

Squandered wealth: a global economic review of pastoralism¹

- **Mobile pastoralism is an economically viable land use system for the world's drylands, but its direct value is often in dairy and fibre rather than meat: policies must be developed to enhance pastoralism, rather than to substitute it with less resilient systems.**
- **Enhancing the economic and environmental sustainability of drylands production cannot be achieved through sectoral policy change alone and changes are needed in a range of policies that constrain pastoralism.**
- **Pastoralism has multiple values, some direct and some indirect: conversely, substitution of pastoralism comes with multiple costs.**

Are the World's 200 million pastoralists mindless hoarders of livestock with no capacity to manage their resource base, and no interest in markets and modernity? Or are they sophisticated managers of complex environments with a propensity to survive and adapt? Negative perceptions of pastoral economics have been a driving force behind rangeland policies that have undermined pastoral resilience, reduced their adaptive capacity, weakened their livelihoods and led to degradation of their resource base. Efforts to 'modernise' pastoralists, through aggressive promotion of settlement, cultivation and inappropriate education, have had the perverse effect of increasing vulnerability and poverty, reducing sustainability of pastoral production and leaving pastoralists marginalised and economically disadvantaged.

Pastoralism, the raising of livestock in extensive systems using mobility as a management tool, is an adaptation to marginal environments that are characterized by climatic uncertainty and low, and highly variable, biomass productivity. In such environments, the only appropriate management system is opportunistic: to go where the resources are, and harvest them when they are available. It is increasingly recognised that mobile livestock production is vital for drylands ecosystem health, and many rangelands are grazing dependent. Rangelands degradation is seen around settlements, water points and markets, where livestock congregate, but in the wider rangelands, where mobility is less restricted, and especially where customary institutions are able to exercise their management responsibilities, such degradation is not common.

However, many grazing systems have been weakened through policies developed in the understanding that pastoralism is archaic and economically irrational, and in need of modernisation or replacement. Production systems that have been put forward as a 'modern' alternative to pastoralism have been shown to be less productive and more environmentally harmful. By dismissing pastoralism as unproductive, development planners have invested scarce resources in alternative production systems that are less economically viable and less environmentally sustainable.



Pastoral flock: Spain

A Global Economic Review of Pastoralism²

Pastoralism is central to the livelihoods and wellbeing of millions of the world's poor, but the state of knowledge regarding this sector of the economy is often weak. In most countries, pastoralism is practiced for the production of 'live goods', particularly milk or fibre, with meat as a secondary product, yet policy is often oriented towards the production of meat. Comparison shows that 'live goods' systems are significantly more productive than meat systems in rangeland environments, and pastoralists can obtain over two and a half times more energy from combined meat and milk offtake than from meat offtake alone³.

Market engagement of pastoralists is much higher than is commonly accepted, and the contribution of pastoralism to developing country economies is often highly significant. Nevertheless, most pastoralists face major economic constraints, including high transaction costs, poor infrastructure and financial services, low education levels, and excessive government bureaucracy and fees.

¹ This policy note does not necessarily reflect the official view of the GEF, UNDP or IUCN.

² A report entitled "Global Economic Review of Pastoralism" is available at the WISP website (www.iucn.org/wisp), and contains a full list of literary references.

³ Western & Finch 1986. Cattle and pastoralism: survival and production in arid lands. *Human Ecol.*, 14(1): 77-94.

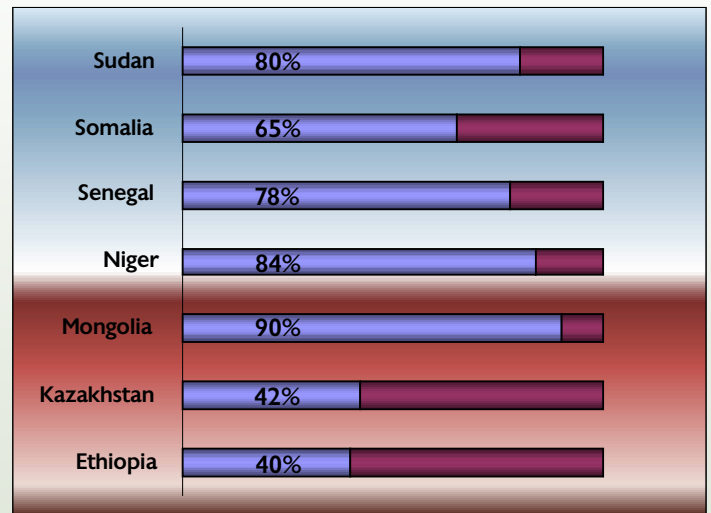
Failure to consult pastoralists over development planning and policy contributes to the perpetuation of inappropriate policies in many countries: policies that weaken the pastoral economy and aggravate rangelands degradation. Policies that favour agricultural expansion and intensification squeeze pastoralists, and when overgrazing results from the loss of vital resources, pastoralists are accused of irrationality. Many pastoralists are constrained by poor social service delivery, low literacy levels, poor governance, weak security over land tenure, absence of basic infrastructure and financial services, and sometimes by insecurity. In many instances, development of pastoralist landscapes is low on national agendas and receives relatively low investment, compared to higher potential and urban areas.

The combination of poor understanding of rangeland environments by policy makers and weak dialogue with producers is, in many countries, a driver of the trend towards intensification of rangeland livestock production, particularly the orientation towards meat production. This is influenced by a growing demand for livestock products as a result of population growth and urbanisation. However, in the drive for increased livestock offtake, this intensification may present an overall loss in productivity of the rangelands, whilst presenting a whole new range of environmental costs. The magnitude of these various losses are not well measured, since in many pastoral societies, much of the economy is internal and overlooked by official surveys and statistics, whilst many of the indirect costs are complex and poorly understood.

A comparison between ranching and pastoral production systems in Africa⁴ show that, even in terms of direct products alone, pastoralism is from two to ten times more productive than commercial ranching under the same conditions. Australian Northern Territory ranches only realize 16% of the energy and 30% of the protein per hectare of Ethiopia's Borana pastoral system, whilst Mali's transhumant pastoral systems yield at least two times the protein per hectare of ranches in the US and Australia.



Cashmere from pastoral systems: Kyrgyzstan



Estimated contributions of pastoralism to agricultural GDP

Holistically valuing complexity

Pastoral systems are more than simply a mode of livestock production. They are also consumption systems that support 100-200 million mobile pastoralists globally: many more if extensive agro-pastoralists are included. They are natural resource management systems that provide a wide range of services and products that are nationally and globally valued, such as biodiversity, tourism and raw materials.

Policy decisions that affect pastoralists and drylands can only be made effectively if the existing value of pastoralism is well understood. However, there are multiple values associated with pastoralism: some are directly accrued and some are indirect; some can be measured but many cannot; and those that can be measured are often underestimated.

Direct values

Direct values consist of measurable products and outputs such as milk, fibre, meat and hides. They also include less easily measured values such as employment, transport, knowledge and skills. Pastoral production yields a wide range of livestock products depending on the context and the demands of the producer, and depending on the mix of livestock species that are herded. Despite widespread underinvestment by the government and private sector, pastoralists routinely engage in marketing of livestock and livestock products, to domestic as well as international markets, and through both formal and informal channels.

A study by IIED and Reconcile of the contribution of pastoralist cattle to the nyama choma (roast meat) industry in Arusha, Tanzania, demonstrates an annual turnover of US\$86million, and each head of cattle slaughtered contributes 0.24 full time jobs, supports 1.07 dependents, and provides US\$172 in value added to the Tanzanian economy⁵.

⁴ Scoones, 1995. *New Directions in Pastoral Development in Africa. Living with Uncertainty*. London: IT Publications.

⁵ Letara, MacGregor and Hesse, 2006. *Estimating the economics significance of pastoralism: the example of the nyama choma industry in Tanzania*. Pastoral Civil Society in Eastern Africa, November 2006.

Pastoralists make significant contributions to national economies and export earnings, particularly in developing countries. Opportunities are growing for pastoralists to exploit niche markets, such as cashmere fibre in Asia, alpaca fibre in the Andes and camel milk in Eastern Africa. With the growing global demand for livestock products and an increasing globalisation of trade and communications, pastoralists have many opportunities for raising productivity. However, in many countries there is a dearth of even the most basic information on the direct economic contribution of pastoralists. Data collection is hampered by the informality of trade in many pastoral areas, exacerbated by low investment in markets, and the tendency of many governments to focus on regulation and taxation.

Healthy rangelands are of value to many more stakeholders than pastoralists: they provide benefits to tourists and the tourism industry; they provide a range of natural products (gums, resins and henna for example) that are consumed far beyond rangeland boundaries; and they provide ecosystem services that have global benefits such as the replenishment of watersheds or the sequestration of carbon. Yet pastoralists are rarely remunerated for protecting these goods and services, and the eradication of pastoralism through neglect, expropriation of land or conversion of rangelands for other uses runs the serious risk of eradicating these goods and services too. Of particular concern is the expropriation and conversion of key localised 'resource patches', which may constitute a small fraction of a dryland ecosystem but which make survival and prosperity possible across the whole system.



Pastoralist dairy products:
Mauritania



Alpaca wool: Peru

Measuring value in pastoral systems

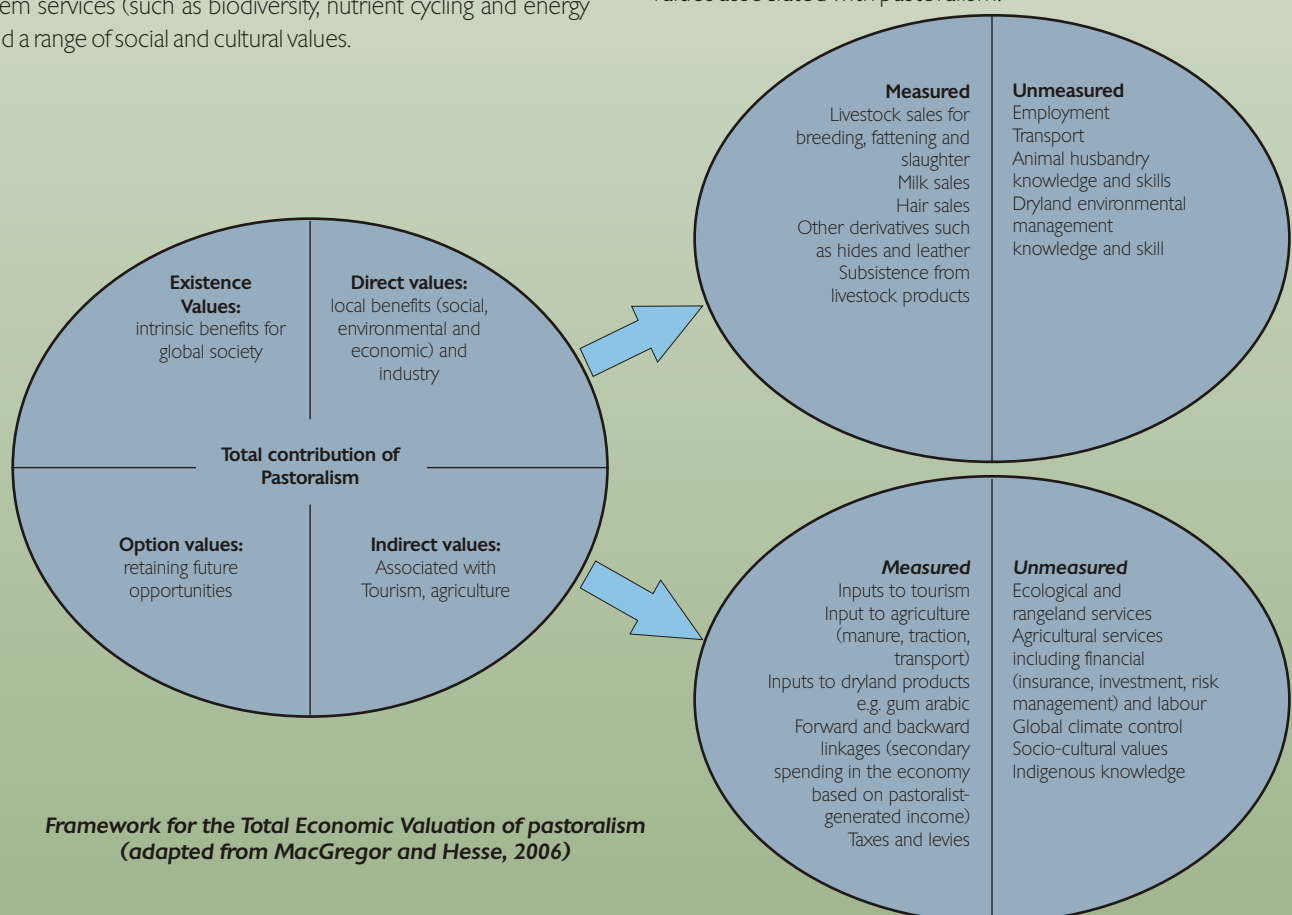
In terms of appreciating the true value of pastoralism, numerous challenges remain:

1. Data is scarce regarding the value of sales and consumption of livestock and livestock products;
2. Indirect values associated with pastoralism, such as tourism, the market chain, and ecosystem health, are poorly understood;
3. The social and cultural values of livestock and livestock products, including the value of social capital, are rarely measured.

Indirect values

Indirect values of pastoralism include tangible values such as inputs into agriculture (manure, traction and transport), and complementary products such as gum arabic, honey, medicinal plants, wildlife and tourism. They also include less tangible values, such as financial services (investment, insurance, credit and risk management), ecosystem services (such as biodiversity, nutrient cycling and energy flow) and a range of social and cultural values.

However, these details need to be understood if the costs of modernisation or conversion of rangelands and rich resource patches are to be recognised. The Total Economic Valuation framework⁶ provides a good tool for capturing the wide range of values associated with pastoralism.



⁶ Pastoralism: drylands invisible asset? Hesse and MacGregor 2006. IIED Issue Paper 142.

Protecting and enhancing pastoral wealth

Mobile pastoralism may be the most economically viable land use system for the world's drylands, but its direct value is often in dairy and fibre rather than meat: policies must be developed to enhance pastoralism, rather than to substitute it with less resilient systems.

Greater technical insight is, nevertheless, needed and changes in the understanding of range ecology raises the urgency of training a new generation of range managers that can combine technical knowledge with socio-economic analysis.

Policy must be informed by the real values associated with pastoralism and by an understanding that it is an economically viable means of production. Pastoralism is an important contributor to many developing country economies and could be even more significant with appropriate policy support and by removing disincentives.

Camel milk is an under-exploited commodity in many pastoralist systems, yet the global market for camel milk, most of which is produced in drylands areas, is estimated at 10 billion US\$, with 200 million customers in the Arab world alone (FAO, 2006). Noticeably, the two countries with a dominant pastoralist population and a large national camel herd, Somalia and Mauritania, have both successfully established commercial camel milk enterprises that collect milk from fully mobile producers.

Enhancing the economic and environmental sustainability of drylands production cannot be achieved through sectoral policy change alone and changes are needed in a range of policies that constrain pastoralism.

Without changes in health and education policies, pastoralists will still face major challenges to enhancing their production, overcoming their poverty, and adding value to pastoral activities. Appropriate development in the drylands requires pastoralists themselves to be sufficiently empowered to influence policy and implementation on the national stage.

Policy change and support needs to be relevant to the economic and land use management values of pastoralism. Policy processes should be less concerned with what technical options are applied than with how technical and institutional reforms are brought about. A participatory policy development process should be encouraged to accommodate the needs of different stakeholders and to connect researchers and institutions with the pastoralist reality.

In Kenya, the literacy rate amongst pastoralists is below 20 per cent, yet the national average is 69 per cent, and there are only 2.2 doctors per thousand people compared with 15 per 1000 nationally (Birch and Shuria, 2001). In the Afar region of Ethiopia, overall adult literacy rates were 25% in 1999, but in the rural pastoralist areas they were only 8% (UNESCO, 2005).

Pastoralism has multiple values: conversely, substitution of pastoralism comes with multiple costs.

Environmental services (such as carbon sequestration, protection of biodiversity and combating desertification) are increasingly valued in the global context. These services can be enhanced by mobile pastoralism, and lost when pastoralism is constrained and replaced. When rich patch vegetation areas, such as riparian strips and forests, are removed from the pastoral system, a significant opportunity cost is incurred in the form of lost economic and environmental viability in the wider rangelands.

Valuation of the diverse goods and services of pastoralism does not necessarily imply monetisation and there are important values that cannot be reduced to such terms. Using a holistic approach such as Total Economic Valuation, the full range of benefits from pastoralism can be brought into consideration, whether or not they have a monetary value.

In Mongolia, pastoralism has been re-enabled through government support for community decision making over natural resource management and mobility. As a direct result, extensive areas of rangelands have been rehabilitated, environmental condition has been improved, infrastructure has been maintained and resource access has been improved. This conservation, as a result of enhancement of pastoralism, has raised incomes by more than 100% and has halved the number of poor households (NZNI, 2006).



Pastoral flock: Uganda

Hidden value, hidden cost

Mobile pastoralism is the most sustainable way to manage the World's rangelands, and alternative land-uses come at an environmental and an economic cost. The magnitude of those costs is not properly understood, and they may well be incurred with many people not noticing. If countries that possess significant rangelands desire to reverse desertification and overcome poverty, then it is crucial that they recognise the environmental logic of mobile pastoralism and its great economic potential.

Misunderstanding of rangelands ecosystems, and the unique adaptive characteristics of pastoralism, has led to impoverishment and desertification in some countries. Yet such phenomena are far from universal and an increasing number of countries, such as Spain, Switzerland and Mongolia, recognise the environmental importance of pastoralism and have implemented measures to ensure its protection. This trend must continue if rangelands environments are to be protected and if countries are to avoid incurring unnecessary costs that could set back their development.