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Title: How does pastoralism contribute to agroecological transitions in desert regions? Assessing and explaining different transition pathways of pastoral systems towards agroecology in southern Tunisia.

Abstract:

The relationship between agroecology and pastoralism is complex and still not well explored in the literature. Exploring the challenges and opportunities of transitioning todays' pastoral systems to 'more agroecological practices' raises numerous questions and debates due to the multi-level articulation of social, political, and ecological areas. Some of the challenges are due to methodological issues: What tools/approaches/scales of analysis are needed to analyze pastoralism on the light of agroecological indicators? How can we qualify the internal diversity and spatial specificity of pastoralism? how can we define a "gradient" of agro-ecological intensity, given that all pastoral systems are not at the same level of transition (including negative transitions)? Another conceptual challenge is that both agroecology and pastoralism may overlap in terms of some principles. Indeed, pastoralism historically seems to embody many agroecological principles, such as diversification, synergy, connectivity, but needs to be reinvented given current local and global pressures' dynamics. On the other hand, agroecology offers a holistic approach to transforming food production, distribution, and consumption. These are under investigated dimensions, as we study pastoralism mostly in relation to the space, and rarely in relation to other food system dimensions. Undergoing significant structural and social change, pastoral systems are engaged in diverse adaptations, setting a wide variety of pastoral situations on the ground. However, current literature often treats pastoral systems as homogeneous, failing to recognize the diverse and dynamic trajectories within these systems.

In this paper, we propose to investigate why agroecology is a useful framework to analyze the dynamics of pastoral systems. We therefore assess and explain the position of various trajectories of pastoralism in the gradient of agroecological transitions (AET) in southern Tunisia. Concepts and illustrations are provided from a case study in southern Tunisia. The method is further based on a historical analysis of pastoral practices in relation to agrarian change, socio-political context and barriers to transformative change using household data from 150 pastoral households collected in 2019-2021. The paper begins with an overview of agroecological transition, drawing on concepts and principles from Glissman. We then delve into the implications of these principles and levels of transition for pastoral systems, highlighting the need to understand how agroecology can be integrated/articulated into traditional pastoral practices. We present a conceptual framework for understanding the different dimensions of agroecological transition in pastoralism and outlines key factors influencing this transition, such as environmental, social, and economic considerations. Using a political economy lens, we analyze the fragmented pastoral landscape in South Tunisia, and identify enabling factors and barriers to transformative change in different agroecological pastoral systems.







The paper provides a comprehensive review of the literature on agrarian politics of pastoralism and agroecology, examining the diversity of pastoral systems (with illustration from a case study), the multiscale trajectories of different pastoral practices, and the drivers that shape these trajectories. By synthesizing existing knowledge and findings, the paper offers a nuanced understanding of the challenges and opportunities in promoting agroecological transitions in pastoral contexts. Finally, we discuss the implications for agroecological transitions and pastoralism management and outline future research directions and perspectives.

Keywords: pastoralism, agroecology, diversity, transition pathways, political economy, drivers.