

Too many people, too few livestock: the crisis affecting pastoralists in the Greater Horn of Africa¹

A thesis by Stephen Sandford

The crisis in the Horn of Africa

In April 2006 OXFAM, writing of this year's drought in the pastoral areas of Kenya said, "the recovery process could take 15 years." Alas, without a substantial change in attitudes and approach, that prediction will prove grossly over-optimistic. There will be no recovery.

For many years the average level of well-being of pastoralists in the Greater Horn of Africa (GHA) and the distribution of individual households around the average have been getting worse, and they will continue to get worse even if all the risks (unfavourable uncertainties such as drought, conflict, disease and further loss of land) commonly cited as afflicting pastoralism are eliminated. This is a consequence of the growing imbalance between humans, livestock, natural environment and the technology available to improve land productivity and of the economies of scale (see PARIMA publications²) that ensure poorer households fare worse than richer.

Too many people, too few livestock – the thesis

The present crisis of pastoralists in the GHA, which is where Africa's pastoralists are concentrated, is a permanent one, not a passing, or even repeated, distinct episode, and this is primarily the consequence of this growing imbalance. While individual impoverished pastoral households can be helped to regain a viable and sustainable livelihood in pastoral areas, this is no longer true of the pastoral population as a whole. This **"thesis"**, which can be called the "Too many people too few livestock" thesis, is based on the eleven **legs** of argument, as follows:

- (i) The pastoral human population is growing at about 2.5% per year (after allowing for net emigration).
- (ii) A certain minimum number of livestock are needed to support these humans as pastoralists, even at very low levels of welfare. This minimum is about 5-6 cattle (or the equivalent in other species) per person in the case of "pure" pastoralists. For "agro-pastoralists" this minimum herd-size can be halved. For more information on the equivalence between different species and the use of the terms "pure" and "agro" -pastoralists please see the following two paragraphs.
- (iii) The maximum total pastoral herd size (of all pastoralist animals taken together) is limited by the amount of livestock feed available. Where numbers temporarily exceed this limit they soon die back. In many pastoral areas the present number of pastoralists multiplied by the minimum number of livestock required per pastoralist is already greater than this maximum total herd size (which is in fact declining because the surface area of rangelands available to

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² This is a loosely worded description of the large number of papers produced by authors associated with the USAID-funded GL CRSP Pastoral Risk Management (PARIMA) Project. A moderately complete list of these papers is available at http://aem.cornell.edu/special_programs/AFSNRM/Parima/papers.htm. However some additional documents are not listed there.

- pastoralists is declining); and human population growth is continuously aggravating the imbalance.
- (iv) In pastoral areas where Leg (iv) of the argument is not yet the case, nevertheless widespread unbearable poverty already prevails because the total livestock herd is not equitably distributed between households. However significant redistribution is not, in practice, feasible.
 - (v) The area of land accessible for pastoral use can not be significantly increased, e.g. by water development, and is in fact shrinking, as a result of the expansion of cultivation and of wildlife conservation areas.
 - (vi) There are no known technologies for significantly increasing primary range (natural feed-for-livestock) production, thereby permitting a larger aggregate herd size. This makes the case of pastoralism fundamentally different from that of irrigated and rain-fed agriculture.
 - (vii) Overall herd productivity (i.e. yield per animal) can not substantially improve unless the quantity and quality of feed is improved.
 - (viii) The patches of rain-fed cultivation which pepper the rangelands of GHA are, at present, technically, environmentally and economically inefficient, but there is greater technical potential to improve this cultivation than there is to improve primary range productivity.
 - (ix) The market prospects are not very favourable for increasing the unit value of pastoralists' livestock (thereby decreasing the number required per person); but there is some limited scope for this.
 - (x) The prospects for other kinds of income diversification within the pastoral areas are unfavourable because local demand for the increased amounts of goods and services supplied by this diversification is restricted because of the crisis in pastoralism.

In East Africa the equivalence between different species is often expressed in terms of TLU (tropical livestock units). A TLU is 250 kilograms live weight of any domestic herbivore. Different authors use slightly different figures but typically one head (averaged over sex and age) of:

- Cattle = 0.7 TLU
- Camel = 1.0 TLU
- Sheep or goats = 0.1 TLU

The 5-6 cattle, described in Leg (ii) above as the minimum required per "pure pastoralist" person, translates into a minimum of 3.5 to just over 4 TLU per person. The nature of the "equivalence" (e.g. as an expression of dietary need, of impact on soil and vegetation, of income-generating potential, of enterprise capital or as a mishmash of all of these) is a subject in its own right and cannot be dealt with here. This note tends towards an economic interpretation (income and capital).

In this note "pastoralists" includes "pure pastoralists" and "agro-pastoralists". A precise definition is not necessary for the general argument of this note; but as a broad description (not definition), a "pure" pastoralist household normally receives at least 80% of its cash income through the sale of livestock and their products, and consumes at least 30% of its food intake in the form of meat, milk products, or blood. An agro-pastoralist household both has livestock herds and cultivates but normally receives at least 75% of its cash income through the sale of livestock and their products; and it normally consumes most of its food in the form of self-grown crops, and is then left with few crop products to sell. "Normally" means "excluding years of the most acute stress". Although the percentages for cash income and sources of food differ somewhat between areas and ethnic group, most households with lower figures than those quoted will be found to be households whose herd size is both

below the minimum needed and continuously decreasing and who are becoming more and more dependent on food aid or other sources of relief.

While the degree of imbalance between humans, resources and technology, that the “Too many people too few livestock” thesis highlights, varies from area to area and community to community, the eleven legs of the argument are generally valid for the Greater Horn of Africa (GHA). The need to keep this document short and clear prevents the presentation and discussion in this note of the evidence supporting each leg. I am prepared to correspond with any reader who wants to know what evidence I have for any leg.

The growing imbalance has been masked for the last 20-30 years by a reduction in the minimum number of animals needed per person. This has been caused by the market-facilitated switch from dietary dependence on livestock as a source of human nutritional energy to obtaining dietary energy (and some protein) from purchased grain financed by sale of livestock. That switch has now run its course, and the pastoral population is increasingly dependent for its survival on food aid and other kinds of relief. Nutritional levels are declining and human deaths from famine or famine-provoked disease are increasing. Unreliable dependence on relief aid from foreign donors is increasing.

The implications of the thesis

The implications of this thesis are that a solution to the fundamental imbalance needs to be found in a combination of the following **six strategies**:

- a) The emigration of a substantial proportion of pastoralists from both substantial dependence on livestock and from pastoral areas.
- b) The development, within or near pastoral areas, of more productive and more sustainable rain-fed or irrigated crop-agriculture into which previous pastoralists can switch their livelihoods;
- c) The development of diversified income-earning opportunities not dependent on demand from within pastoral areas (e.g. in the production and gathering of “pharmaceutical”³ products).
- d) Reducing/reversing/ population growth.
- e) A much greater (and more successful than hitherto) emphasis on improving range (the per hectare, primary, edible) productivity, thereby allowing more livestock to be kept, coupled with enhanced efforts to increase animal productivity.
- f) A program to obtain higher prices for pastoralists’ livestock products by reform of the internal marketing system, and/or by “market development” (reaching new markets requiring higher quality and higher price products) or by a price stabilization scheme.
- g) Additional (to the above) policy reforms (including land tenure) to facilitate the above.

The record of attempts to improve human welfare in the pastoral areas is so poor that it would be folly to concentrate all one’s future efforts on a single strategy. Nevertheless I think that both actual experience and the logic of what we know already suggest that a general pattern linking strategies, actions and impacts is likely to apply universally or almost so. This general pattern implies the following conclusions:

³ “The pharmaceutical potential of desert plants has yet to be tapped,” from Global Deserts Outlook, UNEP Report of June 2006

- In the medium and long terms reducing the number of people dependent on pastoral livelihoods provides the only significant way forward (Strategies a) to d) above).
- Otherwise, any positive effects from improving the productivity (primary and secondary) of pastoralism (or from diversification dependent on demand from the pastoral economy) will be swallowed up by the growth of the pastoral human population almost as rapidly as the improvement can take place and will be overtaken by it within ten years.
- Reducing the growth of the human population by family planning will not have a significant effect in less than ten years. It is, however, essential for it to have very large impact in the very long term and very high priority should be given to it right now. Fortunately there are now some signs of its increasing social acceptability.

Approaches to the crisis

NGOs, donors and governments have, for the most part, responded to the crisis in GHA by providing food aid and other emergency assistance as though doing so would enable pastoralists to recover from a passing episode. Early Warning Systems are a part of this response. Most development organisations have accepted the current conventional wisdom that sound pastoral development requires policies and programs that protect pastoralists' property rights, facilitate herd mobility, provide services (e.g. animal health) in a way that is designed to fit pastoral conditions, and place decision-making powers and control in the hands of pastoralists and their institutions. I strongly agree that those policies are needed. But they are no longer enough.

NGOs, donors and governments need to accept that what is afflicting pastoral GHA is not just a series of weather-induced independent crises requiring occasional emergency relief but a continuing structural (fundamental-imbalance) problem. They also need to accept that any way out of the crisis will require not just a continual expansion of present or previous "development" efforts, but also a sustained effort to reducing the number of people dependent on pastoralism; and very substantial funding.

There is growing evidence that many pastoralists, especially women and young people, now recognise that a future outside pastoralism is not only inevitable but also preferable to continuing in an overcrowded environment. We need to find ways to open up that future to them. Doing so will require obtaining more information on the existing extent and rate of emigration from pastoralism, on the difficulties that would-be emigrants face, and how some succeed in overcoming them. That information, of which very little exists at the moment, will enable the design of policies and programs to facilitate emigration, and will, I believe, contribute as much or more to raising the welfare of the remaining pastoralists as more direct development efforts.