

BOOK REVIEW

Open Access

Review of 'The Ecology of Pastoralism' edited by P. Nick Kardulias



Robin Bendrey 

Book details

Kardulias, N (ed.)
The Ecology of Pastoralism.
Boulder: University Press of Colorado; 2015.
272 pages, ISBN 978-1-60732-342-6

Abstract: This book presents a rich collection of case studies exploring the ecology of pastoralism. Its aim is to examine the ways in which pastoralism operates as a highly flexible system, through the adaptations of both the domestic animals and the socioeconomic strategies of human groups to different environments and contexts. The volume achieves this through taking a comparative approach, drawing together a range of case studies from Asia, Europe, Africa and the Americas, and importantly through including both present and past perspectives on pastoral societies.

Keywords: Pastoralism, Ecology, Nomadism, Livestock, Adaptation, Socioecological systems, Archaeology, Ethnography

This volume contains a fascinating collection of case studies exploring different aspects of the ecology of pastoralism across varying scales of analysis, from the actions of individual households to trajectories of whole cultural groups over centuries. It stems originally from two meetings in 1999 organised by the editor (Kardulias) and Mark Shutes. The volume is dedicated to the memory of Mark Shutes who sadly passed away in 2001. Kardulias describes the approach behind the book: to examine the ways in which pastoralism operates as a highly flexible system, through the adaptations of both the diverse domestic animals and the socioeconomic strategies of human groups to different environments and contexts. To achieve this, the editor takes an explicitly comparative approach, drawing together a range of case studies from Asia (five chapters), Europe (three chapters), Africa (one chapter) and the Americas (one chapter). A minor criticism is that the geographical coverage does feel a little imbalanced; considering the comparative approach, the volume could have benefitted from a greater and more representative range of case studies. The ecological focus not only provides a

framework for understanding the pastoral use of domestic animals in a particular environment or landscape context, but also allows the broader investigation of human ecology to explore the social, economic and political adaptations (economic transactions, kinship ties, political structures, etc.).

The suite of Asian case studies begins the volume. That understanding of pastoral nomadism has been influenced by the political and social contexts of scholarship is an issue fruitfully explored by Chang in her historiographical consideration of the study of nomads in Kazakhstan. She explores the political and ideological divides between Western and Soviet-based scholarship on steppe nomadism and also the manipulation of information on the past for political gain. For example, Chang argues that some Soviet scholarship likely over-emphasised pastoral nomadic over agricultural practices as a way of justifying Soviet-era forced collectivisation. Moving eastwards, Kradin's chapter on the ecology of Inner Asian pastoral nomadism pulls together a broad range of information from diverse sources to provide an overview for the period *c.* 200 BC to AD 1600. This chapter includes important discussion on the significance and constraints of the environment and climate, such as the impacts of snowstorms, droughts and

Correspondence: robin.bendrey@ed.ac.uk
School of History, Classics and Archaeology, University of Edinburgh, William Robertson Wing, Old Medical School, Teviot Place, Edinburgh EH8 9AG, UK

epidemics, and the social mechanisms for mediating against these challenges. Kradin discusses the characteristics of the livestock and their adaptation to Inner Asian environments. The chapter also touches on theories about the role of climatic cycles on the emergence of nomadic empires and also explores the political ecology of these nomadic groups and their relationships with settled neighbours.

Another case study that explicitly addresses ecological constraints is Sidky's chapter on the people of Hunza (the Hunzakutz), living in the high mountains at the intersection of the Hindu Kush, Karakoram and Himalayan Mountains. Most areas with Hunza farming communities, situated at *c.* 2,000 to 2,400 m a.s.l, have low rainfall (<200 mm/year) and are classed as desert steppe, with irrigation water brought by canal from glaciers at higher altitude. Hunzakutz farmers have had to adapt to make use of available resources at different altitudes - altitude influences the length of the annual growing season, livestock kept and agricultural output. Animal husbandry is primarily focused on transhumance, with sheep and goat herds moving to upland pastures in spring and returning in autumn. Typically, an individual household keeps higher numbers of goats (15 to 20) as they are better adapted to the harsh alpine environments and fewer sheep (10 to 15). Small numbers of cattle are kept in and around the villages throughout the year. Sidky's thoughtful analysis of Hunzakutz rituals reveals their importance to resource management (controlling over-exploitation of upland pastures) and their sensitivity to the ecological cycles of the high-mountain environments.

The ritual use of animals is an area developed by Johannesson. His chapter explores Late Bronze Age-Early Iron Age (*c.* 1500 to 300 BC) mortuary ritual from Baga Gazaryn Chuluu in central Mongolia. Johannesson sensibly argues that you cannot use animal remains from mortuary contexts in isolation to simply reflect subsistence strategies such as pastoral nomadism, as their deliberate selection for inclusion may reveal more on the social ideologies of those who constructed the burial assemblage. In the final Asian case study, Negus Cleary presents a detailed consideration of Late Iron Age pastoralism within Chorasmia. Chorasmia is an archaeologically defined culture dating from the eighth/seventh century BC to the fourth century AD located within the Amu-Darya River delta (to the south of the Aral Sea). The fortified settlements and canals of this oasis culture are clearly important for controlling the local landscape and environment. Negus Cleary's important re-evaluation demonstrates a variety of roles for the fortresses (*kalas*) for both agricultural and pastoral production and not just sedentary farmers of a centralised, urbanised, agrarian state as previously thought.

Moving to Africa, the chapter by Moritz explores the FulBe pastoralists' relationships with the neo-patrimonial

state (a state in which politics is conducted through informal clientelistic networks) in northern Cameroon and how these relationships affect the lives and livelihoods of the nomadic pastoralists. Moritz argues that the dominant image of the African state in the pastoralist literature is one of opposition to nomadic society but that a focus on official state laws and policies misrepresents these relationships. This is because the reality of contacts between the FulBe and the bureaucrats and elites who represent the state often differs from the official stance (e.g. local use of the formal bureaucratic system to extract bribes). Moritz's analytical approach thus focuses on the details of these contacts and everyday events. The study successfully demonstrates that the state is not primarily concerned with the domination of nomadic pastoralists but that the state's agents favour partial incorporation of them into the state as that makes them more vulnerable to easy exploitation.

In the sole case study from the Americas, Kuznar explores the long-term adaptability of Navajo pastoral practices through two measures: reproductive success, as measured by their population size, and economic success, as measured by their numbers of livestock. Despite historiographical challenges, in terms of the reliability and consistency of data, the chapter is successful in using these measures to understand the impact of historical and environmental factors. The analysis shows the long-term adaptive flexibility and success of Navajo pastoralism but the eventual demise of the system with the restrictions on mobility and stock reductions imposed in the 1930s. A similar political role of the state was also highlighted in Chang's study, with damaging effects on Kazakh communities following the Russian Tsarist state's policies to reduce pastoral mobility.

Moving to Europe, there are two chapters by Shutes on Irish dairy farmers. Shutes examines the historical transformations in the society and economy of a rural parish in southwestern Irish over the nineteenth and twentieth centuries AD. He pays particular attention to mechanisms of social flexibility (sharing of resources and labour) that link the productive economy and ecology. He demonstrates that it is the flexible social strategy that is at the heart of herding societies and is crucial for understanding and comparing such societies. In the following chapter, Shutes explores the wider impact of political-economic transformations on the same farming communities with Ireland's entry into the European Union (EU) in 1973. The study is interesting methodologically in terms of unpicking the components of social change, but also in the current context of debates within Europe over the role and influence of the EU at a local level. The final European case study, by Kardulias, is an ethnoarchaeological study of a herding family on Dokos, a small Greek island lacking natural sources of water.

The study aims to explore how modern herding practices make use of marginal land and how herding is located in its wider economic, political and social context. The study successfully demonstrates that the adaptation of herding to the environment of the small island of Dokos involved a complex web of social and economic relationships linking the herders to communities on other islands and the mainland in a system of mutual benefit.

The volume is concluded by a stimulating essay reflecting on the ecology of herding by Hall. Hall argues for the relevance and importance of the study of pastoralists who by their very mobility have often been major vectors of change, particularly through contacts with neighbouring societies. Indeed, Hall sees inter-societal contexts as being as important as internal social dynamics for understanding pastoralists.

As a collection of papers, the volume highlights the challenges of understanding complex socioecological systems operating at multiple scales. Ecology can provide a useful framework for exploring evolving human-animal relationships from the very start of animal husbandry (e.g. Bendrey 2014), but in terms of understanding pastoral systems, we must also be aware of the possible variations in practices, such as the directions and timings of movements within the same ecological context (e.g. Behnke et al. 2011). As advocated by Shutes, studies of contextualised pastoral systems allow understanding of the social adaptations that have emerged to mediate seasonal shortage, risk and uncertainty. These can be directly observable in ethnographic studies but are more challenging to demonstrate in the archaeological record; however, increasing analytical power is being brought through modelling approaches that can explore and test past relationships (e.g. Rogers et al. 2012). The combination of past and present perspectives adds significant value and richness to this volume, and together, the studies demonstrate the depth and breadth of ongoing research into the ecology of pastoralism.

Competing interests

The author declares that he has no competing interests.

Received: 20 October 2016 Accepted: 29 October 2016

Published online: 22 November 2016

References

- Behnke, R., M.E. Fernandez-Gimenez, M.D. Turner, and F. Stammer. 2011. Pastoral migration: Mobile systems of livestock husbandry. In *Animal migration: A synthesis*, ed. E.J. Milner-Gulland, J.M. Fryxell, and A.R.E. Sinclair, 144–171. Oxford: Oxford University Press.
- Bendrey, R. 2014. Population genetics, biogeography, and domestic horse origins and diffusions. *Journal of Biogeography* 41: 1441–1442.
- Rogers, J.D., T. Nichols, T. Emmerich, M. Latek, and C. Cioffi-Revilla. 2012. Modeling scale and variability in human–environmental interactions in Inner Asia. *Ecological Modelling* 241: 5–14.

Submit your manuscript to a SpringerOpen® journal and benefit from:

- Convenient online submission
- Rigorous peer review
- Immediate publication on acceptance
- Open access: articles freely available online
- High visibility within the field
- Retaining the copyright to your article

Submit your next manuscript at ► springeropen.com