Challenging Stereotypes: The Multiple Dimensions of Poverty in Pastoral Areas of East Africa

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Abstract

Understanding the complex relationships and causes of poverty in pastoral areas of East Africa is a necessary first step toward informed and effective policymaking and project programming. This overview paper addresses this gap. It has four general objectives: (1) to summarize the different understandings (including stereotypes) and analyses of poverty in pastoral areas; (2) to highlight newly emergent patterns; (3) to identify the primary pressures driving growth in and the changing nature of poverty in pastoral areas; and (4) to discuss practical policy and programming implications. The paper suggests that while there is poverty in pastoral areas, it is mainly associated with sedentary ex-pastoralists rather than with mobile herders. It concludes that what is not needed is another development label (stereotype) that equates pastoralism with poverty, thereby empowering outside interests to continue to attempt to transform rather than strengthen pastoral livelihoods.

Recent drought and flooding in East Africa has once again sharply exposed the layers of poverty, underdevelopment, and political marginalization in the region's arid and semi-arid lands (ASAL). Images of malnourished and thirsty children, lunar-like landscapes, and pained herders with their emaciated animals permeate the popular media, while governments, international agencies and non-governmental organizations (NGOs) launch their normal appeals for food and other forms of external assistance. The poor and vulnerable bear the brunt of such events, tragically reminding us that their short-term suffering reflects longer-term structural problems of chronic poverty and food insecurity.

Yet, in contrast to crises elsewhere, natural disasters in East Africa frequently spark calls for renewed efforts to transform – or even abandon – the area's prime livelihood system, mobile pastoralism based on nomadic or transhumant livestock production (Hogg, 1992). The problem is often perceived to be an outdated way of life and a production system ill-adapted to 'modern' contingencies. Poorly understood and the natural bane of governments and administrations, mobile pastoralism serves as a convenient scapegoat for the many social and economic problems so graphically exposed during ASAL disasters.

Understanding the complex relationships and causes of poverty in pastoral areas of East Africa is a necessary first step toward informed and effective policymaking and project programming. Surprisingly, despite considerable research in pastoral areas, much of it highlighting poverty as a key issue, systematic analyses of poverty in pastoral areas are limited (exceptions include Anderson and Broch-Due, 1999; Baxter and Hogg, 1990; Heffernan et al., 2004; Rutten, 1992). This overview paper hopes to address this shortcoming. It has three general objectives: (1) to summarize the different understandings and analyses of pastoral poverty; (2) to highlight the major issues associated with poverty in pastoral areas, especially newly emergent issues; and (3) to draw out implications for development practitioners and policymakers. Because researchers and practitioners often misunderstand local patterns of poverty, they often assume that herders will be quick to abandon mobile pastoralism if provided viable alternatives. The rangelands of East Africa are littered with the failed development consequences of such thinking. This paper points to new ways of understanding poverty and its sustainable alleviation in East Africa's pastoral areas.

What is Meant by Pastoral Poverty?

Considerable confusion exists over the very language and evidence used to describe pastoral poverty. First, it is not always clear about whom one is speaking when characterizing poverty in pastoral areas. Second, a variety of different definitions of poverty exist. We discuss these issues in turn.

Who are we characterizing?

Is the concern poverty among pastoralists – i.e., mobile livestock herders – or poverty among those who live in areas where pastoralism is the primary economic activity? The presence of large (and seemingly growing) numbers of stockless, ex-pastoralists and casual labourers in and around towns in pastoral areas may lead to an assessment of poverty in pastoral areas different from that if one instead focuses on those who are directly involved in mobile pastoral production.

We illustrate this using evidence from a survey conducted by the Pastoral Risk Management (PARIMA) project in northern Kenya from 2000-2002. The sample households were randomly selected from the populations of six locations in northern Kenya, with the locations purposively selected for variation in agro-ecological conditions, market access, and ethnicity (for a description of the research sites, see McPeak and Little 2005). The sample thus includes both those who are involved in pastoral production and those who are not. Figure 1 reports the average share of household income from each source for the overall sample. One key finding is that pastoral production remains the core economic activity in these areas, but is only part of the income generation story. Just under a quarter of income comes from non-pastoral economic activities such as trading, running a business, or working for a daily wage or in salaried employment. Another five per cent comes from net gifts, which are largely remittances from non-resident family members. Food aid, which was widely distributed during and after the drought of 1999/2000, accounts for just over twenty per cent of

income, the second largest share of income, but hardly supportive of widespread claims of food aid dependency in the ASAL.[1]

[insert figure one]

Figure 1 highlights the fact that ASAL economic activity includes much more than mere pastoral production, just as rural incomes in Africa more generally reflect considerable diversification beyond basic agricultural production (Barrett et al., 2001; Ellis and Freeman, 2005). The difference between pastoral poverty and the presence of poverty in pastoral areas has important practical implications. If high rates of poverty are inherent to pastoral production, then fighting poverty means transforming or replacing pastoralism. If, on the contrary, high rates of poverty reflect primarily the conditions of those not involved in pastoral production, the issue becomes how can these people enter or re-enter the pastoral economy, and/or how can viable non-pastoral activities be created, possibly by strengthening pastoral production so as to stimulate complementary (e.g., post-slaughter processing) activities in order to generate new, remunerative economic opportunities for those not engaged in mobile pastoralism.

How are we defining poverty?

Multiple definitions of poverty exist, with varying appropriateness for the pastoral context and relevance for policymaking in the east African ASAL.

Household Income

The most widely used poverty measures rely on flow-based measures of well-being, typically using income or expenditure as a proxy variable. Standard headcount or poverty gap measures are based on the idea that there is an income or expenditure threshold that separates the poor from the non-poor. One example is the one US dollar per person per day global extreme poverty line reflecting some widely perceived minimum for meeting basic human needs. Using this poverty threshold, Thornton et al. (2003) estimated that roughly 8.1 million extremely poor people live in the

[1] Furthermore, food aid deliveries were higher in 2000-2002 than in other periods 1997-2005 (Mude et al., 2006).

pastoral/grassland-based ASAL of Ethiopia, Kenya, Somalia, Sudan, Tanzania and Uganda.

The findings available in the literature and our own research lead us to the conclusion that the prevalence of income or expenditure poverty is usually most pronounced among ex-pastoralists who are not directly involved in pastoral production. While there is poverty among mobile pastoralists, as we will demonstrate below, those most actively involved in the pastoral economy tend to be better off than those not involved in it directly.

We illustrate income poverty measures here with data from the PARIMA sample. Figure 2 disaggregates household income composition in Kenya shilling levels for each activity, by income quintiles, from lowest (quintile 1) to highest (quintile 5). Figure 3 reports the associated income shares by quintile.

[insert figure 2]

[insert figure 3]

Only the lowest income quintile relies heavily on transfers of food, though the value of food aid is roughly consistent across quintiles due to many communities' choice to employ uniform rations for all households (poor or non-poor). Livestock production is most important, both in levels and shares, for the middle and upper income categories, reflecting Barrett and McPeak's (2005) finding of a strong positive relationship between household per capita daily income and herd size. Interestingly, we also find that access to salaried income and income from trade and business are increasing as total household income grows. But the clear finding is that poverty in pastoral areas is far less among active pastoralists than among those who have limited to no involvement in the pastoral economy.

Household Assets

The apparent relationship between herd ownership and income naturally leads us to an alternative approach to defining poverty using stock (i.e., asset)-based measures. The question then becomes whether the assets (i.e., livestock) controlled by the households are sufficient to generate a satisfactory standard of living. This is much closer to Sen's seminal 'entitlements' approach than are flow-based measures like

income poverty. The emphasis in asset-based poverty measures is on the sustainability of current consumption or income patterns (Carter and Barrett, 2006).

Considerable attention in the literature has been directed to the question of what is a viable herd size that can sustain pastoral households even when natural disasters occur. Early work on this by Brown (1971), a former colonial agricultural officer in Kenya, argued that herders needed about three standard stock units each of 500 kg live weight per head to sustain a pastoral family. Brown's 'standard stock unit' is equivalent to about two Tropical Livestock Units (TLUs),[2] the commonly used measure today. Later, the anthropologists Dahl and Hjort (1976) made perhaps the most sophisticated attempt to model what would be considered a minimum level of herd viability to pursue specialized pastoralism. Since then, several others have proposed a range of different herd thresholds needed to maintain a viable herd, with estimates ranging from about four and one-half to six TLU per capita (Fratkin and Roth, 1990; Potkanski, 1999). These estimates, of course, assume specialized pastoralism without other sources of livelihood, which is an increasingly unrealistic proposition in East Africa.

More recent work has found further empirical evidence of minimum herd size thresholds, suggesting the existence of 'poverty traps' among pastoralists where households below a certain threshold of per capita livestock holdings find themselves unable to move out of poverty even in periods of relatively good pasture and rainfall conditions (Lybbert et al., 2004; Santos and Barrett, 2006a). Those with higher levels of stock ownership, in turn, also can create intricate social networks that further buffer them against a volatile environment, while the poor often are isolated from such networks and the local assistance networks provide when hardship strikes (Santos and Barrett 2006b).

The asset-based approach emphasizes that households can increase their income levels by asset accumulation or by adopting opportunities that increase the returns to the assets they possess, whether through improved production technologies or more remunerative exchange relationships (Barrett et al., 2006; Carter and Barrett, 2006). In the context of pastoralism, pastoral units that are relatively diversified and have reasonable market access may need fewer livestock per capita to sustain their livelihood.

[2] The TLU represents a standardized measure of metabolic liveweight in animals, enabling aggregation across species according to the formula 1 TLU = 1 cattle = 0.7 camels = 10 goats = 11 sheep.

In cases where the pastoral economy is especially diversified, non-livestock forms of wealth (for example, cultivable land, salaried employment, or business ownership) may be as good an indicator of welfare as livestock ownership. With increased diversification into desirable assets and livelihoods, households can remain active in the pastoral economy with smaller herd sizes without jeopardizing human welfare. In large parts of northern Kenya, those families with a member engaged in salaried employment are likely to have food during a drought even when they have lost large numbers of their animals (Little et al., 2004).

The asset-based approach also accentuates the important distinction between asset risk and income risk in pastoral areas (McPeak, 2004). There is little doubt that poverty is partially characterized by vulnerability, and that in the past three decades residents of pastoral areas and pastoralists themselves have fared poorly during droughts, floods and other major shocks in food security and nutritional terms. But does vulnerability to food insecurity during droughts necessarily equate to poverty? Is a pastoralist poor if during a drought s/he has considerable numbers of animals but a current income of less than one dollar per day? In a recent study of the Somali Region, eastern Ethiopia, Devereux (cited in UN-Ethiopia 2004:1) notes that 'far from its image of an economic wasteland, Somali region is actually the least poor of Ethiopia's rural regions.' His report goes on to ask how widespread food and famine vulnerability can co-exist with high levels of livestock wealth. His answer focuses on the lack of market access and movement restrictions caused by conflict in the region (Devereux 2006). Others have noted that households might intentionally reduce consumption in order to safeguard the herds on which their future livelihood security depends (Barrett et al., 2006; Hoddinott, 2006). Vulnerability to transitory food insecurity and low incomes is not the same as asset poverty.

This observation leads naturally to the important distinctions between chronic (structural) and transitory (temporary) poverty. Transitory poverty is associated with movements into and out of income poverty, while chronic poverty reflects persistent deprivation. The former type usually results from a shock that knocks a household into poverty for up to a few years. After the shock ends, the household rebuilds its herd and moves back out of poverty. In the case of chronic poverty, however, poverty persists in shock and non-shock years as households control too few assets and are insufficiently

productive in using those assets to allow them to escape from poverty without external assistance. In the pastoral areas, these are typically the stockless and near-stockless households that cluster around settlements, receiving food aid and eking out a marginal living through informal employment and petty trade.

Table 1 contrasts income-based and asset-based measures of poverty to clarify the differences among these concepts of poverty and appropriate policy responses. Different types of poverty call for different policy responses. Structural poverty – cells 1 and 2 – requires what Barrett et al. (2006) labels 'cargo net' interventions: asset transfers and technological and market improvements that boost the productivity of the assets the structurally poor own in order to lift or enable them to climb over the obstacles that trap them in chronic poverty. Cargo nets need not be long-term interventions, but they cannot be marginal contributions, as is typically the case with food aid-based programs. The transitory poor in cell 3, by contrast, need only short-term assistance, 'safety nets', to tide them over a rough patch by obviating the need to liquidate productive assets, which could cause them to collapse into chronic, structural poverty.

[insert table 1]

The importance of safety nets grows sharply when one recognizes the possibility that there is a critical threshold below which herds tend to collapse towards a very low level, and above which herders on average are able to rebuild their herds through mobile pastoralism (Barrett et al., 2006, Lybbert et al., 2004; Santos and Barrett, 2006b). Such findings accentuate how shocks like droughts – i.e., loss of animals, not just diminished lactation/dairy (food) production rates – can spell the difference between recovery from a drought (transitory poverty) and collapse into long-term destitution (i.e., a transition into structural or chronic poverty). Safety net programs – such as well-designed drought-restocking or emergency watering or supplemental livestock feeding or watering interventions – that protect households' assets (herds) at or near those critical thresholds can play a pivotal role in preventing pastoralists from collapsing into destitution. Evidence from northern Kenya suggests that interventions that preserve vulnerable pastoralists' livestock wealth outperform more conventional destocking interventions — and related transport subsidies—in terms of benefit: cost ratios (Morton et al., 2005). For

example, veterinary, supplementary feeding and supplemental water provision interventions during droughts had benefits that were 2.6-5.3 times costs.

The failure to understand the dynamics of pastoral poverty, especially the difference between shock-induced, transitory poverty and chronic, structural poverty, has resulted in a range of costly development failures. One example is the high-cost, small-scale irrigation schemes of Turkana District, Kenya, where the transitory poor settled following the 1984 drought, only to abandon them and return to pastoralism two to three years later when herds recovered (Anderson 1999; Hogg 1985, 1986). Other efforts in Kenya and Ethiopia to encourage settlement among what were assumed to be chronically poor households met with similar results (Moris 1999). While each major shock expels from the system families who may eventually become chronically poor, the majority of mobile herders appear to return to livestock production when conditions improve. Overly pessimistic assessments of an 'end to pastoralism' in East Africa's rangelands are often voiced during droughts, including the recent 2005-2006 catastrophe (IRIN, 2006), but such pessimism fails to acknowledge that much poverty is merely transitory. At least for the foreseeable future we see no better use of the dry rangelands than mobile pastoralism, despite regular occurrences of natural and manmade disasters.

Poor Access to Social Services

Pastoralists' relatively poor access to basic social services and physical infrastructure is often seen as a measure of their poverty. For example, a recent report asserts that '[p]astoralists are very poor, even by the standards of Ethiopia, when judged by their limited access to basic social services' (Halderman 2004:12). A problem with this approach is that it assumes that unmet, latent demand exists for publicly provided social services and that pastoralists are deprived by virtue of either limited cash income to pay for services or insufficient central government provision of infrastructure and services.

This view ignores an important set of factors. Social services are typically point-based and near towns, but the logic of mobile pastoralism requires limited sustained presence in a single setting, particularly around densely populated settlements. As a result, there is a direct conflict between improving one's livelihood through a larger herd

maintained through strategic movements, and access to town-based services. Hence growth and morbidity indicators among children in nomadic households are significantly better than those among sedentarized households (Roth et al., 2005), although the latter typically have better access to social services. Access to town-based social services is desirable, all else equal, but because spatial location impacts a household's ability to practice mobile pastoralism, a tradeoff typically emerges.

Local Definitions and Characterizations

Another approach is to ask people in ASAL communities how they define poverty (Broch-Due and Anderson, 1999). Kristjanson et al. (2005) found that subjects identify livestock as a critical asset that can help households progress out of poverty, particularly when it helps diversify income, and that livestock loss can cause households to fall into poverty. Devereux (2006) invoked a similar strategy among Somali pastoralists in eastern Ethiopia. Broch-Due (1999) describes Turkana herders falling into self-described poverty, not solely due to loss of animals, but rather as a result of not having managed livestock so as to establish social relations that provide a support network should herd losses occur.

These exercises often evoke conceptualizations of poverty that go far beyond low income or lack of assets, especially by drawing in concerns about power and vulnerability. These concerns motivate political movements to organize for both effective representation of pastoralists to central governments as well as collective action at local level. One need only interview herders about their own definitions of poverty and well-being to learn that those who maintain pastoral livelihoods, participate in local institutions and rituals, and keep up their social obligations are typically not considered poor, even if they suffer food insecurity during droughts or have 'below average' incomes and expenditures or poor access to social services. Of the various conventional views of poverty, ASAL residents' own conceptualization seems to come closest to an asset-based perspective focused on livestock, although even that appears too restrictive in some cases.

‘Old’ and ‘New’ Forms of Poverty

Transitory and chronic poverty have a long history in pastoral areas of East Africa (Iliffe, 1987; Robinson, 1985; Waller, 1999). Pastoralists have always tried to position themselves for the next disaster by accumulating large numbers of animals and investing in social relations while conditions remain relatively good. Nonetheless, when there were (are) widespread and sustained livestock losses due to natural disaster or war entire communities of mainly ex-pastoralists emerged (Little 1985, 1992). For example, the Il Chamus and Mukugodo communities grew largely from the immigration of impoverished herders from neighbouring areas, after droughts and war, some of whom stayed permanently while others moved back once their herds recovered. Pockets of settled, impoverished herders have likewise always had to rely on non-pastoral livelihoods (e.g., irrigated and rainfed agriculture, hunting/gathering) or to become clients of wealthier herders in order to survive.

However, the patterns and scale of pastoral sedentarization are new and frankly worrisome. Throughout the region there has been a general decline in average per capita livestock holdings among pastoral groups (Little et al., 2001; Lybbert et al., 2004) and a rapid rise in the number of stockless or near stockless households, as well as in patterns of inequality. For instance, a 1993 survey among Maasai communities around Namanga, Tanzania, found that about thirty per cent of households owned less than ten cattle, or about four per cent of the total, while ten per cent owned fifty-seven per cent of all cattle (Talle, 1999). In Kitengela, southern Kenya, half the cattle are owned by the twenty per cent of households with the highest incomes, and eleven per cent of the cattle are owned by the poorest twenty per cent of households (Radeny et al., 2006a). Many of these stockless households are headed by females. In the PARIMA sample from northern Kenya, small female-headed units comprise up to twenty-five per cent of total households in more settled locations.

The growing class of stockless or near-stockless ASAL residents is fuelling unprecedentedly rapid growth in small towns that serve as havens for ex-pastoralists and administrative centres for ‘development’ projects aiming to serve this subpopulation. The rapid growth in small towns is perhaps the most significant demographic trend in the region, with many towns (e.g., Marsabit and Maralal, Kenya) experiencing 4-5 per cent

annual growth rates since 1990 (CBS/MPND 2004). In contrast to the past, most ex-pastoralists now work in towns as unskilled labourers (often in food-for-work schemes), trade in firewood and other small consumer items, produce and sell charcoal, and make and sell illicit brews. Although diversification is often celebrated in the development literature as an effective strategy to reduce dependence on highly volatile pastoral income streams, the reality is that much of it is really just a desperate measure that often entails unsustainable, low-return, and very risky activities (Little et al., 2001, Thompson and Homewood, 2002), particularly for women (Nduma et al., 2001) . Rather than income diversification as a force 'pulling' people in due to its' revealed attractiveness or as a result of a development intervention, it is more often the case that people are 'pushed' into it when they have no other option open for survival.

Misguided development and humanitarian efforts have too often concentrated activities and services in settlements and towns, reinforcing troublesome patterns of pastoralist sedentarization. The irrigation schemes of Turkana District mentioned earlier grew into small towns and pockets of poverty and environmental problems (Anderson 1999). In two pastoral districts of Kenya, Turkana and Marsabit, which have experienced their share of natural and 'unnatural' disasters (e.g., armed conflicts), more than forty per cent of the population resided within five km of a permanent settlement in the 1980s (Hogg, 1985). The poor must remain close to settlements to pursue non-pastoral livelihoods and gain access to social services, including food aid.

Towns now also attract the wealthy, political elites of the area, many of whom have built homes and businesses in key pastoral towns and hire herders to graze their sizable herds on nearby pastures. The more economically successful individuals are able to keep part of the family settled permanently to take advantage of town-based opportunities while maintaining herd mobility by sending other family members to satellite herd camps with their livestock (McPeak and Little, 2005). Increased flexibility in livelihood diversification can complement flexible grazing strategies well for the better-off.

The new poverty in pastoral areas is also manifest socially. For example, there has been a general decline in polygyny as bridewealth payments have grown increasingly unaffordable (Little, fieldnotes, June 2005). In Ngorongoro, Tanzania, the inability to

make prolonged bridewealth payments of cattle "is becoming increasingly prevalent in this part of Maasailand as a consequence of poverty (Potkanski 1999: 207)." Decreased wealth levels also make it difficult to maintain large, polygynous homesteads. Consequently, in some areas there has been a general decline in average household size (ibid). Likewise mutual aid mechanisms appear to have declined as many households can no longer afford to participate and as the incentives to provide transfers to the poor have declined (Huysentruyt et al., 2006; Santos and Barrett, 2006b). The increasingly widespread sedentarization of pastoralists and ex-pastoralists is thus creating new manifestations of ASAL poverty in settlement, livelihood and grazing patterns and in social relations and institutions.

Pressures on Pastoralism

The widespread and growing pressures that pastoralists confront often are largely responsible for increased poverty in the east African ASAL. This section summarizes a few of the more important forces that have an especially large impact on pastoral welfare.

Loss of land

Pastoralists have lost many valuable 'patches' of highland grazing zones, river basins and wetlands, and forests to non-pastoral uses, including crop agriculture, forestry, and wildlife enterprises. This trend is well documented (Lane, 1996; Thompson and Homewood, 2002; Homewood, 2004). The loss of land in pastoral areas usually removes the most productive drought reserve areas, which are so critical for the sustainability of a pastoral system, forcing herders to find grazing and water in already overused areas. Herder encroachment into forest reserves, national parks, and even cities like Nairobi during droughts reflects the disruptive effects of land alienation.

Some forms of land loss have been dramatic, such as the forced expulsion of herders from newly gazetted protected areas or potential irrigation sites (Brockington, 2002; Gebre, 2001). National parks and reserves alone have removed hundreds of thousands of hectares of prime rangelands from pastoral use, turning them over to wildlife authorities for use by fee-paying tourists and, in some cases, licensed game hunters. While there have been some efforts to empower pastoralist communities to tap

into the revenue stream from biodiversity conservation (Nkedianye, 2004), this has typically proved difficult, not least of which due to weak community level governance and elite capture of the benefits (Goldman, 2003; Thompson and Homewood, 2002).

Other cases of land lost to pastoralism have been subtle and gradual, for example, the encroachment onto rangelands of cultivators – often ex-pastoralists – who settle permanently in former seasonal grazing reserves (Munyao, 2005). This trend was noted in the 1970s and 1980s (Little, 1985), but has accelerated in recent years especially in places such as the Borana Plateau in southern Ethiopia (Kamara et al., 2004), the slopes of Marsabit Mountain and the Hurri Hills in northern Kenya (Munyao 2005), or some Maasai areas of southern Kenya (Radeny et al., 2006a). Vulnerability to local forms of agrarian encroachment is especially high in pastoral locations where land has been privatised and subdivided, and where rainfed agriculture is feasible (Thompson and Homewood, 2002).

The trend toward increased cultivation naturally changes the dynamic of land use, in particular creating new pressures for land privatization that were previously more subdued. One sees this manifest in land disputes that are most pronounced in areas going through transitions during the early stages of sedentarization (Yirbecho et al., 2004). Some communities are self-organizing effectively to maintain mobility in the face of seemingly unstoppable privatization of lands (Burnsilver and Mwangi, 2006). But the trend towards privatization of lands poses new, considerable challenges for mobile pastoralism.

Stagnant Livestock Prices

Improvement to pastoralists' incomes turns largely on the prices their livestock and livestock products fetch. Yet, in US dollar terms, livestock prices in the region have remained relatively stagnant over the past twenty-plus years (Halderman, 2004; McPeak et al., 2006). Meanwhile, real retail prices of the primary products that pastoral households purchase — e.g.,, sugar, flour, cooking oil, tea, and clothes — have risen considerably over this same period. So has the cost of health and education services that were free or very inexpensive in the 1980s in most of the region, but following the introduction of fees as part of structural adjustment programs in the late 1980s and early

1990s, had become major expenditure items in household budgets by 2000. Over the 2000-2002 period, household expenditures on education and health in the PARIMA study sites were sixty-six per cent and forty-one per cent, respectively, of spending on maize and maize meal, the main dietary staples in northern Kenya. It is not yet clear what impact, if any, the Government of Kenya's 2003 move to free primary education has had on education-related expenditures among pastoral households. But the overall terms of trade faced by pastoralists – the price of livestock and livestock products sold relative to the price of goods and services purchased – has declined steadily over the past generation at the same time as the need for cash to purchase basic health and education services has increased.

Growing demand for livestock and livestock products in urban areas of the region and worldwide have had scant impact on pastoral livestock marketing. Although informal livestock imports into Kenya from pastoral areas of southern Ethiopia, Somalia, and northern Tanzania grew enormously over the past generation (Little, 2003; Mahmoud, 2003; Zaal et al., 2006), volumes of marketed livestock from pastoral areas of Kenya remained relatively stable as annual herd off-take rates (the percentage of the herd that is sold) remained relatively stable – at rates of five to ten per cent, a low figure by global standards – and aggregate herd sizes were largely unchanged. Low offtake rates arise naturally from herd structures (with around seventy per cent females) geared more toward herd growth and local dairy production than commercial beef marketing. To greatly increase aggregate livestock sales would require major changes to herd structures (i.e., a shift toward keeping male/beef animals) and in the general orientation of pastoral production systems.

The general decline in pastoralists' terms of trade becomes accentuated during drought periods when livestock prices can plummet by as much as seventy-five per cent or more while grain prices typically spike; livestock quarantines when prices and sales decline; and conflict when trade routes and markets may close for extended periods of time. While herders depend on the market to provision their households, they especially rely on it during droughts when herd productivity declines necessitate increased food purchases. The effects of unfavourable market conditions are especially felt by poor herders because they must sell a high percentage of their animals and may not have

access to larger traders and markets that pay better prices (Little et al., 2006). Although pastoralists appear not to use livestock sales as much of a buffer to smooth consumption in the face of income shocks (Barrett et al., 2006; McPeak, 2004), sometimes mere survival compels sales or slaughtering of animals, leaving poorer pastoralist households especially vulnerable to the next shock.

Conflict

Livestock raiding and armed skirmishes between pastoral groups have a long history in the region. However, these conflicts took on a new and devastating dimension in the 1980s with the increased use of modern weapons and violent attack strategies. This trend only worsened in the past decade. With armed conflicts in much of the region, especially in and near Somalia, Sudan and northern Uganda, small arms supplies have grown significantly in recent years, even among groups who until recently relied on customary weapons.

Armed conflicts — and the fear of them — directly affect pastoral livelihoods in at least three ways. First, there is the obvious loss of animals stolen and killed in attacks. Second, herders are killed, injured or at least have their attention diverted by heightened need for self-defense. Added to increased enrolment of herding-aged children in school and morbidity associated with longstanding diseases augmented by the rise of HIV/AIDS in pastoral areas, labour shortages due to conflict and other causes are becoming a real constraint for many pastoralist households. Finally, conflict affects livestock productivity by inducing spatial redistribution of animals away from large, heavily contested grazing areas, which only accelerates overcrowding and overgrazing problems in relatively secure areas. While such patterns are less common in more tranquil pastoral areas of southern Kenya and northern Tanzania, such vacated and undergrazed ‘buffer zones’ are found throughout the region.

Conflict also affects emergent non-pastoral livelihoods as trade routes and markets are often disrupted and retail shops close when conflict grows severe. Conflict also closes down schools, health clinics, development projects, and other critical social and economic services. The poor, who can least afford to lose their few animals, limited labor and access to markets and critical social services, suffer the most from insecurity.

Participatory risk ranking exercises also indicate an under-recognized gender dimension to the problem of conflict (Smith et al., 2001). Women express far greater concerns about conflict, not only due to arguably greater preferences for peace but also because loss of young males' time to conflict – including, obviously, mortality – places greater burdens on women, and because violence has become increasingly random and directed at settlements rather than camps of young fighters.

Political marginalization

The persistent dilemmas of land alienation, insecurity and access to services and infrastructure reflect deeper problems of political marginalization. While the seeds of political powerlessness were planted during the colonial period, they have persisted and even grown in recent times. Pastoral parliamentary groups of politicians have now formed at national levels throughout the region. But it is difficult to see how they can meaningfully counter the strong forces that favour non-pastoral areas, whose far larger populations and economies endow them with formidable political influence. The strong inverse relationship between government-provided services and infrastructure investment and poverty levels in rural Kenya signals a mutually reinforcing relation wherein poorer areas like the ASAL lose out in the political competition for scarce resources but the resulting infrastructure and services deficiencies merely reinforce these locations' poverty (Okwi et al., 2006). Not only does political marginalization constrain investment, it also limits pastoralists' ability to compete for salaried employment in national labour markets. Minimal levels of education and skill training mean that most herders enter the labour market at the bottom rungs.

However, political marginalization is more than just an issue of neglect. It can also be a question of political powerlessness in the face of demands by outside actors. When confronted by outside interests and groups, pastoralists have been unable to effectively resist their actions. Wildlife, tourism, and commercial agricultural interests have been able to exploit large tracts of pastoral lands with the direct or indirect support of governments, NGOs, and international donors, and with little legal recourse by pastoral groups (Goldman, 2003; Homewood et al. 2004).

What Can Be Done?

The crisis of pastoralist poverty has been proclaimed since the 1970s and a range of different interventions have attempted to address the claimed problem (Hogg, 1982, 1986; Horowitz and Little, 1987). Most actions, however, have proved expensive, ineffective and unsustainable, too often based on insufficiently nuanced understandings of how the dynamics of poverty have been evolving over time in the face of economic, political and social changes, and on efforts to encourage settlement and sedentarized livelihoods centred on crop agriculture and other non-pastoral activities. However, encouraging herders to settle and pursue crop agriculture — often using food aid and education and health services as incentives — seems to aggravate problems of local overgrazing and resource conflict, without generating many tangible gains. So what strategies seem to work, or most likely to work, in addressing poverty in pastoral areas, either by assisting the presently poor or by helping prevent others' collapse into poverty in the face of repeated shocks?

Appropriate actions can be crudely categorized into two sorts. The first are those interventions that help build assets and welfare among poor households and to improve the productivity of their existing assets – largely livestock and human capital – as well as to remove the barriers (for example, access to markets) that exclude the poorest households from viable livelihoods, whether in pastoral production or non-pastoral activities. Such interventions can stimulate wealth accumulation and income growth. The key is to build assets to the level(s) necessary to spur investment behaviour and livelihood strategies that will allow the poor to escape from and stay out of chronic poverty. Given critical herd thresholds of around three to six TLU per capita, livestock-based interventions that leave households short of the threshold, or that provide animals to those with less aptitude for or inclination towards herding, are unlikely to succeed (Santos and Barrett 2006a). Alternatively, it may be possible to lower that threshold through, for example, improved veterinary care, physical security of herds and herders, and increased non-pastoral incomes and assets.

Second, are those actions needed to protect the assets (human, livestock and other) pastoral households and individuals (females and males) accumulate, so as to prevent inadvertent backsliding into poverty. This is especially important given frequent

shocks and other challenging events in the region. Such safety nets need to be located strategically just above the critical asset thresholds at which herders can remain viable. This calls for a somewhat broader conceptualization of safety nets than the nutrition-focused, food aid-based safety nets prevalent in policy discussions today. Protecting human health through adequate nutrition and ensuring children stay in school (for example, through food-for-education projects) may suffice in town-based settings where one need only maintain access to labour markets in order to stay out of poverty. But since health shocks largely unrelated to nutrition – for example, HIV/AIDS, malaria, tuberculosis – are perhaps the most common reason households become and stay poor, appropriate safety nets require preventive and curative health care quite apart from support for adequate access to food. Moreover, because most settled households in pastoral areas are already poor, safety nets cannot keep many town-based peoples from falling into poverty. In pastoral areas, safety net mechanisms need to focus especially on insuring against excessive livestock herd loss by helping households negotiate recurrent natural and unnatural disasters, so as to prevent episodes of transitory poverty from digressing into chronic destitution. In the remainder of the paper, we enumerate specific actions (including safety net mechanisms) that have proved effective, or at least promising, in pastoral areas.

Recognizing land rights of pastoralists and maintaining their mobility

There is growing awareness that land rights and mobility in pastoral areas should be strengthened (Niamir-Fuller, 1999; Homman et al. 2004). Mobility of livestock is critical to the overall productivity of pastoralism, which will remain the core economic activity in these dry areas for many years to come, but is especially important as a means for dealing with shocks that are imperfectly correlated across space and time. The 'new range ecology' research and recent econometric findings question the universal applicability of 'tragedy of the commons' assumptions (i.e., that common property rangelands inevitably invite land degradation) in this region (Lybbert et al. 2004; McPeak, 2005). These results favour renewed efforts at supporting pastoral land tenure arrangements in ways that protect and even enhance mobility. One key opportunity is to open up areas currently underused due to insecurity. A combination of state security and

community-level conflict management can clarify tenure arrangements and reduce the land lost to insecurity, thus enhancing mobility (Haro et al., 2005).

Restocking and other emergency interventions

Most restocking programs have not fully re-established mobile pastoral households (Anderson and Broch-Due, 1999). Key lessons from past efforts include the need to target those who truly desire and are capable of a return to a pastoral way of life (Heffernan et al., 2004). Given a threshold above which herds are likely to increase and below which herds are likely to collapse, the most effective targeting is around the threshold rather than toward those who are already stockless (Santos and Barrett, 2006a). Different interventions are needed to support the stockless. Restocking is most successful when used to keep herders from falling out of pastoralism than in providing marginal animal transfers to stockless ex-pastoralists.

Emergency market interventions – transport subsidies, managed offtake programs (often with local slaughtering and meat distribution to the poor), etc. – have attracted much recent attention and been widely hailed as effective (Aklilu, 2002; Morton and Barton 2002). The only comparative research of which we are aware, however, finds that the benefit:cost ratios for interventions to help pastoralists maintain their herds through a crisis – veterinary care, supplementary feeding and water tinkering – have far exceeded those for destocking and transport subsidy programs aimed at removing livestock from the system (Morton et al., 2005). This reinforces our core point that supporting viable mobile pastoralism needs to be the cornerstone of poverty reduction programs for the East African ASAL.

Livestock productivity improvements

The main way to improve well-being among mobile pastoralists and to reduce the herd size threshold for viable pastoralism is to improve livestock productivity. Input (e.g., veterinary medicines, feed supplements) availability in these areas is minimal and often of dubious quality. There is evidence that producers are willing to purchase these inputs when price, quality and timeliness are satisfactory, although the economic feasibility of commercial input supply remains an open question.

Livestock productivity can also be improved by changing animal characteristics. Breed improvement activities have long played a part in pastoral production systems. Herders are keen to adopt improved breeds that increase productivity and earn a price premium (Radeny et al., 2006b). The biggest challenges appear to be ensuring that introduced breeds can withstand the highly variable environments found in pastoral areas and maintaining genetic diversity so as to conserve valuable animal genetic material. Breeding programs that select for livestock traits that result in more robust, drought and disease resistant animals with relatively high lactation and fecundity rates would markedly improve livestock-based pastoral livelihoods while reducing their vulnerability (Ouma et al., 2007). This area deserves more attention by researchers and the policymakers who must support long-term research in this area.

Improved marketing systems

Markets permit pastoralists to survive on lower herd sizes due to the 'caloric terms of trade', the fact that a given cash value of grain has much higher caloric value than an equivalent cash value of meat or milk (Little, 1992; Zaal and Dietz, 1999). As market integration and livestock/grain price ratios improve, herders enjoy greater gains from trade and need fewer animals to remain viable as pastoralists. Improving marketing systems is thus a priority.

McPeak et al. (2006) find there currently is not a great deal of untapped marketable supply in pastoral herds. Future income gains for pastoralists via livestock marketing must therefore focus on increased prices per animal sold rather than growth in aggregate marketed volumes. As herders now commonly receive less than half of the terminal market price when they sell animals in local markets (Aklilu, 2002), reduced marketing margins are key to improving pastoral incomes. Improved institutional and physical infrastructure, including roads, market facilities, veterinary certification and other features to reduce the high costs borne by traders as well as to facilitate coordination among producers and all along the marketing chain, can squeeze out significant costs. Relatively simple interventions like organizing market days, introducing auctions, and organizing producers to collectively transport animals to the

terminal markets themselves, have shown promise and should be supported where appropriate (McPeak et al., 2006).

New income generating activities

To this point, we have focused on activities targeted toward the region's primary economic activity: livestock-keeping. Although alternative income generation activities have been largely miscast as a replacement to pastoralism, and often are adopted as a last resort, increased economic opportunities can be promoted to support and complement pastoral production. Some promising examples include sustainable natural resource use (e.g., acacia sap and wild aloe harvesting, palm frond weaving, bee keeping, animal feed collection), post-slaughter livestock processing and distribution (e.g., hides and skins, meat processing), and tourism. While each example undoubtedly can have negative effects if managed poorly, and none appear scalable for broad-based applications, proper management of these could offer some added, more remunerative opportunities for residents of pastoral areas who are not directly involved in pastoral production and could help relieve (land, conflict, and other) pressures faced by viable pastoralists.

Improved access to health and education services

A growing body of evidence suggests that health shocks account for a disproportionately large share of movements into persistent poverty worldwide, including in east Africa (Barrett et al., 2006; Krishna, 2006; Kristjanson et al., 2004). Since unexpected health costs often push families into poverty, better and more affordable health care can protect the valuable human assets that underpin household well-being. Health services thus play a crucial safety net role, one woefully undersupplied in pastoral areas.

In addition, good health, like education, is often critical for accessing remunerative positions in the non-pastoral formal economy, i.e., health care is important not just for blocking slides into poverty but for opening up pathways out of poverty as well. Having a family member with stable employment in the formal sector is often a key determinant of which households can cope with and recover from shocks. Secondary education is commonly a necessary condition for securing such positions.

Political empowerment

Pastoralists must become more politically empowered if they are to improve their livelihoods and reduce the risks to them. This requires shedding fundamentally disempowering stereotypes (stigmas) that have impeded pastoralists' voice for years. Herders have been cast as environmentally destructive agents of desertification, tradition-bound individuals that irrationally refuse to sell animals at any price, and uneducated, warring peoples largely uninterested in modern society and best left alone. These stereotypes or 'labels' (Eyben and Moncrieffe, 2006) de-legitimise the political input of pastoralists because if pastoralists are like the stereotype, there is little point in encouraging their participation in shaping their own destiny. This fosters longstanding impulses to transform pastoralism through outside intervention "for their own good", a paternalistic treatment of 'noble savages'. Such ideas are as offensive as they are inaccurate.

In focusing on poverty and pastoralism, we want to avoid inadvertently promoting a new stereotype ('label') of 'pastoralists as poor' because, as we have tried to emphasize mobile pastoralism remains quite viable and is associated with better standards of living than non-pastoral livelihoods in the arid and semi-arid rangelands of the region. The solution to the problem of growing poverty in the east African ASAL is twofold. The first part lies in strengthening what already works, both directly and through complementary policies and programmes that reinforce the still-viable pastoral economy. It might be possible to improve the productivity of pastoralism through the design and implementation of appropriate safety nets, including increased attention to land rights systems to maintain pastoralist mobility, and improvements to livestock marketing, inputs provision and genetic stock. Because the non-poor in the east African ASAL are largely transhumant herders, anything that undermines pastoral production is likely to increase poverty in the foreseeable future, not reduce it.

The second key element is to focus those non-pastoral livelihoods, health and education services on those individuals and families who are not actively involved in pastoralism or who are plainly exiting the system, often quite painfully. They need support to identify and undertake remunerative alternative economic activities that

support, complement, or at least do not undermine pastoral production. In many cases, this involves building the human capital of town-based youth so that they can become employable, along with the necessary institutional and physical infrastructure to support job-creating activities.

Far more important than our inferences from the cumulative research on pastoralism and poverty is what the residents of pastoral areas believe and are willing to act on. Without increased responsibility and authority over their own development agenda, new forms of misguided external interference are sure to emerge. Research to inform evidence-based, participatory decision-making is important. But as there is no 'cookie cutter' approach available, there needs to be a political process that allows residents of pastoral areas to collectively discuss and negotiate amongst themselves and with external actors to chart viable pathways out of poverty and to block the widening chasms through which so many pastoralists are presently falling into chronic poverty.

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Figure 1: Income sources for the northern Kenya PARIMA sample

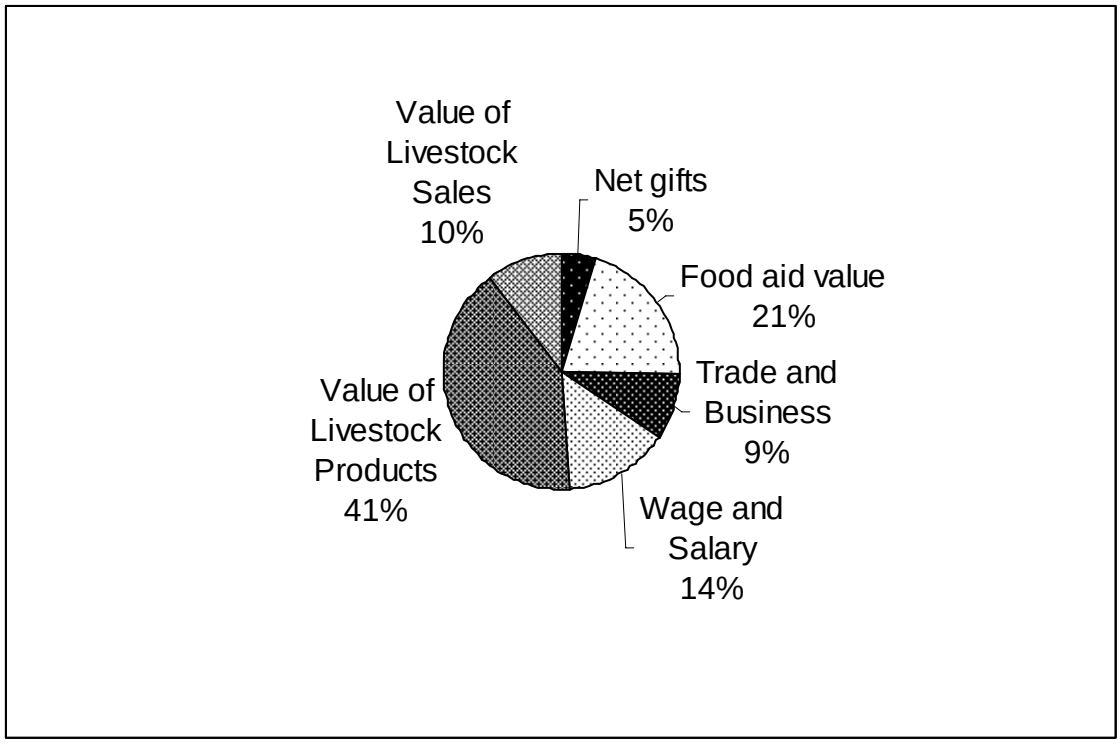

Figure 2: Income sources in levels, by quintile

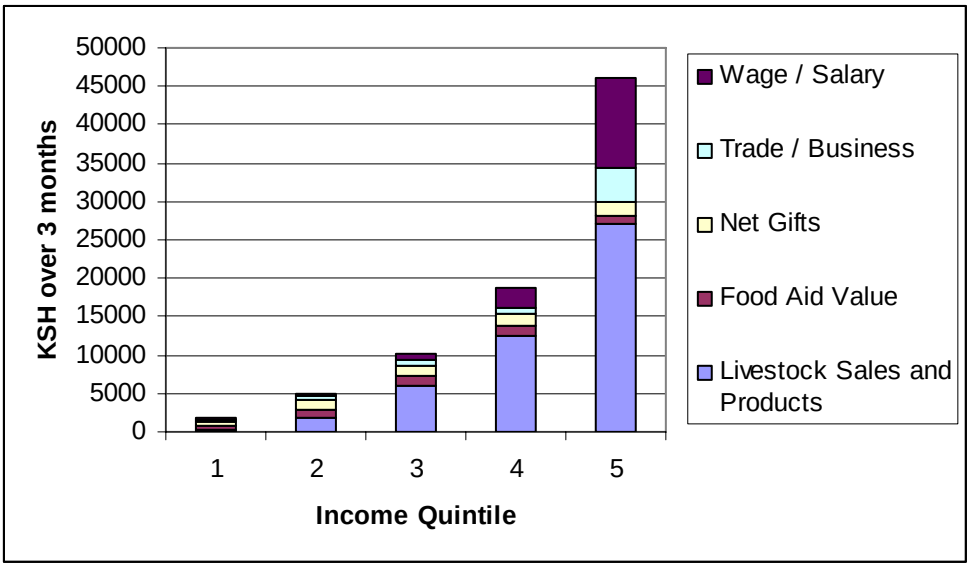

Figure 3: Income sources in shares, by quintile

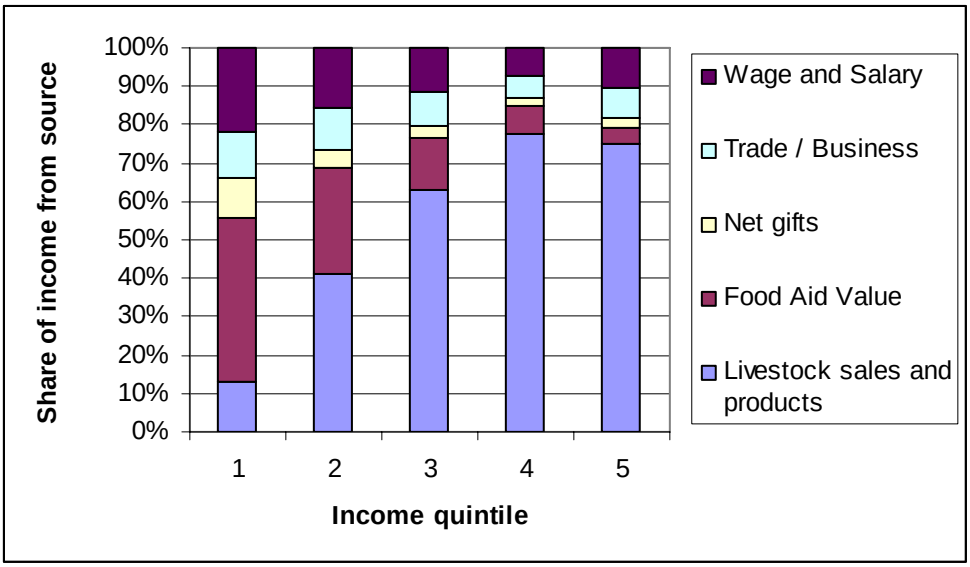

Table 1. Income-based versus asset-based measures of poverty

		Asset-Based Poverty Status	
		Poor	**Non-poor**
Income-Based Poverty Status	**Poor**	1. Structural poor	3. Stochastic/transitory poor Structural non-poor
	Non-poor	2. Transitory non-poor Structural poor	4. Structural non-poor