



LEGS

Drought Tool

A LEGS-based preparedness, planning and response tool
for improved resilience in the drylands of the Horn of Africa



Livestock Emergency Guidelines and Standards (LEGS)

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LIST OF ACRONYMS

ALRMP	Arid Land Resource Management Project in Kenya
CAHW	Community Animal Health Worker
CCPP	Contagious caprine pleuro-pneumonia
CBPP	Contagious bovine pleuro-pneumonia
CPP	Country Programming Paper
DCM	Drought Cycle Management model
DRM	Disaster Risk Management
DRM ATF	Disaster Risk Management - Agriculture Task Force in Ethiopia
DRR	Disaster Risk Reduction
LEGS	Livestock Emergency Guidelines and Standards
EHCT	Ethiopia Humanitarian Country Team
EWS	Early Warning Systems
FAO	Food and Agriculture Organization of the United Nations
GAM	Global Acute Malnutrition
GPS	Global Positioning System
HoA	Horn of Africa
ICPALD IGAD	Centre for Pastoral Areas and Livestock Development
ICRC	International Committee of the Red Cross
IDDRSI IGAD	Drought Disaster Resilience Sustainability Initiative
IGAD	Intergovernmental Authority on Development
ILRI	International Livestock Research Institute
IOD	Indian Ocean Dipole
IPC	Integrated Food Security Phase Classification
IT	Information Technology
NDMA	National Drought Management Authority of Kenya
NDRMC	National Disaster Risk Management Commission of Ethiopia
NGO	Non-Governmental Organisation
PDNA	Post-Disaster Needs Assessment
PIA	Participatory Impact Assessment
PPR	Peste des Petits Ruminants
PRM	Participatory Rangeland Management
PSNP	Productive Safety Net Programme, implemented in Ethiopia
PVP	Private Veterinary Pharmacy
SAG	Strategic Advisory Group to the DRM ATF in Ethiopia
SAM	Severe Acute Malnutrition
UN	United Nations
VSF	Vétérinaires Sans Frontières
WASH	Water, Sanitation and Hygiene

I. INTRODUCTION

This LEGS Drought Tool has been developed to help improve resilience building during times of drought for pastoralists and other livestock keepers in the arid, semi-arid and dry sub-humid areas, or drylands of the Horn of Africa (HoA). The Drought Tool is largely the product of a Drought Workshop that was organised by the Livestock Emergency Guidelines and Standards (LEGS) Project, and funded and hosted by the Food and Agriculture Organization of the United Nations (FAO) in Nairobi, Kenya in November 2017.

The Drought Workshop brought together drought specialists from Ethiopia, Kenya and Somalia to identify and develop a LEGS-based preparedness, planning and management ‘drought tool’ that will help build resilience at local and systems levels, and reduce the level of international development assistance required during local and regional droughts. Following the Workshop the discussion, findings and recommendations were developed into this Drought Tool, which is framed around the different stages of the Drought Cycle Management (DCM) model.

A draft version of the Drought Tool was shared with workshop participants and selected drylands specialists for peer review. The Tool is therefore informed by the consolidated knowledge of more than 20 drylands specialists, but those involved would be the first to make clear that each drought is unique. Every drought results in new learning opportunities for improved planning, preparedness and response - and it can be expected that the Tool will need to be regularly updated in the light of new thinking and evidence-based good practice.

The Drought Tool is structured as follows: the background section provides an overview of recent droughts in the HoA, looks at the costs of drought, and introduces the LEGS Core Standards and the Drought Cycle Management (DCM) model. The core section, based on guidance from the Drought Workshop, presents evidence-based good practice for livestock interventions during droughts in line with the different stages of the DCM model. The final section then identifies some of the policy issues that need to be addressed to help improve the outcomes of drought emergency livestock interventions in the HoA region. Annex I contains ‘The Drought Tool in Brief’, a summary of the key recommendations for each stage of the DCM model.



2. BACKGROUND

2.1 Recent droughts in the Horn of Africa

Pastoral elders draw on oral history to detail drought events that stretch back to the 19th century, but on their own experience for more recent droughts. The Drought Workshop participants provided a timeline of information on the droughts in the HoA since 2000, see Figure 1.

The timeline suggests an increased drought frequency in the HoA region, and also highlights differences in climatology, areas affected, duration and severity. For example, the drought years of 1999-2001, 2005-2006, 2008 and 2010-2011 were driven by La Niña¹ episodes of varying intensity, and primarily impacted the pastoral drylands of southern Ethiopia, northern Kenya and central and southern Somalia. In contrast, the drought years of 2002-2003 and 2015-2016 were driven by strong El Niño² episodes, and primarily affected the highlands of central and northern Ethiopia and central Kenya. The 2017 pastoral areas drought had its origins in an Indian Ocean Dipole (IOD)³ episode that triggered poor seasonal rains in 2016 and continued through 2017, including the recent autumnal rains in some areas⁴. Droughts also differ in severity, with some more protracted and intense while others are shorter and less severe. Since 2000, particularly severe droughts include the El Niño induced droughts of 2002-2003 and 2015-2016, the La Niña drought of 2010-2011, and the recent and in some places on-going drought of 2016-2017.

Approaches to drought have moved on considerably within the last 20 years. Figure 1 highlights developments in drought management and response, including early warning systems (EWS), coordination structures, and the launch of new drought/disaster risk management agencies. New approaches to improved drought risk management have also been tested and introduced, including livestock insurance, cash transfers, safety nets, resilience and LEGS. There has also been significant progress in Government leadership and funding.

1 La Niña is the positive phase of the El Niño Southern Oscillation – commonly called ENSO - and is associated with cooler-than-average sea surface temperatures in the central and eastern tropical Pacific Ocean. These cooler temperatures drive weather systems that typically result in droughts in the pastoral areas of the Horn of Africa. Wikipedia, accessed in December 2017 https://en.wikipedia.org/wiki/La_Niña

2 El Niño is the warm phase of the El Niño Southern Oscillation and is associated with a band of warm ocean water that develops off the Pacific coast of South America. The ENSO cycle, both El Niño and La Niña, causes global changes of both temperatures and rainfall. Wikipedia accessed in December 2017 - https://en.wikipedia.org/wiki/El_Niño

3 The Indian Ocean Dipole (IOD), also known as the Indian Niño, is an irregular oscillation of sea-surface temperatures in which the western Indian Ocean becomes alternately warmer and then colder than the eastern part of the ocean.

4 Some pastoralists in the region are facing their fourth consecutive poor rains, which, for them, make this now a 'chronic' drought and one of the more severe droughts in recent times.

Figure 1: Annotated timeline of selected droughts in the Horn of Africa from 1999-2000 to 2017

Year	Severity* and impact	Response and lessons learned
1999-2001 La Niña	<ul style="list-style-type: none"> Ranked 3.5 in the pastoral areas of the HoA 98,000 people and hundreds of thousands of livestock deaths in Somalia Very high SAM (Severe Acute Malnutrition) and GAM (Global Acute Malnutrition) rates in children in NE Kenya 	<ul style="list-style-type: none"> Response cost across HoA was significant - food aid, cash for work, water tankering, livestock vaccines, seed aid Coordination bodies established in Kenya
2002-2003 El Niño	<ul style="list-style-type: none"> Ranked 4.5 in Ethiopia's highlands - 12.5 million people received food aid. Ranked 2.5 in the pastoral areas of the HoA Drought compounded by livestock diseases and an export ban to the Middle East 	<ul style="list-style-type: none"> Response dominated by food aid Little focus on livestock Resulted in the launch of the Productive Safety Net Programme (PSNP)
2005-2006 La Niña	<ul style="list-style-type: none"> Ranked 4 in the pastoral areas of the HoA as drought combined with conflict and reduced humanitarian access Human mortality including from conflict High SAM and GAM Acute water shortage Livestock mortality 	<ul style="list-style-type: none"> Food aid and cash transfers Integrated Food Security Phase Classification (IPC) trialled Early Warning System (EWS) started in Ethiopia by Save the Children Pilot PSNP in pastoral areas Crisis modifier+ piloted with livestock emergency interventions Improved coordination - ALRMP in Kenya and DRM ATF in Ethiopia
2008 La Niña	<ul style="list-style-type: none"> Ranked 2 in the pastoral areas of Ethiopia Severity exacerbated by livestock diseases - foot and mouth, CBPP/CCPP, sheep-goat pox, PPR 	<ul style="list-style-type: none"> Good EWS information Food aid Emergency livestock interventions Livestock insurance piloted by ILRI Unconditional cash transfers Milk Matters research PSNP launched in pastoral areas Improved coordination
2010-2011 La Niña	<ul style="list-style-type: none"> Ranked 5 in all pastoral areas of the HoA Huge numbers of livestock trekked between countries to try to avoid the drought Famine in Somalia Conflict - counter terrorism limited access in some areas Massive livestock mortality Livestock disease increased livestock losses 	<ul style="list-style-type: none"> Good EWS information Mobile cash transfers - implemented by large consortia Large WASH response Massive livestock response - vaccination (perhaps too late), destocking and livestock feed supplementation Restocking after the drought Diaspora made significant contribution IPC scaled up IGAD drought disaster resilience and sustainability initiative (IDDRSI) launched National Drought Management Authority (NDMA) launched in Kenya Government of Kenya contributed significantly to the response Start of resilience concept Drought management bodies improved levels of coordination
2015-2016 El Niño	<ul style="list-style-type: none"> Not ranked as particularly serious in pastoral areas of Somalia and northern Kenya Ranked 3.5 in the north-eastern pastoral areas of Ethiopia - Afar and northern Somali region and parts of Somaliland Ranked 5 in the highlands of central and northern Ethiopia More than 20 million people needed food assistance Significant livestock deaths in northern pastoral areas 	<ul style="list-style-type: none"> Excellent EWS information - but delayed response in particular in highland areas of Ethiopia Government of Ethiopia played a significant role in funding the response Emergency seed response Limited emergency livestock response
2016-2017 Triggered by Indian Ocean Dipole	<ul style="list-style-type: none"> Ranked 5 in all pastoral areas of the Horn of Africa Huge numbers of animals trekked out of drought affected areas, but huge losses nonetheless Conflict in Ethiopia and Kenya resulting in displacement of livestock and people Huge numbers of livestock lost 	<ul style="list-style-type: none"> Good EWS Emergency livestock interventions but on limited scale Disaster Risk Management and Food Security Sector of Ministry of Agriculture became National Disaster Risk Management Commission (NDRMC) in Ethiopia reporting to the Office of the Prime Minister

* Severity ranking: from 1 to 5, with 5 the most severe

+ Crisis modifier: facility that allows the use of development funding for early action and rapid response to new humanitarian needs

2.2 The costs of drought

Recovery from drought, and specifically the rebuilding of drought-affected flocks/herds, reflects the severity of the drought event - with extended time horizons for rebuilding after more severe droughts. It may take up to 5 years for sheep and goats and 7 years for cattle numbers to recover after a severe drought, by which time another drought might have struck. Where pastoral households are affected by a second drought before fully rebuilding flocks/herds, losses can expect to increase as the household will typically be less resilient. If this cycle is repeated two or more times the household might fail to rebuild their flocks/herds, and eventually 'crash out' of the pastoral production system. Households that do so tend to settle in and around the trading centres and market towns that are springing up in increasing numbers across the pastoral drylands of the region, where they can better access food assistance and casual employment.

The LEGS Handbook includes an impact analysis of the pastoral drought of 2000-2001, in which an estimated 2 million sheep and goats, 900,000 cattle and 14,000 camels died in Kenya - representing 30 per cent of small stock and cattle, and 18 per cent of camel holdings. The Handbook also highlights the non-livestock related impacts, including the separation of families, damage to the social networks that provide a safety net for pastoralists, and the eventual destitution of many households (LEGS, 2014⁵). A Post Disaster Needs Assessment (PDNA) in northern Kenya after the 2008-2011 drought estimated the cost - including loss of physical and durable assets and future losses to the economy - at more than US\$12 billion, of which livestock losses accounted for more than 65 per cent (Republic of Kenya, 2012). Inevitably, pastoralists bore the brunt of these losses.

The 2010-2011 La Niña-induced HoA pastoral areas drought was one of the most severe droughts in recent times, with images of drought-affected and starving Somali women and children beamed around the world. By the end of 2011 it was estimated that 250,000 women and children had died of hunger and related diseases in Somalia. Such were the scale of the losses that IGAD Member States, together with their international development partners, agreed to 'do things differently', and specifically to 'end drought disasters'. Each IGAD member state went on to produce an IGAD Drought Disaster Resilience and Sustainability Initiative (IDDRSI) - Country Programming Paper (CPP) that identified their national drought management investment priorities. Recognising the cross-border nature of many droughts, IGAD also developed a Regional Programming Paper.

In 2016-2017 drought once again returned to the pastoral areas of the HoA, and not surprisingly questions are being asked about the levels of progress being made to build resilience and end drought disasters. While more could certainly be done, in particular to better bridge relief and development approaches, it is important not to lose sight of the on-going drivers of change in the region's drylands that also have a major impact. These include: significant increases in human and livestock numbers, in particular during the last 20 years; increased and more violent competition for access to and control over natural resources; introduction of other competing forms of landuse - drylands farming, irrigation, mineral extraction, settlements and infrastructure; and accelerated market integration and commercialisation of pastoral flocks and herds.

The drivers of change in the drylands result in a range of outcomes, including rangeland degradation, that when combined with drought have considerable impact on levels of household and community resilience. Although some are doing well - growing and diversifying their flocks/herds and livelihoods - others are doing much less well - progressively losing their livestock assets. Those households who are doing less well are becoming increasingly vulnerable to income and food shortages including in 'normal' years. Of particular concern in the rising levels of vulnerability is the onset and increased prevalence of stunting (CSA, 2016), which is the result of reduced access to milk and milk products, volatile food prices and associated restricted food access. Unless these poor and very poor pastoral households can be assisted to move out of pastoralism into other more viable and sustainable livelihoods, nutritional outcomes in the drylands can be expected to worsen, and eventually arrest and reverse the wider progress being made in the region towards meeting the Sustainable Development Goals.

5 Source of the case study material 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 No. 40. Overseas Development Institute (ODI), London. <<https://odihpn.org/resources/drought-livestock-and-livelihoods-lessons-from-the-1999-2001-emergency-response-in-the-pastoral-sector-in-kenya>>

2.3 LEGS: typology of droughts, objectives and standards

The LEGS Handbook categorises humanitarian emergencies as being either slow onset, rapid onset, complex or chronic. Slow and rapid onset emergencies are largely self-explanatory, while a complex emergency typically involves conflict, and a chronic crisis is described as one that continues over an extended time period. The LEGS Handbook suggests that a drought that moves from the Alert stage of the Drought Cycle Management (DCM) model to the Alarm and Emergency stages, before dropping back to the Alert stage of the next drought cycle without ever returning to the Recovery and Normal stages, is an example of a chronic emergency⁶. The LEGS typology of slow-onset drought emergencies is given below.

Figure 2: The LEGS typology of drought

Slow Onset - Drought	Impacts
<ul style="list-style-type: none"> • Gradual, increasing stress on livelihoods over many months until an emergency is declared • Can be multi-year events • Specific geographical areas are known to be at risk, so there is some level of predictability • Drought has four main stages: alert, alarm, emergency and recovery • Early response is often inadequate even though early warning systems exist 	<ul style="list-style-type: none"> • Livestock condition and production gradually worsens during alert and alarm stages, mainly because access to feed and water is reduced; livestock market values decline, and grain prices increase; human food security worsens • Livestock mortality is excessive and worsens during the emergency stage due to starvation or dehydration; human food security worsens • Rebuilding livestock herds is hindered if core breeding animals have died and/or if another drought occurs



⁶ The four consecutive poor/ failed rains in the pastoral areas of the Horn of Africa in 2016 and 2017 are likely to be classified as a chronic emergency.

To respond to multifarious emergencies LEGS identifies three livelihood-based objectives⁷:

- 1: Provide immediate benefits to crisis-affected communities using existing livestock resources
- 2: Protect the key livestock-related assets of crisis-affected communities
- 3: Rebuild key livestock-related assets among crisis-affected communities

These objectives are supported by the LEGS Core Standards that draw on the Sphere Handbook (Sphere, 2011), and include: participation, preparedness, competencies, initial assessment and response identification, technical analysis and intervention, monitoring & evaluation and livelihood impact analysis, policy and advocacy, and coordination. The LEGS Core Standards are presented below with annotations for improved drought management, in particular highlighting learning that contributes to bridging relief and development approaches in the region.



⁷ LEGS is underpinned by a working principle that related interventions should support and not undermine existing local service providers, suppliers and markets. In this way LEGS articulates the importance of supporting local systems that are crucial to resilience building and sustainable long-term development.

Figure 3: LEGS Core Standards with annotations for drought management

LEGS Core Standards	Annotations for improved drought management
Participation - the affected population actively participates in the assessment, design, implementation, monitoring and evaluation of the livestock intervention	<ul style="list-style-type: none"> • Particularly important in pastoral areas where decision-making is consensual and can involve hundreds of herders for major decisions e.g. long migratory treks and sharing of emergency inputs and targeting. Review participation levels at the different stages of the project cycle and in the final evaluation. Roll lessons learned into future programming • Actively engage pastoral women in participatory processes including through women-only discussion fora e.g. milk, grains and other food and water related discussions where women play a lead role • Invest in understanding how decisions are made and carried out, and build on these processes • Hold meetings under customary 'meeting trees' where elders typically meet and at times of the day when people would normally meet • Meetings with women - and marginalised groups - can be held in locations of their choosing
Preparedness - emergency responses are based on the principles of disaster risk reduction (DRR), including preparedness, contingency planning, and early response	<ul style="list-style-type: none"> • Despite what is known about the cost of delay, drought declarations continue to be politicised, resulting in late response. Delays result in increased losses and increased costs in the short-term - food aid and nutrition interventions - and longer-term - 'hidden costs' of malnutrition and drop-out rates from schools • Mainstream 'no-regrets' thinking* - requiring that all projects build in budget flexibility to pivot additional resources to drought work when required • Invest in evidence-based interventions - including LEGS - that build household, community and systems resilience
Competencies - staff possess appropriate qualifications, attitudes and experience to effectively plan, implement and assess livelihoods-based livestock programmes in emergency contexts	<ul style="list-style-type: none"> • Progress is being made, in particular since the La Nina drought of 2010-2011, to build drought and resilience skills and capacities at national level - in Ethiopia, Kenya and Somalia - at region/county, district and local levels • Donors and development partners should mobilise increased capacities in devolved decision-making to the regions
Initial assessment and response identification - initial assessment provides an understanding of the role of livestock within 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	<ul style="list-style-type: none"> • Bridge 'relief' and 'development' divide - including within agencies - to improve the continuum of response and enhance resilience outcomes • Include 'development' specialists in all drought assessments and planning processes, in particular those with participatory dialogue skills • All medium and long-term livelihood-projects should collect basic information on rainfall, and milk, livestock and cereal prices in order to track the DCM model
Technical analysis and intervention - livestock interventions are based on sound technical analysis and are implemented fairly, based on transparent and participatory targeting	<ul style="list-style-type: none"> • Maintain mixed teams - men and women and emergency and development specialists - in all drylands programs to foster flexible and responsive programming. Avoid establishing stand-alone emergency projects that have their own staffing and accountability structures, even where funding is separate • Make increased use of contingency planning that includes livestock interventions to improve the timeliness of livestock-related interventions • Avoid 'quick fixes' - carry out thorough assessments and planning processes in different pastoral areas in order to ensure appropriateness. For example, a destocking intervention that requires subsidy in one area may not require subsidies in less remote and more market integrated areas
Monitoring and evaluation - monitoring, evaluation and livelihood impact analysis are conduits to check and refine implementation as necessary, as well as to draw lessons for future programming	<ul style="list-style-type: none"> • Implementing agencies need to do more to promote a culture of 'inquisitiveness' and learning within field teams and to document and share findings with senior staff • Fund more independent, participatory impact assessments (PIAs) to strengthen learning and build an evidence base of good practice • Share findings with LEGS for dissemination
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	<ul style="list-style-type: none"> • Urgent progress needs to be made to ensure the scaling up of flexible funding for projects in the drylands in order to manage drought better • Increase funding of livestock sector to above the level of the crop sector in the drylands as livestock play a more central role in livelihoods
Coordination - different livestock interventions are harmonised and are complementary to humanitarian intervention intended to save lives and livelihoods; they do not interfere with immediate activities to save human lives	<ul style="list-style-type: none"> • Despite good progress being made in some countries - including by the UN Food Security Cluster and a variety of county/ sub-regional and national coordination structures - overall levels of coordination are typically weak, in particular perhaps between Government and non-government actors • Coordination is particularly important in border areas where the same community of pastoralists can be found on both sides. All too often, coordination meets narrower national as opposed to wider international standards and interests • Development partners are encouraged to fund agencies with the skills, capacities and commitment to staff and lead coordination structures and systems - including cross border coordination - in particular those with a stated interest and capacity in improving learning and documentation



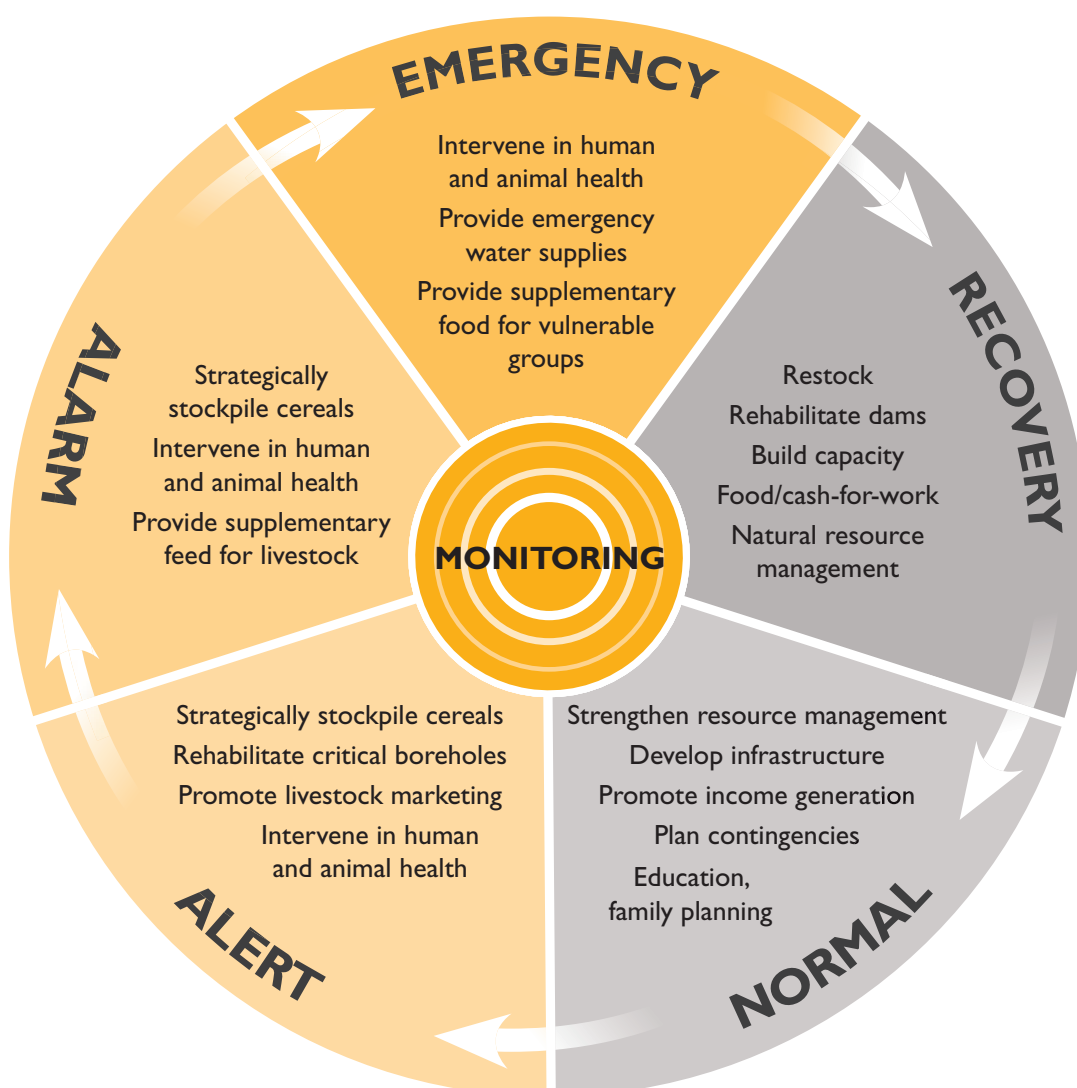
* 'No regrets' thinking: rather than waiting for a drought to become intense and the impact severe, resources are mobilised and activities are begun in order to protect lives and livelihoods in the early stages of the drought cycle.

2.4 Drought Cycle Management model

The LEGS Handbook (p24) makes reference to the Drought Cycle Management (DCM) model that was first developed and implemented in Turkana district in Kenya in the mid-1980s. The DCM model has been adopted as a planning tool by Kenya's National Drought Management Authority (NDMA) and Ethiopia's Disaster Risk Management - Agriculture Task Force (DRM-ATF). The DCM model can be viewed as five phases (normal, alert, alarm, emergency and recovery) with corresponding sets of life-saving and livelihood-based activities (such as cash payments, a range of livestock interventions and capacity building) tailored to each phase in order to minimise depletion of assets. A generic version of the five-stage DCM model is presented in Figure 4 below.

Some agencies run the Alert and Alarm Stages as a single stage, but this potentially masks sensitive transition/early action decision points for livestock keepers. For example, milk production may have fallen by 30-40 per cent at this time without necessarily impacting significantly on livestock body condition and livestock prices at local markets, but food prices for pastoralists will have started to increase as they purchase more grain to compensate for the loss of milk in their diet. Use of the DCM model promotes early and appropriate livelihood-related interventions that help protect livelihoods and result in improved drought outcomes for pastoralists.

Figure 4: Drought Cycle Management (DCM) model



Source: based on Resilience in Africa's Drylands: Revisiting the DCM model. AKLDP Technical Brief May 2014.
http://pdf.usaid.gov/pdf_docs/pbaab445.pdf

3. DCM STAGES AND LEGS TECHNICAL INTERVENTIONS

In this section of the Drought Tool, LEGS-based technical guidance is provided for the five-stage DCM model for the drylands of the HoA. While the details are specific to the HoA region, it is hoped that the guidance provided will help inform the implementation of LEGS in other drought-affected areas of the world. Supporting information can be found in the LEGS Handbook and the FAO 2016 Livestock-related Interventions during Emergencies – The How To Do It Manual.

It should be noted that whilst these LEGS-based interventions can help build the resilience of poor and very poor pastoral households, the interventions are better targeted at those households for whom livestock can continue to play a meaningful role, i.e. pastoral households that have retained at least small flocks and herds. Households in which livestock are likely to play only a minor role in future will be better supported by social protection and other related programming, for example skills and other training to assist them to transition into other livelihoods.

3.1 DCM Normal Stage - LEGS Interventions

Interventions conducted during the Normal Stage of the DCM model are best focused on building long-term resilience outcomes for pastoral and other livestock keeping households to help them prepare for and improve their drought responses. LEGS related interventions on animal health, livestock feed and water, and marketing – and technical guidance related to each of these – are presented below and summarised in Table 1.

Veterinary support – Healthy animals are productive animals and one of the principles of good livestock keeping is to maintain healthy animals. In the Normal Stage of the DCM model animals are at their most productive, in particular if the area has not suffered drought for several years and animals are in good body condition and breeding well. At this point flocks/herds will produce significant amounts of milk that can be processed, and surpluses sold in local markets.

To ensure that herds remain healthy and productive, Government and development partners can invest in a range of interventions: training veterinarians, deploying district veterinarians, building veterinary posts and other related infrastructure, and strengthening animal health delivery services - including deployment of para-veterinarians and training Community Animal Health Workers (CAHWs). Following their training, CAHWs may be linked to private veterinary pharmacies (PVPs) and livestock medicine suppliers, thus helping strengthen service delivery and ensuring sustainable access to high quality veterinary medicines. Most governments in the HoA promote the privatisation of animal health services. In order that these services are strengthened and sustainable it is important that agencies do not deliver free medicines and undermine service development. Poor and very poor pastoralists with few animals may well be unable to afford these private services however, in which case voucher-based services can be introduced to make medicines available free of charge for these households, but the vouchers should be redeemable through the CAHW and PVPs, thus helping to strengthen the service.

The Normal Stage offers veterinary departments opportunities to carry out vaccinations against locally important livestock diseases, following recommended standard procedures at the appropriate time of year. Most vaccinations require functioning cold chains and good coordination and communication between the service providers and the herders. Where livestock vaccinations are planned for border areas, it is useful for veterinary services in neighbouring countries to meet together to coordinate and harmonise their approaches, including the timing of the vaccination campaigns, in particular if it is expected that flocks/herds will be trekked across international borders during future droughts.



Livestock feed and water – The vast majority of livestock deaths occurring during times of drought are the result of inadequate nutrition as opposed to livestock diseases (Catley et al, 2014), with animals literally dying from starvation. For this reason the Normal Stage of the DCM model can best be used to strengthen rangeland management practices, in particular arresting and reversing degradation trends. One approach is Participatory Rangeland Management (PRM), which was pioneered in the rangelands of southern Ethiopia within projects that also used the DCM model as a planning tool (Flintan and Cullis, 2010). Through the adoption of PRM, pastoralists can zone different land-uses - wet and dry season grazing, settlements, drylands farming - and therefore zone and agree which rangelands should be kept for dry season/drought grazing.

PRM recognises that water resource development is increasingly detached from grazing management strategies, as growing numbers of rangeland water users are now non-pastoralists. The proliferation of water points - including deep boreholes that provide year-round water - has resulted in a rapid increase in the number of market towns and trading centres, and also significantly reduced the mobility levels of pastoral herds as year-round grazing of pasture has become more common, in particular for poorer households with smaller numbers of animals. Such grazing is linked to substantial declines in rangeland production and productivity, as more palatable species are grazed out and replaced with less palatable species that can better withstand grazing pressures. PRM offers pastoralists and planners an opportunity to review and address these negative trends by safeguarding at least some rangeland areas for the dry season/drought times.

As well as being useful in helping to identify which water points should be prioritised for dry season/droughts, PRM also helps identify what improvements can be made to their efficiency – for example desilting, improved water troughs, and the addition of safety features that help separate people, in particular women and children, from large concentrations of livestock. Livestock ponds and hafirs can be zoned for separate access areas for people and livestock, and improvements can be made at shallow and deep wells with different access paths. Other efficiency interventions include replacing traditional mud and stone cattle troughs with concrete reinforced troughs, and the creation of water holding tanks that can feed multiple troughs to increase the through-put of livestock. Where water is lifted from wells with a 'human chain', as in some areas of southern Ethiopia and northern Kenya, platforms can also be improved in order to reduce the number of accidents caused by slipping on wet rock surfaces and rudimentary wooden ladders.

Livestock marketing – The HoA's most remote pastoral areas are increasingly integrated into national and international livestock markets. As a result, the livestock bred and reared here are traded not only to local markets but also to destinations in the Middle East. It makes strategic sense to use the Normal Stage to mobilise additional public and private investment to improve marketing infrastructure - including the construction and improvement of rural access roads and bridges, and basic livestock marketing infrastructure - loading ramps, water troughs and cleaning of sites. It is also possible to use the Normal Stage to develop new markets for particular animal types - poor and cull cows, older breeding bulls and draught oxen - for which there are no export markets. New markets may include contracts for meat distributions to local institutions - schools, vocational training centres, army barracks and hospitals - and also to local butcheries, as roasted meat or 'nyama choma' becomes increasingly popular.

Monitoring, Documentation and Dissemination – The Normal Stage provides opportunities for Government and development partners to strengthen Early Warning Systems (EWS), enhance their associated analysis, and develop better and more user friendly bulletins. Government, development partners and pastoral leaders are encouraged to review past performance of LEGS-related interventions in order to understand their strengths, weaknesses, opportunities and challenges, and to document the findings in evidence-based good practice guides.

There are many other investments possible in this Stage that might also help improve resilience and reduce levels of vulnerabilities for livestock communities, in particular: social services, including infrastructure and capacity-building initiatives in health, nutrition and education; economic development, including investment in roads, financial and IT services; alternative livelihoods, including vocational and skills training/apprenticeships and other incentives for employers; and social protection programmes, in particular for vulnerable households. The need for appropriate investments in alternative livelihoods seems increasingly relevant as ever-larger numbers of semi-destitute and destitute pastoralists are now living in the region's drylands.

Table 1: Recommended interventions for the Normal Stage - DCM model

Drought cycle stage	Coordination and participation	Livestock-related interventions	Other important interventions	Administrative Support
Normal	<ul style="list-style-type: none"> • Identify appropriate drought management interventions • Undertake associated training and contingency planning 	<ul style="list-style-type: none"> • Strengthen community-based animal health services - train paraveterinarians/ establish private pharmacies • Improve rangeland production and productivity, specifically improving rotational seasonal grazing • Improve roads and related infrastructure for livestock marketing 	<ul style="list-style-type: none"> • Update EWS reports • Expand livelihood diversification initiatives - adult literacy, basic business skills training • Strengthen social services including: <ul style="list-style-type: none"> - health - including maternal and child health and reproductive health - education - nutrition - social protection 	<ul style="list-style-type: none"> • Administrators to identify contractors of drought-related services and draft contracts that can be activated as required through the drought cycle. These should be reviewed and updated annually

* See the *LEGS Handbook* and *FAO How-to-do-it manual* for detailed technical information.



3.2 DCM Alert Stage - LEGS Interventions

Transition Indicators – The DCM model provides a range of detailed information and guidance on the different stages of a drought, but offers no guidance on the transition points between the different phases. It is possible that this is because the authors recognised transition points will vary from place to place even within the same geographic areas; for example, drought conditions in a mountain range might be different from those on the plains that surround it. Although there is a compelling rationale for avoiding making generalised and prescriptive guidance that does not fit locational realities, a common understanding of indicators that demonstrate a transition point has been reached between the different stages of the DCM could help improve the coordination of drought responses, as all stakeholders start to share the same thinking and analysis.

Possible indicators for the transition from the Normal to the Alert Stage include levels of rainfall, soil moisture and quality, terms of trade, and the availability of forage and naturally occurring water resources. Each indicator has its strengths and shortcomings. The Drought Tool suggests using: **repeat EWS alerts for consecutive poor, seasonal rains or the increased probability of a strong La Niña episode in the following year**⁸. The advantage of this indicator is that agencies are not required to collect and analyse rainfall, soil moisture and other data themselves, but rather can let the work be done by specialists and can receive and use this analysis using the ‘no regrets’ approach.

Coordination – Once the Alert Stage has been reached the priority is to activate national, county/region and local level coordination structures⁹ that bring together stakeholders to plan a coordinated response, including for livestock. Early activation enables stakeholders to carry out coordinated assessments, develop and agree emergency roadmaps to provide guidance on different intervention areas,¹⁰ and mobilise resources. Through early activation it is also possible to develop new and innovative approaches to coordination. One approach that was recently piloted in Ethiopia is presented in Text Box 1.

Box 1: The Strategic Advisory Group¹¹

Following shortcomings in agriculture sector coordination in Ethiopia, the UN and development partners approved the establishment of a Strategic Advisory Group (SAG) to the Food Security Cluster to provide strategic and technical advice to the Ethiopia Humanitarian Country Team (EHCT) and its humanitarian partners. The SAG produced a range of documentation including frameworks for action, roadmaps and other operational guidelines. In addition, the SAG collected and aggregated monitoring information and provided implementing partners with support and guidance in proposal development and resource mobilisation. Whilst no formal independent evaluation of its work has been undertaken, one of the most important emerging lessons is that, as a neutral body independent of institutional pressures (members were drawn from a number of different agencies including the UN, development partners and a university), the SAG was able to provide independent guidance - something not typically possible under the UN-led humanitarian system.

Technical guidance for the different livestock-related interventions that can help inform planning and programming in the Alert Stage is presented here for consideration and summarised in Table 2.

8 These La Niña episodes typically result in drought in the pastoral areas of Somalia - including Somaliland and Puntland - southern Ethiopia, northern Kenya and at times parts of southern Sudan and eastern Uganda.

9 For example, the National Drought Management Authority (NDMA) in Kenya, the National Disaster Risk Management Commission (NDRMC) in Ethiopia and their local government equivalents.

10 It is expected that these roadmaps will be updated periodically in order to provide appropriate and relevant operational advice.

11 Adrian Cullis, pers. comm.

Veterinary support – The transition from the Normal to the Alert Stage should result in an increased sense of urgency to deliver routine animal health care services, with an emphasis on basic clinical services provided by the private sector, including private paraveterinarians and CAHWs, and to complete any outstanding vaccination campaigns. At this point planning should also begin for the design of a veterinary voucher programme.

Livestock feed – With livestock mortality during droughts largely driven by starvation and not disease, the careful planning of livestock feed interventions is one of the most important steps in the development of an effective emergency livestock response. There are two main approaches to livestock feed interventions: the first is to move the livestock to the feed and the second is to transport the feed to the animals. The first approach is essentially an extension of the pastoral production system and builds on herders' knowledge, skills and mobility experience over generations. Usually this approach is more cost effective as animals that are moved - either by trekking or partially assisted using lorries - can forage for themselves, thus reducing on-going feed costs.

Anything that can be done to facilitate the movement of animals out of an area that has been issued with a severe drought forecast will be of strategic and practical help. Interventions include: vaccination, facilitation of grazing agreements with neighbouring communities (including at times in neighbouring countries), the provision of key mobile services, and possibly cash incentives for animals that are moved. The offer of animal health services to the host communities – through vaccinations or vouchers for other forms of livestock treatment - might help ease negotiations and result in improved relations between the host and mobile communities. While it is important to try to move the core herd away from the area likely to be drought affected, it is equally important that efforts are made to leave some milk animals at the homestead in order that pastoral children can have access to milk, and in this way levels of wasting can be kept to a minimum.

NGOs operating in Turkana County, northwest Kenya, and Karamoja, north-eastern Uganda, recently helped facilitate Turkana herdsman to trek animals from Turkana into Karamoja (The OSIEA, 2017). Although this movement forms part of long-standing reciprocal grazing rights between the two communities, it has failed in some years because of ethnic tensions. In the recent movement the NGOs apparently helped facilitate the movement by transporting senior pastoral leaders from both sides to common meeting places where the agreement was made. Local government representatives were also involved from both sides, and one of the critical success factors of this initiative was that Government veterinarians from Turkana were allowed to travel with the herds into Uganda in order that the animal health services of Karamoja were not overwhelmed. Another option is to facilitate access to harvested fields in large irrigation schemes where livestock can graze crop residues. In addition to helping to 'clean' the fields of weeds and residues, the livestock enrich the soils through manuring.

Where it is not possible to move livestock out from areas that are forecast to be affected by drought, consideration should be given to the purchase and transport of forage/feed for the livestock. The appropriate provision of supplementary livestock feed - fodder¹², concentrate compounds¹³ or agro-processing bi-products¹⁴ - can help reduce losses and also sustain pregnancies and lactations, resulting in an increase in the availability of milk for children. Even modest amounts of milk have profoundly positive nutritional outcomes for children (Sadler and Catley, 2009). The challenge to be faced however, is that livestock feed and transport are expensive, and it is therefore important to start processing the sourcing of feed/forage in this Alert Stage, even if it is not planned to start the distribution until the Alarm or even Emergency Stages¹⁵.

¹² Fresh and dried grass or hay and fodder maize/sorghum.

¹³ Prepared mixed rations that are produced specifically for livestock feeding and contain high levels of protein for maintenance, growth and production, together with other essential feed components - fibre, carbohydrates and minerals.

¹⁴ A wide range of bi-products are available from millers, brewers and other agro-processing industries.

¹⁵ Leaving the planning of feed interventions too late can also lead to market distortion. Late intervention in both Ethiopia and Kenya - in particular where multiple organisations were involved in the purchase of forage and feed - resulted in negative knock-on effects in the dairy sector as feed prices sky-rocketed. Contracts should therefore be placed well in advance in order that the feed industry can prepare itself for increased demand.

To keep costs to a minimum it is important to secure the forage/feed as locally and as cheaply as possible. For example, it may be possible to encourage farmers on irrigation schemes to harvest and sell green maize/sorghum¹⁶ and then to replant with Rhodes/Napier grass or forage maize/sorghum. Other possibilities for sourcing forage/feed include forward contracts, whereby partial payment is made to a livestock feed provider for delivery in a later drought stage in order to reduce overall costs.

Livestock water – The location of water points in relation to available pasture and feed resources plays a critical role in livestock survival rates during droughts: the further that livestock have to trek between the two, the more energy is utilised and the intervals between feeding and watering grow ever longer. In areas where water points are more widely available, breakdowns resulting from more frequent use may result in long delays in the watering of flocks/herds, and therefore reduced feeding times until the water point is restored. Coordination bodies are particularly encouraged to map and monitor the functionality of water points when drought is anticipated.

Mapping and monitoring of water points has been greatly assisted in recent years through the increase in the use of Smartphones that can provide GPS coordinates and pictorial evidence of levels of maintenance and usage. It is increasingly possible to identify and prioritise strategic water points for fast-tracked maintenance and repair, and to reduce downtimes and costs with the appropriate spare parts carried by repair teams. It is recommended that service providers purchase stocks of fast-moving spare parts for wells/boreholes that can be distributed to water points quickly and efficiently to ensure high levels of functionality through drought times.

Destocking – In the Alert Stage it is useful to organise community consultations with pastoralist leaders to discuss drought severity alerts, and together with them to review their herd structures. For example, if it is known that a forecast drought is ranked 5, it may be possible to encourage pastoralists to sell off their young stock and older animals that will be particularly drought vulnerable, and in this way not only secure them better prices than in the later drought stages - when markets are simply overwhelmed with large numbers of poorly conditioned animals - but also ensure they have increased financial resources to purchase and store forage for feeding their remaining animals in the later stages of the drought.

While it is important to encourage herders to offload young stock and older/weaker animals, it is also important to allow markets to continue to function normally and without subsidy for as long as possible. Typically, in this early DCM stage, animals are in reasonably good condition and traders and feedlot owners should therefore continue to purchase animals at normal prices. If however livestock prices start to fall (by 25 per cent or more of normal seasonal market prices), local Government can support first-level commercial destocking through the reduction/ removal of taxes associated with the purchase, transport and eventually the sale of fattened/conditioned animals. This will help to stimulate markets and facilitate the continued off-take of livestock through normal marketing channels.

Monitoring, Documentation and Dissemination – During the Alert Stage of the DCM model it is important that decision-makers are provided with a regular flow of quality information on: rainfall, pasture and water, livestock body condition, milk yield, and livestock and grain prices. This information, together with summary information on any current responses, can be packaged attractively and shared with senior decision makers in Government and among development partners. This is likely to help generate additional resources - human and financial - to support the drought response.

16 Many farmers using irrigation in the drylands in fact already produce large amounts of forage crops such as maize and sorghum seasonally, as they are harvested while green, and therefore earlier than for cereal production. Earlier harvesting typically results in reduced costs, in particular in systems that use pump irrigation.

Table 2: Recommended interventions for the Alert Stage - DCM model

Drought cycle stage	Coordination and participation	Livestock-related interventions*	Other important interventions	Administrative Support
Alert - repeat EWS alerts that describe or forecast consecutive poor seasonal rains or the increased probability of a strong La Niña episode in the following year	<ul style="list-style-type: none"> • Confirm drought cycle management/ contingency plans • Undertake targeting of beneficiaries • Implement, monitor and improve alert actions • Alert donors, decision makers and livestock owners of situation and likely trends 	<ul style="list-style-type: none"> • Phase-out vaccination and introduce voucher-based veterinary clinical care • Support transhumance/ trekking livestock out of the drought affected areas • Support livestock marketing through the reduction/removal of markets and related taxes • Initiate commercial destocking 	<ul style="list-style-type: none"> • Update EWS reports and road maps • Conduct rapid nutrition assessment and support milk and meat voucher schemes for vulnerable children • Scale up social service provision including social protection programs 	<ul style="list-style-type: none"> • Administrators review and as appropriate start to contract service providers

* See the LEGS Handbook and FAO how-to-do-it manual for detailed technical information.



3.3 DCM Alarm Stage - LEGS Interventions

As the transition indicator from the Alert to the Alarm Stage, the Drought Tool recommends using a **50 per cent reduction in milk production and availability for mobile pastoral flocks, and 75 per cent for more sedentary static flocks** (static flocks have only limited access to quality forage even in normal times). This indicator was selected because pastoral women are able to provide this information accurately as they milk the animals daily, and, as has been mentioned, milk availability has almost immediate outcomes for children and mothers (Sadler and Catley, 2009).

Once the Alarm Stage of the DCM model is triggered it is important that coordination structures meet regularly - perhaps every two weeks - to provide effective leadership and build the momentum of the drought response. Meetings can usefully be structured around the following up-dates and discussions:

- monitoring information on drought conditions and impacts
- proposal development and resource mobilisation
- operations, and
- policy and strategy support.

The minutes of these meetings should be shared widely with national, county/regional and local Government, development partners, and other interested stakeholders.

Technical guidance for the different livestock related interventions that can help inform planning and programming in the Alarm Stage is presented here for consideration and summarised in Table 3.

Veterinary support – If vaccinations have been delayed or only partial coverage achieved, it may be advisable to continue vaccinations into the early Alarm stage if these diseases still pose a threat, but this should be judged on a case-by-case basis. Any vaccinations should be completed before animals become ‘lean’. If vaccinations are continued, it is particularly important they are carried out efficiently in order that animals can quickly return to grazing/watering. Prevention and treatment of livestock diseases can be supported through the use of vouchers¹⁷ with private veterinarians, paraveterinarians and CAHWs¹⁸.

Box 2: Use of vouchers

The LEGS Handbook (p131) offers two examples of the use of vouchers for improved animal health outcomes, one in Kenya and one in Ethiopia. The International Committee of the Red Cross (ICRC) piloted a voucher scheme in Turkana district, north-western Kenya, under which selected pastoral families received vouchers for certain disease treatments that could be redeemed for treatment by CAHWs and veterinary assistants. The vouchers were valued at US\$ 14 and limited to the use of four veterinary medicines. The CAHWs, veterinary assistants and private veterinary pharmacies (PVPs) each received small payments for this service delivery. One of the advantages of this scheme - that benefited an estimated 3,000 people - was that CAHWs received top-up training on the use of these medicines from veterinarians ahead of implementation. A drawback was that the scheme was administratively demanding (Mutungi, 2005, cited in LEGS, 2014).

¹⁷ Vouchers can also be used for other interventions including livestock feed. Ch.3 of the FAO ‘How-to-do-it’ manual looks at vouchers and cash transfers in detail.

¹⁸ Relatively little appears to have been written on the efficacy of parasite treatment on mortality rates during times of drought in the drylands of the HoA and research could usefully be carried out on this topic, both for more pastoral mobile herds and more static herds. If this were done, the findings could be shared with the LEGS Project for dissemination amongst the wider LEGS community.

Livestock feed – Livestock feed is a key intervention during the alarm stage. Movement of animals to find grazing elsewhere is still to be encouraged at this stage as those animals that are trekked out of drought-affected areas before the Emergency Stage of a drought typically recover lost body condition quite quickly. Borana herders in Ethiopia, for example, trekked their animals north ahead of the 2016-2017 drought and returned after the onset of the spring rains of 2017 with large numbers of calves. Herd mobility therefore reduced mortality rates and supported herd growth during the drought. The animals that can not be trekked typically fall into two groups: the first, the majority, are those animals that are owned by poor and very poor ex-pastoralists who are less mobile and lack the capacity to move them out of the drought affected area. The second are a smaller group of animals that are owned by wealthier households and are selected to remain behind to provide milk for the household. This second group usually has access to supplementary feeding, but the first group represents some of the most 'at risk' animals and feed interventions invariably need to target these animals.

Supplementary feed is usually offered through two different operational modalities. The first, the distribution of small amounts of hay/forage on a monthly basis to all pastoral homesteads in drought-affected districts, is favoured by Government agencies. Under this approach households are encouraged to select and feed a small number of valued animals - those that milk well, and are drought and disease resistant. Once delivered it is the household's responsibility to use the feed as they see best, and more often than not it appears the feed is shared with larger numbers of animals than planned as the family seeks to protect as many animals as possible. Used in this way the feed is diluted and probably has less impact. Little or no research has been carried out on this however, and it may be appropriate to commission an impact assessment and to share the findings with the LEGS Project for further dissemination through its networks.

The second approach is favoured by NGOs and involves the provision of feed for 1-2 cattle, 3-5 sheep/goats or 1-2 equines/camels for carefully targeted pastoral households. The approach can include firstly 'in-situ feeding', whereby targeted households collect forage/feed from a central store and feed selected animals in the homestead. In some cases targeted households are provided with feed vouchers that can be redeemed at agri-input providers, which helps to build the resilience of market-based services. A second option is 'feed centres/camps', which involves targeted households selecting livestock that are then herded together to receive tightly managed feed rations. The LEGS Handbook (p171) offers assessment checklists for both approaches, whilst the FAO 'How-to-do-it manual' provides guidance in chapter 6.

During the 2010-2011 HoA drought, the Disaster Risk Management - Agriculture Task Force in Ethiopia provided a guidance note on recommended rations for different animal types, informed by FAO (DRM ATF, 2011). The purchase and provision of livestock feed is costly, in particular if forward contracts have not been signed in the earlier stages of the DCM model. In order to control costs, the Drought Tool recommends that wherever possible feeding be restricted to 60-80 days, or better still 30-40 days. In order to make this decision it will be necessary to monitor livestock body condition and to delay the onset of feeding until animals are lean, but not yet emaciated. It may appear that this recommendation will contribute to 'a dangerous delay - the cost of late response' (SCI and Oxfam, 2012), but the delayed onset of supplementary feeding helps towards improving benefit-cost outcomes, and potentially feeding more animals with the same amount of funding.

Once procurement issues have been addressed, the Alarm Stage can be used to finalise transport agreements and to lease/construct feed stores and centres. Time can also be invested in staff training, and the development of Guiding Principles with the community to govern the way that feed stores and centres are managed. These principles might include, but not be limited to:

- Targeting
- Transport provision
- Site selection
- Use of food troughs/racks to avoid wastage

(See also LEGS Handbook p157-9)

Livestock water – During the Alarm Stage, access to adequate water typically becomes problematic as surface water sources - ponds and hafirs - dry out and herding communities are forced to use ground water sources - shallow or deep wells and boreholes. Levels of congestion increase as each functioning water source attracts herders from ever-greater distances, and watering times increase. Even as early as the Alarm Stage, watering times can extend up to several hours resulting in time lost for grazing/browsing and reduced feed intake. Priority water points should receive rapid maintenance and repair in order that unnecessary delays related to breakdowns can be avoided. Implementing partners involved in livestock feed interventions could take on additional but related responsibilities for the monitoring and maintenance of local water points, or at least ensure that monitoring information on the status of water points is collected and shared with the appropriate service provider.

Depending on levels of congestion at water points in the Alarm, and in particular in the late Alarm Stage, it may be necessary for local Government and development partners to consider introducing water tankering for human populations. Not only is the availability of potable water improved but waiting times and associated stresses are reduced for human populations. The LEGS Handbook (see p194-5) recommends that water tankering for livestock is only used as a last resort. The Drought Tool builds on this recommendation and suggests that alternatives to water tankering are required for livestock at all stages of the DCM, including transporting animals and feed to water points rather than water to livestock.

Destocking – In the Alarm Stage livestock prices in local markets will start to fall as increasing numbers of animals are presented for sale in local markets. As the availability of milk declines, pastoral households transition to more cereal-based diets, which they obtain from neighbouring agricultural communities. While some pastoralists have other income streams or may receive cash remittances from relatives, the majority of pastoralists have to generate cash for the purchase of cereals from the sale of livestock. As the drought intensifies, and more and more drought-affected animals are presented for sale, prices fall ever more sharply and at times crash completely. For example, in southern Ethiopia in the 2010-2011 HoA drought sheep/goats were traded for a few kilograms of maize, whilst cereals prices peaked at more than 250 per cent of their normal price¹⁹.

As the Alarm Stage progresses and the drought intensifies, second-level commercial destocking interventions (i.e. with subsidies) may be required, in particular for those animals - young stock and older and less productive animals - that are unlikely to survive the drought. Second-level commercial destocking should be introduced when prices fall 40 per cent or more below normal, seasonal values. Prices do not fall uniformly however; for example the price of export quality animals - Boran bulls, Somali black-headed sheep and 'Galla' goats - typically remains higher for longer, while the price of younger animals - that would require perhaps a year to fatten/condition - falls faster, and the price of older unproductive animals typically falls the fastest. It is therefore recommended that commercial destocking with subsidies is first introduced for non-export quality animals to accelerate their off-take from local markets and avoid their price collapse for as long as possible.

Subsidies can be provided in a number of different ways. For example, Government and development partners can purchase livestock at above market or subsidised rates, and transport purchased animals for distribution to smallholders, or indeed pastoralists, in non-drought affected areas for breeding or fattening/conditioning under agriculture growth or social protection programmes. Alternatively, Government and development partners can support livestock traders/feedlot owners with fodder or fuel vouchers - which effectively reduce the cost of fattening/conditioning - or provide cash payments on proof of purchase and transport of animals out of a targeted, drought affected area. Cash subsidies are typically US\$ 2.5 - 5.0 for sheep/goats and US\$ 25 - 50 for cattle. When cash subsidies are paid to traders it is important that pastoralists in the markets are notified, and at least some of the benefits of this payment are passed on to the pastoralists themselves, as it is they and not livestock traders who suffer most acutely from the impact of drought. Ways in which pastoralists use cash secured from destocking interventions are detailed in Text box 3.

¹⁹ It is for this reason that development partners are encouraged to collect monthly information on livestock and cereals prices as the price trends help inform decision-making regarding destocking.

Box 3: Use of cash from commercial destocking

A participatory impact assessment of a commercial destocking intervention carried out in 2006 in southern Ethiopia found that income from destocking accounted for 54 per cent of household income and was used to buy food, care for livestock, meet various domestic expenses, support relatives, and either pay off debts or add to savings. In addition, 79 per cent of the income derived from destocking was used to buy local goods and services and an estimated 37 per cent used for protecting the remaining animals, including the transporting of animals to better grazing away from the drought affected area (Abebe et al, 2008).

As the drought intensifies livestock prices fall further, and as increasing numbers of livestock are not sold it may become necessary to transition to slaughter destocking of lean but healthy animals. Slaughter destocking payments are typically set at 50 per cent of seasonal, local market value for males, females, young stock and older animals of each animal type, in order that the intervention is cost effective and benefits as many pastoralists as possible. Purchased animals should be marked, so that they cannot be resold, and either distributed to targeted households for home slaughter and consumption, or slaughtered²⁰ and the meat inspected by either a veterinarian or meat inspector. Chapter 4 of the FAO 'How-to-do-it manual' and Chapter 4 of LEGS provide guidance for both commercial and slaughter destocking interventions.

Table 3: Recommended interventions for the Alarm Stage - DCM

Drought cycle stage	Coordination and participation	Livestock-related interventions*	Other important interventions
Alarm - 50 per cent reduction in milk production and availability is used for mobile pastoral flocks, and 75 per cent for more sedentary static flocks	<ul style="list-style-type: none">• Implement, monitor and improve drought response actions• Organise ad-hoc technical meetings to foster coordination and harmonisation of response• Produce and disseminate drought response bulletins for Government and development partners for improved accountability and resource mobilisation	<ul style="list-style-type: none">• Continue with routine treatments• As required introduce livestock feed, but maintain at modest scale in order to achieve high levels of cost effectiveness• Ensure monitoring and support for water systems maintenance and repair• Increase support for commercial destocking• Introduce slaughter destocking	<ul style="list-style-type: none">• Update EWS reports and road maps• Expand rapid nutrition assessment and supported milk and meat voucher schemes for vulnerable children• Scale up social service provision including social protection programs• Introduce regular food/cash transfers

* See the LEGS Handbook and FAO How-to-do-it manual for detailed technical information.

²⁰ Animals that are presented for slaughter should be treated humanely including at the point of slaughter.

3.4 DCM Emergency Stage - LEGS Interventions

The Emergency Stage of the DCM model covers the period when the drought conditions are most severe and the largest numbers of livestock are lost to starvation. For this reason the Drought Tool suggests the key indicator to mark the intensification of drought from the Alarm to the Emergency Stage is the **onset of livestock losses due to starvation**. At this point all animals will be lean/thin: young stock and older breeding animals in particular will be emaciated, some will be unable to stand in the mornings without assistance, and without some form of supplementary feeding some will start to die. At this point the costs to pastoralists escalate rapidly from production losses - milk and breeding potential - to declining livestock prices and increases in food prices, to the complete loss of animals. The replacement of these animals is not only costly but also takes considerable time.



During the Emergency Stage coordination structures are encouraged to continue to hold meetings at least every two weeks, and to organise separate ad hoc technical meetings for each of the intervention areas: animal health, livestock feed, livestock water and destocking. In routine meetings monitoring information and updates can be shared, while the technical meetings offer opportunities for technical specialists to come together to share operational experience. These ad hoc meetings can also facilitate improved coordination and harmonisation, including the use of common indicators, monitoring and reporting frameworks, and the sharing of early assessments and learning. Information from the different meetings can be pooled into wider sectoral updates that are shared with Government and development partners. Such updates and reports are important not only in terms of accountability, but also in raising the profile of livestock-related DCM interventions. It is also important in the Emergency Stage of the DCM model for Government to monitor and engage in food price regulation, as too often food prices increase significantly. Inevitably, the loss of milk and dairy products and high cereal/food prices provide a 'perfect storm' for high levels of malnutrition.

Technical guidance for the different livestock related interventions that can help inform planning and programming in the Emergency Stage is presented here for consideration and summarised in Table 4.

Veterinary support – In the Emergency Stage of the DCM model there is generally little that can be done to support animal health other than continued monitoring and treatment of diseases by the local veterinary services. If increased funds become available for animal health during the Emergency Stage, then expanding the geographic cover using voucher-based schemes is recommended. Such schemes can be run at community as well as household level, with community/clan leaders left to allocate vouchers on a needs basis.

Livestock feed – Livestock feed interventions are perhaps the most important of the emergency livestock interventions during the Emergency Stage. Where possible, livestock feed interventions should be carried out throughout the Emergency Stage, although inevitably in a severe and widespread drought it will not be possible to provide feed to all drought affected animals. Once livestock feed interventions have started, they should be continued into the Recovery Stage when naturally occurring pasture becomes available again. Livestock feed rations are outlined above under the Alarm stage, and should remain the same.

Livestock water – The key issues relating to livestock water provision are detailed in previous sections of the Drought Tool. The importance of monitoring water points remains crucial, as does providing tankered water to human populations at particularly congested water points.

Destocking – During the Emergency Stage prices of livestock will fall steeply as ever increasing numbers of poorly conditioned animals are presented for sale, and livestock traders are able to pick and choose the animals they want to buy at the prices they set – i.e. it is a buyers' market. At some point in the Emergency Stage livestock traders will simply cease buying animals altogether, as they will have fulfilled their contractual obligations with ranchers/butchers/feedlot holders, and with no more sales outlets they will cease to trade. As the number of active livestock traders decreases, prices collapse and markets cease to function.

When markets fail, local Government and NGOs can continue to support pastoralists by seeking to offload their animals. Government can, for example, purchase animals and move them to state farms, ranches and perhaps even irrigation schemes where they can be conditioned enough for the market and then sold. Part of the added value can be shared with the communities that sold the animals originally, as has happened in Kenya through innovative agreements made between pastoralists and private ranchers. Governments and NGOs can also purchase/scale up slaughter destocking for meat distribution to drought-affected households and, as livestock become increasingly emaciated, undertake slaughter destocking for livestock disposal.

Destocking operations can be implemented quite cost effectively when animals are purchased for 25 per cent of their normal²¹, seasonal market value, and in this way ensure that cash is injected into the

21 While it is difficult to regulate, it is important for market managers to try to ensure that pastoralists are not selling animals for 'throw-away' prices and being exploited by unscrupulous traders. If required, market managers can ban certain traders from markets.

local economy, cash for work opportunities are increased, and animals are appropriately disposed of that would otherwise be left on the open range to be washed into ponds and other surface water points following the onset of the rains. Although the animals are worth very little at this point, it is important that they are treated and slaughtered humanely. It is also important that disposal sites are selected well away from settlements, and animals are either deep buried or burned daily so that hyenas and foxes do not feed off the carcasses. Pastoralists can be paid to dig pits, humanely slaughter emaciated animals, and dispose of them through burial or burning under cash-for-work programmes.

Table 4: Recommended interventions for the Emergency Stage - DCM

Drought cycle stage	Coordination and participation	Livestock-related interventions*	Other important interventions
Emergency - the onset of livestock losses due to starvation	<ul style="list-style-type: none"> • Continue to implement, monitor and improve drought response actions • Continue to organise ad hoc technical meetings to foster coordination and harmonisation of response • Continue to produce and disseminate drought response bulletins for Government and development partners for improved accountability and resource mobilisation 	<ul style="list-style-type: none"> • Continue with routine animal health care • Steadily phase out commercial destocking • Scale-up slaughter destocking • Introduce slaughter destocking for disposal • Expand livestock feed provision 	<ul style="list-style-type: none"> • Update EWS reports and road maps • Expand nutrition interventions. Scale-up social service provision including social protection programmes • Strengthen regular food/cash transfers • Stabilise food prices, introducing food price capping as required in order to avoid inflated prices

* See the LEGS Handbook and FAO How-to-do-it manual for detailed technical information.



3.5 DCM Recovery Stage - LEGS Interventions

All droughts eventually 'break' with the arrival of seasonal rains. The transition from the Emergency to the Recovery Stage is more complicated than just the onset of rains however, and is typically the most difficult transition to determine. The transition timing is made more challenging as many, including senior decision-makers, continue to associate the onset of seasonal rains as the primary indicator of recovery. The onset of rain is inadequate as an indicator for the transition point for the following reasons:

- **Nature of the rains:** the onset of rains can in fact result in further significant livestock losses, in particular if the rains are intense and fall through the night, and result in steep falls in temperature. Under such weather conditions, whole flocks of sheep/goats that have survived the drought can be lost to pneumonia and related respiratory diseases.
- **Human health issues:** the rains will start to replenish surface water points starting with small puddles. As these puddles overflow, run-off coalesces into small seasonal streams and eventually into seasonal river systems. This run-off recharges ponds and hafirs and underground water flows in seasonal watercourses. Children and women - exhausted from carrying water long distances in the Emergency Stage - typically harvest this surface water for domestic use, despite its variable potable quality. This often results in a spike in gastric infections at a time when children are already weakened by drought. Some health workers suggest that the first month after the onset of the rains is the worst time for health-related problems.
- **Access issues:** depending on the amount and nature of the rains, pastoral areas can quickly become inaccessible for traders, resulting in disrupted markets and increases in food prices. Food/cash payments may also be disrupted for this reason. Government and development partners are encouraged to plan distributions in advance - including establishing local food stores and stocks - once rain alerts have been issued. During periods of prolonged rains, livestock sales may also be disrupted further - although in the early Recovery Stage it is unlikely many will be fully functional.
- **Livestock recovery:** at the height of the drought animals may have lost as much as 40 per cent of their body weight and it will take time for this weight to be recovered. Following a severe drought it may take anywhere from between 2-4 weeks for pasture to recover, and therefore provide feed for livestock. Animals feeding on new growth will also typically take some time to adjust to the new diet, and significant weight gain can therefore be delayed until around a month after the onset of the rains. Once livestock start to gain weight however, compensatory growth²² is triggered that enables animals to recover rapidly. Drought-impacted livestock can fully recover body weight within about two months after the onset of good rains.
- **Return to breeding:** once fully mature animals have recovered they will return to breeding. Gestation periods for different animals vary: sheep/goats 5 months, cattle 9 months and camels 13 months, during which period there is little or no milk available for household consumption and pastoralists must continue to sell animals to purchase cereals/grains in order to feed themselves. Flock/herd size can therefore continue to decline, despite the onset of normal or above normal seasonal rains.

There is therefore a compelling argument that the indicator that should trigger the transition to the Recovery Stage of the DCM model is that **flocks/herds start to produce offspring and milk yields return to 50 per cent of the seasonal average**. Understandably, where livestock losses have been in excess of 40 per cent of the flock/herd, this may take several years and many herds will not have recovered fully before the next drought.

Technical guidance for the different livestock related interventions that can help inform planning and programming in the Recovery Stage, and in particular to help rebuild viable herds, is presented here for consideration and summarised in Table 5.

²² Compensatory growth, also known as catch-up growth and compensatory gain, is an accelerated growth of an organism following a period of slowed development, particularly as a result of nutrient deprivation. Wikipedia accessed December 2017.

Veterinary support – It is important to maintain healthy herds, as not only are they more productive in terms of weight gain and milk production, but healthy animals also breed more regularly and produce healthier young stock. Good animal healthcare delivery services by local private veterinarians, paraveterinarians and CAHWs, where possible, can therefore play an important role in herd rebuilding; including the delivery of routine vaccination services and perhaps a voucher-based service to support the treatment of non-infectious diseases and control parasites. With their access to recovering rangeland pastures and protection against disease and parasites, sheep/goats can be expected to produce two offspring each year and cattle one calf. In a 12-month period therefore, considerable numbers of animals can be added to flocks and herds. Good animal health care can therefore be considered as a cost effective, complementary intervention to support herd rebuilding.

Livestock feed and water – During the recovery phase there is little if anything that needs to be done in the form of additional emergency-related livestock feed and water interventions - although the provision of mineral licks to speed recovery is useful, and might be encouraged as part of a broader recovery. The focus can therefore return to development interventions associated with the Normal Stage of the DCM model, including participatory rangeland management.

Destocking – In most cases, all forms of destocking should be discontinued 3-4 weeks after the onset of good seasonal rains, as rangeland pasture can support compensatory growth and the full recovery of livestock body condition. As animals recover, so too do markets and prices, and therefore the need for continued destocking at least from a pastoral perspective is removed. If livestock prices do not quickly recover to 60 per cent or more of the seasonal norm then destocking could be continued, with an emphasis on slaughter destocking for consumption. The intervention will both help to support prices and also play a useful, supportive role in child nutrition.

Restocking – Restocking was a routine intervention in emergency livestock programmes in the 1980s and 1990s. In some cases, 10-15 animals were given to beneficiary households to help accelerate the herd rebuilding process; whilst in others, nucleus flocks of 40 sheep/goats, together with 1-2 donkeys and food for a minimum of 6 months, were distributed to poor and very poor households in order to reduce the need for the recipient families to have to sell animals to meet their household food needs²³. The costs of restocking a single household therefore typically varied anywhere from US\$ 500-US\$ 1,200, which is significant. Research carried out on the livelihood outcomes of restocking in Turkana District identified variable progress - some restocked households were doing well and others not doing so well at all. In particular it has been found that chronically poor households that have lived in trading centres and market towns for some years perform particularly poorly (Mace, 1989). These findings have resulted in a change of thinking and progressively less funding for restocking.

Whilst acknowledging the challenges associated with restocking, the Drought Tool recognises the need for increased support to pastoral households that have been hit by multiple droughts, in order that they can - if they so desire - return to a pastoral livelihood. Assistance can be in the form of livestock or repeat cash payments that enable carefully targeted households, who are able to demonstrate a commitment to pastoralism, to purchase a mix of drought tolerant animal types (sheep/goats, donkeys and camels) and re-establish themselves as pastoralists. In order to be successful it may be necessary to include some form of cost-sharing arrangement with clans so that they select and take some form of responsibility for supporting these households to re-enter the pastoral system, including as appropriate the gifting of at least a core group of animals themselves. Where such interventions are attempted it is particularly important to monitor progress over a period of 3-5 years in order to assess in more detail whether or not such interventions are viable.

23 Oxfam Kenya was one of the major implementing partners.

Table 5: Recommended interventions for the Recovery Stage - DCM

Drought cycle stage	Participation	Livestock-related interventions*	Other interventions
Recovery - flocks/herds start to produce offspring and milk yields return to 50 per cent of the seasonal average	<ul style="list-style-type: none"> Continue to implement, monitor and improve recovery response actions Organise ad hoc restocking and herd rebuilding working groups 	<ul style="list-style-type: none"> Continue support to animal health care services to support herd recovery Discontinue destocking Consider restocking - perhaps using cost recovery approaches - to help pastoralists rebuild livelihoods 	<ul style="list-style-type: none"> EWS reports and updated road maps Scaling down the emergency response as livelihoods recover Return to normal service provision and development

* See the LEGS Handbook and FAO How-to-do-it manual for detailed technical information.



4. POLICY CHALLENGES

In addition to providing useful information on droughts, their severity and their impact, the Drought Timeline of Section I gave details on recent improved responses - including the introduction of early warning systems and cash transfers. The timeline also offered insights into the introduction of emergency livestock responses. While it is expected that the implementation of good practice will achieve greater scale-up and progress, policy improvements are still needed to create a more enabling environment for accelerated improved outcomes. Key policy areas in need of strengthening include the following:

4.1 Mainstreaming of the DCM model and LEGS

To consolidate the good progress made over recent years it is important that advancements are made towards mainstreaming the DCM model and LEGS into Government drought risk management systems - including but not limited to: national agencies - National Drought Management Authority (NMDA) and National Disaster Risk Management Commission (NDRMC); relevant ministries; local government; UN agencies; and international and local development partners.

In order to achieve this it will be necessary for Government bodies to provide in-service training, and to develop training curricula for universities and colleges within the following courses: disaster risk management (DRM), geography, international development, urban planning, emergencies, drylands, agriculture, drylands service provision, social protection and veterinary science. Appropriately trained graduates, employed by Government and development partners, will be better able to facilitate and support the uptake of good drought management practice.

Development partners are encouraged to support mainstreaming through capacity building grants, including for curricula development.

4.2 Coordination teams

Whilst progress has been made to improve levels of coordination in drought emergencies, including through the work of the NDMA and NDRMC in Kenya and Ethiopia respectively, much more now needs to be done to improve levels of integration and the harmonisation of approaches based on evidence-based research. Looking forward, agencies might work together, for example with one taking a lead in destocking whilst others prepare for and implement coordinated and harmonised livestock feed interventions.

In order to make the sort of progress that is required, it would help if Government agencies and ministries established separate drought coordination units that are not required to engage in project implementation. Rather, such units could focus their energies on improving EVS, EVS analysis, leadership, coordination, training and capacity building, monitoring, research and learning, documentation and information sharing.

The same might also be done within the UN's humanitarian cluster system, with UN agencies establishing and maintaining stand-alone coordination technical teams for health, education, WASH, agriculture, livestock etc., to ensure that strategic and technical guidance is independent, evidence-based good practice: at present much of the advice given is influenced by vested agency interests.

4.3 Flexible and early funding

The need for early and flexible funding in areas affected by drought has long been recognised, perhaps in particular by agencies that have adopted the DCM model as a development framework. In 2012 the Ethiopian Humanitarian Country Team published a paper on flexible funding for humanitarian action in

areas of chronic vulnerability (EHCT, 2012), that identified a number of key principles that were aligned with Good Humanitarian Donorship principles²⁴ and included the following:

- Base funding on early warning/forecasting rather than humanitarian indicators
- Expand or introduce multi-year funding arrangements especially for humanitarian and livelihoods partners
- Expand flexibility of both development and humanitarian financing to adapt to changing situations
- Introduce crisis modifiers, or seed funding, into development proposals to allow for response to changing needs
- Expand support for humanitarian response funds for rapid responses, including increased flexibility for rapid access and top up as a crisis modifier fund.

Importantly, the paper concluded ‘the primary responsibility among the donor community to build resilience in areas of chronic vulnerability lies with development donors’.

While steady progress has been made across the HoA to increase the level of funding flexibility, or as it is also described, the pivoting of resources, too many international donors continue to require their implementing partners to deliver development or Normal Stage interventions in the Alert, Alarm, Emergency and Recovery Stages, as operating and accountability systems remain too rigid.

4.4 Supporting both mobility and sedentarisation

The African Union has endorsed a pastoral framework (AU, 2010) and IGAD has established a Centre for Pastoral Areas and Livestock Development (ICPALD)²⁵. Progress in endorsing and protecting pastoralism as a production system, at IGAD Member State level, is patchier however, with some progress made in some areas and less in others. For example, some senior policy makers in the region continue to champion sedentarisation and villagisation as ‘higher level’ development pathways.

At the same time, increasing numbers of pastoralists - in particular poor and very poor pastoralists - are settling in the many trading centres and market towns that have sprung up in the region’s drylands over the last 20 years or more. Despite the fact that many of these settlements have existed for considerable periods of time, levels and quality of service delivery remain notoriously poor in some areas. With limited economic opportunities, the communities are among the poorest and most vulnerable on the continent; and perhaps not surprisingly therefore many are ‘forced’ into poorly paid, seasonal and ‘high risk’ employment - casual labouring, domestic work including for large numbers of migrants, smuggling, and also recruitment into militant groups. Others are involved in activities that impact negatively on the local environment - commercial firewood collection and charcoal production - that will, if allowed to continue unchecked, result in further and accelerated environmental degradation.

For these reasons, the Drought Tool encourages IGAD Member States to recognise the economic contribution made by pastoralism - more than US\$ 1 billion in livestock sales annually alone (Little, 2013) - and that, having endorsed pastoralism as a viable livelihood for households with large, diversified flocks/herds, Member States should routinely provide innovative and appropriate mobile and fixed-point²⁶ health/nutrition, education and related basic social services for those who continue to live a mobile way of life. For those who have settled this Drought Tool encourages appropriate investment in alternative livelihoods that are non-livestock dependent. Most importantly, however, it is crucial that these investments do not impact negatively on mobile pastoral production as has been done in the past, including, for example, through poorly sited large scale irrigation in prime dry season grazing areas.

24 <https://www.ghdinitiative.org/>

25 <https://icpald.org/wp-content/uploads/2016/.../ICPALD-2016-2020-Strategic-Plan.pdf>

26 While mobile, the vast majority of pastoralists typically follow similar route-ways and can therefore access fixed-point service delivery at some points in the year.

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ANNEX I. THE DROUGHT TOOL IN BRIEF - SUMMARY OF RECOMMENDED LEGS INTERVENTIONS DURING THE DCM CYCLE

See the LEGS Handbook and FAO How-to-do-it manual for detailed technical information.

Table 1: Recommended interventions for the Normal Stage - DCM model

Drought cycle stage	Coordination and participation	Livestock-related interventions	Other important interventions	Administrative Support
Normal	<ul style="list-style-type: none"> Identify appropriate drought management interventions Undertake associated training and contingency planning 	<ul style="list-style-type: none"> Strengthen community-based animal health services - train paraveterinarians/ establish private pharmacies Improve rangeland production and productivity, specifically improving rotational seasonal grazing Improve roads and related infrastructure for livestock marketing 	<ul style="list-style-type: none"> Update EWS reports Expand livelihood diversification initiatives - adult literacy, basic business skills training Strengthen social services including: <ul style="list-style-type: none"> health - including maternal and child health and reproductive health education nutrition social protection 	<ul style="list-style-type: none"> Administrators to identify contractors of drought-related services and draft contracts that can be activated as required through the drought cycle. These should be reviewed and updated annually

Table 2: Recommended interventions for the Alert Stage - DCM model

Drought cycle stage	Coordination and participation	Livestock-related interventions	Other important interventions	Administrative Support
Alert - repeat EWS alerts that describe or forecast consecutive poor seasonal rains or the increased probability of a strong La Niña episode in the following year	<ul style="list-style-type: none"> Confirm drought cycle management/ contingency plans Undertake targeting of beneficiaries Implement, monitor and improve alert actions Alert donors, decision makers and livestock owners of situation and likely trends 	<ul style="list-style-type: none"> Phase-out vaccination and introduce voucher-based veterinary clinical care Support transhumance/ trekking livestock out of the drought affected areas Support livestock marketing through the reduction/removal of markets and related taxes Initiate commercial destocking 	<ul style="list-style-type: none"> Update EWS reports and road maps Conduct rapid nutrition assessment and support milk and meat voucher schemes for vulnerable children Scale up social service provision including social protection programs 	<ul style="list-style-type: none"> Administrators review and as appropriate start to contract service providers

Table 3: Recommended interventions for the Alarm Stage - DCM

Drought cycle stage	Coordination and participation	Livestock-related interventions	Other important interventions
Alarm - 50 per cent reduction in milk production and availability is used for mobile pastoral flocks, and 75 per cent for more sedentary static flocks	<ul style="list-style-type: none"> • Implement, monitor and improve drought response actions • Organise ad-hoc technical meetings to foster coordination and harmonisation of response • Produce and disseminate drought response bulletins for Government and development partners for improved accountability and resource mobilisation 	<ul style="list-style-type: none"> • Continue with routine treatments • As required introduce livestock feed, but maintain at modest scale in order to achieve high levels of cost effectiveness • Ensure monitoring and support for water systems maintenance and repair • Increase support for commercial destocking • Introduce slaughter destocking 	<ul style="list-style-type: none"> • Update EWS reports and road maps • Expand rapid nutrition assessment and supported milk and meat voucher schemes for vulnerable children • Scale up social service provision including social protection programs • Introduce regular food/cash transfers

Table 4: Recommended interventions for the Emergency Stage - DCM

Drought cycle stage	Coordination and participation	Livestock-related interventions	Other important interventions
Emergency - the onset of livestock losses due to starvation	<ul style="list-style-type: none"> • Continue to implement, monitor and improve drought response actions • Continue to organise ad hoc technical meetings to foster coordination and harmonisation of response • Continue to produce and disseminate drought response bulletins for Government and development partners for improved accountability and resource mobilisation 	<ul style="list-style-type: none"> • Continue with routine animal health care • Steadily phase out commercial destocking • Scale-up slaughter destocking • Introduce slaughter destocking for disposal • Expand livestock feed provision 	<ul style="list-style-type: none"> • Update EWS reports and road maps • Expand nutrition interventions. Scale-up social service provision including social protection programmes • Strengthen regular food/cash transfers • Stabilise food prices, introducing food price capping as required in order to avoid inflated prices

Table 5: Recommended interventions for the Recovery Stage - DCM

Drought cycle stage	Participation	Livestock-related interventions	Other interventions
Recovery - flocks/herds start to produce offspring and milk yields return to 50 per cent of the seasonal average	<ul style="list-style-type: none"> • Continue to implement, monitor and improve recovery response actions • Organise ad hoc restocking and herd rebuilding working groups 	<ul style="list-style-type: none"> • Continue support to animal health care services to support herd recovery • Discontinue destocking • Consider restocking - perhaps using cost recovery approaches - to help pastoralists rebuild livelihoods 	<ul style="list-style-type: none"> • EWS reports and updated road maps • Scaling down the emergency response as livelihoods recover • Return to normal service provision and development



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