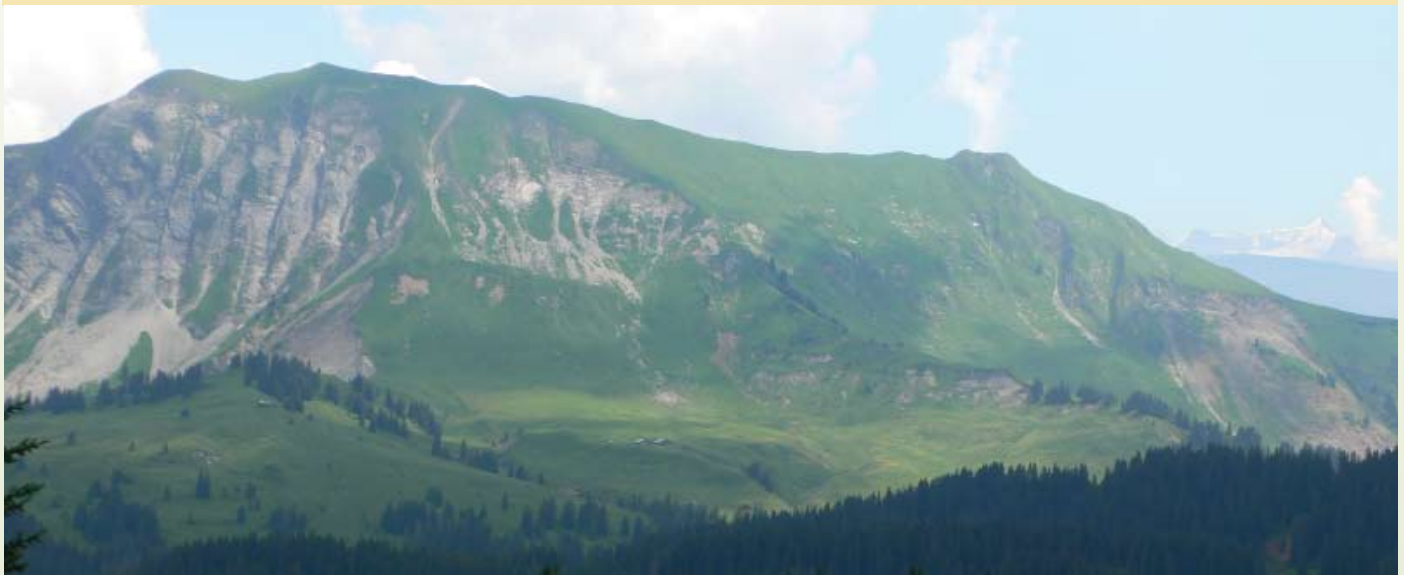


Sustainable Pastoralism – Moving forward with appropriate policies

- **Reversing environmental degradation in the rangelands requires an overarching policy goal of promoting pastoralism**
- **National Governments and other actors should legitimise pastoralist governance of rangeland resources, build local governance capacity, and promote equity in customary institutions**
- **Governments should uphold pastoralists' territorial rights and protect their land tenure through land-use planning that is based on an understanding of "pastoralist agroecosystems"**
- **Resilience in the pastoral economy can be promoted by strengthening market integration for diverse goods and services**



Summer pastures in the Bernese Alps

Introduction

Rangelands (including grasslands, savannahs and tundra) form the world's largest terrestrial ecosystem, covering an estimated 40% of the earth's surface. They are extremely important for the ecosystem services they provide and the livelihoods they support and yet they are particularly susceptible to land degradation. Degradation in the rangelands is often attributed to overgrazing and mismanagement of resources by pastoralists, but overgrazing is poorly understood and therefore the solutions that are adopted frequently aggravate degradation and increase poverty. Localised overgrazing is found in many rangelands, but it usually arises as an outcome of constraints to pastoralism, through restrictions of mobility and privatisation of land, and through substitution of pastoralism with less sustainable forms of livestock keeping.

Pastoralism has been well demonstrated to be among the most viable forms of production and land-use in the rangelands, but this viability is undermined by legal, economic, social and political disincentives. Many Governments tend to think of pastoralism as intrinsically harmful to the environment as well as being economically irrational, and they continue to pursue policies of sedentation and transformation, which is often erroneously associated with intensification and modernisation. This is likely to achieve the opposite of the intended outcomes by increasing desertification and weakening the economy of those countries.

What are ecosystem services?

Ecosystem services refer to the benefits that humans derive from the resources and processes that are supplied by natural ecosystems. Ecosystem services are categorised as provision (e.g. of food and water), regulation (e.g. climate and disease), support (e.g. nutrient cycles and crop pollination), and cultural (spiritual and recreational benefits). Examples of some of the higher value *Rangeland Ecosystem Services* include supply of water that is consumed within and outside the rangelands, soil formation, plant pollination, and the provision of genetic resources for medicine and biotechnology.

Degradation of the rangelands has dire consequences, not only for the future of pastoralism, but for many millions of non-pastoralists who depend on dryland ecosystem services for their own wellbeing. Dryland ecosystems provide food, fibre, forage, fuelwood and freshwater, and they regulate water quality, pollination, seed dispersal, and climate. They provide cultural services such as recreation, tourism, cultural identity, landscapes and indigenous knowledge, as well as supporting services such as soil development, primary production and nutrient cycling. Most beneficiaries of these services are non-pastoralists, yet pastoralists have protected and promoted these ecosystem services through sustainable resource management practices and the use of livestock mobility and other management tools.

The role that pastoralists play (or have played) in maintaining ecosystem health and resilience and creating biodiverse agricultural landscapes needs to be understood and rewarded if those services are to be maintained in the future.

Pastoral lands as agroecosystems

Livestock have been part of rangelands environments for centuries, in some countries for several millennia, and they have had a profound impact on their environment. Rangelands are often thought of as natural wildernesses, yet in reality many rangelands have been greatly modified through human management over the years, for example through livestock grazing and the use of controlled burning. In some cases the rangelands may have become dependent on such human intervention to maintain ecosystem function and to protect the biodiversity found there. Conservation can therefore depend on the effective continuation of pastoralism, and if pastoralism is either prevented or restricted it leads to environmental degradation.

What is an agroecosystem?

An ecosystem is a natural unit consisting of all plants, animals and micro-organisms (biotic factors) in an area functioning together with all of the non-living physical (abiotic) factors of the environment¹. An agroecosystem is a semi-domesticated ecosystem that produces food via farming under human guidance. Agroecosystems have been defined as biological and natural resources managed by humans for the primary purpose of producing food [and] non-food goods and environmental services². Agroecosystems cover an estimated 30% of the world's land area, and they range in scale from individual production units to large eco-regions.

Many pastoralists have a rich knowledge of their rangeland environment that enables them to manage their resources more effectively, and they have institutional arrangements that enable natural resource management on communally managed land. The effectiveness of local knowledge depends on how well pastoral institutions are functioning and their capacity to sanction malpractice. Development planners on the other hand have often struggled to adapt their knowledge and science to the environmental challenges and uncertainties of the rangelands, and the result is that unsustainable changes have been promoted at the expense of tried-and-tested pastoralist systems. This substitution of pastoralism is one of the main drivers of desertification and biodiversity loss in the rangelands, and to reverse this trend it is important to understand and build on the adaptations of pastoralism and the indigenous knowledge of pastoralists.

Policies that work

What is a policy?

Policy processes are sometimes rationalised as a cycle of policy analysis, policy making, and policy implementation. Policy analysis consists of comparing different policy choices, examining their likely impact and seeing how they support the policy objectives. Policy making entails deciding on the objectives of the policy and determining the instruments that will be used, and policy implementation implies carrying out these decisions. Such systematic approaches to policy making are, however, seldom adhered to and the distinction between policy objective and policy instrument is often blurred. Interest groups usually pursue their own agendas, to secure their chosen objective or to ensure a particular instrument is given priority.

Conservation policies

Securing positive environmental outcomes in the drylands is not achieved exclusively through conservation policies: conservation policies that lead to alienation of pastoralist land and restrictions on livestock mobility can instead contribute to land degradation. Nevertheless, conservation-related policy in some countries has contributed to reversing land degradation by empowering pastoralists to manage the natural resource use of the rangelands, particularly through Community Based Natural Resource Management and Community Conservancies. Policies have been particularly successful where they enable rural communities to capture additional benefits from conservation, for example through tourist revenues. The objectives of conservation policies need to include protection of landscapes and ecosystems as well as species, and must explicitly recognise the capacity of pastoralists to achieve this.

Pro pastoralist policy in Tanzania yields promising results

Tanzania's Wildlife Policy of 1998 addresses the conflict between pastoralism and wildlife conservation. Recognizing the role of pastoralism in conserving biodiversity and the opportunity costs borne by pastoralists in performing this role, the policy proposes measures for equitable sharing of revenue earned from tourism. Some tour companies are now investing in pastoral development projects in return for renewed commitment to protect wildlife and conserve habitats. Successful examples can be seen around Tarangire and Serengeti National Parks where wildlife migratory routes and dispersal areas overlap with pastoral grazing areas.

Land tenure

Most pastoral lands are managed communally, because resources are sparsely distributed and highly unpredictable and mobility is a vital management strategy, and as a result pastoral lands are easily damaged when their use is individualised. Where government policy has overtly favoured individualisation, the outcome for pastoralists has been increased conflict, impoverishment of herders and degradation of the environment. Where government policy has firmly supported communal land tenure, the opposite outcomes can be found. In most pastoral regions sustainable land management requires protection of pastoralists' communal land rights and recognition of pastoralist territories.

Property regimes in Mongolia enable improved pasture management

Mongolia's 2003 "Law on Land" has enabled some pastoralist communities to assume greater control of natural resources. Community groups have found opportunities to organise and to re-establish customary institutions and common property management regimes. As a result, communities and local governments have worked together to improve pasture management, and to regulate unsanctioned use of pastures by outsiders, whilst maintaining access to forage in neighbouring areas. This has resulted in significant improvements in the economic status of group members and steady improvements in environmental quality

Governance

Policies that create space for customary decision-making and for local enforcement of rules and regulations over resource-use have been successful in reversing land degradation. Empowering pastoralists to make effective decisions implies not only a greater role for customary institutions, but also greater integration of customary institutions with government. Community organisations require legitimization and support from local authorities, and local government has to be enabled to work constructively with their local community organizations. This requires broader support from central government to create the necessary policies and to provide the necessary resources and capacity building.

¹Christopherson, 1996.

²Wood, Sebastian and Scherr, 2000



Healthy bofedal wetland pasture in the community of Quetena Grande (Potosi, Bolivia)

Government support for indigenous knowledge reverses degradation in Bolivia

The Bofedales are managed wetlands in the Andean high plains which form oases supporting up to 70 per cent of the plant species consumed by camelid herds. For millennia the flow of water into the Bofedales has been regulated by pastoralists using dykes and dams, which prolonged their seasonal productivity and may have been the key factor enabling domestication of camelids. However, the institutional arrangements that have underpinned the maintenance of these wetlands has weakened in recent years, leading to the siltation and drying up of the Bofedales and wide spread environmental degradation in the surrounding areas. Recent government policy has increasingly recognised the rights and the cultural identity of indigenous peoples, which is strengthening the community-level arrangements for management of the Bofedales and leading to improved environmental management.

Policy support for mobility

Managed livestock mobility, often referred to as transhumance, is one of the central management tools of pastoralism. Mobility enables producers to efficiently harvest rangeland resources that are 'patchy', meaning that they are spatially and temporally heterogenous. Livestock mobility is a key factor in protecting rangeland ecosystem services because it enables grazing benefits on pastures that are seasonally inaccessible, provides transportation of seeds, allows intense-periodic grazing as opposed to steady-state grazing, and it improves management of risk by pastoralists. Although mobility of livestock is often the crucial factor in maintaining the economic and environmental logic of pastoralism, mobility of pastoralists can be equally important, particularly where the production system demands high labour inputs (e.g. for milk processing, or for maintaining security). Therefore enabling pastoral mobility requires protection of key resources and access routes, and it requires appropriate local government and basic services that support mobility.

Legal protection of pastoral mobility in Spain

A 1995 Act of Parliament in Spain legitimizes the country's 120,000 kilometres of Cañadas, or transhumance corridors, to ensure that pastoral flocks continue their transhumance and in so doing, continue to preserve the country's biodiversity. Transhumant pastoralism in Spain, particularly between mountain regions, connects ecosystems with a network of biological corridors in which livestock play the role of vector for native plants. Livestock improve the fertility of soil through manuring, they assist germination through gut scarification, and they transport seeds (in their guts and fleece) for distances in excess of 300 km, thereby improving biodiversity and ecosystem health and integrity in Spain's rangelands.



Enabling pastoral mobility requires protection of key resources and access routes (Iran)

Policies for economic growth

Policies which support economic development of pastoralism can also have a positive impact on the environment as long as economic development is compatible with the core features of pastoralism that generate the environmental services: respecting mobility and communal tenure, allowing effective decision making, and enabling pastoralists to capture some of the benefits of their actions. Pastoralist development policies should not only focus on the livestock enterprise, but should also support complementary livelihoods such as eco-tourism, development of trademark products for niche markets, and in many cases they should also support alternative livelihoods to enable some pastoralists to leave the system.

Sustainable development of Alpine pastoralism in Switzerland

Swiss mountain policy aims at both the protection of nature and securing people's right to socio-economic development and is reflected in federal and cantonal laws. A number of Federal Acts and policies have boosted investment in pastoral regions with the explicit goal of maintaining a symbiotic relationship between the society, economy and the environment. Policy instruments include subsidies to introduce improvements in land-use, legislation on the size of production units to ensure they are large enough to enjoy economies of scale and conserve biodiversity, and investment in developing the traditional cheese industry which in turn translated into improved mountain economies, creation of job opportunities, increased tourism and preservation of the mountain ecology.



Production of camel milk ice cream as a complementary pastoralist livelihoods strategy (India)



The Segovia declaration pursuing a pro-pastoralist agenda (La Granja, Spain)

Recommendations

Reversing environmental degradation in pastoral lands requires an overarching policy goal of promoting pastoralism

Environmental degradation cannot be tackled through environmental policy alone and attention is needed to a wide range of policies that influence pastoralist livelihoods. Furthermore, securing change in a policy is seldom enough to achieve the desired outcome and attention has to be given to the implementation of that policy, the implementation of other policies that are contradictory, and gaps in associated policies that impinge on pastoralism. Rather than seeking single policy solutions to what is a multi-sectoral challenge, governments and other agencies are encouraged to adopt an over-arching policy objective of promoting pastoralism, or to pursue a pro-pastoralist political agenda.

Governments should legitimise pastoralist governance of rangeland resources, strengthen pastoralist governance capacity, and promote equity in the operation of customary institutions

The process of developing local governance should be based on inclusive consultations to ensure ownership by all parties, and the roles of government in relation to the roles of customary institutions needs to be clearly defined. Sanctioning of local governance should accommodate change rather than stifle it, and should be prepared to

Conclusion

Policies are guiding principles that are designed to influence the decisions and actions of an institution and the recommendations in this policy note apply to non-governmental organisations, UN agencies and Conventions as much as they do to national governments. The institutional policy of UN Conventions, such as the Convention to Combat Desertification or the Convention on Biodiversity, can influence national policy processes, through the National Action Programmes on Desertification and the National Biodiversity Action Plans. However, if those Conventions are to have a more substantial impact they have to be felt outside of the national ministries of the environment. The role of these Conventions and the mechanisms they use for influencing a wider national policy agenda needs greater scrutiny if they are to overcome competing policy priorities and conflicting policy processes.

Land degradation can be effectively addressed in many countries by enabling the land management practices of pastoralists, harnessing their indigenous knowledge and benefiting from their local experiences and adaptations. Such “social” solutions are not a weak alternative to technological solutions: they are a proven way of reversing land degradation at a scale that few technological solutions can realistically attain. These solutions can be delivered through appropriate policy support and through relaxation of policy disincentives. It is doubtful that they can be delivered by a purely sectoral approach to conservation.

Securing sustainable pastoral livelihoods in the long term will require going beyond the relaxation of policy disincentives. Constructing a livelihood in marginal and remote lands faces numerous challenges and the key to the sustainable development of those livelihoods is to capitalise on the strengths of local adaptations. This means building on the inherent environmental friendliness of pastoralism: marketing products on the basis of their ‘green’ or other credentials; complementing pastoral livelihoods with tourist revenues; and accessing public and private sector payments for a wide range of environmental services such as carbon sequestration, biodiversity protection or maintaining ecosystem services. If the environmental benefits of pastoralism are to be increasingly marketed then policy and planning needs to be much better tailored to the complex requirements of the pastoral agroecosystem.

encourage change as appropriate, for example in the empowerment of women. Customary institutions should be supported and encouraged to represent all members of society (women, youths, elderly, lower castes). Historic relations between different pastoralist groups and between pastoralists and non-pastoralists, particularly in areas of shared resource use, need to be factored into relationships between government and customary institutions.

Policy makers should recognise that land use planning in the rangelands requires protection of pastoralists’ territorial rights and security of their land tenure

Policy makers and development planners need to understand pastoral lands as agroecosystems, and understand that “system integrity” is important for the continued provision of ecosystem services. In other words, pastoral lands need to be protected against the loss of key resources, and where such loss has already occurred governments should look for ways to restore resources to pastoralist management, or at least to restore resource use. In some cases this requires acceptance of ecologically sustainable land boundaries and transboundary resource access. Governments should ensure legal protection of complete pastoral territories and develop innovative legal frameworks that help pastoralists to secure communal tenure. Traditional leadership needs to be strengthened and vested with the authority to regulate resource access and use within such legal frameworks.

Pastoral economies should be developed by strengthening market integration for diverse goods and services and strengthening pastoralists’ rangeland management capacities

Sustainable rangelands management depends on pastoralists being able to strengthen their livelihoods and become more resilient to shocks such as local climatic events and trends such as climate change or globalisation. Pastoralists need to diversify their livelihood portfolio to incorporate both complementary and alternative sources of income and they need greater and more equitable access to markets, domestic and international, for the full range of goods and services they produce. Diversification and market development both require appropriate technical innovations to bolster the rangelands management capacities of pastoralists, and the provision of financial services and products that are tailored to their needs and resources. Ultimately successful and diverse pastoral livelihoods depend on reform of macro economic policy and international trade rules to reduce obstacles to marketing.