

Pastoralists in the Horn of Africa: The Continued Threat of Famine

Johan Helland

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Summary

This paper discusses the current food security crisis in the pastoral areas of the Horn of Africa. It tries to explain the recurrent famines with reference to some important features of pastoralism as a production system, and it outlines some of the effects that development projects have had on such systems. The current situation of the pastoral communities in the Horn of Africa is discussed within a framework of three distinct, but closely interrelated crises:

- an ecological crisis
- a food security crisis
- an institutional crisis

The paper argues that the problems of the pastoral communities of the Horn must be put back on the development agenda and that there is an urgent need for new initiatives and reform within pastoral policy, resource tenure, economic policies and service delivery. The pastoral societies of the Horn of Africa are probably facing the most complex set of issues in their entire history. Failing food security is a vitally important issue but it is necessary to pay renewed attention to a much wider set of problems if pastoral societies are to survive into the next century.

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PASTORALISTS IN THE HORN OF AFRICA: THE CONTINUED THREAT OF FAMINE¹

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Famine in the Horn of Africa

The current famine in the Horn of Africa cannot simply be explained in terms of climatic variation and drought. It is necessary to take into consideration a range of other factors as well, to understand how this situation of food insecurity has been generated, and to propose new solutions to the underlying problems. The fundamental outlook that informs this paper is that famines are not caused by drought, but by poverty!

It must be remembered that famines in the Horn of Africa are not in themselves anything new. In the past three decades only, there have been at least three major disasters and a number of less wide-spread famines. This time span is not a totally arbitrary cut-off date: famines of variable severity have been common in this part of the world for centuries, but up to the 1972/73 famine it was basically up to the local communities, sometimes with assistance from national governments, to handle famine situations. The 1972/73 famine was the first famine in this part of the world to become a major international issue, and an international responsibility, first and foremost through intensive media exposure.

There have been numerous national and internationally assisted famine relief interventions to counter the problems that became so prominent when the 1972/73 famine spread across the African drought belt. In addition to efforts to improve national capacity to handle famine and to increase the level of preparedness, there has been a lot of analytical work to gain a better understanding of the underlying factors a famine situations. A lot is actually known about how and why a drought results in widespread starvation, and a lot is known about the many other non-drought factors which from time to time contribute to a loss of food security in this part of the world. Far less is known about how these problems can be solved and although there are isolated technical successes within a number of fields, neither the research effort nor practical development work have resulted in a greatly increased ability to prevent famine, to improve food security or to alleviate poverty.

One important aspect of the famines that have become a common feature of the region, is that they are basically treated as extraordinary emergencies. This conceptualisation of the problem is important to the responses. As famines evolve, resources are mobilised, mostly through the attention of the international media and eventually successful famine relief efforts (by and large) are organised. In the course of events, also the underlying causes of the famine receive attention. There has been apparent resolve in the international community to bring to bear on the problems

¹ This paper was originally prepared for the Inter-Agency Task for on Long-Term Food Security, Agricultural Development and Related Aspects in the Horn of Africa, FAO, Rome, May 2000

all available research and technology, to prevent another major famine from developing. The experience after the two large famines in 1972/73 and in 1984/85 is, however, that the rehabilitation and development efforts quickly run out of steam, from lack of demonstrable success, loss of interest and redeployment of funds. The determination in the international development community and national authorities to change the underlying conditions of poverty and prevent the recurrence of famine have in fact not been able to prevent the current famine. As long as the real reasons for famines remain, famines cannot really be seen as extraordinary emergencies. The food security problems of the Horn cannot be solved through high-intensity famine relief campaigns.

This time around the disaster is primarily located in the lowlands of the Horn of Africa, in the agriculturally marginal lands with poor potentials, dominated by animal husbandry as the mainstay of the local economy. The focus of this paper will therefore be on these marginal lowlands.

The main lessons to be drawn from the two other major famines that have taken place in this region in the last three decades seem to be that

- there are no quick and easy answers to the underlying problems that generate famines, neither in terms of available and affordable technology nor in terms of other development efforts
- the marginal areas of the Horn of Africa, where famines have occurred, are unable to command sufficient attention for sufficient lengths of time for any significant progress to be made in terms of solving the underlying problems of food security and poverty
- the marginal areas of the Horn of Africa are marginal in terms of resources and productivity, but more importantly, they are marginal because the populations who live here are seen as politically unimportant.
- the lack of success in sustaining the effort to improve food security in the Horn of Africa should be seen as a major impetus and justification for a renewed effort, in particular on the basis of the renewed prominence of a rights-based approach to development

Development in pastoral societies

The current disaster has long been reflected in the sense of crisis running through contemporary reports from the pastoral societies of Eastern Africa. Pastoral societies seem no longer able to contend with the challenges posed by the environments in which they live, or by the effects created in their interrelationships to the larger social, economic, political contexts. The structures and institutions of the pastoral societies are apparently no longer up to the tasks of maintaining these societies as going concerns. The pastoralists have long specialised in survival on marginal lands and on a resource base that nobody else can use; these days they are being pushed to the margins of larger society in a social and political sense as well.

The most pessimistic outlook asserts that pastoralism as a way of life in the Horn of Africa has outlived itself and that pastoral societies now are locked in a downward spiral of ecological crises, famine, dependency and permanent destitution. The outcome of these processes can only be the disappearance of pastoralism as a way of life.

There are many obvious differences between pastoral societies in Eastern Africa, but many show striking similarities and have histories which have run along largely similar trajectories. These similarities grow out of largely similar ecological adaptations to largely similar environments. Equally important are relationships to a dominant state which in a process of nation-building and state integration in fact has marginalised the pastoralists in social, economic and political terms. In a contemporary perspective, perhaps some of the most widely shared experiences of the pastoral

societies of the Horn arise from large-scale pastoral development projects that were designed without taking local interests into account or the experience of the pastoralists much into consideration.

There is no doubt that pastoral societies have had, and still have, greater difficulties than others in articulating their particular interests in national policy contexts and in national administrative structures that are clearly biased in favour of agriculture or politically volatile urban populations. Pastoralism is still frequently regarded as inherently primitive, as a way of life which must be changed and modernised, even if the alternatives are not at all obvious. Pastoralists have little influence when government decisions on these matters are made, but must bear the full brunt of the consequences when things go wrong. The pastoralists of the Horn of Africa have for most practical purposes become second-class citizens, living precariously in a degraded environment, on the margins of society.

The failure of development interventions to improve on the ability of the pastoralists to make a living from these marginal lands (which seems to be the general conclusion) is a clear indication that there are not too many other options other than traditional pastoralism available with regard to sensible use of these resources. Innovations like modern veterinary services and water technology, have certainly had a major impact on pastoralism, but there seems to be general consensus that development interventions have overall reduced, or even undermined, the viability and sustainability of pastoralism as a way of life in the drylands. The most common public intervention today is large-scale famine relief. But even famine relief seems to follow in the pattern of earlier development interventions, solving a problem in the short term at the expense of reinforcing the long-term problems underlying the pastoral societies.

The challenge now facing the pastoral societies in Eastern Africa (and the nation-states that have assumed responsibility for pastoralists as their citizens) is the restoration of the capacity of pastoralism to make use of the resources in the marginal lands to meet the needs of as many of the pastoralists as possible. It must be remembered at all times that the marginal areas of the Horn of Africa are in fact poor in resources and that there are limits to the number of people who can actually gain a livelihood from this resource base. But there are few alternative ways of using these lands and not many other places for the pastoralists to go.

The development experience

The development era in the Horn of Africa has left a deep imprint on pastoral societies. There have been large-scale public investments in the pastoral areas in most countries, particularly in the 1970's and 1980's. There are no doubt individual interventions which have been successful in their own right and which have contributed positively to the pastoral economy, but overall and in general terms, the results from the pastoral development efforts have been disappointing.

There has been some variation between the various projects and in the different countries of the sub-region, but for the purposes of this paper it suffices to point out that the development experience in the pastoral areas has brought two distinctly different outlooks to bear on the situation of the pastoralists:

The first development projects in pastoral settings in Eastern Africa saw the integration of pastoralism into the national economy as a major goal, on the assumption that the pastoral economy contained a surplus which could be used for various national purposes. Even so, it was believed that there was room for improvements in the productivity and output of pastoralism. This first phase in the development history of pastoral societies thus saw the introduction of innovations and presumed improvements like veterinary services, water

development, rangelands management, genetic up-grading and improvement of livestock through cross-breeding schemes, supplementary feeding and fattening schemes and so on.

The expected effects and benefits have usually failed to materialise. Neither the national economy nor the local communities have benefited from these massive investments. On the contrary, failed schemes and the unintended consequences that they have produced are by now quite well known. Water development has become particularly notorious for causing harm in pastoral contexts. The introduction of water in formerly dry places has altered land-use patterns and set in train processes that have turned out to be environmentally destructive, thus often contributing to increase the vulnerability of the pastoralists to the very drought problems they were intended to solve. Water projects have also in many cases unintentionally rearranged social relationships as well, by disregarding the local arrangements for the appropriate distribution of rights to water and management of resources, to the extent of threatening mutual assistance networks and other socially constructed means of averting risk.

The outlook on pastoral development underwent a major change after the major crises of 1972/73 and, in particular, in 1984/85. The famine dramatically revealed how vulnerable pastoral societies across the drylands of Africa had become. Pastoral societies, which in former times were able to handle one or two drought seasons (with hardship but without too many problems) were now faced with utter destitution and disintegration after the failure of a single rainy season. Even temporary delays in the onset of normal rains seemed to create problems. The main issue in pastoral development now became a concern that pastoral societies apparently had lost their ability to handle droughts, or at least that the threshold to famine and destitution was much lower than before.

The outlook on pastoral development has therefore changed. The issue is no longer the contributions which pastoralism can make to the national economy; the concern has shifted to the restoration of the capacity of pastoral societies to feed themselves. Local food security and local self-reliance have become paramount concerns. Great importance is attached to fostering popular participation and strengthening local institutions, often involving the resurrection of organisational capacities undermined or even denied by administrative subjugation in earlier times. Local communities are now to an increasing extent expected to be responsible for their own welfare, including food security and the delivery of public services which the government no longer can afford or is incapable of delivering to the pastoralists, such as human and animal health services, education, water, access roads and so on.

The earlier approach to pastoral development usually entailed considerable public investments, with projects being implemented by government agencies with statutory responsibilities for the livestock sector, the pastoral communities or the dryland areas in which pastoralists live. The new approaches are much less clearly focused and far less technical in nature, reflecting the much reduced range of responsibilities that government now wants to assume in the pastoral areas. Clear-cut government policies stating what these responsibilities should be are usually lacking. The new approaches, however, are usually not linked to government investments. Government agencies previously charged with a responsibility for pastoral development are being scaled back and public funds for investment in pastoral projects are dwindling.

A notable change, which has taken place concurrently with the increasing influence of the new 'participatory' outlook on pastoral development, is the growing presence of various

voluntary agencies in the pastoral areas. As government agencies redefine their ambitions and divest themselves of responsibilities in the pastoral areas, the non-government organisations seem to increasingly take over the role of government with respect to both social welfare and economic development. The NGOs cannot, however, directly assume the full range of responsibilities of government agencies. They cannot formulate or promulgate policy and they do not have any legitimate basis for the large-scale co-ordination of effort that often is required. Furthermore, NGOs are largely answerable only to themselves. Already at this stage there are numerous examples of how they come and go on the basis of considerations which do not necessarily have to do with conditions in the pastoral societies where they work. While pastoralists may be described as second-class citizens in their relations with government, in their relations with the NGOs they are described as 'beneficiaries' or even 'clients'. Still, the NGOs are now the main development agencies in the marginal areas, where they operate on the basis of co-operation with 'grass roots communities' and provide services which technically often are as good or better than what government delivered. There is no doubt that this may bring benefits to individual pastoral households. In the pastoral areas, however, problems often appear, and must often be solved, at the aggregate level! The NGOs are not well equipped to operate at this level and there is thus a real danger that successes at the micro-level generate aggregate problems which nobody is interested in or able to handle.

The inhabitants of the marginal lands

The people who live in the marginal areas of the Horn are, in the most general terms, pastoralists. They inhabit the dry (arid and semi-arid) lowlands, where they specialise in animal husbandry. In large parts of the Horn, rainfall varies with altitude and the resource base in the lowland areas is poor and patchy. With productivity directly related to rainfall the resources improve towards the wetter end of the scale, in the semi-arid areas, usually at somewhat higher altitudes. The spatial and seasonal distribution of rain is highly unreliable, however, and mobility is an important aspect of pastoral adaptation to the environment. Due to the unreliable distribution of the pasture resources, pastoralists in the Horn are highly opportunistic in their movements, basically moving to where the rains have produced good pasture and forage. Another common feature is the splitting up of the family herds, distributing the animals on several different camps which move on independent circuits in search for pasture and water. In addition to the advantages this arrangement provides in terms of animal husbandry, it also provides a measure of security against disease outbreaks and raiding. Flexibility and opportunistic exploitation of ephemeral resources are important characteristics of the landuse patterns of these areas.

Pastoralists are sometimes referred to as nomads. Although mobility is the main distinguishing feature of nomads, this seems to be a less useful term in the Horn of Africa than it is e.g. in the Middle East, where it is specifically used to describe pastoralists who regularly move over long distances in a set annual pattern, for instance between winter pastures in the lowlands and summer pastures in the mountains. These nomads are of course also pastoralists, and while livestock herding is an important part of their economy, they also gain income from a number of different activities, such as trade, or even direct investments in business ventures and land. In the Horn of Africa, the fact that people keep livestock is more important than the fact that they move. The emphasis is on the economic aspects of pastoralism. But also here it is important to keep in mind that pastoralists may derive significant parts of their income from activities other than animal husbandry.

People who gain more than 50% of their annual income from animal husbandry are usually referred to as pastoralists. Depending on which other activities they are engaged in, it may be proper to designate them as agro-pastoralists (deriving an important part of their income from

crops), sylvo-pastoralists (partially deriving income from trees and forest products). Even so, in all these cases, an important, and probably the most valuable part of people's assets is their livestock capital. In this context the emphasis in the designation 'pastoralist' is on the economic activities relating to animal husbandry and the ownership of livestock.

In former times, pastoralists were also sometimes distinguished by their diet, and it was common to describe them as subsisting entirely on milk and other livestock products. Milk, butter and meat are still highly prized foods in any pastoral camp, and in a good season they probably still play an important role in the diet of pastoralists. Today, however, very few pastoralists in the Horn of Africa can afford an entirely pastoral diet. Animal products are expensive and considerable gains can be made by converting expensive livestock products like meat or milk into cheaper agricultural products like grain. Trade and barter for agricultural products have been important to pastoralists for a long time, but today the exchange rate between pastoral and agricultural products is of central importance to the livelihood of the pastoralists. Pastoral households have come to depend increasingly on the additional food provided by the trade margin to accommodate the growing population. Today, market fluctuations and prices changes may therefore have equally serious repercussions as climatic perturbations on the food security of pastoralists.

Income from animals is a central feature of the pastoral economies of the Horn of Africa, but in parallel with the opportunistic patterns of movement demanded by the livestock herds, pastoralists do engage opportunistically in a number of other income-generating activities as well. These could include e.g. collection of gums and resins from trees, trading in livestock or other commodities, production of handicrafts like rope and wooden containers, excavation of salt and other minerals, transport or smuggling. A number of international borders run through the pastoral areas of the Horn and many pastoralists are able to exploit the differences in availability and prices of various goods on either side of the border. In some countries young pastoralists are in particular demand as soldiers or security guards and spend part of their time away on labour migration, leaving their animals in the care of close relatives. Long-range labour migrations (e.g. to the Gulf countries) is important in some countries, and cash remittances may play an important role in the household economy. In other contexts labour migration may be shorter and more limited in time, e.g. as seasonal agricultural labour on irrigation farms or in the highlands.

It is convenient, however, to refer to the people of the lowlands of the Horn as pastoralists, and pastoralism is indeed an economic mainstay of these areas. This shorthand should not detract attention from the fact that the pastoral households, in addition to livestock rearing, are engaged in bundles of activities without which many households would not be able to survive. The combination and co-ordination of all these activities are major concerns to all pastoral households, and must also inform all development efforts in the marginal areas. It is, in other words, not very useful to think of pastoralists as a discreet category of people who behave in certain ways. Popular stereotypes about the pastoralists' irrational obsession with cattle and cattle numbers are particularly not useful! Pastoralism is but one, albeit important, or even dominant, economic activity that contribute to the livelihood of the households in the marginal areas.

The particular comparative advantage of pastoralism compared to other economic activities found in the rural areas of the Horn is the ability of pastoralists to make a living from the poor and scattered resources found in the lowlands. They have done this quite well, for a considerable period of time. But their success depends on a number of quite specific factors, the most important of which can be summed up as low population densities. An explanation of the low population densities commonly associated with pastoralism must draw on number of factors, some of which are quite unacceptable today (e.g. increased mortality from starvation). As these factors change, populations tend to grow. Although the pastoral areas are still sparsely populated compared to the agricultural areas in the Horn, the populations also here are growing. This is in itself not a

major cause for concern, but seen against the lack of alternative opportunities which now characterise the marginal areas and the diminishing capacity of these areas to sustain the populations they already hold, population growth actually becomes a serious problem.

The three crises of pastoralism

The situation of pastoralists in the Horn of Africa today is precarious. There is considerable variation across the marginal areas of the Horn with respect to how vulnerable pastoral societies are. Pastoralists are not all the same, neither in terms of accessible opportunities and resources, nor in terms of how they are organised within groups, between groups and in their relationships to national authorities. None the less, there are some important common themes which seem to emerge from a largely common environment, a largely common adaptation and a largely common experience over the last few decades with national governments as well as the international development community.

The current situation of the pastoral communities may be understood in the framework of three distinct, but closely interrelated crises. The first of these have in the broadest sense laid down some of the most important preconditions for the current famine, which culminates in the second crisis. The third crisis will remain crucially important in the effort to move towards a solution to the problems. The situation of the pastoralists (and the marginal areas) can thus be understood in terms of:

- an ecological crisis
- a food security crisis
- an institutional crisis

The current situation of the pastoral communities will be examined under these three headings.

Ecological crisis

Pastoralists live in resource-poor environments and the main distinction of their particular adaptation is their ability to derive a livelihood from the scattered and meagre resources available to them. Pastoralists have through time been very successful in these terms and have often enjoyed a standard of living which surpassed that of their agricultural neighbours. Over the past few decades, however, the pastoralists seem to have lost this ability to derive a stable and sustainable livelihood from the resource base found in these marginal areas. There were without any doubt droughts and famines also in the past, but the success of pastoralism as a way of living has been closely connected to an ability to maintain sufficient numbers of people and animals to regenerate and rebuild when times improved, and survive as a society.

Land

The pastoral adaptation has, however, depended on access to large tracts of land and free movements across this land in search pasture and water. The supply of these two main resources are driven by rainfall, which in the lowlands of the Horn of Africa is highly variable and highly unreliable, in terms of geographical distribution and quantity. There is not yet sufficient evidence that the rainfall patterns have changed significantly over the past century or so: what seems to have changed is the ability of pastoralists to cope with the variation.

Since the turn of the last century, the pastoral communities in the Horn of Africa have increasingly been drawn into the newly formed states of the sub-region. New borders have

been created and enforced, usually for reasons which had little to do with the pastoralists themselves, and new restrictions on movement have been introduced. As the new state administrations assumed a hegemony with regard to security issues, control became a paramount concern. As much by default as by design, competition with neighbouring groups over land and water has also been curtailed. A formerly fluid and flexible situation has throughout the 20th century become increasingly solidified, with pastoral groups finding themselves increasingly tied to particular tracts of land, confined within borders defined and upheld by the state.

In addition to the loss of flexibility, many pastoral groups have suffered outright loss of access to important land areas. The new states have effectively abrogated all pastoral land rights, usually declaring the pastoral areas as some form of state land, with access being governed by state consent. This change of legal status has been most important in the cases where the state has particular interests in the land, e.g. in developing important river frontages into irrigation schemes. River frontages often contain key resources. Access to river frontages are often vitally important to the pastoralists in the critical dry season and loss of comparatively small areas along the river can easily be multiplied into effective denial of access to much larger areas. While there may be good reasons to invest in irrigation schemes and the expansion of agriculture, it is an important issue that these decisions are usually taken without involving the pastoralists or considering their best interests. They have no legal rights to the land and no legal right to be heard, but must bear the consequences of a reduced resource base.

There are also cases where the lands previously used by pastoralists contain areas suitable for agriculture and where there has been a pressure from the agricultural neighbours to move in. The best land was of course occupied first; later, the continued population growth in many of the countries in the Horn have continued to push land-hungry peasants out into land with an increasingly marginal agricultural potential. The pastoralists inevitably lose out in this competition with crop-based agriculture when land rights and access is mediated by the state. There is a consistent pro-farmer/anti-pastoralist bias in the mindset of the administration in the countries of the Horn, even in those countries where the largest part of the population are pastoralists. Agriculture is associated with development, while pastoralism is perceived as a backward and primitive way of life.

In most cases it is too late and/or politically impossible to reverse these processes of land alienation from the pastoralists. But the population movements into former pastoral lands is an ongoing process and the common situation in the countries in the Horn is still that pastoralists have no legal rights to the land resources on which they depend. It is true that pastoralists do not need to control land to the same extent and with the same intensity as farmers, but this lack of secure land rights have had at least two important consequences:

- The land area accessible to pastoral groups has shrunk considerably in extent over the past century. In addition, the land that has been lost has often been the most productive land, denying pastoralists access to e.g. strategically important dry-season reserves.
- By abrogating pastoral land rights and itself assuming powers of mediation with respect to pastoral lands, the state has turned areas which were under some kind of restricted management (most pastoral groups for instance at least maintain a distinction between dry-season and wet-season pastures) into classic open-access resources without management. There have been examples of the state attempting to introduce access restrictions and land management regulations in the pastoral areas,

often in the context of pastoral development schemes, but the high transaction costs involved have inevitably forced the state to retreat from this. Still, the alternative of granting the pastoralists secure rights and management authority to look after the land in their own best interest has not been contemplated. Land management, therefore, is for all practical purposes missing in the marginal areas of the Horn is. The ecological repercussions have been severe, in particular in the areas of the best potential.

There are situations where pastoralists or pastoral groups actively try to gain more secure rights to land. In Kenya, for example, it has been possible for pastoral groups to gain legal title to group land (which, in the event, then again has been subdivided into sub-economic individual holdings). In Ethiopia pastoralists can demarcate limited areas of lush bottomlands as farm land and gain legal protection by paying land tax. There are also numerous cases in Ethiopia and Somalia where individual pastoralists build thorn-bush fences to reserve parts of the rangelands for themselves, building partly on accepted local customs. Enclosures are often associated with individually owned water tanks in the rangelands, and the overall effects of these developments seem to be the withdrawal of increasingly large parts of the communal range for individual purposes. These individual strategies are of course only viable if they are combined with access to much larger communal holdings, in which case the individual holdings function as private drought reserves, at the expense of the larger community.

Pastoralism in the Horn still depends on access to large land areas and all events which restrict access, restrict mobility or reduce the area accessible, at the same time reduce the chances for pastoral households to survive. There is an urgent need for a land tenure reform which give the pastoralists stable and secure rights of access and for new land management structure which will allow pastoral groups to make and uphold management decisions over common lands and stop the tendency towards privatisation of essential resources in the rangelands.

Water

The pastoral areas are located in the driest parts of the Horn and access to water is in an immediate way seen as the most obvious bottleneck restricting human use. This is often a deceptive impression. On closer examination, the dry Afar lowlands of Northern Ethiopia, for instance are surprisingly well watered through shallow aquifers fed by run-off from the mountain escarpment. The same is the case in Turkana District in Northern Kenya, where only a small part of the district is more than 20km away from a water source, even if rainfall is well below 200mm/year. Hence, there are areas where vegetation growth is driven by local rainfall, while the water supply is determined by conditions elsewhere. But there are also areas where water shortages have prevented efficient utilisation of the available range resources or where large parts of the rangelands could only be used during the wet season.

In the first phase of the development era, water development was the hallmark of pastoral development projects all over the Horn. Development planners and pastoralists alike welcomed the idea of additional water and it is mostly in retrospect that the undesirable aspects of water development have become apparent. As far as animal husbandry is concerned, there has to be a balance between available water and available forage through and across the years. Additionally, the uneven distribution of water served to drive the seasonal migrations of pastoralists, most importantly away from permanent water in the wet season, on to lightly used and temporarily accessible wet-season pastures. This helped conserve forage for the critical dry season.

In many contexts where the supply of water represented a bottleneck, additional water has effectively removed the distinction between dry-season and wet-season pastures. Conscious attempts have been made to restrict the capacity of the water sources put into the wet-season pastures, e.g. by regulating the size of stock ponds or by seasonally closing or even removing pump sets from boreholes. But once it was seen that the technical capacity was there to provide water in these areas with ample forage, the political and administrative pressure to gain access to more water has often prevailed over technical considerations.

Water development has usually taken place within the framework of various government programmes and water has been provided in the framework of government management. The management structures put in place have often failed to meet the technical considerations of range management and overlooked the local structures for distributing rights to a critical resource like water. Many pastoral areas have now seen the effects of water expansion and then experienced the difficulties of maintaining the facilities installed. Derelict facilities are now found all over the rangelands and the pastoralists have learned to treat proposals for additional water with circumspection. But there are still situations, in particular where stock ponds with low maintenance requirements were installed, where water development continues to have a direct influence on utilisation rates on the surrounding rangelands and causes environmental damage. These damages range from changes in vegetation composition and bush encroachment in the wetter parts of the rangelands, to removal of woody vegetation and general resource depletion in the drier parts.

Development planners have been scared off water development in the drylands, and there is no doubt that uncritical water development has caused problems and damages. But water is still scarce resource in most of the marginal areas of the Horn and in many contexts an effort to provide clean water may still be necessary. But greater attention must be given to the management of water facilities. Many pastoral communities are well aware of the problems and dangers associated with water development, and they are well aware of the likely effects on the range resources. But too often, the pastoral communities are still not involved in neither the decisions to develop an additional water source, nor the maintenance, management or control over how it is used.

Animals and animal numbers

Improved veterinary services and veterinary vaccination campaigns were other common development interventions in the pastoral areas in the early phases of development. These immediately useful innovations were eagerly accepted by pastoralists. The usefulness of veterinary medicine is now so well established that pastoralists are usually willing to pay for proper services. In the pastoral areas of the lowlands these services are hard to find and are often organised such that costs become prohibitive. This has opened up for all kinds of sub-standard solutions, such as the smuggling of scheduled drugs, the distribution of diluted drugs and the under-dosage of drugs. But there is no doubt that veterinary campaigns directed against the main diseases have been effective and have had a major impact. The main problem, in the wider context of pastoralism, has been that such veterinary services tend to increase animal numbers, and while this is good for the individual herdsman, the aggregate effects in terms of rangelands usage or water supply are difficult to contain.

