

Traditional Ecological Knowledge and Community Based Wildlife Management: A case study from Tajikistan.

(I have to note that my overall PhD research looks at the present-day trophy hunting, community-based wildlife management areas, and the management of Tajik National Park from the sustainable livelihoods point of view. For the purpose of this report I will only focus on one aspect of my research findings, which is about traditional ecological knowledge of hunters and use of such knowledge for sustainable wildlife management purposes in the Pamir region of Tajikistan. This paper is planned for submission March 2017 to the Journal of Ecological Applications).

Introduction

One of the aims of this study is to advance the concept of Traditional Ecological Knowledge within the context of co-management by elaborating on hunting practices and the traditional ecological knowledge hunters possess in the Pamir Region of Tajikistan. Furthermore, the study assesses how hunting knowledge is used today within the context of co-management of four different Community-Based Wildlife Management Areas in the Pamir region of Tajikistan and makes the case for use and application of lessons from these different CBWMAs for sustainable wildlife management elsewhere.

Methods

Methodologically this work followed recommendations of (Huntington, 2000) and applied the methods of *historic literature review*, *semi-structured interviews*, *formal interviews* and *collaborative fieldwork* methods for. Then all the notes were transcribed and analyzed with the use of MAXQDA software. All the data were coded and then analyzed with the application of grounded theory method (Corbin & Strauss, 1990).

Discussion

In the context of the concept of traditional ecological knowledge there has been a significant number of studies, which have explored indigenous communities possessing a variety of local knowledge: for instance, Mongolian herders having different classification systems of pasture practices compared to conventional pastoral practice; Eskimo whalers more accurate assessing local numbers of bowhead whale due to their local knowledge than previously carried out scientific census (Huntington, 2000) and knowledge of Inuit's on distribution, density and ecology of Caribou (Ferguson & Messier, 1997). These findings prove that people in remote parts of the world benefit from locally available knowledge, which might be available as a geographically and contextually specific knowledge to them compare to the availability of scientific knowledge (Ferguson & Messier, 1997).

Hunting has been one of the alternative livelihood activities to subsistence farming and to nomadic herding in the Great Pamir Mountains (Olufsen, 1904 and Etherton, 1911) of modern-day Tajikistan. A number of historic literature provides insights on how local people have mastered the art of hunting for subsistence and survival in winter and spring times in the Great Pamir region (Wood, 1910; Etherton, 1911). Historically, the hunters with their immense traditional hunting knowledge carried out subsistence hunting (Etherton, 1926) and provided food for inhabitants of different valleys, which was crucial to their nutrition, food security, and overall household stability. For many centuries, hunting was mostly conducted with the use of traps, bows, and falconry (Olufsen, 1904 and Etherton, 1911).

However, hunting and other subsistence practices started seeing dramatic changes in the Pamir Region with Russian invasion at end of eighteenth century and establishment of Soviet power in nineteenth century (Pierce, 1960). Most of the subsistence practiced was no longer so and most inhabitants were involved in collective agriculture and farming activities. Collective farming had significant impact on the long established agricultural, herding and hunting practices in the Pamir region (Kreutzmann, 2003).

The dramatic decline in different wildlife species brought together mountain ungulate experts, government agencies, scientific institutions, traditional hunters and conservation activist to create four different Community Based Wildlife Management Areas (CBWMAs) in different valleys of the Pamir Mountains in 2008 (<http://www.wildlife-tajikistan.org>). Former hunters and poachers came together to work and protect wildlife species in return for conducting controlled and sustainable trophy hunting, which would then benefit broader communities. Since the establishment of the CBWMAs, yearly monitoring has been conducted based on approved technical guidelines (Saidov et al., 2011) and has been carried by traditional hunters together with local and international wildlife experts.

The knowledge of traditional hunters has been the key factor for sustainable wildlife management, especially in these remote mountainous parts of Tajikistan where scientific knowledge on wildlife management has been limited. The work of CBWMAs demonstrates how power relations could work between the state agencies and communities for the sustainable wildlife management in the Pamir region. The creation of CBWMAs has provided enabling conditions for co-management and insured integration of traditional hunters and former poachers in the wildlife management planning and use. This study finds that CBWMAs have faced different issues for being such a newly introduced approach in the region, however, the very existence of the approach and continued long term effort have started to change the perception of local communities. The study builds on and contributed to the work of Houde, (2007); (Bohensky et al., 2013); Padilla & Kofinas, (2014). Lastly, this study discusses hunting knowledge from the ecological resilience perspective by comparing hunting knowledge of local people in Tajikistan with similarly originated knowledge from the subarctic regions. Further provides new insights on how this specific practice of co-management efforts from the Pamirs can be used for broader sustainable wildlife management elsewhere.

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