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DROUGHT CONTINGENCY PLANNING TO SUPPORT PASTORALIST LIVELIHOODS IN ETHIOPIA

A discussion paper prepared for UNDP-EUE by consultant sociologist Dr. Richard Hogg. Funding for the study was provided by Swiss Disaster Relief. December 23 1997.

1. Introduction

Ethiopia is a country of ecological and economic extremes. The central highlands, where altitudes rise to above 4000m are surrounded by an apron of semi-arid lowlands, where altitudes are often not much above sea level (see map of pastoral areas). The overwhelming majority of the population of 55 million are rural. Most of these live in the highlands. This high concentration of population on little over 40 percent of the land reflects the close relationship between physiography, climate, economy and population distribution. The average population density in the highlands is more than eight times that of the lowlands.

The lowlands (below 1500m), which cover some 60 percent of the land area of the country, are home to only some 10 percent of the population. The majority of these are engaged in extensive livestock herding, which forms the backbone of their economies. Ethiopia's pastoral groups manage some 40 percent of the national cattle herd, one quarter of the sheep, three quarters of the goats and nearly all the camels. Some 90 percent of the country's live animals for export come from the lowlands.

The majority of the country's pastoralists are made up of Somali, Afar and Boran living in the south-east, north-east and southern rangelands. Within and between each of these groups there are different adaptive specialisations dependent on varying ecological, economic and cultural factors. Understanding the particular constraints and strategies of pastoralists is an important first step in designing appropriate emergency interventions to support their economies in times of crisis. The following report is an attempt to elaborate a set of possible interventions by external agencies to provide a ***'pastoral based safety net'*** to support pastoral livelihoods in times of rapidly plummeting livestock prices, increasing cereal prices and livestock deaths.

The report is intended as a general guide not a specific guideline for each and every circumstance and/ or set of conditions that are likely to arise in the field. It needs to be used therefore in the context of a general awareness that local circumstances may require special treatment/ intervention because of their particular combination of factors and conditions.

1.1. Literature Review

Part of the report contains an extended bibliography of materials available on pastoralist responses to drought in Africa in general as well as Ethiopia in particular. This bibliography was compiled by the International Livestock Research Institute based in Addis Ababa. Most of these are available in the ILRI library. In addition, the report contains its own list of references and, wherever it has been possible to obtain copies, attached documents relevant to the subject. Copies of the extended bibliography can be obtained from the UNDP Emergencies Unit for Ethiopia.

The report needs to be read in conjunction with these documents, which provide a more detailed background on particular pastoralist rehabilitation strategies and projects.

2. Government Policy

Ethiopia's Five Year Plan is based on agriculture led industrialisation. The primary target is to achieve food self-sufficiency, with an annual economic growth target of 7 to 10 percent, through a rural agriculture centred development strategy. Within the context of this plan the government elaborated a specific food security policy and strategy towards the end of 1996. The key elements of this policy are:

- Economic growth and employment
- Safety Net/targeted programmes
- Emergency capabilities

The basis for safety net and emergency interventions is the National Policy for Disaster Prevention, Preparedness and Management (TGE, 1993), which a) seeks to develop the country's early warning system as a basis for timely intervention in a crisis, and b) link relief to development primarily through employment generation schemes (EGS) whereby relief is distributed in return for participation in public works programmes using food and/or cash for work. The objectives of EGS are to: a) provide a means of income to the most affected people in a disaster area, b) build-up assets and c) create the conditions for eliminating the root causes of disasters.

So far as the pastoral areas are concerned the NPDPM recognises that livestock preservation is a " ***key aspect of disaster preparedness***" and makes specific recommendations for interventions to preserve livestock. These measures broadly involve alleviating fodder and water scarcity, avoiding distress disposal and controlling decline in health status. According to the policy each *wereda* in times of drought should prepare an action plan spelling out the possible intervention measures to save livestock: promotion of fodder production, pasture development, supply of water, veterinary requirements, livestock to be given priority, fodder and water distribution, controlled grazing, organised migration, purchase centres, mobile abattoirs and cattle camps. The measures combine those of a longer term development nature, such as promoting fodder/ pasture production, and those of a more emergency nature, such as bringing in supplies of fodder and water from outside, establishment of special livestock purchase centres, set up of mobile slaughtering plants, and cattle camps.

It is doubtful whether any pastoral *weredas* have drawn up the kinds of disaster contingency plans envisaged in the 1993 statement. According to the recent (May, 1997) DPPC Contingency Plan for the Somali National Regional State local government capacity was identified as a major constraint to the implementation of effective disaster planning. But, implementation problems go beyond capacity bottlenecks to I) the nature and sensitivity of the early warning systems in place in pastoral areas and II) the timings and appropriateness of the different and often necessarily sequenced interventions to support pastoral livelihoods exposed to external shock. A fundamental difference, for example, between pastoral and agricultural livelihoods is that pastoralists take much longer to recover after drought. This is largely because their economy is dependent on reproductive capital. Once this capital has gone it takes years to recover. A key intervention in pastoral areas therefore must necessarily be the preservation of livestock as the basis for post drought recovery.

3. Pastoralism

Any disaster planning in pastoral areas must start from an understanding of the main characteristics of pastoral societies(see Hogg, 1997).

The first and most basic characteristic is their orientation toward livestock. Livestock are both the backbone of their economies and a cultural value in their own right. This dependence on livestock has a number of consequences:

1. It is a peculiar characteristic of pastoral capital that it can reproduce itself without intervention of any market mechanism. Unless herdowners have viable alternative forms of investment the tendency is for pastoralists to re-invest in herd growth. One of the inevitable consequences of this is that, without intervening factors, livestock populations will eventually exceed the capacity of the range to support them.

2. Because pastoralism is geared to reproduction of the herd there is inevitably a surplus of animals, such as most males and those females whose reproductive span is over, which can be disposed of without affecting the reproductive capacity of the herd.

3. Herd re-constitution after drought is a long and slow process because many of the female reproductive stock will have died and calving rates plummeted. If a farmer loses his crop one season so long as he has the seed he can plant again the next season, but a pastoralist will take much longer to recover his herds and flocks.

4. Pastoralists are peculiarly vulnerable to fluctuations in the terms of trade between livestock and agricultural, in particular, grain, products. In the dry season when milk yields decline pastoralists depend on the market to buy grain in exchange for milk and meat. If the terms of trade are unfavourable, such as during drought when livestock prices plummet, pastoralists risk losing their reproductive as well as their non-reproductive capital to obtain grain.

The second important characteristic are the physical properties of pastoral environments. In Ethiopia these environments are characterised by the extreme variability and unreliability of rainfall both between different years and between different places in the same year, by the scarcity and seasonal variability of vegetation, and by vulnerability to drought. Pastoral areas, while they may produce crops in good years, are generally marginal to intensive crop production. In particular, the marginal nature of pastoral environments has imposed certain constraints to livestock production and settlement patterns:

1. Livestock are bred for their resilience to drought and disease rather than their productivity.

2. Because of the variability of rainfall and therefore natural grazing, a degree of mobility is enforced on people. Human and livestock movement is a response to seasonal variations in forage availability. The degree of this nomadism, however, varies considerably from one society to the next.

3. Herd diversification is common, with many herdowners herding a variety of different stock in different areas. Not only do different animals have different niche specialisations, but they have different vulnerabilities to drought. Such diversification helps reduce overall vulnerability to drought and disease.

4. Herd growth tends to be opportunistic rather than conservative. Rather than restricting herd numbers to what are likely to survive in a poor season, livestock owners prefer to

adopt the strategy of tracking grazing availability. In good years therefore livestock numbers will increase only to crash in bad years.

5. Communal ownership of the range is an adaptation to variability. Without access to a wide variety of potential grazing areas no pastoralist could be assured that his livestock would find grazing when they needed it. This access tends to be regulated by defined social groups, such as sub-clans among Somali and *madda* groups among Boran.

6. The low population densities of pastoral areas impose high costs on the development of infrastructure and social services.

A third important characteristic of pastoral areas is their geographical location. In Ethiopia pastoralists inhabit the lowland periphery which encircles the highlands. Because of their remoteness and distance from major towns, infrastructure and communications are generally poorly developed. Long distances to market on poor roads impose constraints to the development of commerce and the availability and cost of grain and other products. At the same time their relative proximity to Ethiopia's international borders means that cross-border trade links are often even more important than internal trade links with the highlands. Most marketed livestock in the Ogaden for example is sold in markets in Somalia and Somaliland rather than Ethiopia.

A fourth important characteristic of pastoral areas is their political marginalisation. Many pastoral societies were only incorporated into the Ethiopian polity in the last one hundred years or so. Historically, the defining characteristic of the relationship has been extractive and authoritarian (see Markakis, 1993)

4. Pastoral societies in transition

Ethiopia's pastoral societies are in transition. State incorporation has restricted mobility, while market penetration has increased dependence on markets for food. Many pastoral groups, such as Afar, have lost important grazing land to the State and to their pastoral neighbours, which has increased their vulnerability to drought. Similarly, Boran in the southern rangelands are being shunted westward by the expansion of Somali speaking groups to their east. This has resulted in the loss of control of important well complexes. Throughout the rangelands agriculture is expanding, while former communal grazing areas are being enclosed. These changes are likely to have long term consequences for food security in these areas as old adaptations give way to new ways of doing things.

As pastoralists become more dependent on the market for food they are increasingly exposed to the effects of a volatile market. This particularly effects the poor. Poor people have to sell proportionately more of their herd products on the market to obtain food than the rich. In times of drought this dependence is exacerbated which in turn accelerates the processes of economic differentiation within society. The ongoing market integration tends to make the rich richer and the poor poorer and, inevitably, more vulnerable to drought (see Dahl and Hjort, 1979).

5. Pastoral Development and Contingency Planning

Pastoral development planning is dominated by two different paradigms (see Behnke and Kerven, 1994, and Scoones, 1995). In the one '*overstocking'* is viewed as the main constraint to effective rangeland management. As a result most rangeland development projects have been premised on the notion that pastoralists need to reduce their herds to balance the numbers of their livestock with available feed resources. According to this model, in most rangeland areas there are just too many livestock chasing too little grazing, and pastoralists should be encouraged to *destock.* In this context *destocking* is a long term development strategy to improve range quality.

A corollary of this view is that pastoralist destitution as a result of drought is the inevitable and *natural* consequence of too many people and livestock living in a marginal environment which cannot support them. The 'sloughing off' of non-viable households is regarded as a painful but necessary adjustment to carrying capacity. For an example of this view see Helland's article on Boran pastoralism(1997a).

The implications of this view for contingency and development planning are:

- the typical 'boom and bust' cycle of pastoral economies is a direct consequence of irrational pastoralist strategies to keep too many livestock on the range. The only longer term solutions are to encourage economic diversification/ off-pastoral income opportunities and to establish an effective marketing system to encourage increased offtake rates.

- emergency interventions should be restricted to providing relief in order to save lives **not** to maintain non-viable households in the system through misguided efforts to prevent the livestock population from crashing.

- in the post-drought rehabilitation phase destitute pastoralists should be encouraged to adopt alternative livelihoods **not** helped through re-stocking schemes to return to the pastoral sector.

In the other paradigm, this argument is turned on its head. Pastoralism is seen as a dynamic adaptation to a difficult and uncertain environment where the booms and busts of the system are less to do with *overstocking* per se, but the contingent nature of the environment where in one year grazing will be abundant, but in the next in short supply. By taking advantage of these environmental uncertainties by expanding livestock populations in good years pastoralists are classical *opportunists* riding the environmental roller-coaster. According to the proponents of this view, it makes no sense to *destock* to the limits set by the worst years as the costs foregone in good years would be too great (see Sandford, 1995).

The implications for contingency and development planning are clear:

- the booms and busts of the system are dictated by nature rather than by pastoralist strategies themselves. In this view the aim should be to support the livestock population on the range in order to prevent pastoralist destitution.

- *destocking* should be an emergency intervention to buffer pastoralists from the wild downswings in the system as a result of drought not a long term measure as part of a range management /marketing project to adjust stocking rates to carrying capacity.

- as part of the post-drought rehabilitation effort destitute pastoralists should be helped to return to the pastoral sector through carefully planned *re-stocking schemes* because extensive livestock herding makes the best use of range resources.

- longer term planning should be devoted to enhancing pastoralists ability to track the environment and protecting them from the worst effects of drought.

These two paradigms offer two very different interpretations of pastoralism and pastoralist strategies and, by implication, different instruments for intervention during emergencies.

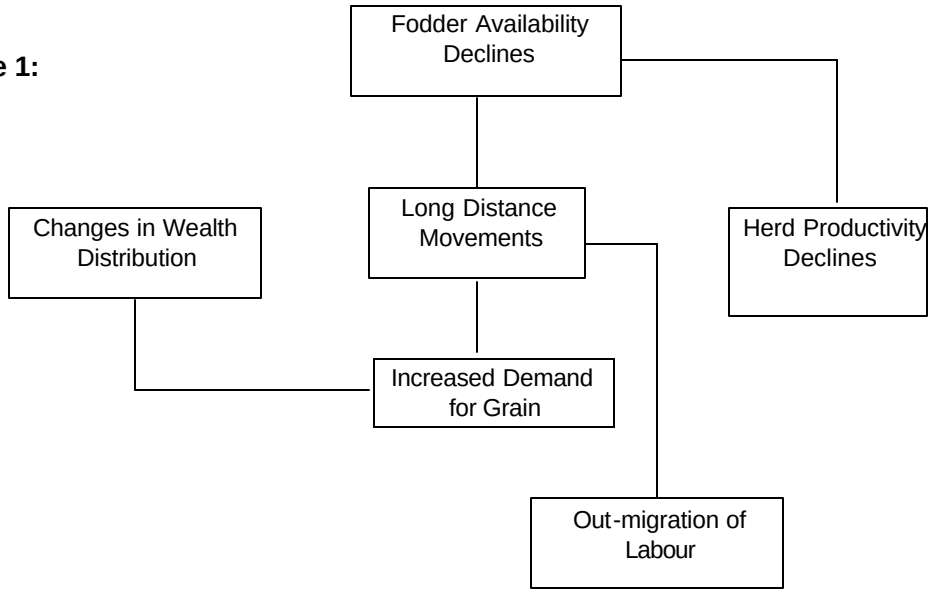
6. Drought in Pastoral Areas

Drought is a recurrent and *normal* phenomenon in Ethiopia's rangelands. Boran and Somali pastoralists experience a mini-drought each dry season. During this time they expect a degree of belt tightening as milk yields decline and grain prices increase. What transforms a dry season into a drought is the failure of the rains over one or more rainfall seasons. Normally, both Boran and Somali expect such a widespread failure once every 4 -5 years and a major drought once every 10 years. As a result drought contingency planning is a *predictable* planning exercise based on normal pastoralist responses to environmental stress.

The consequences of drought however are often compounded by other factors, such as civil unrest, a large influx of refugees etc. The 1991-2 drought in Borana zone for example was complicated by the fall of the *Derg* and the breakdown of law and order in the south of the country (see Futterknecht, 1997). The scale and impact of drought on both people and herds therefore may be mediated by non-environmental factors. While planning for these factors may be difficult, drought contingency plans based on normal and predictable responses to environmental perturbations should be feasible for all the major pastoral areas in the country. While the details of these plans may vary from one area to another depending on local circumstances, herding practices, market situation, some broad guidelines can be established as a basis for the development of these more site specific plans.

Figure 1 sets out the effects of drought on pastoral areas (adopted from Toulmin,1986):

Figure 1:



The drought cycle can be divided into four broad phases:

1. In phase 1 rainfall failure causes a sharp drop in available feed resources over a wide area. In spite of long distance movements to find grazing livestock condition deteriorates. Milk yields decline, disease incidence increases and the more vulnerable animals, such as the young and very old animals, begin to die. In order to buy grain livestock owners take their non-reproductive animals to market, but as supply quickly exceeds demand livestock prices plummet.

2. In phase II, the drought intensifies and more and more animals become emaciated and die. Livestock owners try to sell their reproductive as well as non-reproductive stock. Cattle and sheep are especially effected. By the time they are brought to market they are in poor condition. Livestock prices continue to fall. At the same time grain prices rise steeply. During the 1991-92 drought in Borana cereal prices soared over 200 percent, while livestock prices crashed to next to nothing. Herdowners increasingly turn to famine foods and other income generating activities e.g. charcoal production if they live near a town, to survive.

3. In phase III of the drought human disease becomes a major problem. People are too weak to look after their animals. Many try to migrate to local towns. The more vulnerable sections of the community -the very young and old-begin to die. In the meantime the livestock population has crashed. Only the camels and goats survive.

4. In phase IV of the drought recovery is underway. The rains return and fodder production improves, yet livestock numbers remain well below the level which could make effective use of the range. After the first heavy rains livestock are especially vulnerable to pneumonia. As post-drought harvests start coming in cereal prices fall, while the price of animals starts to rise rapidly, given the shortage of animals. Many poorer households will have been forced out of the livestock sector and will be surviving in peri-urban settlements or relief camps.

Figure 2 describes what happens to livestock/grain prices and forage availability/livestock numbers during this cycle.

Pastoralist responses to drought are determined by their own asset base prior to the drought. Those with large and diversified holdings will usually ride the storm. They will be much poorer after the drought but will nevertheless survive within the sector. Those who were poor in the first place, with a less diversified livestock portfolio, will be 'sloughed off', becoming the new destitute dependent on food relief.

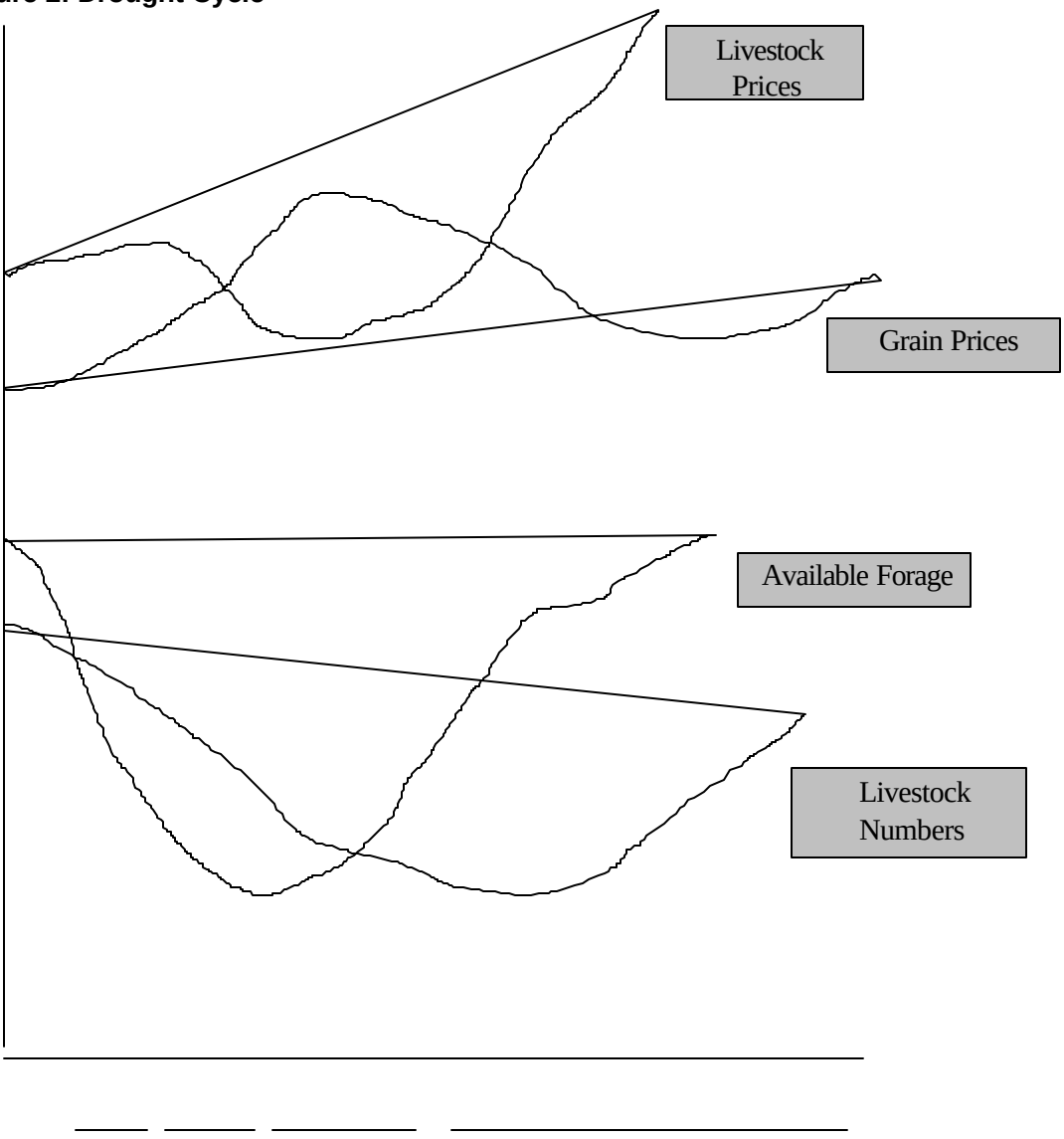
External agencies response to the drought cycle will vary depending on what point in the cycle they are intervening.

6.1. The crash

The options for intervention depend very much on how early the first signs of stress in the environment are picked up by planners. The development of an early warning system sufficiently sensitive to drought induced changes in the environment and pattern of pastoralist economic activities and movements is the only effective basis for timely interventions to mitigate the worst effects of drought. Assuming that the early signs **are** picked up the following options are available:

The first signs of stress in the system is the unusual movement of livestock outside the normal dry-wet season pattern. At this stage the main imbalance in the system is the excess of animal numbers over fodder availability. Either animals can be taken out of the area affected through slaughter, purchase or movement, or fodder can be brought in to permit the survival of reproductive stock.

Figure 2: Drought Cycle



6.1.1 Destocking.

Destocking can refer either to the compulsory sale of livestock under 'normal' conditions through imposition of government purchase quotas-this was common under the *Derg* as well as in parts of Kenya under the British (see Tignor, 1976). The main reasons for these quotas was generally either to increase valuable foreign exchange export earnings and/or to reduce pressure on the range. It was widely held at the time, for instance, that pastoralists kept too many animals on the range for their own good.

Alternatively, or even in addition to these arrangements, purchase operations could be carried out to support the livestock market/purchasing power of pastoralists in times of crisis, particularly drought. Under this arrangement livestock can be purchased either as a *market* or a *relief* intervention.

If animals can be purchased before they have lost too much of their condition they can be sold for meat, taken out of the area for fattening etc. This option will probably require emergency purchase intervention by auction at different centres through the affected area. Livestock owners would need to be notified in advance of the dates and location of the auctions (possibly by radio). Arrangements would need to be put in place for trekking or transporting the purchased animals out of the area. As feed will be in short supply trekking, while the cheapest option, may be the riskiest. The main drawback of such an exercise is that it has to be finely timed before the drought has really bitten and livestock condition has started to deteriorate. As this will be early on in the drought cycle it may not attract the numbers of livestock to make a difference as most livestock owners will be banking on a short drought/early rains. As such they will be unwilling to take livestock to market unless the prices are attractive.

Box 1 describes the experience of the WFP funded emergency support intervention in Turkana District, Kenya in 1990 (see Jennifer Bush,1992 and Fred Wekesa, 1991).

Turkana District in the north-west of Kenya is subject to recurrent drought. In response to the 1979-80 drought the GoK together with external donors launched a massive relief operation. In order to prevent the need for future operations on this scale the district adopted a district wide early warning and drought contingency plan in the mid-1980s. Part of this plan was a set of graduated responses to signs of stress in the pastoral economy. One response was Emergency Livestock Purchase, funded by WFP. ELP had three objectives: I) to improve ecological balance through destocking, II) to increase purchasing power through direct income transfer, and III) to ensure food security. A secondary objective was to ensure the financial sustainability of the ELP through the establishment of a revolving fund. The rationale for the intervention was to get Turkana pastoralists to sell their healthy livestock before drought seriously set in. The purchased livestock would be sold on to traders and the money used as a revolving fund. The target for the programme was small stockowners who it was assumed could be identified at auction sites. Buying was to be carried out at auction sites in the drought affected areas by government livestock buyers on a sight basis. The medium of exchange was cash and/or maize. According to a review of the programme some 2768 small stock were bought. Many were already sick and emaciated as herdowners tended to hold on to their healthier animals. After transport of the purchased animals by truck to a holding ground in the south of the district many of the purchased animals died. The conclusions of the review were that: a)the support prices offered for animals were attractive not only to the smaller but also larger stockowners as buying was carried out on a first come first served basis, b) if the intention was to buy only healthy animals it was already too late by the time the operation started, c) trying to effect stocking rates and adjust carrying capacity through such programmes is not a realistic proposition-this should be done through regular marketing interventions, d) the fund set aside for the operation could not always meet the demand, e) the operation **was** successful in supporting the purchasing power of those stockowners who sold livestock and, consequently, ensuring food security. The recommendations of the review were that ELP type interventions should be considered strictly as *relief* interventions not as 'destocking' interventions per se. In other words, they should not be judged strictly in financial (profit/loss) terms. As such they should be targeted at providing emergency support to pastoralists to stop distress migration, and, animals, should be slaughtered on the spot rather than attempting to move them long distances.

Box 1: Emergency Livestock Purchase in Turkana District, 1990

Generally, emergency interventions to support livestock prices by buying up livestock in the market can only be effective when a) an early warning system is in place sensitive enough to pick up the first signs of impending crisis, and b) a fairly small area is targeted. Otherwise the costs of the operation will prove difficult to justify. Particularly as at this stage no one knows how long the drought is going to last!

Certainly in Ethiopia's pastoral areas based on present experience I) no warning system currently in place is likely to pick up the first early signs of drought/stress, II) there is no adequate *in situ* mechanism for an early response which could commit sufficient resources to make a difference-in other words there is a large gap between warning and response, and III) there is no indication that the necessary pre-planning for emergency auctions/purchase has been carried out. Such pre-planning would need to take account of where livestock are concentrated, how purchased livestock could be most effectively taken out of the area, who would organise the auctions etc. Unfortunately, until a real crisis has developed it is unlikely that an early response could be realistically expected from either government or donors. And by the time a crisis has developed it is too late in any case, because the kinds of livestock being sold will already be too thin to be marketable.

A far more realistic scenario is an emergency *relief* intervention in phase II of the drought once livestock have become emaciated. Such an intervention would be less concerned to buy livestock according to normal market conditions (e.g. to sell on, or to fatten etc.) but more as a direct income transfer to pastoralists to maintain purchasing power. At this stage in the drought livestock prices will already have plummeted and livestock beginning to die. Rather than seeing further widespread deaths intervention would at this point try to salvage some remaining value from the animals by slaughtering them after purchase. The meat would either be dried and sold on or distributed directly as famine relief supplement. Any meat salvaged could be distributed to local schools, hospitals, vulnerable groups etc. The hides and skins could be taken upcountry to be sold in order to cover some of the costs of the operation.

Livestock would be either purchased according to liveweight against a pre-determined kg/birr or kg/grain transfer or the different livestock types could be purchased at a fixed rate e.g. 1 cow/steer = 1 sack (90kg) of maize, 1 goat/sheep = 15kg of maize, etc. The transfer could be in grain or cash or even a mixture of the two. Logistically, it would be much easier **not** to have to weigh the animals as many of the purchase sites would be a long way from town. A much easier and probably more efficient option would be either to buy on sight using experienced livestock buyers or to adopt a fixed exchange rate whatever the condition of the animal. The main disadvantage of the former method would be the kind of haggling which might result causing a slow down in the whole buying operation. The second method would be much more straightforward to implement and would not disadvantage those herdowners whose animals were in particularly poor condition (this was the method adopted by OXFAM in Samburu district, Kenya in 1984).

Organising an emergency destocking intervention would require considerable pre-planning. The following will need to be decided:

- The form of payment and rate of exchange. Grain/cash or both to be used and a fixed or variable rate of exchange.
- How would the control and disbursement of the cash/food be organised, particularly as some of the locations are likely to be quite remote.
- Where would the emergency purchase centres be opened. At regular livestock marketing sites or would temporary sites be opened in more remote locations.
- How would the slaughtering of animals be carried out. Would this be under normal hygiene regulations or would these be suspended for the operation.
- If grain were to be used in whole or part exchange for livestock food would need to be pre-positioned in temporary warehouses.

- Who would organise the buying, who would inspect the meat, and take responsibility for distribution of the products (fresh meat, dried meat and hides and skins).
- What arrangements would need to be put in place to advertise the programme and employ temporary slaughter staff.

Oxfam, Kenya carried out a small but successful emergency destocking operation in Samburu District, Kenya in 1984. The resources for the programme were provided by WFP. Livestock were bought with grain at a fixed rate of exchange at satellite purchase/slaughter points. The animals were slaughtered on the spot and the meat dried and distributed to local schools, hospitals etc. The hides and skins were collected and sold to cover some of the costs of the operation. See Box 2 below.

In 1984 Samburu District in Kenya experienced a severe and widespread drought. Forage availability declined and animals became emaciated. Many Samburu tried to take their animals up into the highlands to escape the worst effects of the drought. In the dry lowlands animals started to die. In order to salvage some value from these animals OXFAM initiated an emergency destocking operation to buy livestock in exchange for maize. Buying centres were established at convenient locations in the bush or near to small trade centres where there was reasonable access for Samburu to bring their livestock. Livestock were bought on a first come first served basis. No attempt was made to distinguish the rich from the poor. Everyone received a fixed amount of grain whatever the condition of their animals. Different rates were applied to cattle and small stock. Most were already emaciated. The animals were slaughtered near to the centres, the meat inspected by district health inspectors and the meat dried and distributed to local schools, hospitals and clinics. The hides and skins were transported to Nairobi and Mombasa for sale. The money raised from these sales was used by OXFAM to cover some of the operation's costs.

Box 2: Emergency Destocking in Samburu District in 1984

Emergency destocking is a *relief* intervention intended to either a) support the purchasing power of herdowners through a direct transfer of cash income, or b) where food is no longer affordable in local markets, provide grain in exchange for livestock. Any grain provided under the programme would be additional to any relief food provided under other programmes(see below). It does not try to affect long term stocking rates as most of the purchased/slaughtered livestock would have probably died in any case.

Depending on when the intervention occurs and the local price of grain it may, by supporting purchasing power early enough, obviate the need for start-up of a general relief food programme. In this context, particularly if funding for the purchase programme is limited, it is important to be able to target the poorer stockowners first. It is this group which is the most vulnerable to fluctuations in the terms of trade. Experience from Turkana district in Kenya indicates that unless the vulnerable are targeted early on the wealthier pastoralists tend to flood the market with their livestock.

Targeting however is extremely difficult as pastoralists are particularly adept at concealing their true wealth. Accurate information could only come from local people themselves, who may be unwilling to give it. The most effective targeting is therefore probably to try to avoid it altogether by dealing with all livestock on a first come first served basis. If funding does not allow this, then local committees will need to be selected, to screen beneficiaries according I)to numbers of livestock they are offloading/selling-this needs to be restricted per household so all have an opportunity to benefit, and II) to the numbers of livestock they own. The poorer livestock owners being dealt with first.

In the context of both the southern and south-east rangelands it is evident that any such intervention carried out over a wide scale would require considerable committed funds (cash/grain) and organisation. The most effective way to organise this is to develop detailed destocking plans as part of each *weredas* drought contingency plan. These plans would have in-built levels of response which would be triggered by agreed emergency indicators. The plans

would need to specify in advance the buying centres, slaughter facilities, manpower and financial resources, and organisational responsibilities in order to implement the plans. The more centres the more staff required, while the fewer the centres the greater the throughput of animals at each centre. If existing facilities and infrastructure can be used the cheaper the cost. However, generally in pastoral areas these kinds of facilities are found only in the main centres. Thought needs to be given therefore to establishing these facilities (crushes, livestock pens, slaughter slabs) at strategic locations throughout the *wereda* before a drought as part of each *weredas* contingency planning. If, once an emergency had started, the logistical burden on government was thought too great, NGOs could be asked to take responsibility for purchase and slaughter operations in different parts of the district under the co-ordinating umbrella of the local Department of Agriculture and zonal DPPC office.

6.1.2. Livestock Movement

Another way of tackling the problem of declining feed availability in a drought affected area is to move the livestock to an area where feed is still available. This is the traditional response of herdowners faced with local feed shortages. However, as movement has become increasingly restricted in many pastoral areas as a result of agricultural encroachment, loss of land to other uses and increasing population densities this avenue is becoming more and more difficult. However, when drought is widespread over a large area local movements become useless and stockowners are forced to take their stock much further afield. This often leads to conflict with neighbouring groups. In any case, as the drought is prolonged any long distance movements will result in large numbers of livestock deaths. Movement therefore is only possible early on when trekking the animals is a feasible option. Trucking animals is rarely a cost effective option when many animals and long distances are likely to be involved.

Government can help pastoral groups at this time by opening up normally closed areas, such as holding grounds, ranches, national parks and even irrigation schemes. However, normally these areas can only offer temporary refuge and often carry their own risks, such as tsetse fly and malaria.

The NPDPM mentions the possibility of establishing cattle camps where vulnerable animals can be cared for in proximity to fodder and water-the livestock equivalent of the human shelter. How these camps would work in practice is difficult to envisage. The idea assumes that in a drought hit area there will be pockets of feed surplus near to water to which animals can be taken. Even if such areas did exist it is difficult to see how access to them could be effectively controlled at the height of a drought against well armed pastoralist groups!

If the effects of drought are only localised then the options for intervention are much greater because the numbers of livestock affected much less and the possibilities of movement to neighbouring areas to escape the drought more realistic.

6.1.3. Transport of fodder

If livestock cannot be moved to fodder then the obvious alternative is to move the fodder to the livestock. The NPDPM mentions this as an alternative: "..fodder depots shall be established at strategic locations...the depots may be built-up by purchasing hay, straw, and crop residues..". Several pastoral groups already buy in fodder in the dry season. Somali pastoralists along the Shebelli river, for example, will often negotiate with riverine farmers to buy crop residues after harvest. This generally only works when there is a local source of fodder unaffected by drought. Moving bulky fodder long distances is expensive and its provision only makes sense to a selected group of animals of high value.

It is difficult to see how, in the context of a widespread drought affecting large numbers of animals, transportation of sufficient fodder to make a difference is a realistic option for either local pastoralists or external agencies.

6.1.4. Transport of water

In spite of the common perception that water is a major constraint in times of drought, it is not so much water *per se* but water in proximity to grazing that is the main problem. Generally, livestock die for lack of forage not water. In the Boran pastoral system cattle and sheep cannot range far from water. Camels, on the other hand, can range long distances from water.

In a prolonged drought as outlying water points dry up, livestock are increasingly concentrated around permanent water. This concentration alone will result in sacrifice areas around the wells and eventual livestock deaths. Transporting water long distances is rarely economical and, in the event, is not even the primary cause of death.

The only time when finding additional water is helpful is when it can open up under-utilised/new grazing areas allowing a better distribution of stock across the range and reducing pressure around the permanent water points.

6.1.5. Food Relief

One of the most effective ways of supporting the livestock economy during periods of stress is general food relief for the human population. In this context food relief has two objectives:

- To save lives
- To reduce pressure on livestock

Large scale and, generally, untargeted food inputs will lead to an effective drop in local cereal prices, which in turn will relieve pressure on pastoralist incomes. Following the drought of 1984-5 in the Red Sea hills of eastern Sudan provision of large amounts of food aid led to a 50 percent drop in cereal prices. Similarly, in Turkana district in Kenya, large scale food relief in 1990-91 indirectly supported the livestock economy by reducing pressure on households to sell livestock. In these untargeted relief programmes 'saving lives' is almost a secondary objective to saving the livestock economy itself.

Helland (1997 a and b) has recently argued that putting food relief to this purpose actually has undermined the long term health of the Boran pastoral economy as it allows a) non-viable households to maintain themselves in the pastoral sector supported by external relief/subsidy and b) it subverts the need to *'destock',* which is natures way of restoring balance to the ecosystem.

Clearly, distributing food relief does not effect the forage/livestock balance. No amount of external food relief to the human population is going to provide feed to livestock (although cases have been reported of calves receiving surplus food relief!). Without forage livestock are still going to die. However, what food relief does do is to encourage herdowners to hold on to their livestock early on in the drought cycle in the expectation that the drought will bottom-out. As a result it discourages the early sale of livestock to relieve pressure on the range. Supported by generous food relief rations herdowners are more prepared to ride the drought hopeful that, without the need to sell their livestock to buy grain, they will retain at least some of their livestock at the end of the drought.

Relief agencies clearly have a dilemma here. While on the one hand they want to save lives, on the other they do not want to effect the long term sustainability of the system. There is a basic contradiction between the '*destocking'* approach (see above) and generalised food relief. While saving *assets* is an important objective of any relief intervention- without assets people will slip into long term destitution-asset retention in a pastoral context may not always be a good thing at the systemic level. One way of getting around this problem is to link *destocking* to relief by making receipt of food relief conditional on bringing in livestock for exchange or, alternatively, reducing the food relief rations to a level that encourages people to seek additional rations through the *destocking* option.

Whichever combination of interventions an agency opts for there is clearly an ethical dimension to the choices it makes. The rich are always likely to come out of a drought in better shape than the poor, just because they had more animals to start with. In any system of grain/livestock exchange the poor will inevitably be forced to *destock* a greater proportion of their herds than the rich. The very process of linking relief to *destocking* will therefore encourage the development of a more stratified society.

The position an agency adopts on these issues will depend to a large extent on the general range paradigm it adheres to. If '*overstocking*' is considered a sensible pastoralist strategy to take advantage of the good years while preparing for the bad years then there is no need to seek balance in the system. Asset retention becomes the primary purpose of intervention. If, however, the view is that maintaining a balance between forage availability and livestock population is the only sustainable long term development objective in pastoral areas then '*destocking*' becomes the favoured intervention. According to this scenario while lives should be saved asset retention is not necessarily a good thing. Indeed, the opportunity should be taken to positively encourage *destocking.*

The import of these differing views for practitioners in the field is that 'timing' is everything. Unless the timing for each type/kind of intervention is right then there will be negative as well as positive consequences. For example, as the first signs of stress in the pastoral economy appear and, in particular, the terms of trade start to shift against pastoralists, emergency purchase to support the price of livestock may be the most appropriate set of interventions. This intervention will positively encourage pastoralists to support themselves through sales of livestock- achieving both a *destocking* and a *relief* objective. As the drought unfolds however and livestock become increasingly emaciated and human nutritional status declines other kinds of interventions will need to come into play, in particular targeted relief to support those worst effected while encouraging others through emergency *destocking* and slaughter operations to offload their animals in return for income/ grain support. Once animals have started to die in large numbers and the terms of trade collapsed altogether then a more generalised relief intervention may become necessary. How long this intervention lasts will depend on its own particular objectives-saving lives, support to the pastoral economy etc., the depths of the drought and the speed of the post-drought recovery.

A particular issue in the Ethiopian context today is the government's emphasis on linking relief to development. The government's disaster policy clearly spells out that for the population considered able bodied relief should be linked to employment on public works (EGS). While the EGS concept even in the highlands needs further elaboration it is clear that in pastoral areas with their low population densities and need for mobility there are particular problems of implementation. According to the policy the kind of generalised food relief distributions carried out by OXFAM in the Red Sea hills to support the economy should be avoided in Ethiopia. However, putting large numbers of pastoralists to work in return for relief may be an unrealistic endeavour in Ethiopia's lowlands: one obstacle is developing a suitable shelf of projects, which make economic sense, in pastoral areas, and the other is the particular distribution of the population which would place considerable administrative burdens on the management of the programme.

6.2. Post Drought Recovery

Pastoralists pursue a variety of strategies to re-build their herds after drought, including 'begging' for livestock from richer relatives and friends, livestock raiding, adopting cultivation, selling their one or two large stock for smallstock which have much faster reproductive rates.

In OXFAM's Red Sea hills programme referred to above, large scale food relief continued for sometime after the drought itself with the particular intention of supporting the recovery of the livestock sector through generalised grain transfers to rural households. It was thought that such a programme was the most viable way of helping in the recovery of the pastoral sector.

Local strategies in this period will depend on the particular situation of each household. In general, after the rains break pasture condition recovers quickly and livestock prices rise, partly due to the general shortage of livestock on the market. However, as calving rates will have plummeted during the drought and many of the reproductive animals died herd recovery will take several years. As the terms of trade change those herdowners who have retained livestock will continue to need support as without it they will have to sell their remaining livestock. Those with access to farmplots are better placed as they can depend on their own harvests. Others will be forced to turn to alternative income opportunities-charcoal burning, woodcutting, etc to eke out a living. Many, of necessity, will need to depend on external assistance during the slow process of herd re-constitution.

Options for intervention during this phase of the drought cycle range from those aimed at rehabilitation of the pastoral sector by enabling the destitute to re-enter pastoralism, and reducing pressures on herders' incomes, to those encouraging a major shift to other forms of livelihood, such as irrigation agriculture.

In the 1980s and early 90s an increasingly popular form of intervention was re-stocking. The emergence of restocking as a serious response to pastoralist destitution was closely linked to the more general shift in the 1980s in the range development paradigm -from an emphasis on ecological equilibrium to an emphasis on contingency and variability.

6.2.1. Restocking

Unlike emergency destocking, to which it is inevitably linked, there is considerable literature on restocking (see among others, Heffernan, 1997, Hogg,1993 and 1995, Fry, 1988, Kelly, 1993, Mace, 1989, Moris, 1988, Toulmin, 1986 and 1995). Much of this literature is based on OXFAM's experience of restocking in northern Kenya between 1983-1987/8. Clare Oxby has produced a "how-to-do-it" guide (1994) for the British NGO Vetaid which is widely available. The argument advanced for restocking is based on three pillars:

- after the '*crash*' there is a surplus of grazing available. This should be put to good use. Unless it is used it will deteriorate in quality, often leading to 'green desertification' (bush encroachment).

- the costs of alternative development interventions in pastoral areas, such as irrigation agriculture is extremely high and experience has shown often unsuccessful.

- it is a waste of human resources for destitute pastoralists to languish in famine relief camps. They have particular skills which could be put to use back in the pastoral sector.

The approach taken by restocking programmes has varied greatly, according to the circumstances and the experience of the implementing agency. Generally, these programmes have involved relatively few pastoralists as they are expensive to implement. The OXFAM Turkana programme restocked less than 500 families over 5 years. The early OXFAM programme in Isiolo district in Kenya in 1983 restocked only 70 families at a cost of over $1000 per household. Experience to date has shown that many of those families re-stocked by OXFAM in Kenya drifted back to the settlements. Few were able to survive on the restocking packages alone. Restocking may be a popular intervention with pastoralists but it only offers hope to a small number and, even these, are unlikely to survive subsequent droughts. The reality of pastoral areas is that 'crashes' are an inevitable aspect of life, and, while restocking may offer temporary respite for several years, most restocked families will succumb to subsequent downturns in the economy.

The more fundamental issue is whether restocking is anything more than a 'bandaid'. A temporary solution to the symptoms of an underlying problem-too many livestock and people on the range. By returning non-viable households 'sloughed-off' the pastoral system restocking may only be postponing the day for a thorough shake-out of the system. A longer term solution should be to look for viable and sustainable alternatives to pastoralism or at least ensure that the pastoral system can be sufficiently buffered against shock to allow pastoralists to ride the storm. Drought proofing however is a difficult concept. Neither pastoralists nor government can proof against drought. What they can do is to proof against some of the consequences of drought, such as loss of livelihoods. One current attempt at this in the southern rangelands is to get pastoralists to put aside some of the value stored in their livestock herds in the good years - their savings - into a bank account. When the inevitable downturn comes the money in the bank will insure them against destitution and provide the capital for buying back into the system after the crash.

Wealthier Somali pastoralists in the south-east rangelands have been doing this for years. They have diversified out of pastoralism into trade and increasingly these days agriculture as well. While drought will still affect the size of their herds it does not effect their livelihoods because they can draw on a diversified portfolio of assets to support them during drought. In this context drought proofing through encouraging pastoralists to hold a more diversified portfolio of assets makes sense. However, the difficulty is that it is generally only the wealthiest pastoralists that are in a position to diversify their asset base. Restocked families are unlikely to reach this stage of economic takeoff before they are knocked back. Restocking for the poor therefore runs the likelihood of becoming a *recurrent* intervention.

If a decision is taken to restock several issues need to be considered:

- is grazing available
- are livestock available to buy
- how will the livestock be purchased-cash, grain exchange, by liveweight, fixed exchange.
- do the intended families want to be restocked and will they accept the conditions attached, such as having to move out of the relief camps
- how will the recipient households be chosen- by committee, by the agency etc.
- what criteria will be used to select families, e.g. ability to look after the stock, poverty, woman headed household etc.
- number and type of stock to be distributed. Most of the OXFAM restocking programmes distributed small stock because of their fast reproductive rate.
- who will select the animals/ where will they be kept pending distribution
- what associated equipment, such as donkey, water container, will be distributed along with the stock
- will the family receive food grain to tide it over for the first 12 months
- what will be the veterinary inputs to the flock/herd
- when will the distribution of animals take place

- what will be the terms of the distribution-will it be a grant or loan?
- how will monitoring be carried out

While oxen restocking has been popular in Ethiopia this has been largely confined to highland agricultural communities where access to oxen for ploughing is an essential part of the farming system. In the lowlands there have been relatively few attempts at restocking of pastoralist communities. In her review of the subject Toulmin (1995) refers to only two programmes in Ethiopia, one of which was carried out by the Livestock and Meat Board before the Revolution in 1974. This reflects the general emphasis of rehabilitation strategies in the country on the highland areas. Other than intermittent food relief the pastoral periphery has historically been left to its own devices.

7. Early warning

Most of the interventions described in this report are predicated on good early warning. The 1993 NPDPM elaborated an administratively based early warning system for the country. The effectiveness of the system largely depends on capacity considerations. Subsequent events and reports have clearly shown that capacity tends to be weakest in the lowland areas most likely to be subject to recurrent drought.

An early warning system is only as good as the information it collects. This information needs to both reflect the points of stress in the system and trigger a pre-determined response. The failure of so many early warning systems is the gap between warning and response (see Buchanan-Smith, 1992). Pastoral early warning systems can only be effective if they are based on a thorough knowledge of the pastoral system in general and pastoralist strategies in particular. Every *wereda* in the pastoral areas of Ethiopia should have its own early warning system linked to a drought contingency plan, which reflects both the nuances of its own local conditions and adequately covers all the pre-determined responses to triggers in the system.

At present, while the 1993 NPDPM provides the policy guideline for the elaboration of such *wereda* plans, planning requires resources and to date no *wereda* has elaborated either detailed or comprehensive area based plans which could effectively address many of the issues raised in this report . The recent DPPC exercise to elaborate Contingency Plans for the Somali Regional State and Borana Zone in May 1997 -in response to the emergencies in these two areas, is pitched at such a generalised level as to be of little value when it comes to detailed implementation on the ground. External donors need a) to support this process prior to an emergency, and b) provide the necessary resources to allow an effective job to be carried out. Given the depth of its experience in drought contingency planning as well as in restocking in pastoral areas OXFAM(UK) should be requested to contribute to this process. A first step would be to provide the resources for the elaboration of pastoral based warning systems and contingency plans for Borana zone, and the Somali and Afar regional states. At present the 1993 document, for example, reflects a strong highland bias in some of its recommendations. Once such plans are prepared, which will take at least 3 months in each area, individual *wereda* plans need to be prepared in order to give greater specificity to the regional plans. The model for this planning exercise should be the Turkana (Kenya) District Drought Contingency Plan, which was first prepared by OXFAM in 1984/5 for the government of Kenya, and later formed the basis of the Turkana Early Warning System, which was established in 1987. Box 3 outlines the major features of this plan.

The elaboration of these plans is premised on the assumption that there will be adequate *capacity* to manage the plans. There is little point in having sophisticated plans in place if there is no one around who knows how to operate them nor who has the commitment to make sure that the necessary *responses* are forthcoming. It is suggested that the UNDP-EUE identify a

donor who would be prepared to support this planning exercise as well as the necessary staff training to run the system over several years.

8. Conclusions

Drought is an intermittent but normal event in Ethiopia's pastoral areas. Preparing for drought should be part and parcel of normal district planning. Within Ethiopia the policy basis for national contingency planning has already been established and the structure of early warning developed. There is a large gap, however, between theory and practice. Most pastoral areas in the country in spite of their vulnerability to environmental perturbations lack both the financial and trained manpower resources to 'operationalise' an effective early warning and response system. A first step in this direction is to develop with donor assistance a workable as well as sustainable pastoral based contingency plan (s), which can respond quickly to pre-determined monitoring triggers at regional level. This plan will be based on the peculiarities/ characteristics of pastoral economies and environments, which demand a different set of interventions and monitoring indicators from those elaborated for highland agricultural areas.

Box 3: Turkana District Early Warning System

In 1984/5 OXFAM prepared a Drought Contingency Plan for Turkana District. The key objective of the plan was to prepare the district for future drought. The plan, which was based on 'expert' knowledge of the Turkana pastoral economy and system, laid the basis for a District Wide Early Warning system which was adopted in 1987. The system relies on the monitoring every month of information on the rural particularly livestock economy, environment and human welfare. Information is generated through aerial surveys, remote sensing, data from line departments, and household and community surveys. Because of its comprehensive nature the information is also used for regular district planning. The information appears in a quarterly published Early Warning Bulletin. In an emergency the bulletin appears once a month. It describes and maps out the current situation in the district and is based on the monitoring of key indicators of stress, e.g. pattern and amount of rainfall, unusual livestock movements, cattle raiding, crop harvests, livestock and grain prices and disease incidence. The early warning system has 4 levels: ***normal***-environmental, pastoralist and welfare indicators show no unusual fluctuations, ***alert***- environmental and livestock stress indicators start to fluctuate outside normal expected seasonal ranges, ***alarm***- these fluctuations continue and spread to most parts of the district, ***emergency***- the environment and pastoralist population in a state of acute stress with herders and their families subject to distress migration. Each level is linked with a pre-programmed response as part of the drought contingency plan. Potential responses include: emergency veterinary campaigns, livestock purchase schemes, FFW, restocking, relief feeding, nutritional and health support.

The EWS and contingency plan are managed at a district level by a drought management committee. While the system has been successful in alerting decision makers to impending stress in the local economy there has often been a lag between warning and response, in particular when it comes to the mobilisation of emergency funds for swift intervention, and questions about its sustainability without external donor support remain. Monitoring, feedback and response in pastoral areas are expensive, especially if interventions persist after the ending of an 'alert'. A sustainable system depends on one which can be managed by local district officers without depending on sophisticated information gathering techniques and long term donor support.

These plans could be part of regional food security programmes/ strategies. However, in regions where pastoralism covers only a small proportion of the area, such as in Oromia and Southern Regions, more specific zonal plans need to be developed which cater for the particular needs of pastoralist communities within the zone.

There is little point in developing a sophisticated set of early warning indicators without at the same time preparing a package of interventions to respond in a graduated way to a developing crisis. Such a package if it is to work, requires careful pre-planning and allocation of responsibilities as well as resources. The most effective basis for these plans, within the regionally or zonally developed pastoral based contingency plan, is the *wereda,* as the smallest effective unit of administration. It is at this level that the more generalised statements in the regional plan will be fleshed out on the ground, e.g. the exact location of emergency buying centres, temporary food warehouses etc.

Drought is only one of a number of risks faced by herders. Other important sources include uncertain access to grazing and water, diseases, livestock raiding , adverse shifts in the terms of trade etc. A range of interventions exist to help moderate the impact of drought upon pastoral communities. The interventions which can be pursued depend on their timing within the drought cycle and the specific circumstances of people and place. This report has mainly concentrated on two main interventions-*destocking* and *restocking*. Both of these interventions take place at different times in the drought cycle, *destocking* is linked to the need to provide support to local livestock herders as they lose purchasing power as livestock prices collapse, while *restocking* to rehabilitate destitute pastoralists who have lost livestock after the drought. Both may be linked to longer term development interventions, *destocking* to the need to adjust stocking rates to carrying capacity, while *restocking* to the need to make use of under-utilised carrying capacity. To this extent they are both predicated on fundamentally different views of rangeland management and pastoralist herding strategies.

In the context of drought planning, *destocking* should be seen as an emergency intervention to support purchasing power **not** as a way of reducing livestock pressure on the range. As such it should not be confused with livestock marketing which may or may not have longer term developmental goals. The primary objective of emergency *destocking* is to provide herdowners with cash/grain whatever the condition of their animals to avoid distress migration. As such, the operation needs to be organised to buy livestock in as simple and straightforward manner as possible as near to livestock concentrations as feasible bearing in mind access constraints. Once the animals have been purchased disposal should take place on the spot with whatever of value that can be salvaged (dried meat, hides and skins) distributed to the needy or sold on to cover some of the costs of the operation. Detailed *destocking* plans need to be worked out in advance by each *wereda*s department of agriculture according to guidelines set out in the regional/zonal contingency plans. On the other hand, *restocking* needs to be judged against longer term development criteria. According to this view *restocking* needs to be assessed in terms of its long term impact on the range system as a whole, not just in terms of its short term contribution to sustaining livelihoods by removing a few people from relief camps or the lists of the destitute. The scale of the restocking package needs to be assessed in the light of grazing availability, availability of local stock to buy, herd management ability of recipient households and their access to alternative forms of income, and the objective of the programme itself (a complete return to the pastoral sector or just provision of a supplement to other activities).

The range of options available for drought mitigation depends greatly on the structure of the livestock sector and the nature of the external environment. Among Afar there is not much room for manoeuvre as they are squeezed on the one side by irrigation schemes along the Awash river and on the other by Issa pastoralists. Among Somali, however, there are many more options available, including movement across the border. The impact of drought is never uniform but strikes differentially, both within and between different pastoral societies, depending on their differential access to natural resources, political power and the market. An understanding of the matrix of vulnerability of each group is a pre-condition for effective drought contingency planning.

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