Sustainable use and conservation of flora and fauna in Central Asia regions bordering Afghanistan

The Organization for Security and Co-operation in Europe (OSCE) presents this report produced under the project "Addressing vulnerabilities and improving resilience in communities in the Central Asia border regions with Afghanistan: Natural resource management (water management and energy security)." The report analyses problems and offers solutions for the sustainable use of natural resources, including flora and fauna, in southern Central Asia. It highlights the efforts of states and public organizations to protect flora and fauna, including those within the framework of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

OSCE Project Management Team: C. Melis, M. Krasnova

Contributors: F. Illarionova, V. Novikov, G. Hughes, M. Arazmedov, S. Irgashev, A. Zaslavskaya, J. Barotova, E. Kalenova

Layout, cover design and illustrations: D. Adylova, A. Povarich, Zoï Environment Network

The team of contributors would like to thank the country partners and the CITES Secretariat, who participated in the review of the draft report and the OSCE teams in Tajikistan, Turkmenistan and Uzbekistan for their support.

Disclaimer
The views, findings, interpretations and conclusions expressed in the publication are those of the authors and contributors and do not necessarily reflect the views or policies of the OSCE and its participating States. The OSCE does not accept any liability for any damage or loss which may arise out of the reliance on information contained in this publication.

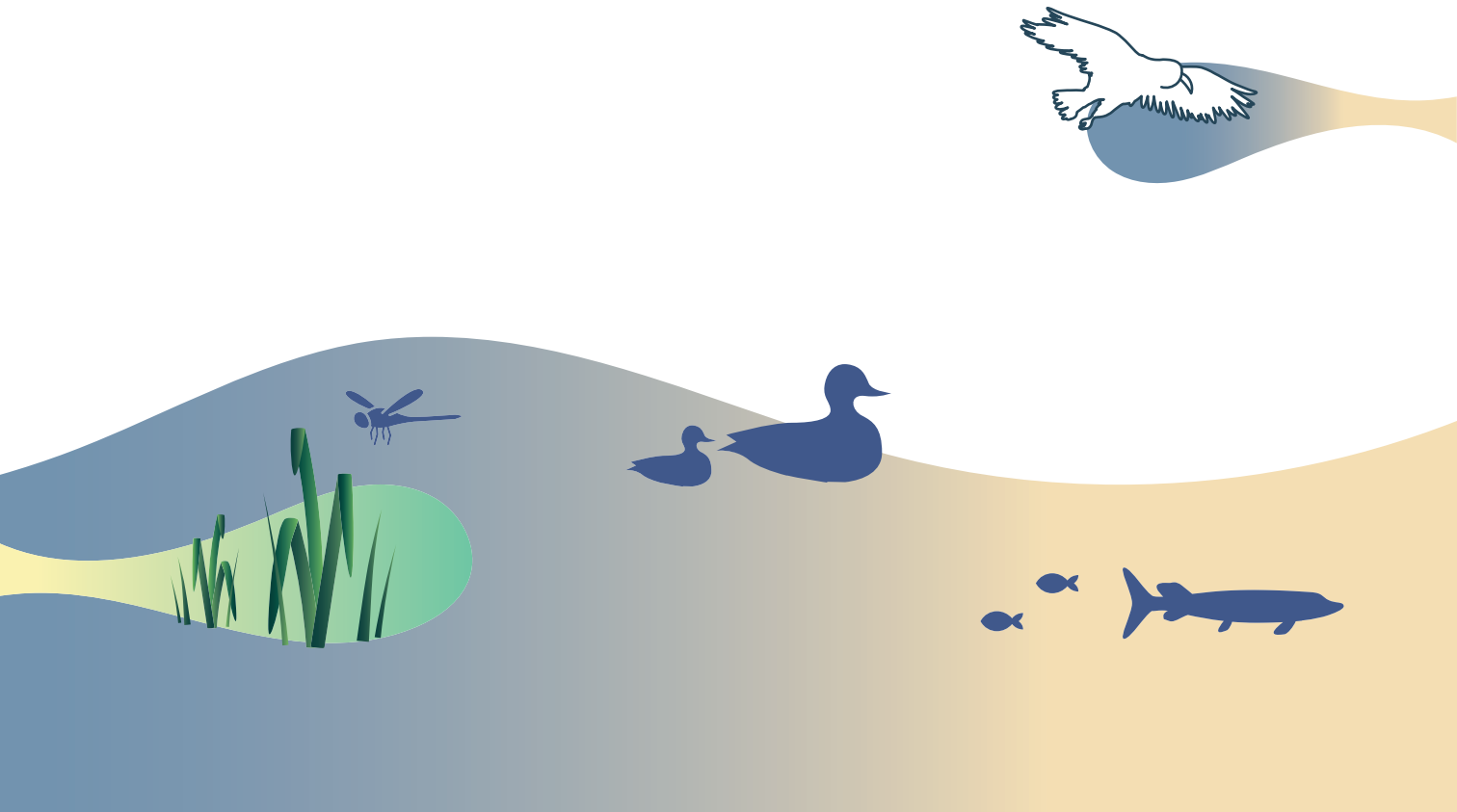
© Organization for Security and Co-operation in Europe (OSCE), 2025

Organization for Security and Co-operation in Europe

zoï environment network

CITES COP20 SAMARKAND 2025 UZBEKISTAN

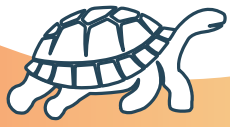
Contents



Introduction

The communities of southern Central Asia, including those in mountain and desert regions, depend on natural resources, fauna, and flora for their livelihood, economies and well-being. Within the framework of the programme "Response to the Implications of Afghanistan for the OSCE Region", the OSCE, in collaboration with the Zoï Environment Network, has produced illustrated information materials to support the work of engaging with populations, local communities (mahallas), and youth in southern regions of Central Asia, including Uzbekistan, Tajikistan, and Turkmenistan, on conservation issues. These countries are parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), an agreement between governments that aims at ensuring that international trade in wild animal and plant specimens does not threaten the species' survival. The successful implementation of CITES depends on co-operation between government agencies, raising awareness, and engaging the population.

This report underscores the benefits of natural resources to local communities and provides examples of illegal collection and trade of flora and fauna as well as examples of environmental damage caused by unsustainable use and non-compliance with laws and regulations. It offers recommendations for action for different stakeholders. This report can be used for educational and awareness-raising purposes, including for preparation for and participation in the 20th Conference of the Parties to CITES in Samarkand, Uzbekistan, in November-December 2025.



1. Benefits of nature for people and socio-economic development

The southern regions of Central Asia are characterized by unique mountain and desert species and ecosystems. The Kopetdag and Koytentag mountains run along Turkmenistan's southern border. In Uzbekistan, the Western Tien Shan, as well as the Gissar-Alai Mountains, are recognized for their high endemism and rich biodiversity. The Koytentag and Surkhan nature reserves, which are located on the border between Turkmenistan and Uzbekistan are strong candidates for nomination as a joint UNESCO World Heritage Site. Mountains cover most of Tajikistan. The extensive Tajik National Park in the Pamirs and the Tigrovaya Balka (Beshai Palangon) wetland and nature reserve are UNESCO World Heritage Sites of Tajikistan.

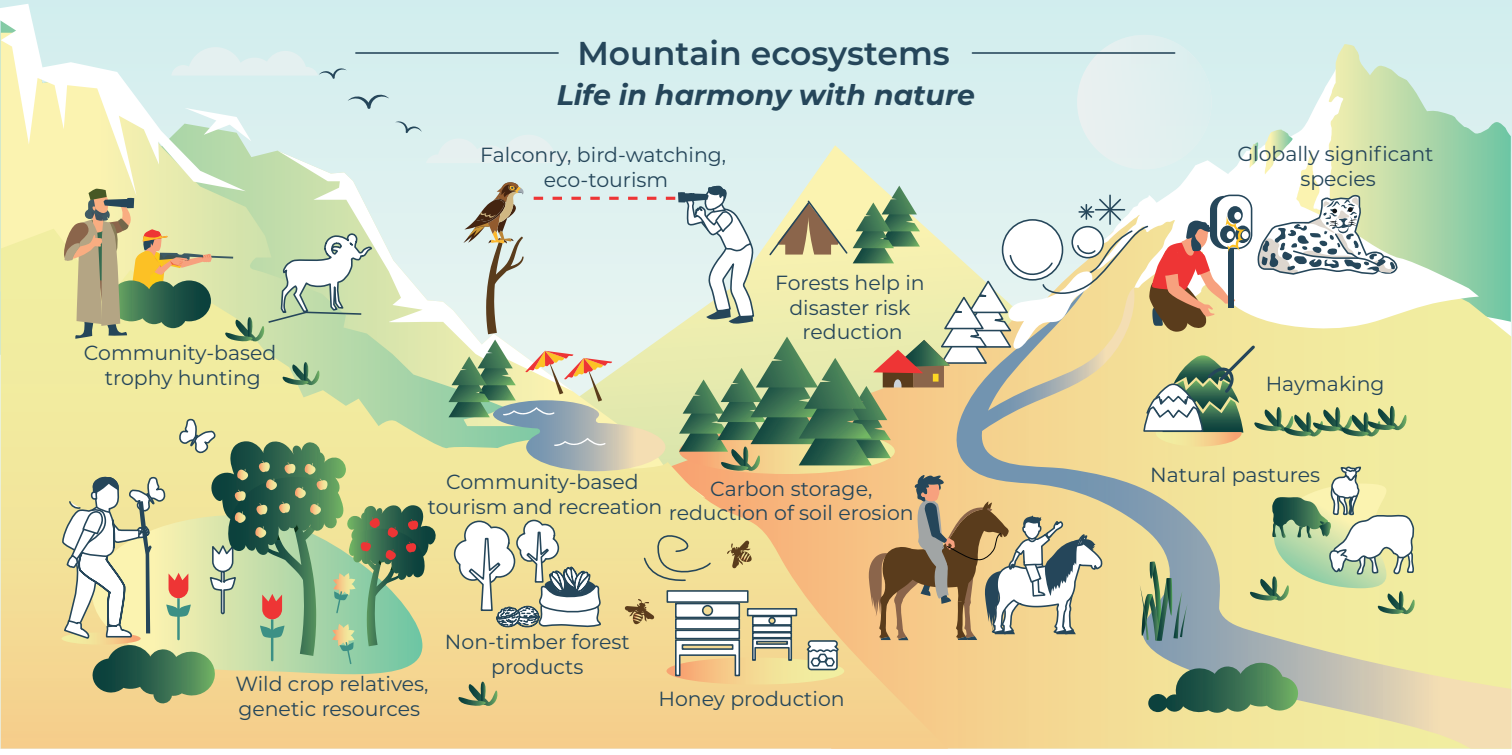
Tajikistan and Uzbekistan are working to promote ecotourism, as well as sports and cultural tourism, in their mountainous regions. Tajikistan's Tourism Development Strategy for 2021–2030 plans to develop ecological routes, as well as hiking, horseback riding, fishing, and hunting. The mountains of central Tajikistan are renowned for their natural beauty, healing springs, and hunting grounds. Developing ecotourism in the south of the country, particularly in the Khatlon province, near the renowned Dashtijum and Tigrovaya Balka (Beshai Palangon) reserves, could provide residents with a promising alternative source of income. Health trails are being developed in the mountains of Turkmenistan, and reforestation programmes are underway. In recent years, there has been an increase in mass tourism to mountain areas and reserves. Mountaineering, sports, and cultural tourism are booming in Uzbekistan's natural and cultural sites in the mountains, and its mountain lakes and streams near cities are very popular in summer.

Although forest cover is stable and even increasing due to tree planting, the quality of many forests is declining due to overgrazing and excessive harvesting of non-timber forest products, such as nuts or grasses. Soil erosion leads to decreased fertility of arable lands and pastures and reduced carbon reserves. Planting trees and practicing crop rotation and sustainable grazing contribute to soil and forest restoration and increase carbon stocks in soils.

Beekeeping is growing and provides income for the local population while benefiting the environment, but there are some problems with export due to noncompliance with environmental standards.

Central Asia's mountains have a rich genetic diversity of wild plant relatives, including wild apple and pear trees, cherry, plum, pistachio, hawthorn, and barberry. This gene pool is useful for the selection of agricultural crops and the creation of cultivated plant varieties that are resistant to diseases, pests, and adverse conditions. Medicinal plants, including ferula, licorice, rose hips, and sea buckthorn, are used in folk medicine.

The mountains are home to globally significant animal species, such as markhor, argali, snow leopards, leopards, and birds of prey. Many of these species were previously threatened, but government agencies, NGOs, scientists, and local populations have worked together to reduce poaching and help many of these species recover.Deserts prevail in southern Central Asia, but oases where people live and agriculture is developed form around water sources, such as rivers, lakes, reservoirs, and canals. Vast desert pastures provide the basis for livestock farming. Due to population growth and increased demand for food, the number of livestock has increased, putting more pressure on pastures. Desert forests and plantations play a key role in mitigating desertification and maintaining pasture productivity.



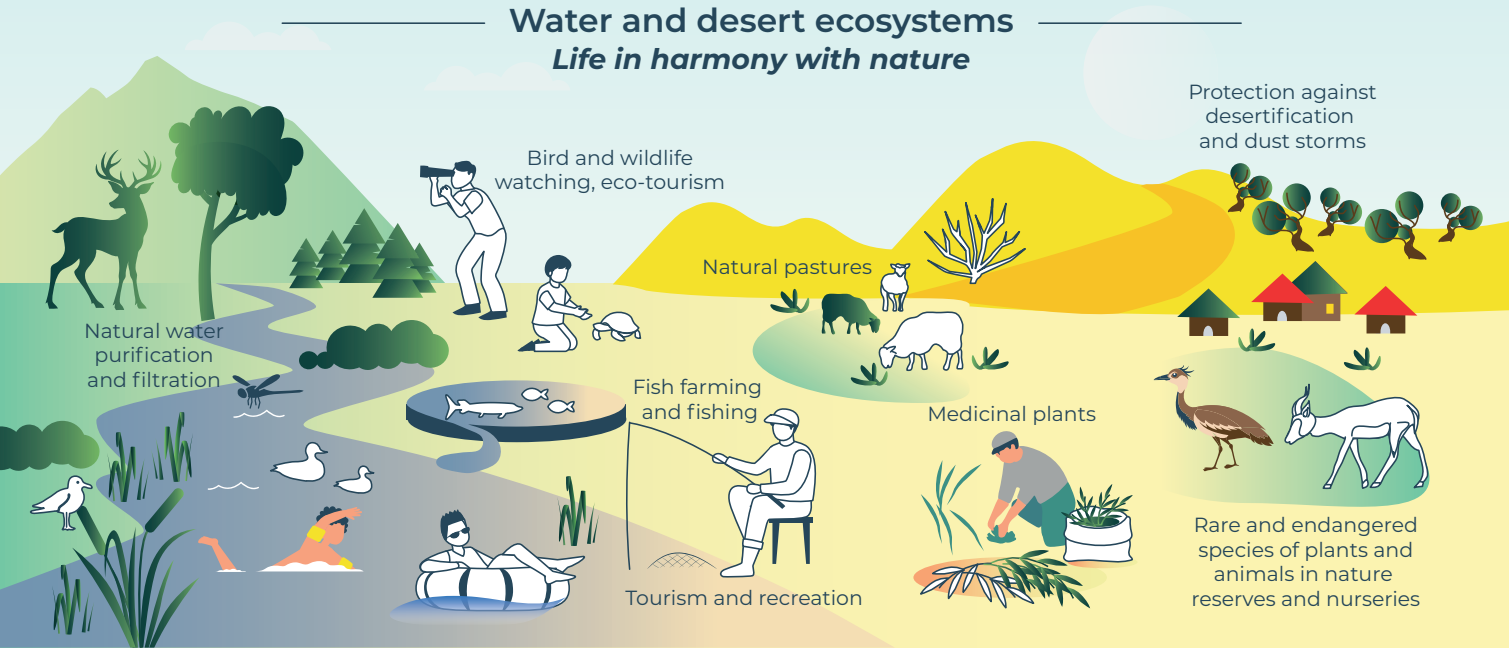
On rivers and reservoirs, seasonal restrictions on fishing are in place to preserve fish stocks, such as a ban during the spawning season. Riverine tugai forests and aquatic vegetation play a vital role in purifying water and provide habitats for many rare and migratory birds and other animals.

Through the efforts of business and government agencies, bird and animal nurseries are being developed to help restore populations and promote tourism.

Uzbekistan has several wildlife nurseries dedicated to breeding rare and endangered species of fauna, as well as the Tashkent botanical garden that preserves rare and endangered flora. The wildlife nurseries are managed by institutions under the Ministry of Ecology, Environmental Protection, and Climate Change, while the botanical garden is overseen by the Academy of Sciences.

The largest and oldest wildlife nursery in Uzbekistan is the Jeyran eco-centre, established in 1977; it now covers 16,500 ha. Initially, this centre focused on goitered gazelles but later expanded to protect other species, including kulans, Bukhara mountain sheep, Przewalski's horses, markhors, pelicans, eagles, falcons, lizards, and other fauna of desert ecosystems. In addition to species research and recovery programmes, the centre offers environmental education for the local population, internships for students, and excursions.

Uzbekistan collaborates with Arab countries, such as Qatar and the United Arab Emirates, on restoring the population of the endangered bird species such as houbara bustard. One large centre opened in the Bukhara province in 2012 and covers 400 ha. The Uzbek Society for the Protection of Birds conducts annual monitoring of rare and endangered birds and



organizes information campaigns and develops recommendations to prevent and reduce the poaching of rare and endangered birds and their habitat.

There are several wildlife nurseries throughout Tajikistan. The Bukhara Deer conservation centres are located in the Romit Reserve and Sari Khosor National Natural Park, which keep around 40 animals. The Dashtijum Nature Reserve has a centre dedicated to preserving markhor, an iconic and rare ungulate species inhabiting cliffs in the border region between Tajikistan and Afghanistan. Over the past ten years, the markhor population has grown from 2,000 to over 6,000 animals. The Tigrovaya Balka (Beshai Palangon) Nature Reserve, close to the border with Afghanistan, has a pheasant nursery with 1,200–1,500 Tajik pheasants. The remote, high mountain Murgab district, which borders China and Afghanistan, has a snow leopard rehabilitation centre that covers 10 ha and hosts 8 snow leopards.

The country's forestry sector includes five large nurseries, covering 400 ha, as well as several smaller nurseries, covering 40 ha. These nurseries grow two to three million seedlings annually, primarily fruit trees. Local communities can access forests and pastures managed by state forestry enterprises. For example, people living near the Childukhtaron and Dashtijum reserves and forestry enterprises in southern Tajikistan can sign agreements to harvest pistachios, almonds, medicinal herbs, and other products. Depending on the terms of the agreement, community members hand over 30 to 70 percent of what they harvest to the forestry enterprises and can also lease plots of orchards and natural pastures.

In Turkmenistan, the government supports species population restoration and reintroduction programmes at wildlife centres, such as the Akhal Nature Reserve. Through the State Forest Program, the government supports native tree reforestation.

2. Threats to biodiversity

The illegal hunting, trapping, and harvesting of wild animals poses a serious threat to species survival. Twenty to thirty years ago, poaching was one of the leading causes of the decline in the number of flagship species.

Although the estimated population size of these species may fluctuate from year to year due to weather and migration factors and the scope of surveys, the following examples highlight notable changes. The markhor, a CITES-listed species that inhabits the Dashtijum rocks on the border between Tajikistan and Afghanistan, had an estimated population size of 200–400 animals in the 1990s (the total number for the country was estimated 1,000–1,400). Currently, the number of markhors in Tajikistan is estimated at 4,000–6,000 animals.

In the Koytentag Mountains of Turkmenistan, the markhor population has grown from 300–400 to 1,400 animals. In the Pamir Mountains of Tajikistan, which are shared with China and Afghanistan, the Marco Polo sheep population was estimated in the range of 5,000–10,000 animals in the early 2000s (according to the International species action plan on argali and Tajikistan's National biodiversity strategy) and is currently in the range of 25,000–29,000 animals. The snow leopard is an elusive species that is difficult to monitor. Conservative estimates published by Tajikistan's statistics agency suggest an increase from 70 animals in 1991 to 130 recently. However, scientists suggest higher estimates of 300 to 400 animals. According to statistical data, the brown bear population increased from 400 animals to at least 800 animals.

Some bird species, such as the saker falcon, the peregrine falcon, and the grey-headed goldfinch, had become targets for capture and export abroad. A ban on hunting in Turkmenistan and Uzbekistan, together with control measures, fines, and restoration initiatives in Tajikistan, have led to the recovery of some endangered species.

There are, however, other environmental threats at the local level. For example, increased tourism and consumption result in more waste and littering in nature. In Tajikistan, waste removal is poorly organized in rural areas. The situation is better in cities due to waste collection and removal projects, but the level of recycling is low. Uzbekistan, the most populous country in Central Asia, also faces urgent problems with waste collection, recycling, and reducing illegal dumps.

The cutting down of shrubs and trees is one of the most widespread local environmental problems. While most mountain and desert forests are under state protection, illegal cutting and collection of shrubs is often reported in rural areas, cities, and remote desert regions. For example, in Tajikistan's remote Murgab district in the Pamirs, collecting teresken bush seriously degrades desert pastures. Despite the growth in hydropower capacity, the rapidly growing rural population in Tajikistan still experiences energy blackouts and deficits, especially during the cold winter months. They rely on fuelwood, dried dung, and bushes. In the meantime, bans on cutting down trees in densely populated areas, combined with tree plantations, have reduced the pressure to cut down forests.

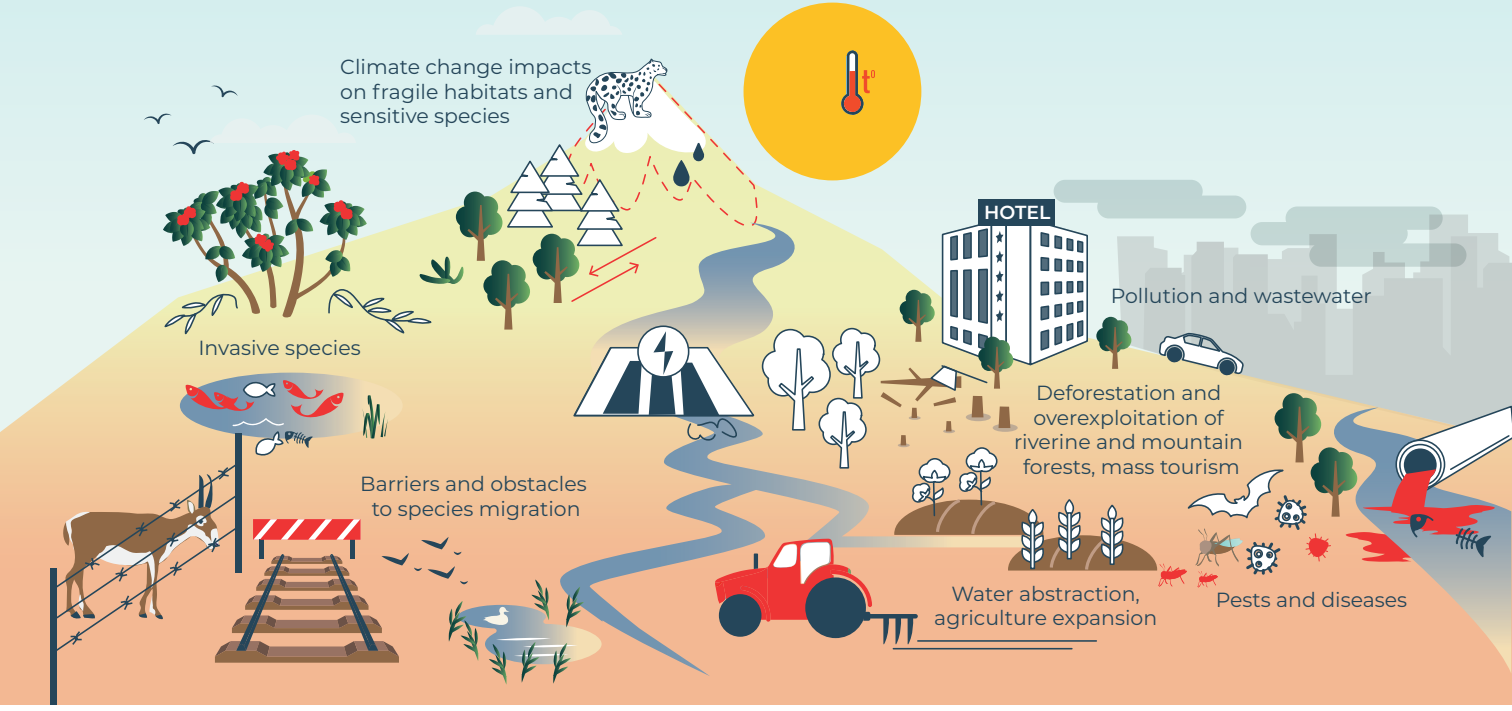
In Turkmenistan, saxaul trees (*Haloxylon* spp.) dominate the desert forest landscape. In the past, the local population cut them down in areas without gas, and prohibitions were ineffective. The problem of saxaul deforestation was solved when the authorities completed the gasification of all populated areas. Thanks to restoration efforts, saxaul forests are expanding.

Excessive grazing of livestock in forests and national parks causes the strongest impact on biodiversity. In southern Tajikistan, low fees for pasture use (35 somoni, or about 3.5 dollars, per ha), combined with weak oversight and a lack of grazing limits, lead to land degradation and the decline of medicinal and endemic plant species.

In markets and along roads in southern Central Asia, one can find endangered plants listed in the national Red Lists (Red Books) for sale. Examples include tulips (*Tulipa regelii, T. vvedenskyi, T. hissarica, T. turkestanica*), *Eremurus albertii*, *Allium oschaninii*, *Iris* spp., and *Kudrjaschevia korshinskyi*. People also collect *Ferula* and snowdrops (*Galanthus* spp.) for sale, even though the unregulated collection and sale of these plants is prohibited. The mass collection of rhubarb for consumption and sale threatens its viability in several areas of Tajikistan. In response to this threat, the Tajik Forest Agency introduced a licensing system in 2017. To regulate the harvesting of medicinal plants and encourage domestic processing, the Tajik government established quotas for two species in 2025: 80 tonnes of *ferula* resin and 1,000 tonnes of licorice root.

Often, children and youth are among the plant collectors. Environmental education and awareness are of great importance — the lower the demand and the higher the environmental literacy, the less species are collected and traded, and the less danger there is to nature. To reduce overexploitation, it is necessary to educate the population.

Large-scale threats to species and ecosystems



Local threats are compounded by larger-scale problems and global crises, such as climate change, extreme weather events, pollution, water depletion, habitat fragmentation, and invasive species that endanger native species and ecosystems.

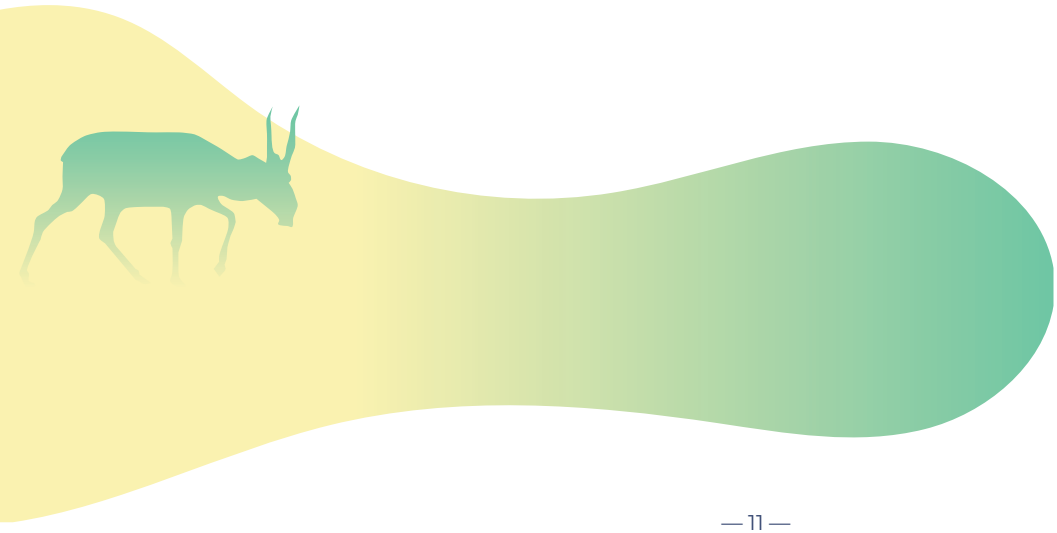
The development of trade and businesses that lack adequate biosafety controls, coupled with insufficient public awareness, can lead to the introduction and spread of invasive species and agricultural pests. Water ecosystems are particularly sensitive to invasive species. Entrepreneurs may import new species of fish or plants which can spread widely, displacing native species.

Locusts and other pests often spread across the border from Afghanistan. In northern Afghanistan, locusts pose a risk to food security. The problem is exacerbated by a lack of agro-chemical treatment and funding to monitor and combat locusts. Recently, neighbouring countries have increased their collaboration: Turkmen experts visited Tajikistan, and Uzbekistan and Tajikistan conducted joint cross-border locust monitoring and treatment campaigns.

Agriculture accounts for 90 per cent of the total water use in southern Central Asia. Water is mainly used for irrigation, but up to 50 per cent of water is lost in outdated canals or fields.

After irrigation, collector drainage waters containing salts and fertilizers flow back to the environment. Another source of water pollution is wastewater and household waste dumped in rivers. The excessive use of dams and canals can negatively impact floodplain forests and the habitats of birds and fish. Introducing water-saving technologies and wastewater treatment systems, improving lining of canals, conserving water, and complying with water protection zone regulations are key to preserving freshwater species and ecosystems.

Barriers along borders, roads, and other linear infrastructure such as fencing or trenches around natural pastures and agricultural lands, as well as dams may affect the natural migration of species. These barriers separate species populations, making it more difficult for them to migrate for food or reproduction. This can lead to a reduction in species numbers as animals die while crossing barriers such as roads or barbed wire fences. The rapid development of tourism infrastructure can lead to the destruction of riverbeds, floodplain forests and mountain ecosystems, as well as a surge in visitors, resulting in increased waste and species disruption.



3. Illegal collection and trade of species

The smuggling and illegal trade of animal and plant species in Central Asia pose a threat to nature. The illegal collection of rare and endangered species leads to an ecological disruption and a decrease in species numbers, as was previously seen with snow leopards, argali, and saker falcons. In Uzbekistan, authorities report that over the past 20 years, the country's customs recorded 248 attempts to import or export 28,804 live species and derivatives (products made from animals or plants). Of these, 198 cases involved importing vertebrates, included red listed species and species included in CITES (27 species), especially reptiles, birds, and mammals. Among the species illegally hunted and exported from Uzbekistan to Kazakhstan are the Central Asian tortoise, saiga, and saker falcon.

The development of online trading and social networks has made the market for wild flora and fauna more accessible and anonymous. Advertisements for rare birds, reptiles, and mammals appear on trading platforms and messaging apps. Chameleons, crocodiles, pythons, boa constrictors, and large cats are illegally imported into Uzbekistan.

There is insufficient data on the smuggling of species from Tajikistan and Turkmenistan, but at the local level, the illegal collection of flora and fauna is monitored by environmental and forestry authorities. For example, in the Khamadoni district of southern Tajikistan bordering Afghanistan, about 100 fines were issued to residents and businesses in the first nine months of 2025, including 20 for plants, 10 for wildlife, and 10 for fishing.

The illicit regional trade and smuggling of species

The illicit international trade and smuggling of species as a threat

CITES's purpose is to ensure that international trade in wild animals and plants does not threaten their survival. All signatory states are required to comply with the Convention's provisions. The countries of southern Central Asia are parties to this Convention: Uzbekistan joined in 1997, Tajikistan in 2015, and Turkmenistan in 2024. In 2023–2025, all Central Asian countries started reviewing and updating their national biodiversity goals and strategies for the period 2030–2050.

CITES regulates not only the trade of live species, but also their parts or derivatives. Those involved in preventing illegal collection, hunting, trade, and export include Ministries of Ecology (permitting), scientists and the Academies of Sciences (scientific basis and certificates), customs and border guards (border control), Ministries of Internal Affairs (investigations), non-governmental organizations (NGOs), and journalists.

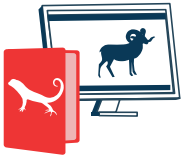
Measures and approaches for species protection and implementation of CITES

Environmental inspections and policing

National body for CITES implementation

Laws and regulations on nature use and protection, hunting rules and quotas, permits, national biodiversity strategies

National body for CITES science



Red List

CITES works by subjecting international trade in specimens of selected species to certain controls. All import, export, re-export and introduction of species covered by the Convention has to be authorized through a licensing system. Each Party to the Convention must designate one or more Management Authorities in charge of administering that licensing system and one or more Scientific Authorities to advise them on the effects of trade on the status of the species.

Traditional methods, such as inspections and raids by environmental authorities, are primarily used to control and prevent biodiversity crimes, but customs and border police play an active role in combating the illegal trade and smuggling of species. Their knowledge of CITES mechanisms and access to species databases and Red Lists help them detect crimes. Sniffer dogs also play an important role in these efforts. New technologies use DNA sequencing, fingerprint analysis, infrared imaging, and drone and satellite monitoring.

Species on national Red Lists (Red Books) are protected by the state in addition to CITES. The Red List is an important tool for the conservation of nature and the sustainable use of natural resources in Central Asia. Species are divided into several categories: extinct (EX), extinct in the wild (EW), critically endangered (CR), endangered (EN), and vulnerable (VU). Fines and, in some cases, criminal liability are imposed for violating laws and regulations regarding the illegal collection, trapping, or hunting of species listed in the national Red Books.

What is CITES?

Convention on International Trade in Endangered Species of Wild Fauna and Flora

The goal
is to ensure that the international trade of wild animals and plants does not endanger their survival

Signed:
3 March 1973

Members:
185 nations

CITES provides varying protection for nearly
40,000 species

CITES COP20
SAMARKAND 2025
UZBEKISTAN

From 24 November to 5 December 2025, Samarkand, Uzbekistan, hosts the 20th Conference of the Parties (COP20) of CITES

The Convention on International Trade in Endangered Species of Wild Fauna and Flora came into force in July 1975. The CITES Appendices list animal and plant species and control measures applicable to international trade, and they differ based on level of threat. CITES Appendix I includes species of animals and plants that are threatened with extinction. The commercial trade of these species is prohibited, except for second-generation captive-bred specimens registered with the CITES Secretariat. Exporting CITES Appendix I species requires a CITES export permit and an import permit. Appendix II includes species that are not currently threatened with extinction but could become so if trade in these species is not regulated. Exporting CITES Appendix II species requires a CITES export permit. Appendix III includes species that a CITES party has determined to be subject to regulation within its jurisdiction, for which the co-operation of other parties is required. A certificate of origin is required for the export of CITES Appendix III items. The CITES website provides information on species lists and import and export data and highlights the problem of illegal trade. Uzbekistan will host the 20th Conference of the Parties to the Convention in 2025.

Country briefs

In **Tajikistan**, the Committee for Environmental Protection of the Government of the Republic of Tajikistan is the governmental entity responsible for environmental controls and the implementation of CITES. The National Biodiversity and Biosafety Center acts as a scientific body. In summer 2025, Tajikistan published the 3rd edition of the Red Book, which includes 304 plant species and 242 animal species.

The country has adopted several laws, strategies, and programs related to nature conservation, including the use, restoration, and protection of flora, fauna, forests, and pastures.

- ✓ Law "On Environmental Protection" (2011, amended in 2014–2024)
- ✓ Forest Code (2011)
- ✓ Law "On the Protection and Use of Flora" (2007)
- ✓ Law "On Fauna" (2008, amended in 2022 and 2025)
- ✓ Law "On Environmental Education of the Population" (2010)
- ✓ Law "On the Collection, Conservation, and Rational Use of Genetic Resources of Cultivated Plants" (2012)
- ✓ Law "On Beekeeping" (2012)
- ✓ Law "On Organic Farming and Production" (2019)
- ✓ Law "On Hunting and Game Management" (2014)
- ✓ Law "On Biological Safety and Biological Protection" (2021)
- ✓ Law "On Genetic Resources" (2022)
- ✓ Law "On Fish Farming, Fishing, and Protection of Fish Resources" (2022)
- ✓ Regulations on the Red Book, Resolution of the Government of the Republic of Tajikistan (2010)
- ✓ National Development Strategy of the Republic of Tajikistan until 2030
- ✓ National Strategy for the Development of the Green Economy of the Republic of Tajikistan for 2023–2037
- ✓ State Program for the Conservation of the Snow Leopard in the Republic of Tajikistan for 2024–2028
- ✓ State Program for Greening (Tree Planting) the Republic of Tajikistan up to 2040
- ✓ State Program for Environmental Education and Awareness of the Population of the Republic of Tajikistan

Hotline of the Committee on Environmental Protection to report on violations: +992 77 716 22 75.

In **Turkmenistan**, the Ministry of Environmental Protection is responsible for environmental governance and control. The country recently joined CITES and is in the process of establishing co-ordination mechanisms. The updated 4th edition of the Red Book published in 2024 includes 121 flora species and 145 fauna species.

The country has adopted laws, strategies, and programs related to nature conservation, including the use, restoration, and protection of flora and fauna:

- ✓ Law "On Nature Conservation" (2014)
- ✓ Law "On the Protection and Rational Use of Wildlife" (1997)
- ✓ Law "On the Collection, Conservation, and Rational Use of Genetic Resources of Cultivated Plants" (2017)
- ✓ Law "On Hunting and Game" (2021; hunting in Turkmenistan is suspended since 2018)
- ✓ Regulations on the Red Book of Turkmenistan (1997)
- ✓ National Strategy for the Conservation of Biodiversity 2018–2023

In 2024, the Ministry of Environmental Protection of Turkmenistan developed new hunting regulations, including timing, locations, methods, and norms for hunting. Members of the Society of Hunters and Fishermen of Turkmenistan may hunt if they possess the required documents, as may individuals who have obtained a seasonal or one-time hunting permit.

As part of the National Forest Program, Turkmenistan is committed to expanding its forests. From 1998 to 2024, the area of forested land increased by 227,000 ha, and 162 million seedlings were planted.

Hotline for reporting environmental violations:
Ministry of Environmental Protection of Turkmenistan: 447485;
Society for the Protection of Nature of Turkmenistan: 931727.

In **Uzbekistan**, the Ministry of Ecology, Environmental Protection and Climate Change is responsible for environmental control and is the administrative authority for CITES. The Ministry issues permits for the import, export, and re-export of species included in the CITES appendices. The CITES scientific body in Uzbekistan is the Academy of Sciences, specifically the Institutes of Zoology and Botany, which provide recommendations on scientific matters. A new Red Book is planned for release at the end of 2025. The previous version, published in 2019, included 314 plant species and 209 animal species.

The country has adopted laws, strategies, and programs related to nature conservation, including the use, restoration, and protection of flora and fauna:

- ✓ Law "On Nature Conservation" (1992)
- ✓ Law "On the Protection and Use of Wildlife" (1997)
- ✓ Law "On Hunting and Game Industry" (2020)
- ✓ Law "On Plant Protection" (2023)
- ✓ Resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On Measures to Improve the Protection of Wild Animals," which includes a ban on individuals keeping wild animals in semi-free conditions or captivity, and ban on wild animals in state and traveling circuses (2024)
- ✓ Resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On the definition of the moratorium zones on the extraction of common minerals in riverbeds" (2024)
- ✓ Decree of the President of the Republic of Uzbekistan "On measures to regulate the extraction of non-metallic (common) minerals in water bodies" (2024)
- ✓ Resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On the Regulation of the Use of Biological Resources and the Procedure for Obtaining Permits on Nature Use" (2014)
- ✓ Regulations "On the Procedure for Implementing Biotechnical Measures for the Protection and Rational Use of Wildlife" approved by the Government of the Republic of Uzbekistan (2025)
- ✓ Regulations on the Red Book of the Republic of Uzbekistan (2018)

The Uzbek Ministry of Ecology operates a 24-hour hotline (1157) and an official Telegram channel (t.me/ecogovuz_bot) where citizens can report environmental violations. A mobile app "EkoNazorat" has been developed to assist in monitoring of compliance with environmental legislation.

An online portal designed in Uzbekistan — Green Customs (yashiltamojnya.uz) — helps identify animal and plant species quickly and check permits. The portal was facilitated by the project "Strengthening Capacity and Assistance in Combating Wildlife Crime in Central Asia" by the Ekomaktab Ecological Resource Center, in collaboration with the Institute of Zoology in the Academy of Sciences, and with the Ministry of Ecology.

The science departments of nature reserves and CSOs regularly conduct environmental outreach for people living near protected natural areas and among youth. Birdwatchers post photos and observation data on Birds.uz website. Environmental bloggers and journalists publish articles. In addition to listening to environmental lectures, students and youth actively participate in environmental restoration efforts, such as planting trees, cleaning up waste, or releasing confiscated Central Asian tortoises into the wild.

4. Solutions and recommendations

Nature conservation requires the direct involvement of local communities, including participation in environmental initiatives, responsible consumption, and raising environmental awareness. Citizens can play a leading role in protecting the environment by sorting waste, reducing water consumption, participating in clean-up days, choosing environmentally friendly products, and joining environmental movements, campaigns and holidays.

Tajikistan has initiated International Markhor Day, which is celebrated on May 24. Turkmenistan celebrates Turkmen Horse Day in April to honour the Akhal-Teke breed and Turkmen Melon Day in August. Uzbekistan celebrates World Environment Day on 5 June with the participation of government agencies and public organizations. Throughout the country, a large-scale programme and campaign called Yashil (Green Space) is in effect.

.

Community engagement in conservation

How can the population help protect nature?

Don't buy exotic animals, plants, or related products online

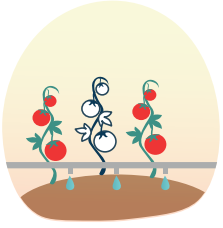
Obtain a nature use license

Follow the rules, quotas and seasons for plant collection and hunting

Prevent fellow citizens from committing environmental crimes

Report to government agencies illegal collection, trade and transportation of species

Do not litter



Conserve water resources

Minimize the risk of forest fires

Use pastures sustainably and avoid overgrazing

Plant trees

Citizens can participate in and contribute to environmental protection by following simple eco-friendly practices in their daily lives, such as preserving resources and sorting waste. They can get involved by contributing to environmental campaigns, such as clean-up days and forest planting initiatives, and by joining public organizations. Additionally, citizens can take the initiative by reaching out to government bodies with their concerns and suggestions.

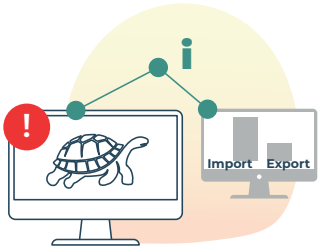
Simple and significant steps every citizen can take include not setting fires in nature, not littering, conserving water resources, and planting trees. Citizens can report illegal collection, transportation, and trade of species to government agencies via hotlines and social networks of ministries. When contacting the hotline, it is necessary to provide contact information, the location of the violation, and photos or videos. Citizens detecting and informing about environmental violations can encourage environmentally responsible behavior and compliance with the rules and regulations.

To hunt legally, one must obtain a hunting license from authorities and comply with established rules, quotas, and seasons. In Tajikistan and Uzbekistan, hunting requires a license, as well as a personalized permit for a specific species and a permit for hunting in designated areas. Hunting is only permitted during specific periods and within quotas. Hunting endangered species and hunting in nature reserves are prohibited.

How can the state improve conservation efforts?

Training of border guards and customs agents on CITES provisions and the detection and prevention of species trade and smuggling

Information campaigns at airports



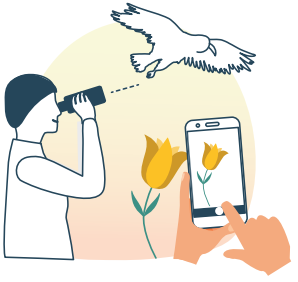
Promote the exchange of data between customs, border and environmental authorities

Participate in meetings and work related to CITES

Penalties and fines

Information materials about species

Enabling conditions for waste collection and recycling



Involve the public in implementing regulations and conventions on nature conservation

Authorities publish information on the rules for collecting plants, quotas, and harvest seasons. In addition, rational use of pastures helps preserve the habitats of plants and animals. Both Tajikistan and Uzbekistan have state programmes that contain recommendations for sustainable use of pastures.

Government agencies protect nature by monitoring compliance with laws, regulations, and rules; funding measures to protect and restore species; promoting environmental culture; and developing knowledge. Specific measures include supporting nature reserves and nurseries, promoting green technologies, monitoring biodiversity, and conducting anti-poaching raids. Awareness campaigns and informative initiatives — such as photos of threatened plant and animal species and descriptions of fines posted at airports and train stations — help raise citizen awareness and prevent environmental violations.

General recommendations:

- ✓ In co-operation with regional initiatives and CITES, assist government entities in building their capacity to reduce and prevent the illegal collection, trade, and smuggling of plant and animal species;
- ✓ Support Aarhus Centres in disseminating knowledge about flora and fauna and encourage other civil society organizations and activists to reduce the negative human impact on nature;
- ✓ Promote environmental education and awareness among local communities and youth through regional educational platforms (e.g. OSCE Academy, Green University of Central Asia) online platforms (CITES Virtual Academy, online courses), and local awareness-raising campaigns.

Recommendations for competent authorities:

- ✓ Introduce and scale up innovative technologies in biodiversity monitoring and controls;
- ✓ Combat poaching through improved patrolling and awareness;
- ✓ Ban grazing in nature reserves and national parks;
- ✓ Promote ecotourism opportunities and community-based nature reserves;
- ✓ Prepare a new generation of specialists in botany, zoology, and ecology.

Recommendations for local communities and civil society organizations:

- ✓ Promote inexpensive greenhouses, solar cookers and dryers;
- ✓ Expand access to natural gas and energy-efficient stoves;
- ✓ Introduce and scale up agroforestry.

An inclusive approach to natural resource management and conservation requires:

- ✓ Working with women's groups, small entrepreneurs, and mahallas to engage them in campaigns to plant trees, clean up areas and water sources of plastic and other waste;
- ✓ Educating and informing rural women on the collection and use of medicinal and other plants.

References and useful information sources

Official websites of environmental authorities

Agency on Statistics under the President of the Republic of Tajikistan → https://www.stat.tj and statistical yearbook "Environmental Protection in Tajikistan" → https://www.stat.tj/wp-content/uploads/2024/09/machmuai-hifzi-muhiti-zist-2024.pdf

Committee for Environmental Protection of Tajikistan → http://tajnature.tj

Ministry of Environmental Protection of Turkmenistan → http://natureprotection.gov.tm

Ministry of Ecology, Environmental Protection and Climate Change of Uzbekistan → https://gov.uz/en/eco

Nature use permits in the Republic of Uzbekistan (regulations and e-gov portal) → https://gov.uz/ru/advice/591/document/2305, https://gov.uz/ru/advice/591/document/410, https://gov.uz/ru/advice/NaN/document/2533

International sources

Large Landscape Conservation Center (2023). Assessment of Wildlife and Protected Areas of Turkmenistan. Rosen T., Amanov A., Karrieva Sh. et al. → https://largelandscapes.org/wp-content/uploads/Assessment-of-Wildlife-and-Protected-Areas-of-Turkmenistan-2023.pdf

Welch G, Stoev P (Eds.) (2019) A report of RSPB-supported scientific research at Koytendag State Nature Reserve, East Turkmenistan. Pensoft Publishers → https://sic-icsd.com.tm/uploads/149_Welch%20and%20Stoev_2019_Koytendag_EN.pdf

Convention on Biodiversity and Global Goals → https://www.cbd.int/gbf

OSCE (2014). Surveillance of CITES sites in Eastern Europe → https://www.osce.org/files/f/documents/5/e/338941.pdf

Convention on Migratory Species (CMS) (2019). Mapping Transboundary Hotspots for the Central Asian Mammals Initiative. Ed. Stephane Michel → https://www.cms.int/sites/default/files/document/cms_cami2_inf.3_mapping-transboundary-hotspots-for-cami_e.pdf

CMS (2014). International species action plan on argali → https://www.cms.int/sites/default/files/document/Argali_SSAP_final_English_0.pdf

Critical Ecosystem Partnership Fund (CEPF). (2017). Ecosystem Profile and Investment Strategy in the Central Asian Mountains. → https://www.cepf.net/our-work/biodiversity-hotspots/mountains-central-asia

EU (2019) Beyond Tigers: Evidence for a Strategic Approach to Biodiversity Conservation in Asia: Central Asia report. → https://op.europa.eu/en/publication-detail/-/publication/ba5fe255-93cf-11e9-9369-01aa75ed71a1

GIZ "Green Central Asia" → https://www.greencentralasia.org

GIZ "Integrative and Climate-sensitive Land Use in Central Asia" → https://www.landuse-ca.org

National Strategy and Action Plan for the Conservation and Rational Use of Biodiversity of the Republic of Tajikistan (2003)→ https://www.cbd.int/doc/world/tj/tj-nbsap-01-p01-ru.pdf

IUCN Regional Dialogue on Transboundary Conservation in Central Asia, 28–30 November 2023, Tashkent

"Towards a shared vision for biodiversity conservation in Central Asia" → https://iucn.org/press-release/202311/towards-shared-vision-biodiversity-conservation-central-asia

TRAFFIC (2024). Review of Wildlife Use and Trade Laws in Four Central Asian Countries. Tokubek uulu B., Kurmanov S., Turdubekov U. → https://www.traffic.org/site/assets/files/23053/en_legal_analysis_-traffic_central-asia.pdf

Zoï Environment Network (2024). Key Drivers of Biodiversity Loss and Conservation Financing in Central Asia. → https://zoi-net.org/product/ca-biodiv-financing

Online tools and maps

Convention on Migratory Species (CMS). Central Asian Mammals Initiative (CAMI). (2019). Atlas of migrations and linear infrastructure of Central Asian mammals. → https://www.cms.int/cami/sites/default/files/document/cms_cami2_inf.4_cami-migration-and-infrastructure-atlas_e.pdf
CITES Convention, Species Trade Database → https://trade.cites.org
CITES Convention, Species Checklist → https://checklist.cites.org/#/en
“Green Customs” of Uzbekistan, online portal → https://yashiltamojnya.uz

Articles in digital media

→ https://www.nationalgeographic.com/animals/article/wildlife-forensics-animal-trade-smuggling-poaching
→ https://cites.org/eng/news/sg/cites-50-anniversary-since-entry-into-force-reflections-sg-higuero
→ https://uz.sputniknews.ru/20230501/uzbyekistan-oxrana-ryedkiy-rastyeniye-34511531.html
→ https://old.ekolog.uz/?p=3474
→ https://centralasia.news/29433-turkmenistan-oficialno-prisoedinilsja-k-cites.html
→ https://www.un.org/ru/chronicle/article/22214
→ https://asiaplustj.info/ru/news/tajikistan/society/20240505/kakie-rasteniya-nelzya-srivat-v-tadzhikistane-i-kakovi-posledstviya-dlya-narushitelei
→ https://podrobno.uz/cat/obchestvo/dremuchaya-traditsiya-kogda-na-stolichnom-rynke-zhivotnykh-yangiabad-perestanut-ubivat-krasnoknizhny
→ https://zamin.uz/ru/obshchestvo/152534-na-rynke-kuylyuk-byla-raskryta-nezakonnaya-torgovlya-zmeyami.html
→ https://tj.sputniknews.ru/20221025/zhiteli-sogd-prodazha-zmey-1052421148.html
→ https://www.asiaplustj.info/news/tajikistan/society/20170831/krasnaya-kniga-tadzhikistana-prodolzhaet-popolnyatsya-novimi-ischezayutshimi-vidami
→ https://rus.ozodi.org/a/28375278.html
→ https://old.asiaplustj.info/ru/news/tajikistan/economic/20240811/sem-rastenii-tadzhikistana-na-kotorih-mozhno-prilichno-zarabotat
→ https://asiaplustj.info/ru/news/life/food/20220313/12-dikih-trav-tadzhikistana-bogatih-vitaminami
→ https://www.gazeta.uz/ru/2025/08/12/wildlife-trade
→ https://gov.uz/ru/advice/NaN/document/2533
→ https://www.fao.org/newsroom/story/healing-hands-and-healing-plants-of-tajikistan/ru#
→ https://gov.uz/ru/eco/activity_page/bioxilma-xillik
→ https://www.gazeta.uz/ru/2024/07/29/hunting
→ https://asiaplustj.info/news/tajikistan/society/20250404/tadzhikistan-hochet-stat-liderom-ekoturizma-k-2030-godu-ch-to-strana-mozhet-pokazat
→ https://turkmenistan.gov.tm/ru/post/59654/zakon-turkmenistana-ob-ohote-i-ohrane-ohotnichih-bogatstv
→ https://turkmenistan.gov.tm/ru/post/71041/ohotniche-rybolovnoe-hozyajstvo-sovremennogo-tipa