GLOBAL
SNOW LEOPARD
&ECOSYSTEM
PROTECTION PROGRAM

A New International Effort
to Save the Snow Leopard
and Conserve
High-Mountain
Ecosystems

October 2013
Conference Document for Endorsement

Global Snow Leopard and Ecosystem Protection Program
Conference Document for Endorsement

Governments of the Snow Leopard Range Countries

Islamic Republic of Afghanistan
Kingdom of Bhutan
People's Republic of China
Republic of India
Republic of Kazakhstan
Kyrgyz Republic
Mongolia
Nepal
Islamic Republic of Pakistan
Russian Federation
Republic of Tajikistan
Republic of Uzbekistan

Partner Organizations of the Snow Leopard and Ecosystem Protection Program

Convention on Migratory Species
Flora and Fauna International
Global Environment Facility
Global Tiger Initiative
Nature and Biodiversity Conservation Union (NABU)
Snow Leopard Conservancy
Snow Leopard Network
Snow Leopard Trust
United Nations Development Programme
WildCRU
Wildlife Conservation Society
The World Bank
WWF

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The Global Snow Leopard Ecosystem Protection Program (GSLEP) is supported by an Annex that collates all 12 National Snow Leopard and Ecosystem Protection Priorities (NSLEPs) and the Global Support Components (GSCs).

Acronyms

ASEAN-WEN Association of Southeast Asian Nations Wildlife Enforcement Network
BF Bhutan Fund
CBD Convention on Biological Diversity
CITES Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS Convention on Migratory Species
DNP Department of National Parks
FFI Flora and Fauna International
GEF Global Environment Facility
GSC Global Support Component
GSLEP Global Snow Leopard and Ecosystem Protection Program
GTI Global Tiger Initiative
GTRP Global Tiger Recovery Program
ICCWC International Consortium on Combating Wildlife Crime
ICIMOD International Center for Integrated Mountain Development
IDA International Development Association
INTERPOL ICPO – International Criminal Police Organization
IUCN International Union for Conservation of Nature
MoEF Ministry of Environment and Forests (India)
MoNRE Ministry of Natural Resources and Environment
MoU Memorandum of Understanding
NABU Nature and Biodiversity Conservation Union
NGO Non-governmental Organization
NP National Park
NR Nature Reserve
NSLEP National Snow Leopard and Ecosystem Protection Program
NTNC National Trust for Nature Conservation (Nepal)
NTFP Non-Timber Forest Products
PA Protected Area
PES Payment for Ecosystem Services
PSL Project Snow Leopard (India)
REDD Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
SAWEN South Asia Wildlife Enforcement Network
SFA State Forestry Administration (China)
SGI Smart Green Infrastructure
SLN Snow Leopard Network
SLT Snow Leopard Trust
SOS Save Our Species program (IUCN)
TRC Tiger Range Country
UNDP United Nations Development Programme
USAID United States Agency for International Development
USFWS United States Fish and Wildlife Service
UWICE Ugyen Wangchuck Institute for Conservation and Environment (Bhutan)
WCL Wakhan Conservation Landscape (Afghanistan)
WBI World Bank Institute
WCO World Customs Organization
WCPA World Commission of Protected Areas
WCS Wildlife Conservation Society
WWF World Wildlife Fund

Foreword [TO BE INSERTED POST FORUM]

Executive Summary

1. The snow leopard is a culturally, ecologically, and economically important symbol of healthy high-mountain ecosystems and the communities living there, yet this cat is under threat of extinction across its entire range. An elusive denizen of the mountains of Central and South Asia, the snow leopard inhabits parts of 12 countries: Afghanistan, Bhutan, China, India, Kazakhstan, Kyrgyz Republic, Mongolia, Nepal, Pakistan, Russian Federation, Tajikistan, and Uzbekistan. Inhabiting an estimated 1.8 million km^2 of area at elevations from 540 to more than 5,000 m, snow leopards share landscapes with people who depend on various traditional forms of agro-pastoralism. The snow leopard is an indicator species of healthy high-mountain ecosystems, which support the cat itself, its prey, and a vast amount of biodiversity, as well as contribute to human wellbeing, locally, regionally, and globally.

These ecosystems are important not only as the home to this beautiful cat but also as the environmental and natural resources upon which hundreds of millions of people also depend for water for hydropower and agriculture, forage for livestock and food for themselves, mineral resources, medicinal supplies and products, cultural traditions and spiritual values, and inspiration that draws increasing number of people from around the globe to experience these places.

The cultural and aesthetical value of snow leopard ecosystems is immeasurable. The lifestyle, religious and spiritual beliefs, traditional agriculture, food, marriage systems, governance of societies inhabiting these areas are all unique. The Himalayan ranges harbor many mystical and sacred linkages to several religions and beliefs, including many sacred mountains. The region inspires scholars, artists, poets, spiritualists, and the citizens at large. Visual representations and written descriptions of remote wilderness have long captured human imagination though art, photography, and literature. Snow leopards in particular offer iconic representation of these areas and appear in the coats of arms and other symbols of some nations and cities in the snow leopard range.

Ecosystem that support snow leopards are of immense economic value too. While a comprehensive economic valuation of these services is not yet available, a rapid estimate of the economic value of some prominent services generated from snow leopard habitats in India is nearing $4 billion a year, the bulk of which comes from hydropower and generated electricity ($3 billon), followed by livestock and agriculture ($0.5 billion), and tourism ($0.4 billion).

The mountains of Central and South Asia store and release water that supports nearly half of the world's human population. Himalayan glaciers are the headwaters for ten major river systems in Asia. The Qinghai-Tibetan plateau is the headwaters of three major rivers, while the Altai and Sayan mountains are the watershed between Central Asia and the Arctic Ocean. High-mountain ecosystems also form the water towers to generate hydropower downstream, maintain fisheries, support industry, and irrigate farmland. For example, almost 90% of Kyrgyz Republic's electricity is generated by hydroelectric power stations built on the Naryn River within snow leopard range, also allowing the country to export the energy to the neighbors.

High-mountain ecosystems play an important role in the accumulation of precipitation, seasonal regulation of runoff, and provisioning of water to the human population of the region as a whole. They are also important to carbon storage and sequestration. For example, carbon storage across the snow leopard range in China approximate 7,200 tonnes per km^2 on average, which equates to up to 14 gigatonnes of carbon, equivalent to almost half of the carbon stored in the forests of Asia.

Snow leopard ecosystems are extremely rich and diverse in plant and animal species. In India alone, snow leopard habitat supports 350 species of mammals and 1,200 species of birds while the Altai mountains support nearly 4,000 species of plants, 143 species of mammals, and 425 species of birds. Among the many flagship species that occupy all or parts of the range are at least two species of

bear, wolf, red panda, mountain ungulates such as wild yak, chiru or Tibetan antelope, Tibetan argali, Tibetan gazelle, Ladakh urial , four species of musk deer, the *hangul* or Kashmir red deer, three species of goral, serow, Himalayan tahr, and takin, and more than 20 species of birds of prey including imperial eagles, lammergeiers, and griffons. Numerous endangered and medicinal plants occur in these areas, including more than 675 edible plants and nearly 1,743 species of medicinal value in the Indian Himalayan region alone, many of which are used by the pharmaceutical industry.

Over 335 species of wild relatives of cultivated crops are found in the region. Apart from its intrinsic value in and of itself, biodiversity underpins agriculture. For example, Central Asia's unique walnut-fruit forest includes wild ancestors of crop species such as walnuts, almonds, cherries, plums, and apples. Wild relatives of all major domesticated livestock—cattle, horses, sheep, and goats—also occur in this region. Thus, the biodiversity resources of the area not only provide life support to the people in the area, but also serve as source of wild genetic material for plant and animal breeders.

And yet, despite these immense various values, snow leopards and their ecosystems are endangered throughout their range, their prey are declining in many areas, and the grasslands that support these prey and the lives and livelihoods of pastoralists that share these mountain habitats are degrading.

2. There are several common and a few localized key threats that diminish the snow leopard and the value of its landscapes, livelihood of people living there.

One of the major threats to snow leopards is <u>increasing livestock and overgrazing</u> that impact prey species and sometimes lead to retaliatory or protective killing of snow leopards. Although human population density in the snow leopard's ecosystems is relatively low, its habitats are heavily used by people whose livelihoods depend on traditional pastoralism and agro-pastoralism. With growing human populations and rising global demand for cashmere, livestock herds—goat herds in particular—have greatly increased in size. The resulting overgrazing leads to degradation of pastureland and wildlife habitats and serious soil erosion.

<u>Habitat fragmentation and degradation</u>, especially due to the growth of human habitations and large-scale infrastructure in the landscape, also poses serious threat to the quality of habitats and genetic connectivity of snow leopard populations. Development projects spurred by mineral exploration and extraction, the need for major road and rail transportation networks, new gas and oil pipelines, and hydro-electric power facilities, as well as upstream water-storage facilities to alleviate increasing water shortages in the densely populated lowlands of South and East Asia, are expected to grow significantly. These projects—if poorly planned without understanding of environmental issues—have the potential to create a variety of negative impacts through fragmentation of large landscapes and creating barriers to movements of snow leopard and prey, as well as mortality (such as road kills), pollution, disturbance, and poaching and habitat encroachment by workers. Construction and/or operation of infrastructure projects directly eliminates and degrades habitat. Transportation networks in particular open up remote areas to poachers and facilitate trafficking in wildlife.

<u>Illegal trade and poor law enforcement</u> due to remote landscapes undermine conservation efforts. Illegal trade and illicit demand for snow leopard products exists at national and international levels, including in the West. Snow leopards are killed and traded for their fur and other body parts, including teeth, claws, and bones. Snow leopard fur is used for clothing, hats, and furnishings. Even the meat is occasionally eaten. Recent evidence indicates that trade is now moving towards rugs, luxury décor, and taxidermy. Many snow leopard range countries have weak wildlife laws and low levels of prosecution even when offenders are apprehended, and underfunding of the wildlife sector is a chronic problem across snow leopard range. The size, remoteness, and harshness of snow leopard habitat, plus the fact that most of it lies outside of protected areas, makes law enforcement challenging. Porous borders that reduce well-organized criminal traffickers' risks of detection also create challenges.

<u>Weak transboundary cooperation</u> for snow leopard conservation threatens protection, law enforcement, and habitat connectivity as well as recovery efforts for the snow leopard and its prey. It is estimated that up to a third of the snow leopard's known or potential range is located either along or less than 50-100 km from the international borders of the 12 range countries. Existing MOUs and agreements do not necessarily reflect current urgent transboundary needs, lack clear set of actions supported by resources and political will.

<u>Limited human and financial capacity and weak policies and institutions</u> reduce the effectiveness of conservation efforts. All of the snow leopard range countries report they have insufficient numbers of trained conservation practitioners at all levels, and even where conservation staff levels may be adequate, such as in some scientific institutions, low funding limits their effectiveness. In particular, range countries lack people trained to address the needs of communities and develop community programs. While budgetary allocations are insufficient, the donor funding is generally time-limited and insufficient to scale-up successful practices. The Snow Leopard Trust estimates that NGOs and multilaterals contribute less than US$8 million per year directly to snow leopard conservation. According to a study published in 2013 in *the Proceedings of the American Academy of Sciences*, five of the snow leopard range countries are among the 40 countries whose biodiversity conservation needs are the world's most underfunded (from all sources). Six of the 12 snow leopard countries report that lack of effective policy is a high threat to snow leopard, wild prey, and ecosystems and only two report this as a low threat. For example, only a few countries have laws or policies that legally empower or offer incentives to local communities to protect and manage local natural resources. All countries prohibit killing of snow leopards, but enforcement is generally hampered by insufficient funding and equipment. In several countries, prey species are not protected or, when they are, penalties for poaching are not enough to deter it.

In addition, there is a <u>significant lack of awareness</u> and understanding of the plight of the snow leopard, its value, prey, and habitat, as well as of the local and regional consequences of the on-going degradation of its ecosystems. This is true at all levels of society within and outside the snow leopard range countries, from local people to leaders of governments and from the private sector to the general public. Globally, elusive snow leopards are less well-known than other charismatic species, such as tigers and elephants; as a result, less funding has been available for snow leopard conservation.

The challenge of conserving snow leopards is seriously exacerbated by the <u>current lack of scientific information about many aspects of their ecology and behavior</u>. This is due in part to the difficulties of studying them in their remote, rugged ecosystems, but also significantly due to lack of funding for the research required. Even the cat's current distribution is uncertain because much of its possible habitat has either not been surveyed recently or ever. Similarly, the size of the total snow leopard populations is at a best a rough estimate. Consistent range-wide scientific monitoring of snow leopards or their prey species or of changes in habitat characteristics has also been lacking. Among other things, this hampers efforts to determine the effectiveness of conservation interventions.

3. The Global Snow Leopard and Ecosystem Protection Program (GSLEP) seeks to address high-mountain development issues using the conservation of the charismatic and endangered snow leopard as a flagship. This iconic and culturally treasured great cat is a good indicator species as it quickly reacts to habitat disturbance and its successful conservation requires sustainable long-term systemic solutions to the threats impacting the quality of habitats. The GSLEP is a range-wide effort that unites range country governments, non-governmental and inter-governmental organizations, local communities, and the private sector around a shared vision to conserve snow leopards and their valuable high-mountain ecosystems.

The[1] snow leopard range countries and partners unanimously agree to the shared Overarching Goal of the GSLEP for the 7 years through 2020. The snow leopard range countries agree, with support from interested organizations, to work together to identify and secure at least 20 healthy populations of snow leopards across the cat's range by 2020. While many of these populations will cross international boundaries, the three criteria for secured healthy populations of snow leopards are: (i) representing at least 100 breeding age snow leopards; (ii) containing adequate and secured from threats wild prey populations; and (iii) connecting landscapes with other snow leopard populations. The ultimate goal is to ensure that snow leopards and the people who live among them thrive in healthy ecosystems that contribute to the prosperity and well-being of our countries and the planet.

The foundation of the GSLEP is 12 individual National Snow Leopard and Ecosystems Priorities (NSLEPs).
After a process of sharing knowledge and these known good practices and developing a common vision, the NSLEPs were developed to incorporate a set of priority, concrete project activities to be implemented to meet national goals and, collectively, the overarching global goal.

The NSLEPs are buttressed by five Global Support Components prepared by international organizations to address issues to be addressed transcend national boundaries and go beyond the capacity of any one country to address alone. The GSCs aim to support and assist the range countries, as needed, is the areas of wildlife law enforcement; knowledge sharing; transboundary cooperation; engaging with industry; and research and monitoring.

The activities of the countries and the international community are grouped under broad themes that correspond to the commitments of the Bishkek Declaration adopted at the Global Snow Leopard Forum, that is:

- Engaging local communities in conservation, including promoting sustainable livelihoods, and addressing human-wildlife conflict
- Managing habitats and prey based upon monitoring and evaluation of populations and range areas
- Combating poaching and illegal trade
- Transboundary management and enforcement Engaging industry
- Research and monitoring
- Building capacity and enhancing conservation policies and institutions
- Building awareness

The first five are direct impact activities; the last three are enabling ones to create conditions for successfully performing or improving the direct impact activities. Together, the portfolio of national activities, supported by the GSCs that aim to help the range countries deal with common issues or those with which a single country cannot deal effectively, will move the countries toward their national and global goals. The details of the GSCs' activities and how they function requires further discussion and validation with the range countries to ensure their envisioned impact.

4. The success of GSLEP implementation depends on scaling up known and tested key actions and good practices, which will require incremental domestic and external financing of about $150-250 m over the first 7 years of the program, subject to additional cost harmonization.

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[1] **The highlighted text is inserted in response to the latest feedback received from range countries that see a need to have a measurable goal announced at the Global Forum in Bishkek. This draft text will be subject to discussion and finalization by the range countries at the Senior Officials Meeting prior to the Forum.**

Good practices that have proven successful in one or more range countries are being scaled-up in those countries or emulated in others. For example, programs to increase community participation in conservation, improve livelihoods, and address human-wildlife conflict have been tested in Nepal, India, Pakistan, and Russia with very promising results including reductions in poaching of snow leopards and increased willingness to co-exist with the predators. Creation of anti-poaching teams and stiff penalties for poaching have also proven effective in Kyrgyz Republic, Russia, Kazakhstan, and Mongolia. Establishment of protected areas has brought significant areas under protection in Bhutan, China, Tajikistan, India, and many countries plan to create new protected areas or strengthen their existing protected area system. Effective scientific monitoring programs are being conducted in Afghanistan, Kazakhstan, Mongolia, Kyrgyz Republic, and Russia and their methods can be applied, with adaptation as necessary, in others. In other areas, such as engaging industry, capacity building and policy enhancement, and building awareness, successful models are available from other parts of developing and developed world.

5. The implementation mechanisms of this range-wide, country-led program consist of financing, coordination, and monitoring functions.

The portfolios of national activities will be implemented by the range countries with support from international and national partner organizations as needed. Prioritization and cross-fertilization of the national activities will require additional range-wide efforts, including knowledge sharing, planning, and scaling up of known good practices following the launch of GSLEP implementation. The portfolios of the GSCs will be implemented by lead partner organizations in consultation with and support to the range countries. Options for financing the program will vary by range country but include official bilateral programs; multi-lateral development bank programs; Global Environment Fund programs; inter- and non-governmental organizations; private sector social responsibility programs; and various forms of payment for ecosystem services schemes. A Secretariat will be established to coordinate the activities of the countries and the international community, and to monitor and report on program implementation including progress in allocation and utilization of funding. With about 90 percent of the program costs in national activities and most range countries report gaps in policy and institutional capacity, successful implementation of the program will require substantial political will, leadership, vision, and knowledge sharing exercises to create effective institutional arrangements for national implementation, monitoring, and reporting purposes.

6. Monitoring of GSLEP implementation will require collective efforts at national and global levels toward establishing baselines, a common set of key indicators, and mutually-accountable reporting procedures.

Acknowledging the range countries' sovereign right to act for the conservation of the snow leopard and sustainable development of their landscapes, successful monitoring of the implementation of the 12-country program toward achieving the overarching global goal will require countries' agreement on several points. First, a range-wide baseline—the first ever—must be established so countries will need to agree on some basic principles of scientific biological monitoring of snow leopard and prey populations, so that their own national biological monitoring systems rely on these while perhaps varying in actual methods depending on historic and environmental conditions. Second, a small set of key performance indicators will be needed to report and track the program parameters over time. Finally, defining and agreeing on a reporting procedure that will encourage the range countries to publicly share their methods, data, and results is necessary. Similar reporting based on defines indicators is necessary for the GSCs and their activities.

7. The success factors for GSLEP implementation are shaped by an early momentum generated by political support and now joint collective actions. The GSLEP and its supporting NSLEPs and GSCs represents the first-ever comprehensive, coordinated effort to conserve snow leopards and their mountain habitats in Asia. Before now, snow leopard conservation efforts have been largely limited

to isolated, relatively small-scale interventions. With the GSLEP, snow leopard conservation moves from isolated interventions to collective impact initiatives that unify the efforts of countries and the global conservation community to achieve a shared vision and goal. The activities the range countries plan to conduct are based known good practices that will be scaled up or adapted for wider implementation and impact. The costs of these activities are also estimated to give an order of magnitude indication of the funding needed, indicating time-phased national budget allocations and external funding required. The GSLEP provides for regular monitoring and reporting, coordinated by a country-led Secretariat, to maintain momentum as well as high-level attention to progress toward the goal. Regular coordination, monitoring, and reporting will also enable countries, partners, and donors to constantly fine-tune their efforts to reflect changing circumstances and new knowledge.

8. The outputs of GSLEP implementation are designed to generate both enabling conditions for boosting protection and conservation efforts as well as to produce tangible results toward the common goal.

The countries made incredible leaps forward between December 2012, when the first Global Snow Leopard Strategy Workshop was held, and October 2013, the date of the Global Forum on Snow Leopard Conservation, getting together, sharing knowledge and learning from each other, planning actions, and developing the key ingredients for substantive successes seven years from now. Based on the national and global portfolios of activities, the following anticipated outcomes or expected areas of impact will contribute towards the program's goal.

GSLEP Theme - US$ Total Estimated Cost/ % of Total Estimated Program Cost	Anticipated Outcomes / Expected Areas of Impact or Enabling
Engaging Local Communities & Reducing Human-Wildlife Conflict - $16.0m/9%	• Reduction in livestock predation and mortality, decreased killing of snow leopard and prey. • Snow leopard numbers* maintained or increased to form viable populations. • Prey numbers* maintained or increased to support viable snow leopard populations.
Controlling Poaching of Snow Leopards & Prey - $41.4m/24%	• Threats halted; populations of snow leopard and prey base increased. • Snow leopard numbers* maintained or increased to form viable populations. • Prey numbers* maintained or increased to support viable snow leopard populations.
3. Managing Habitat & Prey - $50.3m/30%	• Extent of snow leopard habitats protection, management and connectivity surveyed, documented, and increased. • Snow leopard numbers* maintained or increased to form viable populations. • Prey numbers* maintained or increased to support viable snow leopard populations. • Habitat quality and connectivity and gene flow between populations maintained or restored.
Transboundary Management & Enforcement - $4.6m/2%	• Reduced pace of degradation of transboundary landscapes, reduced poaching and smuggling of snow leopard and prey, their products; increased capacity for and better transboundary coordination of agencies at local and national levels. • Snow leopard numbers* maintained or increased to form viable populations. • Prey numbers* maintained or increased to support viable snow leopard populations. • Habitat quality and connectivity and gene flow between populations maintained or restored.
Engaging Industry - $7.2m/4%	• Piloted approaches of mining and other industry involvement towards joint planning and conservation of snow leopard landscapes.

GSLEP Theme - US$ Total Estimated Cost/ % of Total Estimated Program Cost	Anticipated Outcomes / Expected Areas of Impact or Enabling
	• Snow leopard numbers* maintained or increased to form viable population. • Prey numbers* maintained or increased to support viable snow leopard populations. • Habitat quality and connectivity and gene flow between populations maintained or restored.
Research & Monitoring - $33.7m/18%	• Major knowledge gaps studied. Range, key reproduction sites, existing and potential connecting corridors for snow leopard populations identified and incorporated into landscape level-planning of management interventions. Better coordination and decision making. • Enables setting of baselines to track progress and effectiveness of conservation programs; enables adaptive management of conservation programs; enables identification of priority areas for protection.
Strengthening Policies & Institutions and Strengthening Capacity of National & Local Institutions - $21m/7%	• Strengthened policy and institutional environment for deterrence of wildlife crime and enacting incentives for local communities to protect and conserve. • Enables strengthened wildlife law enforcement and PA management; enables effective community-based conservation; enables industry participation.
	• Highly trained and equipped conservation practitioners; restructured roles and responsibilities between agencies for more effective conservation practices; increased funding for snow leopard conservation. • Enables strengthened wildlife law enforcement; enables improved wildlife, PA, and landscape management.
Awareness & Communication - $2.6m/1%	• General public and target groups better equipped with knowledge about snow leopard ecosystems and values associated with them. • Enables greater political and financial support for snow leopard and ecosystem conservation.

*Or other appropriate measure such as density or habitat occupancy.

Preface: How the Global Snow Leopard and Ecosystem Protection Program Came to Be

Over the last few decades, mountainous countries (and parts of countries) of Central and South Asia have experienced extensive degradation of mountain ecosystems, including those of high global value. Traditionally, this resulted largely from widespread intensification and poorly managed agro-pastoral land use, which transforms natural mountain grasslands and results in massive habitat degradation. Unregulated land use, including overgrazing in easily accessible areas, coupled with the natural fragility of high mountain ecosystems, intensifies erosion and land degradation. These threats continue largely unabated.

Mining and other large-scale infrastructure, including building transportation networks and dams for hydropower, are emerging threats and their transparent regulation in most of the countries, is not yet in place. Neither are the available methods, such as smart green infrastructure, to minimize negative impacts, including disturbing the natural behaviour of snow leopards and their prey and degrading grasslands, widely practiced or even understood. Overall, poorly managed infrastructure development critically threatens environmental and economic values; deprives mountain areas of their naturalness and ability to perform essential ecosystem functions; and impairs ecosystem resilience to anthropogenic and natural stress.

Climate change, such as the increasing climate aridity observed in Central Asia, is another emerging threat to high-mountain ecosystems, with the potential to directly or indirectly reduce habitat for snow leopards and their prey.

The systemic nature of the threats requires an integrated response to restore and sustainably maintain the integrity of the high-mountain ecosystems. An integrated response would help to mitigate potential irreversible loss of globally significant biodiversity; prevent land degradation; strengthen resilience to climate change; and support the long-term delivery of important ecosystem services. Local people and economies critically depend on these ecosystem services that, among other things, provide water to as many as a third of the world's human population., as do people and economies regionally.

In 2012, the Government of the Kyrgyz Republic, led by President Almazbek Atambaev, began spearheading an initiative that would comprehensively address high-mountain environmental issues using the conservation of the charismatic and endangered snow leopard as a flagship. This iconic and culturally treasured great cat is a good indicator species as it quickly reacts to habitat disturbance and its successful conservation requires sustainable long-term systemic solutions to virtually all major environmental issues impacting the quality of habitats.

President Atambaev's model for the effort was the Global Tiger Initiative's Global Tiger Recovery Program (GTRP), launched by the Heads of Governments of the 13 tiger range countries (TRCs) at the International Tiger Forum in St. Petersburg in 2010. The GTRP is a comprehensive global approach, led by the TRCs with support from global partners, that systemically advances the conservation of wild tigers and their ecosystems in Asia. At President Atambaev's request, the Global Tiger Initiative's Secretariat at the World Bank, in technical partnership with the Snow Leopard Trust, offered its support and advice to guide the process of developing a Global Snow Leopard and Ecosystem Protection Program (GSLEP) with the participation of the 12 snow leopard range countries. Subsequently, the snow leopard range countries, with the participation of many partners, held a series of meetings and did intense work to develop individual National Snow Leopard and Ecosystem Protection Programs (NSLEPs). These NSLEPs are the core of the GSLEP. In addition, the international community developed Global Support Components (GSCs) to offer assistance when the issues to be addressed transcend national boundaries and go beyond the capacity of any one country to address alone. These also form part of the GSLEP.

Simultaneous with developing the GSLEP, the Government of the Kyrgyz Republic prepared to host the Heads of States of the snow leopard range countries at the first International Forum on Snow Leopard Conservation in Bishkek in 2013. At that Forum, held October 22-23, 2013, the Heads of State issued the Bishkek Declaration on the Conservation of Snow Leopards, whose stated goal is "to protect and recover snow leopard populations and their fragile habitats for all people to enjoy" and endorsed the GSLEP as the road map for achieving that goal. [SOME ADDITIONAL INFORMATION TO BE ADDED POST-FORUM AS RELEVANT.]

—The GSLEP Drafting Team

Chapter 1. Introduction: The Challenge

The beautiful big cat called the snow leopard, with smoky gray fur dotted by black spots and rosettes, has an uncanny ability to disappear among the rocks and rugged slopes it inhabits—if one has a chance to glimpse the cat at all. Living in patches of suitable habitat among the Earth's most remote and challenging regions—the mountains of Central and South Asia—snow leopards have likely always been rare, and rarely seen. Nonetheless, the cat's charisma is so great that it figures largely in the cultures of predominantly pastoral people in its range, and is a symbol of high-mountain ecosystems.

Once largely protected by the very inaccessibility of its habitat and the elusiveness of its behavior, snow leopards today face mounting threats that have shifted the species' status from rare to endangered. Growing human populations and development—mines, roads, and dams—are pushing into snow leopard habitat. And despite the snow leopard's cultural relevance, when the cat clashes with humans and their livestock, it goes from paragon to pest in herders' perceptions. Moreover, some covet its stunning pelt as appropriate for fashion and décor; in some Western countries cloth with faux snow leopard stripes is popular, a fad that may stimulate demand for real fur. So some snow leopards are killed in retaliation for livestock losses and for illegal trade in skins and other products.

Snow leopard conservation programs have a relatively long history—the species was declared endangered in 1972 by the United States Fish & Wildlife Service and in 1986 on the IUCN Red List. There are many examples of successful best practices in snow leopard conservation but these have not been implemented at the scale necessary to stop declines in snow leopards and their prey or the degradation of their habitat. The GSLEP aims to change that through a comprehensive, collaborative range-wide effort that unites range country governments, non-governmental and inter-governmental organizations, local communities, and the private sector to conserve snow leopards and their valuable high-mountain ecosystems—ecosystems upon which hundreds of millions of people also depend.

Status of Snow Leopards

An elusive denizen of the mountains of Central and South Asia, the snow leopard inhabits parts of 12 countries: Afghanistan, Bhutan, China, India, Kazakhstan, Kyrgyz Republic, Mongolia, Nepal, Pakistan, Russian Federation, Tajikistan, and Uzbekistan (Figure 1). Its geographic range, 60 percent of which is in China, runs from the Hindu Kush in eastern Afghanistan and the Syr Darya through the mountains of Pamir, Tian Shan, Karakorum, Kashmir, Kunlun, and the Himalaya to southern Siberia, where the range covers the Russian Altai, Sayan, Tannu-Ola mountains and the mountains to the west of Lake Baikal. It is found in the Mongolian and Gobi Altai and the Khangai Mountains. In Tibet it is found up to the Altyn-Tagh in the north. This beautiful and charismatic great cat is largely solitary and lives at low to very low densities in mountainous rangelands at elevations from 540 to more than 5,000 meters above sea level. Life history and ecology are summarized in Table 1.
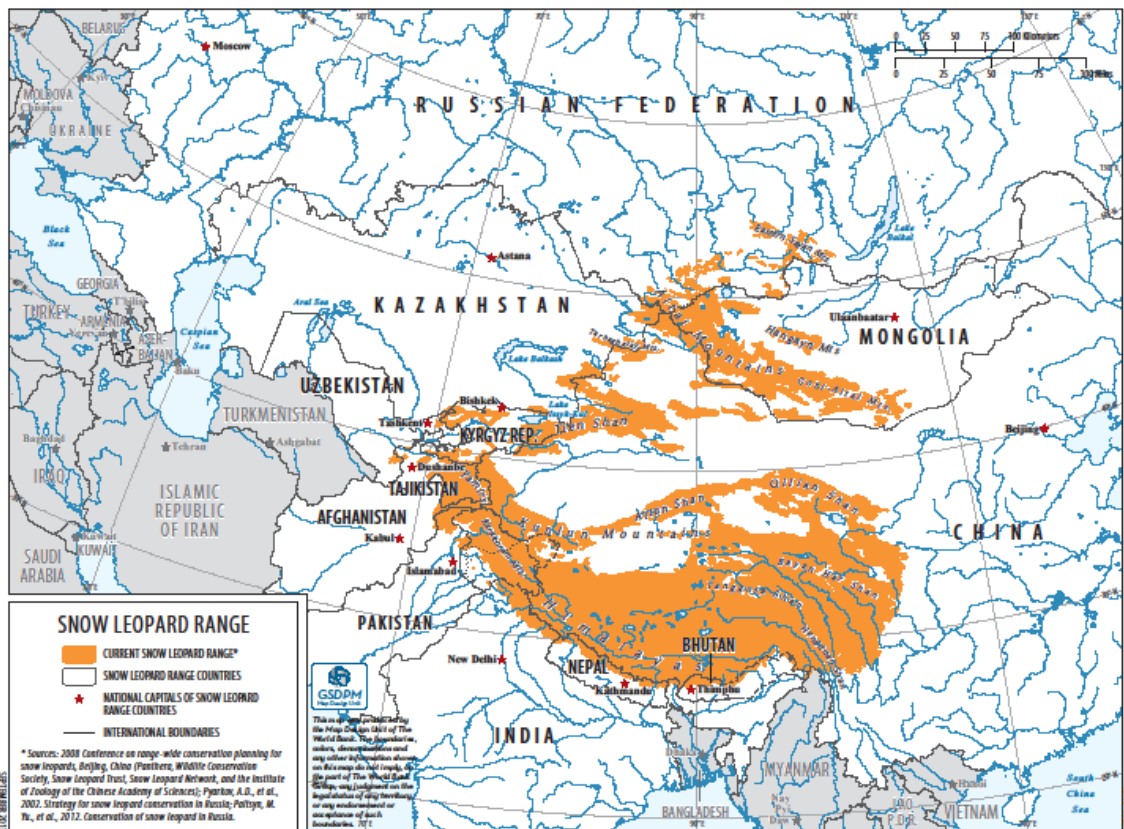
Figure 1. Snow leopard range.

Table 1. Snow leopard life history and ecology. (From Sunquist and Sunquist 2002, and Jackson et al. 2010.)

Land cover: Snow leopards are high-altitude rock specialists, although in Russia they can live at elevation 540-800 m above sea level. They have been recorded in high rocky areas, alpine meadows, alpine steppe shrub, and high altitude forests. They generally live above the tree line at elevations of 2,700-5,000 m. During winter, the snow leopard may descend to lower elevations, but in summer moves back up mountains to the steepest and most remote terrain. In Tibet and Mongolia, they may occupy relatively flat or rolling terrain when there is sufficient cover. There is no single optimal habitat and conditions vary across the range. Habitat use varies with such factors as ease of movement, prey availability, and the presence of predators, competitors, and people. They reportedly prefer broken rocky terrain and irregularly sloping areas, while unfavored habitats include major valleys, forested areas, areas of intense human use, and extensive open areas. These habitats may, however, provide vital regions for connectivity of the species' range.
Critical habitat: In Nepal, snow leopard home ranges overlapped in commonly used "core areas" that intersected with the most favorable local topography, habitat, and prey. These core areas are marked significantly more frequently than non-core sites. Female snow leopards raise their young in areas where critical prey resources are concentrated and easiest to obtain. Because breeding females must satisfy their elevated energy requirement (100% increase in biomass intake over non-breeding requirements) with minimal time away from their young, they are restricted to optimal habitat.
Dispersal: Dispersal is thought to occur at 18-22 months and sibling groups may remain together briefly after independence. Snow leopards generally avoid crossing open terrain, but dispersing cats have been known to traverse 20-65 km of open steppe and desert to reach isolated massifs. There are records of snow leopards 150-200 km from their normal haunts. Ameliorating anthropogenic barriers to dispersal, such as highways and railroads, extensive mining areas, and militarized border areas, are essential for successful snow leopard dispersal.

Prey: Snow leopards are opportunistic predators, but their distribution coincides closely with the distribution of their principal prey, ibex and blue sheep (bharal). They can kill prey up to three times their own weight, so in their range only adult camels, kiang, and wild yak are excluded as prey. Scientists have found an unusual amount of twigs and vegetation in their scats for reasons unknown.
Foraging: Terrestrial, most active at dawn and dusk. They find prey by following animal trails made by livestock and wild ungulates and other natural relief features. They use a solitary stalking and ambush hunting style, using ledges, cliffs, and broken terrain to approach and launch an attack. Adults do not hunt cooperatively but food is shared between females and cubs.
Social structure: Solitary except for females with young, mating pairs, and a dispersing litter that may roam together temporarily. Breeding male home ranges overlap breeding female home ranges. Snow leopards have a well-defined birth peak in May, although births occur from February to September, which means that they also have a well-defined mating period between January and mid-March, a period of intensified social marking and vocalizations. Most felid females live alone in separate or partially overlapping home ranges; a single male can monopolize breeding with several females by defending a large territory that overlaps several female home ranges. But when snow leopard females come into estrus at about the same time, it is unlikely that any one male can monopolize mating, resulting in considerable home range overlap among males.
Snow leopard densities: In the absence of poaching, prey density and distribution explain snow leopard densities. Radio telemetry studies have measured home range sizes of 12-39 km^2 in Nepal to 500 km^2 in Mongolia. Densities range from <0.1 to 10 or more individuals per 100 km^2. The quality of the habitat is determined by available prey, which, therefore, determines how many reproducing female snow leopards can be accommodated within an area.
Prey needs: Snow leopards kill a large ungulate every 10-15 days and, if not disturbed, stay with a kill for a week. An adult needs 20-30 blue sheep equivalents a year. As a result, a single snow leopard requires a minimum population of 100-150 hooved animals of various species living in its home range.
Vulnerability to poaching: Mortality rates of snow leopard females vs. population sizes have not yet been established, but we can estimate that they will be similar to those of tigers. As an indication, tigers require large populations to persist and are susceptible to modest increases in mortality. Although high prey numbers are essential to sustain tiger populations, prey recovery efforts will not be sufficient if tiger mortality rates reach or exceed 15%. A population with 15% mortality among the breeding females requires >80 breeding females to remain viable. If survivorship of the breeding females nears 100%, tiger populations can grow at an annual rate of about 20%. Like tigers, snow leopards are also vulnerable to poaching of their prey.

The estimated size of its distributional range is about 1.8 million km^2, with the largest share in the Tibetan plateau of China, followed by Mongolia and India. There is, however, a great deal of uncertainty about the snow leopard's current distribution, as there is about the size of the total snow leopard population, which is roughly estimated at between 4,000 and 6,500 individuals. As indicated in Table 1, some national estimates are very outdated and up-to-date estimates of area of occupancy and population size are urgently needed.

Table 2. Estimated area inhabited and population size of snow leopards in the 12 range countries.

Range Country	Estimated Area (km²)	Estimated Population	Year of Evaluation
Afghanistan	50,000	100—200	2003
Bhutan	15,000	100—200	1994
China	1,100,000	2,000—2,500	2003
India	75,000	200—600	1994
Kazakhstan	50,000	100—110	2001
Kyrgyz Republic	105,000	150—500	2001
Mongolia	101,000	500—1,000	2000
Nepal	30,000	300—500	2009
Pakistan	80,000	200—420	2003
Russia	60,000	70—90	2012

Range Country	Estimated Area (km²)	Estimated Population	Year of Evaluation
Tajikistan	100,000	180—220	2003
Uzbekistan	10,000	20—50	2003
Totals	**1,776,000**	**3,020-5,390**	

The snow leopard (*Panthera uncia*) is listed as globally Endangered on the IUCN Red List and the species is listed (as *Uncia uncia*) on Appendix I of CITES (Convention on International Trade in Endangered Species of Fauna and Flora), which prohibits international trade in the animal and its parts and products except under exceptional, non-commercial circumstances. All snow leopard range countries except Tajikistan are parties to CITES but the process for Tajikistan to join is underway. The Convention on Migratory Species deems the snow leopard a "concerted action species," thus obliging the six range countries (India, Mongolia, Pakistan, Russian Federation, Tajikistan, and Uzbekistan) party to this convention to conserve and restore its habitat. The snow leopard is also protected by national laws in all of the 12 countries in which it is found.

Status of Prey Species

The snow leopard is the apex predator of its ecosystems, sitting at the top of the food web. It preys primarily on bharal or blue sheep (*Pseudois nayaur*) and ibex (*Capra sibirica*), and the snow leopard's distribution largely matches those of these large ungulates. In parts of the range, they also hunt argali (*Ovis ammon*), markhor (*Capra falconeri*), Himalayan tahr (*Hemitragus jemlahicus*), urial sheep (*Ovis orientalis*), red deer (*Cervus elaphus*), roe deer (*Capreolus pygargus*), and musk-deer *Moschus* spp.). This diet is supplemented by smaller prey, such as marmots, pikas, hares, small rodents, game birds and, significantly, domestic livestock. Livestock, mostly sheep and goats but also horses and yaks, may form as much as half or more of the diet. Cold and very dry, the habitat of snow leopards and their primary prey is very relatively unproductive, due to low biomass of grasses. As a result, prey densities are naturally relatively fairly low. Competition for food with large and growing domestic livestock populations further reduces wild prey numbers, as does poaching and other human disturbance. While blue sheep and ibex are not considered endangered—they are listed as of "Least Concern" on the IUCN Red List—their numbers appear to be declining across the range. Among other prey species, Himalayan tahr are considered "Near Threatened," markhor are "Endangered," and urial sheep are "Vulnerable," and trends in the numbers of all of these are declining.

Status of the Ecosystem

At high-elevations, the snow leopard's mountain ecosystems are characterized by rugged steep terrain dissected by cliffs, ridges, and gullies and dominated by shrubs and grasses. At lower elevations the terrain may be rolling or flat with some cover, such as open coniferous forest. Throughout, however, the habitat is cold, dry, and harsh, and only parts of this habitat can support snow leopards.

About 120 protected areas exist in potential snow leopard habitat but they cover only about six percent of that habitat. Moreover, most of these protected areas, by themselves, are too small to support a snow leopard population. More than half are 500 km² or less in area (parts of which may not be snow leopard habitat), which, in parts of the range where the cats live at very low densities and where home ranges are as large as 500-800 km², would support, on average, only one or fewer individuals.

The future impacts of climate change on snow leopard habitat are not certain, and will vary across the range; however, it seems certain that there will be impacts. For instance, melting glaciers in Central Asia and elsewhere are likely to affect water availability and increase the risk of droughts. Decreases in water availability and increases in temperature may affect pasture production, reducing food availability for both wild prey and domestic livestock.

A recent study found that as much as 30 percent of snow leopard habitat in the Himalayas could disappear due to upslope vegetation changes, that is, woody vegetation replacing alpine grasslands. The projected consequences will be loss, degradation, and fragmentation of habitat; reduction in natural prey; potential for increased competition with other predators such as common leopards; and, with increasing proximity to human activities (including livestock), increased conflict, and retaliatory killings. This same study found, however, that considerable habitat will remain although it may be more fragmented than at present.

It is therefore essential to design and implement conservation strategies at landscape scales to ensure the long-term persistence of viable populations of snow leopards and their prey. Larger populations are inherently more likely to persist, retain greater genetic variation, and are less vulnerable to the principal stochastic factors influencing population size and dynamics. Landscape-scale planning for intact metapopulations helps safeguard dispersal corridors between adjacent but separate core populations, maintains genetic variation and incorporates resilience to climate change. Thus, restoring, increasing and/or stabilizing both regional and global snow leopard populations requires maintaining viable meta-populations across large portions of the species' mountain habitat – in turn dependent upon conserving, managing, or restoring habitat across large landscapes. Up to a third of the snow leopard's range is located either on or less than 50-100 km from the international borders of the 12 range countries and there are several initiatives to create transboundary protected areas or landscapes (Table 3).

Table 3. Current transboundary projects within snow leopard range. (Details are provided in Annex 4-C.)

The West Tien Shan project aimed to improve and increase cooperation between five PAs with snow leopards: Chatkal NR (Uzbekistan), Sary-Chelek and Besh-Aral NRs (Kyrgyz Republic) and Aksu-Djebagly (Kazakhstan).

The Tien Shan Ecosystem Development Project was launched in 2009 to support management of PAs and sustainable development in Kazakhstan and Kyrgyz Republic.

The Pamir Alai Transboundary Conservation Area project examined the option of creating a transboundary PA across the border between Kyrgyz Republic and Tajikistan, and a biological database was assembled.

The Mountains of Northern Tien Shan project plans to organize a transboundary PA at the junction of three existing PAs: Chon-Kemin Reserve (Kyrgyz Republic), Chu-Or NP and Almaty Reserve (Republic of Kazakhstan).

The Kyrgyz Republic's Issyk-Kul Oblast State Administration established Khan Tengri Natural Park, which directly borders Kazakhstan and China and links Naryn and Sarychat-Ertash reserves in Kyrgyz Republic with Tomur Reserve in Xinjiang, China.

As part of the Altai Sayan Ecoregion Project, the governments of Russia and Mongolia and Russia and Kazakhstan signed agreements to establish the Altai Transboundary (Russia-Kazakhstan) and the Uvs-Nuur (Russia-Mongolia) Nature Reserves in the transboundary habitats of snow leopard in 2011-2012. Expansion of the "Golden Mountains of Altai" UNESCO World Heritage site in the transboundary area of Russia, Mongolia, China, and Kazakhstan is currently being discussed among the national governments.

The Pamir International Protected Area has been suggested in the eastern Pamirs where the borders of Afghanistan, Pakistan, Tajikistan, and China meet. This would encompass eight existing or proposed reserves, including one in China, two in Pakistan, two in Tajikistan, and three in Afghanistan.

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Nepal has signed agreements with China and India to facilitate biodiversity and forest management, encompassing six border PAs under the Sacred Himalayan Landscape initiative.

The Kailash Sacred Landscape (KSL) Conservation Initiative is a collaborative effort of ICIMOD, UNEP, UK-AID, and
regional partners from China, India, and Nepal. Similarly, the Khangchendzonga Sacred Landscape in eastern Nepal and Sikkim in India has been proposed as another collaborative conservation initiative.

For these as well as other reasons, conserving snow leopards and their landscapes requires strong action on the part of the 12 snow leopard country governments, assisted by national and international non-governmental organizations, and the private sector, including local communities, extractive industries (especially mining and hydropower), and those businesses dependent upon healthy alpine ecosystems (especially the tourism sector).

The Value of Snow Leopards, Wild Prey, and Their Ecosystems

The mountain ecosystems of Central and South Asia support snow leopards, their prey, and a vast amount of biodiversity. They also contribute to human wellbeing, locally, regionally, and globally. Snow leopards are indicators of healthy high-mountain ecosystems in Central and South Asia that provide essential ecosystem services, including:

Cultural services. The snow leopard is an important cultural symbol in Central and South Asia and figures widely in folklore and beliefs. For example, the supernatural beings of the Wakhi people of Central Asia took the form of snow leopards. The snow leopard is the state animal of Himachal Pradesh in India and a symbol of the cities of Bishkek in the Kyrgyz Republic, Samarqand in Uzbekistan, and Astana and Almaty in Kazakhstan. The snow leopard is an icon of high mountains: the former Soviet Union bestowed the Snow Leopard Award to mountaineers who climbed the five peaks of 7,000 m or higher, called snow leopard mountains, in its territory. Prey species, such as ibex and Marco Polo sheep, also figure in the art and folklore of Central Asia. The mountains themselves have a special role in cultures and beliefs of peoples in the snow leopard range. Many mountain communities have deep spiritual beliefs that stem from the mountain environment, and particular mountains and sites are embedded as shrines or pilgrimage destinations in both Buddhist and Taoist traditions. The grandeur of the high mountains of Central and South Asia has also inspired artists, poets, and mountaineers through the ages. The mountains of Central and South Asia also feature extraordinary human cultural diversity.

Water services. The mountains of Central and South Asia store and release water that supports nearly half of the world's human population. Himalayan glaciers are the headwaters for ten major river systems in Asia. The Qinghai-Tibetan plateau is the headwaters of three major rivers, while the Altai and Sayan mountains are the watershed between Central Asia and the Arctic Ocean. High-mountain ecosystems also form the water towers to generate hydropower downstream, maintain fisheries, support industry, and irrigate farmland.

Biodiversity. Ensuring that snow leopards have sufficiently large landscapes with abundant wild prey will help protect the biodiversity of the landscapes. In India alone, snow leopard habitat supports 350 species of mammals and 1,200 species of birds while the Altai mountains support nearly 4,000 species of plants, 143 species of mammals, and 425 species of birds. Among the many flagship species that occupy all or parts of the range are the prey species of the snow leopard as well as brown bears, wolves, kiang, chiru, Mongolian gazelles, and more than 20 species of birds of prey including imperial eagles, lammergeiers, and griffons. Apart from its intrinsic value in and of itself,

biodiversity underpins agriculture. For example, Central Asia's unique walnut-fruit forest includes wild ancestors of crop species such as walnuts, almonds, cherries, plums, and apples, and thus a source of wild genetic material for plant breeders.

Medicine. Snow leopard habitats are repositories of herbal plant richness. More than 675 edible plants and nearly 1,743 species of medicinal value are found in the Indian Himalayan region alone, many of which are used by the pharmaceutical industry. The total supply of medicinal herbs in snow leopard habitats in Altai and Sayan Mountains is 50,000-80,000 tons. Other than livestock breeding, sale of medicinal plant materials is one of the few options for income among mountain communities.

Agro-pastoralism. The pastures in snow leopard habitat provide food for livestock, which are vital to the livelihoods of people—as well as some national economies (such as that of Mongolia) of certain snow leopard range countries. In some areas, livestock is the primary or only source of income for mountain communities, as it is in China, Pakistan, and others. Traditional pastoral communities co-exist with and depend on biodiversity for food, fuel, fodder, and medicine. In Pakistan, for instance, 60 percent of mountain people are directly dependent on biodiversity.

Carbon sequestration and storage. The snow leopard's range contains significant grasslands, which provide carbon storage and sequestration important to slowing climate change. Range-wide estimates are not available, but as an example, the carbon stored in the grasslands of the snow leopard's range in China (which is roughly 60 percent of the entire range) is estimated to equal almost half of the carbon stored in Asia's forests.

Recreation and economic opportunities. Snow leopards, majestic wild sheep and goats, and high mountains attract a multitude of people, offering local communities and each range nation economic opportunities through tourism and other mountain pursuits, including hunting in some countries in the range. About 10.5 million tourists visited India's mountainous state of Uttarakhand in 2001. Tourism to the Kyrgyz Republic, of which more than 60 percent is mountainous, is one the most important sectors of the country's economy. In Pakistan, well-regulated sport hunting of prey species add about US$1 million to the economy, half of which goes to local communities. Ecotourism is the fastest growing sector of the tourism industry, creating opportunities for increased income from tourism, which must, however, be balanced to ensure tourists and tourism infrastructure do not degrade habitat or otherwise disturb wildlife.

Many of the threats to snow leopards and to their prey and ecosystems have the potential to degrade the provisioning of these ecosystem services. However, their value is poorly recognized because they are not currently monetized. Political will to support policy and program interventions is essential to ensure their future availability. Quantitative assessment of the economic value to the services provided by snow leopard ecosystems has not yet been conducted. However, an estimate of the value of the ecosystem services from the forest ecosystems in three districts (6,585 km^2) of the Kangchenjunga landscape in eastern Nepal is suggestive. Overall, the economic benefit generated by selected services was valued at approximately US$125 million, equivalent to US$422 per hectare per year, with an annual average benefit per household of about US$850.

Maintaining these ecosystem services is important to support sustainable development. Working to maintain viable snow leopard populations, given the large landscapes required to support the species throughout the snow leopard range, operates at the appropriate scale to do this.

Threats to Snow Leopards, Prey, and Ecosystems

Snow leopards face a variety of direct and indirect threats that vary in intensity and prominence among the range countries. Table 4 offers a detailed list of these threats and their relative importance across the range.

Overall, the most significant threats across the range are:

Livestock-based livelihoods that impact prey species and sometimes lead to retaliatory or protective killing of snow leopards. Although human population density in the snow leopard's ecosystems is relatively low, its habitats are heavily used by people whose livelihoods depend on traditional pastoralism and agro-pastoralism. With growing human populations, livestock herds are growing too and in some places exceed the capacity of the land to support them. With new economic incentives—particularly a rising global demand for cashmere—goat herds in particular have greatly increased in size. The resulting overgrazing leads to degradation of pastureland and serious soil erosion. Competition for food with large and growing domestic livestock populations reduces wild prey numbers, which already live at relatively low densities due to the low productivity of the habitat.

Moreover, with lower prey numbers, snow leopards may turn more often to killing domestic livestock. Livestock depredation rates vary widely over space and time from less than one percent in parts of Mongolia to more than 12 percent in hot spots in Nepal. More than 40 percent of the people in 10 of the 12 snow leopard range countries live below national poverty levels, so such losses represent a significant loss of income, when few or no options to animal husbandry are available. Herders are especially angered by "surplus killing" events in which a snow leopard enters an enclosure and kills several livestock in a single incident. Thus, snow leopards are often killed in retribution or for prevention.

With subsistence agro-pastoralism extensively practiced across the range, it is essential to manage human-snow leopard depredation levels through strategies such as better animal husbandry; wild prey restoration; conservation awareness programs; devising sustainable means for offsetting or sharing economic losses; and creating incentive programs, such as through alternative livelihood programs, to gain local community support for snow leopard conservation.

Habitat fragmentation and degradation, especially the growth of habitations and infrastructure in the landscape. Major infrastructural facilities are either planned or under construction in different parts of the snow leopard's range. These include development projects spurred by mineral exploration and extraction, the need for major road and rail transportation networks, new gas and oil pipelines, and hydroelectric power facilities that may be associated with large or medium-sized dams. As water shortages increase in the densely populated lowlands of South and East Asia, so the need for upstream water-storage facilities is expected to grow significantly.

Large infrastructure projects have a variety of potential negative impacts on snow leopards, their prey, and their habitats. These potential impacts include fragmentation of large landscapes and creating barriers to movements of snow leopard and prey, as well as mortality (such as road kills), pollution, disturbance, and poaching and habitat encroachment by workers. Construction and/or operation of infrastructure projects directly eliminates and degrades habitat. Transportation networks in particular open up remote areas to poachers and facilitate trafficking in wildlife.

Illegal trade and poor enforcement due to remote landscapes. The impact of illegal trade cannot be measured precisely, due in large part to its clandestine nature, but illegal trade and illicit demand for

snow leopard products exists at national and international levels, including in the West. Snow leopards are killed and traded for their fur and other body parts, including teeth, claws, and bones. Snow leopard fur is used for clothing, hats, and furnishings. Even the meat is occasionally eaten. Recent evidence indicates that trade is now moving towards rugs, luxury décor, and taxidermy. Given the value of a snow leopard pelt, pelts from kills by local herders in retaliation for livestock depredation may also end up in one of the market chains. Secondary killing of snow leopards, such as being caught in snares set for other wildlife, may also occur.

Weak wildlife law enforcement is also a chronic problem across the snow leopard's range, including weak laws and low levels of prosecution even when offenders are apprehended, as well as underfunding of the wildlife sector, such as for sufficient staffing for anti-poaching efforts directed at illegal hunting of snow leopards and prey. Moreover, the size, remoteness, and harshness of snow leopard habitat, plus the fact that most of it lies outside of protected areas, makes law enforcement challenging. Porous borders that reduce traffickers' risks of detection also create challenges. The increasing value of wildlife products of all kinds has brought the involvement of organized crime. International efforts are needed to reduce illicit demand for endangered wildlife in markets around the world and increase capacity for global law enforcement action against organized syndicates. Within snow leopard range countries, increased cooperation and communication is needed among the agencies involved or potentially involved in combatting wildlife crime (PA enforcement staff, police, customs, border patrols, army). Thus, addressing and curbing the illegal snow leopard trade needs a series of actions taken at international, national, and local scales.

Lack of awareness and outreach. There is a significant lack of awareness and understanding of the plight of the snow leopard; the value of snow leopards, prey, and habitat; and the local and regional consequences of the ongoing degradation of its ecosystems. This is true at all levels of society within and outside the snow leopard range countries, from local people to leaders of governments and from the private sector to the general public. Globally, snow leopards are less well-known as other charismatic species, such as tigers and elephants; as a result, less funding has been available for snow leopard conservation. Moreover, the elusiveness of the cat, the remoteness of its habitat, and the marginalization of the communities who share that habitat, contribute to the challenge of giving snow leopard conservation the attention and resources that are urgently required to ensure that the large landscapes they need are maintained.

Weak transboundary cooperation. Political borders rarely coincide with entire ecosystems. This is particularly true of mountain regions where national boundaries commonly follow ridgelines and where snow leopards and mountain ungulates range on both sides. It has been estimated that up to a third of the snow leopard's known or potential range is located either along or less than 50-100 km from the international borders of the 12 range countries. More than 31% of the protected areas within the snow leopard range (totaling 276,123 km^2) have been classified as existing or potential transboundary protected areas. (See Annex 4-C for a list.)

The need for transboundary cooperation in these cases, and in wider ecosystem initiatives, has long been clear. Transboundary cooperation offers several important benefits. Most prominently, larger, contiguous areas offer safeguards for snow leopards, prey, and other biodiversity by better protecting more habitat, providing for maintenance of minimum viable populations of many species, and allowing movement, particularly of large carnivores and ungulates. Poaching and illegal trade across boundaries are better controlled by transboundary cooperation, including joint patrols and border inspections to stem illegal wildlife trafficking. Transboundary cooperation also facilitates knowledge sharing about biodiversity and cultural resources and exchange of skills and experience, including cooperative research and information management. In many cases, however, political and other considerations have prevented or weakened potential cooperation among the snow leopard range countries, despite promising initiatives (Table 3).

Limited human and financial capacity for conservation and weak conservation policies and institutions. All of the snow leopard range countries report they have insufficient numbers of trained conservation practitioners at all levels, from frontline PA staff to game managers and wildlife law enforcement personnel to research scientists. Moreover, and even where conservation staff levels may be adequate, such as in some scientific institutions, low funding limits their effectiveness. In particular, range countries lack people trained to address the needs of communities and develop community programs.

In large part, this is due to insufficient country budgets for snow leopard conservation and for conservation in general, given most range countries are developing nations and some are extremely poor. Donor funding is generally time-limited and insufficient to scale up successful practices. The Snow Leopard Trust estimates that NGOs and multilaterals contribute less than US$8 million per year directly to snow leopard conservation. Most the range countries need greater financial and technical support from the international community for successful snow leopard conservation. According to a study published in 2013 in the *Proceedings of the American Academy of Sciences,* five of the snow leopard range countries are among the 40 countries whose biodiversity conservation needs are the world's most underfunded (from all sources). A 2003 study published in the same journal reported that less than five percent of the overall costs of effective protected area networks are met in developing Asian countries.

In most range countries, conservation-related laws, policies, and institutions are weak as well: six of the 12 snow leopard countries report that lack of effective policy is a high threat to the snow leopard, wild prey, and ecosystems and only two report this as a low threat.

For example, only a few countries have laws or policies that legally empower or offer incentives to local communities to protect and manage local natural resources, even though these are considered core principles and good practices in snow leopard conservation (see Chapter 2). All countries prohibit killing of snow leopards, but insufficient funding and equipment hamper enforcement. In several countries, prey species are not protected or, when they are, penalties for poaching are not enough to deter it.

Inadequate research and monitoring. The challenge of conserving snow leopards is seriously exacerbated by the lack of scientific information about many aspects of their ecology and behavior. This is due in part to the difficulties of studying them in their remote, rugged ecosystems, but also significantly due to lack of funding for the research required. As noted earlier, even the cat's current distribution is uncertain because much of its possible habitat has either not been surveyed recently or ever. Similarly, the size of the total snow leopard populations is at a best a rough estimate. Consistent range-wide monitoring of snow leopards or their prey species (using appropriate scientific methods) or of changes in habitat characteristics has also been lacking. Among other things, this hampers efforts to determine the effectiveness of conservation interventions.

Table 4. Threats to snow leopards, wild prey, and their ecosystems.

Key to scores: Low threat=1-5; Medium threat=6-10; High threat=11-15

Threats	Afghanistan	Bhutan	China	India	Mongolia	Nepal	Pakistan	Russia	Kyrgyz Republic	Kazakhstan	Tajikistan	Uzbekistan	Mean Value
Category 1: Habitat and Prey Related													
Habitat Degradation	11	5	6	10	7	9	11	3	9	6	6	11	8.2
Habitat Fragmentation	10	2	11	6	8	10	10	0	6	9	0	7	6.3
Prey Reduction due to Illegal Hunting	13	5	0	6	11	11	15	11	15	11	14	14	11.0
Prey Reduction due to Competition with Livestock	11	8	6	8	14	9	13	7	14	7	12	14	10.7
Prey Reduction due to Legal Hunting	0	0	11	0	5	3	3	6	10	9	0	0	3.0
Prey Reduction due to Disease	4	5	6	8	6	6	12	0	4	3	7	7	5.7
Fencing that Disrupts Movements/Natural Migration	3	0	11	8	3	3	3	0	3	3	6	0	3.6
Category 2: Direct Killing or Removal of Snow Leopards													
Retribution for Livestock Depredation	13	6	10	8	11	12	14	8	6	12	8	8	9.7
Poaching for Trade in Hides or Bones	9	6	8	6	6	9	12	10	15	11	11	9	9.3
Zoo and Museum Collection of Live Animals	0	0	0	0	0	6?	0	0	2	3	3	5	1.1
Traditional Hunting of Snow Leopards	0	3	3	0	4	3	0	0	0	6	1	9	2.4
Secondary Poisoning and Trapping of Snow Leopards	3	7	6	6	7	9	6	14	9	10	4	0	6.7
Diseases of Snow Leopards	1	5	6	8	5	5	11	0	3	3	2	2	4.3
Potential Threat from Legal Hunting of Snow Leopards	0	0	0	0	6	1	5	0	5	0	0	0	1.4
Category 3: Policy and Awareness Issues Affecting Conservation of Snow Leopards, Prey, and Habitat													
Lack of Appropriate Policy	13	8	10	10	6	3	9	15	14	3	8	12	9.2
Lack of Effective Enforcement	14	5	12	12	13	7	13	15	15	12	12	12	11.8
Lack of Transboundary Cooperation	9	11	12	8	9	8	9	6	9	7	9	12	9.1
Lack of Institutional Capacity	14	10	10	12	12	9	13	12	12	3	10	12	10.7
Lack of Awareness	8	9	9	12	14	10	13	12	13	10	8	12	10.8

Threats	Afghanistan	Bhutan	China	India	Mongolia	Nepal	Pakistan	Russia	Kyrgyz Republic	Kazakhstan	Tajikistan	Uzbekistan	Mean Value
Among Local People													
Lack of Awareness Among Policy Makers	14	10	10	12	12	3	11	9	13	3	12	12	10.1
Category 4: Other Issues													
War and Related Military Activities	9	0	8	9	0	6	9	0	4	0	1	0	3.8
Human Population Growth (Rapid) / Poverty (Indirect Threat)	10	5	7	7	6	3	10	0	12	3	10	11	7.0
Feral Dogs Attacking Snow Leopards and Prey	1	10	5	11	3	4	7	0	0	1	2	7	4.2
Poaching and Wildlife Trade by Migrant Workers	3	2	5	10	3	8	11	0	8	9	1	0	5.0
Poaching by Military Personnel	13	6	0	7	3	0	9	6	15	8	11	9	7.2
Emerging Threats													
Climate Change	10	12	10	10	12	12	11	9	4	3	10	15	9.8
Growing Livestock Populations and Intensifying Human-Wildlife Conflict	11	13	12	10	13	9	15	9	13	10	15	15	12.1
Large-scale Development Projects	1	0	12	10	10	11	10	7	5	6	10	0	6.8
-Direct and Indirect Impacts due to Mineral Exploration/Mining (Local)	1	0	12	7	10	5	9	11	12	3	12	0	6.8
-Impacts due to Hydroelectric Projects	0	6	7	5	5	12	9	0	3	3	6	0	4.7
-Impacts due to Roads or Railroads	0	0	10	11	11	9	9	0	6	9	3	0	5.7
-Disturbance Related to *Cordyceps* Collection	0	12	10	7	0	12	0	0	0	0	0	0	0.4

Chapter 2. Core Principles of Snow Leopard Conservation

The Snow Leopard Network, a worldwide organization of snow leopard experts dedicated to facilitating the exchange of information between individuals for the purpose of snow leopard conservation, has developed a set of core conservation principles for restoring and maintaining viable snow leopard populations. As outlined in the revised Snow Leopard Survival Strategy of 2013, the Snow Leopard Network recommends that the conservation actions implemented by governmental and non-governmental stakeholders be designed and managed according to the criteria below. However, these recommended criteria may subsequently be modified after further consultation with the snow leopard range countries and other experts.

Integrating Snow Leopard Conservation with Local and Global Economies

- It is important to ensure equitable participation of local communities in snow leopard conservation planning and management. This should include the creation of culturally and socially responsible economic and other incentives that ensure conserving snow leopards also has a positive impact on communities.
- Community-based, science-led conservation efforts are critical. Therefore it is important that policies and laws provide a state-sanctioned, preferably legal basis for the involvement of local communities in active conservation efforts.
- In addition to reducing and offsetting economic losses due to conservation and human-wildlife conflicts, making wildlife conservation beneficial for local communities is an important need for effective snow leopard conservation.
- Intensifying global economic linkages and national needs for economic development are accelerating the human footprint within snow leopard habitat. A closer engagement of range countries and conservation organizations with industry to devise ways of minimizing and offsetting the negative impacts of economic development on snow leopard habitats and biodiversity is urgently needed. Industry can also become a key partner in facilitating ecologically sustainable economic development of local communities.
- Conservation success is contingent upon building robust partnerships among local communities (and their leaders), governments, and decision-makers, conservationists, organizations, and the wider public. Governments could play a key role in creating an enabling environment where cooperation and entrepreneurialism can flourish, and sources of funding are made available for sustaining action at all levels.
- Payment for Ecosystem Services schemes, such as carbon credits, could be an important mechanism for snow leopard conservation.

These principles are addressed under the themes of the Bishkek Declaration related to engaging local communities in conservation, including promoting sustainable livelihoods and addressing human-wildlife conflict, engaging industry, and building awareness (see Chapter 3).

Ensuring Landscape-Level Transboundary Conservation

- A landscape-level approach implies that snow leopard conservation must be integrated into the larger national development agendas for snow leopard habitats.
- A landscape-level approach also implies that conservation goals are defined and that conservation efforts are also made on land outside the protected area network. The success

of such an effort requires multi-sectoral cooperation and effective collaboration between various governmental departments and decision-making bodies.

- Conservation efforts should be intensified within large connected snow leopard landscapes with sustainable breeding populations of snow leopards and their prey and should include restoring degraded habitats and addressing key threats.
- Transboundary and regional cooperation should be enhanced to increase conservation capacity through joint training, developing and sharing resources, and managing transboundary landscapes for conservation.
- Conservation initiatives should take into account economic valuations of snow leopard ecosystems that also demonstrate national benefits (social and economic) of ecosystem conservation, and introduce this information to policy- and opinion- makers across various sectors (e.g., livestock, agricultural, banking, business, industry, national planning commissions, etc.) and the public. Research and pilot testing of schemes that target this issue are urgently needed.
- National and regional cooperation is necessary in order to combat poaching and illegal trade effectively and reduce illicit demand by strengthening national systems of law enforcement, increasing collaboration among countries, and improving reporting of snow leopard crimes to CITES and INTERPOL. Training workshops offered by INTERPOL represent a valuable resource that needs to be targeted strategically for ensuring source, transit, and destination countries are adequately trained and capacity built.
- Developing sustainable conservation and economically-driven interventions—a vital pillar to environmentally sustainable development— also requires that decision-makers, stakeholders, and the general public are kept informed of the major issues, areas of conflict, and the responsibility of the present generation to hand the next a healthy and vibrant mountain ecosystem in which the snow leopard stands as an apex carnivore and icon of the world's high-elevation habitats.
- Establishing transboundary nature reserves and World Nature Heritage Sites in snow leopard habitats.
- Development and implementation of inter-governmental strategies and programs for conservation of snow leopard and other endangered species in transboundary areas.
- Development of inter-governmental agreements on keeping important migration corridors of snow leopard and mountain ungulates free of border fences.
- Improve inter-governmental collaboration among customs services to combat illegal wildlife trade and smuggling.

These principles are addressed under the themes of the Bishkek Declaration related to managing habitat and prey, combatting illegal trade, transboundary management and enforcement, and building awareness (see Chapter 3).

Building Capacity for Cross-Sectoral Response

- Across the range, there is limited capacity to engage in community-based conservation and the main efforts have been undertaken by NGOs. Capacity enhancement in community-based conservation, both for wildlife managers and NGO representatives, is a critical need for effective snow leopard conservation, as is the cooperation between governmental and non-governmental organizations.
- Government, NGOs, and program implementers should be encouraged to work with the business sector to employ offsets and wildlife-friendly design, especially with regards to the extractive industries and infrastructural development (including major roads, railroads, hydropower, and mineral development).

- Current status and trends of key snow leopard populations should be evaluated. Along with conservation action, scientific research and monitoring should be intensified to inform future action and policy, adapting them in response to changing conditions and new knowledge. There is a need to develop and implement a standardized, cost-effective monitoring protocol for use across the range, with local adaptation as needed.

These principles are addressed under the themes of the Bishkek Declaration related to engaging local communities, building capacity and enhancing conservation policies and institutions, research and monitoring, and engaging industry (see Chapter 3).

Chapter 3. Program Goals and Objectives: The Solutions

Overarching Goal

The overarching goal adopted in the draft Bishkek Declaration and supported by the GSLEP is "to protect and recover snow leopard populations and their fragile habitats for all people to enjoy." Further, the Snow Leopard Range Countries "pledge[d] to ensure that snow leopards and the people who live among them thrive in healthy ecosystems that contribute to the prosperity and well-being of our countries and the planet."

Overarching Goal[2]: 20 By 2020

The Overarching Goal of the GSLEP is for the 12 Range Countries, with support from interested organizations, to work together to identify and secure at least 20 healthy populations of snow leopards across the cat's range by 2020, or 20 By 2020. Many of these populations will cross international boundaries.

The three criteria that will secure healthy populations of snow leopards are, populations:

(a) Representing at least 100 breeding age snow leopards. (This number will be increased over time to obtain a minimum viable population.)

(b) Containing adequate and secure prey populations.

(c) Having connectivity to other snow leopard populations.

This is an interim goal for the seven years through 2020. During the next seven years, agreement will be reached on the steps needed to achieve the ultimate goal of ensuring that healthy snow leopard populations remain the icon of the mountains of Asia for generations to come.

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[2] **The highlighted text is inserted in response to the latest feedback received from range countries that see a need to have a measurable goal announced at the Global Forum in Bishkek. This draft text will be subject to discussion and finalization by the range countries at the Senior Officials Meeting prior to the Forum.**

Objectives and Portfolio Activities

The NSLEPs incorporate a set of priority, concrete project activities to be implemented to meet national goals and, collectively, the overarching global goal. Together with Global Support Components, activities to be conducted by the international community to bolster country efforts, the NSLEPs form the GSLEP. Activities of the countries and the international community are grouped under broad themes that correspond to the commitments of the draft Bishkek Declaration, that is:

1. Engaging local communities in conservation, including promoting sustainable livelihoods, and addressing human-wildlife conflict
2. Managing habitat and prey based upon monitoring and evaluation of populations and range areas
3. Combatting poaching and illegal trade
4. Transboundary management and enforcement
5. Engaging industry
6. Building capacity and enhancing conservation policies and institutions
7. Research and monitoring
8. Building awareness

The first five are **direct impact activities**, those whose successful completion will increase or maintain snow leopard and/or prey numbers (or other appropriate measure such as density or occupancy) and/or protect or restore habitat and connectivity among populations. The last three are **enabling activities,** those that create the conditions for successfully performing or improving the performance of the direct impact activities. For example, building capacity enables improved efforts to combat poaching, while building awareness enables stronger public, political, and financial support for all direct impact activities.

Good practices that have proven successful in one or more range countries (Table 5) are being scaled up in those countries or emulated in others. For example, programs to increase community participation in conservation, improve livelihoods, and address human-wildlife conflict have been tested in several countries with very promising results including reductions in poaching of snow leopards and increased willingness to co-exist with the predators. Creation of anti-poaching teams and stiff penalties for poaching have also proven effective. Establishment of PAs has brought significant areas under protection and, as outlined in Table 7 below, many countries plan to create new PAs or strengthen their existing PA system. Effective scientific monitoring programs are being conducted in several countries and their methods can be readily applied, with adaptation as necessary, in others. In other areas, such as engaging industry, capacity building and policy enhancement, and building awareness, successful models are available from other parts of the developing and developed world.

Table 5. Good practices in snow leopard, prey, and habitat conservation.

Habitat Management and Land Use*	Brief Results
Bhutan – Country-wide system of biological corridors connecting PAs.	Contiguous snow leopard habitat of as much as 10,000 km^2.
China – 26 nature reserves established covering about 50% of range areas of snow leopard populations; large-scale program to return grazing areas to natural grasslands implemented around range areas of snow leopard populations; research on measures to minimize negative impacts for connecting fragmented habitats started.	Most of the core areas for snow leopards have been under legal and actually effective protection while recovery of natural grassland ecosystems and increase of prey resources occurred in many former grazing areas.

Habitat Management and Land Use*	Brief Results
Kazakhstan - Forest and Hunting Committee established six national parks in snow leopard habitat.	Additional jobs for locals were created, poaching has considerably decreased, and anthropogenic pressure on landscapes has decreased; security of snow leopard ecosystems has improved.
Mongolia - The Tost Local Protected Area in Mongolia covers about 6,500 km^2, a quarter of which is good snow leopard habitat. Since 1990s many new PAs were established in potential snow leopard habitats in Mongolia.	Basis for protection of critical snow leopard landscapes from destructive land uses such as mining, dams, and other large-scale development projects. Today, 20 state PAs, which cover key habitats in Mongolia, harbor snow leopards.
Russia - Sailugemsky National Park (800 km^2) was established in 2010 in key snow leopard habitats in Argut River Watershed, Altai Republic.	Protection of snow leopard habitats; fighting snare poaching in key snow leopard habitats in Argut area.
Tajikistan - Establishing and/or supporting model community and private wildlife management and hunting areas.	Doubling of ibex numbers within four years and regular records of snow leopards; increase of markhor (in total 2012 directly observed >1,000), regular snow leopard observations, stabilization and local increase of Marco Polo sheep numbers; camera trapping has shown higher snow leopard abundance in managed hunting concession than in unassigned areas despite formal hunting ban in these.
India – maintain community-managed reserves that rely on 'social fencing' to limit or exclude local use of the area based on a positive incentive programme.	Tried in Spiti (3 sites) and Ladakh (2 sites) where recovery of prey (bharal and ibex in Spiti; and argali and bharal in Ladakh) has been observed. Similar community-managed reserves have also been successful in Arunachal Pradesh in Tawang. The MoEF's Project Snow Leopard suggests a mosaic of such areas as an important approach to achieving landscape-level conservation.
India – inaccessible and naturally well protected small sized PAs with negligible or no human use and well regulated, low-intensity community-based ecotourism to small portions of the PA since 1983.	Tried in Nanda Devi and Valley of Flowers National Parks that brought in remarkable improvement in the status of wildlife and their habitats. These two NPs act as control sites for long-term monitoring including climate change impacts.
India - Conflict mitigation and reducing antagonism and retaliatory killing of snow leopard. Corral Improvement: ca. 4,250 livestock; Insurance: over 180 households with ca. 600 livestock, overall area of over 1,000 km^2. Compensation: direct compensation for livestock lost at 10% of the market price of the animal.	Corral Improvement: Almost total elimination of losses. Insurance: Reduction in losses. Monetary compensation of losses: Slight improvement seen in attitudes of people in about 10 years.
Addressing Poaching, Illegal Trade, Illicit Demand	
Afghanistan – outreach, education, community governance building, and training and deployment of 55 community rangers across 11,000 km^2 to monitor snow leopard and other wildlife, enforce anti-poaching regulations; building of predator-proof corrals to minimize conflict and retaliatory killing.	Snow leopard education intiatives in 14 of 15 schools in Wakhan; over 5,000 camera trap photos taken by community rangers; five snow leopards captured, collared, and monitored with community involvement; poaching declines on snow leopards and prey; over 20 corrals built and no livestock loss in families using them.
Afghanistan – survey identified international commmunity (development and military) as driver of trade; focused outreach aimed at development community; training at military bases on illegality of trade; government staff trained in CITES regulations and the processing of CITES permits; training in environmental laws, wildlife trade and protected	Removal of illegal trade items from base bazaars; training expanded to military bases and academies in US to educate military before deployment.

Habitat Management and Land Use*	Brief Results
species given to 19 police stations in and around Kabul.	
China – Chinese laws list snow leopard as a species under national key protection at first level and prohibit hunting of the species except for purposes of scientific research, public education, public security. Utilization of snow leopards must be approved with special permits while no permits are now issued for commercial purposes. Severe punishments from high penalties (10 times incomes) up to life in prison have been set by laws and regulations on illegal activities including poaching, illegal trade, etc. Authorities of forestry, public security, customs, commercial and industry administration are legally responsible for legal investigation and law enforcement on the above illegal activities. Mechanism for governmental agencies to coordinate law enforcement established in 2011.	Currently in China, no evidence indicates the existence of organized poaching that targets snow leopard products. Also, there are no legal industries using snow leopard fur or bone for commercial purposes. Cases of poaching and illegal trade occur occasionally and arrested offenders have been sentenced and punished. Especially since 2011, illegal activities concerning snow leopards have clearly decreased.
Kazakhstan - Reducing poaching through substantial increase of penalties. Penalties for poaching on a snow leopard ($22,724) and all 5 subspecies of mountain rams ($17,043). Total ban on their hunting.	Poaching has decreased on a snow leopards and other rare species. No cases of snow leopards poaching in Kazakhstan reported since.
Kyrgyz Republic Gruppa Bars (brigade) for anti-poaching. Raids against poachers in all regions of the Kyrgyz Republic, especially in the north. In Naryn region, 35,000 km^2 ,and in Issyk-Kul region, 25,000 km^{2,} are covered by the team, together with State inspection.	Reducing the official notice on the sale of skins of snow leopards, etc. At the moment, the Rehabilitation Center has only five snow leopards.
Mongolia - Two inter-agency Irbis (snow leopard) anti-poaching teams were established in western Mongolia to conduct regular patrolling in snow leopard habitat.	As a result, the number of poaching incidents in 5 western provinces, in key snow leopard habitats decreased rapidly.
Pakistan - Reduce poaching through livestock vaccination programs. 3-5 livestock die of disease for every one killed by a wild predator, i.e., the economic loss to disease is much larger than to predation. More than 90,000 livestock vaccinated in 2012.	70-100% reduction in livestock mortalities. Increased cash income by selling more livestock. Increased meat consumption in the community. Increased tolerance for snow leopard. Reduced risks for diseases in wildlife.
Russia - Inter-agency anti-poaching brigades and regular snare removal campaigns in key snow leopard habitats. Two brigades were established in Altai and Sayan Mountains. They regularly patrol 1,500 km^2 of key snow leopard habitats in Argut River Watershed, Altai Republic, and Sayano-Shushensky NR and its buffer zone, Krasnoyarsky Kray.	Number of poacher snares in key snow leopard habitats in Sayano-Shushensky NR decreased from 800-900 to zero between 2008 and 2013. In Argut area, number of snares in key snow leopard habitats decreased from 500-800 (2008) to 50-100 (2013).
Russia - Development of small business program for local communities in snow leopard habitats as alternative to snare poaching. Two districts of Altai Republic – Kosh-Agach and Ulagan Districts, including parts of Onguday and Ust-Koksa districts (total area about 20,000 km^2). Annually, 500-700 people are involved in the program.	Number of poaching cases in the area of activities decreased by at least 20% in comparison with 2010. Over 1,200 low-income people trained, over 70 people obtained micro-loans and grants and started their own biodiversity-friendly business. More than 200 new jobs for local communities were established.

Habitat Management and Land Use*	Brief Results
Altai and Tuva Republics, Russia - Land of Snow Leopard Festivals. Schools of 5 districts in Altai Republic and 4 districts of Tuva Republic (1,500-2,000 people) annually are involved in these festivals.	Number of festival participants increased from 70 in 2010 to 2,000 in 2012. Festival became traditional event in Altai and Tyva Republics and involves many kids living in snow leopard habitats to learn more about value of snow leopards.
Community Conservation Programs	
Afghanistan – Formation of the community-based Wakhan-Pamir Association (WPA) to oversee sustainable natural resource management and economic development. Activities include a patrolling program (65 community rangers plus 10 government rangers) and a comprehensive Environmental Education Program that reaches all 15 schools in Wakhan and has a focus on snow leopard conservation initiatives.	Patrolling program led to few instances of unreported wildlife crime.
China – Most of community conservation projects are undertaken by nature reserves, including public education events, establishment of hotline for collection of information from local people, employing local people to participate in field patrols and investigations, meeting with representatives to address existing conflicts and research on eco-friendly livelihoods for local communities. Also, local wildlife authorities undertake compensation for losses caused by snow leopards.	Significantly improved law-enforcement effectiveness with more information coming from local people and decreased revenge killing of snow leopards when local people tend to report to local wildlife authorities their losses caused by snow leopards.
Nepal, India (Ladakh), Pakistan, Russia - Corral predator-proofing. Predator-proof most vulnerable communally-utilized corrals that serve 10-30+ households; 2-5 structures per settlement in proven depredation hotspots. Ensure wire-mesh over roof, secure wooden door, barred windows.	Depredation losses from within corrals eliminated, resulting in improved perceptions by livestock owners and protection of 5+ snow leopards from risks of retributive poisoning or trapping. Notably increased willingness of community to co-exist with snow leopards.
Pakistan - Communally-managed daytime shepherding of vulnerable livestock in Khunjerab NP. Herders invest shared resources through fixed-fee payment or household rotation system.	Communal herding better allows for pastures to be rotated, thus helping reduce predation risk and lower grazing impacts.
Pakistan - Vaccination and livestock insurance. 15 villages, 30,000 heads of livestock vaccinated in 2013.	Controlled the outbreak of pox in two of our project valleys, reducing mortality rate to zero from pox.
Baltistan, Pakistan - Communally-managed and co-financed livestock insurance scheme. Funds for compensation contributed on 50:50 basis by villagers (through per animal fees) and sponsoring NGO (conditional grant).	Greatly increased tolerance of snow leopards, especially if complemented by income-generating initiative such as markhor trophy hunting program or tourism initiative.
Western Tuva, Russia - Protecting livestock corrals from snow leopards in Ubsunurskay Kotlovina NR. More than 70 herders in Tuva Republic were trained in the simplest means of strengthening corrals with the use of metal mesh, and more than 40 corrals were protected from snow leopards in Mongun-Taiga and Bai-Taiga districts of Tyva Republic (about 1,500-2,000 km^2).	Since then there has not been a single case of a snow leopard gaining access to a corral in western Tuva (before this 56% of all livestock killed by snow leopards in western Tuva died in corrals). As a result of this project, the number of snow leopards south-western Tuva increased from 10-12 up to 15-20 individuals.
Monitoring and Research	
Wakhan Corridor, Afghanistan – Ongoing camera-trap surveys of snow leopards; study of snow leopard prey; depredation survey; tracking of snow	Better understanding of snow leopard movement, habitat use, home range, and eventually population estimation.

Habitat Management and Land Use*	Brief Results
leopards using GPS collars, coupled with camera trapping.	
China – Central wildlife authority arranged funding especially for monitoring and research on snow leopards, and appointed a chief expert to lead the project who holds training course for local staff to undertake field monitoring or convenes meeting to collect information monitored, analyse existing problems, and discuss activities for next steps every year.	Help wildlife authority to better understand the situation of snow leopard populations, their habitats, and existing threats.
India – Understand snow leopard abundance along a gradient of prey biomass (Spiti). Understanding snow leopard diets along a gradient of domestic and wild prey ratios (Spiti).	Establishing an understanding of questions such as 'does increasing prey biomass lead to higher snow leopard abundance?'; 'does increasing livestock biomass lead to increased snow leopard abundance or is it the opposite?'; 'will conflicts increase with increasing livestock abundance', will be answered. These studies, that use camera-trap based and molecular tools are providing estimates of snow leopard assessments over large landscapes (ca. 2,000 km^2). Estimated abundance in Spiti averages 0.64/100 km^2.
India - Numerous studies to understand patterns of conflicts between local communities and snow leopard in different parts of the range.	These studies provide the patterns of conflicts, including amount of losses, vulnerable livestock, vulnerable age classes, vulnerable pastures, etc. Ultimately they help in developing sound mitigation strategies.
India – Snow leopard abundance using camera trapping studies in Ladakh, Uttarakhand, and Sikkim.	Density estimates for snow leopard and prey species.
Kazakhstan - State research program. The Committee on the Science has started to finance the program of studying snow leopards at Zoology Institute in Almaty, which was confirmed by the Ministry of Education and Science in 2012. Now the deep sectoral analysis in various segments of economy for working out of the final project of "Green Economy" Strategy is carried out.	Increased understanding of snow leopard populatiions and their habitats.
Mongolia - Threat reduction-based planning and monitoring protocol to monitor effectiveness of conservation programs. All villages in the landscape are included and all key areas of biological significance: snow leopard habitat, key prey breeding and calving areas, and corridors.	Ability to establish better baseline data for snow leopards including population abundance, density, and life history parameters; emerging or unaddressed threats to snow leopards; evaluation of the ability of our programs to address/reduce/manage existing and ongoing threats.
Russia - Monitoring program of key snow leopard population. Annual monitoring of key snow leopard meta-populations in Argut River Watershed, Chikhachev, Tsagan-Shibetu and Western Sayan Ridges on total area of about 1,500 km^2m. Since 2012, started snow leopard monitoring in Eastern Sayan Mountains: Tunkinsky Ridge (about 500 km^2).	Information on snow leopard distribution and number is annually collected for 4 key snow leopard populations in Russia to support conservation actions.
Institutional Development and Capacity Building	
China – Snow leopard has been listed as a priority species for salvation in National 12th-5 Year's Plan of Forestry Development and National Program for Wildlife Conservation and Nature Reserve	Investment in snow leopards conservation has been increased gradually and obvious growth can be expected in the not too distant future. Also, more attention has been paid to the species at concerned,

Habitat Management and Land Use*	Brief Results
Development while a special plan for protection of snow leopard populations and their habitats is underway for publication and implementation.	different levels.
India - Initiated state-federal partnership Project Snow Leopard. Project Snow Leopard effectively covers five states, ca. 130,000 km^2, innumerable villages and households. The Upper Spiti Landscape Management Plan under the PSL covers ca. 4,000 km^2, ca. 40 villages, and ca. 7,000 people.	Numeric changes in wildlife numbers and people's attitudes in a few year's time are expected.
Mobilizing Resources	
China – Central wildlife authority allots special funding for snow leopard conservation and allocation of funding for recovery of grazing areas into natural grasslands, and will give priority consideration to their range areas. Local governments have arranged and will increase match funding. Also, a foundation established by businessmen promised to invest to support snow leopard conservation.	More effective conservation can be expected based upon the increase of investment with guidance of the special plan.
India - Ladakh and Sikkim. Enhance Household Livelihoods and Incomes with Traditional Village Homestays (tourism-based). Key elements include product marketing; maintain high service standards; and wildlife protection and compliance monitoring. Program started in Hemis High Altitude NP, Ladakh (area approx. 3,000 km^2). Homestays are best operated through established village Women's Associations. The basic premise is to provide supplemental household income to offset depredation losses. Related services may include handicrafts production, vegetable growing, and other enterprises linked with rural tourism. Signed conservation agreement between beneficiaries and sponsoring organization is highly desirable.	Villagers in Ladakh earn $10-15 / visitor night with average incomes of $750-1,000+. Surplus income used to send children to better schools. 10-15% of revenue deposited in community conservation fund. All participants highly willing to co-exist with snow leopards and no longer harass the cat when it is seen or encountered. More importantly, they tolerate some loss of livestock.
Ladakh, India - Valuation of wildlife through viewing and Nature Guiding inside Hemis National Park and outside national park in Ullay-Sham area.	Snow leopard sightings gradually increasing from 1-3 / year to as many as 7 sightings over 10-day visit by 7+ groups comprised of 7-17 guests in 2013 (operated by travel agents).
India – The Ministry of Environment & Forests, Govt of India, has initiated the Project Snow Leopard, a national programme that commits 3% of the Wildlife Division's budget annually to snow leopard conservation.	Streamlined conservation management planning in prioritized landscapes in each of the five Himalayan States.
Kazakhstan - Promotion of snow leopard symbolism for the nation by the President. The archeological find from a barrow near Issyk town, called "the Golden Man," on whose helmet were plates with winged leopards, has played a big role. H.E. President Nazarbayev suggested the snow leopard as a symbol of economic development of the country in the Message to the people of Kazakhstan entitled "Strategy-2030." Since then, the snow leopard image is used as a talisman, a symbol, and a trading brand for beer ("Irbis"), vodkas ("Bars", "the Gold Bars"), car batteries, etc.	Symbolism of a snow leopard at the state level has played a great role in popularising the of image of this cat, and as a consequence, to improve measures for its protection.

Habitat Management and Land Use*	Brief Results
Mongolia - More than 400 families of local herders living in the snow leopard habitats in 7 provinces of Mongolia are participating in the Snow Leopard Enterprises handicrafts project.	Generation of sustainable income sources with the commitment to a non-poaching contract; local conservation communities are active with support of WWF Mongolia.
Nepal - Community-managed Savings and Credit Program, Mt. Everest National Park. 5-year project in 4 settlements comprises >125 households located in or immediately adjacent to best snow leopard habitat within this PA.	Snow leopards returned in 2004 following 20-year absence. Cooperative members quickly comprehend and appreciate the power of sustained savings and credit initiative to support household and community development. 25% of revenue from fund interest used for community-based snow leopard protection and education, especially through local school; early for detailed evaluation (to be completed).
Engaging Industry	
Mongolia - The Nature Conservancy assessed mining impact for the southern Mongolian ecoregion, using indicator species.	Recommended areas for better protection.

*Many of these practices could be included under more than one theme.

Engaging local communities and addressing human-wildlife conflict. Enhance the role of local communities in snow leopard conservation efforts by adopting and implementing policies and laws that favor community involvement in conservation, promoting environmentally sustainable economic activities that directly benefit local livelihoods, and supporting community-based programs to mitigate human-wildlife conflicts. (Table 6)

Reducing and offsetting economic losses due to conservation and human-wildlife conflicts and making wildlife conservation beneficial for local communities is a core principle of snow leopard conservation. Among the specific activities by which many countries plan to address this principle are livestock insurance schemes to provide compensation for losses and improved and predator-proof livestock corrals or improved herding practices to reduce losses. Relevant good practices that have proven effective in several range countries (see Table 5), in particular compensation, insurance, and predator-proof corrals, and, where livestock disease is a problem, vaccination programs, can be emulated and scaled up.

Table 6. Portfolio in engaging local communities and addressing human-wildlife conflict.[3]

Country	Objective	Key Activities
Afghanistan	Better inform communities about the ecology and conservation of snow leopards and implement conservation interventions through community participation.	Enhance the knowledge base on the population size, distribution, and ecology of snow leopards and their prey species.
Bhutan	To engage local communities in conservation by gradually transferring ownership of conserving snow leopards and their ecosystem to the communities for long-term conservation.	Form community resource-management groups. Establish community-based snow leopard conservation groups. Put in place livestock insurance scheme in the snow leopard range.
China	To strive for wider understanding, support, and participation of local	Enhance public education in local communities, compensate their losses caused by snow leopards and

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[3] Portfolio details for all themes are in the Annex.

Country	Objective	Key Activities
	communities for more effective protection and recovery of snow leopard habitats, and anti-poaching of snow leopards and other wildlife.	other protected wildlife, and undertake research and pilot trail to prevent the losses possibly caused by snow leopard and to develop eco-friendly livelihoods for local communities.
India	Implement the management strategy already prepared for threat mitigation and livelihood support programs.	Use proven best practices for threat mitigation and conservation. Support community livelihoods that support conservation. Redress threats from wildlife such as predation of livestock.
Kazakhstan	Expand the compensation program.	Compensation. Improved livestock corrals.
Kyrgyz Republic	Engage local communities.	Develop mechanisms to work with local communities on species conservation. Set up compensation program for harm or damages.
Mongolia	Decrease number of livestock that are pushing wild ungulates out of good pasture and open water sources. Reduced overgrazing. Reduce snow leopard-human conflict due to depredation.	Expand initiatives, such as snow leopard enterprises, to encourage herders to conserve snow leopards. Generate alternative income sources for herders communities in snow leopard habitat to cover loss of livestock to predators. Improve productivity to decrease the number of livestock.
Nepal	Build harmony and reduce conflict between local communities and snow leopards.	Engage community-based institutions, mainly buffer zone and Conservation Areas institutions. Work with herders to improve herding practices. Hold active community dialogue to define rights and responsibilities for the conservation of snow leopards and their prey. Develop community-level management plans for the conservation of snow leopards and their prey. Support the development of structures for natural resource governance. Support collaboration among different levels of authority. Promote community-managed ecotourism in the buffer zones of snow leopard-bearing protected areas.
Pakistan	Reduce conflict with locals, risks of snow leopard killing, and diseases through participatory conservation to enhance tolerance and build support for snow leopards.	Implement community-based conservation programs to reduce predation-related economic burden on communities. Implement predator-proof corrals to reduce predation losses. Implement programs to reduce livestock and wildlife mortality through livestock vaccination. Implement awareness and outreach programs targeting all stakeholders.
Russia	Develop and implement a system of incentives for local communities to encourage herders to protect snow leopards.	Develop and pilot a system of incentives and measures to encourage herders to protect snow leopards in Altai and Tuva Republics.
Tajikistan	Reduce conflict between pastoralists and snow leopards and develop incentives for local communities to conserve snow leopards and their prey.	Build predator-proof corrals. Work with herders to improve herding practices. Hold active community dialogue on defining rights and responsibilities for the conservation of snow leopards and their prey. Develop management plans for the conservation of snow leopards and their prey at the community level. Support the development of structures of natural resource governance. Support collaboration among different levels of authority.
Uzbekistan	Incentives for local communities.	Develop incentives for local communities to conserve snow leopards and their prey. Introduce predator-proof corrals, livestock guard dogs, and improved husbandry practices.

Managing habitat and prey. Intensify conservation efforts within large landscapes required for snow leopard survival by identifying and designating critical habitats of key snow leopard populations as no-go areas for destructive land uses, maintaining their connectivity through natural corridors, and

strengthening their on-the-ground protection. (Table 7) Taking a landscape-level approach to snow leopard conservation that includes protected areas and non-protected lands and as well as transboundary landscapes is a core principle. Among the specific activities are creating new PAs, developing management plans for model landscapes, and identifying corridors that link PAs. See Table 9 for activities related to transboundary landscape management. As a good practice, returning grazing land to natural grassland has led to grassland recovery and prey increases in the snow leopard range in China, while new PAs in Kazakhstan reduced human pressure on habitat as well as created local jobs and reduced poaching.

Table 7. Portfolio in managing habitat and prey.

Country	Objective	Key Activities
Afghanistan	Declaration of snow leopard habitat range as protected areas to protect snow leopard, prey species, and habitats.	Survey of prey density. Education and public outreach promoting protected areas and their benefits.
	Declaration of the Wakhan Conservation Landscape (WCL) as a protected area to conserve wildlife and the ecosystem, focusing on snow leopard and its prey species.	Hold a workshop for stakeholders at local, provincial, and national levels. Develop and implement Management Plan.
	Implementation of National Protected Area System Plan (NPASP) by 2030 to provide effective protection to at least 10% of Afghanistan's land area and to the habitat of selected species.	Provide guidelines to develop and implement a protected area network and guide research and fieldwork. Coordinate protected area activities implemented by the government, national NGOs, international NGOs, the UN, and others. Guide practices for financing the protected area system.
Bhutan	Conserving contiguous snow leopard habitat with a good population across the range.	Identify model landscapes in each snow leopard national park based on snow leopard population, conflicts, and strategic importance. Develop conservation plans for each model landscape through a consultative process involving communities and other stakeholders. Implement the management plans.
	Improve management of the snow leopard range through habitat protection and strengthen PA linkages.	Map potential habitats for snow leopards. Survey prey for snow leopards and develop species-specific conservation plans. Implement conservation management plans
China	Secure the core range areas, mitigate conflicts between snow leopard behavior and human grazing activities in the areas around core range areas, recover the grazing areas into natural grasslands in the important areas, especially for the ecological corridors to link core range areas.	Establish new protection stations to cover conservation-blind areas and enhance capacity building, undertake habitat inventory and electronic mapping, work out regional habitat management planning and technical guidance on habitat restoration for snow leopards, launch pilot trails to restore grazing areas into natural grasslands for ecological corridors and scale up later.
India	Under Project Snow Leopard, a management plan has been prepared for the ca. 4,000 km^2 Upper Spiti Landscape and is being implemented since 2010.	An integrated management plan is being implemented by the HP Forest Department with involvement of local communities, conservation organizations, and other Government departments. Activities to tackle conflicts, improve livelihoods, improve awareness, and reduce pressures are being implemented.

Country	Objective	Key Activities
	The Department of Wildlife Protection in Ladakh is implementing an integrated program for conservation covering most of the Ladakh region.	This project, led by the Wildlife Department, is carrying out innovative projects for improving livelihoods, ensuring energy efficiency and overall conservation in the landscape.
Kazakhstan	Establish new PAs.	Develop key documentation to enable establishment of new PAs.
Mongolia	Protect key snow leopard habitats that are currently unprotected and overgrazed.	Establish at least 2 new state PAs in key snow leopard habitats.
	Improve pasture management.	Establish local PAs and resource-managed PAs and improve capacity of existing ones. Establish pilot community-managed areas as models for other communities and government staff to learn from. Ensure management follows sound conservation practices and principles.
	Increase protection of snow leopards outside of PAs.	Increase capacity of provincial nature conservation agencies and nature inspectors to organize effective protection
Nepal	Strengthen the capacity of snow leopard-bearing PA staff and community-based wildlife conservation organizations to monitor health of the habitats and prey.	Provide capacity building activities to frontline staff in monitoring prey and their habitats. Engage and train citizen scientists. Equip all snow leopard-bearing PAs and community based-wildlife organizations. Conserve and protect wetlands including rivers for snow leopards, prey, and their habitats.
Pakistan	Expand and improve the management of the PA network and increase habitat protection through improving functionality of PAs.	Construct habitat suitability of the snow leopard in Pakistan, and identify connectivity corridors. Assess existing PAs for their adequacy to protect snow leopards, and identify candidate sites for additional PAs. Review efficiency of PAs in snow leopard range and identify shortcomings. Conduct baseline environmental studies in PAs and develop management plans. Strengthen functionality of PAs by training and facilitating wildlife staff.
	Promote a landscape-level approach to snow leopard conservation.	Identify model landscapes in each province based on snow leopard population, conflicts, and strategic importance. Develop conservation plans for each model landscape through a consultative process involving communities and other stakeholders. Implement the Management Plans.
Russia	Establish 400,000 ha of new PAs in key snow leopard habitats.	Develop documents for establishing new PAs and extending existing PAs in Altai and Tuva Republics and the southern part of Krasnoyarsky Kray. Secure approval of PA documents by federal and regional governments. Establish PAs.
	Start operations of Sailugem National Park, Altai Republic.	Begin operation of Sailyugem National Park.
Tajikistan	Strengthen the existing PA network and the capacity of PA staff to conserve snow leopards and their prey successfully.	Provide capacity building through training to staff of the following PAs: Zorkul, Tajik National Park, Dashtijum, Romit, and Shirkent. Provide equipment to PAs staff for monitoring. Promote the ecotourism potential of said PAs. Develop management plans for Zorkul, Romit, and Dashtijum.
Uzbekistan	Strengthen protected areas.	Strengthen the existing network PAs for snow leopards.

Combatting poaching and illegal trade. Combat poaching, illegal trade, and other wildlife crimes by strengthening national systems of law enforcement, strengthening collaboration among countries and within international agreements and networks, and developing effective mechanisms for eliminating the illicit demand for illegal wildlife products. National and regional cooperation to combat poaching and illegal trade and reducing illicit demand is a core principle of snow leopard conservation.

Specific activities include building law-enforcement capacity, building community anti-poaching networks, strengthening legislation, and education to reduce illicit demand (Table 8 and some capacity-building activities and legal reforms in Table 11). Some relevant transboundary initiatives, such as operationalizing SAWEN, are shown in Table 9. Several good practices show how increased law enforcement and strong penalties for poaching and community anti-poaching networks and other means of engaging local communities can reduce poaching. The proposed GSC, Snow Leopards and Illegal Trade (summary in Chapter 8; details in Annex 4-A), supports this objective by offering to provide assistance to strengthen national legislation, law enforcement (particularly inter-agency cooperation and collaboration), and raising awareness about wildlife crime among policy makers and other relevant actors.

Table 8. Portfolio in combatting poaching and illegal trade.

Country	Objective	Key Activities
Afghanistan	Monitor regularly the threats to snow leopards and their prey and ensure that identified mitigation measures are effectively implemented.	
China	Minimize negative impacts caused by poaching of snow leopards and their prey, and illegal trade in their products.	Strengthen capacity building for law-enforcement agencies at all levels, enhance field patrols in snow leopard range areas, improve inspection measures for more effective monitoring of key markets and ports to combat illegal trade, undertake wider public education to inform public not to buy illegal snow leopard products and to encourage public to help collection of information concerning poaching and illegal trade through hotlines for law-enforcement agencies to act more effectively.
Kazakhstan	Enhance protection of prey species outside the protected areas.	
Mongolia	Decrease poaching and illegal trade of snow leopards and other endangered wildlife.	Strengthen laws and regulations on illegal harvesting, transportation, and storage of species listed in Mongolian Red Data Book and in List of very rare animals of Mongolia. Make necessary changes to the Mongolian Fauna and Protected Areas law of Mongolia, and Mongolian Criminal and Administrative Codes.
Nepal	Control poaching of snow leopard and its prey, and trade of its body parts.	Build capacity and engage border and customs officials to improve the detection of illegal trade in snow leopard parts. Develop anti-poaching networks in PAs and mobilize community-based anti-poaching units to collect information on poaching and illegal trade. Disseminate information through outreach campaigns and materials on the importance of conserving snow leopards and combatting illegal trade. Create greater awareness among the public on the importance of snow leopards and the

Country	Objective	Key Activities
		threats they are facing. Establish national and local database system.
Russia	Ensure effective work of regional wildlife protection agencies to protect snow leopards.	Provide sufficient funding for regional wildlife protection agencies. Hire and train extra staff. Procure mobility, communications, and office equipment. Conduct regular enforcement operations.
Tajikistan	Increase effectiveness of snow leopard protection measures inside and outside of protected areas.	Engage with border and customs officials through trainings and technical support with the goal of improving the detection of illegal trade in snow leopard parts. Develop anti-poaching networks in PAs and in local communities to collect information on poaching and illegal trade. Disseminate information through outreach campaigns and materials on the importance of conserving snow leopards and combating illegal trade.
Uzbekistan	Border and customs control.	Conserve snow leopards by understanding linkages in illegal trade and building capacity of border and customs officials.
Global Support Component	Assist snow leopard range countries, when relevant, through tailored activities aimed at combatting wildlife crime. Support to strengthen national legislation and law enforcement to raise awareness.	Provide a platform to look for opportunities to enhance the participation and collaboration of law-enforcement entities of the range countries with each other, to identify the realistic conditions and conflicts that may exist, and to explore avenues to improve those conditions, through a set of proposed actions.

Transboundary management and enforcement. Increase bilateral and regional cooperation for snow leopard conservation in transboundary landscapes. (Table 9) This is a core principle of snow leopard conservation given the extent to which snow leopard habitat abuts national borders and the importance of maintaining large landscapes. Many transboundary initiatives among snow leopard countries are in various stages of implementation already. Moreover, compendia of good practices in transboundary cooperation, especially management of transboundary PAs, are available; some snow leopard countries have also been pursuing transboundary management and enforcement for tiger landscapes, which can be built upon. The proposed GSC, Transboundary Cooperation (summary in Chapter 8; details in Annex 4-C), supports this objective by offering to assist countries to strengthen existing agreements and partnerships and to facilitate cross-boundary communication, knowledge exchanges, and scientific research and monitoring.

Table 9. Portfolio in transboundary management and enforcement.

Country	Objective	Key Activities
Afghanistan	Re-establish Oromchi Conference on Transboundary Protected Area. Exchange data on snow leopard and prey species. Establish standardized monitoring methods. Sign formal transboundary cooperation agreements.	Consultation with China, Pakistan, and Tajikistan to reinforce existing and new bilateral/multilateral instruments for snow leopard and prey conservation.
Bhutan	Operationalize transboundary conservation through inter-governmental conservation initiatives.	Explore possibilities of coordinated management of snow leopard habitat with China and India. Operationalize inter-governmental agreements available for control of illegal trade. Cooperate in research on gene flow, connectivity of snow leopard populations, and landscape-level movements.
China	Enhance international communication and cooperation with neighboring countries and international community.	Strengthen communication and experience-sharing with range countries through seminars and mutual visits. Develop cooperative projects and mechanism for transboundary conservation at landscape level and combatting illegal trade.
India	Develop coordinated management with neighboring countries that share snow leopard habitats by forging partnerships to support objectives and actions for snow leopard conservation.	Interact with range countries on snow leopard conservation to conduct compatible conservation actions in adjoining landscapes, joint management planning, and setting up cross-border linkage on enforcement and control of illegal trade.
	Operationalize inter-governmental cooperation mechanisms available for control of illegal trade. Deal jointly with neighbors on enforcement and intelligence.	Consult with neighbors to reinforce existing bilateral/multilateral instruments for snow leopard conservation.
Kazakhstan	Broaden and deepen transboundary collaboration to improve protection and enforcement.	
Kyrgyz Republic	Create transboundary nature reserve between Kyrgyz Republic, Kazakhstan, Tajikistan, and China. Create cooperative groups and improve nature reserves; in particular, increase staff levels to conserve the snow leopard and its prey successfully. Develop mechanism to work with local communities on species conservation.	Create cooperative groups to strengthen anti-poaching in the range of snow leopards. Realize intergovernmental agreement between the Governments of Kyrgyz Republic and Kazakhstan Republic on biodiversity conservation and creation of transboundary nature reserve. Integrate international monitoring system for assessing management effectiveness assessments of nature reserves.
Mongolia	Enhance snow leopard conservation in transboundary areas.	Develop a program for snow leopard conservation and monitoring in transboundary areas of Mongolia, Russia, China, and Kazakhstan. Get the program approved by responsible agencies and begin implementation.
	Expand international transboundary PAs among	Establish transboundary PAs in Siilhem National Park (Mongolia)-Salugem National Park-Chihachev Mountains

Country	Objective	Key Activities
	Russia, Mongolia, and China for the protection of snow leopards.	(Russia).
Nepal	Improving transboundary conservation and collaboration with China and India.	Revisit and renew MoU with China and Resolution with India. Develop a framework for transboundary collaboration with China and India on the conservation of snow leopards and their prey. Develop bilateral cooperation agreement with China. Develop practical mechanism to share information related to poaching and trade of snow leopards and their body parts. Organize exposure visits between countries, to share lessons learned and experiences in PA management and community-based wildlife management.
Pakistan	Operationalize the inter-governmental cooperation mechanisms available for control of illegal trade. Work jointly with neighbors on enforcement and intelligence.	Explore possibilities for coordinated management of snow leopard habitat with neighboring countries. Operationalize inter-governmental agreements available for control of illegal trade (SAWEN, INTERPOL). Cooperate in research on gene flow, connectivity of snow leopard populations, and landscape-level movements.
Russia	Enhance cooperation with neighboring countries: Mongolia, Kazakhstan, and China.	Develop and approve a joint program of actions for snow leopard conservation in transboundary areas of Russia, Mongolia, Kazakhstan, and China. Start program implementation in 2015.
	Develop new transboundary PAs in Russian, Mongolia, China, and Kazakhstan to protect habitats, prey, and snow leopards.	Conduct initial planning workshops with relevant countries. Develop and approve the cooperation agreements about transboundary PAs. Implement and monitor the transboundary management programs.
	Extend the area of Altai-Golden Mountains UNESCO World Heritage Site to adjacent areas of China, Mongolia, and Kazakhstan.	Apply to UNESCO World Heritage Site Committee to establish international World Nature Heritage Site in transboundary area of Russia, Kazakhstan, China, and Mongolia.
Tajikistan	Improve transboundary conservation and practical collaboration with Afghanistan, China, Pakistan, Uzbekistan, and Kyrgyz Republic.	Develop a framework for transboundary collaboration with Afghanistan, China, and Pakistan for the conservation of snow leopards and their prey. Develop bilateral cooperation agreement with Kyrgyz Republic (in the context of the Pamir-Altai initiative). Organize exposure visits between countries to share lessons learned and experiences in PA management and community-based wildlife management.
Uzbekistan	Improvement of transboundary conservation and collaboration.	
Global Support Component	Assist range countries with transboundary conservation.	Strengthening of existing agreements and partnerships, including enhanced collaboration through international institutions. Support to designation and management of landscape-level transboundary conservation areas and projects. Supporting study exchanges between PAs of both adjacent and regionally linked range states, their managers, and communities. Support to coordinated habitat management (planning), joint research, and monitoring as well as facilitation of exchange of knowledge and data.

Engaging industry. Ensure that the industry, infrastructure, and rural development programs and projects are fully sensitive to the conservation needs of snow leopards and their ecosystems, do not

adversely affect or fragment key populations or critical habitats, and employ wildlife-friendly design, offsets, and other mitigation tools. These are core principles and respond to the significant emerging threat posed by growing economic development in snow leopard habitats if this development is not undertaken in an ecologically sound manner. Three countries plan relevant activities at present (Table 10) but the proposed GSC, Large-scale Infrastructure Development (summary in Chapter 8; details in Annex 4-E), supports this objective and aims to increase awareness among all snow leopard countries of existing mechanisms for reducing or eliminating the adverse impacts of development projects on snow leopards and their habitat.

Table 10. Portfolio in engaging industry.

Country	Objective	Key Activities
China	Improve participation of industrial bodies in conservation of snow leopards and ecosystem.	Invite industrial communities to join relevant events for their deeper understanding of snow leopard conservation; establish suitable channels and platforms for their investment to support conservation together with governmental agencies, research institutions, and NGOs; widespread information dissemination of participation of pilot industrial bodies in conservation to encourage more participation.
India	Engaging with industry involved in infrastructure development in snow leopard range.	Effort to proactively minimize negative impacts of development projects and seek funding for conservation programs.
Russia	Involvement of big industrial companies in conservation of snow leopards and support of PAs via development of corporate social responsibility and payment for ecosystem services.	Develop programs for big industrial companies to support conservation of key snow leopard populations and their habitats in cooperation with local communities and PAs. Start the program in at least in two regions.
Tajikistan	Greening industry practices to ensure that industry development does not hinder snow leopards and their prey.	Communicate with Ministry of Water and Mining on proposed development projects in snow leopard and prey habitat. If warranted, carry out environmental impact assessment according to internationally accepted guidelines.
Global Support Component	Awareness and coalition building to mainstream conservation in large-scale infrastructure development activities.	Enhance individual competence among high-level policy and decision makers by creating awareness to ensure all sectors mainstream environmental issues in all their polices, plans, programs and projects. To do so, the GSC will assist in the implementation of two Executive Leadership Forums (ELFs) in two clusters of countries. High-level decision makers from government agencies, non-government, and private/corporate sector dealing with large-scale infrastructure growth, natural resource and land management issues, finance and planning, and law enforcement will be invited to participate. The ELF will help the executive leaders to analyze the potential mitigation strategies for large-scale infrastructural development projects. Environmental and Social Impact Assessments (ESIA), a statutory requirement at the planning stage of major developments in most snow leopard range countries, are not always carried out rigorously. This part of the GSC will assist and encourage meaningful participation of industry and the private sector in snow leopard conservation through technical workshops to share the highest

Country	Objective	Key Activities
		professional and international standards and practices in terms of ESIAs and smart green infrastructure, which are is important step in minimizing adverse effects on snow leopards, their prey and habitat, as well as other critical elements of biodiversity.

Building capacity and enhancing conservation policies and institutions. Significantly strengthen capacity of policy-makers, front-line managers, community leaders, and civil society in community-based conservation, effective law enforcement, and wildlife and ecosystem management and monitoring, through supporting knowledge exchange and communities of practice, communication, and cooperation among stakeholders for snow leopard conservation. Enhance conservation policies and institutions. (Table 11) Many specific activities are related to strengthening conservation-related legislation and policies including through building capacity and awareness among government leaders, communities, and conservation department staff.

The proposed GSC, Knowledge Sharing for Institutional Capacity and Leadership Development (summary in Chapter 8; details in Annex 4-B), supports this objective. This GSC aims to enhance knowledge exchange by creating a knowledge network, providing cost-effective support to the range countries in developing systemic and institutional capacity for snow leopard and habitat management, and helping to create a regional advocacy agenda to support stronger participation of government policy makers, company executives, and religious leaders in snow leopard conservation and habitat management.

Table 11. Portfolio in building capacity and enhancing conservation policies and institutions.

Country	Objective	Key Activities
Afghanistan	Adaptation of Environmental Law for the conservation and sustainable management of the snow leopard and its prey species.	Conduct a series of workshops to build capacity and raise awareness among local communities, law enforcement agencies, local governmental authorities, media, and civil society.
	Draft CITES Regulation to control the trade of the snow leopard and its prey species out of the country.	Conduct workshops to build capacity and raise awareness among the legislative bodies. Establish a working group to draft the CITES Regulation. Lobby for the CITES Regulation to be passed through the National Assembly. Establish CITES Regulation enforcement group in airports and transit highways to reduce wildlife trade. Conduct further capacity development through training and workshops to strengthen CITES regulation.
	Draft the Hunting Law to stop poaching and illegal trade of wildlife, in particular the snow leopard and its prey species.	Conduct a series of workshops to build capacity and raise awareness among the legislative bodies. Establish a working group to draft the law. Lobby for the law to be passed through the National Assembly. Establish a law enforcement group for coordination and cooperation between related agencies.
Bhutan	Strengthen institutions and build capacity to develop enough expertise within the country for conservation.	Establish Program Management Unit at central department. Establish a conservation laboratory at UWICE. Establish community participatory structures for each model landscape in northern protected areas. Initiate short trainings to build capacity of relevant departments and community. Provide scholarships to snow leopard range communities for pursuing higher education in nature conservation.
	Review existing Forest and Nature	Develop amendments to the Forest and Nature

Country	Objective	Key Activities
	Conservation Act to strengthen law enforcement through sound policy.	Conservation Act of Bhutan 1995. Get endorsement from the Parliament of Bhutan. Enact new amendments.
China	Mainstream snow leopard conservation into national strategy for ecological civilization construction to promote extension of protection and management system in snow leopard range areas and local law-enforcement system to combat illegal trade.	Publish special national plan for snow leopard conservation and undertake policy research to ensure its implementation; guide local governments to publish regional plan for actual implementation of the national plan on the ground; increase investment for establishment of new protection and management stations in conservation-blind areas and improve capacities by ensuring necessary facilities, equipment, etc. for the stations and training courses for staff.
	Strive for additional support of national legislation and policies.	Undertake research on national legislation and policies for wildlife conservation and propose additional measures added into existing laws, regulations, and policies.
India	Set up a training and capacity building regime for stakeholder partners in snow leopard conservation and sensitizing and mainstreaming of conservation to stakeholders.	Training plans, consultation workshops, action plan preparations for habitations.
	Set up one management unit in each state, which can work with stakeholders on collaborative conservation actions. Organize management of habitats in the identified landscapes.	Conduct start-up workshops with the concerned forest/wildlife departments to enable conservation action. Prepare a management plan for identified landscapes based on the MoEFs' PSL Management Planning Guidelines.
Kazakhstan	Develop ecotourism and other forms of alternative livelihood support to local people.	
Kyrgyz Republic	Conduct training sessions on monitoring of snow leopards and other animals listed in the Kyrgyz Republic Red Book. Organize and conduct trainings and round table meetings with staff of SAEPF and other state environmental structures on the problems of snow leopard conservation. Introduce "Management of Nature Reserves" program in Kyrgyz Republic universities.	Conduct seminars and trainings as part of realization of projects. Realization of cooperative projects.
	Inventory legal framework to identify deficiencies in laws to conserve red-listed species. Strengthening of administrative and criminal liability for illegal hunting and snaring of snow leopards and other red-listed species. Set up compensation for harm or damage. Prohibition on transfer of lands from nature reserves in the snow leopard range.	Create framework. Develop projects to make changes to existing legislation of the Kyrgyz Republic. Organize public hearings on planned changes to the legal framework for biodiversity conservation.
	Supporting the GSLEP Secretariat.	Research international experience and national legislation

Country	Objective	Key Activities
	Development and realization of projects on snow leopard conservation. Creation projects. Create and strengthen intergovernmental and international partner relations to support snow leopard conservation.	related to snow leopard and habitat conservation in other range countries. Attract financing to conduct analysis of snow leopard genetic information.
Mongolia	Increase funding and capacity of state and local PAs and provincial environment departments.	Make necessary changes in methodology for allocation of funds for nature and endangered species conservation.
	Increase funding for conservation.	Change concerned laws to spend money collected for natural resource use for conservation.
Nepal	Strengthen capacity of local, regional, and national-level staff members engaged in conserving snow leopards, prey, and their habitats.	Train national, regional, and local staff members to address snow leopard conservation issues. Train field and central staff members in information gathering, analysis, and report writing for CBD, CMS, CITES, UNESCO, Ramsar, etc. Grant-writing skill development.
	Review and reform, as needed, existing policies, to upgrade effective law enforcement and efficient service delivery.	Review and revise existing policies, Act, Regulations, PA Management Plans, and Snow Leopard Action Plan, focusing on poaching and illegal trade in parts. Build capacity for effective law enforcement. Create an enabling environment to promote community-based wildlife organizations responsible for snow leopard conservation. Develop mechanism for sustainable use of wildlife resources considering livelihood of local communities.
Pakistan	Institutional strengthening, capacity building, and sensitization and mainstreaming of snow leopard conservation among stakeholders.	Establish a Snow Leopard Ecosystem Cell at the federal level. Program Management Unit at federal level and Program Implementation Units at provincial levels. Establish community participatory structures for each model landscape. Initiate short trainings to build capacity of relevant departments and communities. Initiate a diploma/certificate course in nature conservation, focusing on staff of relevant departments, conservation organizations, and communities in the snow leopard range. Provide scholarships to snow leopard range communities for pursuing higher education in nature conservation.
Russia	Develop and introduce into practice new methodology for allocation of federal funding for conservation by regional wildlife protection agencies.	Develop new methodology for allocation and submission to federal government. Approval of the methodology by government. Enacting the methodology.
	Completely ban musk deer harvesting in the habitats of snow leopard.	Develop amendments to regional harvesting regulations. Launching awareness campaigns in the regions. Enact the new policies.
	Ensure environmental impact assessment of any mining and capital construction projects occurring in the habitat of snow leopards and other Red Book-listed species.	Develop amendments to federal law of Russia #174 . Obtain government approval of developed amendments. Enact new amendments.
	Strengthen laws and regulations on illegal harvesting,	Develop amendments to Administrative and Criminal Codes of Russia. Obtain government approval of

Country	Objective	Key Activities
	transportation, and storing of species listed in Russian Red Data Book.	developed amendments. Enact new amendments.
Tajikistan	Use the Snow Leopard Coordination Committee as a vehicle to strengthen institutional capacity to address snow leopard conservation issues. Develop more active and efficient institutions for the conservation of snow leopards.	Train national, regional, and local staff in snow leopard conservation issues so that they can translate the information collected into sound policies and share them at international meetings (CBD, CMS, CITES etc.). Support staff in grant writing.
	Reform of the hunting law and the conservation and sustainable use of the prey of the snow leopard (Marco Polo sheep, ibex, and markhor).	Establish the Committee on Environmental Protection, a working group that will be responsible for the development and implementation of the law. Create an enabling environment for the development of community-based wildlife organizations responsible for the conservation and sustainable use of the snow leopard prey. Ensure that proceeds from hunting are distributed according to the new law in an equitable and transparent manner.
Uzbekistan	Snow Leopard Coordination Committee.	Use the Snow Leopard Coordination Committee as a vehicle to strengthen institutional capacity to address snow leopard conservation issues.
Global Support Component	Knowledge sharing and networking.	Support enhancing knowledge exchange by creating a knowledge network and by providing space for learning, building on existing snow leopard related networks. A regional network will be formed comprising the UNDP regional teams, UNDP Country Offices in range countries, partner civil society organizations, and key government actors that are working on snow leopard and habitat management, as well as the non-conservation actors who have positive or negative influences on snow leopard landscape management. The network will also involve training and research institutes, which can help shape new research and knowledge on this issue and help build and anchor capacities in the region.
	Systemic and institutional capacity development.	Through the regional network described above, provide cost-effective support to the range countries in developing systemic and institutional capacity for snow leopard and habitat management. This could entail reviewing existing policies, upgrading law enforcement and making it more effective, and implementation of effective protected area and landscape management. This will be done through creation of an enabling environment to promote protected-area landscape management; capacity building of organizations including community-based organizations responsible for snow leopard conservation; and development of mechanisms for sustainable use of wildlife resources considering the livelihood of local communities.
	Leadership development, advocacy, and awareness.	The knowledge network will help create a regional advocacy agenda to support stronger participation of government policy makers, company executives, and religious leaders in snow leopard conservation and

Country	Objective	Key Activities
		habitat management. The Collaborative Leadership for development approach will be employed to mobilize resources and people to achieve the GSLEP in a harmonious manner. The objective is to inspire, to connect, and to empower leadership teams (emerging and current leaders) so that they will be able to catalyze necessary resources in their respective countries. This requires both leadership skills and technical knowledge of what works to achieve those results. The GSC will assist the range countries to achieve this objective.

Research and monitoring. Set baselines and indicators to evaluate and map current status of key snow leopard habitats and populations against which to assess future change, conduct economic valuation of snow leopard habitats, and intensify scientific research and monitoring to inform future policy and action. These are all core principles of snow leopard conservation. All countries plan to develop and/or implement monitoring programs, most importantly to set baselines against which to measure conservation progress and to adapt conservation planning and management as needed (Table 12). Topics of planned research activities include movement ecology of snow leopards and prey, climate change impacts, population dynamics, and disease.

The proposed GSC—Research, Monitoring, and Evaluation (summary in Chapter 8; details in Annex 4-D)—supports this objective. This GSC, through inputs of the range countries, aims to arrive at agreeable and consistent methods, indicators, and periodicity of monitoring, and establishing mechanisms for data collation and sharing with the Secretariat, and a periodic joint evaluation.

Table 12. Portfolio in research and monitoring.

Country	Objective	Key Activities
Afghanistan	Assess the status of mountains' ungulate populations to inform future management activities.	Use research techniques to estimate populations of the mountain ungulates. Regular monitoring of population trends; establishment. Establish a database of snow leopard prey species.
	Determine snow leopard abundance and status in selected protected areas to inform future management activities.	Use modern research techniques such as camera trapping, GPS collaring, and genetic studies.
	Monitor and identify major threats to snow leopards, habitats, and prey species; identify human-snow leopard conflict hotspots. Assess current practices and areas for improvement.	Develop monitoring indicators for snow leopards and prey species and a monitoring database. Share snow leopard monitoring data with the range countries. Estimate prey species populations.
	Snow leopard collaring in Hindu Kush Range to obtain enough information about movements, home ranges, and habitat use to develop a model for overall population estimation throughout the snow leopard range in Afghanistan.	Snow leopard collaring; GIS mapping of the collared cats; data analysis based on the satellite collar information.
Bhutan	Conduct scientific monitoring of snow leopard, its habitat, prey,	Conduct study on the movement ecology of snow leopard and its prey species. Conduct research on the impact of

Country	Objective	Key Activities
	and threat.	climate change on species conservation. Conduct research on the impact of cordyceps collection on the habitat and the species.
China	Monitor the impact of global climate change on snow leopard habitat and biodiversity.	Monitor climate and physical environment indicators in snow leopard habitat, monitor changes of snow leopard acting areas. Investigate and monitor biodiversity index, evaluate and monitor snow leopard food resource dynamics.
	Identify snow leopard population status and distribution of snow leopard in China.	Identify habitat important for snow leopards, assess and monitor snow leopard population based on present information.
	Investigate and evaluate snow leopard prey and habitat quality, conserve and restore corridors for snow leopard reproduction and dispersal.	Using camera trapping, DNA analysis technology and GPS-collaring to investigate snow leopard habitat structure and activity patterns, design corridors in snow leopard habitat, conduct snow leopard corridor conservation and restoration projects.
India	Assess snow leopard abundances in selected landscape units/ sections to assess the status of populations.	Use robust and modern techniques such as molecular tools and camera trapping for individual identification.
	Inventory of habitats and clusters with high anthropogenic impact in the landscapes.	Compile data on habitation, areas of high prey density, and areas of high occurrence.
	Conduct scientific monitoring of snow leopards, habitat, and threats; identify current practice and areas for improvement.	Set measurable targets, periodically monitor state thereof, and evaluate the impact of activities with respect to the objectives.
	Identify priority snow leopard habitats on which to focus interventions.	Survey of prey density and forage/ habitat parameters, including digital interpretation and ground surveys.
Kazakhstan	Monitoring snow leopard populations.	Develop a monitoring system with the help of key experts and local people. Initiate monitoring of 5 meta-populations of snow leopards and prey species.
	Understanding impacts on snow leopard habitats. Understand the dynamics and impact of natural and anthropogenic factors.	Conduct research and monitoring of snow leopard habitats and their degradation.
Kyrgyz Republic	Development and implementation of monitoring system for snow leopards and prey. Attracting experts; creation of database platform.	Develop normative act on monitoring system of snow leopards. Integrate accounting systems.
	Monitoring of snow leopard population. Identify snow leopards with camera traps and with GPS collars.	Monitor and locate snow leopards using GPS collars. Integrate expository measures on snow leopards, particularly by investigating illegally killed snow leopards . Use camera traps and genetic materials to identify individual snow leopards. Calculate prey population through surveys.
Mongolia	Improve inventory and assessment of rare and very rare species.	Assess status, distribution, and density of snow leopards and some of its prey species every four years and update conservation plans. Amendment is made in Mongolian wildlife law.
Nepal	Developing long-term mechanism for conservation research and monitoring to understand snow	Study population dynamics, distribution, and space/habitat-use pattern of snow leopards and their prey using cutting-edge technology. Develop mechanism

Country	Objective	Key Activities
	leopard population dynamics, distribution, space and habitat-use pattern, and predator-prey relationships.	to monitor potential impact of climate change on snow leopard, prey, and habitats.
Pakistan	Enhance scientific knowledge of snow leopards, prey species, and habitat to conduct well-informed management actions.	Assess snow leopard population using robust and modern techniques such as molecular tools and camera trapping for individual identification. Assess genetic limitations of the snow leopard population, connectivity among populations, and gene flow across landscapes. Assess resource selection by snow leopards and explore requirements for their survival. Implement robust estimation and monitoring of prey abundance, human and rangeland ecology studies, and monitoring systems for identifying and addressing key threats. Assess prevalence of disease in snow leopard habitat and risks to wildlife.
	Conduct scientific monitoring of snow leopards, habitat, and threats.	Set measurable targets, periodically monitor state thereof, and evaluate the impact of activities with respect to the objectives.
Russia	Study of current snow leopard range and population dynamics.	Study the snow leopard's current range, populations, and other dynamics, and create improved maps of the species' habitat distribution; study the roles of natural and anthropogenic factors in population dynamics and changes in snow leopard habitat; identify key sites for snow leopard reproduction.
	Clarify the structure and spatial connections of key snow leopard populations.	Clarify snow leopard population structure by using genetic analysis and other advanced techniques; study genetic relationships and the degree of genetic isolation of various snow leopard populations; identify potential migration corridors between snow leopard populations in Russia and western Mongolia, evaluate their significance for species conservation in Russia.
	Collect data on health parameters of snow leopard and prey populations	Veterinary research on snow leopards and prey species in various populations
	Restoration of snow leopard populations.	Develop programs for the restoration of snow leopard groupings or reintroduction of this species in habitats where poachers previously eradicated the cat
Tajikistan	Identify and implement practices and tools to reduce consumption of tereseken plant for fuel wood by local communities. (Teresken is a key staple in the diet of Marco Polo sheep.)	Research on fuel consumption patterns and the potential demand for thermal insulation. Research on alternative fuels (firewood, coal, gas, solar energy, and hydropower). Research on the dissemination of energy-efficient technology.
	Monitoring of snow leopards and their prey to understand predator-prey relationship and home range of snow leopards through collaring and non-invasive technologies.	Place GPS collars on snow leopards in select sites (PA, hunting concession, and community-managed areas) to gain a better understanding of home range of snow leopards and to investigate kill sites. Camera-trap and collect samples to identify individual cats and estimate abundance. Survey prey populations through regular point- count surveys.
Uzbekistan	Monitor snow leopards and prey.	Monitoring of snow leopards and prey.

Country	Objective	Key Activities
Global Support Component	Enable consistent monitoring of program implementation, threats to snow leopards, and conservation status of snow leopards in key landscapes across the range countries.	Identify indicators for consistent monitoring of the program worldwide. Establish a mechanism for data sharing with Secretariat. Follow consistent monitoring methods. Capacity enhancement in monitoring methods. Monitor data analysis and compilation. Data sharing. Evaluation.

Building awareness. Communicate to citizens and various stakeholders, including local communities, youth, different branches and arms of the government, civil society, and the private sector, about the value of snow leopards and their ecosystem. Announce and celebrate September 13 as the International Snow Leopard Day, and 2015 as the International Year of the Snow Leopard. (Table 13)

Table 13. Portfolio in building awareness.

Country	Objective	Key Activities
Afghanistan	National snow leopard education and public awareness project.	Disseminate reports/articles; media and press releases; awareness programs on local radio and visual media; environmental education programs for schools.
Bhutan	Review existing Forest and Nature Conservation Act.	
China	Widespread information dissemination on snow leopard conservation and call for more attention and support from public.	Use media, websites, and outdoor advertisements to encourage public to pay attention to snow leopard conservation; hold special events for public participation, such as celebration of Global Snow Leopard Day; organize volunteer activities; establish more wildlife hotlines.
India	Awareness generation for all sections of society to maintain or foster traditional tolerance and coexistence.	Targeted awareness programs for schoolchildren, youth, local people, armed forces, and officials.
Kazakhstan	Develop and implement program of ecological education for local people.	Develop and implement strategies to enhance ecological education, including materials and public campaigns.
Kyrgyz Republic	Organize and conduct trainings and round tables for representatives of ecological NGOs, local activists, and staff of local governments. Prepare documentary film about snow leopards. Organize mobile exhibitions on biodiversity conservation in population centers, frontiers, and near snow leopard habitat.	Implement main course of study in "Protection of Endangered Species" in Kyrgyz Republic universities. Create postcard series and booklets for propaganda on rare species protection.
Nepal	Education and outreach to improve relationships between park authorities and local communities, and contribute to conservation of snow leopard, its habitat, and prey base.	Provide school education and informal education to senior citizens. Produce and distribute promotional materials (posters, documentaries). Conduct mass communication through electronic media. Publish and distribute booklets and leaflets.

Country	Objective	Key Activities
Russia	Encourage people living within the snow leopard's range to relate to the cat as a part of their natural and cultural heritage and to understand the necessity of its preservation for its ecological, economic, and cultural value.	Work with regional media to ensure regular coverage in the local press about the value and importance of snow leopard conservation. Develop and implement targeted information campaigns with the goal of establishing a positive image of the animal as a symbol of Altai and Sayan. One such campaign could be the annual Snow Leopard Day festival, organized with support from WWF in Altai and Tuva Republics. Active engagement of Buddhist leaders and other respected public figures in snow leopard conservation outreach among local residents. Engage local people in monitoring and conservation of snow leopard populations through economic incentives, such as ecotourism and souvenir production development in snow leopard habitats, and development of mutual cooperation between local communities and private and corporate donors for snow leopard protection.
	Encourage decision-makers to take care of the snow leopard and its habitats.	Facilitate increased professional expertise among decision-makers and resource management experts for sustainable use of snow leopard habitats as important resource for recreational activities, livestock grazing, and wildlife management. It can be done through development of special courses and programs for managers and decision-makers at national universities.
Uzbekistan	Public awareness campaign.	Develop and implement a public awareness campaign.

Chapter 4. Options for Financing the Program

The funding needed to support the conservation of snow leopards and their habitat across their range over the seven-year program is estimated by the twelve snow leopard range countries to total about US$190 million for the period of 2014 to 2020. However, this estimate will be fine-tuned in the next iteration of the GSLEPs and NSLEPs as the program evolves and as further inputs are received from agencies and sectors, such as customs, education, and infrastructure, whose costs may not yet be reflected here. Estimates may also have to be normalized among countries to ensure that each is counting the same factors; direct versus indirect costs, for example, may be included in some countries' estimates but not others.

As currently projected, snow leopard range country governments have collectively committed country budgets to more than half of the US$190 million program total estimate (Table 14). The largest share of the total estimate is for managing habitat and prey, controlling poaching of snow leopards and their prey, and addressing knowledge gaps through research and monitoring (Figure 2 and Table 15).

Several options are available to the range countries to access additional funding for their NSLEPs. A checklist for resource mobilization (Table 16) is detailed below.
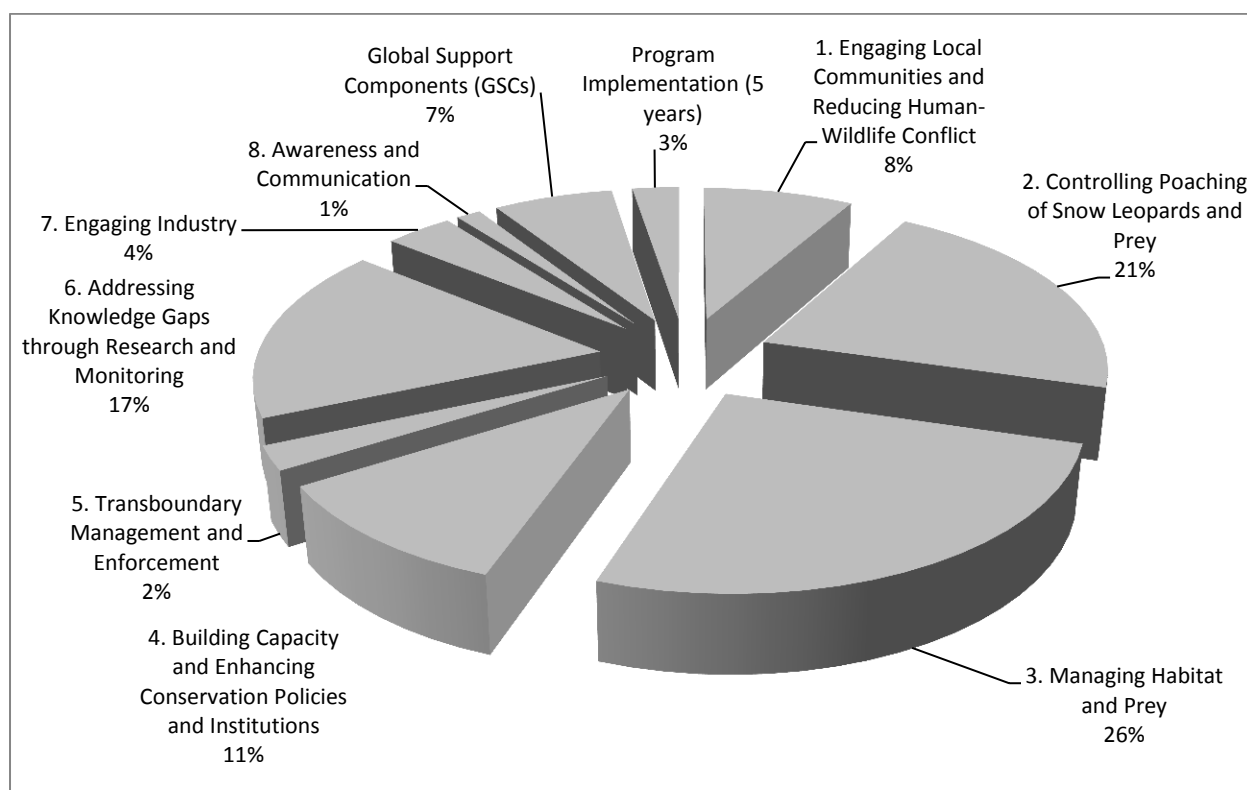

Figure 2. Global Snow leopard and Ecosystem Protection Program components.

Table 14. Program's estimated costs by range countries (US$ 000).

Of the total estimated funding required for snow leopard conservation, more than half has been earmarked by the snow leopard range country governments

Range Country	Total Costs	National Budget	Donor Funding
Afghanistan	24,000	2,400	21,600
Bhutan	7,530	560	6,970
China*	12,000	pending	12,000
India	10,080	4,700	5,380
Kazakhstan	867	867	-
Kyrgyz Republic	10,460	1,770	8,690
Mongolia	4,760	1,800	
Nepal	9,005	2,251	6,754
Pakistan	19,780	1,920	17,860
Russia	77,870	74,600	1,270
Tajikistan	1,200	240	960
Uzbekistan	1,455	-	-
	12,775	0	0
Grand Total	**189,782**	**91,108**	**94,259**

* In China, governmental budgets for snow leopard conservation will depend upon needs of annual actual projects. The estimated cost from external donors will mainly be used for international cooperative activities.

Table 15. Program's estimated costs by themes (US$ 000).

Themes	Total Cost	National Budget	External Donors
1. Engaging Local Communities and Reducing Human-Wildlife Conflict	16,073	2,269	12,329
2. Controlling Poaching of Snow Leopards and Prey	41,434	38,511	2,623
3. Managing Habitat and Prey	50,301	32,493	16,878
4. Building Capacity and Enhancing Conservation Policies and Institutions	20,987	4,858	16,030
5. Transboundary Management and Enforcement	4,627	851	3,666
6. Addressing Knowledge Gaps through Research and Monitoring	33,720	4,451	28,719
7. Engaging Industry	7,240	7,225	0
8. Awareness and Communication	2,625	453	1,238
Sub-total	*177,007*	*91,108*	*81,484*
Global Support Components (GSCs)	12,775		12,775
Program Implementation (5 years)	5,000	500	4,500
Grand Total	**194,782**	**91,608**	**98,759**

Table 16. Checklist for snow leopard conservation resource mobilization.

Funding Source	Description
Domestic	Submission of an adequate budget request to the Government
Donors	Existing donor windows (sustainability, poverty, climate resilience, governance) applied for snow leopard habitats
GEF-6	GEF-6 programming in snow leopard habitats (making note of lessons from the past GEF projects)
IDA	Intra-governmental dialogue on the national IDA allocation (available to 9 range countries). *IDA regional* funds may incentivize access to national IDA funding, and stimulate multi-country cooperation
PES	Analyze options for Payments for Ecosystem Services (PES), such as carbon credits, ecotourism, Natural Capital Accounting, Wildlife Premium Mechanism
Private Sector	Engage with industry and private sector to access Corporate Social Responsibility (CSR) funds. Encourage environmentally sensitive development and business practices, such as smart green infrastructure and biodiversity offsets

Donors. Additional support is required to meet the full funding required for conservation across the snow leopard range, over and above the amount earmarked by governments. Support is also needed to undertake regional and global conservation actions that are beyond the scope of individual range countries. It is anticipated that donors may assist to fill these needs (Tables 14 and 15). The Global Snow Leopard and Ecosystem Protection Program aims to raise the profile of the current activities and additional needs for snow leopard conservation to gain attention from potential donors.

Based on the anticipated support by various donors to range countries, key donors include international conservation non-government organizations, such as WWF, WCS, Panthera, FFI, Snow Leopard Trust, and others; bilateral agencies, such as USAID and GIZ; intergovernmental organizations, such as International Centre for Integrated Mountain Development; and multilateral agencies, including World Bank, GEF, and UNDP (Table 17).

International Development Association (IDA) is the part of the World Bank that aims to reduce poverty by providing loans (called "credits") and grants for programs that boost economic growth, reduce inequalities, and improve people's living conditions. IDA lends money on concessional terms, meaning that IDA credits carry little or no interest and repayments are stretched over 25 to 40 years. Snow leopard range countries in which IDA operates include Afghanistan, Bhutan, India, Kyrgyz Republic, Mongolia, Nepal, Pakistan, Tajikistan, and Uzbekistan. IDA funds economic and human development projects, and while there is competition for financing from more traditionally funded sectors, such as primary education, basic health services, infrastructure, and clean water and sanitation, there is also provision of loans and grants for environmental responsibilities. In the period of FY2000 – 2009, IDA committed US$4.7 billion to the environment and natural resource management sector, of which $145 million funded biodiversity projects.

Countries have a national IDA allocation. This allocation is determined in relation to the country's income level, record of success in managing their economy, and their ongoing IDA projects; assessed by the Country Policy and Institutional Assessment (CPIA). The national allocation funds priority projects, as determined through dialogue within government, and with the World Bank, and corresponding to the country assistance strategy.

Table 17. Range countries' expectations for donors' contributions.

	Afghanistan	Bhutan	China	India	Kazakhstan	Kyrgyzstan	Mongolia	Nepal	Pakistan	Russia	Tajikistan	Uzbekistan
BF		☑										
BTFEC		☑										
CEP											☑	
CITES									☑		☑	
Corporate/private				☑						☑		
ECO-SF									☑			
FFI						☑					☑	
GEF	☑	☑		☑		☑				☑		
GIZ									☑		☑	
GSLT				☑								
GTI		☑										
HEC									☑			
ICIMOD								☑				
MAB									☑	☑		
NABU						☑						
NG Big Cats											☑	
NTNC								☑				
OSCE												
Panthera											☑	
PSF									☑		☑	
QAU									☑			
SAWEN								☑				
SLF												
SLT						☑			☑			
TRAFFIC											☑	
Trust for Mutual Understanding											☑	
UNDP				☑		☑		☑		☑	☑	
Universities				☑							☑	
USAID	☑											
USFWS											☑	
SOS Grant											☑	
World Bank	☑	☑		☑		☑		☑			☑	
WWF		☑				☑			☑	☑		
ZSD												
Other		☑		☑						☑		

Regional IDA. There is a separate funding envelope in IDA to encourage regional actions through IDA. The additional financing is used to 'top up' IDA resources provided to countries in order to encourage and facilitate participation in regional projects. Country IDA allocations cover one-third of the regional project costs attributable to each country, and the remaining two-thirds of project costs come from the separate regional funding envelope. Given this regional funding is additional to each country's IDA allocation, it provides incentive for countries to work together to find regional solutions. Regional projects are defined as those involving at least three countries, and where the project would not be viable without the participation of at least three of these countries. The benefits of the investments must "spill over" country boundaries, and the project should provide a platform for policy harmonization among countries. Regional IDA allows countries to work together to solve common problems on a regional basis. This can include management of shared natural resources, such as rivers, key species, or sensitive ecological environments. Cooperation among stakeholder countries increases the likelihood of effective and sustainable management of such resources. One example of regional IDA supporting conservation is the *Adaptable Program Lending on Strengthening Regional Cooperation for Wildlife Protection in Asia*. This regional project, catalyzed by the 2010 Tiger Summit, will operate across four countries in South Asia, and aims to enhance shared capacity, institutions, knowledge, and incentives to collaborate in tackling illegal wildlife trade and other regional conservation threats to habitats in border areas.

It has been estimated that up to a third of the snow leopard's known or potential range is located on or less than 50-100 km from the international borders of the 12 range countries. More than 31% of the protected areas within the snow leopard range, totaling 276,123 km^2, has been classified as existing or potential transboundary protected areas. Regional IDA could be an incentive for countries to work together to manage the shared natural resource of transboundary snow leopard habitat.

Global Environment Facility (GEF) is the largest public funding source for projects to improve the global environment. The Sixth Replenishment of the GEF Trust Fund is currently being finalized and will cover GEF operations and activities from July 2014 to June 2018. There may be opportunity to support initiatives to conserve snow leopards and their habitat through GEF-6-funded national and regional projects.

The goal of the GEF biodiversity focal-area strategy is to maintain globally significant biodiversity and the ecosystem goods and services that it provides to society. To achieve this goal, the strategy encompasses four objectives: (i) improve sustainability of protected area systems; (ii) reduce threats to biodiversity; (iii) sustainably use biodiversity; and (iv) mainstream conservation and sustainable use of biodiversity into production landscapes/seascapes and sectors. Under the biodiversity strategy are 11 programs that contribute to achieving the objectives, several of which are relevant to the goals of snow leopard conservation. As well as focusing on the biodiversity strategy, snow leopard range countries could also consider accessing funding from other GEF windows, such as climate-change mitigation, land degradation, and sustainable forest management.

Some snow leopard projects are GEF funded and already in implementation. These include national projects in Kazakhstan, Mongolia, and Russia in the Altai-Sayan Ecoregion, and the Tien Shan Mountain Project in the Kyrgyz Republic, with UNDP as the implementing agency. A grant was awarded to Pakistan under the Save Our Species (SOS), which is a partnership among GEF, IUCN, World Bank, and others. Blending GEF and IDA finance is an effective option for conservation financing.

Payment for Ecosystem Services (PES) has been defined as "a *voluntary* transaction in which a *well-defined* environmental service (ES), or a form of land use likely to secure that service, is bought by at least one ES *buyer* from a minimum of one ES *provider* if (and only if) the provider continues to supply that service (*conditionality*)." PES usually covers four types of environmental services: watershed protection, biodiversity conservation, landscape beauty, and carbon sequestration. Key to any PES scheme is that the payment causes the benefit to occur where it would not have otherwise, such that the service is additional to business as usual. The service should be quantified and tied to the payment, and transactions require regular and independent verification of sellers' actions and their impact on the resources.

PES options that may be available to snow leopard range countries include payments for ecotourism use-rights, based on the mountain landscapes that snow leopards inhabit; payments for carbon sequestration and storage, in the grasslands of the snow leopard's range; and watershed protection. Another option is a wildlife premium market mechanism, where an explicit performance-based payment system to meet wildlife conservation targets is developed and is nested within REDD+ or any other PES scheme.

Industry and Private Sector. Business as usual practices in construction, mining, hydropower, and other industry have often resulted in loss of biodiversity. There is opportunity for range country governments, NGOs, and financial institutions to work with industry to ensure a more environmentally sustainable and responsible approach. Recently there has been promotion of 'smart green infrastructure,' wherein, if infrastructure in key biodiversity ecosystems cannot be avoided, planning should include habitat linkages and other habitat-sensitive design. Corporate Social Responsibility (CSR) funding from the private sector could be accessed by governments and NGOs towards snow leopard conservation activities, and could be used to fund particular projects, or could contribute to long-term trust funds. Range country governments can also promote biodiversity offsets, to ensure industry development leads to no net loss or to a net gain of biodiversity. Biodiversity offsets can be defined as "measurable conservation outcomes of actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken." Biodiversity offsets take into account species composition, habitat structure, ecosystem function, and people's use and cultural values associated with biodiversity. Guidance can be accessed through the Business and Biodiversity Offsets Program (BBOP) Standard on Biodiversity Offsets.

Program Management

Establishment of a monitoring system with performance indicators and annual reporting is planned under the Program, as detailed in Chapter 4. Such a system will allow donors to track investment impacts.

The overall Snow Leopard and Ecosystem Protection Program has a flexible funding mechanism, such that donors may fund national programs, or engage in a particular theme across the range countries, and funding will contribute to the program on a rolling basis. Mapping of confirmed financial resources, and the remaining funding gaps, will be required periodically throughout the program lifetime.

Chapter 5. Monitoring Program Implementation

In the draft Bishkek Declaration, the snow leopard range country leaders agreed "to form a high-level Steering Committee to guide GSLEP implementation, regularly review its progress, and maintain a strong political commitment to its objectives, and to establish a Secretariat to coordinate Program implementation that is adequately resourced and staffed by the range countries and the international community." (The draft Terms of Reference for the Steering Committee and Secretariat is under review by range countries.)

A well implemented, coordinated, and nested monitoring and evaluation system is important for the snow leopard program, as such a system will help to:

- Evaluate international financial and technical supports to snow leopard range countries and existing gaps.
- Constantly evaluate program performance from the ground to the global level;
- Scrutinize the nature and intensity of the dynamic threats to snow leopards and their habitats;
- Improve the program adaptively; and
- Make the program more appealing to donors and supporters, bring in transparency, and make the program details available for social audit.

A good monitoring and evaluation program should help to:

- Estimate the financial gap to implement the program and coordinate the channels for necessary aids for snow leopard range countries.
- Assess the trends in the conservation status of snow leopards and their habitat, such as changes in snow leopard abundance, habitat occupancy, habitat quality, prey abundance, attitudes of people, and intensity and nature of threats;
- Understand the changes in conservation status affected by program actions to assess how effectively the program actions are addressing the key threats, and enable improvements and course corrections; and
- Document the quality of program implementation to assess how well the program actions are being implemented.

The Secretariat, with the guidance of the Steering Committee, will determine, following consultation with the range countries, the mechanisms for reviews and reporting on program implementation, and the indicators to be monitored. In general, two kinds of indicators are relevant:

- Impact indicators that help assess the actual impact of the conservation actions, such as changes in abundance or status of snow leopards, or their habitat, number of poaching instances, recovery of prey populations, extent of threat reduction, etc.
- Process or program indicators that help assess how well the program actions are being implemented at every level (such as the number and proportion of local families involved in conservation or conflict-management programs, extent of livelihood enhancement, robustness of program implementation structures, and bodies at the national or landscape level, etc.

[NOTE THIS IS NEW TEXT INSERTED SINCE THE LAST REVIEW]

Chapter 6. Expected Outcomes, Success Factors, and Conclusions

Expected Outcomes

Table 18 outlines the anticipated outcomes and expected area of impact for direct impact activities, those whose successful completion will increase or maintain snow leopard and/or prey numbers (or other appropriate measure such as density or occupancy) and/or protect or restore habitat quality and connectivity among populations, and for enabling activities that create the conditions for successfully performing or improving the performance of the direct impact activities. Lack of good baseline data in many areas precludes quantification of the expected effect of direct impact activities on these broader indicators of the program's success. Thus, research and monitoring to determine baselines is a high-priority enabling activity for all countries.

Table 18. Summary of outputs, outcomes, and areas of impact or enabling of national activities under each theme.

GSLEP Theme / US$ Total	Threats Being Addressed	Tested Good Practices	Major National Outputs	Anticipated Outcomes / Expected Areas of Impact or Enabling
Direct Impact Activities				
Engaging Local Communities & Reducing Human-Wildlife Conflict $16.0m	Retaliatory killing of snow leopards; poaching of prey species; human casualties, crops damage, and property loss	Engaging communities into snow leopard conservation through livestock vaccination, predator-proofing corrals, initiating small businesses for alternative incomes, compensation and livestock insurance programs.	Attitude of local communities towards snow leopards investigated; improved herding practices; defined rights and responsibilities for the conservation of snow leopards and their prey; management plans developed; community-managed ecotourism developed in the buffer zones of snow leopard-bearing PAs; community resource management groups formed; community-based snow leopard conservation group established; livestock insurance scheme put in place; predator-proof corrals built; incentives for local communities to enhance tolerance and build support for snow leopards developed; 100% of communities participating and at least 50% livestock insured / vaccinated in model landscapes.	Reduction in predation and mortality of livestock, decreased killing of snow leopard and prey. — Snow leopard numbers* maintained or increased to form viable populations. Prey numbers* maintained or increased to support viable snow leopard populations.
Controlling Poaching of Snow Leopards & Prey	Poaching, prey depletion; direct and retaliatory killing of snow	Increasing penalties; fully empowering and equipping	Established new protection and management stations in conservation-blind areas to increase field patrols; provided sufficient	Threats halted; populations of snow leopard and prey base increased.

GSLEP Theme / US$ Total	Threats Being Addressed	Tested Good Practices	Major National Outputs	Anticipated Outcomes / Expected Areas of Impact or Enabling
$41.4m	leopards	anti-poaching brigades; creating inter-agency anti-poaching brigades and regular snare removal campaigns in key snow leopard habitats.	funding for regional wildlife protection agencies, 100% more staff hired, trained and equipped for patrolling; number of anti-poaching brigades in snow leopard habitats increased by 400%; border and customs officials trained, technical support provided to improve detection of illegal trade; developed anti-poaching networks in PAs and local communities.	— Snow leopard numbers* maintained or increased to form viable populations. Prey numbers* maintained or increased to support viable snow leopard populations.
3. Managing Habitat & Prey $50.3m	Habitat degradation and fragmentation; prey reduction due to poaching and competition with livestock	Establishing federal, national, and local PAs and effectively managing them.	Identified, designated, and developed management plans made for model landscapes; prepared and declared new PAs in snow leopard range, including transboundary; reduced conflict between snow leopard and local communities; constructed habitat suitability models, identified connectivity corridors; frontline staff of snow leopard bearing PAs are equipped for monitoring and management of prey base and habitats; field surveys and needs assessments completed; digital maps and GIS databases of suitable habitats created; habitat restoration by omitting over-grazing and increasing vegetation cover achieved across snow leopard range; flow between genetically-isolated populations improved; baseline information available from all PAs in snow leopard range; 10%, 20%, 60% of snow leopard range covered under PAs; networks of PAs established and operationalized.	Extent of snow leopard habitats protection, management and connectivity surveyed, documented, and increased. — Snow leopard numbers* maintained or increased to form viable populations. Prey numbers* maintained or increased to support viable snow leopard populations. Habitat quality and connectivity and gene flow between populations maintained or restored.
Transboundary Management & Enforcement $4.6m	Demand, poaching and trade for snow leopard products across borders; lack of institutional capacity; lack of exchange of knowledge and coordination in	Joint monitoring, research and coordination of management actions in adjacent across the border PAs; bilateral MOUs at national level;	Created new transboundary PAs; developed coordinated management of shared snow leopard habitats; approved joint program of actions for Russia, Mongolia, Kazakhstan and China; created transboundary nature reserve between Kyrgyzstan, Kazakhstan, Tajikistan and China; developed framework for transboundary collaboration for	Reduced pace of degradation of transboundary landscapes, reduced poaching and smuggling of snow leopard and prey, and their products; increased capacity for and better transboundary coordination of agencies

GSLEP Theme / US$ Total	Threats Being Addressed	Tested Good Practices	Major National Outputs	Anticipated Outcomes / Expected Areas of Impact or Enabling
	monitoring and enforcement.	coordination and enforcement with support of international and regional partners.	Afghanistan, China and Pakistan; developed bilateral cooperation agreement between Afghanistan and Kyrgyzstan; operationalized inter-governmental to control illegal trade with support of South Asia Wildlife Enforcement Network (SAWEN), CITES, INTERPOL, and WCO; conducted research on gene flow and connectivity of snow leopard populations.	at local and national levels. — Snow leopard numbers* maintained or increased to form viable populations. Prey numbers* maintained or increased to support viable snow leopard populations. Habitat quality and connectivity and gene flow between populations maintained or restored.
Engaging Industry $7.2m	Habitat degradation and fragmentation, mining, impacts from hydropower plants development.	Conducting Environmental Impact Assessments (EIAs); introducing Smart Green Infrastructure principles and mitigation approaches; Integrated Spatial Planning and Inclusive Growth; PES.	EIAs done according to the international standards; coordinated planning with Ministry of Water and Mining; involved big industrial companies; corporate social responsibilities and payments for ecosystem services (PES) developed; mitigation and counter measures for mining and development of infrastructure developed.	Piloted approaches of mining and other industry involvement towards joint planning and conservation of snow leopard landscapes. — Snow leopard numbers* maintained or increased to form viable populations. Prey numbers* maintained or increased to support viable snow leopard populations. Habitat quality and connectivity and gene flow between populations maintained or restored.
Enabling Conditions Activities				
Research & Monitoring $33.7m	Knowledge and data gaps in conservation and climate change; lack of coordination	Threat-reduction-based planning and monitoring of conservation programs,	Clarified population structure and dynamics using advanced techniques; identified snow leopard home ranges, key sites of reproduction and potential migration corridors; developed	Major knowledge gaps studied. Range, key reproduction sites, existing and potential connecting corridors for snow leopard

GSLEP Theme / US$ Total	Threats Being Addressed	Tested Good Practices	Major National Outputs	Anticipated Outcomes / Expected Areas of Impact or Enabling
	and fact-based decision making; redundancy of isolated projects.	various monitoring programs of key snow leopard populations, state- and donor-run research programs.	restoration or reintroduction plans; conducted habitat assessments; improved understanding of prey resources and robust estimates; developed national monitoring system and database; monitored climate change, biodiversity, and physical environment indicators in snow leopard habitats, as well as climate change impact on species conservation; developed monitoring indicators for snow leopard, habitats and prey, as well as the database.	populations identified and incorporated into landscape level-planning of management interventions. Better coordination and decision-making. — Enables setting of baselines to track progress and effectiveness of conservation programs; enables adaptive management of conservation programs; enables identification of priority areas for protection.
Strengthening Policies & Institutions $7.4m	Weak policies, institutions, poor enforcement, slow service delivery; gaps in legal framework, poaching, including by military.	Creating PAs; legal definition of biological corridors; increased penalties for wildlife crime; legal or policy framework for community-based conservation; mandated EIAs for infrastructure in critical habitats.	Enacted new policies and laws, amended existing policies – federal, state / regional administrative and criminal codes, laws on hunting, wildlife law enforcement, Red Book species, PA management, forest and nature conservation, illegal trade, community-based conservation, sharing benefits; built awareness and strengthened enforcement of new policies; series of workshops to build capacity conducted; working group established to draft CITES regulation for the National Assembly.	Strengthened policy and institutional environment for deterrence of wildlife crime and enacting incentives for local communities to protect and conserve. — Enables strengthened wildlife law enforcement and PA management; enables effective community-based conservation; enables industry participation.
Strengthening Capacity of National & Local Institutions $13.6m	Weak institutional capacity, poor qualifications of staff, inadequate cooperation and interactions, poor enforcement, lack of awareness.	Creating federal-state/region partnerships; communities of practice for conservation practitioners; intra-agency and inter-country knowledge exchange.	Set up training and capacity building regime; trained national, regional, and local staff; secured financial resources; institutional analysis conducted; expedited and improved methodology for allocation of federal funds for regional wildlife agencies; federal and state-level structures and programs for snow leopard conservation established; Snow Leopard Coordination Committee established; sound communication policies established.	Highly trained and equipped conservation practitioners; restructured roles and responsibilities between agencies for more effective conservation practices; increased funding for snow leopard conservation. — Enables strengthened wildlife law

GSLEP Theme / US$ Total	Threats Being Addressed	Tested Good Practices	Major National Outputs	Anticipated Outcomes / Expected Areas of Impact or Enabling
				enforcement; enables improved wildlife, PA, and landscape management.
Awareness & Communication

$2.6m | Lack of knowledge and awareness about the snow leopard and prey species; poor understanding of the values of snow leopard ecosystems. | Promotion of snow leopard symbolism by political leaders and celebrities. | Formulated strategies for public consultations and partnerships; organized sensitization workshops for target groups like people's representatives, army establishments, business groups; conducted public campaigns, disseminated reports and articles; media awareness programs in targeted locations at local level; organized school outreach and education programs; mass communications through electronic media. | General public and target groups better equipped with knowledge about snow leopard ecosystems and values associated with them.
—
Enables greater political and financial support for snow leopard and ecosystem conservation. |

*Or other appropriate measure such as density or habitat occupancy.

Success Factors

This seven-year effort has some important features that enhance the prospects of success:
The GSLEP and its supporting NSLEPs and GSCs represents the first-ever comprehensive, coordinated effort to conserve snow leopards and their mountain habitats in Asia. Before now, snow leopard conservation efforts have been largely limited to isolated, relatively small-scale interventions. With the GSLEP, snow leopard conservation moves from isolated interventions to collective impact initiatives that unify the efforts of countries and the global conservation community to achieve a shared vision and goal.

Moreover, the Global Snow Leopard Forum is evidence of strong political commitment even in the face of competing demands and of the recognition at high political levels of the value of snow leopards and the local, national, regional, and global ecosystem services their mountain habitats provide.

The GSLEP is realistic. The activities the range countries plan to conduct are based on solid good practices, practices that have proven successful and can be scaled up or adapted for wider implementation and impact. The costs of these activities are also estimated to give an order of magnitude indication of the funding needed, indicating time-phased national budget allocations and external funding required. As is true of many conservation programs, too often in the past interventions have been made based on the funds available, not the funds actually required to have significant impact.

The GSLEP shows the range countries' commitment to ensuring that snow leopard conservation is conducted in partnership with local communities and supports their needs and values. This is perhaps the most critical element of the program's promise of success.

Promising programs often falter, however, after the initial enthusiasm generated by a forum or launch wanes. The GSLEP provides, however, for regular monitoring and reporting, coordinated by a country-led Secretariat, to maintain momentum as well as high-level attention to progress toward the goal. Regular coordination, monitoring, and reporting will also enable countries, partners, and donors to constantly fine-tune their efforts to reflect changing circumstances and new knowledge.

Just as activities in NSLEPs are based on good practices, the GSLEP is modeled after the Global Tiger Recovery Program (GTRP). The GTRP is widely recognized as being instrumental to bringing tiger conservation into the mainstream in the tiger's range and beyond and to galvanizing new, concerted efforts that are helping to stem the wild tiger's decline.

Conclusions

Traditional threats to snow leopards and their ecosystems are intensifying and emerging threats, such as large-scale infrastructure development and climate change, are escalating. Now is the time to take concerted action, to move beyond status quo conservation, before it is too late for any action to make a difference to the snow leopard's future survival. The GSLEP outlines the concerted action needed to secure a future for snow leopards and the rich biodiversity under the snow leopard's umbrella, and to maintain the essential ecosystem services of their ecosystem for the people who rely upon them—and that means all of us.

Chapter 7. NSLEP Portfolios of 12 Range Countries

The NSLEPs portfolios are living documents that will be periodically refined and updated as the program evolves.

1. Engaging Local Communities & Reducing Human-Wildlife Conflict

Bhutan—Community-based snow leopard conservation through citizen scientist approach; US$ 240,000

Objectives: To engage local communities in conservation by gradually transfering ownership of conserving snow leopards and their ecosystem over the long term to the communities. *Key Activities:* (i) Form community resource management groups; (ii) Establish community-based snow leopard conservation group; (iii) Establish livestock insurance scheme in the snow leopard ranges. *Expected Outcomes:* (i) Form four community resource management groups; (ii) Form three snow leopard conservation groups; (iii) Establish five livestock insurance schemes. *Implementing Agency:* WCD, FPED, UWICE, respective snow leopard range parks. *Expected Donors:* WWF, BTFEC, BF, GEF, GTI, WB, and others.

China—Promoting of coordination of snow leopard conservation with livelihoods of local communities; funding and cost details pending.

Objectives: Strive for wider understanding, support, and participation of local communities for more effective protection and recovery of snow leopard habitats, and anti-poaching; *Key Activities:* Public education activities in local communities, compensation for losses caused by snow leopards and other protected wildlife, research and pilot trails to prevent losses and to develop sustainable eco-friendly livelihoods for local communities. *Expected Outcomes:* Snow leopard community participatory management, compensation and mitigation schemes established across snow leopard range; engaged society for snow leopard conservation; significantly reduced livestock depredation by snow leopard; results from trial schemes used to develop and improve other schemes further afield. *Implementing Agency:* The State Forestry Administration (SFA) will be overseeing the implementation of the NSLEP portfolio of activities in China.

India—Threat mitigation and livelihood support programs; US$ 2,450,000

Objectives: Implement the management strategy already prepared. *Key Activities:* (i) Use proven best practices for threat mitigation and conservation; (ii) Support communities for livelihoods supporting conservation; (iii) Redress threats from wildlife like predation of livestock; (iv) Other activities as planned. *Expected Outcomes:* (i) Wildlife conservation emerges as a livelihood support activity by communities; (ii) Cases of livestock kills reduced, participation of people in conservation consultations grows. *Implementing Agency:* State Forest/Wildlife Dept., Village Committees, and convergence activities with other agencies. *Expected Donors:* National budget, other possible sources.

Kazakhstan—Compensation program; US$ 15,000

Objectives: Expand the compensation program. *Key Activities:* Compensation. Improved livestock corrals.

Mongolia—Support local communities; US$ 1,600,000

Key Activities: Support local communities to conserve snow leopards, prey, and habitat.

Nepal—Building harmony between snow leopard conservation and local communities; US$ 1,400,000

Objectives: Reduce conflict between local communities and snow leopards. *Key Activities:* (i) (Reform) Engage community-based institutions, mainly buffer zone and conservation area institutions; (ii) Work with herders on improving herding practices; (iii) Hold active community dialogue on defining rights and responsibilities for the conservation of snow leopards and their prey; (iv) Develop management plans for the conservation of snow leopards and their prey at the community level; (v) Support the development of structures of natural resource governance; (vi) Support collaboration among different levels of authority; vii) Promote potential community-managed ecotourism activities in the buffer zones of protected areas that support snow leopards. *Expected Outcomes:* (i) Build predator-proof corrals; (ii) Implement herding practices to address threats to livestock posed by snow leopards; (iii) Hold community dialogues; (iv) develop management plans; (v) Develop structures, like conservancies, to bolster conservation; (vi) Strengthen collaboration among different authorities. *Implementing Agency:* DNPWC, DoF, and Community-Based Organizations. *Expected Donors:* WWF Nepal, ICIMOD, NTNC, World Bank.

Pakistan—Initiate participatory conservation to enhance tolerance and build support for snow leopards; US$ 8,200,000

Objectives: Reduce conflict with locals, risks of snow leopard killing, and diseases. *Key Activities:* (i) Implement community-based conservation programs to reduce predation-related economic burden on communities (LIS); (ii) Implement measures to reduce predation losses (predator-proof corrals); (iii) Implement programs to reduce mortalities in livestock and wildlife by improving ecosystem health (livestock vaccination); (iv) Implement awareness and outreach programs targeting all stakeholders. *Expected Outcomes:* (i) 100% of communities in model landscape participating; (ii) At least 50% livestock insured/vaccinated in model landscapes; (iii) At least 50% reduction in predation and mortality; (iv) No killing of snow leopard and its prey. *Implementing Agency:* (i) Ministry of Climate Change; (ii) Gilgit-Baltistan Forest and Wildlife Department; (iii) KPK Wildlife Department; (iv) AJK Wildlife and Fisheries Department; (v) Snow Leopard Foundation (SLF); (vi) WWF-Pakistan; (vii) WCS; (viii) HWF; *Expected Donors:* GEF 6, MAB.

Russia—Incentives for local communities for snow leopard conservation; US$ 350,000

Objectives: Develop and implement a system to encourage herders to protect snow leopards. *Key Activities:* (i) Develop and pilot a system of incentives and measures in situ to encourage herders to protect snow leopards in Altai and Tuva Republics. *Expected Outcomes:* (i) Develop, test, and publish set of incentives; (ii) Ensure that the system of incentives is sustainably operated in two regions. *Implementing Agency:* (i) Local authorities in Altai and Tuva Republics; (ii) corporations and private donors; (iii) local communities; (iv) WWF. *Expected Donors:* Private and corporate donors, WWF, GEF

Tajikistan—Develop incentives for local communities to conserve snow leopards and their prey; US$ 220,000

Objectives: Reduce conflict between pastoralists and snow leopards. *Key Activities:* (i) Build predator-proof corrals; (ii) work with herders on improving herding practices; (iii) Hold active community dialogue on defining rights and responsibilities for the conservation of snow leopards and their prey; (iv) Develop management plans for the conservation of snow leopards and their prey at the community level; (v) Support the development of structures of natural resource governance; (vi) Support collaboration among different levels of authority *Expected Outcomes:* (i) Build predator-proof corrals; (ii) Implement herding practices to address threats to livestock posed by snow leopards; (iii) Hold community dialogues; (iv) Develop management plans; (v) Develop structures, like conservancies,; (vi) Strengthen collaboration among different authorities. *Implementing Agency:* (i) CEP; (ii) Local communities and conservancies; (iii) Local and regional Environment Protection Departments; (iv) GIZ; (v) Panthera; (vi) Local NGOs. *Expected Donors:* GIZ; Panthera; USFWS; National

Geographic Big Cats Initiative; Trust for Mutual Understanding; Wildlife SOS Grant.

Uzbekistan—Survey of local communities; US$ 45,000

Key Activities: Conduct socio-economic investigation of local community attitudes towards snow leopards.

Uzbekistan—Incentives for local communities; US$ 220,000

Key Activities: Develop incentives for local communities to conserve snow leopards and their prey.

2. Controlling Poaching of Snow Leopards and Prey

China—Fighting against poaching of snow leopards and their prey; cost details pending

Objectives: Minimize threats of poaching of snow leopards and their prey. *Key Activities:* Establish new protection and management stations in conservation-blind areas, strengthen capacity building, work out technical guidance and rules to enhance field patrols; improve inspection measures; undertake wider public education, hotlines, etc. *Expected outcomes:* Protection and management stations present and functioning across key and important snow leopard-range protected areas, with better trained and equipped anti-wildlife poaching enforcement officers; engaged local community participation to support tracking of illegal poaching activities.

Kazakhstan—Enhance protection and enforcement; US $100,500

Objectives: Enhance protection of prey species outside the protected areas.

Nepal—Halt threats to snow leopard and its prey base; US$ 1,400,000

Objectives: Control poaching of snow leopards, their prey base, and the trade in their body parts. *Key Activities:* (i) Empower and engage border and customs officials to improve the detection of illegal trade in snow leopard parts; (ii) Develop anti-poaching networks in PAs, and mobilize community-based anti-poaching units to collect information from the ground on poaching and illegal trade; (iii) Disseminate information through outreach campaigns and materials on the importance of conserving snow leopards and combatting illegal trade; (iv) Increase awareness among the public about the importance of snow leopards and the threats they are facing; v) Establish national and local database systems. *Expected Outcomes:* Populations of snow leopard and its prey base increased. *Implementing Agency:* DNPWC, DoF and Community Based

Organizations. *Expected Donors:* CITES, SAWEN, WWF Nepal, NTNC.

Russia—Protection of snow leopards; US$ 38,000,000

Objectives: Ensure effective work of regional wildlife protection agencies. *Key Activities:* (i) Provide sufficient funding for regional wildlife protection agencies; (ii) Hire and train extra staff; (iii) Procure mobility, communications, and office equipment; (iv) Conduct regular enforcement operations. *Expected Outcomes:* (i) Double current staff (hired and trained); (ii) Ensure that anti-poaching brigades have necessary equipment and sufficient funds for patrolling; (iii) Increase number of anti-poaching brigades in snow leopard habitats by 400%. *Implementing Agency:* (i) Ministry of Natural Resources; (ii) Ministry of Justice; (iii) Wildlife protection agencies in Altai, Tuva, and Buryatia Republics, and Krasnoyarsky Kray. *Expected Donors:* Federal and Regional Governments.

Tajikistan—Conservation of snow leopards; US$ 300,000

Objectives: Increase effectiveness of snow leopard protection measures inside and outside of Pas. *Key Activities:* (i) Engage border and customs officials through trainings and technical support, with the goal of improving the detection of illegal trade in snow leopard parts; (ii) Develop anti-poaching networks in PAs and in local communities to collect information from the ground on poaching and illegal trade; (iii) Disseminate information through outreach campaigns and materials on the importance of conserving snow leopards and combatting illegal trade. *Expected Outcomes:* (i) Organize training workshops, leading to improved monitoring at customs and border posts; (ii) Improve knowledge on the extent of poaching and illegal trade; (iii) Increase awareness among the public about the importance of snow leopards and the threats they are facing. *Implementing Agency:* (i) CEP; (ii) Customs Committee; (iii) Ministry for Security and Border Control; (iv) Ministry of Internal Affairs; (v) Academy of Sciences; (vi) CITES; (vii) TRAFFIC; (viii) OSCE; (ix) Panthera and local NGOs. *Expected Donors:* OSCE; World Bank; CITES; TRAFFIC; GIZ; Panthera.

Uzbekistan—Border and customs control; US$ 300,000

Key Activities: Conserve snow leopards by understanding linkages in illegal trade and building capacity of Border and Customs officials.

3.   Managing Habitat & Prey

Afghanistan—Declare the Wakhan Conservation Landscape (WCL) as a Protected Area; US$ 4,700,000

Objectives: Conserve wildlife and the Wakhan ecosystem, focusing on snow leopard and its prey species. *Key Activities:* (i) Conduct workshop for stakeholders at local, provincial, and national level; (ii) Develop Management Plan (MP); (iii) Implement the MP. *Expected Outcomes:* (i) Declare the Wakhan as a Protected Area; (ii) Conserve the snow leopard, its prey species and the entire ecosystem; (iii) Engage local communities in snow leopard conservation; (iv) Reduce conflict between the local communities and the snow leopard; (v) Strengthen the capacity of local staff in snow leopard conservation within the region; (vi) Empower communities to play a greater role in conservation. *Implementing Agency:* National Environmental Protection Agency (NEPA); Ministry of Agriculture, Irrigation, and Livestock (MAIL); Wildlife Conservation Society (WCS); Wakhan Pamir Association (WPA). *Expected Donors:* USAID, GEF, National Budget.

Afghanistan—Declare snow leopard habitat range as Protected Areas; US$ 2,000,000

Objectives: Protect snow leopards, prey species, and their habitats. *Key Activities:* (i) Survey prey density; (ii) Implement education and public outreach promoting protected areas and their benefits. *Expected Outcomes:* (i) Understand prey-population densities; (ii) Conserve snow leopards and their prey species; (iii) Increase local capacity for better management of natural resources. *Implementing Agency:* National Environmental Protection Agency (NEPA); Ministry of Agriculture, Irrigation, and Livestock (MAIL); Wildlife Conservation Society (WCS). *Expected Donors:* USAID, GEF.

Afghanistan—Implement National Protected Area System Plan (NPASP); US$ 6,000,000

Objectives: By 2030, provide effective protection to at least 10% of Afghanistan's land area and to the habitat of selected species. For each established protected area, local communities will be effectively engaged in setting management direction. Within within 10 years of legal establishment of each protected area, the standard of living of people in and near protected areas will be improved. *Key Activities:* (i) Provide guidelines to develop and implement a Protected Area network; (ii) Guide research and fieldwork; (iii) Coordinate Protected Area activities implemented by the Government, national NGOs, international NGOs, the UN, and others; (iv) Guide practices for financing the Protected Area system. *Expected Outcomes:* (i) Identify Afghanistan's Biome and Ecoregion, protecting 10% of Afghanistan land area; (ii) Establish Central Management Authority (CMA); (III) Establish legal and institutional framework for CMA. *Implementing Agency:* National Environmental Protection Agency (NEPA); Ministry of Agriculture, Irrigation and Livestock (MAIL); other partners.

Bhutan—Conserving contiguous snow leopard habitat; US$ 240,000

Objectives: Minimize disturbances to snow leopard habitat, with a sustainable population across the range in Bhutan. *Key Activities:* (i) Identify model landscapes in each of the snow leopard range national parks, based on snow leopard population, conflicts, and strategic importance; (ii) Develop conservation plans for each model landscape through a consultative process involving communities and other stakeholders; (iii) Implement the Management Plans. *Expected Outcomes:* (i) Bring northern protected areas in Bhutan under scientifically planned management; (ii) Survey all habitat; and (iii) Put protections in place. *Implementing Agency:* WCD, FPED, UWICE, respective snow leopard range parks. *Expected Donors:* WWF, BTFEC, BF, GEF, GTI, WB, and others.

Bhutan—Improve the management of the snow leopard range in Bhutan; US$ 400,000

Objectives: Protect habitat and strengthen PA linkages. *Key Activities:* (i) Map potential habitats in Bhutan for snow leopards; (ii) Survey prey base for snow leopards in Bhutan, and develop species specific conservation plans; (iii) Implement conservation Management Plans. *Expected Outcomes:* (i) Map snow leopard habitats and complete ground verification; (ii) Establish snow leopard and prey baseline; (iii) Initiate rangeland management. *Implementing Agency:* WCD, FPED, UWICE, respective snow leopard range parks. *Expected Donors:* WWF, BTFEC, BF, GEF, GTI, WB, and others.

China—Conserve and restore snow leopard habitat and prey resources; cost details pending

Objectives: Secure core range areas and significantly improve surrounding snow leopard habitat quality and connectivity by establishing ecological corridors and ensure provision of viable prey base, following prioritized and scientifically supported procedures; *Key Activities:* field surveys and scientific assessment of snow leopard and prey population status and distribution; conduct scientific assessment of and create digital map and extensive GIS database for suitable habitat of snow leopards and their prey; create detailed management plans and technical guidelines for snow leopard population and habitat conservation and monitoring across snow leopard range including potential corridor areas; habitat restoration (including omitting over-grazing and increasing vegetation cover) across snow leopard range; prohibit hunting in the protected areas; *Expected Outcomes:* Snow leopard distribution area is well protected and extended; prey density increased; reduced habitat fragmentation and increased connectivity and therefore improved flow between genetically isolated populations.

Kazakhstan—Establish new protected areas; US$ 167,500

Objectives: Develop key documentation for establishing new protected areas.

Mongolia—Enhance protected areas in snow leopard range; US$ 380,000

Key Activities: Develop and support a network of protected areas in key snow leopard habitats.

Mongolia— protect snow leopard outside protected areas; US$ 800,000

Key Activities: Increase the effectiveness of snow leopard protection outside of protected areas.

Nepal—Empower snow leopard-bearing PA network to manage prey base and related habitats; US$ 2,100,000

Objectives: Strengthen the capacity of Protected Area staff and community-based wildife conservation organizations to monitor the health of snow leopard habitats and prey base. *Key Activities:* (i) Provide capacity building activities to frontline staff in monitoring prey base and their habitats; ii) Provide trainers' training to citizen scientists and increase their engagement; iii) Equip all snow leopard-bearing PAs and community-based wildife organizations; iv) Conserve and protect wetlands, including riverbanks, for snow leopards, their prey base, and their habitats. *Expected Outcomes:* (i) Engage frontline staff in monitoring prey base and their habitats; (ii) Complete a needs assessment, identifying ways to boost the ecotourism potential of the mentioned PAs. *Implementing Agency:* DNPWC, DoF, and Community-Based Organizations. *Expected Donors:* World Bank, UNDP, WWF Nepal, NTNC, and ICIMOD.

Pakistan—Promote a landscape-level approach to snow leopard conservation; US$ 80,000

Objectives: Protect large contiguous habitats to accommodate large home range and landscape-level movements. *Key Activities:* (i) Identify model landscapes in each province based on snow leopard population, conflicts, and strategic importance; (ii) Develop conservation plans for each model landscape through a consultative process involving communities and other stakeholders; (iii) Implement Management Plans. *Expected Outcomes:* (i) Bring three landscapes under management plan; (ii) Survey all habitat, and protect 20%. *Implementing Agency:* (i) Ministry of Climate Change; (ii) Gilgit-Baltistan Forest and Wildlife Department; (iii) KPK Wildlife Department; (iv) AJK Wildlife and Fisheries Department; (v) Snow Leopard Foundation, (vi) WWF-P; (vii) IUCN; (viii) WCS. *Expected Donors:*

Pakistan—Expand and improve the management of the PA network in Pakistan; US$ 1,700,000

Objectives: Protect habitat through improving the functionality of PAs. *Key Activities:* (i) Construct habitat suitability of snow leopard in Pakistan, and identify connectivity corridors; (ii) Assess existing PAs for their adequacy to protect snow leopards, and identify candidate

sites for additional PAs; (iii) Review efficiency of PAs in snow leopard range and identify shortcomings; (iv) Conduct baseline environmental studies in PAs, and develop management plans; (v) Strengthen functionality of PAs by training and facilitating wildlife staff. *Expected Outcomes:* (i) Complete gap analyis of PAs with reference to snow leopards; (ii) Protect 60% of the snow leopard range under PAs; (iii) Make baseline information from all PAs in snow leopard range available; (iv) Watch and ward enhanced in PAs. *Implementing Agency:* (i) Ministry of Climate Change; (ii) Gilgit-Baltistan Forest and Wildlife Department; (iii) KPK Wildlife Department, (iv), AJK Wildlife and Fisheries Department, (v) ZSD; (vi) IUCN; (vii) SLF. *Expected Donors:* In-kind support (staff, space, etc.) from Ministry of Climate Change, provincial wildlife departments, and QAU.

Russia—Start operations of Sailugem National Park, Altai Republic; US$ 8,000,000

Objectives: Start operations of Sailugem National Park, Altai Republic. *Key Activities:* (i) Begin operation of Sailyugem National Park. *Expected Outcomes:* (i) Staff Sailyugem National Park and allocate budget; (ii) Organize effective protection of key snow leopard habitats in Altai. *Implementing Agency:* (i) Ministry of Natural Resources, (ii) Regional Government of Altai Republic. *Expected Donors:* Federal Government.

Russia—Establish new Protected Areas in key snow leopard habitats; US$ 22,000,000

Objectives: Establish 400,000 ha of protected areas in key snow leopard habitats. *Key Activities:* (i) Develop documents for establishing new and extending existing PAs in Altai and Tuva Republics, and southern part of Krasnoyarsky Kray; (ii) Secure approval of PA documents by federal and regional governments; (iii) Establish PAs. *Expected Outcomes:* Established 400,000 ha of new PAs in Chikhachev, Tsagan-Shibetu, Sengelen, and Kurtushubinsky Ridges. *Implementing Agency:* (i) Ministry of Natural Resources; (ii) Regional Governments of Altai and Tuva Republics, and Krasnoyarsky Kray. *Expected Donors:* Federal and Regional Governments, WWF, GEF.

Tajikistan—Strengthen the existing network of Protected Areas for snow leopards; US$ 200,000

Objectives: Strengthen the capacity of Protected Areas staff to conserve snow leopards and their prey successfully. *Key Activities:* (i) Provide capacity building through training to staff of the following PAs: Zorkul, Tajik National Park, Dashtijum, Romit and Shirkent; (ii) Provide equipment to PAs staff for monitoring; (iii) Promote the ecotourism potential of said PAs; (iv) Develop Management Plans for Zorkul, Romit, and Dashtijum. *Expected Outcomes:* (i) Train and equip PAs staff with the necessary monitoring tools; (ii) Complete a needs assessment, identifying ways to boost the ecotourism potential of the mentioned PAs; (iii) Develop Management Plans. *Implementing Agency:* (i) CEP (State Agency on

Protected Areas); (ii) Academy of Sciences; (iii) FFI; (iv) Panthera; (v) GIZ. *Expected Donors:* CEP; World Bank; UNDP; FFI; GIZ; Panthera.

Uzbekistan—Strengthen protected areas; US$ 200,000

Key Activities: Strengthen the existing network of Protected Areas for snow leopards.

4. Strengthening Capacity of National & Local Institutions

Bhutan—Institutional strengthening and capacity building; US$ 4,000,000

Objectives: To have enough manpower expertise within the country for conservation. *Key Activities:* (i) Establish Program Management Unit at central Department; (ii) Establish a conservation laboratory at UWICE; (iii) Establish community participatory structures for each model landscape in northern protected areas; (iv) Initiate short trainings to build capacity of relevant departments and community; (v) Provide scholarships to snow leopard range communities for pursuing higher education in nature conservation. *Expected Outcomes:* (i) Establish central program for snow leopard conservation; (ii) Establish conservation laboratory at UWICE; (iii) Train communities in basic modern conservation science; (iv) Increase number of Bhutanese nationals with degrees in conservation science/biology. *Implementing Agency:* Department of Forest and Park Services, UWICE, Ministry of Agriculture and Forests. *Expected Donors:* WWF, BTFEC, BF, GEF, GTI, WB, and others.

China—Building technical and institutional capacity; funding: cost details pending

Objectives: Build capacity for effective snow leopard conservation across all relevant levels of management; *Key Activities:* Conduct institutional analysis leading to restructuring of roles and responsibilities of existing monitoring agencies at various levels of the forestry department; provide all relevant levels of forestry departments and Nature Reserves with adequate supply of necessary equipment and provide technical trainings to forestry staff, related to snow leopard monitoring and conservation; establish new protection and management stations in conservation-blind areas. *Expected Outcomes:* Clearly defined roles and responsibilities produced for each management level; trained, equipped, and motivated workforce mobilized across all identified departments and Nature Reserves for monitoring, conservation, and law-enforcement actions.

India—Set up a training and capacity-building regime for stakeholder partners for snow leopard conservation; US$ 2,460,000

Objectives: Sensitize and mainstream snow leopard conservation in stakeholders. *Key Activities:* (i) Prepare training plans; (ii) Conduct consultation workshops; (ii) Prepare action plan for habitations. *Expected Outcomes:* (i) Action plans; (ii) Follow up as per the deliverables prescribed. *Implementing Agency:* States with scientific institutions. *Expected Donors:* National budget, external aid.

Kazakhstan—Ecotourism and other livelihood programs; US$ 200,500

Objectives: Develop ecotourism and other forms of alternative livelihood support to local people.

Kyrgyzstan—Conduct training sessions on monitoring snow leopards and other animals listed in the Red Book of the Kyrgyz Republic.; US$ 1,350,000

Objectives: Organize and conduct trainings and round tables, meetings with staff of SAEPF, and other environment state structures on the challenges in snow leopard conservation and also rare extinction species of flora and fauna. Introduction of activity in *Key Activities:* (i) Conduct seminars and trainings in line with implementation of projects; (ii) Implement cooperative projects. *Expected Outcomes:* (i) Develop workbook for customs on species of flora and fauna that are listed in Red Book of Kyrgyz Republic and CITES. *Implementing Agency:* (i) National budget; (ii) international donors. *Expected Donors:* World Bank, NABU, WWF, SLT, FFI, UNDP, GEF.

Nepal—Build capacity of local and national institutions for conserving snow leopards, their prey base, and their habitats; US$ 1,400,000

Objectives: Strengthen capacity of local, regional, and national-level staff members engaged in snow leopard conservation. *Key Activities:* (i) Train national, regional, and local staff members to address snow leopard conservation issues (so that they can translate the information collected into sound policies and share them at international meetings); ii) Train field- and central-level staff members in information gathering, analysis, and report-writing for CBD, CMS, CITES, UNESCO, Ramsar, etc.; (iii) Develop grant-writing skills. *Expected Outcomes:* (i) Improve law enforcment in snow leopard-bearing PAs; (ii) Improve capacity of staff members to comunicate with like-minded international organizations; (iii) Secure financial resources for snow leopard conservation. *Implementing Agency:* DNPWC, DoF, and Community-Based Organizations. *Expected Donors:* World Bank, UNDP, WWF Nepal, NTNC, and ICIMOD.

Pakistan—Institutional strengthening and capacity building; US$ 2,620,000

Objectives: Sensitize and mainstream snow leopard conservation in stakeholders. *Key Activities:* (i) Establish a Snow Leopard Ecosystem Cell at the Federal Level; (ii)

Establish a Program Management Unit (PMU) at federal level; (iii) Establish Program Implementation Units (PIU)at provincial levels; (iii) Establish community participatory structures for each model landscape; (iv) Initiate short trainings to build capacity of relevant departments and communities; (v) Initiate a diploma/certificate course in Nature Conservation, focusing on staff of relevant departments, conservation organizations, and communities of the snow leopard range; (vi) Provide scholarships to snow leopard range communities for pursuing higher education in nature conservation. *Expected Outcomes:* (i) Put proposed institutional arrangements in place, and hire required staff; (ii) Train 100 people through diploma courses in nature conservation; (iii) Train 500 people throgh short trainings; (iv) Support 10 people from snow leopard range in higher education in nature conservation. *Implementing Agency:* (i) Ministry of Climate Change; (ii) Provincial wildlife departments; (iii) QAU; (iv) SLF. *Expected Donors:* Ministry of Climate Change, Provincial wildlife departments, PSF, HEC.

Russia—Allocate federal funds for conservation; US$ 20,000

Objectives: Develop and introduce into practice a new methodology for allocating federal funding for conservation. *Key Activities:* (i) Developing a new methodology for allocating and submitting to Federal Government; (ii) Secure approval of the methlogy by Government; (iii) Enact the methodology. *Expected Outcomes:* Make necessary changes in the methodology on subventions for regional wildlife agencies. *Implementing Agency:* (i) Ministry of Natural Resources; (ii) Ministry of Justice. *Expected Donors:* Federal Government.

Tajikistan—Use the Snow Leopard Coordination Committee as a vehicle to strengthen the institutional capacity to address snow leopard conservation issues; US$ 100,000

Objectives: Build more active and efficient institutions for the conservation of snow leopards. *Key Activities:* (i) Train national, regional, and local staff in snow leopard conservation issues so that they can translate the information collected into sound policies and share them at international meetings (CBD, CMS, CITES, etc.); (ii) Support staff in grant writing. *Expected Outcomes:* (i) Develop sound communication policies among different stakeholders involved in snow leopard conservation; (ii) Write timely reports as requested by CBD, CMS, and CITES; (iii) Successfully submit grant applications. *Implementing Agency:* (i) CEP. *Expected Donors:* UNDP; GEF.

Uzbekistan—Snow Leopard Coordination Committee; US$ 100,000

Key Activities: Use the Snow Leopard Coordination Committee as a vehicle to strengthen the institutional capacity to address snow leopard conservation issues.

5. Transboundary Management & Enforcement

Afghanistan—Re-establish Oromchi Conference on Transboundary Protected Area; US$ 500,000

Objectives: Exchange data on snow leopards and their prey species; establish standardized monitoring methods; sign formal transboundary cooperation agreement. *Key Activities:* (i) Conduct consultation with China, Pakistan, and Tajikistan to reinforce existing and new bilateral/multilateral instruments for snow leopard and prey species conservation. *Expected Outcomes:* (i) Secure cooperation among the range countries; (ii) Establish a transboundary management plan; (iii) Establish a transboundary management authority. *Implementing Agency:* Ministry of Foreign Affairs (MoFA); National Environmental Protection Agency (NEPA); Ministry of Agriculture, Irrigation, and Livestock (MAIL); Ministry of Justice (MoJ); Ministry of Interior Affairs (MoI); Wildlife Conservation Society (WCS). *Expected Donors:* External donors, national budgets.

Bhutan—Operationalize transboundary conservation through inter-governmental conservation initiatives; US$ 110,000

Objectives: To conserve snow leopards on both sides of the adjoining countries, thereby enhancing transboundary conservation initiatives. *Key Activities:* (i) Explore possibilities of coordinated management of snow leopard habitat with China and India; (ii) Operationalize inter-governmental agreements available for control of illegal trade; (iii) Cooperate in research on gene flow, connectivity of snow leopard populations, and landscape-level movements. *Expected Outcomes:* (i) Initiate transboundary conservation activities through exchange of information and intergovernmental support. *Implementing Agency:* WCD, DoFPS. *Expected Donors:* WWF, BTFEC, BF, GEF, GTI, WB and others.

China—Transboundary collaboration with neighbor range countries; cost details pending

Objectives: Enhance international communication and cooperation with neighboring countries and international community for effective transboundary snow leopard conservation at landscape level. *Key Activities:* Hold regular seminars and mutual visits for strengthening communication and experience sharing with snow leopard range countries and their conservation agencies and institutions; promote the exchange of information and cooperation among law enforcement agencies in border areas and ports; hold meetings with representatives from relevant inter-governmental law enforcement organizations (including CITES, INTERPOL, and WCO) to build capacity of local agencies and to adopt new, improved recommended strategies and to develop cooperative projects at landscape level; *Expected Outcomes:* Strong support and understanding between snow leopard range countries and relevant inter-governmental agencies; establish multiple levels of international information exchange and cooperation on snow leopard conservation, improvement of habitat connectivity and quality and increase of populations of snow leopards and other wildlife.

India—Operationalize inter-governmental cooperation mechanisms available for control of illegal trade; US$ 380,000

Objectives: Deal jointly with neighbours on enforcement and intelligence. *Key Activities:* Consultation with neighbours, reinforce existing bilateral/multilateral instruments for SL conservation *Expected Outcomes:* SL a part of the understanding on cooperation among partners *Implementing Agency:* MoEF; *Expected Donors:* External donors, national budget.

India—Develop coordinated management with neighbouring countries who share habitats of snow leopards; cost details pending

Objectives: Forging partnerships in objectives and actions in snow leopard conservation. *Key Activities:* Interact with range countries in snow leopard conservation to align snow leopard conservation actions in adjoining landscapes, ensure joint management planning, and set up cross border linkage on enforcement and control of illegal trade. *Expected Outcomes:* (i) Hold management meetings; (ii) Field staff interactions take place; (iii) Jointly monitor status of snow leopard in adjoining landscapes. *Implementing Agency:* States facilitated by MoEF.

Kazakhstan—Transboundary collaboration; US$ 33,500

Objectives: Broaden and deepen transboundary collaboration to improve the protection and enforcement. *Expected Outcomes:* Publish and submit technical report to the Government annually.

Kyrgyzstan—Creation of transboundary nature reserve between Kyrgyzstan, Kazakhstan, Tajikistan, and China; US$ 800,000

Objectives: Create cooperative groups and improve the capacity of the Nature Reserve, particularly by increasing staff levels to conserve snow leopards and their prey successfully. Develop mechanisms to work with local communities on species conservation. *Key Activities:* (i) Create cooperative groups focused on strengthening strategies to combat poaching in snow leopard range, (ii) Realize intergovernmental agreement between the Governments of Kyrgyz Republic and Kazakhstan Republic on biodiversity conservation and creation of a transboundary Nature Reserve; (iii) Integrate international monitoring system of effective assessments (METT) and managing of Nature Reserves (NR). *Expected Outcomes:* (i) Organize the State Nature Park "Khan Tengri"; (ii) Organize the State Nature Park "Alai"; (iii) International monitoring

system of effective assessments (METT) and managing of Nature Reserve that are approved and would be spread in all Nature Reserves of Kyrgyz Republic; (iv) Increase effectiveness of snow leopard conservation; (v) Create protection measures for interior and external Nature Reserve. *Implementing Agency:* (i) National budget; (ii) international donors. *Expected Donors:*

Nepal—Improve transboundary conservation and collaboration; US$ 420,000

Objectives: Strengthen transboundary cooperation with China and India. *Key Activities:* (i) Revisit and renew MOU with China and Resolution with India; (ii) Develop a framework for transboundary collaboration with China and India on the conservation of snow leopards and their prey; (iii) Develop a bilateral cooperation agreement with China; (iv) Develop a practical mechanism to share information related to poaching and trade in snow leopards and their body parts; (iiv) Organize exposure visits between countries to share lessons learned, experiences in PA management, and community-based wildlife management. *Expected Outcomes:* (i) Develop frameworks and strengthen transboundary cooperation; (ii) Control trade in snow leopard body parts. *Implementing Agency:* DNPWC, DoF, and Community-Based Organizations. *Expected Donors:* WWF-Nepal, ICIMOD, NTNC, World Bank.

Pakistan—Operationalize inter-governmental cooperation mechanisms available for control of illegal trade; US$ 380,000

Objectives: Deal jointly with neighbours on enforcement and intelligence. *Key Activities:* (i) Explore possibilities for coordinated management of snow leopard habitat with neighboring countries; (ii) Operationalize inter-governmental agreements available for control of illegal trade (SEWAN, Interpol); (iii) Cooperate in research on gene flow, connectivity of snow leopard populations, and landscape-level movements. *Expected Outcomes:* Snow leopard a part of the understanding on cooperation among partners *Implementing Agency:* MoCC; *Expected Donors:* National/External aid.

Russia—Cooperation with neghbouring countries; US$ 330,000

Objectives: Develop and approve a joint program of actions for snow leopard conservation and monitoring in the transboundary zone among Russia, Kazakhstan, Mongolia, and China. *Key Activities:* (i) Develop and approve a joint program of actions. (ii) Start program implementation in 2015. *Expected Outcomes:* (i) At least two programs are developed and implemented. *Implementing Agency:* Ministry of Nature Resources, Ministry of International Affairs, Russian Academy of Science, Protected Areas, WWF. *Expected Donors:* Federal and Regional Governments, GEF, WWF.

Russia—New transboundary protected areas to protect habitats, prey, and snow leopards; US$ 120,000

Objectives: Develop new transboundary PAs in Russia, Mongolia, China, and Kazakhstan. *Key Activities:* (i) Conduct initial planning workshops with relevant countries; (ii) Develop and approve the cooperation agreements; (iii) Implement and monitor the transboundary management programs. *Expected Outcomes:* (i) Hold workshops with four countries; (ii) Sign cooperation agreements; (iii) Establish at least one new transboundary PA. *Implementing Agency:* Ministry of Nature Resources, Ministry of International Affairs, Russian Academy of Science, Protected Areas, WWF. *Expected Donors:* Federal Government, WWF, GEF.

Tajikistan—Improve transboundary conservation and collaboration; US$ 110,000

Objectives: Increase level of practical collaboration with Afghanistan, China, Pakistan, Uzbekistan, and Kyrgyzstan. *Key Activities:* (i) Develop a framework for transboundary collaboration with Afghanistan, China, and Pakistan on the conservation of snow leopards and their prey; (ii) Develop bilateral cooperation agreement with Kyrgyzstan (in the context of the Pamir-Alai initiative); (iii) Organize exposure visits between countries to share lessons learned, experiences in PA management, and community-based wildlife management. *Expected Outcomes:* (i) Develop frameworks and strengthen transboundary cooperation; (ii) Hold exposure visits between countries. *Implementing Agency:* (i) CEP; (ii) Academy of Sciences; (iii) Ministry of Foreign Affairs; (iv) Customs Committee; (v) Ministry for Security and Border Control; (vi) Ministry of Internal Affairs. *Expected Donors:* GIZ; Panthera; FFI.

Uzbekistan— Transboundary collaboration; US$ 110,000

Key Activities: Improve transboundary conservation and collaboration.

6. Addressing Knowledge Gaps through Research & Monitoring

Afghanistan—Snow leopard collaring in Hindu Kush Range, Wakhan Afghanistan; US$ 2,000,000

Objectives: To obtain enough information about snow leopard movement, home range, and habitat use that could be used as a model for overall population estimation throughout the snow leopard range in Afghanistan in the future. *Key Activities:* (i) Snow leopard collaring; (ii) GIS mapping of the collars; (iii) Data analysis based on the satellite collar information. *Expected Outcomes:* (i) Generate reports on status of snow leopards using authentic data; (ii) Create a database of the gathered data

for further analysis. *Implementing Agency:* National Environmental Protection Agency (NEPA); Ministry of Agriculture, Irrigation, and Livestock (MAIL); Wildlife Conservation Society (WCS). *Expected Donors:* USAID, GEF, National Budget.

Afghanistan—Determine snow leopard abundance in the selected areas of protection valued; US$ 2,100,000

Objectives: Assess the status of snow leopard populations for future management activities. *Key Activities:* Use modern-day research techniques such as camera trapping, GPS collaring, and genetic studies to assess population status. *Expected Outcomes:* (i) Understand the status of the snow leopard in the targeted areas. *Implementing Agency:* National Environmental Protection Agency (NEPA); Ministry of Agriculture, Irrigation, and Livestock (MAIL); Wildlife Conservation Society (WCS). *Expected Donors:* USAID, GEF, National Budget.

Afghanistan—Determine abundances of major prey species such as mountain ungulates, etc., in the snow leopard's important habitats; US$ 1,800,000

Objectives: Assess the status of mountain ungulates populations for future management activities. *Key Activities:* (i) Employ various research techniques that have been used to estimate populations of mountain ungulates in other countries; (ii) Regularly monitor population trends; (iii) Establish a database based on the data collected on snow leopard prey-base species. *Expected Outcomes:* (i) Understand status of the mountain ungulates in the snow leopard areas; (ii) Better manage the species/areas based on the gathered data. *Implementing Agency:* National Environmental Protection Agency (NEPA); Ministry of Agriculture, Irrigation, and Livestock (MAIL); Wildlife Conservation Society (WCS). *Expected Donors:* USAID, GEF, National Budget.

Afghanistan—Scientific monitoring of snow leopard, its habitat, and threats: current practices and areas for improvement; US$ 500,000

Objectives: Monitor and identify major threats to snow leopards and their prey species; identify human-snow leopard conflict hotspots. *Key Activities:* (i) Develop monitoring indicators for snow leopards and their prey species; (ii) Develop a monitoring database; (iii) Share snow leopard monitoring data with the range countries; (iv) Estimate prey species population. *Expected Outcomes:* (i) Technical reports; (ii) Development of research center; (iii) Institutional capacity development; (iv) Successful prosecution of poachers and smugglers. *Implementing Agency:* National Environmental Protection Agency (NEPA); Ministry of Agriculture, Irrigation, and Livestock (MAIL); Wildlife Conservation Society (WCS); related agencies. *Expected Donors:* USAID, GEF, National Budget.

Bhutan—Scientific monitoring of snow leopards, their habitat, prey base, and threats; US$ 2,500,000

Objectives: To achieve long-term conservation of snow leopards through science based *Key Activities:* (i) Conduct studies on the movement ecology of snow leopards and their prey species. (ii) Conduct research on the impact of climate change on conservation of these species. (iii) Carry out research on the impact of cordyceps collection on the habitat and species. *Expected Outcomes:* (i) Document the research conclusions in order to use them for monitoring. *Implementing Agency:* UWICE and WCD in collaboration with the snow leopard range parks. *Expected Donors:* WWF, BTFEC, BF, GEF, GTI, WB, and others.

China—Monitoring the impact of climate change on snow leopards; cost details pending

Objectives: Monitor and understand the impact of global climate change on snow leopard habitat and its biodiversity. *Key Activities:* Local staff trained for and engaged in scientific survey to monitor climate and physical environment indicators in snow leopard habitat and to simultaneously monitor changes in snow leopard distributing areas; scientific survey set up to investigate and monitor biodiversity and food resource dynamics and how this changes over long-term climate change; *Expected Outcomes:* Scientifically supported understanding of the effects of climate change on snow leopards and their habitat and prey.

China—Monitoring activities for snow leopard population assessment; cost details pending

Objectives: Assess the population status and distribution of snow leopard across China's range; *Key Activities:* Local staff trained for and engaged in scientific survey to monitor snow leopard population levels and distribution across their range within China; *Expected Outcomes:* Scientifically supported assessment of snow leopard population and distribution status within China, to be used to help guide conservation action.

China—Addressing knowledge gaps in snow leopard habitat and corridors; cost details pending

Objectives: Investigate and evaluate snow leopard prey and habitat quality, including conserving and restoring corridors for adequate dispersal and gene flow; *Key Activities:* Using camera trapping, DNA analysis technology, and GPS-collaring to scientifically investigate snow leopard movements and prey resources; habitat assessment conducted to monitor snow leopard habitat structure and to design corridor conservation and restoration projects; *Expected Outcomes:* Important areas for maintaining viable populations of snow leopard prioritised, restored and conserved; improved understanding of appropriate and viable prey resources used to develop necessary prey conservation plans.

India—Inventory of habitations and clusters of high anthropogenic impact in the landscapes; US$ 3,450,000

Objectives: Gather information on the status of the habitations in terms of existing threats. *Key Activities:* (i) Compile data on habitation; (ii) Identify areas of high prey density; (iii) Identify areas of high occurrence. *Expected Outcomes:* Reports on status with authentic data. *Implementing Agency:* State Forest Departments and scienitific institutions. *Expected Donors:* National budget; External research sponsors, conservation sponsors.

India—Select landscape sections that are high-quality habitats of snow leopard; cost details pending

Objectives: Identify habitats upon which to focus interventions. *Key Activities:* Survey prey density and forage/habitat parameters, including digital interpretation and ground surveys. *Expected Outcomes:* Produce ecological maps with information on the vital parameters of habitats. *Implementing Agency:* States with scientific institutions.

India—Assess snow leopard abundances in the selected landscape units/sections; cost details pending

Objectives: Assess the status of populations for working on strategy. *Key Activities:* Use of robust and modern techniques such as molecular tools and camera trapping for individual identification. *Expected Outcomes:* Status of the animal in the range. *Implementing Agency:* States with scientific institutions.

India—Scientific monitoring of snow leopard, habitat, and threats: current practice and areas for improvement; US$ 750,000

Objectives: Monitor the status of SL and habitat, process of implementation and impact, and affect necessary mid-course corrections. *Key Activities:* Lay down monitorable targets, periodically monitor state thereof, evaluate the impact of activities with respect to the objectives. *Expected Outcomes:* Regimes for monitoring are finalised, reporting and appraisal conducted. *Implementing Agency:* MoEF; *Expected Donors:* National/External aid.

Russia – Strong scientific base for conservation and restoration of snow leopard population in Russia; US$ 1,000,000

Objectives: Establish strong scientific base for conservation and restoration of snow leopard population in Russia. *Key Activities:* Study the snow leopard's current range, populations, and other dynamics, and create improved maps of the species' habitat distribution; study the roles of natural and anthropogenic factors in population dynamics and changes in snow leopard habitat; identify key sites for snow leopard reproduction. Clarify snow leopard

population structure by using genetic analysis and other advanced techniques; study genetic relationships and the degree of genetic isolation of various snow leopard populations; identify potential migration corridors between snow leopard populations in Russia and western Mongolia, evaluate their significance for species conservation in Russia; veterinary research on snow leopards and prey species in various populations. Develop programs for the restoration of snow leopard groupings or reintroduction of this species in habitats where poachers previously eradicated the cat. *Expected Outcome:* Snow leopard conservation programs in Russia have sound scientific base and support. *Implementing Agencies*: Russian Academy of Science, regional universities, Protected Areas. *Expected Donors*: Federal Government, Russian Geographic Society.

Kazakhstan—Monitoring snow leopard populations; US$ 167,500

Objectives: Develop a monitoring system with help of key experts and local people. *Key Activities:* (i) develop a monitoring system; (ii) initiate and monitor 5 meta-populations of snow leopard and its prey species. *Expected Outcomes:* technical report published by February 10, annually; report to the Government submitted.

Kazakhstan—Understanding the impact on snow leopard habitats; US$ 167,500

Objectives: Understand the dynamics and impact of natural and anthropogenic factors. *Key Activities:* conduct research and monitoring of snow leopard habiats and their degradation. *Expected Outcomes:* technical report published by February 10, annually; report to the Government submitted.

Kyrgyzstan—Development and implemention of the monitoring system of separate species, including snow leopard and its prey; US$ 700,000

Objectives: Attracting of experts, creation of platform to data base. *Key Activities:* (i) Development of normative act of Kyrgyz Republic on one methodic monitoring system of snow leopard, (ii) accounting systems integrated. *Expected Outcomes:* (i) Creation of workshop; (ii) attracting of adviser; (iii) realization of projects. *Implementing Agency:* (i) National budget; (ii) international donors; *Expected Donors:* World Bank, NABU, WWF, SLT, FFI, UNDP, GEF.

Kyrgyzstan—Monitoring of population of snow leopard on the territory of Kyrgyz Republic; US$ 5,450,000

Objectives: Identification of the snow leopard with camera traps, and also with GPS collars. *Key Activities:* (i) Monitoring of snow leopard and identification of its location, through the instrumentality of collars with chips of GPS system (Nature Reserve, concessions from the hunters and local communities), and also integration

expository measures on snow leopard, particularly conducting of consistency investigation of snow leopard illegally looped on location; (ii) usage of camera traps and gathering materials to identify individual notes on snow leopard and assessment of its (abundance and shortage); (iii) prey calculation, through survey of local population. *Expected Outcomes:* (i) Creation of one database on biodiversity of Republic that is based on geo-information system (GIZ); (ii) determination of key migration corridors, that link local population of snow leopard; (iii) usage of communicative collars for snow leopard; (iv) installation of camera traps and data analysis; (v) conducting of prey calculation. *Implementing Agency:* (i) National budget; (ii) international donors; *Expected Donors:* World Bank, NABU, WWF, SLT, FFI, UNDP, GEF.

Kyrgyzstan—Organizing trainings and building awareness; US$ 380,000

Objectives: Preparation of documentary film about snow leopard. Organizing movable exhibits on biodiversity conservation in centers of population, frontiers, and near snow leopards. Organizing and conducting trainings and round tables for representatives. *Key Activities:* (i) Implementing of main course «Protection of extinction species» to study standard of natural faculty in universities of Kyrgyzstan; (ii) creation of postcard series, booklets, postcard for propaganda of rare species protection. *Expected Outcomes:* (i) Photography and producing documentary film about snow leopard for demonstration at Global Forum on snow leopard conservation; (ii) creation of group "snow leopards friends" in centers of population in order to conduct educational activities between pupils and population of villages; (iii) information-propaganda campaigns; (iv) extensive media coverage about biodiversity conservation. *Implementing Agency:* (i) National budget; (ii) international donors; *Expected Donors:* World Bank, NABU, WWF, SLT, FFI, UNDP, GEF.

Mongolia—Scientific research; US$ 400,000

Key Activities: Scientific research directed for better understanding of snow leopard distribution, population structure, prey base, habitats, migration corridors, and survival rates.

Mongolia—Monitoring of key snow leopard populations; US$ 320,000

Key Activities: Monitoring of key snow leopard populations.

Nepal—Developing long term mechanism for conservation research and monitoring; US$ 1,700,000

Objectives: Understand snow leopard population dynamics, distribution, space and habitat use pattern, and predator-prey relationship. *Key Activities:* (i) Study population dynamics, distribution and space/habitat use

pattern of snow leopard and its prey base by using cutting edge technology; (ii) Develop mechanism to monitor potential impact of climate change on snow leopard, prey base and its habitats. *Expected Outcomes:* (i) Ecological information required for conservation of snow leopard and scientific management of prey and their habitats available; *Implementing Agency:* DNPWC, DoF and Community Based Organizations; *Expected Donors:* WWF Nepal, ICIMOD, NTNC, World Bank.

Pakistan—Enhance scientific knowledge on snow leopards, prey species, and habitat; US$ 5,450,000

Objectives: Well-informed management actions. *Key Activities:* (i) Assess snow leopard population using robust and modern techniques such as molecular tools and camera trapping for individual identification; (ii) Assess genetic limitations of the snow leopard population, connectivity among populations and gene flow across landscapes; (iii) Assess resource selection by snow leopards and explore requirements for its survival (satellite collaring); (iv) Implement robust estimation and monitoring of prey abundance, human and rangeland ecology studies, and monitoring systems for identifying and addressing key threats; (v) Assess prevalence of disease in snow leopard habitat and its risks to wildlife;*Expected Outcomes:* (i) Reliable estimates of snow leopard population size available; (ii) Genetic limitations and landscape level gene flow understood; (iii) Snow leopard home ranges, and landscape level movement understood; (iv) Estimates available for prey populations in model landscapes; (v) Nature and magnitude of prevalent diseases known in snow leopard habitat; *Implementing Agency:* (i) Ministry of Climate Change; (ii) Quaid-i-Azam University; (iii) Zoological Survey Department; (iv) Pakistan Museum of Natural History (PMNH); (v) Snow Leopard Foundation (SLF); *Expected Donors:* HEC, PSF, ECO-SF, in kind support (staff, equipment) of QAU, ZSD, SLF.

Pakistan—Scientific monitoring of SL, habitat, and threats: current practice and areas for improvement; US$ 1,350,000

Objectives: Monitor the pressure and affect mid-course corrections, wherever found essential. *Key Activities:* Lay down monitorable targets, monitor periodic state thereof, evaluate the impact of activities with respect to the objectives. *Expected Outcomes:* Regimes for monitoring are finalised, reporting and appraisal conducted. *Implementing Agency:* MoCC, SLF; *Expected Donors:* National/External aid.

Tajikistan—Identify practices to reduce consumption of teresken plant for fuelwood; US$ 115,000

Objectives: Implement practices and tools that can reduce the reliance of local communities on teresken for fuelwood consumption. Teresken is a key staple in the diet of Marco Polo sheep. *Key Activities:* (i) Research on fuel

consumption patterns and the potential demand for thermal insulation development; (ii) Research on alternative fuels (firewood, coal, gas, solar energy, and hydropower); (iii) Research on the dissemination of energy-efficient technology (heating and cooking stoves for winter, cooking stoves for summer). *Expected Outcomes:* (i) Proposed research on fuel consumption carried out at pilot sites across the Pamirs; (ii) evaluation of impacts of different alternative fuels completed; (iii) financial mechanisms enabled (microloans etc) allowing affected communities to purchase energy-efficient technology for reducing consumption of tereskeN. *Implementing Agency:* (i) CEP; (ii) Academy of Sciences; (iii) World Bank; (iv) GIZ; and partner universities; *Expected Donors:* World Bank; GIZ; Panthera; Universities.

Tajikistan—Monitoring of snow leopards and their prey; US$ 140,000

Objectives: Understand predator-prey relationship and home range of snow leopards through collaring and non-invasive technologies. *Key Activities:* (i) Place GPS collars on snow leopards in select sites (PA, hunting concession and community-managed areas) to gain a better understanding of home range of snow leopards and timely investigate kill sites; (ii) camera trap and collect samples to identify individual cats and estimate abundance; (iii) survey prey populations through regular point count surveys. *Expected Outcomes:* (i) Snow leopards collared; (ii) Cameras placed and samples collected; (iii) Prey surveys conducted. *Implementing Agency:* (i) CEP; (ii) Academy of Sciences; (iii) World Bank; (iv) GIZ; and partner universities. *Expected Donors:* World Bank; GIZ; Panthera; Universities.

Uzbekistan—Monitoring of snow leopards and their prey; US$ 280,000

Key Activities: Monitoring of snow leopards and their prey.

7.   Strengthening Policies & Institutions

Afghanistan—Adaptation of Environmental Law; US$ 1,350,000

Objectives: Conservation and sustainable management of snow leopard and its prey species. *Key Activities:* Conducting series of workshops to build capacity and raise awareness among local communities, law enforcement agencies, local governmental authorities, media and civil society; *Expected Outcomes:* Related agencies, local communities and civil societies are aware of the relevent component of the Environmental Law; monitoring of the development in the snow leopard home range. *Implementing Agency:* National Environmental Protection Agency (NEPA); Ministry of Agriculture, Irrigation and Livestock (MAIL); Ministry of Justice (MoJ); Ministry of

Interior Affairs (MoI); Wildlife Conservation Society (WCS); *Expected Donors:* National budget, external aid.

Afghanistan—Draft the Hunting Law; US$ 1,350,000

Objectives: Stop poaching and illegal trade of wildlife, in particular the snow leopard and its prey species. *Key Activities:* Conducting series of workshops to build capacity and raise awareness among the legislative bodies; establishment of a working group for drafting the law; lobby for the law to be passed through National Assembly; establishment of law enforcement group for coordination and cooperation between related agencies; *Expected Outcomes:* Hunting Law drafted, approved by the National Assembly; enforcement of the Hunting Law in the country; reduce poaching and ilegal trade; *Implementing Agency:* National Environmental Protection Agency (NEPA); Ministry of Agriculture, Irrigation and Livestock (MAIL); Ministry of Justice (MoJ); Ministry of Interior Affairs (MoI); *Expected Donors:* National budget, external aid.

Afghanistan—Draft CITES Regulation; US$ 700,000

Objectives: Control the trade of snow leopard and its prey species out of the country. *Key Activities:* Conducting workshops to build capacity and raise awareness among the legislative bodies; establishment of a working group for drafting the CITES Regulation; lobby for the CITES Regulation to be passed through the National Assembly; establishment of CITES Regulation enforcement group in the airports and transit highways to ensure reduction in wildlife trade; further capacity development through training and workshops for stronger regulation of CITES; *Expected Outcomes:* CITES Regulation drafted, enforced and the costume officers are well trained in detection and quarantine of wild animals and body parts; *Implementing Agency:* National Environmental Protection Agency (NEPA); Ministry of Agriculture, Irrigation and Livestock (MAIL); Ministry of Justice (MoJ); Ministry of Interior Affairs (MoI) especially the Border Police; Wildlife Conservation Society (WCS); *Expected Donors:* USAID.

Bhutan—Review existing Forest and nature Conservation Act; US$ 40,000

Objectives: To strengthen law enforcement through sound policy. *Key Activities:* (i) Developing amendments for the Forest and Nature Conservation Act of Bhutan 1995; (ii) Endorsement from the Parliament of Bhutan; (iii) enacting new amendments; *Expected Outcomes:* Necessary changes are made in the Forest and Nature Conservation Act of Bhutan; *Implementing Agency:* Wildlife Conservation, Department of Forests and Park Services; *Expected Donors:* RGoB

China - Review and amend existing national legislation; cost details pending

Objectives: To improve national legislation and policies to better support wildlife conservation which benefits snow

leopard conservation management; *Key Activities:* Conduct research on existing national legislation and policies for wildlife conservation and propose additional measures to be added to these laws, regulations and policies; *Expected Outcomes:* Better understanding of current strengths of existing snow leopard-relevant national legislation and recommendations made for their improvement.

India—Set up one management unit in each state which can work with stakeholders on collaborative conservation actions; US$ 590,000

Objectives: Organise management of habitats in the identified landscapes. *Key Activities:* a) Conduct 'startup' workshops with the concerned Forest/Wildlife Departments to enable conservation action; b) prepare a management plan for identified landscapes based on the MoEFs PSL Management Planning Guidelines; *Expected Outcomes:* Management plans focussed on SL conservation; Awareness on the conservation of the Himalayan ecosystem. *Implementing Agency:* MoEF, State FDs and expert institutions; *Expected Donors:* National budget.

Kyrgyzstan—Inventory of legal framework to identify deficiency of law to conserve red-listed species of Kyrgyz Republic; US$ 80,000

Objectives: Strengthening of administrative and crime responsibility for illegal hunting and selling of animal units of snow leopard and other red-listed species, set up compensations by the view of harm or damage, prohibition of transfer lands to Nature reserves; *Key Activities:* (i) Creation of framework;
(ii) development of projects to make changes and in function of legislative acts of Kyrgyz Republic; (iii) organizing of public hearings on planned changes to biodiversity conservation legal framework; (iv) including snow leopard. *Expected Outcomes:* (i) New normative act adopted in Kyrgyz Republic; (ii) the resolutions of public hearings accepted; (iii) statute alleged of Red Book of Kyrgyz Republic. *Implementing Agency:* (i) National budget; (ii) international donors; *Expected Donors:* World Bank, NABU, WWF, SLT, FFI, UNDP, GEF.

Kyrgyzstan—Supporting of secretariat of Global Forum on snow leopard conservation.; US$ 1,700,000

Objectives: Development and realization of projects on snow leopard conservation. Creation and strengthening of partner relations on snow leopard conservation on intergovernmental and international level. *Key Activities:* (i) Researching of international experience and national legislation of the countries range on snow leopard conservation and its habitat; (ii) attract financing to conduct analysis of genetic information of snow leopard. *Expected Outcomes:* (i) Attracting the means to create a genetic map of snow leopard; (ii) extension work to research institute tourism in Nature Reserve (ecotourism).

Implementing Agency: (i) National budget; (ii) international donors; *Expected Donors:* World Bank, NABU, WWF, SLT, FFI, UNDP, GEF.

Mongolia—Legal and regulatory sphere; US$ 60,000

Key Activities: Improvements in the legal and regulatory sphere aimed to effective protection of snow leopard and its key habitats.

Nepal—Policy review and reform; US$ 135,000

Objectives: Review existing policies, upgrade and effective law enforcement, and efficient service delivery. *Key Activities:* i) Review and revise existing polcies, Act, Regulations, PA Management Plans, Snow Leopard Action Plan focusing on poaching and illegal trade parts ii) Capacitate organizations for effective law enforcement, iii) create an enabling environment to promote community-based wildlife organizations responsible for snow leopard conservation, and iv) develop mechanism for sustainable use of wildlife resources considering livelihood of local communities *Expected Outcomes:* (i) Revised policy documents implemented; (ii) Community-based wildlife Conservation (management) organizations formed and mobilized; (iii) access and benefit-sharing mechanism ensured and developed; *Implementing Agency:* DNPWC, DoF, and Community Based Organizations; *Expected Donors:* World Bank, UNDP, WWF Nepal, NTNC and ICIMOD.

Russia—Ban musk-deer harvesting in snow leopard habitats; US$ 5,000

Objectives: Completely ban musk-deer harvesting in the habitats of snow leopard *Key Activities:* (i) developing the amendments to regional harvesting regulations; (ii) launching awareness campaigns in the regions; (iii) enacting the new policies. *Expected Outcomes:* (i) Amendment drafted and consulted in the regions; (ii) New policy adopted; (iii) 4 awareness campaigns completed in 4 regions; (iv) policy enacted in 4 snow leopard regions; *Implementing Agency:* (i) Ministry of Natural Resources; (ii) Ministry of Justice; *Expected Donors:* Regional Governments.

Russia—Strengthen Russian laws and regulations; US$ 5,000

Objectives: Strengthen regulations on illegal harvesting, transportation and storing of species listed in Russian Red Data Book. *Key Activities:* (i) Developing amendments for Administrative and Criminal Codes of Russia; (ii) approval of developed amendments by Government; (iii) enacting new amendments; *Expected Outcomes:* Necessary changes are made in the Russian Criminal and Administrative Codes *Implementing Agency:* (i) Ministry of Natural Resources; (ii) Ministry of Justice; *Expected Donors:* Federal Government.

Russia—Environmental impact assessment; US$ 40,000

Objectives: Ensure environmental impact assesment of any mining and capital construction projects occurring in the habitat of snow leopards and other Red Book-listed species to undergo a government environmental impact report (expertiza). *Key Activities:* (i) Developing amendments for federal law of Russia #174; (ii) approval of developed amendments by Government; (iii) enacting new amendments; *Expected Outcomes:* All developmental projects in snow leopard and other endangered species habitats require Environmental Impact Assessment;*Implementing Agency:* (i) Ministry of Natural Resources; (ii) Ministry of Justice; *Expected Donors:* Federal Government.

Tajikistan—Reform of the Hunting Law; US$ 15,000

Objectives: The conservation and sustainable use of the prey of the snow leopard (Marco Polo sheep, ibex and Markhor). *Key Activities:* i) The establishment in the Committee on Environmental Protection (CEP) of a working group that will be responsible for the development and implementation of the law; ii) creating an enabling environment for the development of community-based wildlife organizations responsible for the conservation and sustainable use of the snow leopard prey; iii) ensure that proceeds from hunting are distributed according to the new law in an equitable and transparent manner. *Expected Outcomes:* (i) Hunting Law enacted; (ii) Community-based wildlife management organizations formed; (iii) access and benefit sharing mechanism developed; *Implementing Agency:* (i) CEP; (ii) Ministry of Justice; *Expected Donors:* CEP; GIZ.

8. Engaging Industry

China – Improved and engaged participation of industry with snow leopard conservation; Cost details pending

Objectives: Improve participation of industrial bodies in conservation of snow leopards and their ecosystem; *Key Activities:* Invite industrial communities to join relevant events for their deeper understanding of snow leopard conservation and how this relates to the actions of their industry; establish suitable channels and platforms for their investment to support conservation together with governmental agencies, research institutions, and NGOs; pilot projects with increased participation of industrial bodies in snow leopard conservation, and dissemination of findings. *Expected Outcomes:* More relevant industrial bodies engaged in supporting and participating in snow leopard conservation and research.

Mongolia— Mining and development; US$ 240,000

Key Activities: Countermeasures of mining and development/infrastructure.

Russia—Involvment of big industrial companies in conservation of snow leopards and support of PAs; US$ 7,000,000

Objectives: Involvment of big industrial companies in conservation of snow leopards and support of PAs via development of corporate social responsibilities and ecosystem services payment. *Key Activities:* (i) development of programs for big industrial companies for supporting of conservation of key snow leopard populations and their habitats; (ii) start the program at least in two regions; *Expected Outcomes:* (i) corporate social responsibility and ecosystem services payment is developed and implemented in two regions; *Implementing Agency:* WWF, Protected Areas, big mining, hydropower and industrial companies of Tuva Republic and Krasnoyarsky kray; *Expected Donors:* Big mining, hydropower and industrial companies of Tuva Republic and Krasnoyarsky kray.

Tajikistan—Greening industry practices; cost details pending

Objectives: Ensure that industry development does not hinder snow leopards and their prey. *Key Activities:* (i) Communicate with Ministry of Water and Mining on proposed development projects in snow leopard and prey habitat; (ii) If warranted, carry out environmental impact assessment (EIAs) according to internationally accepted guidelines. *Expected Outcomes:* (i) Proposed development activities carried out in compliance with existing environmental laws; (ii) Environment Impact Assessments (EIAs) carried out. *Implementing Agency:* (i) CEP; *Expected Donors:* Relevant business CEP may engage with.

9. Awareness & Communication

Afghanistan—National snow leopard education and public awareness project; US$ 1,000,000

Objectives: NEPA and other concerned stakeholders capable of designing and disseminating well-structured education and awareness program on snow leopard conservation on a regular basis. *Key Activities:* Dissemination of reports/articles; media and press releases; awareness programs on local audio and visual media; environmental education programs for schools; *Expected Outcomes:* Increased knowledge and understanding among the stakeholders; more stakeholders participation; reduced illegal poaching and trade; *Implementing Agency:* National Environmental Protection Agency (NEPA); Ministry of Agriculture, Irrigation and Livestock; Wildlife Conservation Society; Provincial governments, NGOs, community organizations; *Expected Donors:* USAID, GEF, WB, National Budget.

Bhutan—Review existing Forest and nature Conservation Act; cost details pending

Objectives: Review existing Forest and Nature Conservation Act.

China—Raising awareness of snow leopard conservation across civil society; cost details pending

Objectives: Widely disseminate information on snow leopard conservation and increase attention and support from the general public. *Key Activities:* Use media, websites, and outdoor advertisements to encourage public to pay more attention to snow leopard conservation; hold special events for public participation such as celebration of Global Snow Leopard Day; organize volunteer activities for people to become involved in snow leopard conservation and research. *Expected Outcomes:* The eneral publicin both cities and rural areas have a better understanding, appreciation, and support for snow leopard conservation and research.

India—Identify the target groups and forge a communication strategy for the cause of conservation of high altitude landscapes; cost details pending

Objectives: Sensitization and mainstreaming of SL conservation in civil society. *Key Activities:* (i) Strategy is formulated by consultations, parnerships, (ii) Organise sensitization workshop for identified groups like Peoples' representiatives, army establishments, business groups etc., (iii) Organise a publicity campaign forconservation of Himalayan ecosystem and snowleopard. *Expected Outcomes:* A workable strategy with key partnerships forged, visible appreciation of the ecological importance of Himalayn ecosystem and snow leopard, wider support for snow leopard conservation; *Implementing Agency:* MoEF, Civil Society, states and GSLT; *Expected Donors:* National budget, GSLT, Corporate sponsorship.

India—Organise the community or social institutions for participatory campaign for conservation; cost details pending

Objectives: Elliiciting partnership in SL conservation. *Key Activities:* Set up local, regional participatory institutions, register with bylaws and empower them to take up conservation actions; *Expected Outcomes:* Number of local and state level participatory institutions set up, activities taken up by these institutions for conservation; *Implementing Agency:* States, Partner institutions;

Expected Donors: National and state budget, external donors.

Kazakhstan—Ecological education and awareness; US$ 15,000

Objectives: Develop and implement program on ecological education of local people. *Key Activities:* ecological education; materials; public campaigns.

Mongolia— Outreach and education; US$ 960,000

Key Activities: Outreach and education activities to establish positive image of snow leopard as a symbol of Altai and Sayan Mountains and engage local communities in species monitoring and conservation.

Russia – Raising awareness of snow leopard conservation among decision-makers and local communities; US$ 1,000,000

Objectives: Encourage decision-makers and people living within the snow leopard's range to relate to the cat as a part of their natural and cultural heritage and to understand the necessity of its preservation for its ecological, economic, and cultural value. *Key Activities:* Work with regional media to ensure regular coverage in the local press about the value and importance of snow leopard conservation; develop and implement targeted information campaigns with the goal of establishing a positive image of the animal as a symbol of Altai and Sayan.

Nepal—Education; US$ 450,000

Objectives: Education and outreach. *Key Activities:* (i) school education, informal education to senior citizens, (ii) production and distribution of promotional materials (poster, documentary, (iii) mass communication through electronic media, (iv) booklet and leaflet publication and distribution. *Expected Outcomes:* (i) improved relationships between park authorities and local communities, (ii) contribute to conserve snow leopards, their habitat and prey base.

Uzbekistan—Public awareness campaign; US$ 200,000

Key Activities: Public awareness campaign.

Chapter 8. Global Support Components Summaries

The five Global Support Components (GSCs) are:

8-A. Snow Leopards and Illegal Trade
8-B. Knowledge Sharing for Institutional Capacity and Leadership Development
8-C. Transboundary Cooperation
8-D. Research and Monitoring
8-E. Large-scale Infrastructure Development

Details of the GSCs are provided in the Annex. The GSCs are subject to modification based on further consultations with the snow leopard range countries.

8-A. Snow Leopards and Illegal Trade

Through active dialogue with range countries, the GSLEP acknowledges the current state of weak wildlife law enforcement, including weak laws and low levels of prosecution even when offenders are apprehended, and underfunding of the wildlife sector. Moreover, the size, remoteness, and harshness of snow leopard habitat, plus the fact that most of it lies outside of PAs, makes law enforcement challenging. Porous borders that reduce traffickers' risks of detection also create challenges. The increasing value of wildlife products of all kinds has brought in the involvement of organized crime. International efforts are needed to reduce demand for endangered wildlife in markets around the world and increase capacity for global law enforcement action against organized syndicates. Within countries, cooperation and communication among the agencies involved or potentially involved in combatting wildlife crime should be fostered and encouraged by the international community.

The GSC focused on law enforcement is providing a platform to look for opportunities to enhance the participation and collaboration of law-enforcement entities of the range countries with each other, to identify the realistic conditions and conflicts that may exist, and to explore avenues to improve those conditions, through a set of proposed actions. Political will, good governance, and setting national priorities in support of wildlife and environmental compliance and enforcement is a prerequisite for the effective conservation and survival of snow leopards and other endangered species.

Through this GSC, the international community assists snow leopard range countries, when relevant, through tailored activities aimed at combatting wildlife crime.

8-B. Knowledge Sharing for Institutional Capacity and Leadership Development

Strengthening knowledge sharing and communities of practice for capacity and leadership development are at the core of the successful conservation of snow leopards and their fragile habitats as identified by the snow leopard range countries. It is critical to significantly increase the awareness of policy makers and other influential people such as habitat-impacting sector executives and religious leaders, for them to be able to create conducive environments and provide direct support to snow leopard conservation and habitat management. It is also critical to enhance the capacity of protected area and wildlife managers, front line

managers, community leaders, and civil society through facilitating knowledge exchange and communities of practice, communication and cooperation among stakeholders in snow leopard conservation, in a range of fields. These include conservation-area management, community-based conservation, effective law enforcement, and wildlife and ecosystem management and monitoring.

This Global Support Component (GSC) is a partnership with snow leopard range countries that complements the NSLEPs' efforts for national institutional capacity building for conservation of snow leopards and their habitats. The GSC objective is to provide universal support to the range countries to implement their respective national activities relevant to the GSCs in a cost-effective and coordinated manner. This component has been built upon the initial needs assessment and analysis of the portfolio of national activities and establishes the connection of the GSC to the national level activities. This component will establish mechanisms for knowledge exchange and community of practice to facilitate institutional capacity and leadership development for species and habitat management. Three inter-connected sub-components have been proposed with the United Nations Development Programme (UNDP) as the lead coordinating agency in collaboration with partner organizations. The proposed sub-components have their own specific activities with objectives, brief descriptions, costs, and performance indicators.

8-C. Transboundary Cooperation

The shared goal of the NSLEPs is to strengthen transboundary collaboration for the conservation of snow leopards in some cases through the establishment of landscape-level transboundary conservation areas; the promotion of study exchanges between PAs of both adjacent and regionally linked range states; and addressing knowledge gaps through joint research and monitoring.

This GSC is a partnership with snow leopard range countries that complements the NSLEPs' activities for enabling the transboundary conservation of snow leopards and their habitats. Its wider objective is to facilitate the range countries' efforts in the implementation of their respective national activities relevant to this GSC in a coordinated manner. This includes providing a forum for countries to agree on and implement inter-governmental agreements and partnerships. Another focus will be the strengthening of good working relationships and a trustful environment that enables an open exchange of information, experience, and knowledge especially regarding monitoring data as well as poaching and illegal trade incidents. Support in designating and managing transboundary conservation areas will also be an important part of the global support component as well as developing coordinated management (planning) between neighboring countries that share habitats of snow leopard.

Four inter-connected sub-components have been proposed. However, those sub-components are all inter-linked and cannot be addressed separately. Many of the proposed and existing regional and international initiatives to strengthen transboundary conservation capture different levels of area protection, collaboration on illegal wildlife trade, and joint monitoring. Therefore, different supporting initiatives were identified, underway or proposed, that capture all these elements and that require priority consideration. These proposed initiatives will be led by a variety of agencies, including the Convention on the Conservation of Migratory Species of Wild Animals (CMS), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), INTERPOL, the UN Office on Drugs and Crime (UNODC), WWF, and the Wildlife Conservation Society (WCS) in collaboration with partner organizations.

8-D. Research and Monitoring

The ability to determine and measure success through monitoring and evaluation is essential to any conservation program, and effective monitoring and course corrections are essential for the success of the

GSLEP. This GSC is designed to assist the range countries as well as the Secretariat in enabling close monitoring and evaluation of the GSLEP. It sets out a minimum set of agreeable and tractable indicators to be monitored, and critically defines meaningful periodicities of monitoring activities and consistent methodologies. It furthermore establishes frameworks for data sharing and evaluation of the monitoring process. The required program of workshops and training necessary to be undertaken is outlined. Underpinning these monitoring and evaluation activities should lay a bedrock of scientific research that enables greater understanding, efficient interpretation, and continuous improvement through adaptive management and review in light of emerging new knowledge. There are three sub-components in this GSC: Research, Biological Monitoring, and Program Evaluation.

8-E. Large-scale Infrastructure Development: Awareness and Coalition Building

Major infrastructure facilities are either planned or under construction in different parts of the snow leopard's range. These include development projects spurred by mineral exploration and extraction, the need for major road and rail transportation networks, new gas and oil pipelines, and hydroelectric power facilities that may be associated with large or medium-sized dams.

While large-scale infrastructure development provides developing countries like the snow leopard range countries with considerable opportunities for economic development, there is a risk they may have negative impacts on snow leopards and their habitats. At present, the scientific regulation of development projects is not yet in place in most countries, and construction is not yet prohibited in core areas of snow leopard habitat. There is also not widespread awareness or implementation of available methods that minimize potential negative impacts, which include disturbing the natural behavior of snow leopards and their prey, fragmenting habitat, degrading grasslands, and opening up previously inaccessible areas to poachers.

This Global Support Component (GSC) is a partnership with snow leopard range countries that complements the NSLEPs' activities to create awareness among and coalition building with large-scale infrastructure development themes for the conservation of snow leopards and their fragile habitats in a cost-effective and coordinated manner. The GSC objective is to assist the range countries to implement their own national activities relevant to maintaining habitat connectivity and engaging industry in large-scale infrastructure development. This component has been built upon the needs assessment and analysis of the portfolio of national activities and establishes the connection of the GSC to the national-level activities. Two sub-components have been proposed with lead implementing agency and partners. The proposed sub-components have their own specific activities with objectives and descriptions, costs, outcomes, and performance indicators.

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