Chapter 8
Conclusion

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This work has been more than a survey of pastoralism across the globe, covering all continents except Antarctica (see Fig. 8.1). After a global overview in Chap. 1, subsequent chapters examined specific case studies from North and sub-Saharan Africa, South America, and Central and Inner Asia. The case studies reveal key insights that are both unique to the context and shared across pastoral societies worldwide. In this sense, the chapters collectively provide a window into the unique and diverse contexts in which pastoralism manifests itself while also hinting at a broader understanding of the state of pastoralism internationally.

Although the cases of pastoralism have been presented as coupled human and natural systems, it is clear that this coupling is merely an analytical construct. The fact is that that human systems are embedded within ecological systems. Human systems cannot exist outside of their ecological context. The survey of pastoralism in Chap. 1 makes that imminently clear. Similarly, pastoralism is a sociocultural system embedded within an ecological context. Pastoralism has multiple centers of origin. It predates any of the political and economic ideologies that inform our modern global economic system, from trade liberalization and capitalism to communism. Arguably, over the course of human history, in very practical terms, pastoralism has withstood the test of time and continues to represent an economically valid and ecologically sound livelihood strategy used by humans. Because of human and animal mobility, pastoralism is a highly adaptive approach to environmental change. Pastoralists negotiate a complex set of political, economic, cultural, and environmental factors as they seek to sustain a livelihood. As all the chapters indicate, there is diversity in pastoral approaches, including a variety of animals, depending on the ecological context and economic circumstances. These unique conditions have generated complex and dynamic sociocultural systems.

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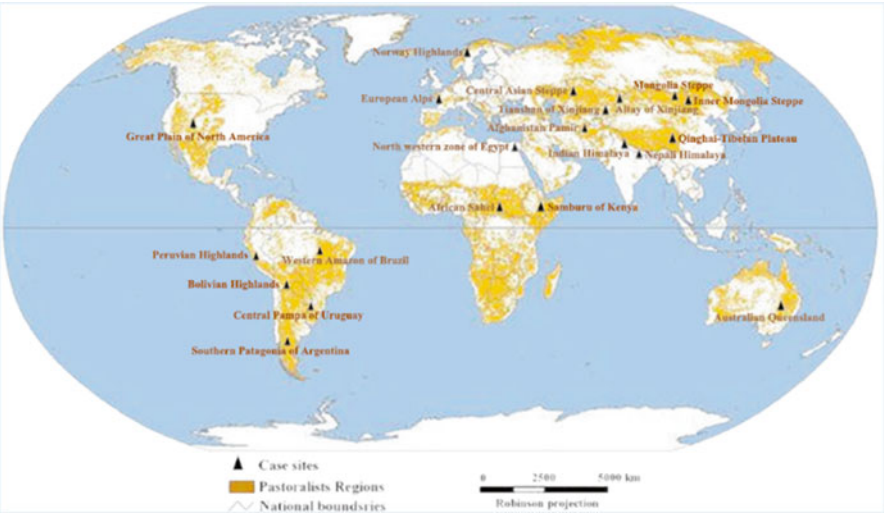

Fig. 8.1 Pastoral regions studied in this book

To address pastoral vulnerability and resilience, Chap. 1 asserts, and the remaining chapters illustrate, that pastoralism must be viewed as a sociocultural and ecological system. Chapter 2 discusses pastoralism on a global scale. In the twenty-first century, pastoralism as a way of life is facing multiple and complex pressures, such as population growth, economic policies geared toward rapid urbanization, resulting land use changes, ill-informed government policy, and anthropogenic climate change. Yet pastoralism is not only key to subsistence for the diverse ethnic communities in a variety of ecological zones, it is necessary to the food systems of lowland communities. The authors argue that social–ecological learning, technical and management innovations, ecological system renewal, and reorganization of institutions are pathways to mitigate the negative causes and effects of pastoralism's vulnerability.

Chapter 3 examines three cases from Nepal, India, and China to illustrate that Himalayan pastoralism is not bound to a particular economic system. Furthermore, these cases show that multiple land tenure types exist, where some pastoral communities have ownership of rangelands for mobile livestock grazing, whereas others have to graze their livestock with a formally or informally contracted migration routine on public or private lands for which they do not have political or legal ownership. In addition, pastoral groups are also very diverse in their sociopolitical structure, ranging from state-controlled groups and community-based collectives to individualized households. The pastoral system in the Himalayas is marked by ecological and cultural diversity. The authors maintain that the interactions and feedback between human and natural components of pastoralism in coping with the stresses and the integration of various tools and strategies from the ecological and social sciences as well as other disciplines can promote sustainable pastoral development in the Himalayas.

Chapter 4 maintains that variation and difference are the hallmarks of pastoralism. Consequently, pastoralism is not merely a livelihood strategy but is a way of life that is fundamentally based on adaptation to changing seasonal and climatic conditions within wide-ranging ecological contexts. Mobility through pastoral activities and the subsequent food security arising from those undertakings are not only a necessity but a recognized behavioral norm with sociocultural significance. Using three Inner cases, two from Xinjiang and Inner Mongolia, China, and one from Badakhshan, Asia, Afghanistan, the authors show pastoralism is not only an ecological profession strategic to securing human survival, but in turn generates a mutually reinforcing sociocultural identity that draws primarily from connectivity with the ecosystems in which humans seasonally dwell. The key argument put forward in Chap. 4 is that pastoralism itself is a manifestation of livelihood diversity and continues to be relevant in the third millennium in Inner Asia despite governmental pressures to sedentarize and homogenize the livelihood structures of different ethnic communities. Livelihood variation once sedentarization has occurred is really a euphemism for reducing genuine diversity in ecological professions. Building on historical pastoral cultural institutions under these conditions continues to offer hope for effective economic stability of livelihoods and food security while not compromising on ecological conservation of rangelands.

On the basis of three case studies from different ecological regions (i.e., southern Patagonia, Argentina, the central Pampas, Uruguay, and western Amazonia, Brazil), Chap. 5 argues that colonialism accounts for the arrival of an intensive form of pastoralism in South America. In essence, the European settlers and the ruminants that accompanied them were invasive species that had sociocultural and ecological impacts on the habitat they colonized. Land tenure and land use relationships were transplanted from Europe and were driven by the concept of private ownership. The absence of endogenous sociocultural and ecological norms of pastoralism makes the character of herding by European settlers in South America a different ecological and economic type compared with that in North Africa, sub-Saharan Africa, and Central Asia. Within a century, European settlers were able to transform ecological regions. The aims of European settlers with respect to agropastoralism and the resultant products were beyond meeting basic local and regional needs and were intended for distant markets and therefore agropastoralism was intensive in character from the beginning. Nonetheless, the authors are guardedly optimistic about sustainable rangeland management, describing recent efforts in their case study sites which require the support of long-term oriented policies as well as strong enforcement monitoring by governments.

Chapter 6 on the North African Bedouin in the northwestern coastal zone illustrates how tribal sociocultural institutions remain central for effective implementation of economic and ecological policy related to pastoralism. The northwestern coastal zone in Egypt is located in the southeastern Mediterranean, between the Nile delta and the Libyan border. In this area, land tenure and land use are key factors affecting pastoralism with respect to tourism development and agricultural expansion in the Mediterranean. The Bedouin tribe, historically and presently, is the operational network that affects the sociocultural as well as the ecological context of

pastoralists by directly influencing economic and political decisions in times of hardship as well as relative stability. Therefore, the key implication of this chapter is that the tribe is the central institution from which any adaptation strategies for policy formulation must originate in order to be meaningful ecologically and economically for pastoralists in this region of North Africa.

Chapter 7 seeks to model resilience or nonresilience of human–ecological systems in East Africa with respect to changes such as rapid population growth, poverty, degraded rangelands, declining wildlife, land fragmentation, reduced mobility, and more frequent drought associated with climate change. By simulating short-term and long-term perturbations in combining ecosystem and human decision making models, the authors seek to reveal vital relationships and insights within a complex system. As a result of analyzing the scenarios emerging from various perturbations noted above, for direction and magnitude of change, researchers can inform policymaking.

All the chapters in this publication, in some form or other, address policy toward pastoralism. This suggests that pastoralism continues to be a viable ecological profession and economic livelihood strategy for humans globally in the third millennium. These chapters indicate that pastoralism is dynamic and adaptive. Rather than viewing mobility as both an ecological and an economic asset, some governments and policymakers frame pastoralism as an anachronistic ecological profession warranting forced sedentarization. Governments, to strengthen their control over pastoral societies in the name of "progress" and "ecological conservation" but more insidiously to generate a low-wage labor force, insist on sedentarizing pastoralists. Nonetheless, evidence from these chapters indicates such externally imposed policies, in fact, provide limited ecological and economic benefits. It behooves applied researchers and government policymakers to acknowledge pastoralism as a genuinely time-tested human endeavor that has demonstrated ecological and economic resilience. We should therefore investigate what strategies are required to truly address rangeland degradation, food insecurity, growing populations, and climate change in the twenty-first century.