.
- Overall, 88% of income was used to buy goods and services from local suppliers.
- Each household received 2.2kg of dried meat; this amount of dried meat equates to the Recommended Daily Allowance of protein for a 3-year old child for 92 days, or a pregnant woman for 17 days.

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[5] http://www.spherehandbook.org/en/how-to-use-this-chapter-3/

[6] Sadler, K., Kerven, C., Calo, M., Manske, M. and Catley, A. (2010). The fat and the lean: review of production and use of milk by pastoralists. Pastoralism 1(2), 291-324

[7] Kate Sadler, Emily Mitchard, Abdulahi Abdi, Yoseph Shiferaw, Gezu Bekele, Andy Catley (2013). Milk Matters: The impact of dry season livestock support on milk supply and child nutrition in Somali Region, Ethiopia. Feinstein International Center, Tufts University: Medford, USA, and Save the Children US, Addis Ababa http://fic.tufts.edu/assets/Milk-Matters-2.pdf

[8] http://www.livestock-emergency.net/legs-impact-database/

[9] For example, see the briefing paper on drought cycle management at http://www.agri-learning-ethiopia.org/wp-content/uploads/2014/07/AKLDP-Technical-Brief-DCM-May-2014-HQ.pdf

[10] Abebe, D., Cullis, A., Catley, A., Aklilu, Y., Mekonnen, G. and Ghebrechirstos, Y. (2008). Livelihoods impact and benefit-cost estimation of a commercial de-stocking relief intervention in Moyale district, southern Ethiopia. Disasters 32/2, 167-189

[11] Demeke, F. (2007). Case study 2: Impact assessment of the PLI/ENABLE emergency livestock interventions in Dire woreda, Borana Zone. In: Impact assessments of livelihoods-based drought interventions in Moyale and Dire Woredas. Feinstein International Center, Tufts University: Medford, USA, Save the Children US, Addis Ababa, and CARE International, Addis Ababa http://fic.tufts.edu/assets/IMPACT1-2.pdf

SUPPLEMENTARY FEED – TO REDUCE LIVESTOCK MORTALITY[12]

Overview

- Provides a basic feed ration to selected animals, ideally chosen by communities and managed in a community feeding centre.
- The main objective is to protect key types of livestock – pastoralists often select adult females.

Impact examples

- In Ethiopia, the mortality in fed vs. unfed livestock was significantly reduced, with three-fold reductions in mortality reported – protection of livestock was significant.
- Secondary benefits can include:
  - Improved body condition of livestock;
  - Milk production in fed animals, leading to milk consumption by children, and increased survival of calves (see below).

SUPPLEMENTARY FEED – TO IMPROVE MILK CONSUMPTION BY CHILDREN[13]

Overview

- Provides a basic feed ration to selected milking animals, which are kept in close proximity to women and children during the drought.
- The main objective is to maintain milk supply during drought, increase the consumption of milk by children, and so prevent malnutrition.
- The feeding of selected livestock needs to begin soon after the onset of drought.

Impact examples

- In Ethiopia, basic feed supplements for milking cows and goats during a drought produced dramatic increases in milk production (Table 1). These impacts were consistent with trials on pastoralist livestock breeds in research centres, and show that these breeds are very responsive to better nutrition.

Table 1: Changes in milk production

Livestock Type	Stage of Lactation	Average Daily Milk Offtake (ml)		Proportional change with feed
		Normal dry season no supplementary feed	Drought with supplementary feed	
Cattle	Early	237	1698	716%
	Middle	151	1235	818%
	Late	71	899	1266%
Goats	Early	244	628	280%
	Middle	54	567	1050%
	Late	8	382	4775%

The same project measured the numbers of children receiving animal milk in project and non-project (control) areas (Table 2), and also tracked the nutritional status of children using standard nutrition anthropometric measurements. A total of 940 children between 6 and 59 months of age were surveyed monthly, over an 11-month period. The results indicated that the nutritional status of children receiving animal milk was maintained during drought, or, declined at a lower rate than children who did not receive animal milk.

Table 2: Changes in milk consumption

Type of Milk	Child Age Group	Proportion of children receiving milk during drought	
		Control areas	Areas with feed
Cow	6-24 months	42%	85%
	25-36 months	20%	80%
	37-48 months	21%	79%
	49-59 months	14%	70%
Goat	6-24 months	79%	96%
	25-36 months	41%	92%
	37-48 months	31%	83%
	49-59 months	13%	83%

[12] Bekele, G. and Tsehay, A. (2008). Livelihoods-based Drought Response in Ethiopia: Impact Assessment of Livestock Feed Supplementation. Feinstein International Center, Tufts University: Medford, USA, and Save the Children US, Addis Ababa http://fic.tufts.edu/assets/Live-Based-Drough-Response-2008.pdf

[13] Sadler et al. (2013), ibid

VETERINARY CARE USING VOUCHERS

Overview

- Works with pre-existing private sector veterinary service providers, such as veterinary pharmacies and community-based animal health workers (CAHWs).
- Provides fixed-value vouchers to targeted households; households use vouchers to access veterinary inputs of their choice, up to the value of the voucher.
- Private service providers redeem the vouchers with aid project/NGO implementer, plus service charge.

Impact examples

Evidence on the impact of veterinary voucher schemes during drought is limited, although there are various accounts of the successful design and implementation of these schemes[14]. Indirect evidence of potential impacts is available from assessments of CAHW projects, and the impact of CAHWs on livestock mortality. Specifically, well-trained CAHWs can provide treatments that significantly reduce case fatality rates, as indicated by these findings from northern Kenya[15]:

"CAHW treatment outcomes were compared with the outcomes of treatment by untrained herd owners. The case fatality rate (CFR) was measured for different diseases affecting different livestock species in 'CAHW-treated' and 'owner-treated' animals. For those diseases for which a curative treatment strategy was used by CAHWs, case fatality rates in CAHW-treated herds were significantly lower than owner-treated herds (at the 95% confidence level) for 9 out of 11 diseases assessed. In terms of clinical significance, fatality following CAHW treatments was lower for all 11 diseases. When viewed in combination with the quality of the drugs which CAHWs were sourcing from private pharmacies, this result showed that for the diseases in question, CAHW treatments had far better impact on livestock survival relative to treatments administered by untrained herders."

RESTOCKING

Overview

- Provides livestock to households as a means to rebuild herds and financial capital after drought.
- The types and numbers of animals to be provided are set during community dialogue.
- Ideally, involves community-based targeting and local selection of households who are able to manage their herds.
- Can draw on or complement traditional systems of restocking e.g. via community contributions of animals
- Requires additional assistance (e.g. food aid) for at least a year, during the period of herd growth.

Impact examples

In a restocking project in northern Kenya, 400 families were restocked each with 20 sheep or goats, and one donkey. The community contributed five of the 20 small ruminants; in total, the community contributed 2,000 animals, against the 6,000 sheep and goats, plus 400 donkeys provided by the project. The project targeted those who already had up to 10 sheep or goats, and female-headed households were prioritized. An evaluation was conducted 1.5 years later, and reported that[16]:

- Restocked herds had increased in size by between 76% and 81%; when combined with growth in the pre-owned animals, most families had attained a "minimum survival" herd size of 40 small ruminants.
- The restocking contributed to significant reduction in dependence on other sources of food, including food aid, from 84% to 58%; increased access to food through livestock increased from 16% to 42%.
- Use of non-livestock sources of income dropped from 91% to 60% and this was compensated by increased reliance on income from sale of livestock and livestock products from 9% to 40%.
- The beneficiary families were not only afforded the chance to return to pastoralism but were also able to reunite and strengthen social ties with family members they had been separated from during drought.

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[14] Mutungi, P. (2005). External evaluation of the ICRC veterinary vouchers system for emergency intervention in Turkana and West Pokot districts. International Committee of the Red Cross, Nairobi.
Regassa, G. and Tola, T. (2010). Livestock emergency responses. The case of treatment voucher schemes in Ethiopia. FAO Ethiopia, Addis Ababa http://www.fao.org/fileadmin/user_upload/drought/docs/Livestock%20Treatment%20Voucher%20Experience%20in%20Ethiopia.pdf

[15] Bekele, G. and Akumu, J. (2009). Impact Assessment of the Community Animal Health System in Mandera West District, Kenya. Feinstein International Center, Tufts University, Medford MA http://fic.tufts.edu/pacaps-project/Coordination%20Support/VSF%20ELMT%20CAH%20PIA%20report.pdf

[16] Lotira, R. (2004). Rebuilding herds by re-inforcing gargar/irb among the Somali pastoralists of Kenya: evaluation of experimental restocking program in Wajir and Mandera Districts of Kenya. African Union/Interafrican Bureau for Animal Resources, Nairobi http://sites.tufts.edu/capeipst/files/2011/03/Lotira-Restocking-evaluation.pdf

KEY ASPECTS OF EFFECTIVE DROUGHT-RELATED LIVESTOCK RESPONSES

The examples above illustrate the impressive livelihoods impacts that are possible from livestock interventions during or after drought. To varying degrees, all of these examples used the good practices that are promoted by LEGS. This good practice includes not only attention to the technical aspects of each intervention, but also the timeliness and relevant sequencing of interventions according to drought cycle management. Early response is a critical aspect of livelihoods impacts of LEGS interventions, and is included in the LEGS Core Standard 2: Preparedness (see Table 3). Recent developments in the Horn of Africa include the use of flexible funding and 'crisis modifiers'[17].

Other LEGS Core Standards that are particularly important in terms of early response are standards 1 to 5, and standards 7 to 8. Similarly, the intervention-specific standards need to be followed for each type of project.

Table 3: The LEGS Core Standards

Core standard	Relevance to effective drought response
Core standard 1: Participation	The affected population actively participates in the assessment, design, implementation, monitoring and evaluation of the livestock programme. Each LEGS intervention needs the local knowledge of pastoralists and other stakeholders to ensure that projects are relevant and will produce the expected impacts.
Core standard 2: Preparedness	Emergency responses are based on the principles of disaster risk reduction, including preparedness, contingency planning and early response.
Core standard 3: Technical support and agency competencies	Staff possess appropriate qualifications, attitudes and experience to effectively plan, implement and assess livelihoods-based livestock programmes in emergencies.
Core standard 4: Initial assessment and response identification	Initial assessment provides an understanding of the role of livestock in livelihoods, an analysis of the nature and extent of the emergency, and an appraisal of the operational and policy context. It also feeds into a participatory process to identify the most appropriate, timely and feasible interventions.
Core standard 5: Technical analysis and intervention	Livestock interventions are based on sound technical analysis and are implemented fairly, based on transparent and participatory targeting.
Core standard 6: Monitoring, evaluation, and livelihoods impact	Monitoring, evaluation and livelihoods impact analysis is conducted to check and refine implementation as necessary, as well as to draw lessons for future programming.
Core standard 7: Policy and advocacy	Where possible, policy obstacles to the effective implementation of emergency response and support to the livelihoods of affected communities are identified and addressed.
Core standard 8: Coordination	Different livestock interventions are harmonized and are complementary to humanitarian interventions intended to save lives and livelihoods; they do not interfere with immediate activities to save human lives.

[17] Catley, A. and Charters, R. (2015). Early Response to Drought in Pastoralist Areas: Lessons from the USAID Crisis Modifier in East Africa. USAID/East Africa Resilience Learning Project, Nairobi http://www.agri-learning-ethiopia.org/wp-content/uploads/2016/07/pa00m1px-2.pdf

FUNDING TRENDS

Despite the substantial livelihoods and nutritional impacts provided by well-designed and timely livestock projects during drought, the funding requested for these projects is low compared to other types of drought assistance, especially food aid. Although there has been a recent increase in funding requests for drought-related livestock support in Ethiopia (Table 4), data is not easily available on the amounts actually pledged or spent on livestock. Even with a recent three to four-fold increase in the proportion of funds allocated to livestock relative to total humanitarian requirements in 2016 and 2017, livestock still accounts for only 4% of the humanitarian budget.

In Kenya, request for agriculture (including livestock) support have often been at around 3% to 4.5% of total humanitarian needs, until 2017 when this increased to 32%. However, actual funding has been between 15% and 27% of the amount requested.

Table 4: Trends in requests for humanitarian livestock funding in Ethiopia, 2014-2017[18]

Item	Amount (USD millions) by year			
	2014	2015	2016 drought	2017 drought
Total humanitarian requirement	402.9	386.4	1,400	948
Food assistance	305	281.5	1,100	598
Livestock	4.5	2.9	42.9	41.9
Agriculture	8.7	15.3	46.3	41.9
Food as a proportion of total requirement	76%	73%	79%	63%
Livestock as a proportion of total requirement	1%	1%	3%	4%
Livestock as a proportion of agriculture	52%	19%	93%	100%

Table 5: Trends in humanitarian livestock funding in Kenya, 2009-2017[19]

Item	Amount (USD millions) by year					
	2009	2010	2011	2012	2013	2014
Total humanitarian requirement*	469.6	603.4	741.8	796.8	544.5	93.8
Food Assistance requirement	256.6	180.6	217.7	243.1	118.7	-
Agriculture+ requirement	0	22.5	33.2	35.5	16.7	30
Food assistance as a proportion of total requirement	54.6%	29.9%	29.3%	30.5%	21.8%	-
Agriculture+ as proportion of total requirement	NA	3.7%	4.5%	4.5%	3.1%	32%
Expenditure on food as proportion of request	100.5%	88.1%	86.8%	94.1%	106.2%	-
Expenditure on agriculture+ as proportion of request	NA	27%	24%	27%	19%	15%

* Total humanitarian requirements include substantial funding for refugee programmes.
\+ Livestock is included in "Agriculture". Expenditure for 2017 is provisional, and as available in September 2017.

In both countries, food assistance dominates humanitarian appeals and is the sector most likely to be funded. In pastoralist areas globally, and despite the large amounts of food assistance during the last 30 to 40 years, the evidence of the livelihoods or nutritional impacts of food aid is generally low – especially if compared to other sectors such as livestock[20].

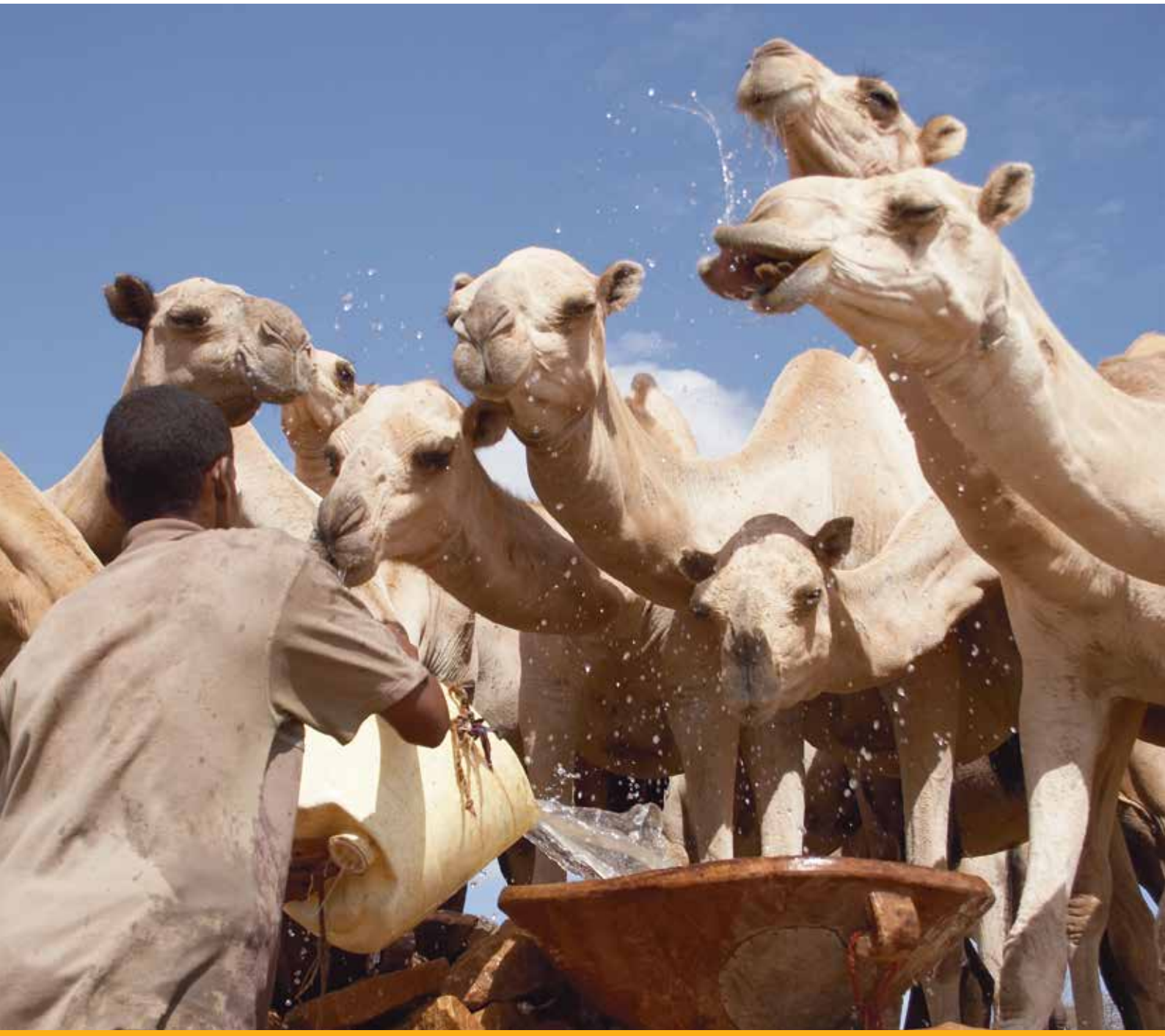
[18] Derived from Ethiopia Humanitarian Response Document, 2014-17

[19] https://fts.unocha.org

[20] Czuba, K., O'Neill, T.J. and Ayala, A.P. (2017). The impact of food assistance on pastoralist livelihoods in humanitarian crises: An evidence synthesis. Humanitarian Evidence Programme. Oxford: Oxfam GB

CONCLUSIONS

- The wider use of early LEGS interventions during drought can be justified against strong evidence of livelihoods impacts, and cost effectiveness across all types of interventions.
- Impact assessments to date indicate that timely commercial destocking provides the best impacts and highest benefit-cost.
- Commercial destocking and slaughter destocking are a form of indirect cash transfer to pastoralist households. Further impact assessments are needed to better understand the pros and cons of these interventions relative to direct cash transfers, including cash transfers delivered by social protection programmes during drought.
- Preparedness and early response are critical determinants of impact and benefit-cost, as reflected in the LEGS Core Standard 2.
- For development projects with crisis modifiers, outline plans for specific LEGS interventions should be formulated before droughts occur, to enable early response.
- On area-wide or population-wide basis, the impact of LEGS interventions also depends on coverage, which in turn, depends on levels of funding; there is clear case for increased funding for livestock support during drought, and the inclusion and costing of specific LEGS interventions in humanitarian appeals.



The LEGS Project
c/o Vetwork UK
Vesey Farm
Little Clacton Road
Great Holland
Essex CO13 0EX
United Kingdom

Email:
Coordinator@livestock-emergency.net

Website:
www.livestock-emergency.net

Twitter:
@TheLEGSProject

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