

The future of pastoralism/L'avenir du pastoralisme/El futuro del pastoreo

Edited by Jakob Zinsstag, Esther Schelling and Bassirou Bonfoh

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The World Organisation for Animal Health (OIE) has published a whopping issue of its *Scientific and Technical Review* (Vol. 35, Issue 2) with 720 pages devoted entirely to the topic of pastoralism – its history, pastoral systems in different parts of the world, recent developments in policy and practice, and opportunities for the future. It stresses that two-thirds of the world's agricultural land is grassland or rangeland, mostly in semi-arid and high-altitude areas not suitable for growing crops. Extensive livestock production is the only resource-efficient way of producing food for human consumption in these areas. It also draws attention to the many other ways in which extensive systems of animal husbandry contribute to national economies, society, culture and the environment.

The editors – Jakob Zinsstag and Esther Schelling from the Tropical and Public Health Institute in Switzerland and Bassirou Bonfoh from the Swiss Centre for Scientific Research in Ivory Coast – compiled 28 papers by over 70 authors. The contributions are structured in five sections: (i) pastoralism and its constraints (5 papers); (ii) opportunities for pastoral development (4 papers); (iii) improving the economic viability and social aspects of pastoralism (11 papers); (iv) tools for development of pastoralism (4 papers); and (v) human and animal health in pastoralist communities (4 papers). Although this structure is shown in the table of contents, there is no indication in the main text when a new section begins. The introduction and final chapter are in English, French and Spanish. Most of the other papers are in English with only the abstract in French and sometimes in Spanish. One paper from Latin America is in Spanish and English with abstract in French.

Pastoralism and its constraints

This section starts with a paper describing the cultural heritage of pastoralism as reflected in livestock breeds in Morocco. It shows how herders' knowledge about hardy breeds of sheep and goats can be safeguarded so as to sustain pastoralism and

provide a local genetic pool as “common good” for breeding programmes by herders and researchers.

The second paper gives an overview of trends in production and consumption of livestock in intensive and extensive systems worldwide and critiques current forms of large-scale commercial production. To meet the rising global demand for livestock products, it proposes a three-pronged approach of (i) sustainable consumption of livestock products, (ii) sustainable intensive production systems (including waste management) and (iii) sustainable extensive pastoralism on healthy rangelands, including provision of basic services, recognition of collective rights to use natural resources, equitable value chains and empowered pastoralist institutions.

The third paper looks at the social and economic aspects of pastoralism in the Horn of Africa. It points to the dichotomy of vibrant domestic and export markets for pastoral livestock yet rising levels of poverty in pastoral areas. With increasing human population and privatisation of land and water, growing numbers of poorer producers are being pushed out of pastoralism while a few wealthier producers thrive. A major challenge will be to support alternative sources of livelihood for former pastoralists.

The fourth paper reviews historical land-alienation processes in the African drylands and how colonisers perceived pastoralists, to help explain current processes of land and water “grabbing”. It shows how pastoral groups have tried to adapt to institutional changes in what were formerly common-pool resources and how NGOs have created situations where stakeholders with different levels of bargaining power can be involved equitably in processes of building new institutions for resource use.

The fifth paper discusses impacts of climate change on pastoralists in different parts of the world and outlines some adaptation options, such as diversifying income sources and introducing new market mechanisms so as to enhance pastoralists' capacity to adapt to increased climate variability. It

stresses the importance of flexible and evolving combinations of practices and policies to allow successful adaptation.

In general, this section challenges the frequently made claims that pastoralism leads to desertification. It stresses how pastoralists make efficient and productive use of scarce and dispersed natural resources and adapt to changes in climate and institutions. The main focus is on the Global South, particularly Africa, although some reference is made to Australia, Europe and North America in the second and fifth papers.

Opportunities for pastoral development

Pastoralism is presented as a way of life that is highly adapted to the specific conditions of marginal dryland and mountainous areas and can be part of modern society. The first paper in this section addresses the contribution of pastoralism to ecosystem services globally – especially biodiversity conservation and carbon sequestration – and the role of indigenous knowledge in maintaining these services.

The next paper looks at how African pastoralists have developed and maintained livestock genetic resources and biodiversity, also by breeding for within-herd diversity. To evaluate pastoral livestock breeds, new methods are needed that acknowledge the complex human–animal–environment interactions that govern breed performance.

The third paper, which is global in coverage, looks at the relationship between herd management and rangeland dynamics, and explains how terms like “carrying capacity” and “overgrazing” are used with little understanding of the social and political factors influencing herd movements. It stresses the non-equilibrium nature of drylands and the prime importance of livestock mobility in this context.

The final paper in this section deals with the combined use of drylands in Kenya and Tanzania for livestock and wildlife, looking at the long history of livestock–wildlife interaction, the disruption caused by creating national parks and buffer zones, and current perspectives for improving both wildlife management and pastoralist livelihoods.

Improving the economic viability and social aspects of pastoralism

This section is by far the longest in the book. It emphasises the multifunctionality of pastoralism related to food, natural resource management, tourism, ecological diversity, carbon sequestration and national security in remote border areas. The opening paper questions the theoretical framework for the methods used in analysing and assessing pastoral development. Assumptions of stability and uniformity lead to biases in classifying livestock systems and in measuring animal productivity and ecological efficiency and to misconceptions such as ecological fragility (instead of resilience) and pastoral risk (instead of exploiting variability). It is argued that the “methodological infrastructure” of dryland development needs updating.

The next paper addresses the institutional and policy changes needed for sustainable pastoralism, based on studies in sub-Saharan Africa, Central Asia and the Swiss Alps. It calls for new forms of governance that allow participatory management of

pastoral resources, combining decentralised local governance with regional cross-border policy frameworks to allow mobility and flexibility in access to resources and services.

Most of the other papers in this section bring examples of primarily institutional interventions in Africa, Asia and Europe and how they affect social and economic aspects of pastoralism. The paper from Kyrgyzstan highlights the differences in beliefs and perceptions between policymakers and pasture users, and the need for more appropriate policies. The paper from China criticises the top-down, non-participatory governance of structures that are impoverishing pastoralists. The paper from West Africa focuses on positive trends and innovation in pastoral societies, but also sees – like in China – the need for government to gain a better understanding of informal institutions and dynamics in pastoral societies.

The paper on pastoralism in the drylands of Latin America gives a fairly superficial overview of the situation of pastoralists in Argentina, Chile, Mexico and Peru. It is more conventional in its recommendations and sees an uncertain future. The paper on pastoralism in Europe focuses on the challenges of highland–lowland transhumance in mountainous areas, including economic pressures, lack of services, low prestige and aging populations. It calls for increasing support for “high nature value” areas of extensive grazing.

The case on social protection in Kenya compares a cash-transfer programme for poor pastoralist families and index-based livestock insurance designed to prevent families from becoming poor. The next paper on enhancing the economic viability of pastoralism, referring to Africa and Asia, warns against ill-adapted interventions in pastoral marketing and production processes that lead to over-intensification of production and reduction in herd mobility. The right level of intervention needs to be found so that the drylands can continue to produce food with few or no external inputs.

The paper on innovations in conserving animal-based foods in remote areas describes the wide diversity of traditional preservation techniques and products throughout the world. It regards this diversity – especially in fermented products – as an entry point for participatory innovation by herders and food researchers. The final paper in this section looks at diverse livelihood pathways of pastoralists and introduces the tool of Biocultural Community Protocols for achieving recognition of pastoralists’ role in food security and biodiversity conservation, including their development of locally adapted livestock breeds.

Tools for the development of pastoralism

This section starts with a global paper on policies and investment programmes to promote pastoralism. It underlines the important environmental services that pastoralists provide to humanity and calls for policies that address both the economic and the environmental role of pastoralism. It sees a future for pastoralism only if pastoral institutions are strengthened, resource-use rights are secured and equitable market access is assured. All of this requires major investment in pastoral peoples.

The second paper in this section describes formal and non-formal approaches to providing appropriate education for children in mobile communities and to integrating formal

education and endogenous knowledge developed by the local people. Examples of Alternative Basic Education, Open and Distance Learning and Pastoralist Field Schools come from dryland and mountainous areas worldwide, including northern Scandinavia and the Australian outback.

The last two papers in this section examine how modern information and communication technology (ICT) – especially mobile telephony and, in Kenya, mobile money transfer (Mpesa) – complements indigenous communication systems and influences pastoralists' social, production and marketing systems, even though ICT infrastructure is still poor in the more remote areas. The paper on the Sahel of West and Central Africa describes how pastoralist mobility has been reinforced by mobile telephony that enriches social networks.

Human and animal health in pastoralist communities

The final section starts with a paper about cluster surveys for simultaneous assessment of human and animal health, using mobile phones and taking into account the concepts, experiences and priorities of the pastoralist communities, as a basis for context-specific health services. The next paper presents strategies for cost-effective integrated control of animal diseases and zoonoses in pastoral areas. The third continues along the same vein, describing the effectiveness of this "One Health" approach, e.g. in Chad and Mali, in delivering combined human and animal health services to mobile pastoralists in remote areas, aided by community-based disease-surveillance systems. It points to the need for advocacy to ensure that public policy takes into account the health issues of mobile pastoralists.

An optimistic view of the future

The closing paper in the book presents a vision for the future of pastoralism. It draws attention to the role that pastoralism can play in attaining the United Nations Sustainable Development Goals. It refers to pastoral systems as "hotspots" of cultural and biological diversity that generate diverse sources of income and contribute to environmental stewardship. It calls for decentralised governance of natural resources, locally adapted social services, and policies that facilitate mobility and flexibility in managing livestock. It highlights the need for inter- and transdisciplinary research and development as well as context-specific application of policies in pastoral areas – also across international borders.

As befitting a book published by the OIE, it concludes by justifying OIE's interest in addressing pastoralism. People living in the drylands, highland steppes and mountain areas could not make a living without mobile livestock production systems. As most pastoralists are poorly served by public services and lack political representation, the wellbeing of the people and their animals is threatened. OIE therefore needs to promote innovative ideas for improved livelihoods and social, economic and institutional development in pastoral areas and thus help shape the future of pastoralism. It is indeed remarkable and commendable that the OIE has taken such a holistic view of animal health in producing this book.

General assessment

This collection of papers is intended to encourage discussion on how pastoral production systems can be maintained and the

wellbeing of pastoralist communities improved. A recurrent theme in almost all papers is that governments need to discard "top-down" approaches and externally imposed strategies and interventions that ignore the specificities of pastoral production systems and the indigenous knowledge and innovativeness of the local people. In most of the papers, pastoralists are depicted as resourceful, entrepreneurial and adaptable people who are prepared to enter into new relationships with others who appreciate their way of life and system of livestock production. The authors recommend seeking a diversity of locally adapted ways of managing rangeland resources through pastoralists' participation in institutional innovation. The overriding importance of mobility and flexibility in access to common-property resources for sustainable pastoralism is emphasised.

A few papers address the issue that, with improved health and population growth among pastoralists and with growing inequality within pastoralist societies, many young people will have to leave pastoralism and pastoral areas to pursue alternative livelihoods or will have to diversify their sources of livelihood if they decide to remain in the pastoral areas.

One topic that receives surprisingly little attention is gender. Most of the papers – even the one on innovations in food preservation – make no mention of women or gender issues. However, the paper on pastoralism in Europe and the World Initiative for Sustainable Pastoralism (WISP) paper on policies and investments to enable sustainable pastoralism do refer to the involvement of both men and women.

As most of the authors are arguing along the same lines yet each paper stands alone, the book as a whole contains quite a bit of repetition in explaining the rationale of pastoralism. However, there is sometimes inconsistency in the use of certain terms in different papers. For example, the terms "agriculture" and "farming" refer only to crop cultivation in some papers but include also livestock husbandry, indeed "animal farming", in others.

Most of the papers are written in an optimistic tone, seeing a positive future for pastoralism – at least in Africa and Asia, somewhat less so in Latin America – if the social, economic and environmental contributions of pastoral systems are widely recognised and if space is created for pastoralists to interact with other stakeholders on an equal basis. Looking at the past and current situation of many pastoralist groups, it is difficult to regard such a turn-around as likely, but the book tries to contribute to increasing the likelihood that this will happen.

Perhaps the most realistic view of the future can be found in the paper on institutional development in West Africa: pastoralism as a way of life and livelihood will maintain its vitality and creativity if institutional and policy innovations are based on constant renegotiation between the formal rules and regulations of the state or development agencies and pastoralists' traditions, values, and objectives – blending modern and tradition institutions and formal and informal rules in what Fokou and Bonfoh call "institutional bricolage". This is a process that needs to continue incessantly in multiple different ways in each pastoral context. Examples given in this book will not provide silver-bullet global solutions but certainly provide ideas and inspiration for pastoralists and supporting organisations seeking to improve the current situation.

This book will be a useful reference for scholars of pastoralism and also for advocates compiling arguments to convince policymakers and decision-makers in development agencies about the merits of mobile pastoralism and examples of how local livelihoods and pastoral ecosystems can be enhanced. This

includes advocacy for new methods and tools of assessing pastoral systems that reflect an understanding of the rationale behind them in the highly (and increasingly) variable conditions in rangeland areas.

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