



Review of the literature on Pastoral Economics and Marketing:

Kenya, Tanzania, Uganda and the Sudan

Report prepared for the World Initiative for Sustainable Pastoralism, IUCN EARO
by Michael Odhiambo, RECONCILE, Kenya 2006

Table of Contents

Introduction	1
Limitations and information gaps	1
Context.....	2
Understanding the rationale of pastoralism.....	3
Pastoralism in Kenya, Uganda, Tanzania and Sudan.....	4
Marketing infrastructure for pastoral products.....	5
Making the economic argument for pastoralism.....	6
Assessing the contribution of pastoralism to national economies.....	7
Conclusion: limits of monetary valuation	10
Annotated bibliography on economics of pastoralism	12
References.....	14
Kenya	14
Uganda.....	17
Tanzania.....	18

Introduction

This is a report to the World Initiative on Sustainable Pastoralism (WISP) within the framework of its Economics of Pastoralism consultancy, which seeks to collate and document information on economic valuations of pastoralism in the East African countries of Kenya, Uganda, and Tanzania, as well as Sudan. We were however not able to gather much data and information about Sudan, with the result that the report is mainly concentrated on the three East African countries.

The report confirms the paucity of data about the value of the contribution of pastoralism to national economies, not because that contribution is lacking, but mainly because the analytical framework of these economies does not permit its full appreciation. Even where efforts have been made to collect data, this has been limited to data on livestock and livestock products such as milk, hides and skins sold at national markets. Non-monetised contributions such as manure, draught power, control of bush and weeds, recycling of household waste are not captured or acknowledged. Nor is the contribution that pastoralism makes to the conservation and wildlife-based tourism¹.

At the heart of this inadequate appreciation of the contribution of pastoralism to national economies is a pervasive misperception of pastoralism and pastoralists across the region. Despite the fact that pastoralism is one of the most researched livelihood systems in the world, and that it continues to hold an abiding enchantment especially to Western researchers even today, the perception of pastoralism within policy circles in the region remains clouded by stereotypes and myths. Many think of pastoralism, not as a livelihood system but as a stage in the transition of society from backwardness to modernization. Pastoralists, and in particular, nomadic pastoralists are thus seen as holding on to a livelihood system and practices that are not appropriate to current imperatives of social, cultural and economic change².

These perceptions exist at the highest levels of government, and inform and define the type of interventions that governments have for years implemented in pastoral areas, with a view to transforming pastoralism and pastoralists and bringing them to the levels of modernity. These interventions have invariably targeted the livestock component of pastoralism, and sought to transform pastoralists "from being nomadic cattle herders to being settled modern livestock keepers"³.

It is not surprising that these interventions have invariably failed. They are founded on a poor understanding of the rationale of pastoral livelihood practices and land use. They are top-down and inspired by a desire to civilize pastoralists. Worse still, the interventions are premised on a perception of pastoralists as irrational and pastoralism itself as a problem, associating it with environmental degradation, conflict, and resistance to change. They are informed by the generalization that pastoralism "is constrained by poor animal husbandry, lack of modernization, accumulation of stock beyond carrying capacity and lack of market orientation..."⁴.

Limitations and information gaps

This study is based on a desk review of published material that we were able to unearth in libraries and on the Internet. We have already alluded to the fact that we were unable to obtain much on Sudan. However, even with respect to the other three countries, there are substantial information gaps in so far as the economics of pastoralism is concerned.

¹ Muhereza, Frank E. and Sarah A. Ossiya, 2004. Pastoralism in Uganda: People, Environment and Livestock: Challenges for the PEAP. Uganda National NGO Forum and Civil Society Pastoral Task Force

² For analyses of perceptions of pastoralism in East Africa, see the reports of the Perceptions Study by the RECONCILE/IIED *Programme on Reinforcement of Pastoral Civil Society in East Africa* which are available at RECONCILE and IIED Drylands Programme.

³ The words of President Jakaya Mrisho Kikwete of Tanzania, while inaugurating the Fourth Parliament of the United Republic of Tanzania at Dodoma on 30th December 2005. Tanzania Parliament website, www.parliament.go.tz, accessed 16th July 2006.

⁴ United Republic of Tanzania, 2005. *National Livestock Policy* (Final Draft) p. 1

Many of the studies of pastoralism and pastoral livelihoods have focused on natural resource governance and management, looking at pastoral land tenure and land use conflicts. These studies have been undertaken mainly to inform institutional analyses of pastoralism and of common property resource management. Other studies have been undertaken mainly by anthropologists, focusing on social and cultural changes and challenges facing pastoralists.

Studies on the economics of pastoralism are not very common in the region. Although there is clear acknowledgement of the need to make an economic argument for pastoralism in order to integrate it into national economic development policy and discourse, not much work appears to have been done in this regard. At any rate, not much is readily available in the public domain. Indeed, where studies have been done, they have tended to focus on trade, thus defining the contribution of pastoralism by reference to what goes out of the pastoral economy into other parts of the national economy.

We have alluded to the poor infrastructure in many of the pastoral areas in the region. Both physical infrastructure in terms of transport and communications and intellectual infrastructure in terms of the reach and spread of government bureaucracy are lacking. This is a major constraint to the generation of data that would support making the economic argument for pastoralism. On the positive side however, recent reforms that are decentralizing development processing to the local level are opening up opportunities for local generation of data. Projects and programmes by NGOs are also becoming an important source of data on livelihoods at specific local locations.

Useful as these project initiatives are however, it is clear that only national governments have the capacity to generate data in a scale that would be useful in painting a holistic picture that covers entire countries and which can be compared at the regional level. In this regard, the Poverty Reduction Strategies have opened up new opportunities for the generation of data on livelihoods and the scaling of the data to the national level. Already in the three East African countries, pastoral poverty reduction is being addressed as a separate category, and this is creating the need for generation of disaggregated data that will no doubt prove invaluable in giving a complete picture of the place of pastoralism in national economies.

Context

Pastoralism is the predominant production and livelihood system in the arid and semi-arid drylands of Eastern Africa. Yet its value to household food security and national economic development is hardly appreciated. Policy makers in the countries of Eastern Africa tend to have little regard for pastoralism and pastoralists. Whether it is because of this lack of appreciation that the contribution of pastoralism to national economies is never highlighted or it is the failure to highlight the contribution that leads to the lack of interest on the part of the policy makers is a moot point. The end result of this situation is that a significant production and livelihood system continues to live on the margins of policy to the detriment of the citizens that depend on it for their survival.

A key problem in the valuation of the contribution of pastoralism to national economies derives from the aggregative approach used in the calculation of the GDP, which lumps all the contribution from the livestock sector together, placing it under agriculture. As a result, the contribution of pastoralists is lost, as there is no standardized way of reflecting it and keeping it visible. In order to cure this, it is imperative that research is undertaken to document pastoral activities and conceptualize a system that standardizes micro- analysis of the variables/components of the sector capture their individual contributions.

The value and the potential of pastoralism in the national economies of Eastern Africa is significant. Pastoralism contributes significantly to employment opportunities and both household and national food security. It also plays an important social and cultural role that is critical for the life of the nation. If all these contributions were to be given a monetary value, it would become clear how important pastoralism is to national economies.

Indeed, apart from these direct contributions, pastoralism makes a significant indirect contribution to other sectors, including livestock trade, leather industry, slaughterhouses, butcheries, transport and tourism. These are even more difficult to quantify and it is rarely appreciated that pastoralism makes a significant input thereto.

Understanding the rationale of pastoralism

Pastoralists in the arid lands of Eastern Africa live in environments that are for the most part characterized by perennially low, unpredictable and variable rainfall, resulting in periodic drought and even famine. The lands they occupy are thus not appropriate for rain-fed agriculture, which policy makers across the region consider to be critical for food security and development.

Pastoralists have adapted to the reality of the drylands that they occupy, and are able to make meaningful use of what are considered to be hardship areas to support their livelihoods. They have developed extensive traditional knowledge about their environment and have evolved survival techniques that are premised on flexibility in natural resource use, mobility and diversification of herds to insure against such eventualities as droughts and disease outbreaks.

Livestock define the lives of pastoralists. They are the means of fulfilling and satisfying nutritional, social and cultural needs of the family. Those who criticize pastoralists for keeping large numbers of livestock, rarely pause to consider that they need to insure against the hazards of the drylands if their families are not to starve. The low level and highly seasonal supply of milk from cows, due to low calving rates and the great variation in fodder supply during the year, requires large number of animals to maintain families that depend almost entirely on milk products throughout the year⁵. The same with the criticism about them not selling their livestock, a criticism that persists despite the fact that the domestic needs of meat in Eastern Africa is met in large measure by livestock from the pastoral sector.

Moreover, it is not as if the large numbers of livestock are kept without any system. Indeed, to operate and survive in the high risk, semi-arid areas, and to insulate their families from adversarial eventualities, pastoralists draw on a deep knowledge of herd management. For instance, pastoral herds usually contain very low percentage of unproductive males. Moreover, the number of livestock kept by a pastoral family is closely linked to the availability of both pasture and family labour.

Research findings have falsified the perception that pastoralists keep herds in excess of the carrying capacity of the environment thereby promoting environmental degradation by showing the high productivity of pastoral systems that practice "opportunistic stocking rates" in rangeland areas⁶.

Mobility and adaptation are important aspects of this opportunistic use of natural resources by pastoralists. As Charles Lane has observed, "efficient use of the drylands depends on pastoralists ability to move herds away from them during the driest periods of the year before they become degraded. The nature of pastoralist production system thus depends on movement, and relatively non-intensive use of the best land is necessary in order to make any use of all poorer lands"⁷.

Key Characteristics of the Pastoral Production System

- Animals represent more than economic assets; they provide social identity and security;
- Large herds are reared mainly for subsistence, with occasional trading;
- Herds are composed mainly of indigenous breeds;
- Practised on extensive basis with animals depending on natural pastures for feed;
- Mobility in response to variations in climate

⁵ Dahl, G and Hjort, A. (1976): "*Having Herds. Pastoral Herd growth and Household Economy*". In Camilla Tuolmin (1983). *Economic Behavior Among Livestock Keeping Peoples: A Review of The Literature on the Economics of Pastoral production in the Semi-Arid Zones of Africa*.

⁶ James McGregor and Ced Hesse (forthcoming). *Developing the Economic Argument for Pastoralism in East Africa*

⁷ Charles R Lane (ed.), 1998. *Custodians of the Commons: Pastoral Land Tenure in East and West Africa*. London: Earthscan Publications Ltd., p. x

Pastoralism in Kenya, Uganda, Tanzania and Sudan

Pastoralism is a major livelihood and production system in Eastern Africa, with pastoralists found in all the countries of the region. Although their numbers differ across the individual countries, pastoralists face similar challenges and are perceived in the same light in so far as their contribution to national economies is concerned⁸.

Kenya is home to an estimated 4 million pastoralists, constituting more than 10% of the population. Pastoral and agro-pastoral communities occupy the arid and semi-arid land that constitutes 80% of the national land mass⁹. The majority of pastoral communities inhabit the northern rangeland districts of Turkana, Samburu, Isiolo, Wajir, Garissa and Mandera, and the southern districts of Kajiado and parts of Narok. The semi-arid districts of Machakos, Kitui, Tharaka- Nthi and Mbere in Eastern lowlands, and Tana River and Taita of the coastal hinterlands are characterized as agro-pastoral areas.

The major pastoral groups are the Maasai, Turkana, Pokot, Samburu, Garbra, Borana, Rendille, Somali, and Oromo. In addition, there are agropastoralist groups like the Kamba, Kipsigis, Nandi, and Tugen. In effect, pastoralists constitute a formidable economic grouping in the country, even if this is not always reflected in economic data or acknowledged in economic policy discussions.

In Uganda, pastoralism is practiced mainly along what is characterized as the cattle corridor, which runs from Mbarara in the South West to Kaabong in the North East of the country. The corridor is said to constitute 42% of the country's landmass and 51% of its land area. It is estimated that over 60% of all households in the cattle corridor are traditional pastoralists, while nationally pastoralists constitute 22% of the population. However, upto 80% of the population derive their livelihoods from subsistence agriculture and livestock production producing 85% of the milk and 95% of the beef consumed in the country¹⁰.

Large populations of pastoralists are also found in other districts outside the cattle corridor such as Kasese and Bundibugyo in the Western Rift Valley¹¹. Pastoralism therefore constitutes a major production and land use system, critical to the livelihoods of a large part of the country's population.

In Tanzania, it is estimated that the pastoral economy is the basis of the livelihood of 10% of the population¹². The vast tracts of land in Tanzania's arid and semi-arid areas are made use of by pastoralists, who are found in Manyara, Arusha, Dodoma, Singida, Shinyanga, and Mwanza Regions. There are also pockets of pastoral communities, which have migrated to areas such as Morogoro, Pwani, Mbeya, Rukwa and Tabora. These groups are the backbone of Tanzania's livestock sector, owning approximately 99% of the livestock, while the big ranches and dairy farms own a mere 1%¹³.

In Sudan, pastoralism is practised by about 20% of the population and accounts for 80% of the country's livestock wealth¹⁴. It makes a substantial contribution to the 25% foreign exchange earnings that accrue from livestock export. The climatic conditions under which pastoralism is practised in Sudan vary and include desert, semi desert, low rainfall savanna, and high rainfall savanna. Due to poor nutrients in the range areas, it is not easy to

⁸ For an analysis of pastoralists' contribution to national economies in Kenya, Uganda and Tanzania, see the studies by RECONCILE/IIED *Programme on Reinforcement of Pastoral Civil Society in East Africa*, which are available at RECONCILE and the IIED Drylands Programme. See also James Gregor and Ced Hesse, forthcoming, note 5 above.

⁹ Pastoralist Poverty Reduction Strategy (Pastoralist Thematic Group), March 2001

¹⁰ Allan King, 2000. Joint Donor Agencies Study on Performance of and Growth Prospects for Strategic Exports in Uganda: Annex to Case Study on Livestock and Livestock Products.

Kampala: Delegation of the European Commission

¹¹ Frank Emmanuel Muhereza. Economic contribution of Pastoralism in Uganda: An Assessment. Unpublished Report. September.2004.

¹² Madulu, N. F and E. Liwenga. Economics of Pastoralism in East Africa: Tanzania component. Unpublished Report. RECONCILE/IIED.

¹³ Ibid.

¹⁴ ME Abu Sin, 1998. 'SUDAN' in Lane, Charles R. (ed). *Custodians of the Commons: Pastoral Land Tenure in East and West Africa*. London: IIED, ch.6

accommodate livestock in one place all year round. Movement of animals from one location to the other is therefore pragmatic and imperative in the control of environmental degradation. Access to pastoral lands is defined by customary rights that vary from one region to the other, but are characterized by communal grazing.

Marketing infrastructure for pastoral products

As has been indicated above, pastoralists provide the livestock products that satisfy the local markets in the countries of Eastern Africa. They produce the meat, milk, hides and skins as well as fresh blood. The thriving *nyama choma* (roasted meat) industry in Kenya, Uganda and Tanzania depends entirely on the pastoral sector for the supply of cows, goats and sheep for slaughter¹⁵. Rural communities depend on milk from pastoral herds, as do pastoralists themselves; while hides and skins for both the local and the export market are also sourced from pastoral areas.

However, pastoralists are severely constrained by marketing infrastructure, which across the region is either very poor or non-existent. This makes it difficult for pastoralists to reach the competitive markets in the major cities and towns of the region, and provide leeway for middlemen to exploit them by buying livestock and livestock products cheaply from them only to sell them at higher prices in the major markets. Even when markets for livestock and livestock products has opened up in places like the Middle East, it is the middlemen who have benefited, taking advantage of their access to information and credit to buy livestock from pastoralists cheaply and export it to these markets at substantial profit.

In Kenya, the Northeastern part of the country, which is home to the largest concentration of pastoralists, is also the part of the country that is least accessible. The state of the roads is pathetic and communication facilities almost non-existent, constraining movement for both humans and livestock, and making the transportation of livestock to markets expensive. As a result, much of the trade is informal and uncompetitive. Yet out of the total annual meat consumption of about 384, 000 tonnes, the pastoral sector contributes about 71,188 tonnes, or 19%. Pastoralists themselves consume only about 45,600 tonnes, releasing the difference into the national market.

It is partly in an attempt to address the market constraints that the government has made a commitment to encourage and promote the establishment of abattoirs within pastoral areas, and improve infrastructure in these areas to facilitate easy access to markets for livestock produce¹⁶. It is the same end that the government has recently reopened the Kenya Meat Commission to enhance market opportunities for livestock producers in the country.

In Uganda, pastoralists hold 55% of the national herd and provide meat, milk and milk products, hides and skins to the local market and across the borders within the region and beyond. There have been spirited efforts to access such lucrative meat markets as the European Union and the Middle East, but these efforts have been frustrated by the prevalence of disease, although Ugandan beef is highly demanded abroad due to its taste and low cholesterol levels. Similarly hides and skins are on demand but fetch low prices on account of poor handling.

Pastoralists in Uganda are just as constrained by poor infrastructure in their efforts to access markets for their produce. Areas that they inhabit have been marginalized by successive governments since colonial times. Many of these areas, such as those in the North and North Eastern parts of the country have been declared security threat areas and are subject to various restrictions, which serve to alienate and isolate these areas from other groups and neighbours. These restrictions discourage traders from accessing these regions, thereby undermining marketing opportunities for local livestock and livestock products.

¹⁵ RECONCILE and IIED have recently commissioned a study to look at the role of pastoralism in supporting the *nyama choma* sector in Arusha. See Juliana Letara, 'Economics of the Nyama Choma Business in Arusha Municipality' March 2006 (Unpublished report)

¹⁶ Government of Kenya, 2003. *Economic Recovery Strategy for Wealth and Employment Creation, 2003-2007*. Nairobi: Ministry of Planning and National Development, ch. 8

The situation is no different in Tanzania, with pastoral areas suffering similar marginalisation and constraints in terms of infrastructure. For instance, pastoralists from Northern Tanzania, especially those in Ngorongoro district, tend to sell their livestock across the border in Kenya, simply because they have no access to markets such as Arusha and Dar es Salaam as a result of the absence of infrastructure. Instead of addressing these constraints to pastoral production, the government of Tanzania is intent on a modernization agenda that is focused on commercialization of livestock production but does little to address the real challenges to pastoral livelihoods¹⁷. The wording of the stated vision of the government for the livestock industry in Tanzania read together with other statements about pastoralism in key policy documents suggests a very pessimistic outlook for pastoralism and pastoral livelihoods¹⁸. Indeed the government has indicated a desire to adopt what is referred to as the Botswana model of livestock production, even though its appropriateness to Tanzania has not been verified¹⁹.

The livestock market in Sudan is relatively more developed. There are primary markets and secondary markets within which registered livestock traders/brokers operate. The brokers collect cattle and shoats from village and sell them to big traders. In this arrangement, the agents arrange for the trekking of the livestock to market places and oversee the processes of transaction. Transportation is either by road or trekking to the market terminals, a process that is both tedious and expensive.

Making the economic argument for pastoralism

In modern development discourse, it is important that the case for pastoralism is argued from an economic perspective. For policy makers to pay attention to the needs of pastoralists and put in place the infrastructure to support the production system, they have to understand that pastoralism is an economically viable activity that makes a meaningful contribution to household and national economies.

Economics underpins modern development discourse. It analyses processes of wealth creation by focusing on the relationship between human activities and factors of production such as land, labour, capital and entrepreneurship and how this relationship contributes to the satisfaction of human needs and wants. Economic valuation thus places value on activities for the production of wealth. The values are ordinarily denoted in monetary terms.

This valuation is important in decision making over the allocation of resources in modern societies. It makes possible the prioritization and selection of the best means to satisfy human needs at minimum costs and at peak gains; and helps determine the opportunity cost of specific activities.

In determining national wealth, economic valuation is used to calculate the Gross Domestic Product, which although it has its weaknesses due to aggregation of economic variables, has come to be accepted as a useful and replicable valuation. To arrive at the GDP, productive activities within an economy are priced and analyzed in terms of the input-output continuum. Thus the economic rationale of productive activities is determined on the basis of their monetary contribution to the national economy.

This means that the availability and reliability of data is critical to the appreciation of the economic value of a productive activity. This in turn means that such production systems as

¹⁷ For a discussion of the policy constraints to pastoral production in Tanzania, see A.Z Mattee and M. Shem, *Ambivalence and Contradiction: a review of the policy environment in Tanzania in relation to pastoralism. Issue Paper No. 140.* IIED Drylands Programme, March 2006.

¹⁸ The vision for the livestock industry states that "By the year 2025, there should be a livestock sector, which to a large extent shall be commercially run, modern and sustainable, using improved and highly productive livestock to ensure food security, improved income for the household and the nation while conserving the environment". *National Livestock Policy (Final Draft)*, p.9. See also the efforts to regulate the meat industry envisaged in *The Meat Industry Act, 2006*.

¹⁹ For an analysis of the Botswana model, see Adrian Cullis and Cathy Watson. *Winners and Losers: Privatising the Commons in Botswana. Securing the Commons No. 9.* IIED Drylands Programme, March 2005

pastoralism, which is household-based and informal, are at a disadvantage when it comes to establishing their economic value. While it is possible to ascertain data on pastoral products that are exchanged in the market place such as livestock, meat, milk, hides and skins, key aspects of pastoral production and intra-pastoral exchange remains outside the orbit of formal data collection, and are thus invisible to the national economic statistics.

It is evident that traditional economic valuation is not capable of telling the complete story about the contribution of pastoralism as a livelihood and production system. The pastoral production system is complex and has to be appreciated in its entirety rather than seen in terms of specific 'products' such as livestock, meat, milk, hides and skins. These are important but they are only components of a system and can only tell part of the story.

Major challenges persist in relation to getting reliable data on the contribution of pastoralism to national economies. The following constraints, identified almost 10 years ago are still relevant today, namely²⁰:

- National livestock production figures are rarely disaggregated in terms of small farmers, pastoralists and large-scale farmers;
- Most data ignore the links and livestock trade that exist between pastoralists and farmers (fattening of young steers by farmers, trade in draught animals, barter trade of meat against grain, etc)
- Figures focus on the production of meat as a single commodity output, ignoring the multiplicity of purposes for which pastoralists keep livestock, including milk, meat, hides and skins, animal power, manure, etc

Yet even within the parameters of traditional economic valuation, it is clear that the contribution of pastoralism to national economies is not fully appreciated due to a paucity of data on pastoral activities within pastoral areas. Such data as exists is for the most part generated only at the points of interaction between pastoralism and other livelihood and production systems. Little data is generated on what pastoralism contributes to pastoral livelihoods and within its internal dynamics. Thus, when a pastoralist's cow is sold in a market, it assumes an economic value and the transaction is captured in economic development data; but when the cow is used to pay bride-price, settle liabilities and cement relationships across different groups of pastoralists, this is not given an economic value nor captured in national statistics.

Assessing the contribution of pastoralism to national economies

In this section, we look at specific data that explain the contribution that pastoralism makes to national economies. This data also demonstrates the difficulty and gaps in the valuation of the contribution of pastoralism to national economies. The data comes from studies that were commissioned by the joint RECONCILE/IIED Programme on Reinforcement of Pastoral Civil Society in East Africa, to inform ongoing policy advocacy in favour of pastoralism.

Existing statistics show that livestock production plays an important role in the Kenyan economy. It contributes 10% of the national GDP and about 50% of the agricultural GDP, which in turn contributes about 25% of the national GDP. It is estimated that pastoralists hold over 60% of the national livestock herd, with a monetary value of between Kshs. 60 and 70 billion²¹. The livestock subsector accounts for 50% of the agricultural labour force. Moreover, the livestock sector has linkages with manufacturing, distribution and other services and

²⁰ Dietz A.J and M.A. Salih, 1997. *Pastoral Development in Eastern Africa: Policy Review, Options and Alternatives*. Amsterdam and the Hague: University of Amsterdam and Institute of Social Studies. Quoted in Haagsma, B. and J. Hardeman. Pastoral Development in East Africa, Facts and Findings. August 1998

²¹ Republic of Kenya, 2002. *National Development Plan 2002-2008: Effective Management for Sustainable Economic Growth and Poverty Reduction*, p.30. The Pastoralists Thematic Group put the portion of the national livestock herd in the hands of pastoralists at 52% (see footnote 9 above)

provides the raw materials for agro industries, thereby adding to the value of its overall contribution to the national economy²².

The contribution of pastoralism to the livestock sector is substantial. Offtake rates from pastoralists' herds are estimated at 6-14% for cattle, 1-3% for camels and 4-10% for sheep and goats²³. This translates into 220,130-513,630 head of cattle, 9,250-28,000 camels, 231,960-597,000 goats, and 156,600-391,500 removed from pastoral herds annually. The value attached to these range from Kshs. 5 billion to 8 billion²⁴.

Table 2: Estimated values of pastoral herds and annual slaughter offtake²⁵

Species	Total number	Value (million Kshs)*	% average offtake	Average offtake (numbers)	Average value (million Kshs)
Cattle	3,668,800	36,688.0	10	366,880	3,668.8
Camels	925,000	9,250.0	2	18,500	185.0
Sheep	3,749,000	5,623.5	7	262,430	393.6
Goats	5,758,300	8,637.5	7	403,081	604.6
Total	—	60,199.0	—	—	4,852.0

*Average prices per animal: Cattle = Kshs 10,000; Camel = Kshs 10,000; Sheep = Kshs 1,500; Goat = 1,500.

Pastoralists contribute over 70,000 of the almost 400,000 tonnes of meat consumed in Kenya annually. Furthermore, pastoralists produce all the milk and meat that they consume, thereby contributing to their own food security even as they support the rest of the country. This, coupled with the direct employment of pastoralists in the pastoral production system, the employment of other Kenyans in pastoralism related activities such as trade in livestock, transport services, leather industries, slaughter houses, butcheries and eating houses and their productive use of the ecologically harsh terrain of the ASALs, constitute an important contribution to the national economy that is not captured in the economic data (See Box below).

The not-so-visible contribution of pastoralism to national economies

The 'income' from pastoral slaughter has implications on food security, personal security, poverty and environmental health. In the absence of pastoral beef/meat production, pastoralists would be forced to look for alternative sources of food, including relief food, cattle raiding/rustling, or rural-urban migration. Government would have to find the money to purchase the relief food from its already constrained budget. Pastoralists would also resort to other more environmentally degrading uses of the rangelands. Cattle raids have serious implications for personal and national security, as they result in loss of lives and limbs, destruction and loss of property, and general impoverishment. All these have serious cost implications for the government and a bearing on national economic development indicators and prospects. Insecurity is not only a constraint to production; it also diverts resources from productive use as they are then directed at promoting security. For pastoralists and pastoral production, insecurity constrains mobility, thereby leading directly to loss of productivity. In the absence of mobility, pastoralists tend to concentrate their livestock within limited parts of the rangelands, leading to degradation, loss of livestock, deprivation and poverty. (Adapted from Nyariki, D.M. 'The Contribution of Pastoralism to the Local and National Economies in Kenya'. A report to RECONCILE. April 2004).

²² Ministry of Livestock Development. Review of the National Livestock Development Policy. Draft Report, July 2003

²³ Republic of Kenya (2000). Livestock Marketing from Pastoral Areas in Kenya: A Strategy for Pastoral Development. A Report by Arid Lands Resources Management Project (ALRMP) in conjunction with SNV, OXFAM and World Concern. Office of the President, Nairobi.

²⁴ *ibid*

²⁵ *ibid*

Tanzania has the largest herd of livestock among the three East African countries, estimated at 33.7 million, excluding pigs, poultry and other species. The sector contributes 13% to the agriculture GDP and 6.1% to the national GDP. A large proportion of the national herd is held by pastoralists and agropastoralists, with some estimates putting the figure as high as 99%. A direct result of the contribution of pastoralism to the national economy in Tanzania is the fact that the country does not import any meat, relying entirely on its national production to satisfy the demand for these products²⁶.

In common with Kenya and Uganda, the contribution of pastoralism to the national economy of Tanzania is largely invisible. There are national statistics on the production of livestock products such as beef, milk, hides and skins, but these do not in themselves show what comes out of the pastoral sector. Moreover, the fact that pastoralism represents an effective strategy for food security for communities that live in arid and semi-arid rangelands, enabling them to convert scarce and patchy grazing resources into a steady supply of food calories and nutrients for human populations in the form of milk, meat, blood and trade of animals and their products, is not acknowledged in national economic statistics²⁷.

In Uganda, the livestock sector contributes 7.5% to the total Gross Domestic Product (GDP) and 17% to the agricultural GDP, thereby making a significant contribution to both the monetary and non-monetary GDP. The number of cattle in the country in 2001 was estimated to be 5.6 million, of which 90% were held by pastoral communal grazers, nomadic and smallholder farmers in the traditional pastoral production sector²⁸. This sector is said to account for 85% of the milk and 95% of the beef consumed in the country²⁹. The sector also produces hides and skins, which are exported to Europe and Asia, earning the country up to US\$ 10 million in 2002. Milk production has enabled the country to progressively reduce its reliance on imported milk and milk products and is supporting the emergence of a milk-processing sub-sector.

Specific districts derive most of their income from pastoralism, as confirmed in market studies by Oxfam GB. The studies show that the pastoralist districts of Kotido, Sembabule, and Nakasongola derive 60%, 65% and 50% of the revenues respectively from livestock related activities, although what they invest into the sector is minimal.

In terms of growth potential, the livestock sub-sector has continued to grow even as other sub-sectors have declined. In the market studies mentioned above, it is reported that Livestock sub-sector contributed 3.3% to the national GDP in 1998/99 as compared with the agricultural sub-sector's contribution of 6.8%). The following year (1999/2000), the contribution of livestock increased to 3.6%, while that of agriculture declined to 4.2%. In 2000/01, livestock increased yet again to 4.4% compared with agriculture's 4.8%³⁰.

Were it not for pastoralism, what would become of the drylands?

The dry lands are not suitable for any viable economic activity. They are certainly not viable for rain-fed agriculture. Pastoralism is a land use and production system most appropriate to these areas. It maximizes the potential of the drylands in a sustainable manner. Pastoralism makes productive use of what could otherwise be idle ecosystems for the benefit of not only its inhabitants but also for the rest of the population. In making productive use of the drylands, pastoralism relieves wetlands from some pressure as people involve themselves in alternative activities outside the wetlands.

²⁶ United Republic of Tanzania, Ministry of Water and Livestock Development: National Livestock Policy (Final Draft) April 2005

²⁷ Galaty, J. & P. Bonte. (eds.) 1991. *Herders, Warriors and Traders: Pastoralism in Africa*. Boulder: Westview Press.

²⁸ Uganda Investment Authority. 2002. *Investing in Uganda (Guide No. 5) – Livestock*. Kampala: Uganda Investment Authority; Republic of Uganda. 2001. *Uganda Meat Policy, 2001*; MAAIF. 1998. *Budget/Policy Statement for 1998/99*. Uganda Printing and Publishing Corporation

²⁹ King, Allan. 2002. *Joint Donor Agencies study on the performance of and growth prospects for strategic exports in Uganda: Case study on livestock, hides, skins and leather products*. Kampala: European Commission.

³⁰ Muhereza, Frank E. *An Analysis of Factors Affecting Livestock Market Access in, Nakasongola, Kotido and Sembabule Districts: A Report to Oxfam GB*. July 2003

Conclusion: limits of monetary valuation

The key challenge to the appreciation of the real value of pastoralism to local and national economies in East Africa lies in the difficulty of capturing the true monetary value of the totality of pastoralism as a livelihood system. Such valuation as has been done has been focused on aspects of pastoralism, namely livestock and livestock products, especially such of these as are traded outside at formal markets within and outside the countries. Indeed, as is illustrated by the case of the livestock brought into Nairobi from Northern Tanzania, even cross-border trade is not always readily captured in statistics.

This limitation means that not all that pastoralism contributes to national economies is presently captured and appreciated. Indeed, just as we talk of externalization of costs in industrial production, (for instance when the health and social costs of polluting industries are borne by the society and not reflected in the accounts of those industries), pastoralists can be said to be victims of the externalization of benefits. That is to say, there are benefits derived from aspects of pastoral land use and production that are not attributed to pastoralism and are excluded from the valuation of what the system contributes to national economies.

A case in point is conservation tourism, especially in Tanzania and Kenya. Much of the land on which the major protected areas of these countries lie is land that belongs to pastoralists. The wildlife of which these countries are so proud and which is the backbone of the tourist industry has for centuries been taken care of by pastoralists. Indeed, it is mainly because pastoral land use is compatible with wildlife conservation that it has been possible for the protected areas to survive in the midst of pastoralists. There are many areas of East Africa which had lots of wildlife in the past, but in which the wildlife was either hunted to extinction or their habitat converted to agriculture, settlement and other land uses that are incompatible with wildlife conservation. In any case, unlike other communities in the region, pastoralists have preserved much of their culture and protected it against the onslaught of Westernization, and this has now become a major attraction to tourists boosting their numbers and the income from the sector.

Moreover, most of the protected areas have been established on land that pastoralists have traditionally used to pasture their livestock. In places like Ngorongoro district in Northern Tanzania, the entire landscape is a protected area either as the Ngorongoro Conservation Area, the Ngorongoro Game Controlled Area or hunting blocks. The wildlife based tourist industry that is such an important part of the national economy in Tanzania can rightly be said to be directly supported by pastoralists and their land use system. This support is however not captured in economic data. There is thus no acknowledgement of the inordinate cost that pastoralists bear for the survival of this important sector.

However, there are interesting new initiatives in the region that are seeking to put more tourism income into the hands of local communities. Eco-tourism, cultural tourism and the creation of community conservancies are opening up new opportunities for local communities, many of them pastoralists, to share in the benefits of tourism. The initiatives provide avenues for livelihood diversification for many pastoralists who live adjacent to protected areas. They involve the creation of tourism enterprises either directly or through commercial partnerships with investors³¹.

In addressing these problems governments across the region are focusing on creating an enabling environment for marketing and trade in livestock and livestock products, including infrastructure, incentives and market information. Access to markets is seen as an important starting point for improving the economies of pastoral areas and for capturing the full potential of pastoralism in contributing to national economies. Special attention is being paid to disease control in order to ensure that livestock and livestock products will be competitive both internally and in the export markets. While all this is important, it is also clear that more studies need to be undertaken and data generated on other dimensions of pastoralism and how these contribute to household food security, local and national economies. What the draft National Livestock Policy of Tanzania says about the real value of the livestock industry is instructive in this regard:

³¹ Nelson, F. The evolution and impacts of community-based ecotourism in northern Tanzania. IIED Issue Paper No 131. November 2004

“The contribution of the livestock industry to the economy is not limited to its share in the total GDP but it also plays other roles that include the following:

- (i) supply food products thus contributing to the national objective of food security;*
- (ii) converts vegetable resources into products suitable for human consumption;*
- (iii) acts as an inflation free store of value and investment channel;*
- (iv) Source of income and employment opportunities mostly in the rural economy;*
- (v) provides hides and skins, manure, draught power; and*
- (vi) fulfils cultural roles, which are valuable to many communities”³²*

Clearly, a lot remains to be done if the true value of pastoralism to local and national economies has to be ascertained, acknowledged and appreciated. If the foregoing are duly recognized as integral to national economies, and if the same are given values that are then integrated into the national accounts, then the true value of pastoralism will begin to be manifested. New valuation methodologies need to be developed in order to capture the non-monetary yet important aspects of the pastoral system that have a bearing on national economic development. In sum, the following are some of the steps that must be taken to help capture the true economic value of pastoralism in this region:

1. More detailed information gathering on pastoral trade, especially the trade that takes place among pastoralists themselves;
2. Closer monitoring of domestic livestock markets, to capture data on the breeds and other livestock products traded, the prevailing prices and the numbers sold;
3. Detailed study of intra-pastoral trade within and between countries of the region, its scope and volume (between Kenya and Tanzania, and between Kenya, Uganda and Sudan)
4. Need to undertake studies on lifestyles of pastoralists, particularly their socio-cultural and socio-economic organisation
5. Need to place value on other dimensions of pastoral land use that not only secure livelihoods of pastoralists, but also contribute to the national good. Among these are the contribution that pastoralists have made and continue to make to support wildlife conservation, the role that pastoralists play in the management of drylands environment and biodiversity, the direct employment opportunities that pastoralism offers to people who would otherwise add to the numbers of unemployed, and the role that pastoralism plays in providing food security at the household level.
6. It is now widely acknowledged that pastoralism is the most appropriate and sustainable land use for the drylands. Where these constitute large proportions of national territory, pastoralism plays a critical role in ensuring the productive use of what would otherwise be waste lands. This has important implications for national economies.
7. Pastoralists all over the region have played an important role in preserving cultural identity and practices, thereby enhancing the social, cultural and political integrity of these societies. The importance of cultural identity as the foundation for national development cannot be gainsaid.
8. Pastoralists living on the borders of the countries of the region, with their cultural ties in the neighbouring countries are at the forefront of the ongoing integration process whether within the context of the East African Community of IGAD, not just as beneficiaries but also as initiators. Their cross-border interaction can be a good foundation on which to build the dream of integration
9. It is increasingly accepted that development has to be seen in holistic terms to include much more than just economic advancement. In this regard, the rights of pastoralists to their livelihood and land use system has to be seen in the context of a right to development discourse that protects the right of groups and communities to their identity

³² Footnote 26 above, page 4

and to a development approach that secures such identity. This is consistent with global commitments to protect and promote the rights of indigenous peoples.

Annotated bibliography on economics of pastoralism

Anders Hjort af Ornas (edt.) *Nomadic Peoples: Camel Pastoralism in the Horn of Africa. Number 29:1991. Commission on Nomadic Peoples International Union of Anthropological sciences. Reprocentralen HSC. Uppsala. Sweden.*

Nomadic Peoples is an international journal published for the Commission on Nomadic Peoples (of the international Union of Anthropological and Ethnological Sciences). Its primary concern is current circumstances and future possibilities of all fully or partly nomadic and pastoral people around the world.

Camilla Toulmin. (1983). *Economic Behavior Among Livestock- Keeping Peoples: A Review of the literature on the Economics of Pastoral Production in the Semi- Arid Zones of Africa.*

This paper investigates the several concepts used in analyzing the economics of traditional systems of pastoral production in the semi-arid areas of Africa. It examines the notion of household viability and theories of adaptation within the pastoral sector to imbalances between its main components- land, people and livestock. It also examines how pastoral production is affected by the wider economy and how the changes in terms of trade between the pastoral products and other goods are seen to affect patterns of specialization.

Charles R. Lane. (ed.) 1998. *Custodians of the Commons: Pastoral Land Tenure in East and West Africa. Earthscan Publication Ltd., London.*

Custodian of the Common is a collection of case studies that attempt to explain the importance of pastoralism in the countries in which it is practiced. It addresses questions such as: Is pastoralism a dying tradition? Is it obsolete, inefficient and environmentally damaging? Should pastoralists of Africa be persuaded to settle down and engage in activities more relevant to the economic realities of the 21st Century? Different experts on pastoralism answer these questions in the negative and proceed to show how pastoralism is the only production system appropriate to the drylands of East and West Africa and their sustainability.

Charles Lane (1996). *Pastures Lost. Barabaig Economy, Resource Tenure, and the Alienation of their Land In Tanzania. Initiative Publishers, Nairobi, Kenya.*

This book explains the rationale of pastoralism and challenges the misconceptions about pastoralists being irrational hoarders of livestock with land tenure systems structurally incapable of efficient land use, using the Barabaig of Northern Tanzania as a case study. It interrogates the wisdom of large-scale wheat farming that alienated much of the land of the Barabaig, leading not only to greater vulnerability for the community but also to environmental degradation.

Civil Society Pastoral Task Force. *Strategizing for Inclusion of Pastoralists Concerns in the PEAP. Pastoralist Analysis workshop, July 28 – 29, 2003. Nile Resort, Jinja Uganda.*

This report decries the marginalization of pastoralists in Uganda in spite of their heavy presence in the 29 districts out of the 56 districts in the country. The report appreciates the pastoralists' contribution in the livestock sector as 90% of the nation's livestock products are supplied by pastoralists as opposed to 10% supplied by ranching and commercial dairy enterprises. In some districts in the Cattle corridor like Kotido, 50-65% of revenue accrues from pastoralism products and related activities. It argues the case for policy inclusion to address the needs of pastoralism in the context of the Poverty Eradication Action Plan.

Christopher B. Barret et al. *Constraints Limiting Marketed Livestock Offtake Rates Among Pastoralists. Research Brief 04-06-PARIMA, August 2004. Global Livestock CRSP.*

This article casts doubt on the prevailing wisdom about what limits offtake rates among pastoralists in the arid and semi-arid areas of East Africa. The authors find little empirical support for many of the claims commonly made and which inform the measures often proposed for stimulating livestock marketing offtake among pastoralists in the region. They conclude that the best strategy is to support viable pastoralism.

D.M. Nyariki and G. Kironchi. *Dryland Farming Economies in Kenya: Environmental, Technical and Policy Aspects. A consultancy Paper, Center for Governance and Development (CGD) Nairobi, Kenya. 2002.*

This paper appreciates the importance of agriculture in provision of food security and stimulation of growth. Given that 80% of the country is classified as arid and semi arid (ASAL), the development of ASAL is considered crucial since about 25% of Kenya's population and over 50% of its total livestock are found in these areas. The authors explore physical and socio-economic factors affecting dryland farming and looks at the agricultural sector reform policies as well as policy on dryland farming.

Hugo Verkuil. *The economics of pastoral households in the Ngorongoro Conservation Area in Tanzania. A paper submitted to Prof. H. Folmer, Department of General Economics, Institute of Behavioral Science, University of Colorado. June 1992.*

This paper attempts to understand and value the interaction between pastoral people and their environment, and to model the economic behavior of a specific pastoral group. The paper submits that subsistence economies can serve as examples for Western people and their economies in exploring how to respect nature and use it sustainably.

James McGregor and Ced Hesse. *Developing the economic argument for pastoralism in East Africa (IIED: forthcoming).*

The paper frames the economic argument for pastoralism by identifying the common preconceptions and misconceptions held by many decision-makers in Africa about pastoralists and their way of life. The paper also addresses the invisibility of pastoral contribution to the economy by attempting the segregation of economic statistics and employing economic valuations.

J.E.O. Rege, A. Kahi, M. Okomo-Adhiambo, J. Mwacharo and O. Hanotte. *Zebu cattle of Kenya: Uses, performance, farmer preferences and measures of genetic diversity. ILRI & KARI.*

This book explores the performance of Zebu cattle with an aim of improving the understanding and utilization of indigenous livestock breeds. The indigenous breed, which constitutes 77% of the total cattle population in Kenya is very important for subsistence and economic development of the country in that it provides essential food products, draught power and manure, and sustains employment and income for majority of Kenyans living in rural areas.

Leif Manger and Abdel Ghaffar M. (Edt.) *Pastoralists and Environment: Experiences from the Greater Horn of Africa. Proceedings of the regional workshops on African drylands, Addis Ababa and Jinja. OSSREA. 2000.*

This compilation contains important information relevant to pastoral development based in a broader view of resource management. It deals with issues facing pastoral and agro-pastoral societies in East African drylands. The papers reflect significant themes in the understanding of East African pastoralism

Madulu, N. F and Liwenga, E. *Economics of Pastoralism in East Africa: Tanzania component. Unpublished report. RECONCILE/IIED.2004.*

The paper looks at the contribution pastoralism makes to the Tanzania's economy by looking at the aggregated economic statistics such as the GDP and deductively estimating the portion attributable to pastoral livestock. It does this by looking at the conceptual analysis of what is meant by economic contribution and identifying and analyzing the type of information available in the country about economic contribution of pastoralism to local and national economies.

Muhereza, F. E and Sarah A. Ossiya. *Pastoralism in Uganda. People, Environment and Livestock: Challenges for the PEAP. Uganda National NGO Forum and Civil Society Pastoral Task Force. 2004.*

A report that points out the stark realities of Uganda's economy in which 29 out of 56 districts are part of cattle corridors and pastoralism contributes no less than 7.5% of the total GDP and 17% of the Agricultural GDP, yet the pastoralism have been ignored and dismissed as

unproductive. The PEAP 2004 provides a strategic entry point for addressing the historical bias against pastoralism.

Muhereza, F. E. *Economic contribution of Pastoralism in Uganda: An Assessment. Unpublished report. RECONCILE/IIED. September 2004.*

This report reviews economic data to help understand the complex nature of the economic contribution of pastoralism in Uganda. The economic contribution is assessed using available national statistics, mainly GDP and export revenue earning.

Nyariki, DM. *The Contribution of pastoralism to the local and national Economies in Kenya. A report for RECONCILE&IIED.*

This study establishes the contribution of pastoralism to the local and national economies in Kenya by exploring the nature and the degree of the contribution and the extent to which the existing policies can help in improving the economic contribution of pastoralism in the economy.

Peter D. Little, Kevin Smith, Barbara A. Cellarius, D. Layne Coppock and Christopher B. Barrett. *Avoiding Disaster: Diversification and Risk Management among East African Herders.*

This article addresses the processes of livelihood diversification among the pastoralists in the rangelands of northern Kenya and Southern Ethiopia. It looks at income diversification among the pastoralists with reference to the current literature and databases and presents a case study on pastoral income diversification based on preliminary field researches and shows how comparative analyses in the region have been constrained by theoretical and data deficiencies. The article explores ways in which income diversification differs by what are termed conditional, opportunity, and local response variables.

Republic of Tanzania. *The National Livestock Policy (Final Draft). Government of Tanzania. 2004.*

This policy provides the vision, mission and objective of the government in so far as the livestock matters are concerned. It identifies the problems in the livestock sector and proffers solutions.

Y. Ahmad. *The socio-economics of pastoralism: a commentary on changing techniques and strategies for livestock management.*

This is wide-ranging essay and deals with nomadic pastoral in the past and present. The author argues the case for programme and policy interventions that are multi-disciplinary, process-driven and focused on a minimum threshold of critical objectives

Yacob Aklifu, Patrick Irungu and Alemayehu. *An Audit of the livestock Marketing Status in Kenya, Ethiopia and Sudan. Vol.1 and II. PACE. April 2002.*

In this work market development is appreciated as a key factor in ensuring success of other development programs in pastoral areas. The study focuses on Kenya, Ethiopia and Sudan where marketing constraints and recurring droughts are adversely impacting on the livelihoods of pastoralists. The study seeks a better understanding of how existing marketing systems function in the three countries, their key constraints and potentials. It was commissioned to help develop a regional livestock marketing program to be implemented by OAU-IBAR and its partners, to redress some key constraints to livestock trade. This volume provides a simple descriptive account of how livestock, meat and hides and skins are marketed in the three countries; while Volume II analyzes the major issues involved with the resultant recommendations being incorporated into the marketing Program.

References

Kenya

Anderson, M. David and Vigdis, Broch-due. (Eds) 1999. The Poor are not Us: Poverty and Pastoralism in Eastern Africa. Oxford and Nairobi: James Currey and E.A.E.P

Behnke, R.M. (1987) Production rationales: The Commercialization of subsistence pastoralism. *Nomadic Peoples*. 14: 3-34

- Bekure, S, P. N. de Leeuw, and R. Nyambaka. (1991) The Long term Productivity of the Maasai livestock production system, in Bekure, S., de Leeuw, O.N., Grandin, B. E and Neate, P.J.H (Eds), Maasai herding: Analysis of the livestock production system os Maasai pastoralists in eastern Kajiado District, Kenya. ILCA Systems Study 4, Addis Ababa, Ethiopia
- Bonfiglioli, A.M. (1992) Pastoralists at cross- roads: Survival and development issues in Africa pastoralism. UNICEF/UNSO NOPA Project
- Campbell, D. J. 1978: "Coping with Drought in Maasailand: Pastoralists and Farmers of the Loitokitok area, Kajiado District" Working Paper No. 337. Institute of Development Studies. Nairobi.
- Dahl, G. 1979: "Ecology and Equality: The Borana case" in Pastoral Production and Society.
- Dahl, G. and Hjort, A. 1976: "Having Herds. Pastoral Herd Growth and House Hold Economy" Stockholm.
- David, M Anderson and Vigdis Broch-Due. 2000. Pastoralism in Eastern Africa. (Eastern Africa Studies)
- Dickson M. Nyariki. 2004. Contribution of Pastoralism to the Local and National Economies in Kenya. A report for RECONCILE
- Dyson – Hudson, N. 1991. "Pastoral Production Systems and Livestock development projects: an East African Perspective" In Cernea, M. M. (ed). Putting People First: Sociological Variables in Rural Development. A World Bank Publication. Oxford University Press.
- Evangelou, P. (1984). Livestock development in Kenya's Maasailand: Pastoralist transition to a market economy. Westview Press, Boulder, Colorado
- Future of Pastoral Peoples, 1981. Collected Papers from conference held in Nairobi, August 4 – 8, 1980. Eds. J. G. Galaty, D. Aronson, P.C Salzman and A. Chouinard, pub. By International Development Research Centre. Ottawa, 1981.
- Goldschmidt, W, 1981: The failure of Pastoral Economic Development Progress in Africa. In The Future of Pastoral Peoples
- Grandin, B.E and Lembuya (1987). The impact of the 1984 drought in Olkarka Group Ranch, Kajiado, Kenya. Pastoral Development Network Paper 23e, ODI, London.
- Halderman, J.M.1992: "An Analysis of continued semi-nomadism on the Kaputiei Maasai Group Ranches: Sociological and Ecological Factors" Occasional Paper no. 152, Institute of Development Studies. Nairobi
- Henriksen, G. 1974: Problems of development in Turkana" Occasional Paper no. 11, University of Berger.
- Herdrickson, D, J. Armon and R. Mearns (1998). Conflict and Vulnerability to famine: Livestock raiding in Turkana, Kenya. Issue Paper No. 8, IIED, London
- Herlocker, D. (ed) (1999). Rangeland Ecology and resource development in Eastern Africa. GTZ, Nairobi.
- Herskovits, M.J. (1926). The cattle complex in East Africa. American Anthropologist, 28: 230-272.
- John McPeak and Peter D. (Eds). 2006. Livestock Marketing in Eastern Africa: Research and Policy Challenges. ITDG
- Livingstone, I. 1979: "the Socio-economics of ranching in Kenya" in Research in Economic Anthropology, vol 2. Connecticut.
- McCabe, J. T. (1990). Success and failure: The breakdown of traditional coping institutions among the pastoral Turkana of Kenya. Journal of African and Asian Studies, 25 (3-4): 146-160.
- Michael F O'Leary. 1985. The Economics of Pastoralism in Northern Kenya: The Rendille and the Gabra. IPAI Technical Report.

- Mizutani, F, Muthiani, E, Kristjanson, P and Recke, H. 2005. Impact and Value of Wildlife in Pastoral Livestock Production Systems in Kenya. Possibilities for Healthy Ecosystem, Conservation and Livestock Development for the Poor.
- Mukhebi, a.W. and H.C. Knipscheer (1991). "The impact of food crop production on sustained livestock production in semi-arid regions of Kenya," *Agricultural Systems*, 35(3): 339-351
- Mwacharo, J M and Drucker, A. G. 2005. Production Objectives and Management Strategies of Livestock Keepers in South – East Kenya. Implications for breeding Programmes. ILRI.
- Nunow, A.A. (2000). Pastoralists and Markets: Livestock Commercialization and Food Security in North Eastern Kenya. PhD Dissertation. Universiteit van Amsterdam
- Nyariki, D.M and S. Wiggins (1999). Livestock as capital and tool for ex-ante and ex-post management of food insecurity in semi-traditional agropastoral societies: An Example from South-East Kenya. *Journal of Social Sciences*, 3(3):117-126.
- Nyariki, D.M. (1997). Resource availability and productivity, farmer efficiency and household food security in semi-arid Kenya. PhD Thesis. University of Reading, Reading, UK
- Nyariki, D.M. and R. K Munei (1993). Economic factors affecting the level of beef production from ranching: An example of Kenya's cattle sector. *East African Agricultural and Forestry Journal*, 59(2):163-170)
- Nyariki, D.M. and R.K Ngugi (2001). Contribution of livestock to food security in agropastoral systems: Cases from southeast Kenya, in Abdulrasak, S.A., Mwangi, D and Mukisira, E.A., The challenges of drought to livestock production in Kenya. Proceedings of the Animal Production Society of Kenya (APSK),7-8 March 2001, Egerton University Njoro, Kenya.
- Omiti, J. (2003). Development issues in pastoral areas: Setting the agenda for policy advocacy in Kenya, in Centre for Governance and Development (CGD), Kenya's agricultural sub-sectors: Policy challenges and opportunities.
- Omoro, A., H. Muriuki., M. Kenyanjui, M Owago and S. Staal (1999). The Kenya dairy sub-sector: A rapid appraisal. MOA/KARI/ILRI Smallholder Dairy Project Report, Nairobi
- Orre, S. (2003). Marketing of sheep and goats and its role in household food security among the pastoral communities in Marsabit District, Kenya. Msc. Thesis, University of Nairobi. Nairobi.
- Pasha, I.K. (1986). Evolution and Individuation of group ranches in Maasai land, in Hansen R.M., Woie, B.M and Child, R.D (Eds), Range development and research in Kenya. Proceedings of a conference, Egerton College, Njoro, Kenya.
- Peter D. 1980. The Socio-economic aspects of Pastoralism and Livestock Development in Eastern and Southern Africa: An annotated bibliography. Land Tenure Centre Special Bibliography.
- Pratt, D.J. and M.D. Gwynne (1997). Range Management and Ecology in East Africa. Hodder and Stoughton, London.
- Republic of Kenya (2000). Livestock marketing from pastoral areas: A strategy for pastoral development. A Report by Arid Lands Resources Management Project (ALRMP) in conjunction with SNV, OXFAM and World Concern. Office of the President, Nairobi
- Republic of Kenya (2001). Kenya dairy development population and consumption projections to the year 2025. Draft technical paper, Ministry of Agriculture, Nairobi.
- Republic of Kenya (2002). Economic survey. Central bureau of Statistics (CBS), Ministry of planning and national development, Nairobi.
- Republic of Kenya. (2003). Economic Recovery Strategy for Wealth and Employment Creation, 2003- 2007. Nairobi: Ministry of Planning and National Development
- Sansoucy, R, M. A Jabbar, S. Ehui and H. Fitzhugh. 1995. The contribution of Livestock to food security and sustainable development, In proceedings of the joint FAO/ ILRI Round table on Livestock development strategies for low income countries. 27th Feb- 2nd March.1995. ILRI, Addis Ababa. Ethiopia

Stanley Price, M. R. 1979: "The Rangelands: Pastoralism and Ranching" from the workshop on Development of Kenya's Semi-arid areas. Institute of Development Studies, Nairobi.

Todaro, M. P. 1985. Economic development in the Third World, 3rd edition. Longman. New York

Widstrand, C. G. 1975. The Rationale of Nomad Economy. *Ambio*. pp. 146-153

Workman, J. P. 1977. In Defence of nomads. *Mazingira*, 2 : 26-30

Zaal, Fred. (1999). Pastoralism in a global age: Livestock marketing and pastoral commercialization activities in Kenya and Burkina Faso. Amsterdam: THELA THESIS.

Uganda

Broch-Due, Vigdis and David Anderson, "Poverty and Pastoralists: Deconstructing myths, reconstructing realities", in David Anderson, M. David and Vigdis, Broch-Due. (Eds.) 1999. *The Poor are not Us: Poverty and Pastoralism in Eastern Africa*. Oxford and Nairobi: James Currey and E.A.E.P

Broch-Due, Vigdis, "Remembered cattle, forgotten people: The Morality of Exchange and exclusion of the Turkana Poor", in Anderson, M. David and Vigdis, Broch-Due. (Eds.) 1999. *The Poor are not Us: Poverty and Pastoralism in Eastern Africa*. Oxford and Nairobi: James Currey and E.A.E.P.

Civil society Pastoralist Task Force. 2003. Strategizing for inclusion of pastoralists concerns in the PEAP. A report of Pastoralists Workshop, held at Nile Resort Hotel, Jinja, 28-29 July 2003. Kampala: civil society pastoralist Task Force.

CSOPNU. 2003. "Proposal by the Civil Society Organizations for Peace in Northern Uganda (CSOPNU) for the Security, conflict Reduction and Disaster Management sector for Poverty Eradication Action plan revision", on behalf of CSOs engaged in PEAP 2001 Revision Process, September 2003.

Davoux, Dominique. 1999. Analysis of the enterprises, trade and credit sectors in Kasese District. Belgian Administration for development co-operation (BADC) and Kasese District Administration. Final Report, April 1999. Mimeo

Dorsey, Jeff and Steven, Opeitum. 2002. "The net economic cost of the Acholiland sub-region of Uganda", A study commissioned by Civil Society Organizations for Peace in Northern Uganda (CSOPNU), Kampala September 2002.

Dyson-Hudson, N. 1991. "Pastoral production systems and livestock development projects: An East African Perspective", in Cernea. M.M. (ed.) *Putting People First: Sociological Variables in Rural Development*. A World Bank Publication. Oxford University Press.

Emerton, L. and E. Muramira. (1999). *Uganda Biodiversity: Economic Assessment*. Prepared with NEMA as part of Uganda National Biodiversity Strategy and action plan. Nairobi: IUCN

Galaty, J. G., Aranson, D. and Salzaman, C.P, (eds.) 1981. *The Future of Pastoral Peoples*, Proceedings of a Conference held in Nairobi, Kenya, 4-5 August 1980. International Development Research Centre: Ottawa, Canada.

Gibson, C., Banana, A. Y., and Ntambirweki, J. (1998) *Common Property Resources Management in East Africa*. Ford Foundation and United Nations University

Government of the Republic of Uganda. 2001. "Government Intervention to promote production, processing and marketing of selected Strategic Exports" Kampala, September 2001, Mimeo.

Government of the Republic of Uganda. 2002. *Strategic Exports in Uganda: Performance and Growth Prospects*, A synthesis Report. Kampala: MFPED, Mimeo.

K2 Consult. 2001. *Dairy Sector Supply, Demand and Competitiveness Study*. Kampala: K2 Consult (U) Ltd, Mimeo

King, Allan. 2002. Joint donor Agencies study on the performance of and growth prospects for strategic exports in Uganda. A case study of livestock, hides, skins and leather products. Kampala: Delegations of the European Commission, Uganda

King, Allan. 2002a. Joint donor Agencies study on the performance of and growth prospects for strategic exports in Uganda. A case study of Milk and milk products. Kampala: Delegation of the European Commission, Uganda

King, Allan. 2002b. Joint donor Agencies study on the performance of and growth prospects for strategic exports in Uganda. Annex to Case study on livestock and livestock products. Kampala: Delegation of the European Commission, Uganda

Mugarura, S. (2001). Pastoral Livestock Marketing: Structure, Performance and Constraints among the Bahima of Luwero, Uganda. M.Sc. Thesis, University of Nairobi. Nairobi.

Muhereza, E F. and P.O. Otim. (2000). Pastoral Resource Competition in Uganda: Case Studies into Commercial Livestock Ranching and Pastoral Institutions. Utrecht: International Books, in association with OSSREA.

Muhereza, E. F. and S.A. Ossiya. (2004). Pastoralism in Uganda –People, Environment and Livestock: Challenges for the PEAP. Kampala: Uganda National NGO Forum and Civil Society Pastoral Task Force.

Muhereza, E.F., 1997b. "Cross-border Grazing and Challenges for Development in the Dryland areas of Eastern Africa: the case of Karamoja". Paper presented at an International Conference on "Economic Integration and Transboundary Resources" organized by the Ethiopian International Institute for Peace and Development, held in Addis Ababa, Ethiopia, September 1997, mimeo

Oxfam, GB. (2002). Impact of the Livestock Market Ban on Pastoral Livelihoods and Economy. Oxfam, GB: Kitido, Karamoja, mimeo

Oxfam, GB. (2003). "An Analysis of factors affecting Livestock market Access in Nakasongola, Kotido and Sembabule Districts". A Study carried by Frank Emmanuel Muhereza for Oxfam, GB (Uganda) Kampala.

Tanzania

Ackello –Ogutu, C. and P.N Echessah (1997). Unrecorded Cross border Trade between Tanzania and the Neighbours. Implications for Food Security, REDSO/ESA. Regional Trade Analytic Studies.

Homewood, K. M. and A. Rodgers (1991). Maasailand Ecology: Pastoralist Development and Wildlife Conservation in Ngorongoro, Tanzania. Cambridge University Press. Cambridge

Republic of Tanzania. National Livestock Policy (Final Draft). Government of Tanzania.