

# Environmental Agenda for Wildlife Conservation in Kyrgyzstan

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## Abstract

The mountain ecosystems of Kyrgyzstan possess significant value due to their unique characteristics and ecological importance. These environments are home to a diverse range of flora and fauna, including species that are endemic and exclusive to these specific mountainous regions. Furthermore, these territories have a historical association with pastoralism, which has shaped the cultural and socio-economic settings of the country. Aligned with the Global Environmental Agenda, biodiversity conservation measures such as the establishment of protected areas play a crucial role in preserving habitats for rare and flagship species. These initiatives require the active involvement and dialog of numerous stakeholders and actors within the wildlife management of Kyrgyzstan. Collaborative efforts among them and finding an ecological balance are necessary for long-term sustainable mountain development while ensuring the well-being of local communities and securing their livelihoods. Therefore, the objective of this study is comprehensively to assess and understand Kyrgyzstan's environmental agenda for wildlife management, recognizing its characteristics, and highlighting the ongoing processes and challenges.

**Key words:** Environmental Agenda, Kyrgyzstan, mountain ecosystems, sustainable mountain development, wildlife management

## 1. Introduction

The Kyrgyz Republic with a territory of almost 200,000 km<sup>2</sup>, is located in the heart of Central Asia. It was previously part of the Soviet Union and declared its independence in 1991. In 2022, the population of the country came to 6.7 million people, with 65% of which were rural mainly engaged in agriculture (NatStatCom, 2022). The majority of the territory is part of the Tien-Shan and Pamir-Alai Mountains, with peaks over 7,000 m in elevation popular for tourism. Mountains indeed possess rich natural resources, including minerals, water resources, and significant hydro-energy potential. They contribute freshwater runoff, which is widely used for agricultural irrigation, household consumption and physical and spiritual recreation, playing a crucial role in the Central Asian region (Anarbaev, 2018; Jansky & Pachova, 2006).

The mountain ecosystems of Kyrgyzstan are characterized by a high level of species richness, rarity of habitats and endemism. They are referred to as biodiversity hotspots. They are specifically acknowledged as Key Biodiversity Areas due to their unique characteristics and ecological significance (CEPF, 2017). Biodiversity provides a variety of benefits for human well-being and plays vital functions for a healthy

environment. At the same time, due to altitude and climatic features, these areas create environmental conditions and have historically been used for pastoralism, which has shaped the cultural and socio-economic settings (Kreutzmann, 2011), as well as wildlife management practices of the country. However, the environmental agenda for wildlife conservation has become a contested and sensitive issue, involving numerous stakeholders and confronting multifaceted challenges.

The primary objective of this study is to provide a comprehensive understanding of Kyrgyzstan's mountain ecosystems, with an emphasis on their ecological, cultural, and socio-economic significance. The study aims to draw attention to the importance of biodiversity conservation, sustainable development, and collaborative governance in preserving these environments while also providing insights into the challenges they face. The research encompasses a combination of research methods and data collection techniques during extensive, long-term field surveys.

## 2. Mountains and Wildlife Conservation

The mountains of Kyrgyzstan are crucial habitat for iconic and flagship species such as (Fig. 1) the globally “vulnerable” snow leopard (*Panthera uncia*), “near



**Fig. 1** Snow leopard in the Naryn State Nature Reserve. (Source: Sensor camera of the Kaiberen Wildlife Research and Conservation Program, 2016)

threatened” Siberian ibex (*Capra sibirica*) and argali (*Ovis ammon*), nationally endangered brown bear (*Ursus arctos*), Tien-Shan wapiti – maral (*Cervus canadensis*), Turkestan lynx (*Lynx lynx*), and many other rare mammal species (Izumiya *et al.*, 2009).

From the perspective of wildlife conservation special attention is given to the mountain territories. The three-dimensional physical features, climatic characteristics, and relief of mountains provide a diverse range of environmental conditions (Mathieu, 2011). These unique attributes make mountain ecosystems highly significant from the standpoint of biodiversity conservation and serving as crucial refuges for many endangered wildlife species.

## 2.1 Environmental Agenda

Since gaining independence, in Kyrgyzstan there has been big demand for wildlife protection and conservation efforts, which are facilitated by the Global Environmental Agenda. The country recognizes the importance of safeguarding its rich biodiversity and natural heritage. In this endeavour, Kyrgyzstan is actively involved in various conservation programs and collaborating with international organizations and initiatives to address environmental challenges (Aidaraliev, 2020).

International environmental organizations claim that the population of wild predators is declining at a disturbing rate. This is occurring due to loss of habitat and prey, conflict with humans, poaching and illegal trade. Therefore, on 23 October 2013 the representatives of international donor organizations and political leaders in the governments of all 12 snow leopard range countries came together in Kyrgyzstan and adopted the Bishkek Declaration on the Conservation of the Snow Leopard. This date is recognized globally and is celebrated annually as International Snow Leopard Day. The Governments of 12 “habitat range countries”, with the support of international agencies and NGOs, launched the Global Snow Leopard and Ecosystem Protection Program, known as GSLEP.

The Kyrgyz Government has included the protection

of globally endangered wildlife, such as the snow leopard, in its Environmental Agenda. As part of this commitment, the government emphasizes further development of protected areas network, which plays a crucial role in the conservation of mountain ecosystems. This network serves as a key component of global initiatives aimed at protecting mountain ecosystems, including the GSLEP, where it is utilized as an indicator for progress and conservation efforts (Snow Leopard Working Secretariat, 2013).

## 2.2 Development of Protected Areas

The Kyrgyz Government has declared that wildlife conservation is a priority under state policy, and it is included within its National Development Strategy 2025 and promoted as a sector for attracting funds from donor organizations. In this regard, a special role has been assigned to the protected areas. In 1985, these protected areas occupied 0.533 million hectares in total and by 2018, they occupied 1.5 million hectares or 7.7% of the country’s territory (Fig. 2). They exceed in size the 1.2 million hectares of arable land available in the republic (Anarbaev, 2022).

Accordingly, since independence, the territory of nature parks and reserves has increased threefold. However, regular reports of conflicts between protected areas and pastoralists have increased sharply in recent years. As a rule, the reason of conflicts between those designating new protected areas and the local people occur regarding access to pastures for livestock grazing.

Nowadays, there are numerous stakeholders or actors involved in the environmental sphere of governance in Kyrgyzstan. The establishment of most protected areas in Kyrgyzstan is sponsored by international donor organizations. The establishment of these new protected areas, it is believed can contribute to the mitigation of human-wildlife conflicts. However, according to a field survey (Anarbaev, 2022), local residents hold the belief that the establishment of new protected areas may not effectively reduce livestock losses caused by wild predators. In fact, they argue that it may even lead to additional conflicts surrounding pasture access. An example of such a case occurred in Talas Oblast, where the Kara-Buura State Nature Reserve, which was initially established in 2005, was downgraded to a nature park in 2012 to allow local pastoralists to utilize the pastures. Similarly, another conflict occurred in Zhalal-Abad Oblast with the establishment of the Dashman State Nature Reserve in 2012. The neighboring Kyzyl-Üngkür local municipality, representing the residents, opposed this initiative. Eventually, both sides reached a compromise, and in 2013, the reserve began its operations with a smaller territory than what was initially declared.

Taking into consideration the aforementioned issues regarding the establishment of new Protected Areas, such as the creation of the new Alai State Nature Park in the

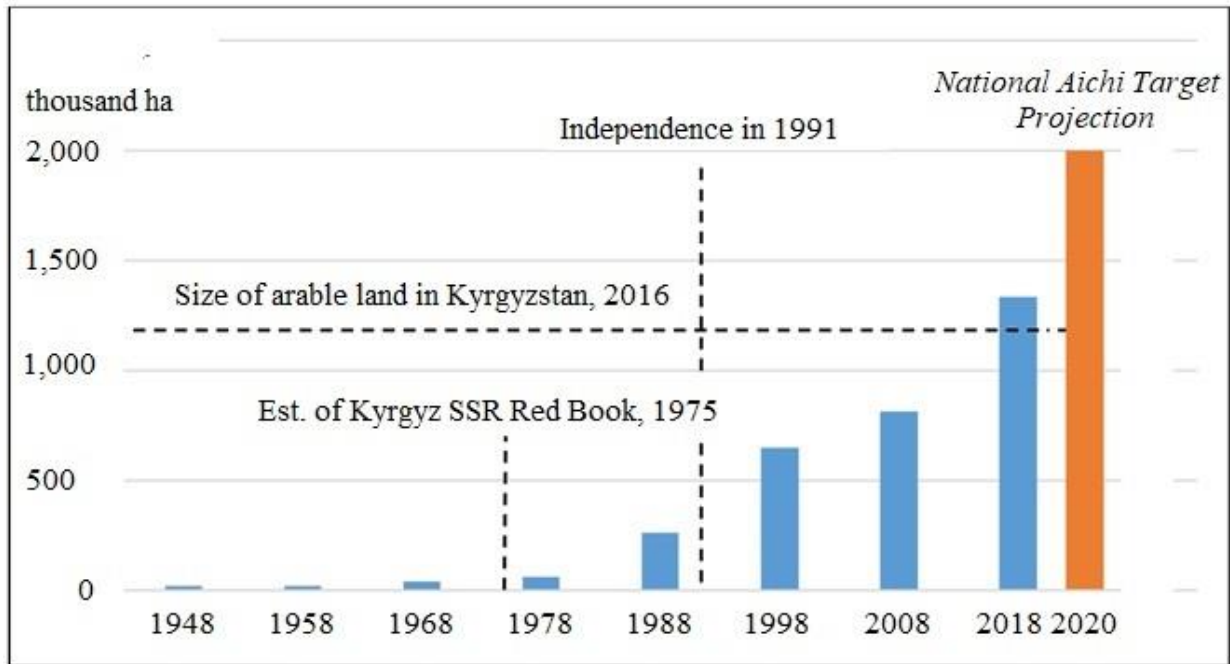


Fig. 2 Development of state nature parks and reserves in Kyrgyzstan. (Source: Anarbaev, 2022)

southern part of Kyrgyzstan, certain challenges emerge. While livestock grazing is permitted in its buffer zones as a nature park, the pastoralists are not allowed to shoot wolves, for example, within the boundaries of the protected areas. This situation creates a potential conflict where livestock may be vulnerable to predation without any means to control or mitigate the threat posed by wild predator species within the protected areas. Therefore, the implementation of the environmental agenda for wildlife conservation necessitates a critical focus on wildlife management, particularly in addressing human-wildlife-related conflicts and finding effective solutions.

### 3. Wildlife Management

Alongside the establishment of protected areas, the Red Book has been used as a key legal tool for wildlife protection, decision making and prioritising the environmental agenda. Adoption of the first hunting legislation in 1930 provided for the protection of rare wild animals and birds in Kyrgyzstan. Since 1963 the list of protected animals has expanded to include the snow leopard, manul (*Otocolobus manul*) and brown bear. The general aim of this regulation was to enhance the protection of wildlife. Since the establishment of the Red Book, the list of endangered species has increased by several times.

Nevertheless, some wildlife species listed in the Red Book of the Kyrgyz Republic, such argali are allowed to be hunted with a special limitation on the amount that can be taken, raising serious concerns among the wildlife protection community. The annual limit is no more than one percent of the total number of their population throughout the republic. Nevertheless, local NGOs have

made several efforts to adopt new legislation to stop trophy hunting in Kyrgyzstan.

#### 3.1 Trophy Hunting

Nowadays the Kyrgyz Government permits and allocates a certain number of hunting licenses for various wildlife species promoting this as a conservation tool. Generally hunting activities are regulated under the Law on Animal World (1999) and the Law on Hunting and Hunting Economy (2014).

The decrease in population was established as being due to habitat degradation, poaching, killing in response to livestock depredation and natural prey depletion. Nowadays, the hunting, possession and trade of snow leopards are prohibited under the Law of the Kyrgyz Republic on Animal World (1999) and they are listed nationally as “critically endangered” in the second edition of the Red Book of the Kyrgyz Republic (2006).

In 2013, prior to the Bishkek Global Snow Leopard Conservation Forum, the Kyrgyz Government alongside its wildlife use fees, substantially increasing the fine rates as well. It was argued that this measure can decrease poaching and illegal trade activities. Later in 2017, the fine for illegal catching or hunting of snow leopards was increased from 199,640 KGS (US\$ 2,295) to 1,500,000 KGS (US\$ 17,245).

The IUCN Species Survival Commission, a global network of conservation scientists, recognizes that well-managed trophy hunting can provide both revenue and incentives for local people to conserve wildlife populations and their habitats, maintain areas of land for conservation, and protect wildlife from poaching (IUCN, 2012). The Global Snow Leopard and Ecosystem Protection Program also promotes trophy hunting as a

conservation tool for enhancing snow leopard prey populations through community participation and to mitigating human-wildlife conflicts (Snow Leopard Working Secretariat, 2013). In Kyrgyzstan, however, trophy hunting has become a contested and sensitive issue that involves many interested parties. A negative image has also been reinforced by messages about harmful impacts from the selective hunting reported in the international literature (Nordbø *et al.*, 2017).

### 3.2 Human-Wildlife Conflicts

In recent decades, many pastoralists have often complained about an increase in livestock depredation by wild predators, especially wolves (*Canis lupus*), despite the existence of state-sponsored predator control activities. On the other hand, there are public concerns about wildlife conservation. With the engagement of numerous environmental NGOs and mass media, wildlife management issues have quickly become highly politicized in Kyrgyzstan. The country's participation in several global environmental conventions has heightened awareness of many projects funded by external donor organizations and the implementation of obligations for wildlife conservation. Consequently, wildlife management in Kyrgyzstan has gained significant international attention.

Livestock predation, where wild animals like snow leopards or wolves prey on domestic livestock, poses significant economic challenges to pastoralists who depend on livestock for their livelihoods. The loss of livestock can result in financial burdens and strain the relationship between communities and wildlife.

Moreover, since the independence of Kyrgyzstan, the expanse of protected areas has increased threefold. Protected areas are crucial for wildlife conservation and are promoted by the nature conservation community as a beneficial measure for mitigating human-wildlife conflicts. However, despite this, livestock depredation by wild predators continues to generate conflicts and has become a serious conservation issue.

In recent years the increase in livestock depredation by wolves has become a primary socio-economic issue in the Tien-Shan and Pamir-Alai mountain regions of Kyrgyzstan. The local pastoralists claim that livestock losses due to wild predators were lower in Soviet era than nowadays. In the Soviet times, the issue of "wild predator" was centrally governed, and under the collective farm system, guns and ammunition were supplied to herders. However, environmentalists consider the problem to be linked with overhunting and poaching of wild ungulates such as argali and ibex. Consequently, the number of natural prey animals of the wolf and snow leopard has decreased.

## 4. Current Challenges

Wildlife protection, human-wildlife conflicts and

conflicts between protected areas and local people have gained the attention of many international actors, who accordingly, influence the national environmental agenda of Kyrgyzstan.

In addition, Approved by Government Decree, Kyrgyzstan's biodiversity conservation priorities for 2014 – 2024 approved by government have been formulated according to the Strategic Plan for Biodiversity. To summarize them, there is a positive trend regarding expansion of the network of protected areas which today covers over 7% of the country's territory and under the strategic targets, Kyrgyzstan intends to increase coverage further to 10% by 2025. Taking into account this, the conflicts with the local populations seems to be very challenging.

At the global scale as well, many scholars argue that Target 3 of the Kunming-Montreal Global Biodiversity Framework (2022) to protect 30% of the planet for conservation by 2030 will be missed by an even greater margin. The outlook was worst for West and South Asia, projected to achieve 11% and 10% coverage respectively by 2030 (Farhadinia *et al.*, 2022). Sustainable mountain development and resource use are only possible when the mountain communities themselves are involved, and national and global environmental agendas should prioritize the primary needs and interests of the local people.

## 5. Discussions

Conflicts between protected areas and pastoralists often arise due to restrictions on grazing and resource access within the protected areas. Pastoralists depend on these areas for their livestock's grazing needs and traditional land use practices.

Addressing these human-wildlife conflicts requires a comprehensive and balanced approach that takes into account the needs and concerns of both wildlife conservation and local communities. This includes implementing measures such as improved livestock management practices, community-based conservation initiatives, alternative livelihood options, and the active involvement of local communities in decision-making processes.

By finding sustainable solutions and promoting dialogue among stakeholders, it would also be possible to mitigate human-wildlife conflicts and ensure the coexistence of wildlife conservation efforts and the livelihoods of pastoral communities. This approach is crucial for maintaining the delicate balance between wildlife protection and the well-being of local communities in Kyrgyzstan. The mountain regions of Kyrgyzstan attract many interested parties who are involved in pastoralism, natural resources extraction, development projects, hunting and nature conservation.

For instance, since Kyrgyzstan gained its independence in 1991, many international nature



conservation organizations have opened permanent offices and implemented various projects in the country. Their efforts have been focused on saving threatened species assemblages, managing wildlife sustainably, enhancing the protected areas network, creating educational programs and engaging in many other activities in connection with biodiversity conservation.

The difficult socioeconomic situation that Kyrgyzstan faced after the dissolution of the Soviet Union had a direct impact on its wildlife. The high level of poaching of wild ungulates resulted in a decrease of their population. Decrease in the wild prey populations are considered one of the key issues for predator conservation. It is believed that ensuring a sufficient natural food base would minimize their depredation on livestock. Therefore, many efforts are aimed at increasing the population of prey species especially wild ungulates such as ibex and argali.

Kyrgyzstan's Environmental Agenda for Wildlife Conservation aims to address crucial issues concerning the protection and preservation of the country's diverse wildlife. By implementing sustainable strategies and fostering collaboration among stakeholders, we strive to safeguard the natural habitats and biodiversity of Kyrgyzstan for present and future generations. Livestock depredation by wolves has a seasonal character and intensifies in winter. Accordingly, more attention is required for livestock protection activities during wintertime. Protective measures are effective at reducing livestock depredation by wild predators and achieving coexistence. The use of modern techniques such electric fences would minimize the loss of livestock. However for the pastoralists in Kyrgyzstan this would require a large amount of money.

Institutional and legislative arrangements regulating wildlife management are slowly improving. The adopted laws on Preservation of the Environment and on Hunting and Hunting Economy facilitate the engagement of the local communities in conservation activities, especially in relation to poaching of wild ungulates.

## Acknowledgements

I would like to express my sincere gratitude to the Rufford Foundation for supporting the field surveys, and also thank the local residents, officers of the Naryn State Nature Reserve and an anonymous reviewer for their comments.

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Maksatbek Anarbaev holds a Doctorate in Natural Sciences from the Free University of Berlin and the title of professor at the International University of Kyrgyzstan. For many years, he worked at the National Center for Mountain Regions Development of the Kyrgyz Republic, where he has made significant contributions to the development of the Strategy and Action Plan for Sustainable Land Management in the High Pamirs and Pamir-Altai. Currently, he is involved in research projects focusing on the sustainable use of natural resources, local livelihoods, pastoralism and wildlife conservation issues. Additionally, he serves as a national expert on the Sustainable Mountain Development Program within the Global Biodiversity Framework Early Action Support (GBF-EAS) project of the GEF, UNEP and UNDP in Kyrgyzstan.

(Received 2 May 2023, Accepted 11 October 2023)

