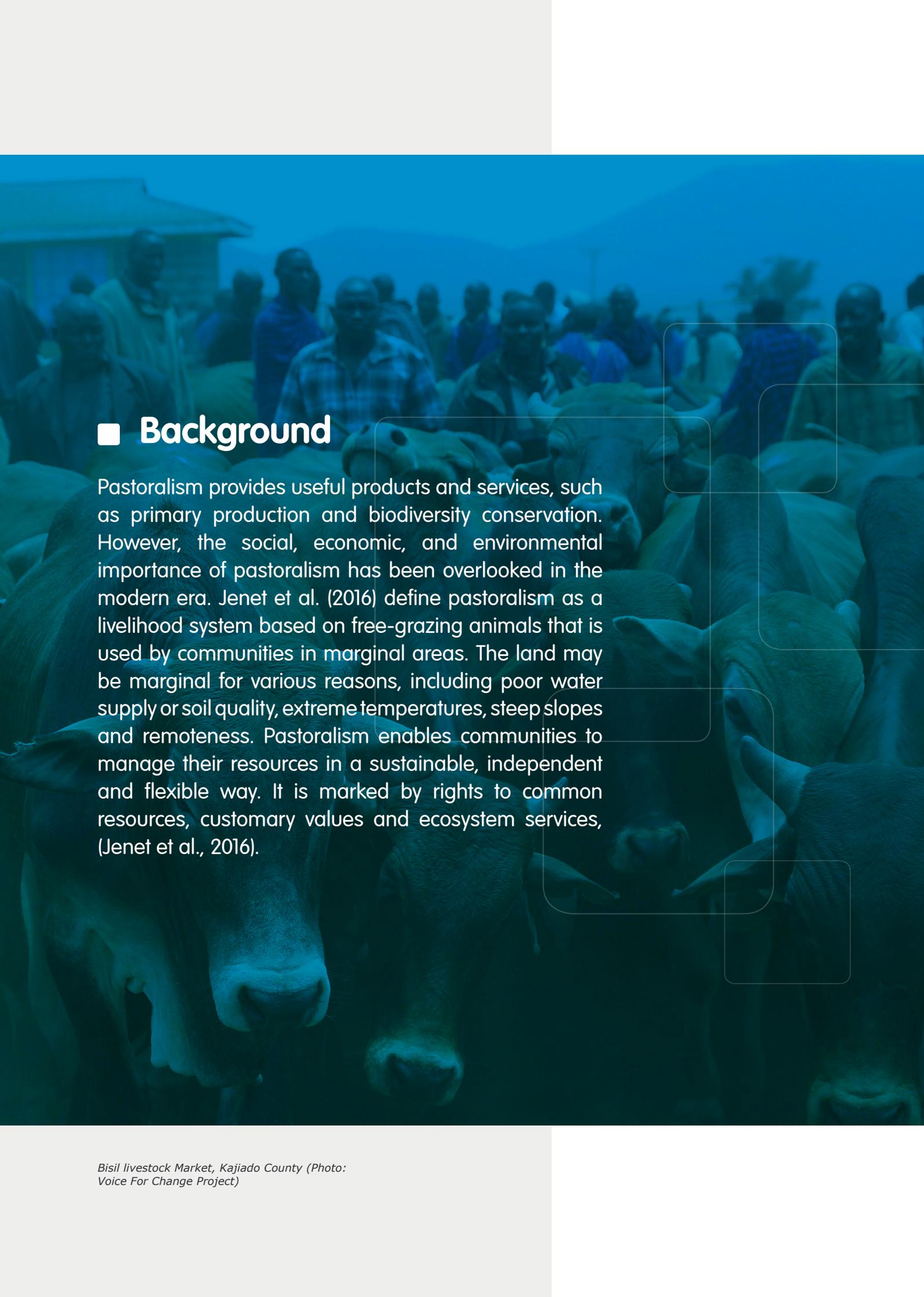




# Economic Benefits of Pastoralism

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## ■ Background

Pastoralism provides useful products and services, such as primary production and biodiversity conservation. However, the social, economic, and environmental importance of pastoralism has been overlooked in the modern era. Jenet et al. (2016) define pastoralism as a livelihood system based on free-grazing animals that is used by communities in marginal areas. The land may be marginal for various reasons, including poor water supply or soil quality, extreme temperatures, steep slopes and remoteness. Pastoralism enables communities to manage their resources in a sustainable, independent and flexible way. It is marked by rights to common resources, customary values and ecosystem services, (Jenet et al., 2016).



## ■ Importance of pastoralism to the Kenyan economy

Pastoralism is important not only for sale of meat, milk and byproducts and leather products from herding (Hesse and MacGregor, 2006), but also for the social, safety and ecological advantages. It is an efficient production system that tries to maximize productivity by exploiting grazing imbalances. Examples of the direct economic values of pastoralism are:

- Income from the sale of pastoral products (meat, milk, leather and hides)
- The stimulation of considerable national, sub-regional and international livestock trade
- Provision of raw materials for local industries (dairy and nonwood forest products such as gum arabic).

Apart from the economic benefits of pastoralism to national wealth, it provides other indirect services that are rarely measured. Pastoralism is a social asset because it is rich in important knowledge that is spread within society and along transhumance routes. It is also one of the production systems with the most diverse environmental benefits. These environmental benefits include exploiting natural areas unsuited to other activities; eliminating dead biomass at the end of the dry season; and preparing the land to supply new grasses. Pastoralism also helps play a role in natural land fertilization and facilitates water penetration into the soil through animals trampling the ground. Transhumance also enables the transportation of seeds to increase plant biodiversity. Pastoral systems do not require investment in clearing land or buying fences, costly surveillance systems and chemical products to regulate the ecosystem, (Hesse and MacGregor, 2006). Pastoralists are also custodians of key national resources found in arid and semi-arid areas and as a system, pastoralism helps to protect and safeguard these resources (Behnke, 2010).

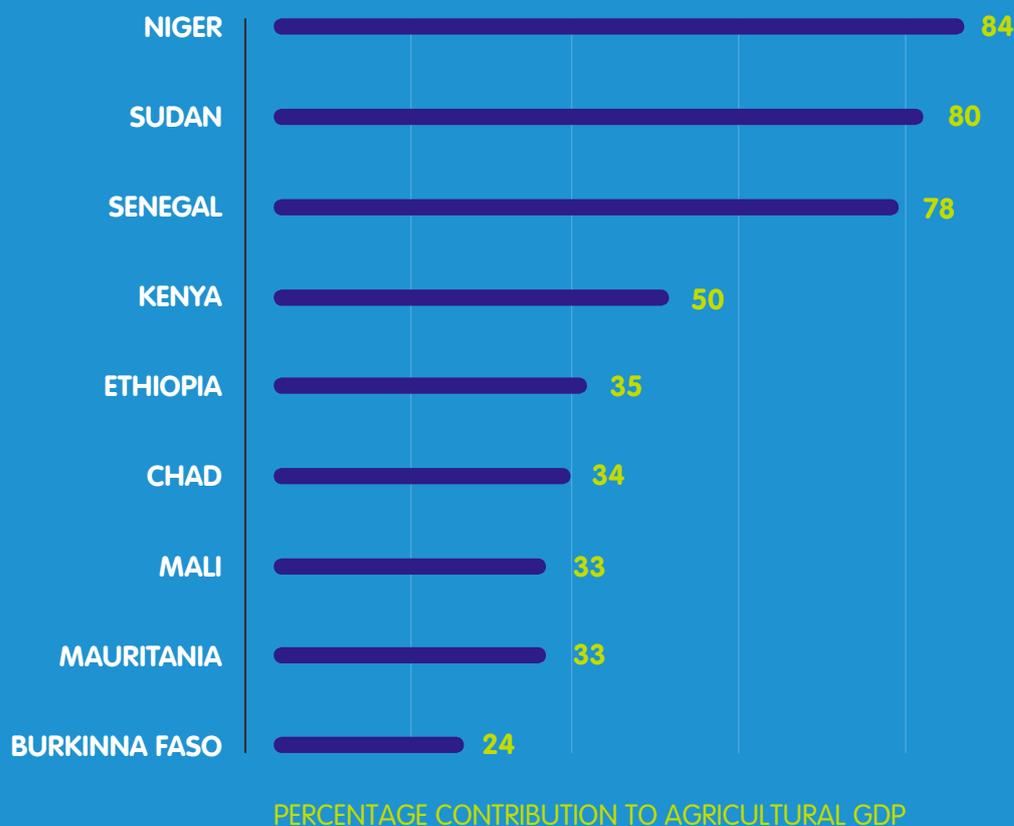
Dryland areas are not viable for rainfed agriculture and therefore, pastoralism is a production system most appropriate to these areas. Pastoralism also provides various services to both the agriculture and other sectors. Some of the services supplied by pastoralism to the agriculture sector are animal traction, fertilizer and labour. These services result directly in increased agricultural yields and environmental benefits. Pastoralism also provides many jobs for pastoral communities and other actors involved in livestock marketing circuits and value chains for other products (Hérault, 2010).

## ■ Status of pastoralism in Kenya

Rangelands in Kenya cover just over 500 thousand square kilometres, representing 88% of the land surface of the country (Ogutu et al., 2016). Kenya's rangelands are hot, semi-arid or arid with highly variable rainfall, often averaging less than 600 mm per year. They are therefore susceptible to drought and less suitable for sustainable crop production. In Kenya the 2009 census indicated that the rangelands were home to 32.6% of the country's population;

most of these are pastoral communities (Ogutu et al., 2016). More than 70% of Kenya's livestock populations are found on these rangelands.

While there is limited data on the contribution of pastoralism to Gross Domestic Product (GDP), available information points to the fact Kenya is among the countries where pastoralism contributes significantly to both Agriculture and national GDP.



In Kenya, pastoralism contributes 10% of the national GDP and about 50% of the agricultural GDP, which in turn contributes about 25% of the national GDP. Pastoralists are estimated to hold over 60% of the national livestock herd, with a monetary value of between KES 60 and 70 billion (Behnke, 2011). More than 80% of the beef consumed in Kenya is produced by pastoralists, either domestically or in neighbouring countries from which the animals are imported on the hoof, mainly through informal channels (AU, 2010). Offtake rates from pastoralists' herds are estimated

at 6–14% for cattle, 1–3% for camels and 4–10% for sheep and goats. This translates to 220,130–513,630 head of cattle, 9,250–28,000 camels, 231,960–597,000 goats, and sheep removed from pastoral herds annually. The value attached to these range from KES 5 to 8 billion, (Nyariki et al., 2004). In spite of this, the national statistics on the production of livestock products such as beef, milk, hides and skins do not indicate what comes out of the pastoral sector, hence the contribution of pastoralism to the national economy of Kenya is not correctly represented.

## ■ Impact of recent floods and droughts

Recent incidents of floods had devastating consequences. For example, in March 2018 the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) indicated that floods had displaced more than 211,000 people and reportedly killed 72 people and injured 33 across Kenya. The most affected counties were Turkana, Tana River, Garissa, Isiolo, Kisumu, Taita, Mandera, Wajir, Marsabit, West Pokot, Samburu and Narok, according to the OCHA report, (OCHA, 2018). Such floods lead to livestock deaths, destruction of houses and damage to infrastructure, such as roads and health facilities.

Droughts have also become increasingly severe during the last decade, with rainfall totals of at least 50–75% below normal encountered in most areas,

amounts that are not sufficient to support crop and pasture growth for livelihood security (Nicholson, 2014). Kenya's pastoral areas, which have faced increasing drought frequency and intensity since the 1960s, are among the most vulnerable and drought-prone regions in the country (Nkedianye et al., 2011). Droughts have caused significant impacts in most of the climate sensitive sectors in Kenya. In the pastoral areas, frequent droughts are associated with the deterioration of livestock condition, increased incidence of certain diseases and livestock deaths, altered herd composition, and a collapse of livestock markets (Speranza, 2010). Because of the droughts, a high level of livestock mortality has become the norm in most pastoral areas in Kenya.

## ■ Current challenges that pastoralism faces

- **Under-appreciation of economic value of pastoralism**

The IUCN/IIED studies generally found that pastoralism is rarely visible in the national data and therefore likely to be greatly undervalued. They showed that even one of the best monitored categories of direct value, livestock exports, can remain substantially hidden behind practices of adjustments to cope with severe but poorly enforced government restrictions on cross-border trade (with cross-border trade labelled as “smuggling”, its economic value goes unrecognized). An important but unknown proportion of the pastoral economy does not pass through official markets but occurs within the community and through unofficial trade, including cross-border trade in Kenya. Furthermore, the total national value of milk and meat consumed within the pastoral family and the labour supplied for managing livestock are unknown. In practice, statistical compilations tend to be based on assumptions, estimates and best guesses by a range of people. Data collection also fails to distinguish gender or capture the economic contribution of women pastoralists through dairying, provision of labour and collection of non-timber forest products.

Data that is collected mainly focuses on the livestock sector, ignoring the economic contribution of other key resources within pastoralism (e.g., non-timber

forest products). Furthermore, not only does the data fail to distinguish between the relative contributions of different livestock production systems (e.g., ranching, dairying, pastoralism), statistics are largely collected on cattle with little information available to demonstrate the economic outputs of sheep, goats and camels, key resources in many pastoral economies and a major source of trade both within and outside the region. Information on the contribution of donkeys is also virtually non-existent (COMESA, 2010). Pastureland is also used for recreational activities, and for collecting items such as firewood, gum, incense and wild fruits. These items are important to pastoralists but tend to be undervalued and are ignored in economic appreciation of pastoralism.

- **Under-appreciation of the environmental benefits and overemphasis on the negative impacts**

Pastoralism has evolved to sustainably manage dryland environments. Most of the non-viability and unsustainability that outsiders see in the livelihood has come not from pastoralism or even the environment, but from government policies. Critics of pastoralism have mainly argued that it is inherently destructive to the environment and causes desertification because of the “tragedy of the commons” (Hardin's 1968). Pastoralism does not necessarily degrade the

environment and can deliver positive environmental benefits. Through grazing, pastoralism directly benefits environment in several ways (see Box 1).

- **Tendency of governments to see drylands/rangelands as underutilized and hence available for other uses**

In many countries pastoralism has been replaced to varying degrees because many governments tend to see drylands as underutilized and therefore available

for other uses. When a hectare of irrigable land is taken out of the pastoral system, its opportunity cost is not simply the cost of that irrigated hectare of pasture, but the tens of hectares of dryland pasture that have been rendered inaccessible (Hatfield and Davies, 2006). Indirect opportunity costs associated with alternatives to pastoralism include the loss of social security mechanisms, which could be measured by the cost of providing food aid to pastoralists whose livelihoods have been undermined or the cost

### Box 1: Positive effects of grazing

- Reduces the quantity of dead material accumulating on the soil surface.
- Opens up pasture; opened up pasture harbours fewer pests.
- Stimulates vegetation growth, especially grasses.
- Provides dung, a source of fertilizer.
- Hoof action/trampling breaks the soil crust, enhancing water infiltration into soil.
- Helps in seed dispersal, thus maintaining pasture diversity.
- Enhances pasture seed germination for seeds that go through the animal gut.
- Prevents bush encroachment when properly managed.
- Enhances cycling of nutrients through the ecosystem—higher soil carbon fixation in soil managed under livestock production system helps in sequestration
- Biodiversity conservation and preservation of wildlife biodiversity

of soil erosion from dryland cultivation (e.g., wheat production in Kenya). Indirect opportunity costs also would include the loss of the rangelands capacity to support people as pastoralism is replaced with less productive alternatives, such as ranching. This cost occurs in the form of unemployment and migration to settlements and urban slums.

A more holistic approach is required to value all uses of the drylands, to allow more balanced comparison between pastoralism and alternative land uses, and to provide the arguments for reducing opportunity costs of alternative development plans. This would allow more economically rational decisions to be made, including producing synergies between pastoralism and alternative land uses (Hatfield and Davies, 2006).

- **Historical marginalization of pastoral communities**

Pastoralists are the most politically marginalized group in East Africa (Oxfam, 2008). This has led to non-responsive and unaccountable institutions, and politicians and policy makers lacking the will and

incentives to include pastoralist interests in national policy debates. In Kenya, the roots of the historical marginalization of pastoralists go back to the model of political economy adopted by the colonial regime. The north—formally called the Northern Frontier District (NFD)—was also governed under different and more authoritarian measures than the Kenya colony (Aukot, 2008; Hassan, 2008). The region's prolonged isolation starved it of investment and led to the inequalities evident today. There was also continuity between pre and post-independence administrations in the pattern of economic development and resource distribution. For example, the Sessional Paper No. 10 of 1965, argued that public funds should be invested in places where yields would be greater, in those with "abundant natural resources, good land and rainfall, transport and power facilities and people receptive to and active in development".

Their prior exclusion from development ("transport and power facilities") now classified them a poor return on investment, while the interpretation of "potential" in agro-ecological terms ("good land 3 and rainfall")

reinforced a presumption that highland crop farming must be more productive than lowland livestock farming. These biases persist, despite research which demonstrates that livestock production contributes almost as much as crop production to agricultural GDP (Behnke and Muthami, 2011). The region's

history shows that its present-day vulnerabilities are not the product of its production system but rather of conscious political choices taken in the past.

## ■ Supporting climate resilient pastoralism in Kenya

### **Productivity enhancement**

The main intention of productivity enhancement is to increase total supply of the pastoral value chains to ensure consistent, reliable and timely streams of produce to the markets. Sufficient and stable feed supply is important for sustaining productive and efficient livestock systems (Richards et al., 2016). To ensure the feed supply in the pastoral areas is stable, it is important to improve grassland management. This will influence the rate at which grasses grow and are removed, which affects carbon storage in soils (Herrero et al., 2016). Grassland management practices that promote soil carbon accumulation include improved nutrient and water inputs, rotational grazing, and improvements to species composition (Herrero et al., 2016).

### **User-centric market information**

The mobile phone has brought a new form of information access into pastoralist regions, (Jenet et al., 2016). It offers real-time, interactive, private, oral communication conveying information from place to place without moving people. Unlike other means like radio, mobile phones offer privacy, confidentiality and interactivity. Mobile phones now allow pastoralists to receive up-to-date market information and identify where to sell their livestock. They use their phones to get information on the weather and the presence of water or pasture. They also use the phones to buy and sell livestock, arrange transport and get veterinary and production advice. Moreover, pastoralists can transfer money and take part in savings and insurance schemes (particularly important in areas where banks are non-existent) using mobile telephones. In addition, they can negotiate the recovery of stolen cattle by phone, without putting peoples' lives in danger. Local institutions can use phones to build networks to connect people. Phones can help track disease outbreaks and disseminate health messages.

Mobile phones will possibly soon offer a significant new mechanism for distance learning for pastoralists to further commercialize pastoral productivity (Butt, 2015; Schelling, 2013).

### **Financial services**

Banking systems tend to be ineffective and unreliable in pastoral areas, (Jenet et al., 2016). The best support that can be offered to the pastoral areas is to tailor specific financial services to the specific needs of the pastoral setting. The financial service must consider vulnerable people in the pastoral areas (especially women and youth), not just individuals. Microcredit could bring major benefits for developing businesses, income, and employment opportunities. Many banks in Kenya offer microcredit, but the distances to branches in pastoral areas pose a major challenge. Models such as village community banks are highly attractive because they are mobile and community-based. Safaricom, a mobile telephone company, offers money transfer and other banking services through its m-pesa scheme in Kenya, which is in high demand in the pastoralist areas of East Africa (Jenet et al., 2016). These services could be enhanced to promote commercialization in pastoral areas.

### **Risk management services**

Pastoralists can now buy private insurance to cover the loss of their herds to drought and receive compensation in the event of animals dying because there is not enough pasture to feed them. These services have been available to pastoralists in Mongolia since 2006, and in Peru, Argentina and Uruguay since 2013. In Kenya a privatesector model of an index-based livestock insurance package has been tested since 2007, involving ILRI, Equity Bank and Munich-Re. ILRI and the other partners have been exploring how index-based insurance can help

pastoralists and other communities reduce the risks of destitution because of drought by protecting their livestock assets. Index-based insurance is based on a fixed trigger mechanism not directly related to any individual production unit, such as a family herd or farm. Rather, the trigger for payment is based on calculating, for example, average livestock mortality levels in an area or the cumulative rainfall in a season in a specific area. In this situation, compensation is automatically paid to all those individuals if data shows that livestock mortality or total seasonal rainfall is below the threshold set by the insurance company (Mude et al., 2011). This is a market-based approach to risk management in pastoral areas which can be enhanced to help in commercialization of pastoral production system. The future feasibility of Index Based Livestock Insurance (IBLI) or similar products as a viable resilience tool requires longer term government support as well.

### **Conflict management**

Conflict and insecurity have devastating consequences on the livelihoods and vulnerability of pastoralist societies in the Greater Horn of Africa. They represent major obstacles to the long-term development of the drylands. Loss of human life and livestock, food insecurity, displacement, restricted or blocked access to key resources and to livelihood opportunities are among the most immediate outcomes of violence. Limited private sector investments, reversal of development gains, stunted economic growth, breakdown of social fabric, and further marginalization are more of the long-term negative effects of conflict (Sara Pavanello and Patta Scott-Villiers, 2013).

Conflict management presents itself as one of the avenues to spur growth in pastoral areas. Pastoral societies have a range of institutions, rituals, practices, oral and material culture items connected to conflict management within and between ethnic groups. These have been studied, but their full range and the way they operate in promoting commercialization of pastoralism have not been understood, and thus need further exploitation.

### **Policies and enabling environment**

In 2010 the African Union's Policy Framework on Pastoralism was enacted, recognizing the need to promote pastoralism across the continent. Some significant progress in its implementation has been

witnessed in some countries but not in others. Such differences cause problems for pastoralists because they move across borders: they rely on harmonized regulations between countries, and between districts within a country.

Kenya's arid and semi-arid lands have never enjoyed the kind of policy attention that takes account of their unique capacities and challenges. Pastoral areas of Kenya differ from other parts of the country in three important respects: first, in the movement of livestock and people; second, in their demography (low population density and high population growth); and third, in their institutions (customary mechanisms for managing natural resources and security are still strong in many pastoral areas and are the repository of invaluable indigenous knowledge). These differences are rarely accommodated in national policy or practice.

A fundamental starting point to enable pastoral custodianship of the drylands is to secure their land tenure and other resource rights. The current discourse on communal land rights is providing plenty of examples of how such moves can be supported by policy and law. It is critical that communal tenure is afforded equal recognition in law as private and other forms of tenure, so that pastoralists' tenure is truly secure. At the same time, it is crucial that issues of inequity that exist in many customary institutions are addressed, such as the rights of women to use, own and inherit resources (WISP, 2008).

In many pastoral societies, customary institutions play a crucial role in governing natural resource use, in enabling mobility, in managing conflict and in negotiating resource use rights. However, the extent to which these institutions have been legitimized in the eyes of government varies greatly between countries. The ongoing process of decentralization in many countries may create more opportunities for pastoral institutions to work more closely with government and achieve mutually agreed goals, and in places where these institutions have already been enabled, pastoral communities have observed improvements in natural resource management (WISP, 2008).

### **What are the risks associated with commercialization?**

Commercialization refers to reorientation of livestock production by some or all members of a pastoral society, characterized by increasing rates of live

animal sales and increased use of purchased inputs. The commercialization of pastoral production through, primarily “meat focused” livestock development policies has been met with differential success. Most pastoral communities are relatively integrated into the market economy, which provides a means of diversifying risk and broadening their livelihoods, as well as exposing pastoralists to new risks of uncertain terms of trade and general inflation (WISP, 2007). Commercialization also entails minimizing cash expenditures in the livestock enterprise because

livestock sales are undertaken only as a necessity, not as part of an investment programme in the enterprise. A commercial pastoralist, however, must forgo some of the use value of livestock production to produce a commodity with a market value, for example, a live animal in prime condition for sale. This is because the efficient production of a single commodity such as beef is incompatible with a multi-purpose system of animal use which is a dominant scenario in the pastoral system.

## ■ Policy recommendations

- Government of Kenya (Counties and National) should priorities addressing of resource based conflicts in ASALs that have significantly contributed to the underdevelopment of the areas. In particular the National Government in consultation and collaboration with County Governments, develop legislation to facilitate the establishment and operationalization of the institutions proposed in the Sessional Paper No. 5 of 2014 on National Policy for Peace Building and Conflict Management.
- Government of Kenya should establish disaggregated data on production of livestock products such as beef, milk, hides and skins to clearly indicate what comes out of the pastoral sector and hence ensure the correct representation of the contribution of pastoralism to the national economy of Kenya.
- Financial and insurance institutions should innovate financial products and services tailor made to pastoral settings, which will enable commercialization of pastoralism by targeting pastoralists, especially the women, youth and persons with disabilities.
- Government should urgently develop a livestock

policy to guide the index based insurance to support the livestock insurance market and hence support pastoralists’ resilience to climate change induced risks of frequent and severe droughts and floods.

- In line with Sessional Paper No. 8 of 2012 on National Policy for the Sustainable Development of Northern Kenya and other Arid Lands government should in all land related policy documents recognize pastoralism as a land use system, and hence move to protect pastoral lands from further fragmentation and conversation into other uses including development
- Government of Kenya (National and County) should mainstream pastoral customary institutions in the governing natural resource use, in enabling mobility, in managing conflict and in negotiating resource use rights.
- Government of Kenya should create an enabling environment including provision of tax incentives to encourage private sector investments in pastoralist areas as a means towards supporting climate resilient pastoralist communities in Kenya.

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SNV started work in Kenya in 1967 with operations mainly in its arid and semi-arid regions. We have since expanded our work to include high potential areas of the country. SNV provides advisory services, promotes the development and brokering of knowledge, and supports policy dialogue at the national level. To increase the effectiveness of our programmes and resources, SNV engages in partnerships with the government, local authorities, Agriculture (dairy, extensive livestock, and horticulture), Water, Sanitation & Hygiene, and Energy. CEMIRIDE is an NGO working with minorities and indigenous Peoples (MIPs) in Kenya to secure their rights. Having achieved significant gains for MIPs through advocating for their recognition, CEMIRIDE is now focused on economic empowerment and sustainable livelihoods for MIPs. This focus enables CEMIRIDE to tackle the marginalisation and exclusion from development processes experienced by MIPs that has led to high levels of poverty and conflicts and impeded their ability to contribute significantly to national development. It is registered under the Non- Governmental Organisations Coordination Act of Kenya as number OP.218/051/2002/0149/2240.



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