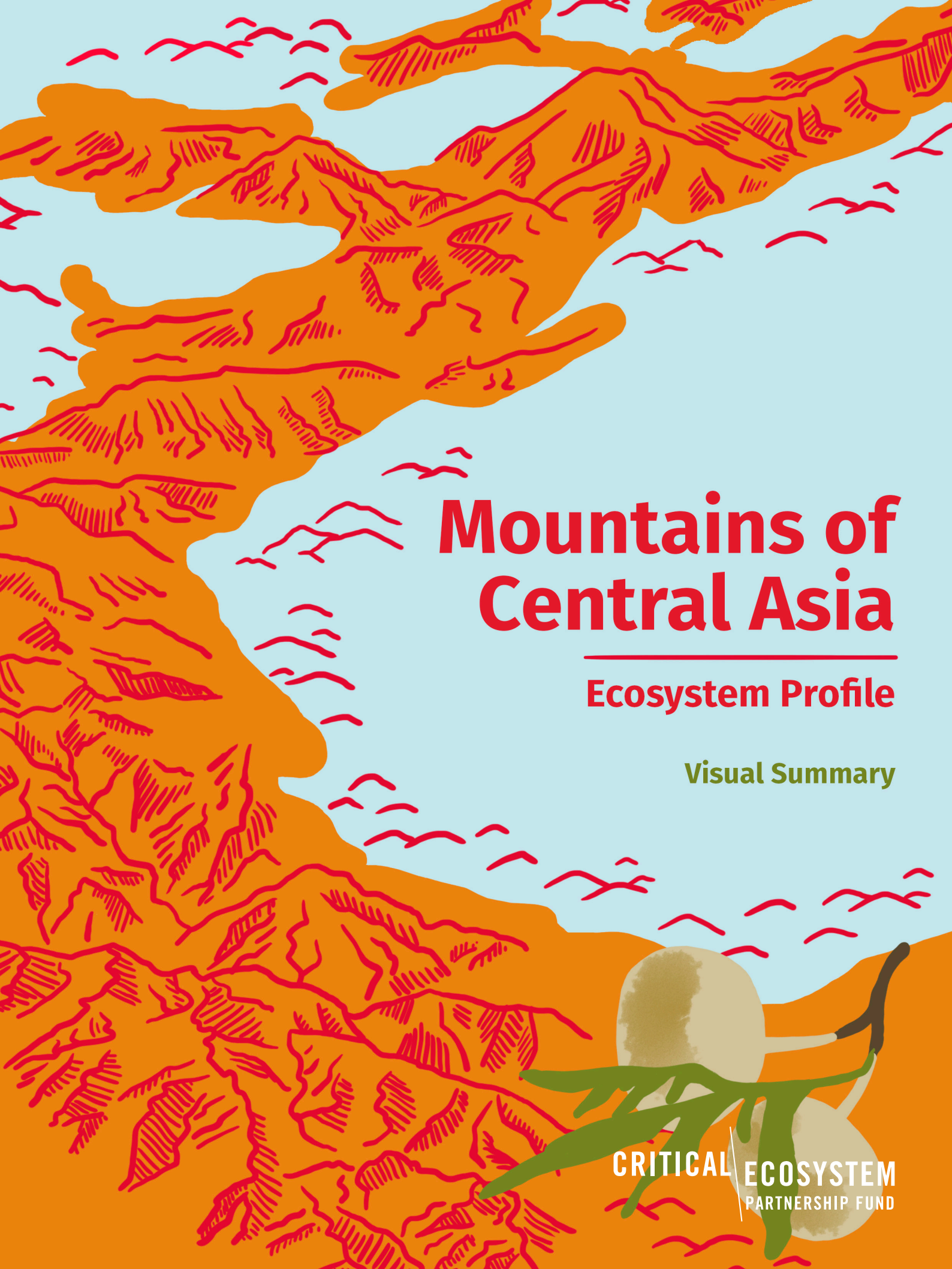

Mountains of Central Asia

Ecosystem Profile

Visual Summary

CRITICAL ECOSYSTEM PARTNERSHIP FUND

Mountains of Central Asia Ecosystem Profile
Visual Summary

The Critical Ecosystem Partnership Fund is a joint initiative of l'Agence Française de Développement, Conservation International, the European Union, the Global Environment Facility, the Government of Japan, the John D. and Catherine T. MacArthur Foundation, and the World Bank.

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Contents

1. Introduction

The Mountains of Central Asia Biodiversity Hotspot is a dynamic region economically and geopolitically. With the breakup of the Soviet Union 25 years ago, the former republics of Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan and Turkmenistan declared independence and began transitioning from a centrally planned and managed system to new governance and market-based economies with new regional trade links. These five countries coordinate their efforts on such environmental issues as the Aral Sea crisis and the protection of the Caspian Sea and mountain ecosystems.

Conflicting interests and episodes of unrest have also been a reality within the hotspot. Afghanistan in particular has suffered from more than three decades of conflict, and the current Islamic Republic is now trying to establish effective governance and security outside the main urban areas. Difficult topography, remote geography and ethnic divisions have been, and remain, challenges. Domestic and regional migration patterns; energy and transport links; and poverty, education and awareness levels may all influence nature and natural resources in the region. The hotspot countries cooperate on economic and political issues through such forums as the Shanghai Cooperation Organization, the Eurasian Economic Union and the Economic Cooperation Organization.

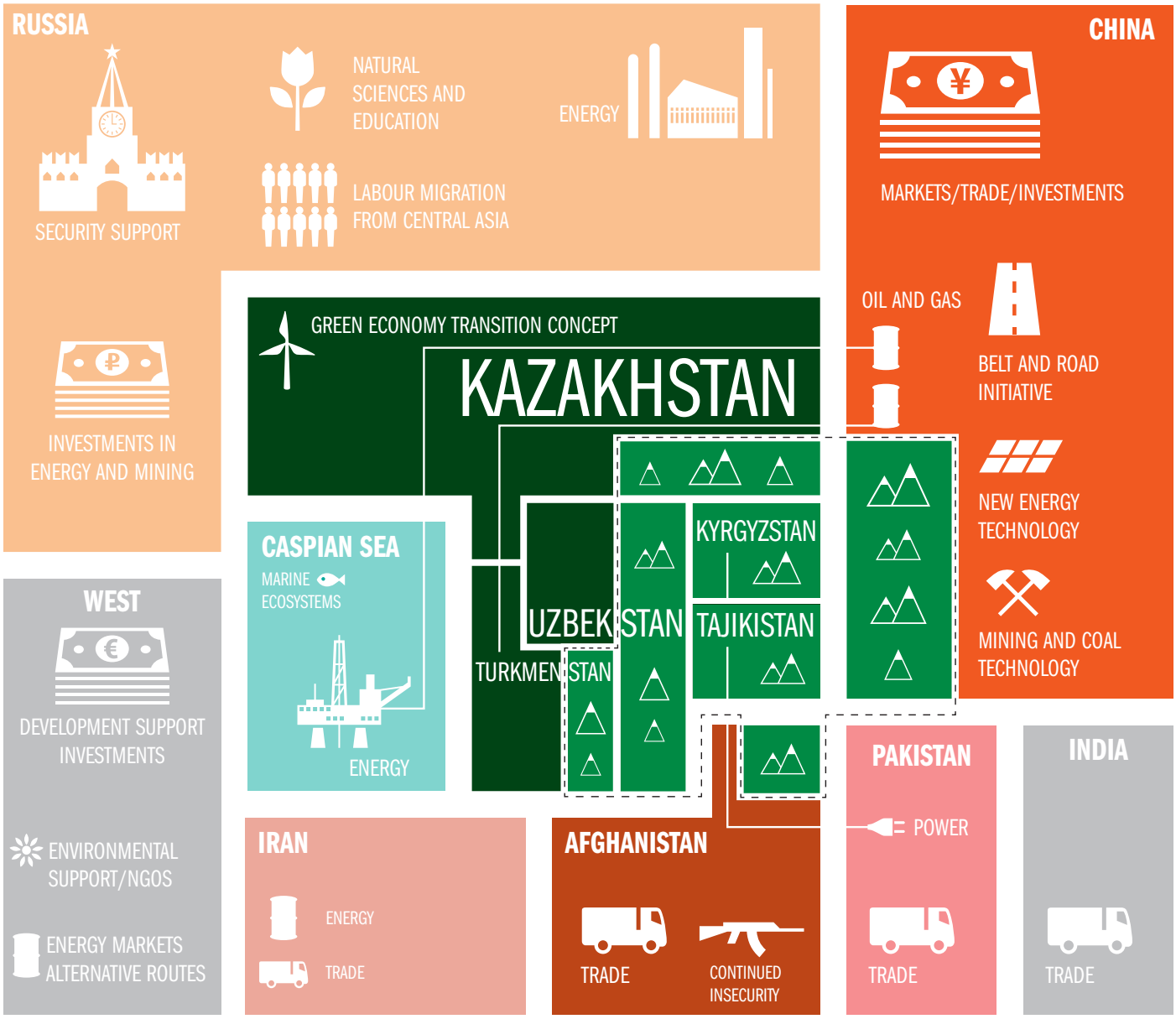
The biodiversity hotspot lies along the ancient Silk Road corridor and has been home to the great commercial and cultural centers associated with that fabled route. Today, the region is distinguished by a mix of agrarian, nomadic and industrial societies, and its mosaic of cultures, languages and political systems.

China's Belt and Road Initiative—an effort in economic diplomacy to revitalize the Silk Road—makes the region a target for major investments in infrastructure. Xinjiang is the starting point for at least three economic corridors: China-Kazakhstan-Russia-Europe, China-Kazakhstan-Kyrgyzstan-Uzbekistan-West Asia and China-Pakistan-Indian Ocean. Productive agricultural land, pastures and forests as well as Key Biodiversity Areas lie in the path of the Belt and Road Initiative, and the conservation of nature within the hotspot may well depend on sound planning.

Much of the region's wilderness lies in the remote mountains, and the ridges themselves form many of the international borders. As a result, many protected areas and Key Biodiversity Areas sit across borders from one another, raising the question of whether regional cooperation would be the best approach. Recent cooperation on global conservation of the Endangered snow leopard (*Panthera uncia*), the Western Tien Shan natural World Heritage Sites and the Pamir-Alai initiatives offer promising precedents.

Mountains of Central Asia Biodiversity Hotspot

Geopolitical influences on Central Asia and the biodiversity hotspot



2. Biological importance of the hotspot

The mountains of Central Asia are crucial to the maintenance of wild and domesticated biodiversity. The vertical distribution of species by elevation results in a wide range of species and ecosystems spread over a relatively small surface area. The region harbors genetic resources of the wild relatives of several domesticated plants—such as wheat, apples, pears, almonds, walnuts and pistachios—and animals—including sheep and goats—and is host to more than 30 distinct ecosystems.

Plants

By virtue of their location, the mountains of Central Asia play an important connecting role in the distribution of many important Mediterranean and Asian species and ecosystems. There are between 5,000 and 6,000 known species of vascular plants in the hotspot, about 1,500 of which are endemic.

Desert, semi-desert and arid steppe vegetation predominates on the lower slopes and foothills and in some of the outlying ranges. Some species of grasses and herbs occur at higher elevations.

A type of wild fruit-and-nut forest unique to Central Asia grows in sheltered places in the Pamir and Tien Shan mountains. These diverse forests are composed of wild pear, plum, cherry, apple, walnut and almond, some of which are on the International Union for Conservation of Nature (IUCN) Red List. Spruce and birch forests include endemic tree species and occur mainly in the Tien Shan, while old-growth juniper forests are more common in the Pamir-Alai Mountains. Forest cover in the hotspot ranges between 3 and 7 percent of the land area—considered low by international standards. Many mountain and riverside forest ecosystems have legal protection status that forbids any commercial forest exploitation and regulates other economic activities.

Alpine meadows occur at elevations of 2,000 meters and above, mainly in the humid northern and western parts of the hotspot. Species richness declines rapidly toward the upper limits of plant cover where horizontally spreading low plants that can withstand the high winds, cold temperatures and aridity become more common.

Animals

The hotspot holds a variety of mountain ungulates—hoofed mammals—including several endemic subspecies of wild sheep and goats. Among these are Marco Polo sheep (*Ovis ammon polii*) and the Markhor goat (*Capra falconeri*), both of which have magnificent horns that have made them favored targets of trophy hunters.

About 140 mammals are found in the hotspot, including endemic species like Menzbier's marmot (*Marmota menzbieri*) found in the Western Tien Shan and the Endangered Ili pika (*Ochotona iliensis*), a rabbit relative in the Chinese portion of the Tien Shan. But perhaps the best-known symbol of regional fauna is the Endangered snow leopard (*Panthera uncia*).

The mountains of Central Asia are an important stronghold for birds of prey, with globally significant populations of several species, including the golden eagle (*Aquila chrysaetos*), imperial eagle (*Aquila heliacal*), steppe eagle (*Aquila nipalensis*), booted eagle (*Hieraaetus pennatus*), black vulture (*Aegypius monachus*), Eurasian griffon (*Gyps fulvus*), Himalayan griffon (*Gyps himalayensis*), peregrine falcon (*Falco peregrinus*) and saker falcon (*Falco cherrug*).

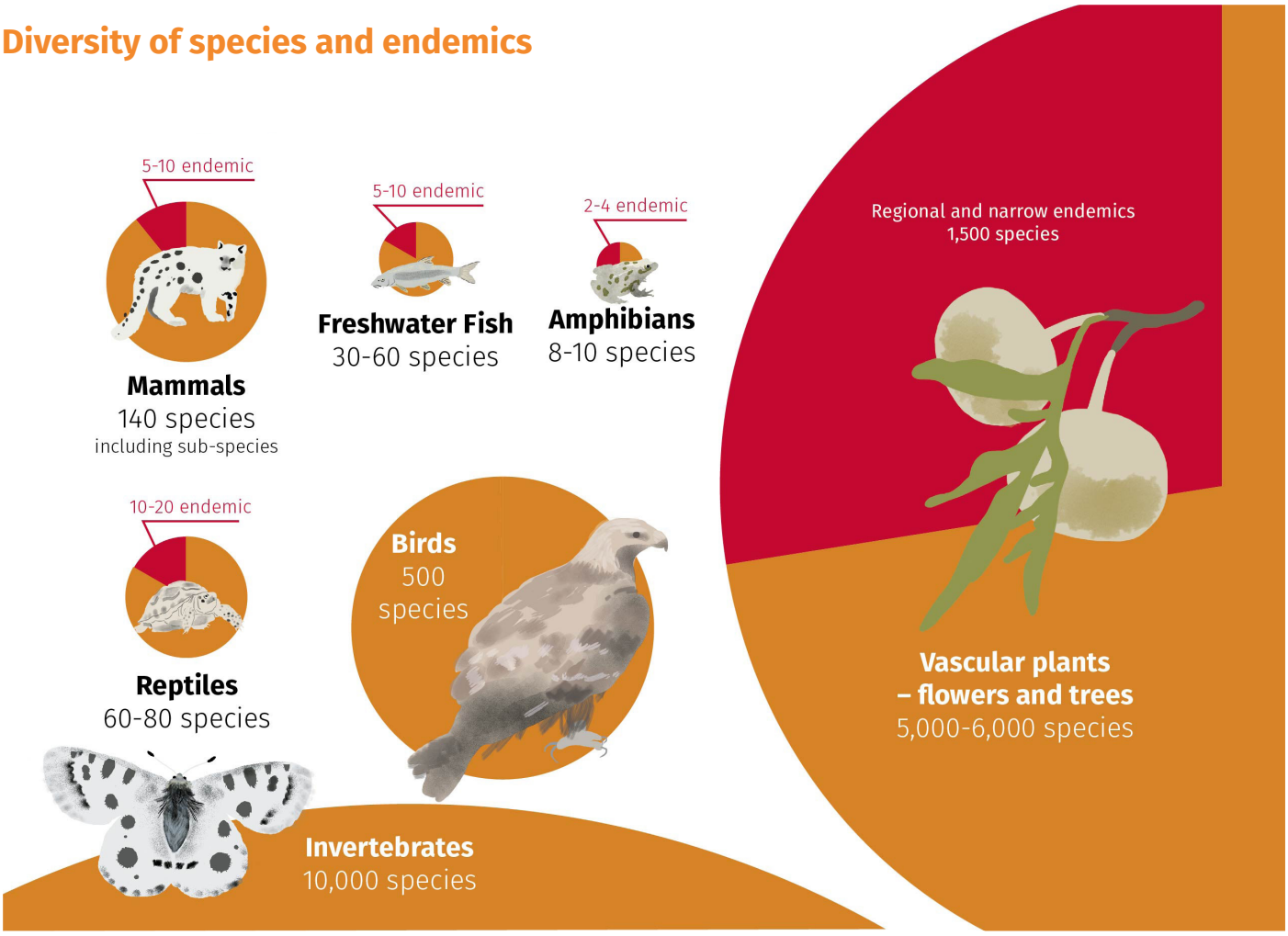
The diversity of reptiles is highest at lower elevations, in desert and semi-desert areas. There are a few amphibians, including the endemic Semirechensk salamander (*Ranodon sibiricus*), found only in the Jungar Mountains shared by Kazakhstan and China.

The hotspot has nearly 30 native fish species, at least five of which are endemic. One is the remarkable Koytendag blind cave fish (*Noemacheilus starostini*) found only in a cave system of the Koytendag Mountains of Turkmenistan. A large number of fish species in the hotspot are introduced.

Ecosystem services

The hotspot provides an astonishing array of ecosystem goods and services that are essential for the sustainable development of the whole region. These

Diversity of species and endemics



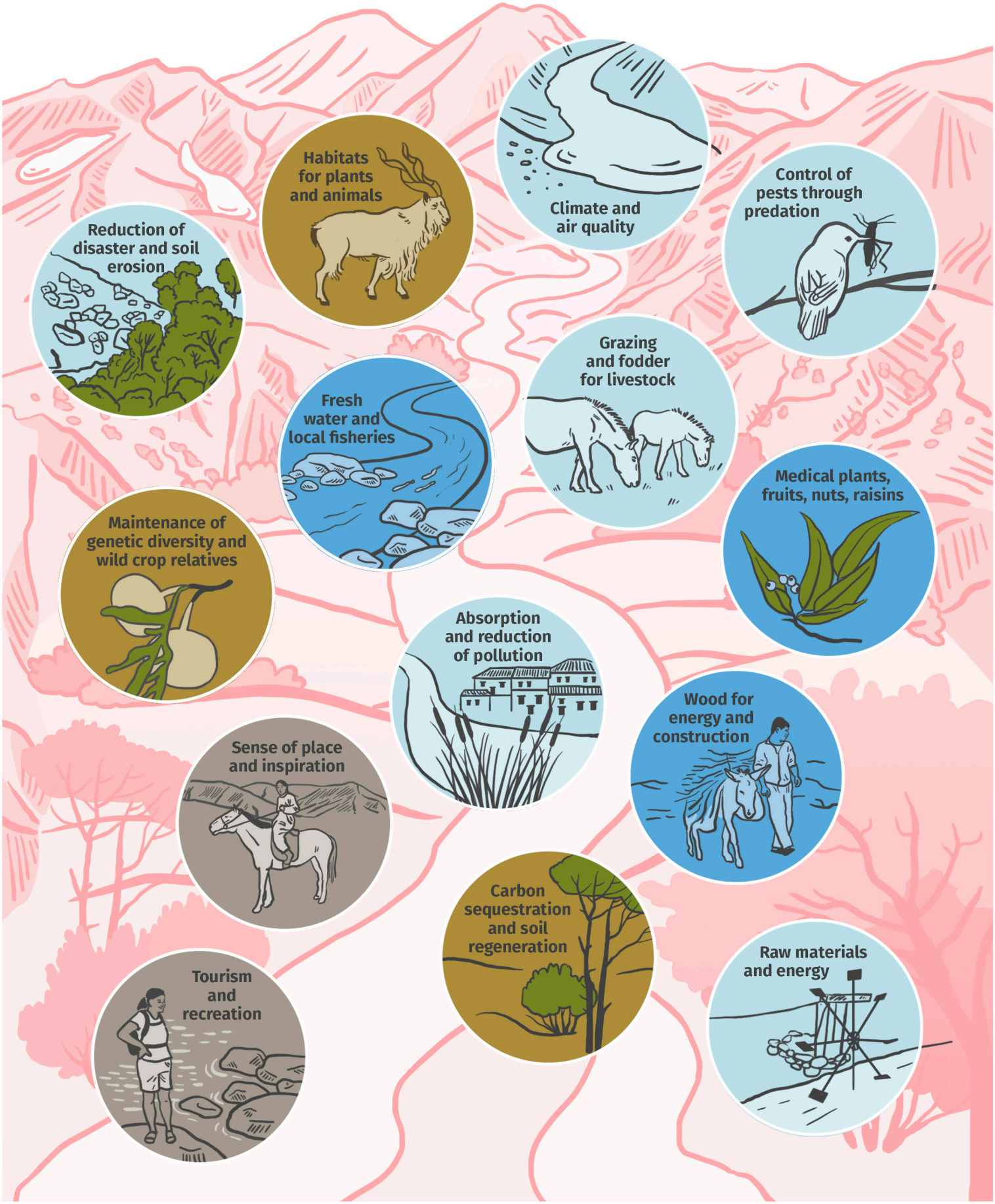
goods and services fall into four broad categories – provisioning, regulating, cultural, and supporting – and include food products; fiber and wood; land for food production; genetic and medical resources; watershed protection; habitat for flora and fauna of local and global significance; the regulation of natural hazards and climate; natural areas for leisure; and perhaps most important of all, the storage and release of water.

Mountains provide a profound sense of place, a source of inspiration, and a rich cultural heritage. People in isolated parts of the hotspot, especially in the Pamir and the Wakhan Valley of Afghanistan, differ from those in the main valleys, and communities have developed distinct cultural identities, agricultural traditions, and languages.

The diverse cultures of the region, and the strong sense of place that the mountains provide, attract visitors from around the world, and tourism offers an additional income source for mountain communities.

Mountains of Central Asia
Ecosystem Services

Provisioning
Regulating
Supporting
Cultural



3. Threats to biodiversity

For millennia, humans have converted much of the region's natural habitat into farmland and grazing land, and have reduced populations of some species through predator control. As in the rest of the world, industrialization, population growth and migration, and economic development have escalated the threats to wild nature.

Habitat change

Global biodiversity assessments note that manmade habitat modifications has been the most important driver of terrestrial ecosystem changes over the past 50 years. In the Mountains of Central Asia Hotspot, most of the land in the semi-desert lowlands and foothills has been converted for agricultural use, mainly for cultivation of cotton, cereals and other crops. The agricultural conversion has resulted in the loss of grasslands and semi-deserts, and has diminished soil fertility and water availability. Poor water management and irrigation practices, together with pollution from the overuse of fertilizers and pesticides, have further degraded soil productivity. Today, habitat change continues through infrastructure expansion, new land development on the mountain slopes and mining projects.

Overexploitation of species and ecosystems

Energy shortages in mountain areas have led to the cutting of trees and shrubs for fuel, particularly in Afghanistan, Tajikistan and Kyrgyzstan. This harvesting of fuel, together with overgrazing within mountain forests, has disrupted the natural processes in unique and valuable riverside, coniferous and fruit-and-nut forests. The quality of these forests has diminished and regeneration has slowed.

With the growth in income and population throughout the hotspot, the number of sheep and goats has increased sharply, and overgrazing affects many areas, especially the foothills and lower slopes. Overgrazing steadily reduces the fresh grass yield and causes changes in species composition, with increasing predominance of less palatable species. Productivity declines and the alpine meadows support fewer wild herbivores and the predators that prey on them. The risk of soil erosion increases. In parts of the Chinese Tien Shan, livestock numbers multiplied over the last 50 years, and serious overgrazing and pasture degradation that began as early as the 1970s remains at critical levels today.

Poaching, especially of larger mammals and birds, is an issue in the region. High-value mountain ungulates are killed or captured for profit. Unregulated collection of plants poses a direct threat to restricted-range species and diminishes the diversity of ecosystems. Villagers pick endemic tulips to sell—some species have become rare in several areas as a result. Collection of plants for medicinal use is controlled to a limited extent.

Pollution

The pollution threats to the hotspot come from several sources—current and past applications of agricultural chemicals, the storage of obsolete and discarded chemicals, industrial discharges and hazardous waste. Within the Mountains of Central Asia Hotspot, the Issyk-Kul Lake and Ebi-Nur Lake basins, the Ferghana Valley, the Upper Ili River basin, and the mountains and wetlands adjoining Urumqi are notably vulnerable to the threats posed by pollution, agricultural and municipal runoff, and industrial accidents.

Climate change

The long-term effects of climate change pose a threat to wild nature in the mountains of Central Asia, both directly as an independent cause of disruption and change and indirectly in combination with other threats. The glaciers across the region are melting away rapidly and there are concerns about future water availability, growing natural disasters, and impacts on health, food production, infrastructure and hydropower generation. Climate change is likely to bring

Mountains of Central Asia
Major threats to species and ecosystems

new species to the hotspot and create new stopovers for migratory species. Shifts in animal ranges and in the extent of the habitat of some plant species are expected, as are elevation changes in the distribution of mountain forests. The hotspot is home to globally important agro-biodiversity and harbors wild relatives of important agricultural crops and domesticated fruit and nut trees. These wild species possess resistance and tolerance to pests, diseases and climatic stresses, and some are likely to be well adapted to changing climatic conditions.

Invasive and introduced species

Kyrgyzstan, Tajikistan and Uzbekistan all report gray rat, myna, and squirrel as invasive, and Tajikistan and Kazakhstan note an increase in non-native tree species and a risk of erosion of genetic resources. Kyrgyzstan waters, including its biological jewel and major tourist attraction Issyk-Kul Lake, are compromised by introduced fish species.

Demographic pressures

The strongest demographic pressure on biodiversity comes from population growth, which will remain considerable in Central Asia in the years to come. The simple formula—more people require more resources—is certainly applicable, but migration and the changes in urban and rural population distributions will be additional factors. The prevailing rural population in the hotspot means a continued high reliance on local natural resources.

Economic effects

The expansion of settlements and agricultural lands may fragment or destroy natural habitats. New roads, tunnels and bridges have opened up wide tracts of the mountains to development. More roads and other infrastructure are planned as part of the Belt and Road Initiative. The recreational load on mountain ecosystems is growing as increasing numbers of local and overseas tourists visit the region. Accommodation facilities, access roads and infrastructure further encroach on habitats.

Weak governance

Weak regulatory schemes and poor enforcement contribute to the overexploitation of natural resources throughout Central Asia. Environmental decision-making and implementation are concentrated within governmental authorities and tend to be centralized, and the links and funding available to the local level remain weak.

The staffs in government, civil society organizations, the private sector and in protected areas lack qualified specialists with current knowledge of biodiversity. Training sometimes proves ineffective due to the high rate of government staff turnover, which is itself a challenge for institutional capacity building. Low salaries for government positions cause qualified experts to leave and work for international projects or private consultancies or conservancies.

Due to the scale of the protected areas—some of which are equal in area to one half of Switzerland—and to the limited funding available for management, enforcement remains difficult.

4. Socioeconomic conditions

The global economic boom at the turn of the century occurred as the countries of the region were beginning to find ways to move forward. The countries rich in fossil fuels benefited from growing demand and expanding manufacturing, while the other countries pursued new opportunities for labor migration, trade and services.

Population

The Mountains of Central Asia Hotspot is now home to about 64 million people. Most are young and living along the main rivers or oases. By 2050 the population in the region may approach 90 million or more. The Ferghana Valley has the highest rural population density in Central Asia. The population in the city of Urumqi in the rapidly growing Chinese area of the hotspot has jumped from about 1.5 million in 2000 to more than 3 million today.

In addition to Urumqi, the hotspot is surrounded by such major urban population centers as Tashkent, Almaty and Bishkek, but a significant portion of the population is rural. A large part of this rural population depends on agriculture, which has direct impacts on wild nature through the use of agrochemicals and water, and through the expansion of agricultural lands.

Reliance on natural resources

Abundant natural resources are the foundation for all of the important economic sectors in the hotspot. Rivers provide for hydropower development in the mountains and for irrigated agriculture in the lowlands. Rich oil, gas and coal reserves fuel the local economies of northwestern China, Kazakhstan, Uzbekistan and Turkmenistan, and the mining sector is developing the vast mineral deposits that occur throughout the hotspot. In addition, a great many people are still dependent on natural resources—firewood, wild fruits and nuts, and medicinal plants—for their basic needs and income.

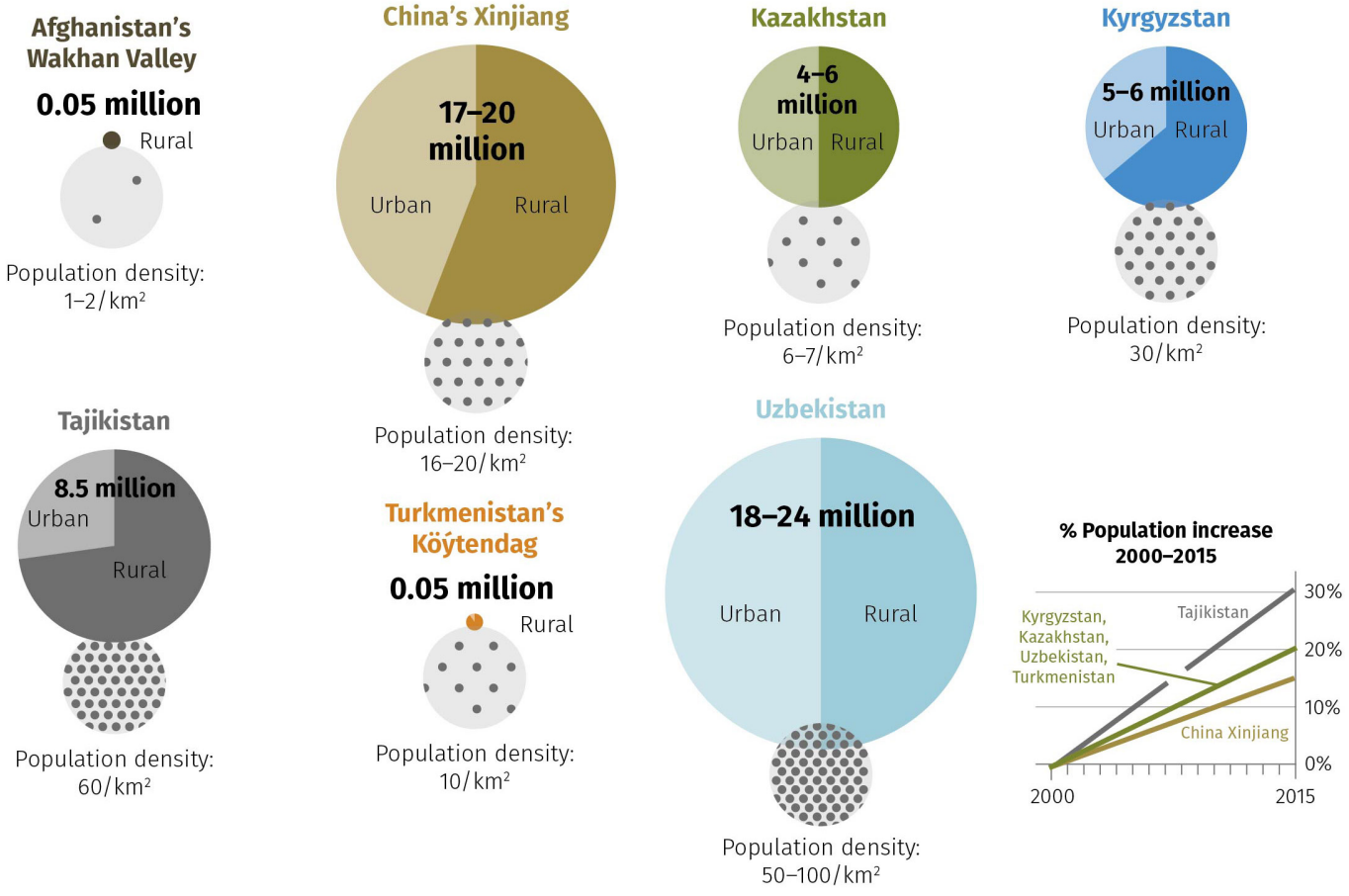
The tension over the use of water resources between the highlands and the lowlands, particularly in terms of energy production versus irrigated agriculture, is a crucial issue in the region. The effects of climate change are likely to reverberate throughout the water-agriculture-energy nexus, and make a difficult situation worse.

Tourism

Hot springs, ski resorts and glacier-covered high mountains in the hotspot are popular destinations for vacationers. Tourism in Uzbekistan is mostly associated with cultural heritage. Hunting, hiking and alpinism are common in Tajikistan and Kyrgyzstan. An important source of tourism revenue comes from visits to protected areas, which are among the most-visited sites in the hotspot. Many protected areas in the hotspot need further investment in facilities and promotion of responsible and community-based tourism. Security concerns are discouraging interested tourists from visiting Afghanistan.

The Tian Chi Lake National Nature Reserve is about a one-hour drive from the city of Urumqi, and buses ferry visitors—who number in the thousands daily—from the city and other parts of China to the reserve. This is a much higher level of visitation compared to the other countries in the hotspot, and signifies the strong Chinese interest in natural wonders and recreation. The Issyk-Kul Lake and Issyk-Kul biosphere area in Kyrgyzstan attract up to 1 million visitors per year, mainly in the summer. Of the seven countries, Kyrgyzstan receives the largest proportional contribution to its economy from tourism—approximately 4 percent of gross domestic product over the last decade.

Mountains of Central Asia — Population within and around the hotspot



5. Conservation policy and actions

The countries of the Mountains of Central Asia Hotspot participate in multilateral environmental agreements and cross-border initiatives, and all the countries have a set of laws and policies that support biodiversity conservation and the creation and management of protected areas. Other legislation, environmental regulations and pollution controls also affect biodiversity, and the legal framework for biodiversity conservation in the hotspot is robust, but responsibility for conservation is divided among multiple agencies. Overlapping authority and an absence of institutional coordination are common.

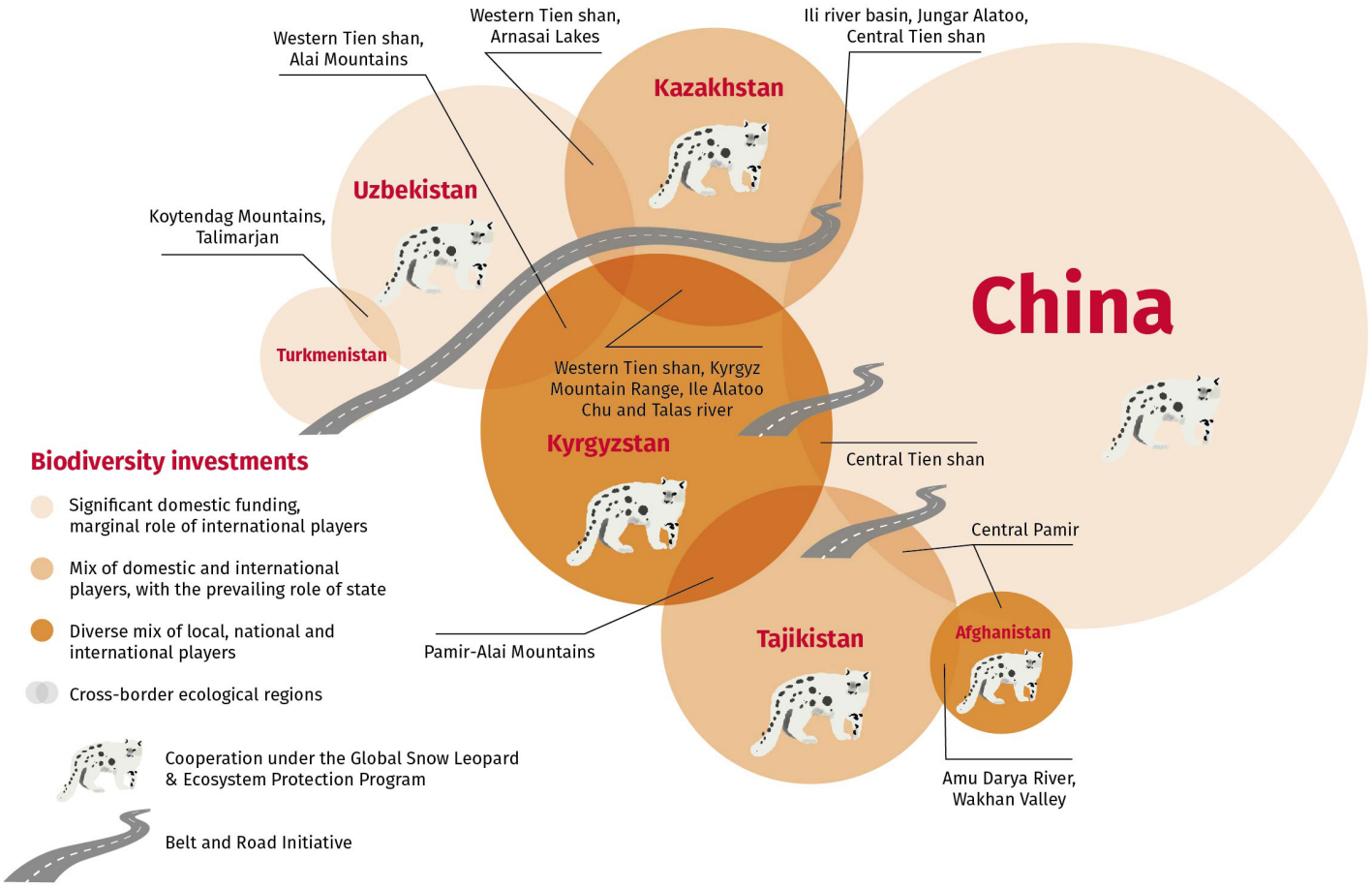
All seven of the countries in the hotspot specify nature conservation as a priority in strategic documents on sustainable development, and all intend to update their national legislation, strategies and action plans to reflect the dynamic local situations and global conservation priorities.

Implementation of policies and laws, however, remains deficient, and national financing for biodiversity-related projects remains limited. The factors contributing to this situation include the prioritization of economic development; the lack of national resources and private funding; the predominance of short-term considerations; and a lack of understanding of the value of nature and of the economic implications of environmental degradation.

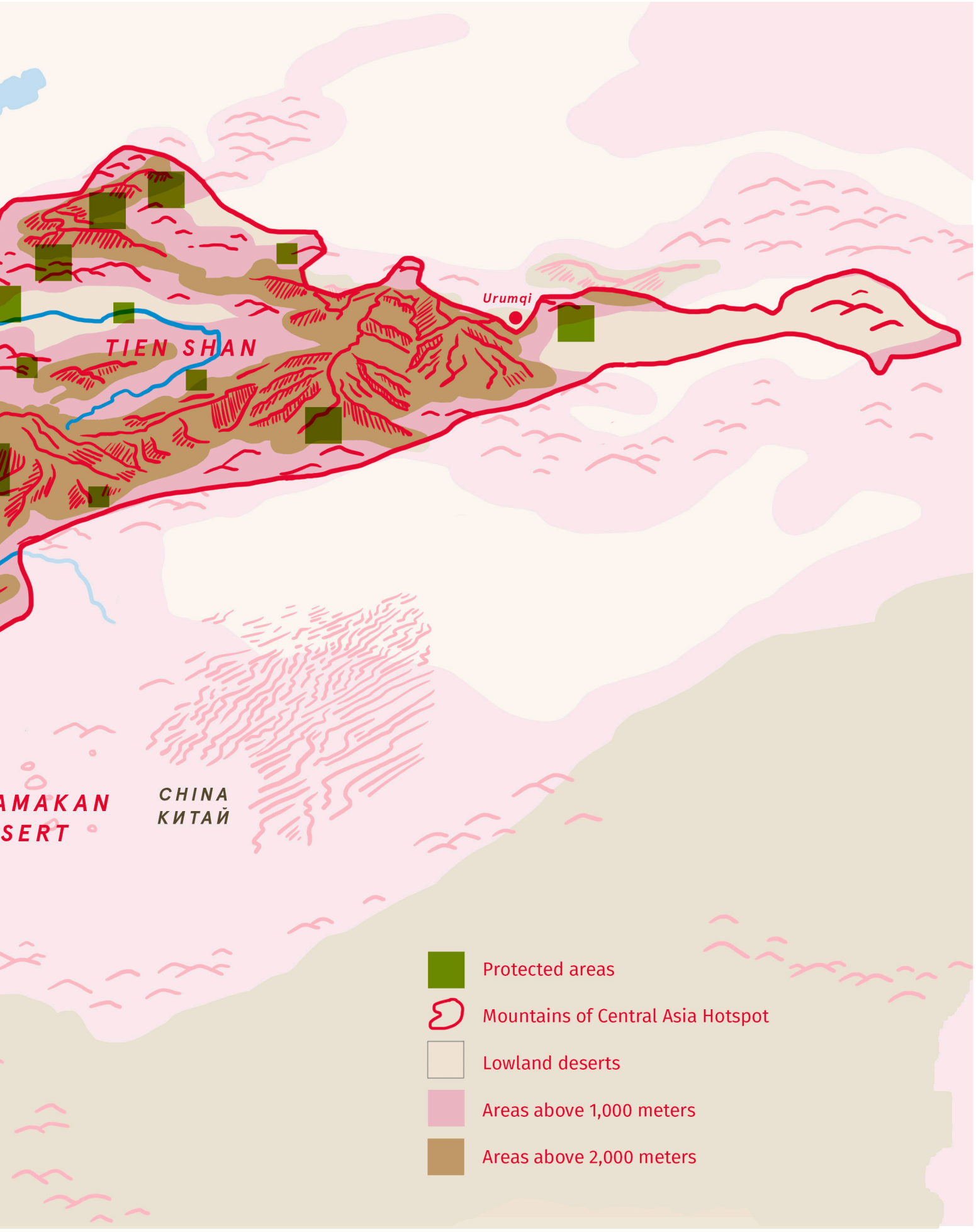
Despite these challenges, the network of protected areas continues to grow in the hotspot. Within the hotspot, Tajikistan leads in terms of area under protection. Afghanistan has recently established its entire Wakhan Valley as the country's largest national park. Kyrgyzstan is expanding its protected area network by adding a new reserve each year. Between 2013 and 2016, 10 sites in the Western and Eastern Tien Shan and Pamir in five countries of the hotspot were nominated for natural UNESCO World Heritage designations, and more sites are pending confirmation.

In all these cases, civil society organizations are leading the way. They also play the role of watchdogs in the development of large projects—whether a ski area, energy line, road, or new agricultural development—and advise governments and the private sector alike on local concerns and possible mitigation measures. Civil society organizations contribute to the development of national biodiversity strategies and planning, species monitoring, and research. At the regional level, they are active in the conservation of the snow leopard (*Panthera uncia*), Bukhara deer *(Cervus elaphus bactrianus*), saiga (*Saiga tatarica*) and argali (*Ovis ammon*). Local partner organizations of BirdLife International mapped Important Bird and Biodiversity Areas. With support from Worldwide Fund for Nature and the Global Environment Facility, the five countries of Central Asia have designed ECONET—the network for ecological connectivity of key natural sites—which continues to receive local and regional attention and support today.

Mountains of Central Asia — Biodiversity and economic cooperation areas




Mountains of Central Asia
Protected Areas
KAZAKHSTAN
КАЗАХСТАН
KYZYLKUM
DESERT
Almaty
Bishkek
TIEN SHAN
UZBEKISTAN
УЗБЕКИСТАН
Tashkent
KYRGYZSTAN
КЫРГЫЗСТАН
TURKMENISTAN
ТУРКМЕНИСТАН
Kashgar
TAJIKISTAN
ТАДЖИКИСТАН
Dushanbe
PAMIR
AFGHANISTAN
АФГАНИСТАН
HINDUKUSH


Urumqi
TIEN SHAN
AMAKAN
SERT
CHINA
КИТАЙ
Protected areas
Mountains of Central Asia Hotspot
Lowland deserts
Areas above 1,000 meters
Areas above 2,000 meters

6. Civil society

Believing that effective and sustainable conservation is better achieved with the engagement of the local people, CEPF awards grants to civil society organizations, which then act as implementing agents. CEPF defines civil society as all the national and international non-governmental actors who are relevant to the achievement of conservation outcomes and strategic directions. This includes non-governmental conservation organizations; community development groups; scientific, research and academic institutions; the media; education and awareness groups; and private sector parties concerned with the sustainable use of natural resources.

Operating environment and constraints

Working in a harsh natural environment with difficult access in an underdeveloped region is challenging. Hazardous weather conditions and difficult terrain may be obstacles. In some places, inaccessibility is exacerbated by bureaucratic red tape and restricted access to information. The lack of communication and electricity in rural areas complicates project work, and transportation and translation costs are high. In the harsh mountain conditions, the monitoring of animals and plants can be challenging. The border areas have certain restrictions and special regulations for access.

The regulatory environment and operational niche of civil society organizations differ greatly among the countries. Kyrgyzstan has perhaps the biggest diversity among groups and the largest number of civil society organizations involved in biodiversity conservation and natural resources, and donors find working in the country easy. Kazakhstan and Tajikistan also feature many environmental civil society organizations, but only a few of them focus primarily on wild nature, and most work in natural resource management. In specific parts of other countries within the hotspot, constraints include complex and time-consuming grant and project permission and registration procedures; banking and financial reporting limitations; limited access for international nonprofit organizations; and lack of capacity, including English language skills, among local nonprofits.

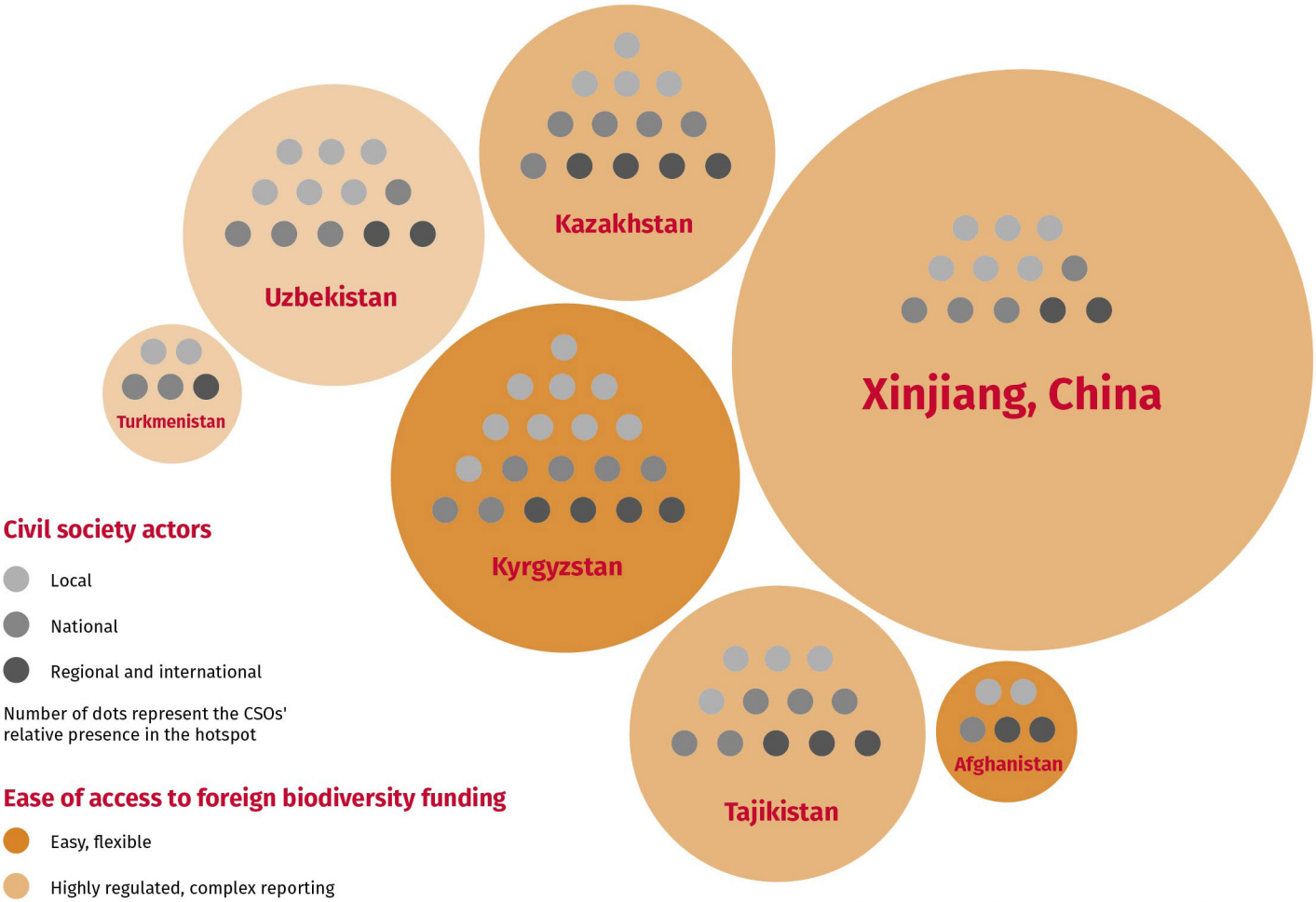
Dominance of funding for iconic species

Across the hotspot, participants identified a gap between the attention iconic species receive and the attention given to the less glamorous, but nevertheless threatened and unique, species. The snow leopard (*Panthera uncia*), for example, receives both attention and funding for protection beyond what other species receive. In none of the countries do the plant endemics, some of which are globally threatened, receive sufficient attention.

In China, public funding for the conservation and restoration of habitats is considered sufficient, but there is a growing need to apply more efficient strategies for species and ecosystems and to improve links between development planning and conservation.

In Kazakhstan, the saiga antelope (*Saiga tatarica*) and snow leopard attract both public and international grant funding for the monitoring of habitats and related activities. Wild apples also receive significant attention but, according to local experts, funding levels are not sufficient to save them in the long run.

Civil society organizations active in conservation within the hotspot



Civil society actors

- Local
- National
- Regional and international

Number of dots represent the CSOs' relative presence in the hotspot

Ease of access to foreign biodiversity funding

- Easy, flexible
- Highly regulated, complex reporting
- Tightly controlled, project-specific permissions

The sizes of the circles represent the countries' relative land area in the hotspot

7. Current conservation investments

Protected areas and forestry networks are major recipients of government funding, although the bulk of this funding is typically allocated to staff salaries and basic operating costs. In several reserves, civil society organizations and donors provide additional support for monitoring, research, outreach and development activities for communities living in and around protected areas.

The framework for prospective CEPF grants in each hotspot country entails political realities and requires purposeful collaboration and alignment with strategies and ongoing projects and programs. CEPF investments will be complementary to local and national development and aim to build the capacity of civil society organizations to engage in conservation.

One of the main multilateral donors in the hotspot countries is the Global Environment Facility (GEF). The GEF implementing agencies most active in the region include the United Nations Development Programme, the Food and Agricultural Organization of the United Nations, and the World Bank. Bilateral donors active in natural resources management and environmental protection in the region include the European Union, Germany, Japan, Switzerland, Norway, Russia and Finland.

Recent examples of GEF activities in the hotspot include a project in Uzbekistan on sustainable natural resource use and forest management in key mountain areas; projects in Kyrgyzstan that promote sustainable forestry across the country and biodiversity conservation in the Western Tien Shan; and a Tajik snow leopard landscape conservation project.

The Global Snow Leopard and Ecosystem Protection Program (GSLEPP) is a significant regional initiative. The partners and funders include the GEF, the World Bank, the United Nations Development Programme and several others. Together they support the 2013 Bishkek Agenda, which has identified programs that require funding in each GSLEPP country. Full implementation will require tens of millions of dollars. A high-level GSLEPP summit is planned for August 2017 in Bishkek.

The GEF Small Grants Programme is active in all countries except Turkmenistan and supports civil society groups in the region at the local level. The program is highly successful and covers biodiversity investments and renewable energy and land degradation initiatives.

A number of foundations are active across a range of issues in the region. The Aga Khan Foundation enjoys perhaps the highest profile of foundations in the region, supporting sustainable mountain development, reforestation and disaster risk reduction. The International Fund for Saving the Aral Sea receives funding support from members and international donors, and grant money for afforestation and reforestation in the Aral Sea basin. The Rufford Foundation supports individual conservationists and groups working on behalf of endangered and endemic species. The Christensen Fund supports projects that link traditional knowledge with landscape restoration, and cross-border cooperation on better management of crop wild relatives. These brief examples are indicative of these foundations' work, but represent only a fraction of the foundations' activities, and the foundations included here are only a fraction of those working in the hotspot.

Three important climate change programs are relevant to conservation in the hotspot. The Climate Adaptation and Mitigation Program for the Aral Sea basin (CAMP-4ASB), designed with support from the World Bank and implemented by the Regional Environmental Centre of Central Asia, is the largest regional climate initiative and the main climate cooperation and policy coordination platform. As the ecosystem profile was being written, CAMP4ASB was in the planning phase of regional and country-specific responses. Tajikistan has received funding via the Pilot Program for Climate Resilience (PPCR) and Kyrgyzstan is in the process of PPCR programming. The aim is to demonstrate how climate resilience can be integrated into development planning and implementation, and the program provides incentives for scaled-up action. The Green Climate Fund is expected to provide new strategic and large-scale opportunities for hotspot countries to address climate change concerns while strengthening their economies, reducing poverty and improving environmental performance.

8. CEPF investment strategy

The CEPF investment priorities are grouped into broad strategic directions and are based on the analysis of conservation tasks, the assessment of the capacity of civil society actors, an overview of threats to biodiversity and a review of conservation investments.

CEPF identifies conservation outcomes at three scales:

1. Globally threatened species
2. Sites that contribute significantly to the global persistence of biodiversity – Key Biodiversity Areas (KBAs)
3. Corridors and landscapes necessary to maintain the ecological and evolutionary processes upon which those sites and species depend

From the list of almost 70 globally threatened species occurring within the hotspot, half are proposed for CEPF actions. From 144 identified KBAs (sites that are critical for the persistence of globally threatened species or ecosystems), 28 are defined as priorities for CEPF investment. On a larger scale, five landscape-scale conservation corridors from 25 identified will receive CEPF attention to work on wide-ranging and migratory species, groups of KBAs and broader aspects of conservation within economic activities. All these lists may be revised in the future.

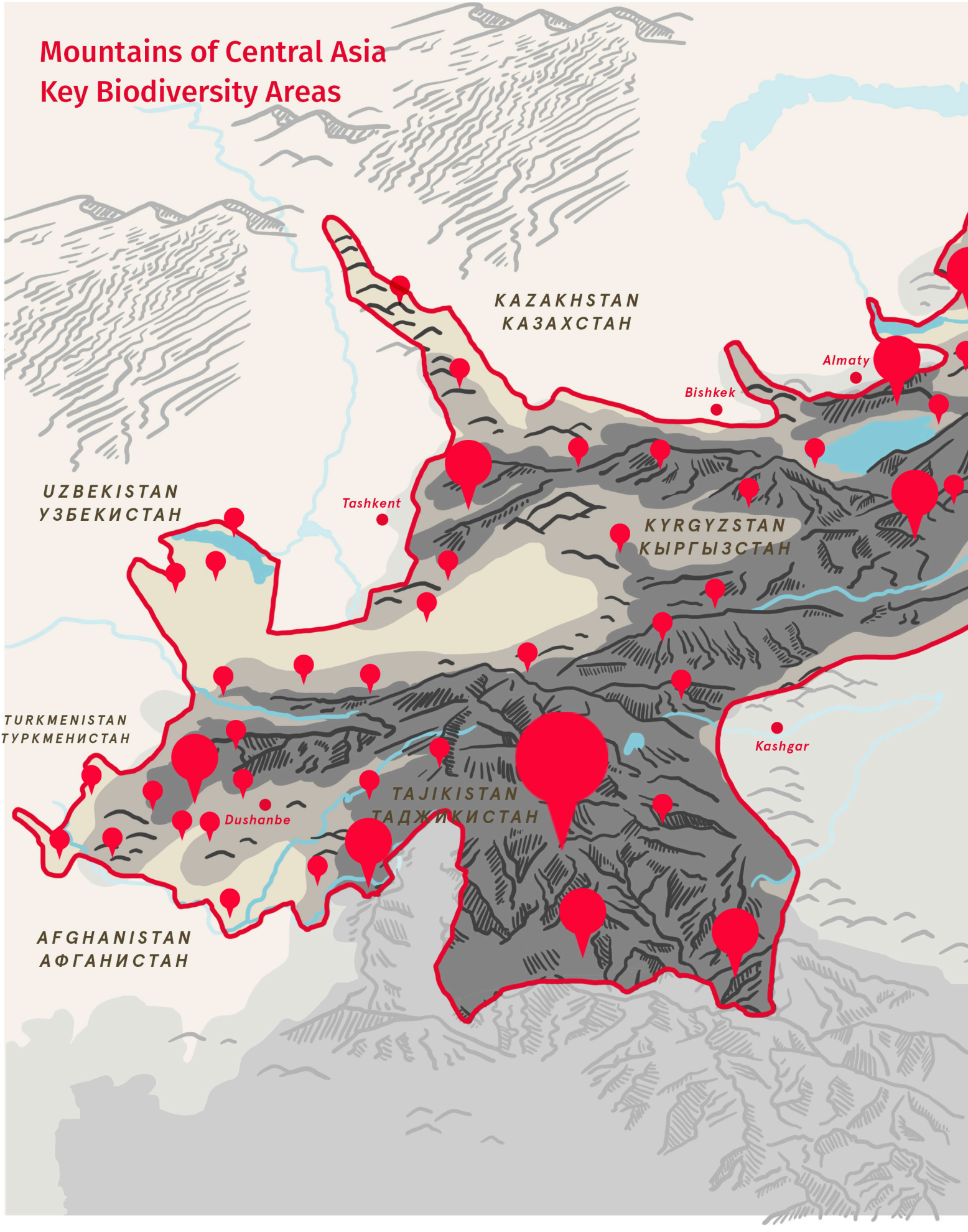
Site conservation goals are achieved when a KBA is safeguarded through improved control or expansion of an existing protected area or a better management approach. Corridor goals are achieved when a conservation corridor or landscape maintains little-changed natural processes and contributes to ecological connectivity of species and KBAs.

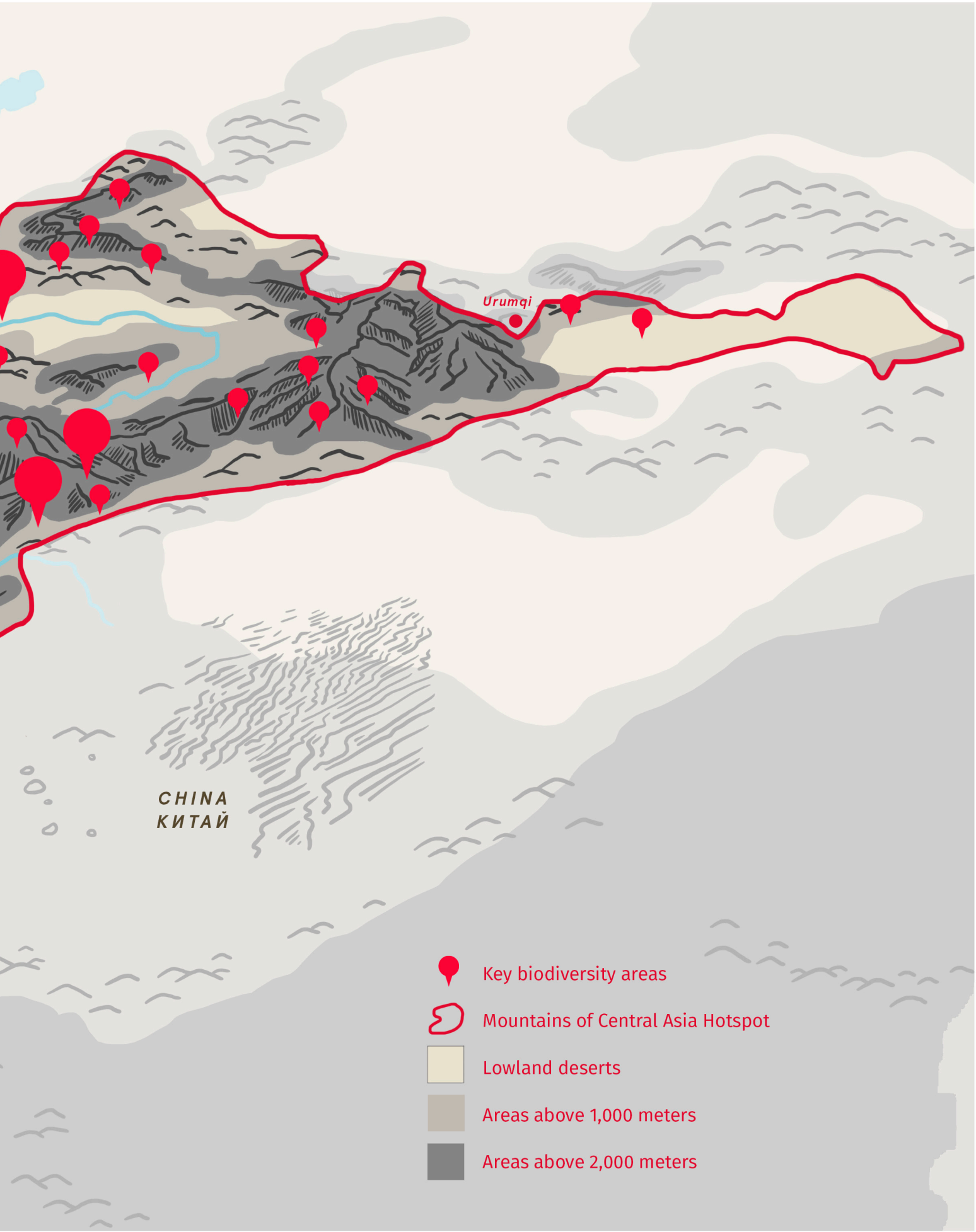
CEPF will implement its grant program through a regional implementation team located within the hotspot. The team will promote and administer the grant-making process, undertake capacity building, maintain and update data on conservation actions and results, and promote the overall conservation agenda across the hotspot.

Priority species

Scientific analysis, national consultations and stakeholder questionnaires provided the basis for the list of priority species. The list includes highly threatened species, and distinguishes between such high-profile species as the snow leopard (Panthera uncia), for which CEPF may provide complementary funding, and less well-known species for which CEPF may provide unique investment.

A total of 33 species were selected as priorities for CEPF investment. The priority species are found in all seven hotspot countries, a distribution that creates opportunities for civil society organizations across the hotspot to engage in species-focused conservation.


Mountains of Central Asia
Key Biodiversity Areas
KAZAKHSTAN
КАЗАХСТАН
Almaty
Bishkek
UZBEKISTAN
УЗБЕКИСТАН
Tashkent
KYRGYZSTAN
КЫРГЫЗСТАН
TURKMENISTAN
ТУРКМЕНИСТАН
Kashgar
TAJIKISTAN
ТАДЖИКИСТАН
Dushanbe
AFGHANISTAN
АФГАНИСТАН

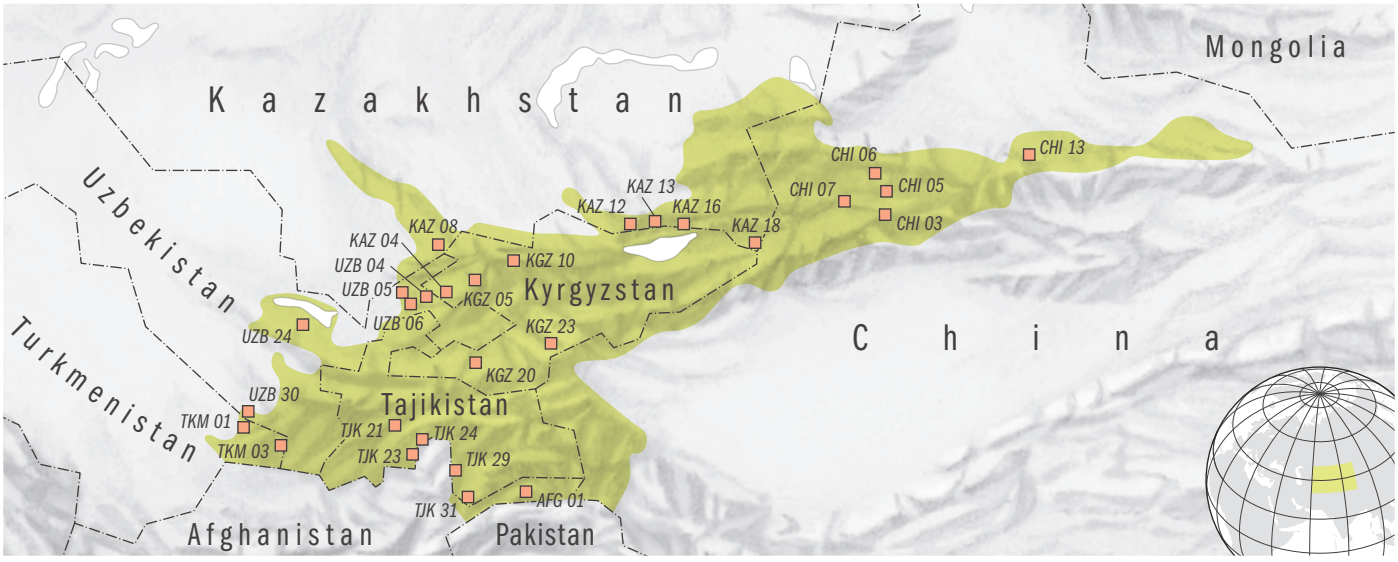

Urumqi
CHINA
КИТАЙ
Key biodiversity areas
Mountains of Central Asia Hotspot
Lowland deserts
Areas above 1,000 meters
Areas above 2,000 meters

Priority sites

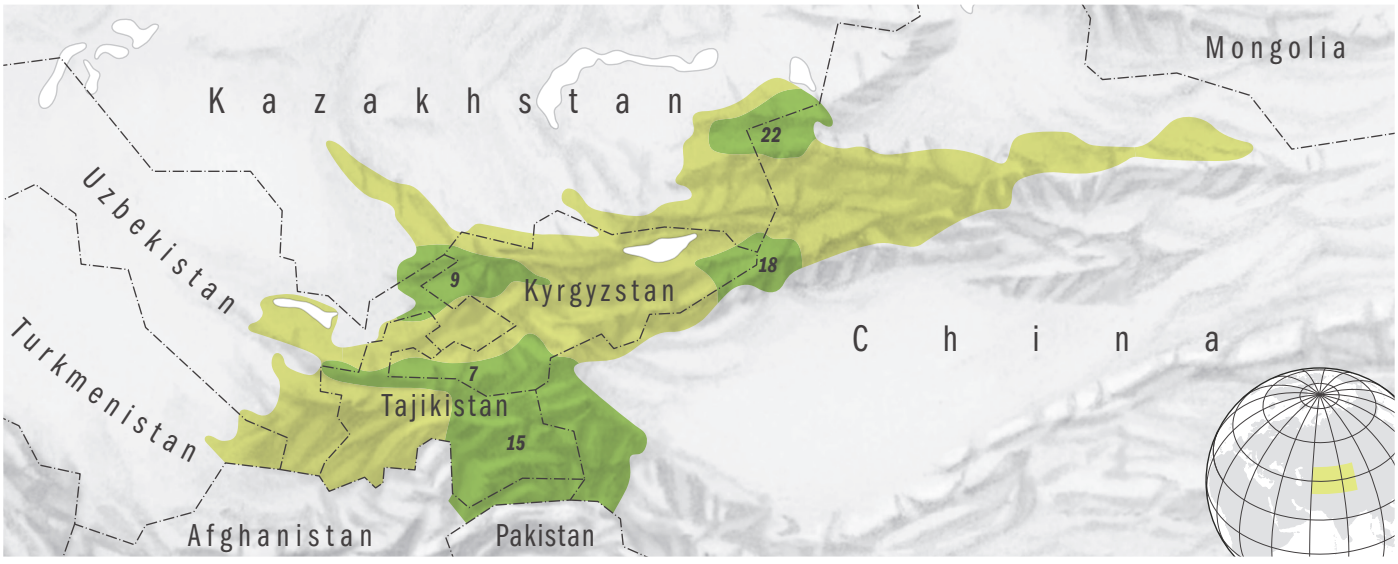
Smaller Key Biodiversity Areas (KBA) were preferred to very large KBAs where the impacts of CEPF investments could be diluted. UNESCO World Heritage Sites were favored, unless they were too large or already receive enough conservation funding and attention. KBAs important to highly threatened and narrowly endemic species, unique communities or crop wild relatives that are threatened or endemic were also prioritized. KBAs outside or in the buffer zones of protected areas were preferred to strictly protected KBAs that already benefit from appropriate levels of protection and may present fewer opportunities for civil society involvement. Those KBAs that presented opportunities for synergistic activities with Global Environment Programme (GEF) small grants, larger GEF biodiversity projects or investments by other donors merited particular preference.

Applying these criteria in addition to the biological value and the level of threats per site, the profile team selected 28 priority KBAs that cover a combined area of 53 thousand square kilometers, or approximately 6 percent of the hotspot. The priority sites are spread across the countries in a way that generally reflects the distribution of the hotspot among the countries. Afghanistan, which extends only marginally into the hotspot, has a single priority site. Turkmenistan, in a similar situation, has two. The other five countries have five priority sites each.

Priority sites



Priority corridors



Priority corridors

The full list of 25 conservation corridors that cover most of the hotspot is too many for the expected level of CEPF funding. The team prioritized five corridors through the application of such criteria as the opportunity for synergies with plans and initiatives where civil society engagement is essential. The priority corridors span across several hotspot countries and create opportunities in landscape-scale conservation.

Strategic directions

In consideration of proposals and comments by stakeholders and donors, CEPF has formulated six strategic directions. CEPF will look for grant applications that

1. Address threats to priority species
2. Improve management of priority sites with and without official protection status
3. Support sustainable management and biodiversity conservation within priority corridors
4. Engage communities of interest and economic sectors, including the private sector, in improved management of production landscapes
5. Enhance civil society capacity for effective conservation action
6. Provide strategic leadership and effective coordination of conservation investment through a regional implementation team

For each strategic direction, the ecosystem profile lays out a set of related investment priorities. In responding to threats to priority species, for example, the CEPF investment priorities include improving enforcement and supporting species-specific reserves or conservation programs. Improving the management of priority sites may entail facilitating effective collaboration among civil society organizations, local communities and park management units to enhance protected area networks, or developing and implementing management approaches to sustainable use in KBAs outside of official protected areas.

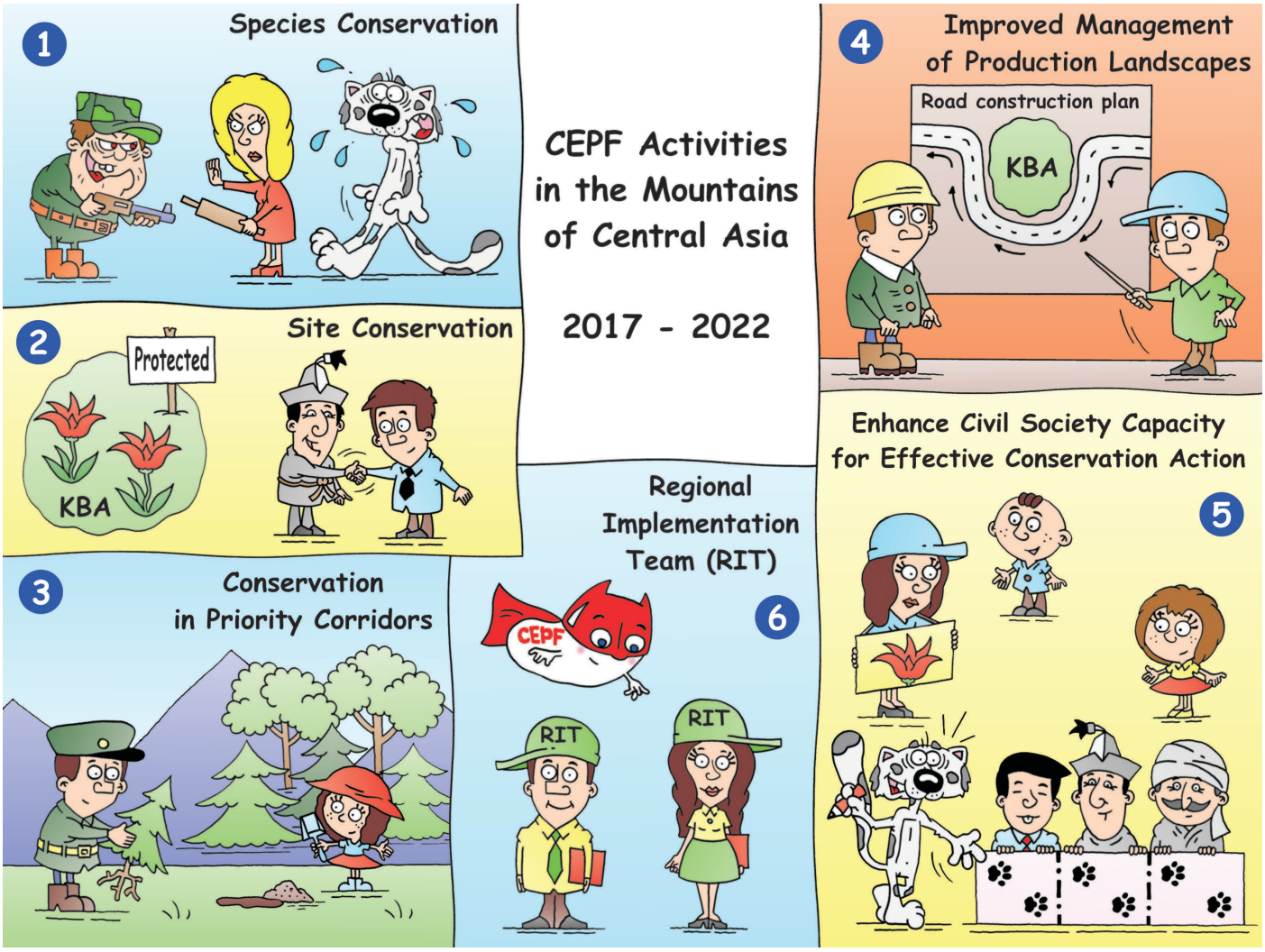
Supporting sustainable management and biodiversity conservation within priority corridors may involve developing protocols and demonstration projects for ecological restoration, or integrating the biodiversity and ecosystem service values of corridors into land-use and development planning. Engaging communities of interest in the improved management of production landscapes may include working with hunting associations, tourism operators and mining companies in conservation management and establishing valuation mechanisms for biodiversity and ecosystem services, or promoting the mainstreaming of conservation into livestock and farm management practice and policy.

For enhancing civil society capacity, CEPF investment priorities include improving communication and collaboration between civil society and government agencies responsible for implementing national biodiversity strategies, and catalyzing collaboration and networking among civil society organizations and between them and public sector partners. Providing strategic leadership and effective coordination may entail building a constituency of civil society groups that work across institutional and political boundaries toward achieving the shared conservation goals described in the ecosystem profile, or having the regional implementation team act as a liaison to relevant networks throughout the hotspot.

Sustaining conservation efforts

Sustaining conservation efforts could be a challenge considering the growing population, major development plans and limited capacity in the hotspot. The prospects, however, are promising. Two completed CEPF investments in nearby hotspots provide a glimpse of what may occur in the mountains of Central Asia. In the Caucasus, other donors stepped in at the conclusion of CEPF funding and supported numerous initiatives. Funding came from local and outside sources both large and small. In the Mountains of Southwest China Hotspot, the government took over, and local communities kept projects moving forward.

At the institutional level, support for capacity building will enhance the professionalism of civil society organizations across the region and will prepare project participants to replicate the efforts and results. When capacity reaches a sufficient level, conservation practitioners in civil society organizations, the private sector and government will be able to integrate a range of biodiversity activities into their organizations. The regional implementation team provides the opportunity to establish cooperation on an ongoing basis. The Alliance of Central Asian Mountain Communities, with 20 member communities in Kyrgyzstan, Tajikistan and Kazakhstan, stands as a shining precedent for this type of success. Established in 2003 with outside funding, the Alliance continues to bring village matters to the attention of regional and national policymakers though the initial grant ran out long ago.


1
Species Conservation
2
Protected
KBA
Site Conservation
3
Conservation
in Priority Corridors
CEPF Activities
in the Mountains
of Central Asia
2017 - 2022
Regional
Implementation
Team (RIT)
6
CEPF
RIT
RIT
4
Improved Management
of Production Landscapes
Road construction plan
KBA
Enhance Civil Society Capacity
for Effective Conservation Action
5

9. About CEPF and its ecosystem profile process

CEPF makes grants that target global biodiversity hotspots in developing and transitional countries. To qualify as a hotspot, a region must have lost at least 70 percent of its natural habitat and must have at least 1,500 plant species that are endemic–unique to the region. There are 36 hotspots globally, covering about 2.3 percent of the Earth's land surface and containing a high number of species, many of which are threatened or endemic.

In 2016, the CEPF donor organizations agreed to fund an ecosystem profile for the Mountains of Central Asia Hotspot. This area sprawls across the Pamir and Tien Shan Mountains in parts of seven countries–southeastern Kazakhstan; most of Kyrgyzstan and Tajikistan; eastern Uzbekistan; western China; northeastern Afghanistan; and part of southeastern Turkmenistan–and covers about 860,000 square kilometers. The ecosystem profile provides an overview of current biodiversity conservation in the hotspot, presents an analysis of the priorities for action, and lays out the framework for a CEPF grant-making program.

CEPF engages civil society in biodiversity conservation, and supports efforts that complement the existing strategies and programs of national governments and other conservation funders. CEPF promotes working alliances among diverse groups, and seeks to reduce duplication of effort in a comprehensive, coordinated program.

The CEPF secretariat selected Zoï Environment Network of Switzerland to coordinate the preparation of the ecosystem profile. Between May 2016 and March 2017, Zoï engaged experts from numerous disciplines, and representatives of government agencies, nongovernmental organizations, the private sector, donor organizations and other stakeholder groups. More than 250 participants were directly involved. The stakeholders discussed the thematic and geographic priorities for conservation investment in the hotspot, the main threats to biodiversity in the hotspot, and the root causes of those threats.

The profiling team reviewed the relevant literature as well as unpublished reports and publicly available information. The countries' National Biodiversity Strategies and Action Plans, national protected area strategies and plans, and national biodiversity gap analyses also informed the profile. The profile team analyzed up-to-date information on influences and threats affecting biodiversity conservation in the hotspot, and on the geographic and thematic distribution of current conservation investments.

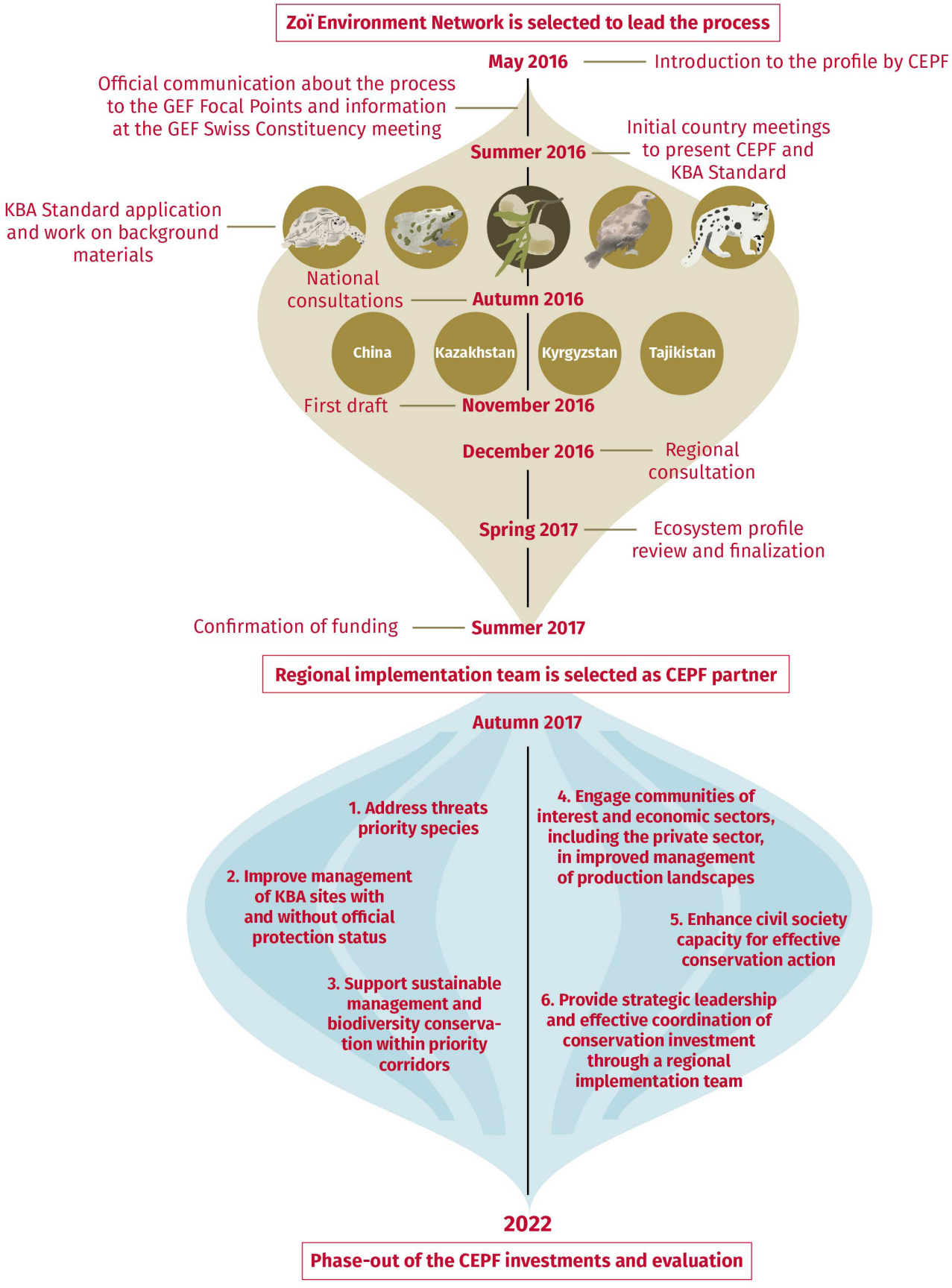
All the CEPF hotspots encompass sites (i.e., Key Biodiversity Areas [KBAs]) of importance for the global persistence of nature. Previously, a site could qualify as a global KBA based on the confirmed presence of a globally threatened species or a single-site endemic, but in 2016, a group of leading international conservation organizations formed the KBA Partnership and agreed to follow a new global standard for the identification of KBAs. The Mountains of Central Asia ecosystem profile represents the first wide-scale application of the new standard and its higher documentation requirements.

The identification of KBAs entails the application of multiple criteria and quantitative thresholds. Given the limits of time and information, the ecosystem profiling team and in-country experts, in consultation with CEPF and international advisors, focused on a subset of these criteria, and defined KBAs in the Mountains of Central Asia Hotspot based on the presence of globally threatened and geographically restricted species and species that form aggregations at particular times of year for breeding, feeding or wintering.

Between June and October 2016, the ecosystem profiling team held several formal national meetings attended by officials and civil society organizations in China, Kazakhstan, Kyrgyzstan and Tajikistan. Afghanistan, Turkmenistan and Uzbekistan hosted no formal meetings, but stakeholders from those countries did attend the other events and were consulted directly by phone and email.

The final regional consultation was held in Almaty, Kazakhstan, on 12 December 2016, International Mountain Day, and brought together participants from previous meetings to review the regional picture of the KBAs, the thematic priorities and the investment strategy.

Preparation of the ecosystem profile – Mountains of Central Asia



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