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THE SEDENTARIZATION OF PASTORAL NOMADS:
DEVELOPMENT OR INVOLUTION?

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For most governments in Africa, sedentarization is the central pillar of their policies towards their nomadic pastoral populations. For most bilateral or multilateral aid agencies active in Africa, sedentarization is either a prime objective or a consequence of most programmes of assistance to livestock keepers. For these agents of social change, sedentarization is viewed as a crucial step in pastoralist adaptation to the modern world and a prerequisite for pastoralist development. Yet for many pastoralists, settlement represents a trapdoor leading to impoverishment and decline rather than an open door leading to progress and a better life. While settlement remains an active and spontaneous process in which pastoralists are themselves engaged, more perceptive policies towards the nomadic inhabitants of arid lands are needed than now exist, to indicate when agencies and governments should most appropriately initiate or assist the settlement process, and when other means towards pastoralist progress should be supported.

Sedentarization in question

That governments and agencies alike should see sedentarization as desirable is not surprising, given the devastation and decline experienced by the nomads in Africa during the last twenty years, and the inevitable frustration of developers and administrators faced with the predicament of assisting peripatetic peoples with seemingly intractable problems. They often conclude that if nomadism has a future as grim as its recurrent crises in its past and present, no one can lose if other alternatives - such as settlement - are tried. But nomads have more to lose through sedentarization than do planners: they stand to lose their economic basis in animal husbandry and their periodic movement which is their major means of subsisting in a harsh and arid environment.

But why does settlement seem to offer a convincing alternative to the nomadic and pastoral plight, especially when it is in many cases associated with the causes rather than the rectification of that plight? The heart-breaking image of African refugees is of ordinarily settled people forced to move, uprooted by war, ejected through coercion from their homes, or fleeing the scourges of plague, pestilence, or famine, inhabiting the margins of indifferent roads which seem to lead nowhere, seeking temporary places of refuge and security. Settlement seems the most rational solution to the common refugee predicament, in temporary camps where they can be fed, housed, and clothed until return is possible, in new settlements where new lives can be shaped out of old cloth, given tools and opportunities, or in existing communities, to which they can contribute their talents and loyalties in exchange for acceptance and assistance.

However, the predicament of pastoralists in crisis, for whom movement implies economic well-being and political security and stasis, economic decline and insecurity, is quite different from that of most refugees, for whom movement implies displacement and insecurity. The image of pastoral nomadic refugees is not that of the uprooted and homeless but of the grounded and imprisoned. It is an image of fixed camps surrounded by fences with inhabitants prevented by economic circumstance and politics from resuming the sort of healthy nomadic and transhumant movement on which a strong pastoral economy most often depends. While in a sense the sedentary refugee is 'forced out', the nomadic refugee is 'forced in'; the first 'chased', the second 'captured'. Of course the predicament of the pastoralist can be rendered that of the sedentary refugee, with the three options of relocation in camps, new settlements, or existing communities being presented and the means for radical reorientation of their lives to sedentary conditions - usually implying semi-urban or agricultural existence - made available. Unfortunately, the arid-land setting of most nomadic communities makes such transformation extremely difficult, for reasons which

will be subsequently reviewed; yet the creation of settled agricultural or sedentary pastoral communities seems to be the objective of most policies towards nomadic pastoralists. The options for refugees in general seem to be extended to the nomads without consideration of the differences between their predicaments, needs, or desires.

But no African government which has appreciable numbers of people involved in animal husbandry and no development agency involved in the future of pastoralists can ignore the tragedies that have overtaken them in the last two decades or can simply assume that left to their own devices they will develop solutions, independent of the forces constraining their economic and political practices and limiting their powers of choice and movement. A wider public was awakened to the pastoral plight during the great Sahelian drought and famine of the early 1970s; a smaller public was already aware of the possibility of recurrent catastrophe from the East African crisis a decade before. A smaller-scale recurrence in the mid-1970s proved a reminder, so few alert observers were greatly surprised at another great occurrence of tragedy in the African arid zone in the mid-1980s, from which pastoral populations from Mali to Ethiopia, and Sudan to Tanzania, are only now recovering. In general, the outside world has responded to these crises of pastoral economy and arid-land ecology with sympathy and generosity, and out of their aid has sprung the famine relief camp, where food is distributed and the starving provided with homes. But such camps have all too often seemed to offer a site for the construction of new ways of life for pastoralists, across the Sahel from west to east, and down the East African savannah from north to south. Such habitations have proved fragile, their sites all too often determined by access to national networks of distribution rather than productive potential. Fragile too have proved the hopes of those who have invested confidence in agencies and governments which have encouraged them to stay, rather than urging them to go.

To see settlement as the solution to the current pastoral predicament in

Africa in part stems from conventional wisdom regarding the origins and causes of the recurrent food crises in the arid and semi-arid zone. The symptoms are the exhaustion of pasture, the degradation of land, the decimation of herds, and the starvation of livestock keepers. The causes, however, are not simply climatic, demographic, or economic, with improvident pastoralists expanding when times are good, their increased human and herd populations proving too much of a burden for a fragile arid ecology when the level of rainfall and the availability of pasture declines. In this view, mobility is an evil, making it possible for pastoralists to maintain herds larger than their local resources would support: the answer is sedentarization. But the crises of the African arid zone have at their root the predicament not of nomadism but of sedentarism, the decreased ability of livestock keepers to move herds due to range enclosure, more rigid political boundaries, and limited access to dry-season pastures and watering sources. In effect, sedentism has crept into drier areas due to population increase in the wetter regions, and competition has ensued over those areas of agricultural/pastoral overlap - marginal to sound cultivation but indispensable to successful pastoralism. The tragedy of the semi-arid zone cultivators whose grain crops have recurrently failed has been little noticed, or surely their fate would not be seen as a solution to the problems of pastoralists.

The situations of those practising nomadic and sedentary forms of production in Africa are not the same, and the solutions to their economic predicaments and the questions of movement are inevitably diverse and complex. What is at stake is the well-being of nomadic and pastoral communities who are paradoxically the poorest of the poor, distant from central resources and services, difficult to serve, and in the grip of crisis. Yet they are at the same time wealthy in their own eyes and often in those of their governments and neighbours, and rarely covetous of the changes which others would visit upon them. What we need is the basis in fact and interpretation for understanding

pastoralists' current predicaments and future possibilities in order to develop sound policies for action, with respect to, and in collaboration with them. It is the objective of this essay to set forth some directions on which policies might be grounded, and some lines of critical research within pastoral communities in crisis that might illuminate their plight for policy makers.

Sedentarization and non-sedentarization: cases and clarifications

When we speak of 'sedentarization', just what processes do we signify and what communities are evoked? All too often we fall into the habit of distinguishing absolutely nomadic and sedentary populations conceived in ideal typical ways: nomads on the bedouin model, of those who incessantly move with their herds and largely live off animal products; sedentary peoples as peasants, who cultivate the land on which they live, subsisting almost entirely on vegetable products. For a discussion of arid and semi-arid land tragedies, this bipolar model is useful in communicating the dependence of pastoralists on their herds, the difference between them and cultivators, and the difficulties they may experience in shifting to agricultural production. Yet, a great many 'pastoralists' are actually engaged in what we might call 'agro-pastoralism', in which seasonal agriculture is combined with animal husbandry, commitment to cultivated fields combined with much more extensive use of pasture land, and seasonal fixity or sedentary living of the main family with seasonal transhumance or the movement of a satellite herd away from the domestic seat. Thus in many communities nomadism and sedentarism are combined, in an admixture of animal and crop husbandry.

It is estimated that of the 500-600 million people who inhabit the 'dry' regions of the world, 30-40 million have 'animal-based' economies, most being nomadic pastoralists. Many of the remaining keep animals in combination with agricultural economies. Perhaps 20-25 million of the pastoral category live in Africa, the majority of these in the East African countries of Sudan, Ethiopia, Kenya, and Somalia, with many of the rest in the Sahelian zone of Chad, Niger,

Mali, and Mauritania. For most of this population, sedentarization represents a dramatic and qualitative shift in pattern of habitation and economy. But in these countries and in many others, millions of head of livestock are held by agro-pastoralists who are not nomadic as such, but for whom less dramatic sedentarization processes are occurring, which influence their degrees of mobility. Let us for convenience distinguish between processes of 'spontaneous', 'assisted', and 'forced' sedentarization, each of which involve diverse communities variously engaged in strategies of mobility, either of herds or households.

'Spontaneous' or 'self-generated' sedentarization

'Spontaneous' settlement does not imply unpremeditated, impulsive, or reactive settlement, but rather that associated with the voluntary choice of given communities, resulting both from factors within their own political and economic system and the impingement of outside factors upon it. We can through history see an 'ebb and flow' of pastoral and non-pastoral people in the more arid lands, as individuals and groups take up sedentary activities under given conditions, and resume nomadic activities as those conditions change. There is much evidence that pastoral nomadism originated in and is currently generated out of systems of mixed farming as a form of economic specialization, in and out of which people move. In the Middle East, South America, and much of Africa, ethnic groups and families are often split between nomadic and sedentary activities, between which individuals move as their own fortunes and inclinations shift. Certainly, it has been historically crucial for pastoral populations to 'shuff off' excess population to more sedentary communities in times of want. Many of these people become nomads 'on the waiting list', who resume pastoral life as their own fortunes and those of their fellow herd-owners rise. It is also not unusual for richer herd-owners to assume a more sedentary existence, investing in agricultural land, date-palms, or in trade, while their herds continue movement through the use of family or hired labour.

But for our present consideration, the most crucial form of 'spontaneous' settlement or resettlement involves either the adoption of agriculture by pastoralists and their concomitant self-location at sites of cultivation, the joining of other communities - agricultural or pastoral - with 'greater expectations' than those of their own, or the collective movement of one community to an alternative site ('resettlement'), which offers more accessible, more favourable, or more secure resources than a former site. It was recently estimated that in 1982, 300,000 of the 1,000,000 refugees in Somalia had settled outside assigned refugee camps, mainly with relatives. In fact, historical cases of dispersion and re-formation of pastoral groups in general indicates that this process of spontaneous 'reaffiliation', whether within the pastoral economy or across the line separating it from sedentary cultivators, has been a crucial mechanism for coping with economic and political adversity for pastoral peoples.

David Turton has, in effect, written a chronicle of the process of spontaneous resettlement of an incipient section of the agro-pastoral Mursi from the Omo Valley in southern Ethiopia, who under environmental pressure have relocated themselves to a region of somewhat higher rainfall and agricultural potential but which is less favourable for animal husbandry due to the presence of the tsetse fly, which is a vector for the transmission of animal trypanosomiasis (sleeping sickness). So this process may result in a reorientation of the group away from animal husbandry and towards more intensive cultivation, with lesser degrees of localized herd and human mobility. This 'sedentarization' is incremental along the entire nomadic-sedentary continuum, but may result in a qualitatively important transformation of the economy of this emerging Mursi section. To consider a more specialized pastoral group, the camel-keeping Rendille who occupy a quite arid region of northern Kenya, have adopted a pattern of quite large settlements clustered around well-systems, in response to political and military insecurity and the desire for access to social services. Yet while the bulk of the population is essentially

'sedentary', camel herds continue to be moved by young men in a quite active nomadic cycle made absolutely necessary by the scattered distribution of bushy vegetation for camels and goats to browse upon in this quite dry area.

Development 'assisted' sedentarization

We probably tend to downplay 'spontaneous' processes, although they are frequently practised and are of great significance as a response to adverse conditions, because processes of settlement in which outside agencies are involved, those that are 'assisted' or 'forced', have much greater visibility to outsiders. By 'assisted' sedentarization, we evoke a process which is voluntary, but in response to an opportunity or programme intentionally provided by a government or a development agency. Questions of 'policy' bear most directly on this form of sedentarization, since such programmes require planning, approval, financing, implementation, and evaluation, all of which should occur within the context of an explicit policy towards the relevant communities. Such programmes are usually devised for either 'crisis response' or 'development', that is, are either oriented to short-term or long-term objectives, most specifically, feeding the hungry versus improving local production. There is a growing tendency among agencies such as Oxfam, involved in short-term famine relief, to consider investing in long-term solutions when immediate crises are alleviated, but, notwithstanding this trend, the objectives and strategies of short- and long-term assistance are quite different.

In the short term, the aim of famine relief is to alleviate hunger, preventing death by starvation in the first instance and subsequently to treat the other results of inadequate nutrition, such as effects on the physical development of children. Food assistance is most often provided at designated centres, which become sites for famine camps, to which hungry refugees stream. In effect, this process is - intentionally or unintentionally - one of sedentarization, drawing nomads from a wide region to a focal point where they can be fed. When relief is inadequate, this process of attraction can be fatal,

as the hungry turn their energies from productive tasks to the process of begging and receiving, only to be turned away or given inadequate nutrition. While agents of famine relief often seem to discourage people from flocking to a camp without adequate resources, strategies such as only feeding critically hungry children may actually immobilize a family which must then stay in the camp periphery. But more often than not, the camp develops its own society, bound to it in both covert and overt ways: covert due to the dependency of starving clients on sources of food, medicine, and security; overt due to the tendency of the camp administration to define its clientele, to require individuals to receive food personally, thereby remaining at the camp. What is critical for our discussion is the process whereby the provision of food becomes a stimulus to settlement in a place where there is little production and often little potential for long-term economic development.

Among the Turkana of north-western Kenya, famine relief camps were deliberately transformed into centres for economic development by the World Food Programme's 'food for work' programme, which required labour on localized irrigation works within the Turkana Rehabilitation Programme (TRP) in exchange for food. Unfortunately, these works were often ill-placed and their productive potential inadequately assessed. Often the food did not arrive and proceeds from irrigation plots were irregularly distributed, putting the programme in the unintended position of exploiting 'captured' labour. In effect, the programme was seen by government and agencies alike as an invaluable tool to promote local sedentarization of Turkana nomads, and, despite the inadequacies of the programme itself, it was resented when individuals disappeared and later reappeared or resumed herding altogether. Similarly, in Somalia in the 1970s, famine camps were endowed with the long-term role of sedentarizing nomads, who were variously to take up agriculture and fishing. Government and agency administrators alike were dismayed when able-bodied men began to disappear from camp rolls, leaving only women and children. In fact, men resumed the work of

rebuilding herds, while other members of the family retained the crucial claim on alternative means of subsistence while that process went on. In both these cases, as well as many others, nomads were in effect 'blamed' for the failure of famine camps to become long-term solutions to the pastoral predicament through sedentarization, while in actuality the development potential of those sites was minimal. The failures of sedentarization were of course successes for the renewal and rehabilitation of pastoralists!

Yet there are other cases where the voluntary provision of services and economic opportunities have had positive results, often in conjunction with investment in animal husbandry, but also through offering opportunities for economic diversification. Throughout this century, missions in pastoral areas have become sites for the settlement of impoverished pastoralists, who often take up the hoe along with the book. Each trading centre in the dry zone becomes a locale for the settlement or partial settlement of poorer herders, who maintain small-stock at the village periphery, while practising marginal agriculture or wage labour. Anders Hjort documented the growth of a community of Turkana 'squatters' around Isiolo town in Kenya, drawn by the opportunity for wage labour provided by a colonial army outpost. In the same town, Somalis settled, attracted by the opportunities for trade. Missions have also provided centres for pastoral development in Maasai regions of Kenya and among the Borana of southern Ethiopia, serving a surrounding community with veterinary medicines, upgraded stock, etc. In these cases, 'assistance' is provided, and congregations of people gather, who more or less settle to gain access to those services. There is no doubt that the African dry zone is becoming over-populated, with stress on local environments growing. Thus the availability of sites for alternative employment and settlement - whether spontaneous or made possible by government and agency assistance - will be of continuing importance. But no matter how positive the response of some nomads to the opportunities offered, such centres do not represent universal models for a solution to the pastoral

predicament, but rather palliatives for those members of the communities who are in the process of marginalization, or, in more brutal terms, are being 'shuffed off'. With regard to policy, it is critical that governments, agencies, and missions do not view these valuable and often constructive efforts as models viable for the overall development of arid lands, in the absence of the resources and the capital which would be required for them to serve that role.

'Forced' or 'coerced' sedentarization

'Forced' sedentarization occurs when government exercises coercion to settle nomads. The most notable cases of forced sedentarization occurred in the 1920s and 1930s in Iran, under Reza Shah, and in the USSR and Mongolia following the onset of Communist rule. It is noteworthy that in these cases, sedentarization was linked both to the political threat to the State which nomadic populations represented and to the assertion of State rather than local pastoralist ownership of all rangeland. In general, forced sedentarization programmes have met with great resistance by local populations and have resulted in dramatic declines in the economic productivity of the areas concerned. In most cases, the policies of forced sedentarization have been reversed, as in Iran, or subsequently modified to allow for local control over pastoral resources and continuing mobility, as in Mongolia. Forced sedentarization has very often been inspired less by the motive of developing the productive forces of pastoralism than by the motive of consolidating State power. But recent work by Goran Hyden points out the link between national development and increase of the power of the State to 'capture' a peasantry, and in this light forced sedentarization represents only the most extreme case along a continuum of methods for the political 'capture' of pastoralists. However politically effective it may be, it surely does not represent an economically progressive process, as will be developed below.

In many cases, the line between 'assisted' and 'forced' sedentarization is blurred, for two reasons: one, when pastoralist options are limited, the

assistance offered by programmes involving sedentarization may in actuality imply subtle coercion; two, the programmes devised for assistance may be sufficiently global that few options of non-participation exist. Thus various pressures may push pastoralists into programmes and centres associated with sedentarization, without overt and brutal forms of force being exercised. In the first case, 'food for work' programmes exercise implicit pressure on participants who have few other options. In the second case, we might evoke the cases of Tanzania's villagization programme or even Kenya's group ranch programme, both of which have been implemented in the Maasai regions of their respective countries. In Tanzania, voluntary congregating of dispersed peasants into compact villages became more coercive as local participation proved unenthusiastic. With regard to more specialized Maasai pastoralists, compact villages were remarkably inappropriate, given the difficulty of keeping large herds in a single residential centre. The programme as subsequently modified for pastoralists involved the creation of neighbourhood clusters of individual bomas strung out at half-mile intervals or so; these neighbourhoods represented 'villages', each of which provided government, social, health, and educational services. While these units have remained active in providing services, homesteads have tended to move centrifugally back into more extensive orbits of movement, as most productive use of pastoral resources would dictate. In Kenya, the Maasai rangeland has been divided into relatively large 'group' ranches, within which herd-owners should theoretically move. Here, collectives of people and animals have been brought into an exclusive relationship with a tract of land and their patterns of herd and household movement circumscribed, without in actuality being required to physically 'settle', in the sense of physically congregating together or actually inhabiting fixed dwellings. In actuality, the last two processes have to some extent occurred informally, largely because of the fear that the 'group' would itself be subdivided into family plots, an anticipation which has led to increased settlement in the more

desirable portions of the ranch, to the building of permanent dwellings as forms of land-claims, and to great momentum towards precisely the sort of subdivision which was feared. While some State coercion was associated with Tanzanian 'villagization', with some pastoral bomas being burned to encourage movement to village areas, in general both Tanzanian and Kenyan cases primarily represent 'forced' options because they were applied universally rather than because of armed coercion, as in the cases of Iran and Mongolia. Further, 'sedentarization' in the Tanzanian and Kenyan cases should be seen as tendencies within the process of limiting movement, rather than as settled states, definitively achieved or not.

By discussing cases under the headings of 'spontaneous', 'assisted' and 'forced' sedentarization, it was intended that factors should be brought to light and clarified which bear on the process of sedentarization, seen along a complex nomadic/sedentary continuum within which various combinations of pastoral and agricultural production might occur. Sedentarization is not simply a process which occurs as a result of government or agency intervention in nomadic life, since it is part and parcel of the history of pastoralism as a social process in the arid zone. Today, sedentarization - as well as 'renomadizing' - is both voluntary and spontaneous, and occurs in two ways: in reaction both to economic adversity and success, and in response to opportunities given through processes of arid-land urbanization and the spread of agriculture, as well as the creation of more formal centres of development. While, historically, 'force' has been a factor in sedentarization, in contemporary Africa most governments lack the single-minded commitment, the ideological justification or the technical means to force sedentarization on unwilling pastoralists. Rather, coercion has been sporadic or indirect and force has pertained more to choice than arms, with several global programmes which facilitate the sedentarization process being implemented, thus limiting the scope of nomadic or transhumant movement. In the subsequent discussion, the

arguments for nomadism and for sedentarization will be reviewed, with the aim of judging the potentially negative implications of government and agency sedentarization policies and to arrive at more nuanced views about the role agents of change can play in alleviating the human condition of nomadic pastoralists during this critical period of stress and social transformation.

Mobility versus sedentism arguments and rebuttals

As the preceding discussion should have made clear, what is at stake is not whether practitioners of herd or household mobility should continue or desist, since pastoralists at least tend to do both at various times and in various places, but what role agents of change should adopt in encouraging, facilitating, or inhibiting such behaviour. In particular, to what extent should policies which aim to assist pastoralists also try to settle them, and to what extent should implicit coercion to settle be tolerated or encouraged?

These questions are neither academic nor rhetorical, but face every government and agency dealing with the numerous mobile populations of Africa's extensive dry lands. It is the explicit policy of governments in East Africa, namely in Sudan, Ethiopia, Somalia, Kenya, and Tanzania, to sedentarize their pastoral populations. For sound reasons, external aid agencies operate within the constraints of host-government policies and often see themselves as providing means which enable those governments to implement their objectives. But it is often within the constructive interaction between government and agencies that the evolution of policies and programmes occurs, especially with respect to the more arid areas, where few East African governments feel they can afford to expend appreciable resources in the absence of assured returns or responses.

Sandford observes that 'there is no one universally valid answer to the question of whether or not nomads should be settled', since the reasons for the practice of nomadism as well as the arguments against it both have a certain validity. After reviewing these arguments, we will try to weigh them against

one another, given the aims of enhancing the humanitarian status, the political security, the social well-being, and the economic productivity of nomadic and pastoral populations. Just as most dry-land communities fall neither in the nomadic nor sedentary categories, but along gradations of agro-pastoralism which imply both the settled occupation of land and mobility, so our observations on policy should presumably be 'graded' to reflect the diversity of problems facing a variety of pastoral and nomadic peoples.

The argument for nomadism: why pastoralists move

The more specialized forms of animal husbandry, whether the camel pastoralism of the Sahara and the Horn of Africa or the cattle pastoralism of the Sahel and the east African savannah, essentially represent strategies of making a living in marginally habitable environments. As Neville Dyson-Hudson puts it, animals represent means by which humans indirectly extract protein from unpalatable cellulose, thus subsisting in regions where direct extraction via agriculture is impossible. Pastoralists live through and on their animals and it is only by means of domestic livestock that the arid zone is made humanly habitable.

Nomadism has both technical and social aspects. In a technical sense, nomadism involves two forms of mobility: of herds and of households. In the first sense of mobility, it is more efficient to move animals to vegetation rather than vegetation to animals due to the low density and sparse distribution of range resources in more arid lands. (In more intensified ranching operations with more extensive use of fodder, the latter is of course the case.) Animals move daily in an orbit which takes them from the homestead through pasture and water and back. They also move from region to region, as pasture is locally exhausted while elsewhere available. In the second sense of mobility, households essentially move in the wake of animals, in response to their needs. Households move for two reasons, each of which is critical for understanding the sedentarization process: firstly, to ensure human access to their major sources of nutrition, that is, lactating animals and small-stock for slaughter;

secondly, to provide a sufficient supply of human labour for herding. If the movement of animals is curtailed, their nutrition suffers; if the movement of human households is curtailed, their nutrition suffers. Further, household stasis prevents the efficient allocation of labour, thus influencing production. If animal movement is prevented or curtailed, the balanced use of pasture resources is disrupted, resulting in over-use of some areas and under-use of others. The same might be said of human labour, which under conditions of household sedentarization can be both over- and under-used at the same time, individuals at home without sufficient work, those with animals overburdened.

These technical aspects of nomadism are crucial to the efficient and productive management of arid land range resources. No less important are the social aspects. Range resources are socially regulated in nomadic pastoral societies, which is to say that they are neither individually nor family controlled, nor unregulated in an amorphous 'communal' sense. The legitimacy of this 'social' regulation depends on regular use of given pasture and water resources by those with rights to them, on the principle that rights unexercised tend to become extinguished. In arid lands, populations tend to be relatively widely dispersed, and it is only through periodic movement that people come into contact with one another and renew their kinship and residential ties, thus reproducing the outlines of the political order. Similarly, pastoralism often involves the joining together of kinsmen and neighbours for co-operative labour, made possible by daily and periodic movement together. While the size of a herd may generally stay in balance with the size of a family, imbalances do occur, which is to say rich and poor pastoralists do emerge. One social response to shortfalls in the nutrition of certain families is for redistribution to occur from richer families, either through loans of milch cows, gifts of excess milk, or collective sharing of slaughter-meat. Household mobility is one strategy for creating and consolidating social ties and relationships, making possible co-operative labour, shared resources, and redistribution of livestock and food.

To sum up, nomadism represents a virtually indispensable strategy for allowing human habitation of dry lands through the practice of extensive animal husbandry. In economic terms, each movement of herds and households should create an increase in animal productivity, measurable in terms of animal health, weight, and milk yields. Conversely, failure to move when appropriate or necessary creates a decrease in productivity, measurable by poorer animal health, lower weight, and less milk. These measures are not simply abstract, but are detectable through daily interaction of pastoralists and livestock. And they bear not only on the well-being of herds but on the well-being of people as well, who depend for their own health and nutrition on their animals. That is to say, human health, growth, food consumption, security, and general condition of life depends on the state of their herds, and alteration in the well-being of their herds is detectable in their own susceptibility to infection, levels of fertility, child mortality, child growth, weight gains and losses, psychological states, and general social sense of security. To simply introduce sedentary life without a complex transformation of economy and social life can give rise to negative if not catastrophic results.

The argument for sedentarization: why pastoralists should settle

The arguments for sedentarization as a policy towards nomadic pastoral populations are essentially ecological, economic, administrative, and social. The arguments for sedentarization as a ('spontaneous'?) practice by pastoralists, independent of governmental policy, relate more to the social and economic viability of the domestic economy than to these wider factors. But in actuality the process of sedentarization involves a dialectic between policy and practice and between deliberations of governments and households, where these two levels of consideration come together.

In history, nomadism has proved resilient, with mobile pastoralists settling primarily when their economic base has been eroded (the option of poverty), when economic diversification has been pursued (the option of wealth),

or when forced, either by destruction of their political base or through the acts of government. Nomadism continues to be pursued for the technical and social reasons related above, but when environmental conditions allow, can be 'spontaneously' altered given shifts in technical possibility or political-social setting. In Saudi Arabia, for instance, the revenues of oil production have allowed the widespread purchase of trucks by pastoralists, making possible long-distance monitoring of herds by an essentially sedentary population. At the same time, the government has rendered all rangeland 'stateland' accessible to all, so herds have become even more mobile than before. So household settlement has been combined with more extensive herd movement, the conditions of mobility altered by technology and policy. 'Development' interventions in many rangelands have essentially involved providing water technologies which have opened up under-exploited pasture and at the same time allowed for relatively less mobile pastoralism. At the same time, the establishment of roads and the spread of trade throughout the arid zone has provided means for economic diversification, with wage labour and the more informal sector growing everywhere where communications and settlement coincide. We should mention, too, that either sedentary pastoralism or settlement is probably perceived as an option more today than ever before, due to the awareness of nomads of their 'encapsulation' within states with governments which exercise power, associated today with settled life, trade, and centres of administration. So the self-generated process of settlement goes on, in response both to internal factors of domestic economy and to external factors of regional economic pressure, opportunity, and value. Insofar as governments can allow or assist the growth of the formal and informal economic sectors within the arid lands, they should do so, as one means of strengthening the dominant pastoral sector by relieving pressure on it.

Our primary question, however, pertains to policies regarding planned (or forced) sedentarization, and the arguments which underpin them. Recently, there

has been much attention given to the fragile nature of the African arid and semi-arid zone ecology and its progressive degradation, apparently through overgrazing. The argument suggests a link between unlimited herd growth by pastoralists, periodic famine stimulated by episodic droughts, and progressive decline in pasture and land quality. Despite evidence for significantly lower levels of rainfall in the African dry zones over the past twenty-five years and the resilient nature of rangeland, which rejuvenates given adequate levels of rainfall, pastoralist practices of 'common' land-holding and herd-growth are attributed a major role in producing the pastoralist predicament, the degradation of the rangeland and desertification. The ecological argument holds that only through altering the pastoralist system of land-holding and preventing herd-growth can the ecological potential of the rangelands be preserved, and these aims can only be achieved through various forms of sedentarization: settling nomads in towns outside the pastoral economy, subdividing the rangeland into privately held individual family holdings to stimulate 'responsible' land management, and preventing livestock movement which facilitates herd-growth.

Another aspect of this argument is the economic consideration, which holds that the non-commercial orientation of herders is the major reason for their retention of large numbers of 'non-productive' animals, which burden limited rangeland resources without yielding return. The obverse of the non-commercial attitude is the orientation of most pastoral households in Africa towards subsistence production. Although most pastoralists (and of course agro-pastoralists) consume some grains and vegetable products, either produced by themselves or acquired through barter or trade, the major objective of their animal husbandry is the production of milk and meat products for domestic consumption rather than as market commodities. Nomadism may make it more difficult to engage in regular trade through lack of regular access to markets, and its practice also requires a high degree of household subsistence autonomy, making heavy commercial involvement less likely. Sedentary pastoralism and

individual land-holding tends to be associated with higher degrees of commercial production or the practice of 'ranching'.

A number of fallacies are reflected in these ecological and economic arguments, a major one being that increased sedentism will serve to relieve the pastoralist predicament. Firstly, it is unclear whether there is long-term or irreversible degradation of the African rangeland or rather local pasture decline in response to present lower levels of rainfall. Secondly, it is not apparent that areas under nomadic pastoral management experience more degradation than those under more sedentary pastoral or ranching management. In fact, there is appreciable evidence to suggest that the most severe ecological damage in the dry zone is associated with the periphery of trading centres and small towns, areas adjacent to roads, regions under agro-pastoralism, and rangeland under sedentary pastoralism. The spread of dry-land agriculture, usually under agro-pastoral regimes, has been recognized as a major factor in rangeland degradation, directly, through stripping ground cover off fields vulnerable to erosion, and indirectly, through preventing access to water sources and potentially higher land by pastoral herds, thus intensifying their use of more marginal resources. The increase in commercial livestock production may have the positive effects of increasing household cash incomes and providing a source of meat to a given region. However, rather than relieving pressure on the rangelands through the absorption of 'surplus' animals, the commercialization process may actually result in greater pressure being put on these arid regions, for two reasons: firstly, since nutritional needs may still be met largely through traditional subsistence production, herd decrease through sale may be matched by higher levels of production and animal accumulation, thus resulting in an overall greater number of animals going through the ecosystem 'pipeline'; secondly in the absence of banking and credit facilities, cash returns from livestock sales may be reinvested in livestock, with the growth potential of a herd actually being increased when bullocks are

transformed into heifers through such marketing and reinvestment. This process is often made more ecologically damaging by pasture enclosure, which is often associated with the shift to commercial production. In each case, ecological damage is worse where pastoral movement is inhibited or prevented, under conditions of sedentarization.

Let us turn to the administrative and social arguments for sedentarization. Nomads have traditionally lived at the geographical and administrative periphery of states, and pastoral societies are often split between states which establish their boundaries through the least accessible and most uninhabited areas they share. Thus the political affiliations and allegiances of Tuareg, Fulbe, Somalis, and Maasai - to mention a few pastoral groups in Africa - are divided and weak. But the regions they occupy, being along borders, are not politically inconsequential. Due to the divided affiliations of their occupants, they are often subject to secessionist, irredentist, or cultural nationalist movements, which threaten the State. Government attitudes towards their more peripheral and marginal citizens, especially in arid regions of low population density and productive potential, are ambivalent: guilt mixed with impatience; desire to improve the nomadic quality of life combined with a desire not to be bothered; admiration for the qualities of pastoralists mixed with contempt for the epitomy of rural 'backwardness'. These contradictory attitudes found within virtually every government having appreciable nomadic pastoral populations are reconciled in the belief that effective administration of marginal lands is necessary, and of course perpetual household movement is virtually antithetical to political administration. The desire to establish effective administration led colonial governments to try to lure pastoralists into regions surrounding the district seat or the army post and has led independent governments to stimulate more wide-scale sedentarization.

The argument that pastoralists must be sedentarized in order to render themselves amenable to administration is often linked with the argument that

the government can only serve nomads as they should if they are settled. This argument was made most explicitly in Tanzania (and more recently in Ethiopia) where villagization of a relatively scattered peasantry was justified by the difficulty in providing social services to populations which were not in concentrated communities. The positive attractions of villages were to be schools, health clinics, extension services, etc., which in the aggregate signify 'progress'. This justification applies a fortiori to pastoral nomads, who are the most dispersed of all populations and the least accessible for the provision of social services. Most pastoralists appreciate health care and actively seek out extension services relevant to their practice of animal husbandry; their use of veterinary drugs, for instance, is usually only limited by the supply provided by government or through markets. Levels of school attendance are universally low among pastoral communities, but this is true less by virtue of their mobility than because of their low population densities. Under sedentary but non-villagized conditions, access to school will still be difficult as in most rural settings. It should also be added that pastoral labour requirements also militate against schooling for pastoralist children, and the importance of this factor is only heightened by sedentarization, unless that process is combined with class-formation and increased access to wage labour.

There is no doubt that people are easier to administer and to provide with social services when sedentarized. With regard to the former, it is questionable whether a policy should be determined by the needs of government rather than the needs of its population. It is beyond doubt that means of delivering social services essential to ameliorating the condition of pastoral life should be found and implemented. It is a questionable goal, however, if a rural economy and society must be radically altered for the sole purpose of gaining access to social services which are being provided by means which are determined primarily in terms of the convenience of Civil Servants. Experiments in mobile

health clinics and schools are under way in several African pastoral areas, as are programmes in nomadic adult literacy. The effectiveness of veterinary extension work, which takes services to animals rather than vice versa, is primarily limited by lack of government resources (i.e. medicine, petrol) and the sedentary orientation of extension officers than by the interest of pastoralists. But the crucial issue is that sedentarization often results not in improvement but in decline in the quality of life, measured by human and animal health, economic productivity, nutrition, and social cohesion. In all these areas, including fertility, Turkana pastoralists involved in settled irrigation agriculture experienced lower quality of life than that of the pastoralists who continued nomadic movement.

This is not to say that settled life in general, associated with a definitive socioeconomic shift to wage labour, productive agriculture or intensified pastoralism, may not entail improvement of quality of life in some of these areas. But nomadic sedentarization rarely implies or makes possible such a shift to intensification, but rather involves the continuation of pastoralism under truncated circumstances, leading to a decline in the quality of life and a form of 'pastoral involution'. From the governmental point of view, the administrative-social argument is a convincing one, since through sedentarization the influence, control, and largesse of government are made accessible to pastoralists. But this answer is too easy, and relieves government of the obligation to devise methods of best serving its various communities on their own terms while enhancing the quality of their lives, in terms of economy as well as health, education, and administration. From the air, the tragedies of centralized populations in the arid lands can be seen: great concentric circles of growing desiccation as focal points of trade, administration, communication, water, or cultivation are approached. Only where herds and households move in patterns of dispersal across the rangeland are resources best used and pastoral productivity maintained. The great predicament of the arid

zone is not solved by sedentarization, despite these arguments, but worsened by it. For government, the question which should be addressed is not how to fit pastoralists into a preconceived pattern of sedentary living but how to serve pastoralists given the social and economic requirements of movement in the more arid regions.

Alleviating the pastoral predicament: recommendations regarding sedentarization policy and research

We have developed at some length some of the negative implications of ill-planned sedentarization efforts for nomadic pastoral communities, which may be summed up in the following way: that there are sound social, economic, and ecological factors underpinning continued pastoral mobility, and without change in those conditions settlement can have undesirable social, economic, and ecological consequences. Since animal husbandry is and will remain the primary mode of livelihood in the dry regions of Africa, due to constraints on the development of stable agricultural systems, sedentarization will inevitably result not in pastoral 'development' but in pastoral 'involution'. That is, animal production practised under the constraint of immobilization usually results in greater land degradation and ecological decline and lower levels of economic productivity, everything being equal. In most areas of Africa, the predicament of pastoralism results in large part from factors associated with the extension of sedentary life into the arid zone: rangeland enclosure, loss of crucial dry-season pastures, the spread of marginal dry-land agriculture into sites crucial for access to water, the political prevention of long-distance migrations, and in some cases forced sedentarization. While these conditions will not disappear, there are initiatives which would alleviate their effects.

Let us sum up these conclusions in a few concise points.

- 1 In general, government policies advocating the sedentarization of nomads are not sound, since settlement alone cannot provide the basis for arid-land development.

- 2 However, 'spontaneous' or 'self-generated' settlement has taken place and will increasingly take place, as some pastoralists seek refuge from the insufficiencies of their own communities in small towns, trading centres, agricultural villages, or large towns. This process does not signify the end of nomadism but, as throughout history, makes it possible through facilitating the 'shuffling off' of excess population.
- 3 While sedentarization as a response to drought and famine is part of that process, it has recently been made worse through economic and political factors outside the control of pastoralists, such as loss of pasture or rights of movement. As a humanitarian measure, rapid and sufficient famine relief should be provided at times of need and steps should be taken to detect regions of pastoral crisis and food insufficiency before the situation becomes critical.
- 4 Famine relief, however, should not be used as a tool of sedentarization, since sites of relief camps are rarely suitable for the long-term development of economic alternatives to pastoralism. For agents of famine relief to pretend to offer long-term options to continued pastoralism is in most cases based on an illusion, which should not be allowed to encourage pastoralists to delay resuming mobile animal husbandry as soon as possible. Rather than requiring continuous residence in camps for the receipt of assistance, agents should encourage outside residence and the establishment of links with the pastoral villages and camps. Restocking programmes, such as those instituted for the Turkana and Borana of Kenya, might be replicated elsewhere. After drought, the pastoral problem is not overstocking but understocking, with resulting under-use of range resources and declining levels of subsistence.
- 5 Programmes for the development of economic alternatives for the destitute or others who cannot continue pastoral activities or who for any reason desire to settle should be encouraged, not as providing a fundamental

alternative to the animal-based arid-land economy but as an adjunct to it. Such programmes might encourage trade, small-scale, rain-fed cultivation, crafts, or regional services.

- 6 Forced or even assisted sedentarization should be recognized as essentially a process of political 'capture' rather than development of pastoralists, which in most cases will result in a decline in the social, economic, and political quality of life. Many of the well-intentioned objectives governments assert in justification of sedentarization should indeed be pursued in their own right, with special mobile methods devised proper to low-density arid-land pastoral populations for the extension of health, educational, and administrative services.
- 7 Improvement in the quality of life of pastoralists begins with improvement in the process of pastoral production, not with settlement. Policies and programmes which recognize this fact might encourage (1) increased herd mobility, to enhance animal, range, and herd productivity, (2) increased access to markets, and better prices for animals for pastoralists, thus increasing household incomes, and (3) increased security over range resources.

These observations might well be linked with indications of the sort of knowledge that would facilitate the development of policy towards nomads and the planning of programmes which would serve some of the objectives just reviewed. Such knowledge could be acquired through research or through government monitoring programmes, tied to long-term policy and short-term administrative decisions regarding provision of assistance. Research which could prove critical of existing programmes should ensure confidentiality for communities and individuals who contribute ideas and views.

- 1 Research on famine camps or longer-term relief sites which serve pastoralists should be carried out in order to learn the factors (including agency policy) influencing continued stay in camps, return to pastoral

life, or adoption of other alternative residence or productive activities. Of special importance here is increased understanding of the internal links between camps and pastoral villages, whether of flows of people, food relief, or other goods, and the question of households split between the two sites.

- 2 Research on the quality of life which has followed from government-encouraged sedentarization in contrast to spontaneous sedentarization and non-sedentarization is needed, proper to various regions and situations. It is not necessarily the case that a single answer will be found regarding the implications of sedentarization, given the diverse predicaments in which pastoralists find themselves. There is no reason why a single policy recommendation would be made for different peoples in different zones and nations. But we need more knowledge both about the possibilities and the liabilities of settling in various critical areas of countries concerned.
- 3 Within pastoral villages, it would be most illuminating to investigate attitudes towards settlement and the sedentary population, and the sorts of factors weighed in spontaneous settlement. Are differences between forms of sedentarization recognized and differing value given to, say, (1) settlement in town without animals, (2) practising relatively sedentary pastoralism, or (3) adopting individual ranching on private land? From the point of view of the village rather than the settlement camp, what links are seen between them and how are they valued?
- 4 For the pastoral population, how are unplanned changes in the political and economic climate of pastoralism weighed and assessed, and how are planned developments regarding animal production (including those bearing on sedentarization and movement) evaluated? Is movement seen as a value per se, or only as it relates to other consequential issues, such as rights over pasture, the allocation of labour, the provision of range resources for livestock, etc.?

Answers to these and other important questions should presumably form the basis for policies and programmes attuned to the needs of given pastoral regions and communities being developed by governments and agencies alike. Such investigations could most usefully be addressed to pastoral communities experiencing crisis in the nations of East Africa, including Sudan, Ethiopia, Somalia, and Kenya. Inquiries should presumably be addressed to pastoralists in famine camps, sedentarization sites, and ordinary pastoral villages, and should also include agro-pastoralists also experiencing pressures associated with drought and famine and influenced by policies regarding movement, land enclosure, and the exercise of local administration pertinent to nomadic/sedentary peoples.

Using the expertise of researchers with special knowledge of relevant areas and communities, especially those in or from the key regions, a body of information could be gathered which could guide the development of an overall set of guidelines for policy development, and perhaps make recommendations appropriate for a number of different pastoral settings, which differ by ecological setting, type of pastoralism, degree of crisis, and future economic potential.

The question of the settlement of nomads has been with governments for thousands of years, and the social and cultural gap between nomadic and sedentary populations has been observed for a similar length of time. Today, the world seems to be experiencing a historically critical state of affairs, in which crises of ecology seem to be wreaking such havoc on pastoral economies as to suggest that their day is finished. In response to such observations, and based on the sedentary orientation which is inevitable, many governments in Africa are following policies which encourage sedentarization of their nomadic pastoral populations and anticipate completed settlement in the near future. Whether governments have it in their power to ensure such a future for pastoralists is one question; but just as critical is the question of whether such a policy should be pursued, even to partial completion.

In this essay, we have tried to review some of the factors, many of them not obvious, which bear on the process of sedentarization and some of the negative implications which follow from it. Sedentarization will go on and agencies and governments can and should assist it. But at a historical juncture when government and agency alike do exercise considerable influence in shaping the directions of rural African economy, and when the peoples of the arid zone are experiencing a relative nadir in their own resilience and power, it is especially important that such a critical question be posed in the light of full information and sensitivity to the human dimension and the welfare of the nomadic and pastoral people concerned.