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*Conservation and Adaptation in Asia's High
Mountain Landscapes and Communities:
Work Plan*

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for

World Wildlife Fund

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Submitted by:

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1250 24th St. NW, Washington D.C., 20037



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List of Acronyms Used

AFD	Administration and Finance Division
AHM	WWF Asia High Mountains Project
AKRSP	Agha Khan Rural Support Program
ASER	Altai-Sayan Ecoregion
BTFEC	Bhutan Trust Fund for Environment Conservation
BWS	Bumdeling Wildlife Sanctuary
CARE	Cooperative for Assistance and Relief Everywhere
CBAPO	Community Based Anti-Poaching Operations
CBO	Community Based Organization
CBT	Community Based Tourism
CFUG	Community Forest User Group
CHARIS	Contribution to High Asia Runoff from Ice and Snow
CSO	Civil Society Organization
CSSLLMP	Climate-smart Snow Leopard Landscape Management Plan
DC	District of Columbia
DCC	District Conservation Committee
DFO	District Forest Office
DNA	Deoxyribonucleic Acid
DNPWC	Department of National Parks and Wildlife Conservation
DOF	Department of Forests
DoFPS	Department Forests and Park Services
DVD	Digital Video Disc
DYT	Dzongkhag Yargay Tshodu
ECOSS	Ecotourism and Conservation Society of Sikkim
FECOFUN	Federation of Community Forest Users' Nepal
FEWMD	Forest, Environment and Wildlife Management Department
FFI	Fauna and Flora International
FPED	Forest Protection and Enforcement Division
GB	Gilgit-Baltistan
GBFWED	Gilgit-Baltistan Forest, Wildlife and Environment Department
GEF	Global Environment Facility
GLIP	Global and Local Information Partnership
GLOF	Glacial Lakes Outburst Flood
GNH	Gross National Happiness
GNHC	Gross National Happiness Commission
GSLEP	Global Snow Leopard and Ecosystem Protection Program
GTI	Global Tiger Initiative
ha	Hectare
HCDO	Hoper Conservation and Development Organization
ICDP	Integrated Conservation and Development Program
ICIMOD	International Center for Integrated Mountain Development
ICSD	Central Asian Interstate Commission on Sustainable Development
ID	Identification
IEE	Independent Ecological Expertise

IFAD	International Fund for Agricultural Development
IGEB	Institute of General and Experimental Biology
IMC	Irbis Mongolian Center
INTERPOL	International Criminal Police Organization
IUCN	World Conservation Union
JDNP	Jigme Dorji National Park
KADO	Karakoram Area Development Organization
KBR	Khangchendzonga Biosphere Reserve
KCA	Kangchenjunga Conservation Area
KCAMC	Kangchenjunga Conservation Area Management Council
KCAP	Kangchenjunga Conservation Area Project
KCC	Khangchendzonga Conservation Committee
KP	Khyber Pakhtunkhwa Province
KPFD	Khyber Pakhtunkhwa Forest Department
KPWD	Khyber Pakhtunkhwa Wildlife Department
LHNI	WWF Living Himalaya Network Initiative
LIS	Livestock Insurance Scheme
M&E	Monitoring and Evaluation
MAP	Medicinal and Aromatic Plants
MEL	Mammalian Ecology Laboratory, Mongolian Academy of Sciences
MEGD	Ministry of Environment and Green Development
MoAF	Ministry of Agriculture and Forests
NABU	Nature and Biodiversity Conservation Union
NGO	Non-Government Organization
NSLEP	National Snow Leopard and Ecosystems Priorities
NTFP	Non-Timber Forest Products
NTNC	National Trust for Nature Conservation
PAC	Project Advisory Committee
PPD	Planning and Policy Division
PMP	Performance Management Plan
PPP	Public-Private Partnership
SAEPF	State Agency of Environment Protection and Forestry
SAWEN	South Asian Wildlife Enforcement Network
SCAPES	Sustainable Conservation Approaches in Priority Ecosystems
SHL	Sacred Himalayan Landscape
SLCC	Snow Leopard Conservation Committee
SLCF	Snow Leopard Conservation Fund
SLCGP	Snow Leopard Conservation Grants Program
SLE	Snow Leopard Enterprises
SLIMS	Snow Leopard Information Management System
SLN	Snow Leopard Network
SLSS	Snow Leopard Survival Strategy
SLT	Snow Leopard Trust (formerly the International Snow Leopard Trust)
TAR	Tibet Autonomous Region
TRAFFIC	The joint WWF-IUCN Wildlife Trade Monitoring Network
TRAMCA	Trans-boundary Manas Conservation Area

UNDP	United Nations Development Program
US	United States
USAID	United States Agency for International Development
UWICE	Ugyen Wangchuck Institute of Conservation and the Environment
VA	Climate Vulnerability Assessment
VCC	Village Conservation Committee
VWG	Village Wildlife Guard
WCC	Women's Conservation Committee
WCP	Wangchuck Centennial Park
WCS	Wildlife Conservation Society
WMD	Watershed Management Division (Ministry of Agriculture and Forests)
WWF	World Wildlife Fund (US)/World-Wide Fund for Nature (Int'l)

Conservation and Adaptation in Asia's High Mountain Landscapes and Communities

Bhutan, India, Nepal, and Pakistan Himalaya; Kyrgyzstan Tian Shan; Mongolian Altai Range

PROJECT OVERVIEW

Programmatic Approach

The hybrid design of the Asia High Mountains (AHM) Project, coupled with the global platform provided by the Bishkek process, makes this grant unusually visionary and strategic. The AHM Project uses conservation of the snow leopard and its habitat as a friendly door opener to what has traditionally been a more contentious dialogue between the nations of high Asia on the need to address the impacts of climate change on their transboundary glacial watersheds that are critical to the wellbeing of downstream regions. The project's goals seek to galvanize greater understanding and action at local, national and regional levels across the snow leopard range states to conserve this iconic species and its alpine habitat by connecting snow leopard conservation to a broader set of environmental, economic, and social issues with consequences for Asia's future sustainability, namely local livelihoods, water security, and climate change.

In addition to working directly with range countries, the AHM Project is providing regional support in partnership with the 12-Nation Global Snow Leopard Conservation Forum Secretariat, which was established to facilitate implementation of the Global Snow Leopard and Ecosystem Protection Program (GSLEP) that was unanimously adopted by all 12 secretariat member states in Bishkek in October 2013. By supporting GSLEP, the AHM Project is helping enable snow leopard range state governments to proudly articulate their nation's conservation and adaptation successes on the global stage provided by the Bishkek forum and secretariat.

With this vision and these goals in mind, WWF has refocused the final two years of the grant following recommendations from the WWF AHM Adaptive Management Workshop held at WWF US from September 2-3, 2015. WWF has narrowed the scope of the AHM Project in order to maximize success while laying the groundwork in each target country for project sustainability after the grant's completion. Though the project has been streamlined, it adheres to the core mandate of the original AHM grant. The principal elements of the updated approach are described below.

Under Objective 1, the AHM Project will focus the remainder of the grant period on consolidating a suite of ten demonstration sites across five of the project countries (all but Mongolia) that will serve as smaller-scale models of an integrated, climate-smart approach to snow leopard habitat conservation in GSLEP landscapes. WWF will build on the knowledge gained through activities conducted in the first half of the AHM Project in these sites to strengthen the most integrated and informative demonstration sites. In each of these demonstration sites, integrated activity packages are already being conducted by the AHM

Project that address a range of issues affecting both snow leopards and local residents. To qualify as a demonstration site we have stipulated that each site must have a minimum of five integrated conservation activities. WWF will consolidate these activities with the aim of maximizing the effectiveness of integrating conservation, development and climate adaptation within each area.

To promote the full integration of these activities within the target areas with communities, local authorities and local partners, and to ensure that the activities are informed by social science parameters such as gender, we will hire a social science expert to work with each demonstration site through the end of the project.

We will also build local communications capacity within our WWF and partner offices to spread the word within the countries on the importance of conserving these high-mountain landscapes and securing the livelihoods of the isolated and often political marginalized populations living there. Communications strategies will help build awareness, interest, understanding and action on these issues – targeting national and sub-national decision makers and the constituents who influence them.

In parallel, the demonstration sites will be used to inform the development of one large-scale GSLEP Landscape Management Plan that will in turn serve as a model to other countries as they embark on their GSLEP Priority Landscape management planning processes (described in Objective 2).

In Mongolia we will continue to focus our efforts on groundbreaking snow leopard research, utilizing genetic analysis and field level monitoring, coupled with critical habitat management..

Under Objective 2, the AHM Project will support the GSLEP goal of developing climate-smart Landscape Management Plans (see Annex 1 for a description of the development of these plans). The AHM Project will work through the GSLEP Secretariat to identify one GSLEP Priority Landscape in an AHM Project country, and will coordinate with the relevant government, the Snow Leopard Trust (SLT) and other partners to help develop a comprehensive Landscape Management Plan using the agreed GSLEP template. This landscape management plan will not only address management of snow leopards and their prey species, but will take a climate-smart, integrated approach that also addresses issues that affect both snow leopards and local residents.

The evolving management plan, and the process that goes into its development, will be presented at two GSLEP Landscape Management Planning workshops that will demonstrate the use of this comprehensive planning approach at the beginning and final stages of the process. The AHM supported management plan will provide a model for the other countries to develop their own landscape management plans in support of their respective NSLEPs and the GSEP goal of completing plans in all 23 GSLEP Priority Landscapes. In addition, through these workshops, AHM Project achievements will be disseminated to GSLEP focal points from all 12 snow leopard range nations to provide guidance and motivation with respect to achieving GSLEP goals.

The presentation of the landscape management planning processes at the two aforementioned GSLEP workshops will be conducted in close coordination with SLT and the GSLEP Secretariat.

The planning process will be facilitated by the secondment of a WWF landscape coordinator to the GSLEP Secretariat. The AHM Project will provide funding to support GSLEP events, including travel for GSLEP Secretariat staff and participants as well as logistical support at the meetings themselves. In addition, in order to better support the GSLEP process, WWF will be assigning one staff member to assist the GSLEP Secretariat as a part-time coordinator for GSLEP activities. The project will also continue to provide critical support to improve regional coordination among partners, working with key actors (detailed descriptions included in Annex 2) and governments to conserve snow leopards and promote sustainable development among local communities in the high mountains of Asia.

AHM Project administrative and management structures and procedures have been updated in response to the mid-term evaluation recommendations. A major point made during the Adaptive Management Workshop was the need to improve AHM communications. In this regard, WWF has prepared a detailed AHM communications plan (see Annex 3) that includes plans for further developing both the AHM and Third Pole GeoLab websites as the main portals for AHM communications. In addition, WWF will also enhance the use of social media tools such as Twitter and Facebook in the US and AHM countries to disseminate information about AHM activities, conduct more active media outreach both in the US and AHM countries, publish an AHM newsletter, publish scientific results, promote AHM successes at AHM country and international environmental events, and continue to produce web stories on AHM successes. Furthermore, we plan to hire a communications expert to be based in the project region who will work with the AHM grantees and partners to collect and publicize stories of AHM successes from the field.

Another major issue highlighted by the evaluation process has been the slow transfer of funds to the field. In order to streamline this process, the WWF Field Operations Department, which is responsible for administration of AHM Project funds, will prepare annual funding agreements for AHM recipients in advance of USAID's work plan approval. It is anticipated that this will keep the waiting time between work plan approval and transfer of funds to a minimum.

With regard to improving the AHM project management structure, it has been decided that regular 6-month AHM project management meetings will be held with participation of relevant WWF US and USAID staff members to improve AHM Project oversight at WWF US. These meetings will include participation of staff members from the WWF US Forest, Water, Species, Climate, and Communications teams as well as other support staff from the WWF US Field Operations and Government Relations Departments. WWF leadership on the project will strive to meet with USAID missions in each of the AHM countries and relevant USAID regional offices. WWF has instituted an AHM technical working group within WWF to insure better internal coordination and efficiencies. Finally, additional high-level AHM Project oversight is being provided through the formalized responsibility of a WWF US vice president to oversee AHM Project progress.

With this renewed focus and strategy, coupled with the revised programmatic approach and management structure, the AHM Project will continue to support technical and policy dialogue in high mountain landscape management in the face of climate change, help prepare communities to address key vulnerabilities to climate change and conserve snow leopards as the

flagship and indicator species of Asia's high mountain landscape health, and provide practical and measurable demonstrations that advance a vision for biodiversity conservation, water security and sustainable development across the snow leopard landscapes of Asia.

Project Goals:

The overall goals of the Asia High Mountains Project are to galvanize greater understanding and action at local, national and regional levels across the snow leopard range states to conserve this iconic and endangered species, and to connect snow leopard conservation to a broader set of environmental, economic, and social issues with consequences for Asia's future sustainability, namely local livelihoods, water and food security, and climate change adaptation.

Notably, the goals will contribute to the water security and sustainable development of the snow leopard range nations by demonstrating methods for maintaining healthy headwater ecosystems and by working with mountain communities to implement sound natural resource management and climate adaptation strategies benefitting both livelihoods and ecosystems.

Project Objectives:

Objective 1: Promote climate-smart management of snow leopard habitat for sustainable development in Asia's high mountain landscapes and communities

(NB: Updated wording based on mid-term evaluation recommendation.)

Global climate change phenomena are having a disproportionately large impact on Asia's high mountain communities in comparison to the impacts being felt in adjacent low lying areas. WWF has taken stock of climate vulnerabilities across the six AHM Project regions, and the high mountain landscapes of Asia in general, and identified local and regional threats and opportunities for addressing climate adaptation and water resource needs. These findings are being used to develop site-specific climate adaptation strategies in selected priority snow leopard landscapes in the six AHM Project countries (Bhutan, India, Kyrgyzstan, Mongolia, Nepal, and Pakistan).

Under AHM Objective 1, WWF will continue to work with local communities to promote snow leopard conservation, implement appropriate climate adaptation strategies for conservation, livelihoods, and local natural resource management, and undertake participatory watershed management activities in ten consolidated demonstration sites in five project countries. Each demonstration site has five or more integrated conservation activities, including work to prevent poaching, improve land, water and other resource management, address climate change impacts, diversify livelihoods, and increase community awareness of local conservation and environmental issues. The demonstration sites will also be used to inform the development of one large-scale GSLEP Landscape Management Plan (described in Objective 2) that will in turn serve as a model to other countries as they embark on their GSLEP Priority Landscape management planning processes.

WWF will also continue to focus our efforts on groundbreaking snow leopard research in Mongolia, utilizing genetic analysis and field level monitoring, coupled with critical habitat

management. This is among the best snow leopard work WWF is currently doing, and will be critical in advancing technology and best practices in snow leopard monitoring, and establish learning that can be used in other landscapes.

In all these efforts, attention will be paid to empowering indigenous, poor, marginalized and vulnerable communities, especially women, to become strong actors in the management of local natural resources and landscapes as well as in protection of local snow leopard populations (information on estimated snow leopard population size and range area is included in Annex 4). Community institutions and mechanisms related to management, equitable benefit sharing and access to natural resources will also be strengthened. To promote the full integration of these activities within the target areas and to ensure that the integration of these activities is informed by socioeconomic and political parameters, we will hire a social science expert to work with each demonstration site through the end of the project. The social science expert will perform a comprehensive review of the demonstration sites for the social, cultural, political, gender, and socioeconomic elements of project activities and will work with the local teams to improve implementation and awareness of this integrated approach. Incorporating this expertise will be instrumental in gauging the social implications and strengthening associated sustainability of the focused work the AHM Project will be pursuing in the demonstration sites.

We will leverage broader impacts by feeding results and successes of AHM climate vulnerability assessments and other AHM Project activities into regional forums and snow leopard conservation initiatives as detailed under AHM Objective 2, thus sharing lessons learned under the AHM Project with all snow leopard range nations. The detailed activities under Objective 1 are included in the 'Objectives and Activities' section below.

Objective 2: Improve transnational collaboration on climate-smart snow leopard conservation in Asia's high mountain landscapes and communities

(NB: Updated wording based on mid-term evaluation recommendation)

Issues being addressed by the AHM Project, such as wildlife and landscape conservation, climate adaptation, and water security are inherently transboundary in nature. Therefore under Objective 2 of the AHM Project, WWF will build upon our organizational expertise in scaling up community-based conservation and furthering transboundary cooperation to facilitate dialogue between the snow leopard range nations that promotes conservation of snow leopards and their high mountain landscapes. Through these efforts, WWF is strengthening existing conservation networks and establishing new channels for cooperation among the 12 snow leopard range states.

In Year 4 of the AHM Project, these efforts will include continuing to support the Global Snow Leopard Conservation Forum Secretariat to implement the Global Snow Leopard and Ecosystem Protection Program (GSLEP) that was unanimously adopted by all 12 snow leopard range states in Bishkek in October 2013. To this end, WWF will continue to provide support for holding of GSLEP Secretariat meetings and events.

In addition, in AHM Project Year 4, WWF will also be providing extensive technical training and support to GSLEP partners for development of climate-smart snow leopard landscape management plans. These landscape management plans will form the centerpiece of GSLEP

implementation in the 23 GSLEP Priority Landscapes selected by the 12 snow leopard range nations. As discussed under AHM Objective 1 above, WWF will facilitate the development of one model climate-smart landscape management plan in a GSLEP Priority Landscape, most likely in Nepal (to be confirmed by the GSLEP Secretariat), to guide the development of landscape management plans in all snow leopard range nations.

The model landscape management plan will address management of snow leopards and their prey species, and will take an integrated climate-smart approach that also addresses issues that affect both snow leopards and local residents, such as pasture management, livestock management, management of relevant wood and forest resources, water resource management, protected area management, and improved infrastructure planning, while taking into account the climate change impacts observed and predicted for the area.

Other regional activities that the AHM Project will be conducting to promote international cooperation on conservation of snow leopard landscapes will include development of more thematic maps on snow leopard landscapes, land cover, and climate change impacts to be made available through WWF's Third Pole GeoLab website; completing a report on the illegal trade in snow leopards, their furs, and parts that is being researched by TRAFFIC; supporting TRAFFIC to cooperate with INTERPOL, the GSLEP secretariat, and SAWEN (South Asian Wildlife Enforcement Network) to improve wildlife trade law enforcement concerning snow leopards and other species along the Himalaya; and supporting the Central Asian Interstate Commission on Sustainable Development (ICSD) via WWF Russia's Central Asia Program to adopt climate-smart approaches to conservation and development.

Through these efforts, the AHM Project will improve knowledge and foster cooperation among agencies responsible for snow leopard conservation by increasing the availability of data, sharing lessons, and supporting implementation of climate-smart conservation efforts across the snow leopard range. The detailed activities under Objective 2 are included in the 'Objectives and Activities' section below.

Program Level of Effort

1. Total Program Level of Effort (Oct. 1, 2012-Sept. 30, 2017): Total \$ 8,371,119 (USAID: \$7,343,258; WWF Match: \$1,027,861)

2. Year 4 Program Level of Effort (Oct. 1, 2015-Sept. 30, 2016): Total \$2,386,417 (USAID: \$2,170,993 and WWF Match: \$215,424)

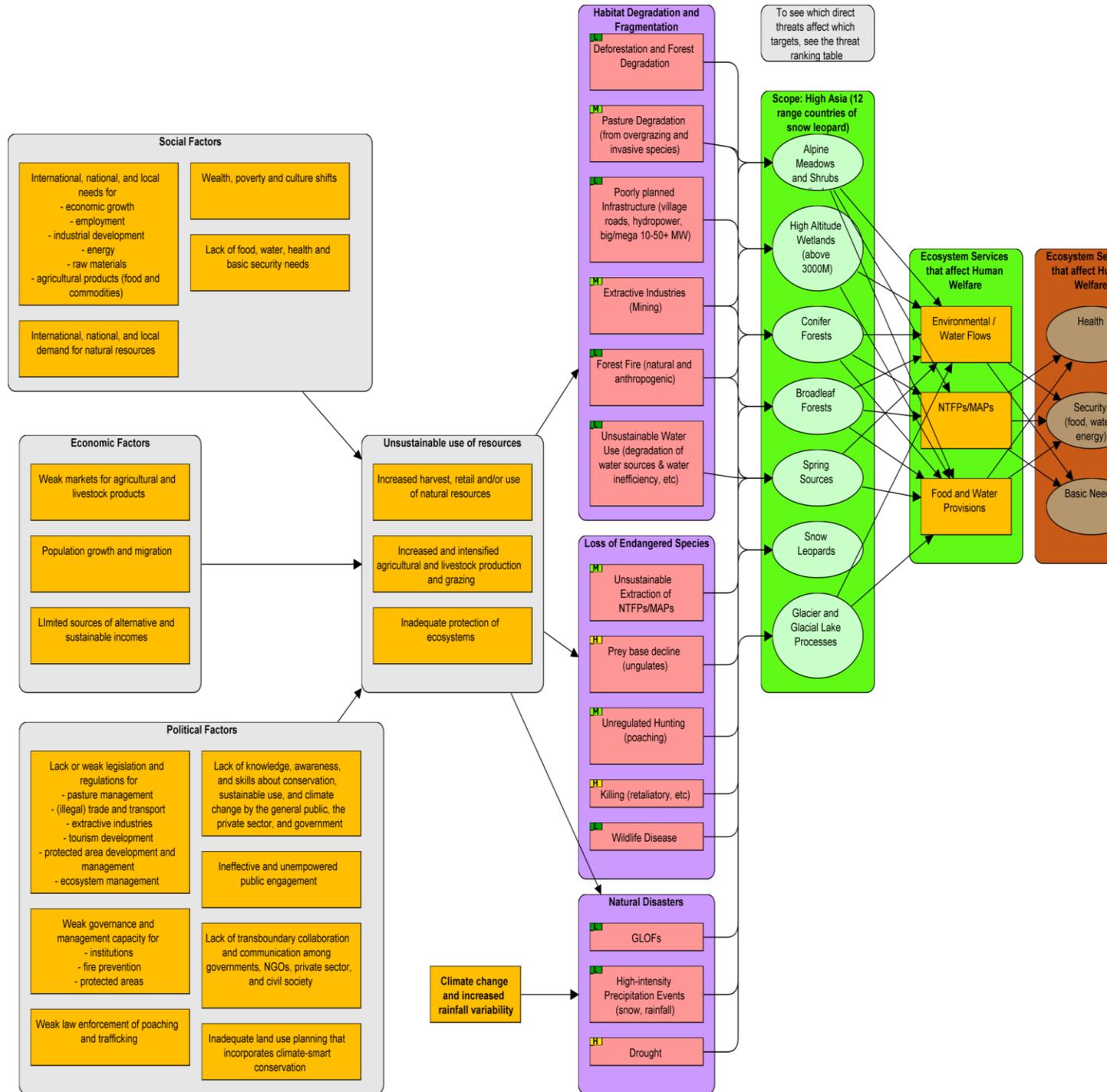
Conservation Targets, Threat Analysis and Program Response

Conservation targets for the Asia High Mountains Project have been identified as glacier and glacial lake processes, alpine meadows and shrubs (including permafrost), high altitude wetlands, conifer forests, broadleaf forests, snow leopards, and spring sources. As part of WWF's strategic planning process, a threats analysis table (Table 1) and conceptual model (Figure 1) were developed using Miradi software that identified and ranked the most immediate threats to targets in the program region. In order of Miradi-generated ranking from highest to lowest, these threats were 1) "High Threats": drought, retaliatory killing of wildlife, and ungulate prey base decline; 2) "Medium Threats": poaching, unsustainable harvesting of non-timber forest products (NTFP) and medicinal and aromatic plants (MAP), mining and other extractive industries, and pasture degradation; and 3) "Low Threats": glacial lake outburst floods (GLOF), unsustainable water use, forest fires, poorly planned infrastructure, deforestation, high-intensity precipitation and wildlife disease. These threats are described briefly below. For additional information on direct and indirect threats, as well as results chains, please see Annex 5.

Table 1. Asia High Mountains Project threat rankings as generated by a Miradi analysis.

THREAT	TARGET							
	Glaciers and Glacial Lake Processes	Alpine Meadows and Shrubs (including permafrost)	High Altitude Wetlands	Conifer Forests	Broadleaf Forests	Snow Leopards	Spring Sources	Summary Threat Rankings
Drought		High	High	Low	High		High	High
Killing (retaliatory, etc.)						Very High		High
Prey Base Decline (ungulates)		High				Very High		High
Unregulated Hunting (poaching)						High		Medium
Unsustainable Extraction of NTFPs/MAPs		Medium		Low	Medium			Medium
Extractive Industries (Mining)		High	Medium			Low	Medium	Medium
Pasture Degradation (from overgrazing and invasive species)		High	Medium				Medium	Medium
Glacial Retreat and GLOFs	Medium							Low
Unsustainable Water Use (degradation of water resources, inefficiency, etc.)							Medium	Low
Forest Fire (natural and anthropogenic)				Low	Low			Low
Poorly Planned Infrastructure (village roads, large scale hydropower)				Low	Low			Low
Deforestation and Forest Degradation				Low	Medium		Low	Low
High-intensity Precipitation Events (snow, rainfall)		Medium	Low	Low	Low	Low	Low	Low
Wildlife Disease						Medium		Low
Summary Target Ratings	Low	High	Medium	Low	Medium	Very High	Medium	High

Figure 1: Conceptual Model for the Asia High Mountains Project



Site Strategy

The Asia High Mountains Project spans parts of the high mountain regions of six Asian nations, namely Bhutan, India, Kyrgyzstan, Mongolia, Nepal, and Pakistan, with project sites that include some of the world's most spectacular mountain scenery (Figure 2). Project sites in these nations cover a wide array of ecosystems and landscape types that are increasingly threatened by a number of daunting environmental issues. However, the unifying theme of the project is that all project activities will address issues facing either snow leopards and their habitat or areas adjacent to snow leopard habitat. Thus, the focus of the project will primarily be on Asia's extensive high mountain areas and the poor communities found in these ranges. With the exception of Mongolia, all project communities lie in the headwaters of Asia's great river systems. Although least responsible for greenhouse gas emissions, these poor mountain communities suffer disproportionately from climate change impacts while having a disproportionately large burden in protecting the headwaters of Asia's great rivers.



Figure 2. Location of primary project field sites for the Asia High Mountains Project: 1. Altai Ranges, Mongolia, 2. Inner and Central Tian Range, Kyrgyzstan, 3. Chitral and Gilgit-Baltistan Districts, Pakistan, 4. Kangchenjunga Conservation Area, Nepal, 5. Khangchen-dzonga Biosphere Reserve, Sikkim, India, and 6. Wangchuck Centennial Park, Bhutan.

At all AHM project field sites, project activities will focus on six primary themes: 1) climate adaptation, 2) water security, 3) natural resource management, 4) rural livelihoods, 5) snow leopard conservation, and 6) seeking out opportunities to improve transnational collaboration on climate-smart snow leopard conservation. In AHM Project Year 4, WWF will develop one climate-smart snow leopard landscape management plan in one of the six AHM countries. This landscape will be chosen specifically because it is among the 23 GSLEP Priority Landscapes. As discussed above, this plan will serve as a model for replication of landscape management plan development and implementation at the remaining GSLEP Priority Landscapes across the 12 snow leopard range states. This proposed landscape in one of the six AHM countries was also chosen for development and implementation of climate-smart landscape management planning due to long-running programs and high-level capacity in addressing a wide array of issues, from snow leopard conservation to livelihood and natural resource management, as well as a high level of technical expertise in areas as varied as climate vulnerability assessment and GIS database development.

In addition, the AHM Project will consolidate smaller-scale models of the integrated, climate-smart approach to snow leopard habitat conservation in ten demonstration sites in five project countries. These demonstration sites will be located in GSLEP Priority Landscapes, and will involve activities such as preventing poaching, improving land, water and other resource management, addressing climate change impacts, diversifying livelihoods, and increasing community awareness of local conservation and environmental issues. WWF established criteria to define the demonstration sites, stipulating that each site must have a minimum of five integrated conservation activities to be declared a demonstration site. The demonstration sites were also selected because the AHM Project has worked extensively to integrate localized project activities in these areas. In addition, the demonstration sites were selected for their potential to be used to inform the development of the large-scale GSLEP Landscape Management Plan, which will in turn serve as a model to other countries as they embark on their GSLEP Priority Landscape planning processes.

The detailed breakdown of the ten demonstration sites, as well as ongoing interventions, is included below. For additional information on the site strategy for each of these five project countries, please refer to Annex 6. Notably, activities conducted at these demonstration sites will be contributing to implementation of National Snow Leopard and Ecosystem Protection Programs under the GSLEP.

Each integrated demonstration site must have a minimum of five activities from different conservation categories among the following:

- a. climate adaptation (CA)
- b. water security (WS)
- c. natural resource management (NRM)
- d. rural livelihoods (RL)
- e. snow leopard conservation (SLC)

Bhutan

Three Demonstration Sites: Villages in western, central, and eastern ranges of Wangchuck Centennial National Park (WCNP) and buffer zone

- Sephu Geog
- Chokhor Geog
- Gangzur geog

Local Implementing Organizations: Wangchuck Centennial National Park (WCNP), Ugyen Wangchuck Institute for Conservation and Environment (UWICE), Watershed Management Division (WMD), WWF-Bhutan

Activities:

- a. CA: climate adaptation, climate-smart village demonstration
- b. WA: watershed management demonstration, hydro-meteorological monitoring
- c. NRM: springshed and bamboo protection work; solar energy demonstration
- d. RL:
- e. SLC: WCNP snow leopard camera trap and prey species survey; snow leopard conservation committee (SLCC) and citizen scientist training; anti-poaching work; community conservation awareness programs

India

One Demonstration Site:

- Lachen Village

Local Implementing Organizations: Lachen Village Council, Himal Rakshaks WWF-India

Activities:

- a. CA: climate vulnerability assessment
- b. WS: improved solid waste disposal
- c. NRM: sustainable caterpillar fungus harvest management
- d. RL: ecotourism promotion; climate-smart agriculture
- e. SLC: Snow leopard camera trap and prey species surveys; Himal Rakshaks volunteer ranger/citizen scientist trainings; anti-poaching patrols

Kyrgyzstan

Two Demonstration Sites:

- Ak Shyrak Village
- Villages in Chong Kyzyl Suu Valley

Local Implementing Organizations: Sarychat Ertash State Reserve, village community groups

Activities:

- a. CA: climate adaptation
- b. WS: watershed management
- c. NRM: pasture management; alternative energy demonstrations
- d. RL: livelihood diversification – ecotourism, handicrafts, agricultural food products, yak herding, beekeeping
- e. SLC: Snow leopard camera trap and prey species surveys; citizen scientist/ranger trainings; anti-poaching patrols; community conservation awareness programs; wildlife management

Nepal

Two Demonstration Sites:

- Two villages in Kangchenjunga Conservation Area

Local Implementing Organizations: Kangchenjunga Conservation Area Management Council (KCAMC), WWF-Nepal, GSLEP Secretariat

Activities:

- a. CA: climate adaptation
- b. WS: watershed management; improved solid waste disposal
- c. NRM: improved pasture management
- d. RL: livelihood diversification – ecotourism, essential oil enterprises; agricultural and livestock health trainings
- e. SLC: Snow leopard camera trap and prey species surveys, snow leopard collaring; SLCCs, Citizen Scientist training; anti-poaching patrols; community conservation awareness programs; the model climate-smart Snow Leopard Landscape Management Plan

Pakistan

Two Demonstration Sites:

- Villages in Gilgit-Baltistan
- Villages in Chitral

Local Implementation Organizations: Village Conservation Committees, WWF-Pakistan

Activities:

- a. CA: climate adaptation
- b. WS: watershed management
- c. NRM: tree planting on degraded land
- d. RL: livelihood diversification – handicrafts, home vegetable gardening, fruit tree planting
- e. SLC: Snow leopard sign and prey species surveys; village Conservation Committees and Village Wildlife Guards; community conservation awareness programs

Communications Strategy

The AHM Project will expand and leverage communications in the final two years of the grant to illustrate the importance of conserving high-altitude ecosystems and improving the livelihoods of communities on the edge of the snow leopard range. We will focus on showcasing how the iconic, endangered snow leopard in six of the twelve range countries can foster national awareness and stronger transnational cooperation to protect and increase the resiliency of Asia's high mountain landscapes. The communications plan (included in Annex 3) will target audiences both regionally in Asia and internationally to improve understanding of how climate adaptation and sustainable practices in high altitude communities of Asia will help safeguard livelihoods throughout the region, secure sustainable development in these fragile regions, and reduce impacts on snow leopard habitat and prey.

With a renewed focus on communications and the hire of a regional communications manager, we will promote the importance of snow leopard landscape management plans in GSLEP Priority Landscapes, and how this will help build resiliency in high mountain landscapes and communities. The AHM Project will capture and share stories about community-based climate adaptation across the region, especially in the ten demonstration sites that will serve as small-scale models of integrated climate-smart snow leopard habitat conservation interventions.

We will build local communications capacity within our WWF and partner offices to spread the word within the countries on the importance of conserving these high-mountain landscapes and securing the livelihoods of the isolated and often political marginalized populations living there. Communications strategies will help build awareness, interest, understanding and action on these issues – targeting national and sub-national decision makers and the constituents who influence them.

The new AHM quarterly newsletter will have a flexible structure that will allow the local offices to highlight national news in addition to the results reflected from the rest of the project – thus enabling the local USAID missions and other partners to use the newsletter in-country to promote and foster pride in national results as well as inform the national audiences about what is happening and can be learned from the other AHM countries.

Furthermore, we will facilitate the sustainability of the project by raising awareness among both existing and potential future partners and donors through further development of the Third Pole GeoLab website and its promotion in international climate, snow leopard, development and conservation networks. We will also utilize both national and high-level international events to elevate the AHM project among climate, water and snow leopard conservation experts and practitioners, in particular GSLEP events. Throughout the final two years, we will establish our WWF US project web page in the US as the international hub for project communications, and will ensure that the newsletter and other mediums supply a steady drumbeat of stories that reach our target audiences.

OBJECTIVES AND ACTIVITIES**Objective 1: Promote climate-smart management of snow leopard habitat for sustainable development in Asia's high mountain landscapes and communities.**

As detailed above, under Objective 1, WWF will continue to work with local communities to promote snow leopard conservation, implement appropriate climate adaptation strategies for conservation, livelihoods, and local natural resource management, and launch participatory watershed management activities.

The following sub-objectives and activities directly contribute to consolidating ten demonstration sites in five project countries. In an important shift in the final two years of this project, we will hire a social science expert to work with each of our demonstration sites to ensure that the integration of natural resource management, snow leopard conservation, and adaptation activities is informed by social science parameters.

In addition, WWF will continue to focus our efforts on groundbreaking snow leopard research in Mongolia to advance technology and best practices, and establish and disseminate learning that can be used in other landscapes.

***Level of Effort for Objective 1 in Year 4: Total \$954,567
(USAID: \$862,206; WWF Match: \$86,170)***

Sub-objective 1.1: Strengthen local natural resource institution's governance and capacity.

WWF firmly supports the principle that the key to improving natural resource management in poor high mountain communities participating in the AHM Project is to empower local residents of these communities to sustainably manage these resources themselves. Although these communities have sustainably managed their resources for centuries, over the last five decades traditional practices have come under growing threat due to a wide variety of factors, including population growth; growing external economic pressure to produce a wide array of mountain resources at a commercial scale, including timber, cashmere wool, caterpillar fungus, and wildlife products; shifting cultural values as the outside world increasingly intrudes on these remote mountain communities; climate change; and shifting government policies on issues such as grazing, logging, water rights, and hydropower development.

Activities under this sub-objective will address these issues by training local communities on improved, sustainable management of relevant local natural resources, including pasturelands, forests, water sources, and medicinal plants. Participants will also be trained on alternative energy sources to reduce woodcutting, monitoring of illegal hunting, logging, and commercial-scale plant collection, and methods for adapting local livelihoods to a changing climate. These trainings will be conducted through existing local natural resource users groups or through creation of new groups where none exist. Trainings will be inclusive of all strata of society, including women, the poor, and groups that are either locally or regionally marginalized. Through these training activities, natural resource management skills, citizen participation, and

adherence to regulations concerning natural resource use will be improved as will the knowledge of local conservation issues. Details of Project Year 4 activities under Sub-objective 1.1 are discussed below.

Activities

Activity 1.1.2: Train local associations and NGOs to improve institutional governance and their capacity on sustainable management of natural resources. (Countries: K)

Country: Kyrgyzstan

In Kyrgyzstan in AHM Project Year 4, WWF will organize capacity building trainings and provide trainers to lead trainings on best practices for natural resource management and climate adaptation in the Chong Kyzyl Suu River basin. These trainings will target community NGOs and other community groups (“jaamats”) in the basin and will include trainings on pasture management, sustainable forest use, and sustainable medicinal plant and mushroom collection for inhabitants of the upper basin; trainings on sustainable pasture management for inhabitants of the middle basin; and sustainable water use technique, such drip irrigation techniques, for farmers residing in the lower basin.

Expected Outputs/Results:

- Local capacity for sustainable natural resources management and climate adaptation is increased in the Chong Kyzyl Suu basin, best management practices are introduced and implemented at demonstration sites, and successes are replicated elsewhere in the project region of Kyrgyzstan.
- Local capacity of water user’s communities to manage water resources in the Chong Kyzyl Suu basin is increased.

Activity 1.1.3 Provide technical support for local associations and NGOs to conduct awareness raising activities regarding sustainable natural resource management and use. (Countries: B, K, N)

Country: Bhutan (WCNP)

In Bhutan in AHM Project Year 4, WWF will provide support to Wangchuck Centennial National Park (WCNP) to engage Buddhist monks in WCNP to teach local residents about the need to protect the park’s wildlife. Local Buddhist monks in WCNP have expressed great interest in helping with WCNP’s wildlife conservation efforts and are highly respected and trusted by local residents. Thus these monks can be very influential with respect to improving community support for wildlife conservation and protection. In this regard, WCNP will provide training on wildlife ecology, conservation, and protection efforts in the park to monks from the Peseling Monastery in WCNP’s Central Range. Then, as part of Buddhist teachings at public gatherings such as Buddhist religious festivals, monks will give talks on the importance of wildlife conservation and protection in WCNP, not only from the religious perspective, but also from an ecological point of view, including on the need to protect snow leopards and halt wildlife poaching. These Buddhist religious festivals in WCNP’s Central Range are typically attended by anywhere from several hundred to over a thousand herders, farmers, and their children, so there is a great potential to

reach a large number of park residents with wildlife conservation messages at these events. Monks from Peseling Monastery will also participate in anti-poaching work by conducting trap and snare removal activities in the vicinity of their monastery.

Expected Outputs/Results:

- Awareness of threats to snow leopards and other wildlife is raised among hundreds of herders and farmers residing in WCNP's Central Range.
- Effectiveness of wildlife conservation and anti-poaching efforts in WCNP is improved through the participation of local and highly-respected Buddhist monks.
- Trust and cooperation with respect to wildlife conservation is built between WCNP, Peseling Monasteries, and local residents.

Country: Kyrgyzstan

In Kyrgyzstan in AHM Project Year 4, WWF will provide support to community groups Akshyrak, Engilchek, and Karakolka Villages as well as to villages in the Chong Kyzyl Suu River basin to organize "Land of the Snow Leopard Festivals," International Snow Leopard Day events, and other conservation awareness raising activities. These events will focus on informing communities about wildlife conservation and environmental issues, sustainable management of local natural resources, local climate change impacts, and possible climate adaptation strategies. These events will feature a variety of activities targeting men, women, and children, such as expert lectures; speech, drawing, and essay contests; ecological theatre and various activities and games for school ecology clubs. An educational summer eco-camp for schoolchildren from the project region will be organized on the shore of the Lake Issyk Kul. Collection of traditional environmental knowledge and local legends and folk tales about the environment and will be initiated, with the stories gathered being published for wider distribution among interested parties.

Expected Outputs/Results:

- Local NGOs, women's groups, and teachers are empowered to build awareness of environmental and conservation issues and to educate their communities about policy, institutional, and practical methods for improving sustainable natural resource management and climate-change adaptation actions.
- Participation of school children in environmental awareness activities will be increased through their attendance at the summer eco-camp.
- In general, awareness of conservation issues and local participation in conservation activities is increased.

Country: Nepal

In Nepal in AHM Project Year 4, WWF will provide support to local communities in the Kangchenjunga Conservation Area for holding public awareness raising events to mark International Snow Leopard Day, National Conservation Day, Environment Day, and Wildlife Week. These events will seek to raise awareness of both local and international conservation, environment, and climate change issues. These events will be organized in cooperation with local communities, AHM partner organizations, and other stakeholders. At the same time, a parallel Snow Leopard Day celebration is being planned for Kathmandu that will be covered by local media.

Expected Outputs/Results

- Several public awareness raising events held to mark international environment days are celebrated.
- Awareness of conservation, environment, and climate change issues is raised both among participants and the broader general public through media coverage of these events.

Activity 1.1.5: Raise awareness and provide education about the role of predators, particularly snow leopards, in maintaining the ecological health of mountain pastures. (Countries: B, P)

Country: Bhutan (WCNP)

In Bhutan in AHM Project Year 4, WWF will provide support to Wangchuck Centennial National Park (WCNP) staff to hold rotating International Snow Leopard Day events at five schools in the Western Range of WCNP in October. The majority of students at these schools are the children of nomadic livestock herders. Through these events, awareness of threats to snow leopards will be raised among both children and their parents. Activities to be held at these schools will include snow leopard-themed quiz, debate, and drawing contests as well as lessons on snow leopard ecology taught by WCNP staff. Educational materials about snow leopards, such as posters, notebooks, and bookmarks with information on snow leopards, will also be distributed.

Expected Outputs/Results:

- Awareness of threats to snow leopards raised among 540 children and their parents from herding families in five villages that reside seasonally in snow leopard range areas of WCNP.
- Participating children become knowledgeable about basic snow leopard ecology and behavior.
- Awareness and protection of wildlife in WCNP is improved in general.

Country: Pakistan

In Pakistan AHM Project Year 4, WWF will organize a series of six awareness raising events, of which four will be held in Gilgit and two will be held in Chitral. These events will mark the International Day for the Preservation of Ozone Layer, International Snow leopard Day, International Mountain Day, and World Environment Day. These events will target both school children and adults in Asia High Mountains (AHM) Project communities to raise their awareness on a variety of environmental issues ranging from snow leopard conservation to water, climate, and land-use issues.

Expected Outputs/Results:

- Targeted awareness raising events marking various international environment days are held and attended by a broad range of stakeholders in demonstration sites, ranging from school children and teachers to local livestock herders, farmers, and media outlets.

- Awareness is raised about a variety of environmental issues affecting local AHM Project communities as well as about AHM Project activities to address these issues.
- Broader community support for AHM Project activities is garnered.

Activity 1.1.10: Work with tribe/community-based traditional resource management groups to build capacity for better natural resource management, including curtailing illegal hunting of wildlife and resource extraction, better regulating free grazing near core snow leopard habitat, and enacting watershed conservation measures. (Countries: I, P)

Country: India

In India in AHM Project Year 4, WWF will continue work on improving management of caterpillar fungus (*Cordyceps*) harvesting in alpine meadows above Lachen Village in North Sikkim. The draft manual on sustainable harvesting of caterpillar fungus developed in AHM Project Year 3 will be revised as needed and will be distributed in Lachen and Lachung Villages to improve awareness of best harvesting practices. In the spring of 2016, garbage bags will be distributed to caterpillar fungus harvesters for bringing their trash back to town for proper disposal. The possibility of providing portable, efficient, wood stoves for reducing cutting of rhododendrons for fuel by caterpillar fungus collectors will also be discussed with the Lachen Dzumsa (village council). Other natural resource management activities to be supported in AHM Year 4 will include continued patrolling of the Green Lake trekking trail in cooperation with Lachen Dzumsa to prevent illegal activities; continued monitoring of wildlife, medicinal plants, and other natural resources in the Khangchendzonga Biosphere Reserve by local Himal Rakshaks (“mountain guardians”); and formation of a *Pokhri Sanrakshan Samitee* (“lake protection society”) dedicated to sustainable management of high altitude lakes and their surroundings in Sikkim that are heavily visited by tourists.

Expected Outputs/Results:

- Improved sustainability of caterpillar fungus harvesting methods.
- Reduced illegal activity in the high altitude areas due to improvement of patrol and monitoring regimes.
- Establishment of a new institution for conservation of high altitude areas of North Sikkim.

Country: Pakistan

WWF will support the sustainability of the program in this area by continuing its support to local village conservation committees in Chitral District by training committee members on proposal writing for conservation and livelihood development grants as well as on relevant donor networks.

Expected Outputs/Results:

- Training support provided to village conservation committees in Chitral District.
- Capacity of participating local village conservation committee members is increased with respect to conservation project design and fundraising.

**Level of Effort for Sub-objective 1.1: Total: \$45,851
(USAID \$24,308; WWF Match \$21,542)**

Sub-objective 1.2: Increase community resiliency to climate change impacts.

Scientific evidence now indicates that temperatures in the Arctic, Antarctic, far northern regions, and at high altitudes are increasing at significantly faster rates as a result of global climate change than at low elevation areas of the equatorial and middle latitudes. While poor high mountain communities in the project region have contributed little to the buildup of greenhouse gases in the earth's atmosphere, these same communities are suffering disproportionately large impacts from climate change, including loss of water sources, a decline in productivity of alpine pastures resulting from climate change, and more erratic and extreme weather phenomenon, such as spring droughts, out-of-season snowfalls, and extreme rainfall events.

In order to mitigate the impacts of a changing climate on high mountain communities, WWF will work with local communities, resource users groups, and relevant government agencies, to develop project site-specific actions to assist project communities in adapting to a changing climate. These actions will focus on such issues as ensuring water and livelihood security and increasing the resilience of local ecosystems that residents depend on for their survival as their regional climate warms. This will include conducting climate vulnerability assessments and developing climate adaptation strategies for all project sites, with a particular focus on improving livelihood sustainability for rural dwellers residing in or adjacent to snow leopard habitat. It is expected that successful climate adaptation strategies developed through this project will be replicated throughout the high mountain regions of Asia. Details of Project Year 4 activities under Sub-objective 1.2 are discussed below.

Activities

Activity 1.2.1: Work with local communities to implement adaptation actions identified in climate change vulnerability assessments that reduce vulnerabilities of communities, high mountain ecosystems, and snow leopards. (Countries: B, K, N)

Country: Bhutan (UWICE) – 1.2.1A

In Bhutan in AHM Project Year 4, WWF will support the Ugyen Wangchuck Institute of Conservation and Environment (UWICE) to develop a demonstration “Climate-Smart Village” in Wangchuck Centennial National Park (WCNP) to showcase climate adaptation actions that can benefit rural farming communities in WCNP and elsewhere in northern Bhutan. One predominately farming-based village in WCNP will be selected for this demonstration based on economic need; relative lack of food security; high vulnerability to climate induced stresses and disasters such as drought, flooding, and extreme weather events; and frequent general water stress with respect to agricultural needs. At the selected village, UWICE will demonstrate climate-smart agricultural technologies and practices, such as rain water and waste water harvesting, cultivation of drought resistant crop varieties, mulching of crops to inhibit weed

growth and maintain topsoil moisture, composting of waste material and manure for enhancing fertility of fields, introduction of pesticide-free pest management strategies and human-wildlife conflict reduction strategies, and in general increasing the adaptive capacity of the selected village with respect to climate change impacts on their livelihoods.

Expected Outputs/Results

- Climate adaptation strategies developed and implemented for one demonstration village in WCNP that are suitable for replication elsewhere in northern Bhutan.
- Water, food, and livelihood security as well as adaptive capacity with respect to climate change impacts are increased in the participating village.
- Human-wildlife conflict reduced in the participating village, thus providing benefits for WCNP wildlife and the park's biodiversity in general.

Country: Bhutan (UWICE) – 1.2.1B

In Bhutan in AHM Project Year 4, WWF will provide support to the Ugyen Wangchuck Institute of Conservation and Environment (UWICE) to map, inventory, and conduct a time series change analysis of high altitude wetlands in Wangchuck Centennial National Park (WCNP). The purpose of this work will be to evaluate climate change impacts on high mountain water sources, such as lakes, ponds, bogs, wet meadows, and other wetlands, and to evaluate the potential hydrological implications of these changes for park and downstream residents whose livelihoods depend on these water sources. Findings of this work will be shared with both the Watershed Management Division (WMD) and WCNP to inform other conservation activities in the park.

Expected Outputs/Results:

- A complete inventory of currently existing wetlands in WCNP will be conducted.
- A historical time series change analysis of wetlands in WCNP will be performed to determine climate change impacts on these wetlands.
- Findings of this work will be shared with WMD and WCNP to inform their work in the park and to determine the possible implications of these changes on downstream water users in WCNP and beyond.

Country: Kyrgyzstan

In Kyrgyzstan in AHM Project Year 4, as a follow up to both the climate vulnerability assessment conducted in Year 3 and the natural resource management and climate adaptation trainings conducted in the Chong Kyzyl Suu River basin under activity 1.1.2, above, WWF will begin implementation of proposed natural resource management and climate adaptation actions. The first action will be development and implementation of a climate-smart pasture management plan for the Chong Kyzyl Suu River basin using “Electronic Pasture Management” software developed by UNDP-Kyrgyzstan. This software facilitates development of local pasture management plans based on the seasonal movements of both livestock and local wildlife, among other factors. WWF will also conduct a drip irrigation demonstration for farmers in the lower Chong Kyzyl Suu Valley to illustrate one strategy for making more efficient use of limited water resources.

Expected Output/Results:

- Residents of the Chong Kyzyl Suu River basin in the Central Tian Shan learn new, climate smart techniques for improving management of local water and pasture resources.
- Residents of the Chong Kyzyl Suu River basin have their capacity to adapt to a changing climate increased.
- Successes of these climate adaptation and natural resource management activities are replicated elsewhere in Kyrgyzstan.

Activity 1.2.2: Work with local institutions (e.g. agricultural extension offices, local resource user groups, and herder groups) to promote best land management practices and enhance crop productivity and climate resilience through rainwater harvesting, small-scale water storage, and introduction of drought and pest-tolerant crops. (Countries: B, I, N, P)

Country: Bhutan (WCNP) – 1.2.2A

In Bhutan in AHM Project Year 4, WWF will provide support to Wangchuck Centennial National Park (WCNP) to conduct a demonstration to restore 30 acres of degraded land to its original bamboo cover in the western range of WCNP. Bamboo in western WCNP has been widely harvested by yak herders who earn additional income in winter by making and selling bamboo products such as traditional baskets and floor mats. Bamboo thickets are also widely grazed in winter by yak herds. As a consequence, bamboo cover in western WCNP has declined drastically in recent years, resulting in the loss of important source of livelihood for local herding families as well as eliminating habitat for bamboo-dependent species. In order to address this issue, WCNP will work with the Sephu Geog government and local communities to establish bamboo plantations that will be sustainably managed. This activity will have a variety of benefits for herder incomes, watershed management, and increasing the resilience of local ecosystems to climate change impacts and will be suitable for replication elsewhere in northern Bhutan.

Expected Outputs/Results:

- 30 acres of degraded land formerly under bamboo will have bamboo thickets restored with benefits for herder incomes, watershed management, ecosystems, and local climate adaptation efforts.
- Capacity of local communities to sustainably manage their important bamboo resources is increased.
- Pressure on remaining wild bamboo thickets in surrounding areas is reduced with benefits for local wildlife such as red pandas.

Country: Bhutan (WCNP) – 1.2.2B

In Bhutan in AHM Project Year 4, WWF will provide support to Wangchuck Centennial National Park (WCNP) to perform springshed protection work on an important spring recharge area in Nubi Geog in WCNP's western range. Due to reportedly dwindling water supplies from this spring source, WCNP will plant a 5 acre catchment area above the spring source with native trees and shrubs and will fence off the area to keep free-roaming livestock out of the village's

water supply source area. Groundwater recharge trenches will also be dug at the site and a small pond will be constructed below the spring source for watering domestic livestock.

Expected Outputs/Results:

- A five acre area of a local springshed supplying water for two villages is improved and protected with respect to clean water provision.
- Water security of two villages is directly increased through provision of a continuous supply of safe drinking water.
- The capacity of local communities to pursue similar low cost climate adaptation activities is enhanced.

Country: Bhutan (WMD) – Activity 1.2.2C

In AHM project year 4, WWF will support the Watershed Management Division (WMD) to develop demonstration watershed management plans for degraded areas of the upper Nikka Chu and Kuri Chu Rivers in Wangchuck Centennial National Park (WCNP). In AHM Project Year 3, WMD began watershed degradation and climate vulnerability assessments for these two river basins. In addition, WMD is collecting secondary scientific and socioeconomic data on topics such as hydrology, soils, wildlife, and development planning from relevant agencies and institutions, including the Druk Green Power Cooperation's (DGPC) which is planning hydropower projects on both the Kuri Chu and Nikka Chu basins. Upon completion of these assessments, WMD will conduct four community consultations on watershed management plan development with participation of local government leaders, several hundred farmers and herders residing in these two watersheds, and WCNP staff. Using findings of the assessments and community consultations, WMD will develop comprehensive watershed management plans for both basins that will focus on issues related to surface water supply and quality at these two sites. Upon completion of the draft plans, they will be presented at stakeholder workshops for review and endorsement by stakeholders. Implementation of the plans will be expected to commence in AHM Project Year 5.

Expected Outputs/Results:

- Watershed degradation and climate vulnerability assessments are completed for the upper Nikka Chu and Kuri Chu River basins.
- Landscape management plans focusing on surface water supply and quality in these two basins of WCNP are developed through a participatory process.
- These plans and their implementation at demonstration sites serve as a model for improving landscape management and water security for communities in WCNP and elsewhere in northern Bhutan.

Country: India

In India in AHM Project Year 4, WWF will work on developing climate adaptation strategies for Lachen and Lachung villages in Sikkim based on the earlier climate vulnerability assessment conducted by WWF. The VA identified a need to improve sustainability of agriculture and to strengthen tourism initiatives. In the agriculture sector, the focus for this year will be on working with farmers' groups in Lachen and Lachung villages and conducting awareness programs for

them on sustainable farming practices looking at issues of promoting traditional crop varieties, crop diversification and land management. With respect to agriculture, WWF will partner with local development NGOs to train a few selected farmers on possible adaptation actions for agriculture and to be local resource persons to disseminate lessons learned to other farmers in their Lachen and Lachung. This training will be accompanied by a study on changes in agricultural practices over the last few decades and the reasons for these changes, particularly with respect to changes in farm productivity resulting from state government promotion of organic agriculture, which will inform development of adaptation actions. Possible adaptation actions for farming may include using locally available resources to increase soil fertility, integrated pest management, and crop diversification. Another adaptation strategy that will be examined will be boosting farm incomes by linking farmers with local hotels and homestays to provide locally produced food to be served to tourists.

Expected Outputs/Results:

- Adaptation strategies for farmers residing in Lachen and Lachung villages are developed.
- Several farmers are trained as local resource persons for testing and disseminating lessons learned from demonstration climate adaptation activities.
- Capacity of local farmers with respect to adapting to local climate change impacts increased.

Country: Nepal – 1.2.2A

In Nepal in AHM Project Year 4, WWF will continue work on preparation of a comprehensive watershed management plan for the Tamor River sub-basin within the Kangchenjunga Conservation Area (KCA). The 2012 Tamor River basin climate change vulnerability assessment prepared by WWF revealed that climate-related issues affecting the basin included drying up of spring water sources; declining stream flow levels; increases in flooding and landslides; a decline in pasture productivity; increasing incidence of forest fire; a decline in NTFP harvests in higher areas; and an increase in avalanche occurrence, among other issues. WWF will address these issues, as well as water security in general, through preparation of a climate-smart watershed management plan for the basin that will be developed through a participatory process. Stakeholders to be consulted during the watershed management plan development and implementation process will include the Kangchenjunga Conservation Area Management Council (KCAMC), local communities, government line agencies, and other relevant stakeholders.

Expected Outputs/Results:

- Preparation of an inclusive, climate-smart integrated watershed management plan for the upper Tamor River basin within the KCA.
- Water security and ecosystem resilience to climate change impacts in the upper Tamor River Basin will be increased, providing benefits for both KCA and downstream communities.

Country: Nepal – 1.2.2B

In Nepal in AHM Project Year 4, WWF will continue to support local institutions and communities in the KCA to implement climate adaptation plans that were prepared with earlier

support (2010-2013) under the USAID-funded SCAPES Sacred Himalaya Landscape Project. This will include providing support to implement local climate change adaptation activities that strive to improve both water and food security. With respect to water security, WWF will conduct spring source protection and rainwater harvesting activities as well as introducing water efficient practices and technologies. With respect to food security, WWF will promote adaptive agriculture, such as by promoting climate resilient crop varieties that are drought and pest resistant.

Expected Outputs/Results:

- Climate-smart practices for local water resource management and agriculture are introduced to remote communities in the KCA.
- 300 households will have increased adaptive capacity to mitigate local climate change impacts.

Country: Pakistan

In Pakistan in AHM Project Year 4, WWF will begin implementing actions recommended in climate-smart watershed management plans developed through a participatory process in Project Year 3 for two small river basins in Gilgit-Baltistan (GB) and Khyber-Pakhtunkhwa (KP). In order to improve water security at these sites, demonstration activities will likely include introduction of improved water storage methods, such as clean water storage tanks and ponds, as insurance against spring droughts. With respect to improved land management, methods for reducing rates of riverbank erosion and subsequent loss of agricultural lands will be introduced, such as by reinforcing river banks with densely planted sea buckthorn, willow shrubs, and multiple rows of live brushwood spurs as well as limited rip-rap work to protect new plantings. WWF will also introduce improved grazing management techniques in KP.

Expected Outputs/Results:

- Watersheds management is improved at two demonstration sites and methods for reducing severity of river bank erosion and landslides are demonstrated.
- Damage to valuable agricultural land by floods is reduced due to introduction of protective works along river banks.
- Water storage provides an uninterrupted supply of clean water during both droughts and floods.
- Successes of these improved watershed management activities are replicated elsewhere in northern Pakistan.

Activity 1.2.3: Promote climate-smart grazing practices that maintain healthy pastures for livelihoods and wildlife (e.g. rotational grazing and grazing set asides). (Countries: B, K, M, N)

Country: Bhutan (WCNP) – 1.2.3A

In Bhutan in AHM Project Year 4, WWF will provide support to Wangchuck Centennial National Park (WCNP) to repair two bridges on major trails in the highland area of Sephu Geog in WCNP's western range. Repairs to these bridges will ensure that yak herders continue their

full seasonal migration between their summer and winter pastures and will also be used by rangers patrolling the park as well as by caterpillar fungus collectors who migrate to the area in June.

Expected Outputs/Results:

- Two bridges constructed on a major trail in WCNP that improves ability of yak herders to migrate to summer pastures, improving rates of pasture rotation.
- Ability of park rangers to conduct patrols in the area throughout the year is improved.
- Traffic along this route remains on the main trail, reducing disturbance to surrounding habitat.

Country: Bhutan (WCNP) – 1.2.3B

In Bhutan in AHM Project Year 4, WWF will provide support to Wangchuck Centennial National Park (WCNP) for trail repairs in WCNP's Western Range. Trail repairs will benefit yak herders, rangers, caterpillar fungus collectors, and tourist trekking groups using this trail. Repair of this trail will also reduce disturbance to surrounding habitat by users looking for safe ways around damaged trail sections.

Expected Outputs/Results:

- Repairs are made along a 15 km stretch of trail along the main route through WCNP's western range, greatly improving the ability of yak herders to migrate to and rotate livestock between summer pastures.
- The ability of rangers to patrol the park is improved.
- Disturbance to habitat in areas surrounding damaged sections of trail is greatly reduced.

Country: Kyrgyzstan

In Kyrgyzstan in AHM Project Year 4, WWF will continue to support keeping of a demonstration yak herd to illustrate one method of climate-smart herding suitable for replication elsewhere in the Tian Shan that will directly benefit participating communities. Notably, with the success over the first two years in building up the yak herd's size, additional high altitude pasture area will need to be leased from local pasture committees to support the growing herd.

Expected Outputs/Results:

- Awareness of the importance of pasture rotation for pasture health is improved and use of some remote, disused pastures is restarted.
- Use of yaks increases grassland ecosystem resilience to climate change impacts by reducing overgrazing resulting in improved grassland productivity, reduced rapid runoff of rainfall, and increased infiltration.
- Knowledge of climate change impacts and adaptation methods among participating herders is enhanced through better planning and optimization of seasonal sharing of grazing lands between communities.

Country: Mongolia

In Mongolia in AHM Project Year 4, WWF will implement pasture management plans developed through a participatory process during AHM Project Years 2 and 3 in four soums

(counties) surrounding the Jargalant Khairkhan and Bumbat Khairkhan AHM Project sites. These plans will promote group herding and will draw on experiences learned through improving management of saiga antelope habitat in western Mongolia. The plans will emphasize the important role of maintaining intact ecosystems and wildlife populations in keeping pasturelands healthy and productive. Successes in implementation of these community pasture management plans will be replicated later at other snow leopard priority areas.

Expected Outputs/Results:

- Community pasture management plans are implemented in four soums in western Mongolia, eventually leading to improved pasture conditions and improved grassland ecosystem resilience to climate change impacts.
- Awareness of the importance of maintaining intact ecosystems and wildlife populations to maintain pasture health and productivity is raised among local herders.
- Successes of community pasture management plan implementation are replicated elsewhere in snow leopard areas in Mongolia.

Country: Nepal

In Nepal in AHM Project Year 4, WWF will work with the local communities and herders in the KCA to promote sustainable grazing and pastureland improvement initiatives to maintain healthy pasture ecosystems. These pasture management initiatives will include promoting rotational grazing; invasive species control; water source protection and improvement; improved predator-proof corrals; and improvement in pasture access facilities, such as trail improvements, that result in increased rotation of pastures and improved quality of all local pasture lands. In addition, WWF will support selected KCA communities with a trial livestock vaccination campaign to reduce disease transmission from domestic livestock to wild ungulates in the KCA. These pasture management initiatives, in addition to benefitting local livestock herders will also help improve habitat for wild ungulate species, such as blue sheep, that form the prey base of local snow leopard populations.

Expected Outputs/Results:

- Sustainability of management of 1,500 ha of pasture land in the KCA is improved.
- Livestock disease and mortality is reduced through improved monitoring and vaccination of livestock.
- Habitat for snow leopard prey species is be improved and rate of transmission of livestock diseases to wild prey species is reduced.

Activity 1.2.5 Partner with University of Colorado to establish a system of monitoring and evaluation to test headwater ecosystem conservation efforts and downstream benefits for water supplies (Countries: B)

Country: Bhutan (UWICE)

In Bhutan in AHM Project Year 4, WWF will provide support to the Ugyen Wangchuck Institute of Conservation and Environment (UWICE) to conduct a hydro-meteorological study of highland valleys in WCNP. Working in cooperation with the University of Colorado, UWICE

will design a study using multiple portable HOBO weather stations to measure temperature, precipitation, and wind speed gradients as well as other parameters along the axis of major valleys in WCNP. Knowledge gained through this study will provide insight into climatic variation in WCNP's major highland valleys as well as establishing a baseline for comparing future climate change impacts on these valleys.

Expected Outputs/Results:

- Four portable HOBO weather stations are set up along an elevational gradient in WCNP.
- Climatic variation in WCNP's major highland valleys studied in detail for the first time.
- A baseline for comparing future climate change impacts on these valleys is established.

Activity 1.2.6 Perform GLOF risk assessment in Gilgit-Baltistan to determine potential risks to local communities and snow leopards, and establish adaptation measures to increase climate resilience of communities. (Countries: P)

Country: Pakistan – 1.2.6A

As a follow up to WWF's earlier climate vulnerability assessment work in northern Pakistan, in AHM Project Year 4, WWF will conduct district level consultative workshops on climate change impacts to finalize climate change adaptation strategies for AHM Project sites in Gilgit-Baltistan (GB) and Chitral. As one important part of these climate adaptation strategies, project communities will be educated about threats from climate change-related hazards, such as GLOFs and increased occurrence of flooding and avalanches, with WWF training community members on how to avoid loss of life and property during these events. WWF will also prepare recommendations for local administrators on reducing risks from the above mentioned hazards, such as improved community planning and development of early warning systems for communities in the path of potential hazards, and will begin demonstration activities for hazard mitigation. Finally, WWF will organize exposure visits between local AHM Project communities in Chitral and GB so that they can share their experiences with one another regarding climate change impacts and hazards.

Expected Outputs/Results:

- Awareness raised among project communities about climate change impacts and hazards as well as on adaptation strategies for mitigating these impacts and hazards.
- Future adaptation planning and disaster relief management in natural hazard prone areas is improved to reduce the risk of loss of life and property to these hazards.
- Livelihood security in hazard prone sites is increased.

Country: Pakistan - 1.2.6B

In Pakistan in AHM Project Year 4, WWF will continue to support local project communities in diversifying their livelihoods as an important part of community climate adaptation strategies. This work will include further promotion of planting of fast-growing, multi-purpose tree seedlings, particularly in deforested areas of watersheds, as well as planting of home fruit orchards, and fodder crop cultivation. Another alternative livelihood activity that will continue to be promoted is production and marketing of high value woolen products, such as shawls, gloves,

socks, jackets, and rugs, with establishment of a community resource center to train women artisans, process raw material, and give advice on preparing a range of products. In terms of increasing energy efficiency and reducing fuel wood cutting to improve local water provision and ecosystem resilience to climate change, WWF will demonstrate the benefits of fuel-efficient stoves, techniques for insulating homes, and use of low cost solar panels for lighting in both Gilgit-Baltistan and Chitral District. Local communities will also be given trainings on improving sustainability of non-timber forest product (NTFP) collection and on improving the processing and marketing of local NTFPs.

Expected Outputs/Results:

- Alternative livelihoods to grain farming and livestock herding, such as agro-forestry and handicrafts, are introduced to other project communities that have not earlier participated in these activities.
- Fuel-efficient stoves, home insulation, and solar panels are demonstrated as low cost measures for reducing wood consumption and improving living standards.
- Income of local women and their respective households is increased through the sale and marketing of locally made woolen products.

***Level of Effort for Sub-objective 1.2: Total: \$409,228
(USAID \$387,685; WWF Match \$21,542)***

Sub-objective 1.3: Enhance community engagement in conservation.

A guiding principle of all WWF's conservation efforts is to involve local communities in every step of conservation initiatives, as it is ultimately up to the residents of areas inhabited by threatened species of wildlife to ensure the continued long term survival of these species. As elsewhere, in Asia's high mountains it is usually the economic activities of local residents, including the clearing of forests for farmland, cutting of trees for fuel wood, grazing of livestock, collection of economically valuable plants, and commercial and subsistence hunting of wildlife, that pose the largest direct threats to the survival of local wildlife. However, WWF has widely demonstrated that through a combination of wildlife conservation education campaigns and providing local residents with incentives to protect wildlife, inhabitants of remote areas cannot only coexist with local wildlife populations but also thrive.

Activities under this sub-objective seek to increase community participation in wildlife conservation efforts in the high mountains of Asia, in particular with respect to snow leopards, and to provide community members with incentives for doing so. These activities will include strengthening participation of local residents in snow leopard conservation efforts, mitigating the economic impacts on local herders of snow leopard depredation on livestock, promoting sustainable harvest of NTFPs and MAPs, supporting the development of alternative livelihoods in high mountain communities in snow leopard habitat, increasing participation in sustainable pasture management activities, and providing alternative energy technologies. Details of Project Year 4 activities under Sub-objective 1.3 are discussed below.

Activities

Activity 1.3.1: Strengthen participation of local communities, (e.g. *Himal Rakshaks* – mountain guardians, herder groups, and SLCCs) in conservation of snow leopards and climate change adaptation activities in headwater ecosystems. (Countries: B, I, M, N)

Country: Bhutan (WCNP) – 1.3.1A

In Bhutan in AHM Project Year 4, WWF will provide support to Wangchuck Centennial National Park (WCNP) to conduct a snow leopard awareness raising workshop for residents of Kazhi and Nubi Geogs in western WCNP. This workshop will target both highland yak herders and farmers in Kazhi and Nubi, since members of both types of households move into snow leopard habitat each spring to collect caterpillar fungus, potentially causing great disturbance to snow leopards, their prey species, and habitat. Participants will be taught about a variety of topics, including the ecological significance of the snow leopard, human-snow leopard conflict, grazing conflict between domestic livestock and snow leopard prey species, threats to snow leopards, and the need for local citizen scientists to monitor and protect snow leopards.

Expected Outputs/Results:

- Awareness of the role of the snow leopard in WCNP's alpine ecosystems is raised among inhabitants of WCNP through education programs and the distribution of educational materials.
- Groundwork is laid for establishing an effective network of citizen scientists to monitor and protect snow leopards, their prey species, and habitat among nomadic livestock herders in the highland areas of western WCNP.

Country: Bhutan (WCNP) – 1.3.1B

In Bhutan in AHM Project Year 4, WWF will provide support to Wangchuck Centennial National Park (WCNP) to establish a Snow Leopard Conservation Committee (SLCC) in Kazhi Geog in WCNP's Western Range. This committee will be modeled on the SLCC established earlier in WCNP's Central Range, members of which will share their experiences with the new Kazhi SLCC. Once trained, members of the Kazhi SLCC will work with WCNP staff to conduct local snow leopard conservation activities, including local awareness raising, anti-poaching, and wildlife monitoring activities. Training provided to the SLCC members will include further lessons on snow leopard ecology and methods for reducing human-snow leopard conflict.

Expected Outputs/Results:

- A snow leopard conservation committee in Kazhi Geog in WCNP's Western Range is established with membership composed of local yak herders.
- SLCC members are trained on snow leopard ecology and threats to snow leopards as well as on local awareness raising, anti-poaching, and wildlife monitoring activities.
- Community cooperation with WCNP and participation in conservation activities increases with direct benefits for snow leopards and their habitat.

Country: Bhutan (WCNP) – 1.3.1C

In Bhutan in AHM Project Year 4, WWF will provide support to Wangchuck Centennial National Park (WCNP) to send local Snow Leopard Conservation Committee (SLCC) members on an exchange visit to Sikkim to learn about community conservation work conducted by members of volunteer Himal Rakshak's groups in snow leopard range areas of the Khangchendzonga Biosphere Reserve in Sikkim. Himal Rakshaks are mountain guardians, and specifically are volunteer rangers in areas where rangers do not exist. On this exchange, participants from the two groups will share lessons learned about controlling poaching and human wildlife conflict, wildlife monitoring, and increasing local community participation in conservation activities.

Expected Outputs/Results:

- Capacity and motivation of members of newly formed SLCCs from WCNP is increased with respect to conducting community conservation activities.
- SLCC members' awareness of broader regional snow leopard conservation initiatives is increased.
- Lessons learned are disseminated among other SLCC members at SLCC meetings in WCNP and through accompanying rangers upon their return to Bhutan.

Country: India

In India in AHM Project Year 4, WWF will continue to conduct awareness raising and capacity building programs with respect to ecological issues for high altitude communities in Sikkim that are closely associated with snow leopard habitat. Community members will be trained on monitoring snow leopards and their prey base species to build local capacity and increase community participation in wildlife conservation activities. Selected community representatives will also be taken on exchanges to other snow leopard landscapes in India for enhancing their understanding of snow leopard conservation. At the same time, WWF will continue to lobby the Sikkim state government with respect to launching a control program for feral dogs in the snow leopard range areas of the state where these dog packs pose a major threat to both wildlife and domestic livestock.

Expected Outputs/Results:

- Citizen scientists are trained to monitor snow leopards and their prey species resulting in increased community participation in wildlife conservation activities in Sikkim.
- Awareness of snow leopard conservation issues and climate change impacts on high altitude wetlands is raised in northern Sikkim and strategies are developed to address these issues.
- Capacity of local community associations to develop sustainable land-use and livelihood practices is increased.

Country: Mongolia

In Mongolia in AHM Project Year 4, WWF will provide support to two community-based organizations (CBOs) at Khajingiin Nuruu and Sair Khairkhan Local Protected Areas to improve local natural resource management, including by developing and implementing a wildlife-friendly pasture management plan and pasture use regulations as well as by conducting snow

leopard prey species conservation activities. WWF staff will also organize snow leopard and prey species monitoring surveys at Bumbat Khairkhan, Baatar Khairkhan and Darvi Mountains with the participation of local herders. These citizen scientists will be provided with snow leopard monitoring handbooks and necessary field equipment.

Expected Outputs/Results:

- A pasture management plan and pasture use regulations are developed and implemented at the Sair Khairkhan Local Protected Area.
- Management of pastures and wildlife in the Sair Khairkhan and Khajingiin Nuruu Local Protected Areas is improved.
- At least 40 herder households benefit from improved natural resource management activities at these two local protected areas.
- At least 20 local citizen scientists receive training and are equipped to better study and protect snow leopards and their prey species in western Mongolia.

Country: Nepal

In Nepal in AHM Project Year 4, WWF will continue to build the capacity of local snow leopard conservation committees (SLCC) members in the KCA to monitor snow leopards and their prey species. This will include providing further training to these citizen scientists and mobilizing them to monitor snow leopards and snow leopard prey species such as blue sheep in their home regions. Findings of these monitoring surveys will be used to plan future wildlife conservation activities at these sites.

Expected Outputs/Results

- Members of four SLCCs in the KCA receive further training as citizen scientists with respect to monitoring snow leopards and local blue sheep populations.
- SLCC citizen scientists are mobilized to conduct snow leopard and blue sheep monitoring.
- Conservation efforts to protect snow leopards and blue sheep in the KCA are improved.

Activity 1.3.2: Study the severity of livestock depredation and develop a comprehensive human-snow leopard conflict mitigation program (e.g. livestock insurance schemes). (Countries: I)

Country: India

In India in AHM Project Year 4, WWF will continue to examine patterns of livestock depredation in snow leopard range areas of Sikkim and will map out human-wildlife conflict hotspots. Together with findings of earlier WWF human-wildlife conflict surveys conducted in Sikkim, key factors that predispose livestock to depredation will be determined and appropriate conservation interventions will be planned in consultation with local herders.

In addition, WWF will also conduct semi-structured interviews with residents of project communities to gain a better understanding of their attitudes and perceptions of local predator populations.

Expected Outputs/Results:

- A technical report with a map of human-wildlife conflict hotspots in snow leopard range areas of Sikkim will be prepared, and which will also include an analysis of the reasons behind this conflict.
- The attitudes and perceptions of local communities towards local predator populations will be gauged and baseline estimates of livestock populations and stocking densities in the project region will be determined.
- Findings of this work will be used to plan appropriate human-wildlife conflict mitigation actions for the benefit of both herders and wild carnivores.

Activity 1.3.9: Develop and support community-based eco-friendly income generation training and alternatives (e.g. felt production, facilitating market linkages, production of yak/horse milk and cheese, eco-tourism). (Countries: K)Country: Kyrgyzstan – 1.3.9A

In Kyrgyzstan in Project Year 4, WWF will strive to increase the livelihood security of families living in snow leopard habitat by supporting women's groups in three villages surrounding the Sarychat-Ertash State Reserve. This will be accomplished through start of new livelihood activities such as yak wool processing, establishment of family homestays, and training of local families on basic ecotourism principles and marketing. In addition, WWF will also provide continued training to local women on both felt making and handicraft production as well as supporting marketing of crafts produced, such as by sponsoring AHM Project participants to take part in the annual "Oiyimo" handicraft fair and market at Lake Issyk Kul.

In the Chong Kyzyl Suu River valley, WWF will begin a series of livelihood diversification activities for community NGOs and other community groups ("jaamats") that will include demonstrations on milk product, mushroom, and medicinal herb processing as well as beekeeping and solar fruit drying equipment demonstrations. In addition, support will be provided for marketing of these value-added products in nearby market towns while training on development of community-based eco-tourism operations will also be conducted. All of the above livelihood activities will be tied to a commitment from participants to work on preventing poaching of snow leopards and their prey species in the vicinity of their communities, and to community support for other AHM Project conservation activities, such as sustainable pasture management and climate adaptation activities.

Expected Outputs/Results:

- Livelihoods security of families in four project communities in snow leopard habitat areas will be improved.
- Community motivation and participation in AHM Project conservation activities is increased.
- Protection of the local snow leopard populations is improved.
- Livelihood diversification activities serve as one step for improving the adaptive capacity of local communities in the face of a changing climate.

Activity 1.3.10: Provide alternatives to fuel wood including clean energy sources and more efficient fuel wood cook stoves to reduce adverse effects on forests. (Countries: B)Country: Bhutan (WCNP)

In Bhutan in AHM Project Year 4, WWF will provide support to Wangchuck Centennial National Park (WCNP) to introduce solar lighting technology to WCNP on a demonstration basis to yak herders from Sephu Geog in WCNP's western range. Currently, yak herders from Sephu use lamps burning kerosene imported from India for lighting cabins and tents, which is both expensive for herders and contributes to respiratory problems that many of them suffer from. Under this activity, WWF will provide half the USD 107 purchase price of portable solar lighting panels, for 71 herding families in the Western Range, with these families themselves providing the other half of the purchase price. This donation will be accompanied by lessons on snow leopard ecology and ways of reducing human-wildlife conflict and threats to snow leopards in the highlands of WCNP. Thus this activity will not only introduce participating herders to a clean, renewable energy source, but will increase their motivation for protecting wildlife and make a contribution to their improved respiratory health.

In WCNP's central range, WWF will demonstrate solar hot water heaters for bathing facilities at the Peseling Monastery. In doing so, local residents visiting the monastery will be made aware of one clean alternative energy source to firewood for heating large amounts of water, which will also improve hygiene at the monastery where Buddhist monks will soon be participating in AHM Project conservation activities in WCNP (see Activity 1.1.3, above).

Expected Outputs/Results:

- 71 herding households introduced to a clean, renewable energy source for lighting that largely eliminates the use of kerosene lamps among these families with benefits for their respiratory health.
- The Peseling Monastery and surrounding residents learn about one clean alternative energy source to firewood.
- Awareness raised about wildlife issues in WCNP.
- Motivation increased for local participation in wildlife protection activities in WCNP.

Country: Kyrgyzstan

In the vicinity of the Sarychat-Ertash State Reserve, WWF will demonstrate the use of clean alternative energy sources in remote summer pastures off the power grid, such as solar panels for lighting, solar hot water heaters, and small wind turbines – which will reduce the use of kerosene, candles, low quality disposable batteries, fuel wood, and dung that are the traditional fuel sources at these camps, all of which are detrimental to the environment and/or respiratory health. In addition, in the Chong Kyzyl Suu River Valley, WWF will also demonstrate solar panels for lighting, solar hot water heaters, and a micro-hydropower generator.

Expected Outputs/Results:

- Local community groups are introduced to the use of alternative energy sources in their daily lives, with benefits for both health and the local environment.
- Carbon-free alternative energy sources and technologies are demonstrated at project sites, reducing local pollution.

Activity 1.3.11: Promote sustainable Community Based Tourism (CBT) by strengthening existing initiatives of home stays and sustainable tourism practices, and engaging private sector, investors, and operators. (Countries: B, I, N)

Country: Bhutan (WCNP)

In Bhutan in AHM Project Year 4, WWF will provide support to Wangchuck Centennial National Park (WCNP) to carry out site improvements on a hot spring popular with both local residents and tourists in Chokhor Geog in WCNP's Central Range. This hot spring site is considered to have medicinal properties and is one of the prominent ecotourism attractions in along the main trekking route through central WCNP. Improvements to be conducted at this site will include construction of sheds near the pools for visitors to change in, improvement of the trail to the hot spring, and general clean-up of the area surrounding the spring. Following improvements, the hot spring site, along with local homestays and other ecotourism activities in the area, such as trekking, mountain biking, and birdwatching, will be promoted through the Association of Bhutanese Tour Operators (ABTO). The expectation is that ecotourism promotion in WCNP will provide residents of remote local communities with additional income earning opportunities.

Expected Outputs/Results:

- One popular hot spring site improved in WCNP's western range.
- Visits to the hot spring site are promoted as one of a number of ecotourism attractions in western WCNP.
- Promotion of the hot spring eventually leads to increased economic benefits for local homestay operators and other residents of western WCNP.

Country: India

In India in AHM Project Year 4, WWF will continue to cooperate with Ecotourism and Conservation Society of Sikkim (ECOSS) in regard to promoting sustainable tourism practices in the ecotourism centers of Lachen, North Sikkim and Kitam, South Sikkim which are both adjacent to important wildlife sites. In the upcoming project year, WWF and ECOSS will focus on developing ecotourism products in consultation with local participants, as well as continuing to build their capacity through targeted ecotourism training programs. WWF and ECOSS will also work to improve promotion and marketing of these ecotourism initiatives through the Sikkim Homestays website. In addition, WWF will continue work to improve solid waste management at high altitude ecotourism sites.

Expected Outputs/Results:

- Capacity of local project participants is increased with respect to sustainably operating and marketing local ecotourism businesses.
- Livelihoods at these sites are diversified and livelihood security increased for participating families, increasing their adaptive capacity with respect to local climate change impacts.
- Solid waste disposal practices and policy are improves in high altitude areas of Sikkim.

Country: Nepal – 1.3.11A

In Nepal in AHM Project Year 4, WWF will provide to support local communities to promote sustainable community based tourism (CBT) in the Kangchenjunga Conservation Area (KCA) and adjoining areas. These efforts will include supporting the KCA management council (KCAMC) to engage the private sector, including trekking companies and private investors, for cooperation in promoting sustainable ecotourism practices. WWF will also support KCAMC on improving ecotourism facilities. Earlier plans to establish a KCA hotel owners' network that were postponed by the April 25th earthquake will be carried out with the goal of increasing facilities and also developing and implementing improved menus in hotels and eateries along the main trekking routes. WWF will also organize a stakeholder's workshop to discuss other ecotourism issues in the KCA.

Expected Outputs/Results

- The KCAMC becomes more engaged in direct outreach to tour operators and trekking companies to promote tourism and sustainable tourism practices in the KCA.
- Tourist facilities in the KCA and adjoining areas improve with respect to both quantity and quality.
- A network of lodge owners is established in the KCA to promote sustainable ecotourism practices, share lessons learned in better business management practices, and to promote KCA tourism opportunities among tour and trekking operators.

Country: Nepal – 1.3.11B

In Nepal in AHM Project Year 4, WWF will support local communities and tourism enterprises to resolve the problem of solid waste disposal in the KCA. Community-managed solid waste disposal systems will be established in the larger villages along the main KCA trekking route which will emphasize reuse and recycling of local rubbish. Workshops will be held in all participating villages to introduce new solid waste disposal protocols and a follow-up evaluation will be conducted to see how new systems are working.

Expected Outputs/Results

- New community based solid waste management systems are established and operationalized at key tourism villages along the main KCA trekking route.
- Awareness of solid waste disposal management issues is raised and capacity to manage these issues is raised among residents of participating villages.

*Level of Effort for Sub-objective 1.3: Total: \$85,866
(USAID \$64,323; WWF Match \$21,542)*

Sub-objective 1.4: Conserve the snow leopard and its habitat in priority sites.

The endangered snow leopard is only found in the high mountains of Asia, and the species generally only resides at high altitudes on barren windswept mountain ridges in some of the

harsh environments on earth. In spite of its choice of remote, inhospitable habitat, the snow leopard is currently threatened by the advance of human civilization into its domain as a result of growing population pressure, the never ending quest for mineral and other natural resources with which to meet growing societal demands, and the climatic warming of its range that has made much of the snow leopard habitat less forbidding than in former times. Notably, the regions inhabited by the snow leopard are also the source areas of nearly all of Asia's most economically important rivers and the locations of glaciers which are also under threat from global warming. Thus, the snow leopard is not only the iconic species of the high mountain Asia, but also emblematic of threats to the region's water sources, including rivers such as the Amu Darya, Syr Darya, Indus, Ganges, Brahmaputra, Mekong, Yangtze, and Yellow that are the economic life blood for nearly one-third of humanity.

Given the symbolic, ecologic, and geographic significance of the snow leopard's home range in the "Water Towers" of Asia, the species can serve as an ideal umbrella species for the comprehensive protection of wildlife, ecology, and water resources in the high Asia region. Consequently Sub-objective 1.4 is dedicated to the protection of this iconic species. Activities under this sub-objective will strive to protect the snow leopard through a comprehensive program of scientific research on the distribution and behavior of the snow leopard as well as on its habitat at all project sites. These efforts will all be designed to involve local communities in snow leopard conservation, research and education efforts. In addition, anti-poaching, protected area establishment and expansion, and technical and policy support activities will also be conducted under this objective. Details of Project Year 4 activities under Sub-objective 1.4 are discussed below.

Activities

Activity 1.4.1: Develop a monitoring protocol for selected field sites to assess abundance and distribution of snow leopards and their prey base using sign surveys, fixed-point counts, camera traps, and genetic analysis. (Countries: I)

Country: India

In India in AHM Project Year 4, WWF will continue with the snow leopard camera trap survey launched in AHM Project Year 3 in North Sikkim. This survey will cover an area of 3000 km² of potential snow leopard habitat in Sikkim. Findings of the survey will be used to estimate snow leopard population size and density using available models. At the same time a snow leopard prey species survey will also be conducted focusing primarily on local blue sheep and argali populations while snow leopard scat samples will be collected for later genetic analysis. A report on findings will be produced with recommendations for improving protection of snow leopards, their habitat, and prey species in Sikkim. Camera trap photos taken of snow leopards in Sikkim will be shared with WWF researchers working in the Nepal KCA to gauge the extent of cross boundary habit use by snow leopards in the Kangchenjunga Region of Nepal and India.

Expected Outputs/Results:

- Estimates of population, population density, and distribution of snow leopards and their prey species are made for all potential snow leopard habitat within Sikkim.

- A detailed technical report on the status of snow leopards and their prey in Sikkim is prepared with recommendations for improving protection of snow leopards, their habitat, and prey species in the Sikkim.
- The extent of cross-boundary habit use by snow leopards in the Sikkim and Nepal Kangchenjunga region is evaluated.

Activity 1.4.4: Perform snow leopard population survey by collecting and performing genetic analysis, and potentially using camera traps in sites where snow leopards are present. (Countries: K, M, N, P)

Country: Kyrgyzstan

In Kyrgyzstan in AHM Project Year 4, WWF will work with Duquesne University to genetically analyze snow leopard scat samples collected in the Sarychat-Ertash State Reserve during AHM Project Year 3. Results of these analyses will be used to better estimate the snow leopard population size at the reserve and to look at broader regional population dynamics in the snow leopard's northern range areas based on earlier genetic analysis by Duquesne of snow leopard scat from Pakistan and Mongolia. WWF will also attempt to contribute to an experimental genetic technique that will analyze snow leopard DNA collected from snow leopard tracks found in snow with support from a French laboratory that has pioneered this technique.

Expected Outputs/Results

- Genetic analysis of snow leopard scat samples will give a refined estimate of snow leopard population size in the Sarychat-Ertash reserve as well as new insight into population relationships with snow leopards in Pakistan and Mongolia.
- The first experimental trial will be conducted using a new technique to identify snow leopard individuals from DNA left in snow footprints.

Country: Mongolia

In Mongolia, WWF will partner with Duquesne University to conduct a program of collection and genetic analysis of snow leopard scat samples in the Altai-Sayan Ecoregion. Both local biologists and protected area staff as well as citizen scientists will be trained on the purpose of and sampling protocol for snow leopard scat genetic surveys. Training on collection of snow leopard scat samples for DNA analysis will be led by a WWF staff scientist and scat collection will rigorously follow the sampling protocol developed by Duquesne University. Scat samples will be shipped to the Duquesne University wildlife genetics laboratory where university scientists will perform the actual DNA analyses. Results of these analyses will be used to determine kinship relationships and possible migration corridors between widely scattered snow leopard populations in the Altai-Sayan Ecoregion. Results of the study will be used for designing future conservation initiatives and expansion of the protected area system for the benefit of snow leopards and its prey. Successes of this effort will later be replicated at other snow leopard priority regions elsewhere in Mongolia.

Expected Outputs/Results:

- At least 20 participants from AHM Project priority areas are trained on proper genetic sampling protocol for snow leopard scat.

- At least 100 snow leopard scat samples are collected at project areas for laboratory analysis of DNA.
- Findings of snow leopard scat sample DNA analysis are used for improving design of snow leopard conservation initiatives as well as for improving coverage of the snow leopard protected area network in the Altai-Sayan Ecoregion of Mongolia.

Country: Nepal

In Nepal in AHM Project Year 4, WWF will conduct a snow leopard DNA survey in the region surrounding the Kangchenjunga Conservation Area (KCA) to better understand the population dynamics of snow leopards in this region. Snow leopard scat will be collected along new snow leopard sign transects in the study area and will be sent for genetic analysis at a laboratory in Kathmandu. Findings of the DNA analyses will be compared with findings of the earlier 2012 snow leopard DNA survey conducted in the KCA, after which key snow leopard priority landscapes and dispersal corridors in the region will be identified and heightened conservation efforts implemented at these sites.

Expected Outputs/Results:

- A snow leopard DNA survey is conducted in the region surrounding the KCA and findings compared with the earlier 2012 KCA survey.
- Results of both surveys are used to identify priority snow leopard landscapes and dispersal corridors in need of heightened conservation efforts.

Country: Pakistan

In Pakistan, WWF will conduct a series of snow leopard sign surveys that will place an emphasis on collection of snow leopard scat for DNA analysis to identify individual snow leopards and better estimate snow leopard population sizes at AHM Project sites. Ultimately, genetic knowledge of snow leopards gained through DNA surveys in northern Pakistan will help identify key landscapes and dispersal corridors in need of improved protection for conservation of snow leopard populations. Findings of DNA analyses of snow leopard scat will be shared with all interested researchers in both AHM and non-AHM project countries so that further progress can be made towards assembling a complete picture of snow leopard population interactions throughout the species range. Thus synergies will be built with others already conducting DNA surveys in snow leopard range areas, with significant activity co-financing expected.

Expected Outputs/Results:

- A series of snow leopard scat genetic surveys are conducted in Gilgit-Baltistan and Chitral District with DNA analysis of scats being conducted by an outside laboratory.
- Laboratory DNA analysis of snow leopard scats results in improved estimates for snow leopard populations at project sites as well as providing insight into snow leopard population dynamics and dispersal corridors in northern Pakistan.
- Knowledge gained from these surveys and analyses will be used to generate an updated snow leopard distribution map for the project region as well as to improve design and implementation of landscape level snow leopard and prey species conservation plans in northern Pakistan.

Activity 1.4.5: Begin radio-tracking of snow leopards using GPS collars to collect information on home range size, habitat type and preferences, hunting behavior and frequency, and activity patterns. (Countries: N)

Country: Nepal

In Nepal in AHM Project Year 4, WWF will continue monitoring of one snow leopards collared in the KCA earlier, and will attempt to collar a third snow leopard. Through this process, WWF is gathering invaluable detailed information on snow leopard home range size, habitat preferences, and behavior in the KCA. Findings of this activity will be shared with scientists in neighboring countries for the purpose of improving transboundary snow leopard conservation efforts in the Kangchenjunga landscape.

Expected Outputs/Results

- Monitoring of 2 collared snow leopards in the KCA is continued and a third snow leopard is collared.
- A report is prepared on the home range size, habitat preferences, and behavior of collared snow leopards in the KCA which is shared with all interested parties.
- Findings of this research are used to improve transboundary snow leopard conservation efforts in the Kangchenjunga Region.

Activity 1.4.6: Train local community members, such as livestock herders, to be citizen scientists conducting monitoring of snow leopard populations, prey species, and threats to snow leopards (e.g. poaching, retaliatory killing, and habitat degradation) and to conduct anti-poaching efforts through local SLCCs and other wildlife protection organizations. (Countries: B, M, N)

Country: Bhutan (WCNP)

In Bhutan in AHM Project Year 4, WWF will provide support to Wangchuck Centennial National Park (WCNP) to strengthen anti-poaching efforts by conducting a field survey on current poaching activities in the park and preparation of a strategy to combat poaching in WCNP. In spite of great improvements in awareness of threats to wildlife among local residents in WCNP, the great financial rewards to be gained through wildlife poaching continue to attract poachers to the park. Poaching in WCNP is generally conducted by indiscriminately setting snares, which are a threat to all animals in the park, not just lucrative target species such as snow leopards and musk deer. Poaching also occurs in the form of illegal harvest of timber and medicinal plants, such as caterpillar fungus, without permits. As a first step to strengthening anti-poaching work in the park, a WCNP staff member will collect and summarize recent poaching data from WCNP. This desk study will be followed by a park-wide survey of local community leaders about poaching activities in the park that will be accompanied by anti-poaching patrols along major travel corridors in the park to look for both snares and poachers engaged in illegal wild animal and plant harvesting activities. Based on findings of these surveys and patrols,

WCNP staff members will prepare a survey report on poaching in WCNP and strategy for improving law enforcement to combat poaching in the park.

Expected Outputs/Results:

- A survey and anti-poaching patrols are conducted to assess the current state of poaching in WCNP at the present time.
- A report on survey findings is prepared accompanied by a strategy for reducing poaching in WCNP.
- Poaching in WCNP is reduced through a combination of improved law enforcement and increased participation of local residents in reporting poaching activities to law enforcement officials.

Country: Mongolia

In Mongolia in Project Year 4, WWF will train interested local herders, protected area administration specialists, and rangers on systematic methods for monitoring snow leopards and their prey species using sign surveys, camera trapping, and fixed point prey survey counts. By involving local herders in snow leopard monitoring activities, better long term data on the status of snow leopards and their prey can be gathered at project sites at a minimal cost, which can be used to better inform the design of future wildlife conservation initiatives in the region. Successes at these sites will later be replicated at other project areas in the western Mongolia.

Expected Outputs/Results:

- Protected area staff and local herders at AHM Project sites are trained on various methods of monitoring of snow leopards and their prey species.
- WWF's snow leopard and prey species monitoring database is expanded to include findings of surveys at Bumbat Khairhan, Baatar Khairkhan and Darvi Mountains.
- Awareness and protection of snow leopards and their prey species is improved at Jargalant Khairkhan, Bumbat Khairkhan, Baatar Khairkhan, Darvi, and Khukh Serkh Mountains.

Country: Nepal

In Nepal in AHM Project Year 4, WWF will support the Kangchenjunga Conservation Area Management Council (KCAMC) and local communities to conduct community-based anti-poaching operations (CBAPO) at selected sites in the KCA. These operations will include anti-poaching patrols that will search for both poachers and evidence of illegal wildlife trade in the KCA as well as remove wildlife snares and traps as they are discovered. In addition, WWF will build the capacity of these teams for conducting conservation activities focusing on forests, wildlife, and sustainable natural resource management in headwater ecosystems.

Expected Outputs/Results

- 8 CBAPO teams are mobilized to conduct anti-poaching operations in the KCA, including snare removal work.
- Poaching of snow leopards, blue sheep, and other wildlife is prevented.

- Capacity of CBAPO team members is increased with respect to conducting conservation activities in the KCA.

Activity 1.4.7: Train high mountain nomadic herders to monitor snow leopards, habitats, and threats (e.g. poaching, retaliatory killing, and habitat degradation).

Country: Kyrgyzstan

In Kyrgyzstan in AHM Project Year 4, WWF will train herders and other interested parties residing in the Chong Kyzyl Suu River basin to conduct snow leopard sign, camera trap, and prey species surveys. In the course of this work, herders will also be taught about basic snow leopard ecology and threats to these cats. Through this process, awareness of threats to snow leopards will be raised and protection of snow leopards and their prey improved.

Expected Outputs/Results

- Local citizen scientist trained to monitor snow leopards increasing available data on snow leopard and prey species populations and their distribution in Kyrgyzstan.
- New priority snow leopard sites are identified in the Tian Shan that will be targeted by future conservation actions.
- The awareness of herders and other interested groups of the ecological importance of snow leopards is increased through their direct involvement in snow conservation activities.

Activity 1.4.8: Establish a watch and ward system of Village Wildlife Guards to protect snow leopards and other species against hunting and poaching in Gilgit-Baltistan and Chitral. (Countries: P)

Country: Pakistan

In Pakistan in AHM Project Year 4, WWF will continue to combat killing of wild predators and other wildlife at AHM Project sites through continued support of local village wildlife guards (VWG). This support will include providing VWGs with small monthly honorariums as well as necessary training and equipment.

Expected Outputs/Results:

- Continued support for VWGs reduces threats to local wildlife in demonstration sites in northern Pakistan.
- Community support for conservation activities is increased through interaction with these local VWGs.

Activity 1.4.9: Support patrolling by providing anti-poaching teams with field supplies and gear, and conduct trainings to improve capacity of private game management entities. (Countries: K)

Country: Kyrgyzstan

In Kyrgyzstan in AHM Project Year 4, WWF will replicate successes of earlier mobile anti-poaching patrols conducted by rangers and community members. In particular, WWF will continue cooperation and coordination on mobile anti-poaching patrols with the Kyrgyz State Agency on Environment Protection and Forestry (SAEPF), the Issyk Kul Biosphere Reserve, and the rangers of the various nature reserves in Issyk Kul Province, including the Sarychat-Ertash State Reserve. Additional support will be provided to the Sarychat-Ertash State Reserve anti-poaching team, such as providing fuel and spare parts for jeeps, horses for rangers to patrol vast areas of the reserve that are not accessible by motor vehicle, and uniforms and field equipment needed by rangers.

Expected Outputs/Results:

- Overall effectiveness of anti-poaching patrolling efforts in Issyk Kul Province is greatly increased with benefits for local wildlife.
- Cooperation and communication between various anti-poaching operations in Issyk Kul Province is enhanced.
- Successes of this anti-poaching effort are replicated in other provinces of Kyrgyzstan.

Activity 1.4.10: Involve local communities in species conservation activities through conservation education, training, and practical experience in snare removal and fire prevention. (Countries: K)Country: Kyrgyzstan

In Kyrgyzstan in AHM Project Year 4, WWF will work with local communities in the buffer zone of the Sarychat-Ertash State Reserve and Chong Kyzyl Suu River basin to increase their involvement in species conservation activities through a diverse array of activities. These activities will include snare removal, community anti-poaching patrols, implementing methods to reduce loss of livestock from snow leopards and wolves, and wildfire prevention.

Expected Outputs/Results:

- Participation of community members residing around the Sarychat-Ertash Reserve and Chon Kyzyl Suu basin in conservation activities is increased.
- Local wildlife populations such as snow leopards receive direct benefits through reduced poaching, retaliatory killing, and improved habitat management.

Activity 1.4.11: Pursue establishment of a system of protected areas for snow leopard conservation that considers recent and predicted changes in key habitats. (Countries: K)Country: Kyrgyzstan

In Kyrgyzstan in AHM Project Year 4, WWF will continue to work to pursue expansion of the national protected area system to improve protection of snow leopards, their prey, and habitat. This will include a WWF-led full biodiversity assessment of the Chong Kyzyl Suu River basin. WWF will also work in cooperation with government partners to establish a protected area

covering the Chong Kyzyl Suu River gorge. At the same time, WWF will continue to implement activities of the ongoing WWF Central Asia Econet Project to expand and improve management of protected areas in the inner Tian-Shan.

Expected Outputs/Results:

- Initial biodiversity assessment and government outreach is conducted as first steps in establishing a Chong Kyzyl Suu River gorge protected area.
- Protection of snow leopard habitat in remote areas of eastern Kyrgyzstan is improved.

Activity 1.4.12: Support wildlife habitat management practices (e.g. establishing feeding fields and ensuring mosaic structure of habitat in agricultural landscapes). (Countries: K)

Country: Kyrgyzstan

In Kyrgyzstan in AHM Project Year 4, WWF will establish cooperation with the Issyk Kul Biosphere Reserve administration and the Issyk Kul Province Hunting department to improve management of wildlife in the Chong Kyzyl Suu River Basin, which provides habitat for snow leopards, Tian Shan brown bears, and their prey. This cooperation will include providing technical support to improve sustainability of infrastructure planning and to maintain a mosaic structure of wildlife habitat within farming areas to preserve local biodiversity.

Expected Outputs/Results:

- Capacity of Issyk Kul Province Hunting Department staff is increased with respect to improving wildlife management in the Chong Kyzyl Suu River basin.
- Current levels of biodiversity in the Chong Kyzyl Suu River basin are maintained through these conservation efforts.

Activity 1.4.13: Provide technical and financial support to forest departments and communities to protect habitat. (Countries: M, N)

Country: Mongolia

In Mongolia in AHM Project Year 4, WWF will provide training and technical support to community-based organizations (CBO) and government agencies to implement improved pasture management plans and snow leopard conflict mitigation measures in critical snow leopard habitat. These activities will include improved pasture monitoring, improved water resource protection, establishment of livestock-free pasture set-asides, and corral improvement and relocation of winter livestock sheds to reduce human-wildlife conflict in predator hot spots. Support for these groups will also include donation of necessary monitoring equipment and materials, such as GPS units, maps, and wildlife monitoring methodology handbooks.

Expected Outputs/Results:

- CBOs are provided with the necessary training and support to implement new pasture management plans designed to improve pasture productivity and wildlife habitat, and to mitigate local climate change impacts.

- Local citizen scientists will receive the training and equipment necessary to effectively monitor snow leopards and their prey species in Khajingii Nuruu LPA.

Country: Nepal - 1.4.13A

In Nepal in AHM Project Year 4, WWF will provide support to the KCAMC and the Department of National Parks and Wildlife Conservation to conduct monitoring of AHM Project activities in the Kangchenjunga Conservation Area (KCA). This support will include both training on monitoring procedures as well as logistical support for field visits to project sites. Findings of these monitoring efforts will be used in the adaptive management process to improve current and future conservation activities in the KCA. Notably, WWF will provide direct oversight and review of these monitoring efforts.

Expected Outputs/Results

- Monitoring of AHM Project activities in the KCA is stepped up at this midpoint in the project.
- Findings of monitoring efforts informs the adaptive management process for improving project performance.

Country: Nepal - 1.4.13B

In Nepal in AHM Project Year 4, WWF will provide support to government agencies such as the Department of National Parks and Wildlife Conservation (DNPWC), the Department of Forests (DOF), and their district level offices to improve protection of snow leopard habitat in the Kangchenjunga Conservation Area (KCA). This support will focus on building capacity for high altitude conservation work but will also include support for directly implementing habitat protection initiatives. In addition, WWF will also support meetings of Kangchenjunga Conservation Area Program (KCAP) Program Coordination Committee, Project Executive Committee, and stakeholder meetings. Finally, WWF will also support the (KCAMC) with respect to institutional strengthening, such as improving KCAMC coordination with local stakeholders in regard to improving species and habitat protection in the KCA.

Expected Outputs/Results

- Capacity of institutional stakeholders in the KCA for protecting snow leopards and their habitat is increased.
- Coordination between the KCAMC with local stakeholders working on conservation issues in the KCA is increased.

Activity 1.4.17: Prepare climate smart snow leopard landscape management plans for AHM and GLSEP Priority Landscapes. (Countries: N)

Country: Nepal

In Nepal in AHM Project Year 4, WWF will work with the Kangchenjunga Conservation Area Management Council (KCAMC), relevant government partners, and other conservationists to develop a climate-smart snow leopard landscape management plan for Nepal's eastern GSLEP

priority site. Elements of this plan will include land cover and species distribution mapping, climate vulnerability assessment, future climate scenarios, threats to snow leopards and other wildlife, habitat assessment, sustainable livelihoods, water and natural resource management, and infrastructure development. Development and implementation of this CSSLLMP will play a large role in fulfilling Nepal's Global Snow Leopard and Ecosystem Protection Program (GSLEP) implementation commitments, and will also serve as a model of GSLEP implementation for the other snow leopard range states.

Expected Outputs/Results

- Nepal's national climate-smart snow leopard landscape management plan is developed for Nepal's eastern Himalayas GSLEP priority site.
- Development and eventual implementation of the CSSLLMP plays a large part in fulfilling Nepal's implementation commitments under the GSLEP.
- Protection of snow leopards, their prey species, and habitat improves with co-benefits for water and natural resource management in eastern Nepal.
- Other SL range countries learn how to develop a CSSLLMP and initiate their own planning processes.

***Level of Effort for Sub-objective 1.4: Total: \$321,261
(USAID \$299,718; WWF Match \$21,542)***

Objective 2: Improve transnational collaboration on climate-smart snow leopard conservation in Asia's high mountain landscapes and communities

Under Objective 2, the AHM Project will continue to facilitate discussions on climate change and snow leopard conservation among the range countries, and will support the implementation of GSLEP through the development of a climate-smart landscape management plan. The strategic approach for achieving this objective will focus on mapping snow leopard habitat in GSLEP Priority Landscapes in high mountain Asia; reviewing climate change research, climate vulnerability, and climate policy throughout the snow leopard's range; coordinating efforts between TRAFFIC, INTERPOL's Project Predator, and SAWEN to combat the illegal trade in snow leopard pelts and parts; conducting original field research and field training on snow leopards; organizing international meetings to discuss findings on regional snow leopard, climate, and water resource research and issues; and building multilateral consensus to address these issues.

AHM Project Year 4 activities under Objective 2 are discussed in detail below. Anticipated outcomes from these efforts include an improved scientific understanding of both snow leopards and regional climate change impacts, particularly climate impacts on snow leopards, high mountain communities, and water resources in highland areas that will be incorporated into a climate-smart landscape management plan in a GSLEP Priority Landscape; and improved regional cooperation on snow leopard conservation, snow leopard trade issues, and tackling climate change issues, including water security.

**Level of Effort for Objective 2 in Year 4: Total \$367,000
(USAID: \$317,000; WWF Match: \$50,000)**

Sub-objective 2.1: Building cooperation through the Climate Summit for a Living Himalayas and its regional “Framework of Cooperation” for protection of Asia’s high mountain landscapes and snow leopard conservation.

Regrettably, the Climate Summit for a Living Himalayas process has been on indefinite hiatus since 2013, and in AHM Project Year 4 there are no activities planned under project Sub-objective 2.1.

Sub-objective 2.2: Facilitate discussions on climate change and snow leopard conservation among the range countries.

The issues of snow leopard conservation and climate change impacts on Asia’s high mountains are issues that are inherently transnational in nature, and will ultimately need to be addressed in a cooperative multi-national manner if they are to be effectively resolved. Sub-objective 2.2 seeks to build transnational cooperation on climate change and snow leopard conservation issues in the project region among governments, researchers, and other interested parties, such as relevant NGOs. Activities under this sub-objective will include region-wide research and reviews of climate change impacts - particularly glacial melt, climate vulnerability assessments, climate change policies, threats to water security, and snow leopard conservation efforts. In AHM Project Year 4, WWF will participate in the annual Central Asian Interstate Commission on Sustainable Development (ICSD) meeting, as discussed below.

Activities

Activity 2.2.4: Engage the Central Asian Interstate Commission on Sustainable Development (ICSD) to initiate a dialogue across the Central Asia nations on snow leopard conservation in the face of climate change, which feeds into revised national snow leopard conservation action plans.

Country: Regional (WWF)

In AHM Project Year 4, WWF will continue to cooperate with the Interstate Commission on Sustainable Development (ICSD) on conservation issues, particularly with respect to snow leopard conservation and integrating climate adaptation principles into snow leopard conservation initiatives in Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan. Notably, WWF will again send a representative to the ICSD annual meeting to present the latest results of the AHM Project to ICSD country representatives. At this time WWF will also discuss opportunities for continued cooperation on regional snow leopard conservation and climate change initiatives with these representatives.

Expected Outputs/Results:

- The Central Asia snow leopard range states not directly participating in the AHM Project are informed of the most recent AHM Project achievements in Kyrgyzstan and beyond with respect to snow leopard conservation, climate change adaptation, and the GSLEP process.
- Opportunities for enhancing snow leopard conservation and climate change adaptation initiatives under the GSLEP process are discussed.
- Cooperation on snow leopard conservation and climate change adaptation among ICSD member states is improved.

Level of Effort for Objective 2.2: Total: \$3,000

(USAID: \$3,000; WWF Match: \$0)

Sub-objective 2.3: Update range-wide information on snow leopard trafficking and provide trafficking information to enforcement efforts at the national and regional network levels.

The direct killing of snow leopards by humans is arguably the greatest threat to the continued survival of this majestic and mysterious species today. This includes intentional killing by poachers for commercial sale of snow leopard skins and parts and the retaliatory killing of snow leopards by herders suffering from loss of livestock to these predators, which also often results in the deceased snow leopard's parts being illegally traded for profit. Even more lucrative than the sale of highly prized snow leopard skins is the trade in live snow leopard cubs to circuses and private zoos, which by necessity usually involves the killing of the cub's mother. Activities under Sub-objective 2.3 of this project seek to curb the illegal trade in snow leopard products through a campaign to educate relevant range nation government agencies about this illegal trade and to strengthen law enforcement efforts to combat this trade. Activities will be carried out in partnership with TRAFFIC, INTERPOL, and other partners.

In AHM Project Year 4, specific activities under this objective will include completion of an updated report on the killing and trade of snow leopards, completion of a set of snow leopard trade recommendations to inform governments, incorporation of these recommendations into relevant national and regional snow leopard protection strategies, and working with INTERPOL and snow leopard range-nation governments to improve enforcement of wildlife trade laws. Details of Project Year 4 activities under Sub-objective 2.3 are discussed below.

Activities

Activity 2.3.1: Update information on commercial hunting and trade of snow leopards

Country: Regional-TRAFFIC

In AHM Project Year 4, TRAFFIC will complete its ongoing research on the illegal killing and trade of snow leopards and their parts, and will complete a final report on research findings. Progress in this regard has been slowed due to a lack of information on the snow leopard trade in key snow leopard range states. However, TRAFFIC will address this information gap by conducting targeted discussions with relevant conservationists and NGO workers in key

locations. Before finalizing the report, a draft report will be prepared and distributed to relevant experts for comment, with these comments being incorporated into the final report.

Expected Outputs/Results:

- A final report on the illegal killing and international trade in snow leopard parts is published and distributed to the SLN, conservationists, NGOs, researchers, and relevant government officials in the snow leopard range states.
- Report findings will be used to better enforce regulations protecting snow leopards and other endangered wildlife in the snow leopard range states.

Activity 2.3.2: Develop action-oriented set of recommendations for reducing illegal trade in snow leopard pelts and other products along the trade chain, and inform government enforcement efforts.

Country: Regional-TRAFFIC

In AHM Project Year 4, TRAFFIC will draft a set of action-oriented recommendations addressing the illegal trade in snow leopards and parts for distribution to relevant government environment and law enforcement agencies in the snow leopard range states as well as to the SLN, NGOs, researchers, and other interested conservation workers. These recommendations will be based on the report on commercial hunting and trade of snow leopards compiled under Activity 2.3.1, above. These recommendations will also address wildlife trade policy gaps and briefly summarize ecological threats to the snow leopard.

Expected Outputs/Results:

- One set of recommendations on halting the illegal trade in snow leopards and their parts is produced and distributed to relevant government and conservation stakeholders.

Activity 2.3.3: Incorporate recommendations into range-wide dialogues on snow leopard conservation, revision of Snow Leopard Survival Strategy, national snow leopard conservation action plans, and regional trade initiatives.

Country: Regional-TRAFFIC

In AHM Project Year 4, TRAFFIC will work to get the snow leopard range states to incorporate snow leopard trade recommendations developed in Activity 2.3.2, above, into national snow leopard conservation action plans and regional trade initiatives via presentation of the recommendations at meetings of the Global Snow Leopard Conservation Forum Secretariat and SAWEN, among others.

Expected Outputs/Results:

- A broad discussion is launched on TRAFFIC's recommendations for combating the illegal trade in snow leopards and their parts, resulting in adoption of relevant recommendations by each of the snow leopard range states.

- Based on these recommendations, a communications campaign led by TRAFFIC addressing direct threats to snow leopards from illegal wildlife trade is launched.

2.3.4 Partner and coordinate with INTERPOL through the USAID-funded Project Predator initiative to exchange relevant information.

Country: Regional-TRAFFIC

In AHM Project Year 4, TRAFFIC will continue to work with INTERPOL's Project Predator to combat the illegal trade in snow leopards and their parts. This will include discussion of the snow leopard trade report findings compiled under Activity 2.3.1, above, development of a follow-up strategy based on these findings, and presentation of findings at the GSLEP Range-Wide Snow Leopard Meeting to be held in AHM Project Year 4.

Expected Outputs/Results:

- TRAFFIC and INTERPOL will continue to cooperate on engaging snow leopard range state governments and law enforcement officials with respect to combating the illegal trade in snow leopards and their parts.
- The illegal trade in snow leopards and their parts is reduced through better protection of wild snow leopards and through improved enforcement of wildlife trade laws.

***Level of Effort for Objective 2.3: Total: \$24,500
(USAID: \$24,500; WWF Match: \$0)***

Sub-objective 2.4: Building momentum through a range-wide network for snow leopard conservation.

Given the highly dispersed nature of the snow leopard's range across the remote high mountain areas of the 12 snow leopard range nations, the only way in which we will ever develop a comprehensive picture of the snow leopard across its entire range is through a considerable amount of international cooperation to exchange knowledge and lessons learned concerning this species. In order to achieve this big picture view of the snow leopard across its entire range, under Sub-objective 2.4 of the AHM Project WWF will partner with the Snow Leopard Trust (SLT) and others to undertake a series of regional activities concerning snow leopard research and conservation. In Project Year 4, these activities will include conducting detailed mapping of several GSLEP Priority Landscapes to illustrate the connection between snow leopard habitat, water security, and climate change impacts as a part of the climate-smart landscape management planning process for GSLEP Priority Landscapes; and expanding the Third Pole GeoLab interactive website to present new findings on climate vulnerability and climate change impacts on snow leopards, their habitat, and water resource availability in snow leopard range areas.

Activities

Activity 2.4.1: Conduct a range-wide snow leopard habitat climate vulnerability and grassland degradation analysis using GIS and remote sensing.

Country: Regional – Map Development (WWF US)

In AHM Project Year 4, WWF US will continue work on producing a coordinated set of country-scale thematic maps for GSLEP Priority Landscapes that will illustrate the connection between snow leopard habitat, water security, and climate change impacts. These maps will build upon earlier work that led to development of the WWF map book titled “Guardians of the Headwaters: Snow Leopards, Water Provision, and Climate Vulnerability,” produced in AHM Project Year 2, which looked at these issues at a snow leopard range-wide scale. The new higher resolution maps will have more practical application for improving management of snow leopard range areas with respect to water provision and ecosystem protection. These new maps will be distributed through the password-protected map database area of WWF’s interactive Third Pole GeoLab website. Notably, thematic maps developed under this activity will be a key resource for development of climate-smart snow leopard landscape management plans for implementation in GSLEP Priority Landscapes across the snow leopard’s range.

Country: Regional – GIS Mapping Workshop (WWF US)

WWF will facilitate the mapping process and will hold a workshop for experts knowledgeable about mapping of snow leopard distribution, water resources, and climate change impacts in snow leopard range areas to discuss and share their mapping work. At this time, up-to-date field data from the six AHM Project countries will be collected, compiled, and shared via the new database and website mapping tool. The expert group will also set priorities for the next phase of higher resolution mapping, although these mapping efforts will initially focus on several GSLEP Priority Landscapes. Following the workshop, work will continue on compiling and refining contributed map data to develop a coordinated set of higher resolution maps, which will feature thematic layers on snow leopard distribution, snow leopard range areas ecosystems, land degradation, permafrost distribution, and water provision in priority areas. These map layers will be quickly uploaded to the online mapping tool as they are produced, where they will be available for download.

Expected Outputs/Results:

- A set of higher resolution country scaled maps that illustrate the connection between snow leopard habitat, water security, and climate change impacts are produced.
- These higher resolution maps are shared among experts via a password protected online database and further illustrate the need for greater regional and transboundary cooperation on addressing climate change, water security, and conservation issues in snow leopard range areas.
- This mapping exercise serves as a key component for developing a model climate-smart snow leopard landscape management plan for a GSLEP Priority Landscape, success of which will be replicated elsewhere in the snow leopard range.

Activity 2.4.5 Support a small grants program for site-based and national activities through SLN’s Snow Leopard Conservation Grant to support conservation programs across the snow leopard’s range.

Country: Regional (SLT/WWF US)

In AHM Project Year 4, WWF and SLT will continue to provide funding for the Snow Leopard Conservation Grants Program (SLCGP) which is overseen by the Snow Leopard Network. The SLCGP has been supporting snow leopard conservation work that addresses priority needs identified in the Snow Leopard Survival Strategy (SLSS) since 2003. Preferred proposals focus on grassroots conservation, conservation education, and applied research. The program is open to applications from researchers, students, educators, or conservation practitioners and relevant NGOs from snow leopard range countries as well as international professionals and graduate students working with range country counterparts.

The 2014-2015 SLCGP awards will be jointly supported by the World Wildlife Fund, the Snow Leopard Trust (SLT), the Snow Leopard Conservancy, and the Whitley Fund for Nature, among others. Winning proposals will be awarded USD 1000 to USD 15,000, although most grants will be USD 5,000 or less. In addition, for the third year running, WWF and SLT will also award grants specifically for proposals focusing on aspects of climate change that affect snow leopards and their habitat, with at least one grant up to USD 15,000. Smaller climate-related grants will be awarded for 1) adapting snow leopard conservation plans to ensure they are climate smart, 2) integrating snow leopard conservation into wider development, climate and headwater dialogues at the national level, 3) conducting site-level research on climate change effects on snow leopards and their prey to develop conservation recommendations, and 4) learning through domestic and transboundary exchanges with other snow leopard conservation projects. Winning proposals will be announced in December 2015. Some funding for this activity will be used to conduct monitoring on 2014-2015 AHM-sponsored SLCGP awards. Finally, funds will be available for small grants up to USD 5000 to help countries develop Landscape Management Plans for some of the 23 landscapes identified through the GSLEP process.

Expected Outputs/Results:

- USD 30,000 is awarded for snow leopard conservation projects, particularly projects that address the impact of climate change on snow leopards and their habitat.
- A monitoring and evaluation report on the 2014-2015 SLCGP is produced.

***Level of Effort for Objective 2.4: Total: \$162,500
(USAID: \$162,500; WWF Match: \$0)***

Sub-objective 2.5: Support implementation of the Global Snow Leopard and Ecosystem Protection Program (GSLEP).

Sub-Objective 2.5 will focus on working through the GSLEP Secretariat to identify one GSLEP Priority Landscape in an AHM Project country, and will coordinate with relevant governments, Global Snow Leopard Conservation Forum Secretariat, SLT and other partners to help the country develop a comprehensive Landscape Management Plan using the agreed GSLEP template. This landscape management plan will not only address management of snow leopards and their prey species, but will take an integrated approach that also addresses issues that impact both snow leopards and local residents, such as pasture management, livestock management, management of relevant wood and forest resources, water resource management, climate change

impacts, protected area management, and improved infrastructure planning. WWF will provide technical expertise to ensure that the model plan will show how it can be made 'climate smart'.

Activities

Activity 2.5.1: Provide support to the GSLEP Secretariat and partners to develop climate-smart snow leopard landscape management plan in GSLEP Priority Landscape.

Country: Regional – GSLEP Planning Meeting (WWF US/SLT)

In AHM Project Year 4, WWF will sponsor a planning meeting to discuss development of a climate-smart snow leopard landscape management plan for a GSLEP Priority Landscape in an AHM Project country. Development of climate-smart landscape management plans for GSLEP Priority Landscapes is currently a top priority of the GSLEP Secretariat, as these will be the basis of implementation of national snow leopard conservation plans under the GSLEP in each of the 12 snow leopard range states. This planning meeting will be attended by GSLEP Secretariat staff as well as technical staff of both WWF and SLT. Topics of discussion will include both technical content of these plans, particularly climate adaptation concepts, as well as a path forward for training GSLEP member countries on plan development and implementation. Details on AHM support of this process will also be discussed. This meeting is tentatively planned to be a three-day meeting to be held in the first quarter of 2016.

Expected Outputs/Results:

- MoU is drafted between WWF and SLT outlining details of collaborative technical and financial support for the GSLEP climate-smart snow leopard landscape management planning process as well as for development of landscape management plans in three AHM Project countries, tentatively Kyrgyzstan, Nepal, and Pakistan.
- Agreement reached on the necessary process for development and implementation of GSLEP landscape management plans, including necessary meetings, trainings, budget, staff, and additional partners.
- Agreement reached on a cooperative selection of a Landscape Management Planning Coordinator by WWF and SLT to be seconded to the GSLEP Secretariat headquarters in Bishkek.

Country: Regional – Landscape Management Plan Training (WWF US/SLT)

In AHM Project Year 4, WWF, SLT, and the GSLEP Secretariat will organize a two-week training on developing climate-smart snow leopard landscape management plans. Topics to be covered during this training will include developing future climate scenarios based on existing climate trends; mapping of snow leopard distribution, land cover, land use, and natural resources; designing ecological friendly infrastructure; conducting participatory conservation planning and stakeholder consultations; and comprehensive landscape mapping to identify priority ecological areas, areas of economic importance, and infrastructure corridors. The target audience of this initial landscape management plan training will be the landscape planning coordinators from each of the 12 snow leopard range nations responsible for implementing national snow leopard conservation plans at the 23 GSLEP Priority Landscapes. This meeting is tentatively planned to be a 10-day meeting to be held in the spring of 2016.

Expected Outputs/Results:

- Step-by-step guidelines for development and implementation of climate-smart snow leopard landscape management plans for GSLEP Priority Landscapes are established and agreed upon by meeting delegates.
- Climate adaptation concepts are presented as methods to be integrated into the landscape management planning process.
- A framework and timeline for delivering large-scale conservation results via the landscape management planning process under the GSLEP program are developed.
- Landscape Management Planning Coordinator and National Landscape Lead are trained and ready to start their respective snow leopard landscape management processes.

Country: Regional – GSLEP Study Tour (WWF US/SLT)

In AHM Project Year 4, WWF, SLT, and the GSLEP Secretariat will organize a study tour to Nepal for GSLEP national landscape planning leads from three AHM countries, namely Kyrgyzstan, Nepal and Pakistan. The focus of this study tour will be the Terai Arc tiger landscape, where the landscape management planning process for wildlife conservation has been ongoing since 2001. Topics to be discussed during this exchange will include the landscape management planning process for tigers, detailed landscape mapping, business cooperation, sustainable infrastructure development, community participation in the landscape planning process, and climate adaptation efforts under the Terai Arc landscape management plan. In addition to a site visit, a series of meetings for participants will also be held in Kathmandu with WWF, the National Trust for Nature Conservation, ICIMOD, and others to discuss landscape level conservation efforts in Nepal. This is tentatively planned to be an 8-day study tour that will be conducted in the spring of 2016.

Expected Outputs/Results:

- GSLEP national landscape planning leads learn about a successful ongoing landscape management process for large cats, the success of which they are inspired to emulate at GSLEP Priority Landscapes in their home nations.
- Climate-smart snow leopard landscape management planning in GSLEP Priority Landscapes improves as a result.

Country: Regional – GSLEP Range Wide Meeting (WWF US/SLT)

In AHM Project Year 4, WWF, SLT, and the GSLEP Secretariat will organize a technical meeting that will review draft climate-smart snow leopard landscape management plans for GSLEP Priority Landscapes developed as a result of the training under Activity 2.1.1B, above. The participants of this meeting will include GSLEP national focal points, other range country government representatives, and climate change adaptation experts who will assist in reviewing the plans for climate smartness. Planning guidelines and further development of plans will be discussed as will timetables for completion and launch of national landscape management plans at GSLEP Priority Landscapes. This meeting is tentatively planned to be a 4-day meeting to be held in the summer of 2016.

Expected Outputs/Results:

- The draft model climate-smart snow leopard landscape management plan is reviewed by experts and comments provided for improving the plans.
- Guidelines for development of climate-smart landscape management plans for GSLEP Priority Landscapes are updated by consensus of participants.
- Timetables for completion and implementation of national climate-smart landscape management plans for GSLEP Priority Landscapes are adopted.

Country: Regional – GSLEP Steering Committee Meeting (WWF US/SLT)

In AHM Project Year 4, WWF, SLT, UNDP, and the GSLEP Secretariat will organize the second meeting of the GSLEP Steering Committee. Participants of this meeting will be relevant ministers from snow leopard range countries or their designated GSLEP national focal points as well as steering committee advisory board members, donors, and other interested participants involved in snow leopard conservation work. At this meeting, governance and oversight of the GSLEP process will be reviewed, progress reports on development of climate-smart snow leopard landscape management plans for GSLEP Priority Landscapes will be presented and reviewed, and participation of GSLEP in the new Global Tiger Initiative (GTI) Council will be discussed. This meeting is tentatively planned to be a 4-day meeting to be held in September 2016.

Expected Outputs/Results:

- GSLEP governance matters are reviewed and discussed, with changes made by consensus as needed.
- Progress reports on development of national climate-smart snow leopard landscape management plan for GSLEP Priority Landscape is presented and plan reviewed by participating experts.
- GSLEP participation in the new GTI Council is discussed and voted upon.

***Level of Effort for Objective 2.5: Total: \$177,000
(USAID: \$124,000; WWF Match: \$50,000)***

Cooperation and Coordination with Governments, Stakeholders, and other Donors

Bhutan

In Bhutan, WWF cooperates directly with the Ministry of Agriculture and Forests' Department of Forest and Park Services (DoFPS) in implementing conservation activities. All AHM Project activities are being conducted in Wangchuck Centennial National Park (WCNP), and these activities are being carried out by park staff and other government agencies and institutes, such as the Watershed Management Division (WMD), the Ugyen Wangchuck Institute for Conservation and Environment (UWICE), and various district line agencies. At present, WWF and the DoFPS cooperate very closely with the Government of India on management of the Trans-boundary Manas Conservation Area (TRAMCA) which straddles the southern border of Bhutan and the northern border of India's Assam State. Thus, there is great potential for the project to promote transboundary cooperation on snow leopard conservation and related environmental issues between Bhutan and India.

In terms of public-private partnerships (PPP) and GEF, the autonomous Bhutan Trust Fund for Environmental Conservation (BTSEC), which generates substantial funding for conservation in Bhutan through investment in foreign private-sector mutual funds, and the Ministry of Agriculture and Forests are currently conducting a GEF-funded project focusing on Bhutan's northern protected areas. This project, titled "Sustainable Financing for Biodiversity Conservation and Natural Resources Management in Bhutan," is co-managed by the World Bank and will run for five years. The project will address sustainable livelihood, natural resource, and ecosystem management in Bhutan's three northernmost protected areas JDNP, WCNP, and Bumdeling Wildlife Sanctuary (BWS). Consequently, there is tremendous potential for the AHM Project to contribute to the goals of this new GEF project, particularly with respect to sustainable management of landscapes and climate adaptation in WCP. In the spring of 2013, WWF signed a co-financing letter with the World Bank concerning WWF's project activities within the project boundaries of the northern protected areas GEF.

India

In the Indian State of Sikkim, WWF is conducting all AHM Project activities in direct cooperation with the Government of Sikkim's Forests, Environment and Wildlife Management Department, and is building directly upon earlier WWF project work in the high altitude areas of northern Sikkim. In addition, WWF AHM activities are providing a direct complement to the Government of India's "Project Snow Leopard" which is being carried out in all of India's snow leopard range areas, including Sikkim, by India's Ministry of Environment and Forests. This government project is focusing on implementing a landscape approach to conservation of snow leopard habitat wherein smaller core zones with relatively higher conservation values are being identified for improved protection while larger landscapes will be managed in such a way that local communities will still benefit from sustainable development activities. WWF is also cooperating with the Government of Sikkim's Food Security and Cash Crops Department to develop climate adaptation and agriculture components of the AHM Project.

In terms of partnerships with other NGOs in Sikkim, WWF is working directly with the Khangchendzonga Conservation Committee (KCC) and the Ecotourism and Conservation Society of Sikkim (ECOSS) to implement AHM Project activities focusing on building the capacity of local residents in the project area to conduct conservation and sustainable natural resource management activities. In addition, WWF is continuing to network with other NGOs and government agencies working in Sikkim to facilitate regular sharing and exchanges on various conservation issues in the state.

Kyrgyzstan

In Kyrgyzstan, many AHM Project activities are being carried out in cooperation with the management of the Sarychat-Ertash State Reserve and the soon to be established Khan Tengri National Park, both of which are under the direct administration of the Kyrgyz Republic's State Agency on Environment Protection and Forestry. The project is also working with village-level governments, committees, and organizations in the project region to promote sustainable natural resource management. The AHM Project is seeking to promote transboundary cooperation on snow leopard conservation issues among four member states of the Central Asia Interstate Commission on Sustainable Development (ICSD), namely Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan, at its annual meetings. Importantly, WWF is also supporting the Government of Kyrgyzstan to host the Global Snow Leopard Conservation Forum Secretariat which will support new government-initiated activities on snow leopard conservation across the 12 snow leopard range states.

In terms of cooperation with other NGOs and donors, the AHM Project is supporting anti-poaching trainings and activities at the Sarychat-Ertash Reserve that are complimentary to NABU's anti-poaching activities being conducted elsewhere in the project region of Kyrgyzstan. WWF is also building upon snow leopard research, conservation activities, and ranger trainings already conducted by the Snow Leopard Trust (SLT) and Flora and Fauna International (FFI) at the Sarychat-Ertash Reserve. In addition, since 2009, WWF Russia and WWF Netherlands have funded conservation work in the project region concerning protection of high altitude ecosystems, anti-poaching operations, livelihood trainings, and conservation education. All AHM activities are a direct continuation of this earlier work.

In terms of cooperation with GEF projects, in 2013 a new GEF project covering both the new Khan Tengri National Park and the Sarychat-Ertash State Reserve was launched. This GEF project is titled "Improving the Coverage and Management Effectiveness of PAs in the Central Tian Shan Mountains" and seeks both to establish a new Khan Tengri National Park and improve the management of both the Khan Tengri Park and the Sarychat-Ertash State Reserve. This project is being implemented by UNDP and the State Agency for Environment Protection and Forestry. In addition, in July 2014 a second GEF Project titled "Transboundary Cooperation for Snow Leopard and Ecosystem Conservation" was proposed focusing on Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan. This project will support snow leopard and habitat conservation initiatives at the transboundary and landscape levels, including knowledge generation and sharing, monitoring, and promotion of financial sustainability and partnerships. At present, AHM activities are already providing an excellent complement to the objectives of the first GEF project as well as opportunities for WWF to enhance its cooperation with the

Government of Kyrgyzstan. These AHM activities include continuing to provide needed support to the rangers of the Sarychat-Ertash Reserve and establishing an anti-poaching team in the territory of the future Khan Tengri National Park. WWF has signed a co-financing letter with UNDP concerning WWF's project activities within the project boundaries of the Central Tian Shan Mountains. Once launched, the AHM Project will also complement the new GEF Project through AHM activities in Kyrgyzstan and by providing support to the other three snow leopard range nations to participate in Global Snow Leopard Conservation Forum Secretariat Activities.

Mongolia

In Mongolia, WWF has long worked closely with the Ministry of Environment and Green Development (MEGD) and its predecessors the Ministry of Nature, Environment and Tourism, and the Ministry of Nature and the Environment. Presently, the Government of Mongolia is updating its 2008-2012 National Action Plan for Snow Leopard Conservation, and WWF is providing findings from AHM activities to MEGD and other agencies for the purpose of updating this action plan. These project findings include information on snow leopard distribution and critical snow leopard areas obtained from project monitoring activities, information on human-snow leopard conflict and recommendations for mitigating this conflict obtained from project herder surveys, findings on poaching of snow leopards and recommendations on combating poaching. These findings have also been used by MEGD for developing Mongolia's National Snow Leopard and Ecosystem Protection Program (NSLEP) which was presented at the Global Snow Leopard Conservation Forum held in Bishkek, Kyrgyzstan in October 2013.

In addition to working with the national government, WWF also works closely with *aimag* (provincial) governments in the project areas of the western Mongolia, such as in Khovd Aimag, where project activities are making direct contributions to the Khovd government achieving its goals of implementing wildlife-friendly pasture management and reducing human-snow leopard conflict. At the same time, project activities are also increasing the capacity of local government conservation workers with respect to protecting local snow leopard and prey species populations.

Transboundary cooperation on biodiversity issues between Mongolia and Russia in the Altai-Sayan Region is being led by the WWF country offices in those two nations. In 2012, this cooperation has included transboundary wildlife surveys and the organization of the Fifth Russian-Mongolian Summer Ecological Camp held in Tuva, Russia. The ecological camp shared experiences on snow leopard conservation with school children, university students, and teachers from both countries. Under the AHM Project, one method for further transboundary cooperation on snow leopard conservation between Mongolia and Russia has included jointly conducting snow leopard research and sharing of findings from project activities.

In terms of cooperation with other donors, WWF Mongolia also received funding from WWF Netherlands for a project titled "Empowering Local Stakeholders to Conserve and Sustainably Manage the Globally Important Ecosystems and Species in the Altay-Sayan Ecoregion (ASER) of Mongolia" which was active from July 2012-June 2015. This project increased local stakeholder participation in conservation of snow leopards and their prey species, including by increasing awareness among local people of the ecological importance and benefits of snow

leopard conservation, and by implementing actions to reduce and mitigate the impact of human-snow leopard conflict on local livelihoods. In these respects, AHM Project activities in Western Mongolia are directly complementing this partner WWF project.

AHM Activities in western Mongolia are also complementing an earlier GEF project conducted in the region. This project, the 2006-2011 “Community-based Conservation of Biological Diversity in the Mountain Landscapes of Mongolia's Altai Sayan Ecoregion,” sought to, 1) integrate biodiversity conservation objectives into policy promoting sustainable natural use, programs and practice, and 2) link traditional protected area management to the protection of broader landscapes, including cross-border cooperation. Thus the current AHM activities are directly building upon the successes of this earlier project, particularly with respect to community participation in conservation efforts.

Nepal

In Nepal, WWF works in close cooperation with the Ministry of Forests and Soil Conservation's Department of National Parks and Wildlife Conservation (DNPWC) with respect to conservation project design and implementation. A joint Government of Nepal-WWF Kangchenjunga Conservation Area (KCA) Project (KCAP) was launched in 1998 with the objective of conserving the KCA's biodiversity. From the outset, KCAP has sought to take an integrated conservation and development project (ICDP) approach, with a large emphasis being placed on strengthening the capacity of local communities to improve their livelihoods while maintaining the biological diversity of the KCA. This has been accomplished by establishing cooperation between government, NGOs, and various community-based organizations on conservation issues. Thus, AHM Project activities in the KCA region of Nepal are building upon past joint conservation efforts between WWF, the Government of Nepal, and local community groups.

In terms of cooperation with other NGOs, stakeholders, and donors, the AHM Project's primary implementing partner for the first two project years was CARE-Nepal. Partnering with CARE in the first half of the AHM Project allowed WWF to leverage CARE's expertise in gender and poverty analysis of rural agricultural communities as well as their growing expertise with respect to implementing climate adaptation strategies in agricultural areas. At present, other primary project partners include the locally run KCA Management Council (KCAMC), which is responsible for overall community-based management of the KCA, and various other community-based organizations, such as community forest user groups (CFUG) and local snow leopard conservation committees (SLCC). The AHM Project is also building upon lessons learned from other WWF projects in Nepal, such as the USAID-funded Hariyo Ban Project and the earlier Sacred Himalaya Landscape (SHL) SCAPES Project.

In terms of trans-boundary coordination, the Kangchenjunga Landscape straddles the border between Nepal and the Indian state of Sikkim, which is the primary AHM Project site in India. Therefore, there is tremendous potential for WWF to further promote coordination between the Governments of India and Nepal on management of the biologically rich Kangchenjunga Landscape. Consequently, the AHM Project is availing itself of all opportunities to build upon the successes and lessons learned from the USAID-funded WWF-led SHL SCAPES

transboundary project, which was conducted in the Kangchenjunga Regions of Nepal and Sikkim, India.

Pakistan

In Pakistan, WWF is working closely with the Khyber Pakhtunkhwa (KP) Provincial Forest and Wildlife Departments and also with the Gilgit-Baltistan (GB) Forest, Wildlife and Environment Department in designing and carrying out all AHM Project activities. WWF has signed MOUs with these three partner agencies clearly laying out the responsibilities and roles of each in implementing AHM Project activities. In particular, these agencies are playing key roles in getting local communities to agree to participate in the AHM Project and all have participated in project inception workshops. Staff members of both wildlife departments are involved in conducting AHM Project snow leopard population surveys. In addition, under this project WWF is working with both national and provincial government agencies to facilitate: 1) advocacy meetings at the national level to get approval of Pakistan's draft National Snow Leopard Conservation Strategy (developed under an earlier WWF project), 2) development of a long term snow leopard conservation program for implementation of the above snow leopard conservation strategy, and 3) development and implementation of a long term climate adaptation and watershed management program by the Climate Change Division (formerly the Federal Ministry of Climate Change) and relevant provincial government agencies.

In terms of coordination with other donors and stakeholders, AHM Project work plans for Pakistan are shared with both the Aga Khan Rural Support Program (AKRSP) and the Snow Leopard Foundation, a national NGO based in Islamabad, and their feedback is incorporated into AHM Pakistan activities as appropriate. Presently, the AHM Project is working with the AKRSP on implementing livelihood activities. In addition, all levels of local stakeholders are participating in project activities and providing feedback through WWF's extensive consultations with tribal councils, village councils, and other community-based organizations in the project region. WWF has established project advisory committees (PAC) in both KP and GB that consist of government and NGO workers, academic researchers, and community members. These PACs provide timely feedback on the project, improve coordination between WWF and other stakeholders, and further strengthen the participation of various stakeholders in the project. At all stages of the project, under the guidance of WWF and other project partners, local NGOs and community-based organizations (CBO) have been encouraged to develop their own proposals and activities on snow leopard conservation, watershed management, agriculture improvement, livelihoods, etc. Notably, all AHM Project activities are building upon the extensive earlier work in northern Pakistan over the past two decades of both WWF and project partner SLT. At present, there are no GEF projects active in the AHM Project region of Pakistan.

WWF Living Himalayas Network Initiative

In addition to partnering with the six participating WWF country offices, the AHM Project is also coordinating with the WWF Living Himalayas Network Initiative (LHNI). In the event that the Climate Summit for a Living Himalayas process is revived, the AHM Project will be supporting LHNI to conduct activities to support achievement of summit goals. In doing so, representatives of the four participating Climate Summit nations, namely India, Nepal, Bhutan,

and Bangladesh, will be brought together to foster regional cooperation on core summit themes of food security, freshwater systems, biodiversity, and energy security. The AHM Project will also be advising LHNI on snow leopard conservation issues as part of a broader WWF campaign to raise awareness of threats to snow leopards.

Global Snow Leopard Conservation Forum

In October 2013, the president of Kyrgyzstan, Almazbek Atambayev, hosted the Global Snow Leopard Conservation Forum in Bishkek. This forum brought together high-level representatives of all 12 snow leopard range states for the first time to discuss snow leopard conservation and sign a forum declaration to further internationalize efforts to protect this endangered cat. The forum was organized by the Snow leopard Trust and the World Bank Global Tiger Initiative with the support of the WWF AHM Project and other organizations. This support included a review of Global Snow Leopard and Ecosystem Protection Program (GSLEP) documents prepared by each of the 12 range nations, technical presentations on conservation of snow leopards and their habitat at forum planning meetings, and providing travel support for government officials to attend forum planning meetings and the forum itself. The AHM Project is currently supporting the recently established forum secretariat as well as national efforts to implement the GSLEP Program adopted at the Bishkek forum.

List of Key Staff Involved

The following WWF Staff members will be involved in implementing the AHM Project work plan in AHM Project Year 4:

WWF Bhutan

- Mr. Vijay Moktan, Conservation Program Director
- Mr. Sither Tenzin, Monitoring and Evaluation Officer
- Mr. Madan Kr. Chhetri, Account Officer
- Ms. Chophel Dayang, Grant Administrator
- Mr. Chonie, Project Accountant
- Ms. Jasoda Chuwan, Program Officer.

WWF India

- Ms. Priyadarshinee Shrestha, Landscape Coordinator (Sikkim Field Office, Gangtok)
- Dr. Partha Sarthi Ghose, Sr. Project Officer (Sikkim Field Office, Gangtok)
- Ms. Laktsheden Theengh, Sr. Project Officer (Sikkim Field Office, Gangtok)
- Dr. Joydeep Bose, Eastern Himalayas Coordinator (WWF Secretariat, New Delhi)
- Dr. Dipankar Ghose, Species and Landscapes Director, (WWF Secretariat, New Delhi)
- Mr. Rishi Sharma, WWF Snow Leopard Coordinator (WWF Secretariat, New Delhi)

WWF Mongolia

- Ms. Altantsetseg, Education Officer
- Ms. Baigalmaa, Rural Development Officer
- Mr. Chimeddorj, Programme Implementation Manager
- Dr. Jargal Jamsranjav, Conservation Director
- Ms. Baigalmaa, Rural Development Officer
- Dr. Munkhtogtokh, Conservation Officer
- Ms. Munkhchuluun, Protected Area Officer
- Mr. Munkhnast, Law Enforcement Specialist
- Mr. Purevdorj, Fresh Water and Climate Change Specialist
- Ms. Selenge, Communication and Education Officer

WWF Nepal

- Dr. Ghana Shyam Gurung, Senior Conservation Program Director
- Mr. Shiv Raj Bhatta, Director, Field Programs
- Mr. Dhan Prasad Rai, Deputy Director, Field Programs
- Mr. Ananta Bhandari, Program Manager, SHL
- Dr. Anil Shrestha, Senior Research Officer, SHL
- Mr. Sujeet Shrestha, Project Manager, Kangchenjunga Conservation Area Program

WWF Pakistan

- Dr. Ghulam Akbar, Senior Director Programmes
- Mr. Muhammad Ibrahim Khan, Senior Manager Conservation, Khyber Pakhtunkhwa
- Dr. Babar Khan, Senior Manager Conservation, Gilgit-Baltistan
- Mr. Saeed Abbas, Conservation Officer, Gilgit-Baltistan

- Mr. Muhammad Shafiq, Conservation Officer, Khyber Pakhtoonkhwa
- Mr. Amir Saeed Conservation Manager, Khyber Pakhtunkhwa

WWF Central Asia Programme (Kyrgyzstan Activities)

- Ms. Farida Balbakova, Director, Global and Local Information Partnership (GLIP)
- Mr. Azat Alamanov, Program Manager, GLIP
- Dr. Olga Pereladova, Director of the WWF Central Asian Programme
- Dr. Aleksey Kokorin, WWF Climate Change Officer

WWF US

- Ms. Kate Newman, Vice President, Forest and Freshwater Public Sector Initiatives
- Mr. Jon Miceler, Senior Director, Asia Programs
- Mr. Shaun Martin, Senior Director, Climate Adaptation and Resilience
- Mr. Barney Long, Director, Wildlife Conservation
- Mr. John Farrington, Program Manager, Asia High Mountains Project
- Dr. Rinjan Shrestha, Conservation Scientist
- Mr. Ryan Bartlett, Senior Program Officer, Climate Change Adaptation
- Ms. Catherine Blancard, Lead Specialist, Freshwater Communications
- Mr. Matt Erke, Program Officer, Forest Program

Activity Timeline**Year 4**

Deliverable	Country	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Completion Date
Programmatic														
AHM-GSLEP Planning Meeting														11-Dec-15
Hire Landscape Management Planning Coordinator	K													1-Dec-15
Identify national landscape leads	K, N													1-Dec-15
Phase 2 GIS Mapping Workshop and Working Meeting	K													15-Jan-16
Hire Social Science Expert														11-Jan-16
Landscape Management Plan Training Meeting and Field Testing	K													Feb-Mar-16
Community interviews at demonstration sites about climate change	B, I, N, P													Feb-Mar-16
Phase 2 Map Development	K													Apr-Jul-16
Cross-Learning Visit														15-Apr-16
GSLEP Range-Wide Meeting	K													15-May-16
GSLEP Steering Committee Meeting	K													15-Jul-16
Communications														
Promote new AHM content on WWF website(s) and social media	B, I, K, M, N, P, US													Ongoing
Promote AHM on relevant snow leopard and/or climate listservs	B, I, K, M, N, P, US													Ongoing

Deliverable	Country	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Completion Date
Celebrate Snow Leopard Day with digital content, USAID materials and field activation	B, I, K, M, N, P, US													23-Oct-15
Publish and promote magazine feature and recap Snow Leopard Day on WWF-US channels and relevant listservs	US													
Hire Regional Communications Manager	K													15-Nov-15
Host DC-based event	US													15-Dec-15
Regional communicator visits field sites	B, I, K, M, N, P													
Publish quarterly newsletter	B, I, K, M, N, P													End of each quarter
Chief of Party and/or regional communicator meet with USAID Mission and Embassy staff	B, I, K, M, N, P													Beginning of each quarter
Administrative Responses to Evaluation														
Adjust objectives to focus on climate-smart management of snow leopard habitat														Sept-Oct 2016
Shift the focus of the project to support GSLEP														Sept-Oct 2016
Work Plan														30-Oct-15
Budget														30-Oct-15
Financial contracts released to project leads in the field														Following USAID approval of AWP
Year 3 Annual Report														20-Nov-15
Upload Year 3 Annual Report to DEC														20-Nov-15
Year 4 Semi-Annual Report														30-Apr-16
Upload Year 4 Semi-Annual Report to														30-Apr-16

Deliverable	Country	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Completion Date
DEC														

Year 5

Deliverable	Country	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Completion Date
Programmatic														
Landscape Management Plan Training Meetings	K													
Cross-Learning Visit														
GSLEP Range-Wide Meeting	K													
GSLEP Steering Committee Meeting	K													
Communications														
Promote new AHM content on WWF website(s) and social media	B, I, K, M, N, P													Ongoing
Promote AHM on relevant snow leopard and/or climate listservs	B, I, K, M, N, P													Ongoing
Host DC-based event	US													
Celebrate Snow Leopard Day	B, I, K, M, N, P, US													
Regional communicator visits field sites														
Publish quarterly newsletter														End of each quarter
Chief of Party and/or regional communicator meet with USAID Mission and Embassy staff														
Finalize Third Pole GeoLab with project site content, stories, social tools, data														

Deliverable	Country	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Completion Date
All donor and story packages complete														
Produce suite of close-out reporting materials (report, stories from the field, issue papers)	B, I, K, M, N, P													
Administrative Responses to Evaluation														
Work Plan														1-Sep-16
Budget														1-Sep-16
Financial contracts released to project leads in the field														
Year 4 Annual Report														30-Oct-16
Upload Year 4 Annual Report to DEC														30-Oct-16
Year 5 Semi-Annual Report														30-Apr-17
Upload Year 5 Semi-Annual Report to DEC														30-Apr-17
Year 5 Annual Report														30-Oct-17
Upload Year 5 Annual Report to DEC														30-Oct-17

Adaptive Management (including M&E)

This project will be using WWF project and program management standards that are based on an adaptive management approach to implementing multi-year projects. Monitoring and Evaluation (M&E) for the Asia High Mountains Project will consist of the following major components:

- Preparation of a Monitoring and Evaluation Plan for the entire project period (prepared as a separate stand-alone document) which closely adheres to WWF's Standards for Conservation Project Management;
- Designation of at least one WWF staff member in each participating project office who will be responsible for conducting internal project M&E;
- Creation of a centralized database for project monitoring data, reports, and other output;
- Submission of semi-annual project progress reports to the project donor;
- Submission of an annual report with Performance Management Plan (PMP) to the project donor;
- Periodic site visits to project offices by WWF US staff members external to the project to check individual project achievements against project objectives and perform financial auditing;
- Periodic collection and sharing of lessons learned and best practices with all project offices and partners;
- Implementation of adaptive management as needed to achieve project goals, objectives, and targets.

The structure of project M&E activities will be multi-level. At the ground level, monitoring of results in each project country will be conducted by on-site field staff and will include interviewing project participants about both project benefits and shortcomings as well as quantifying results in terms of pre-selected project indicators – both those specified by the donor and custom indicators developed by WWF (Table 2). However, in AHM Project Year 4 the project indicators will be reviewed and likely reduced as per the recommendations of the AHM mid-project evaluation. The intermediate level of oversight will be conducted by the central project management staff, who will compile monitoring data and lessons learned from all project countries, prepare semi-annual and annual reports based on these findings, manage the project database, and conduct periodic site visits to all project countries to verify project achievements. The third and highest level of project monitoring will be conducted by WWF-US staff external to the project, who will conduct intermittent project progress and budget checks. Based on findings of project monitoring, project activities will be adapted as necessary to insure successful achievement of the projects goals and objectives.

Table 2. Summary of WWF Asia High Mountains Project Indicators.

Indicator Number	Indicator Description	Unit of Measure
Standard Indicator 1	Number of hectares of biological significance under improved management as a result of US government (USG) assistance.	Hectares
Standard Indicator 2	Number of hectares of biological significance and/or natural resources showing improved biophysical conditions as a result of USG assistance.	Hectares
Standard Indicator 3	Number of people receiving USG supported training in natural resources management and/or biodiversity conservation.	Number of people
Standard Indicator 4	Number of person hours of training in natural resources management and/or biodiversity conservation supported by USG assistance.	Number of person hours.
Standard Indicator 5	Number of people with increased economic benefits derived from sustainable natural resource management and conservation as a result of USG assistance.	Number of people.
Standard Indicator 6	Quantity of greenhouse gas (GHG) emissions, measured in metric tons of CO ₂ e [equivalent], reduced or sequestered as a result of USG assistance.	Metric tons CO ₂ equivalent (annual)
Standard Indicator 7	Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance.	Number of people.
Standard Indicator 8	Number of USG-assisted consensus-building processes resulting in an agreement.	Number of processes resulting in an agreement.
Standard Indicator 9	Number of Civil Society Organizations (CSOs) receiving USG assistance engaged in advocacy interventions.	Number of CSOs
Custom Indicator 10	Number of households benefiting from human-snow leopard conflict mitigation schemes.	Number of Households
Custom Indicator 11	Number of households that adopt water-smart technology.	Number of Households
Custom Indicator 12	Number of wildlife trade recommendations adopted.	Number of recommendations adopted
Custom Indicator 13	Number of institutions participating in a transnational Alliance.	Number of Institutions

Sustainability (financial, economic, and ecological)

The Asia High Mountains Project is adopting a transboundary landscape approach to protecting the snow leopard throughout its known range, not only through direct protection of the snow leopard, but also through protecting its habitat, improving land use practices in its habitat, taking a long term view towards species and habitat protection by developing a program of climate adaptation for the snow leopard's range, diversifying the livelihoods of poor high mountain communities in snow leopard range areas, and striving to achieve food and water security for residents of the project region. All of these features of the project have been designed to maximize the sustainability of the project. Other individual project activities will also highlight sustainability on a smaller scale, such as activities aimed specifically at promoting sustainable harvest of NTFPs and MAPs; education programs accompanying livestock insurance schemes to teach herders methods for avoiding loss of livestock to wild predators; and ensuring that local communities are trained to participate in and eventually take ownership of all site-based activities – from CBT home stays to snow leopard monitoring – so that there is local capacity to continue implementing these activities in the future.

Scaling up

Due to the international nature of the Asia High Mountains Project, which features projects being conducted in six nations, and dialogue on issues of snow leopard conservation and more being held with six additional nations through the GSLEP process, there are many opportunities for scaling-up project activities in the future. To name just a few examples of these opportunities:

- Sponsorship of the Global Snow Leopard Conservation Forum and secretariat has not only brought together high level representatives from all 12 snow leopard range nations to discuss snow leopard issues, but is also an opportunity for officials from these 12 nations to establish ties for cooperation on the snow leopard trade, transboundary habitat management issues, and more.
- By working in active GEF Project areas in snow leopard range habitat of both Kyrgyzstan and Bhutan, WWF can build synergies with these projects to accomplish broader conservation objectives than WWF, UNDP, or the World Bank could achieve working as an individual organization alone in these locations.
- The design of simple, replicable methodologies for snow leopard, prey species, and habitat monitoring for use by project-trained “citizen scientists” developed under this project provides the opportunity to greatly expand our knowledge of snow leopard ecology in remote areas that have yet to be studied by career snow leopard scientists.
- Activities at the 10 AHM demonstration sites are all contributing to implementation of 5 NSLEPs under the GSLEP, while the model climate-smart snow leopard landscape management plan being implemented in Nepal is being designed as a model for replication at all GSLEP priority sites.

Thus from just these few varied examples it should be clear that there are abundant opportunities for scaling up this project's successes, and each implementing project country office and partner will be encouraged to derive maximum benefit from these opportunities.

Learning and Sharing

Learning and sharing of lessons learned is a critical part of WWF's adaptive management process for any multi-year project. For the Asia High Mountains project, the learning and sharing process will consist of each country office and project partner preparing a short list of their office's project successes, failures, lessons learned, and adaptive management needs at the end of each project year. These lists will be compiled and distributed to all interested project participants and discussed at country office meetings and during a year-end phone conference as part of finalizing the work plan for the next project year. In addition, a project-wide learning and sharing meeting was held at the beginning of year three which was attended by representatives of all project country offices and partners. Other sharing forums will include meeting presentations, project-funded workshops, the AHM and Third Pole GeoLab websites and project newsletters,

Travel

Travel support is provided to enable program staff of WWF US to travel, primarily for the purposes of attending meetings, attending trainings, making project site visits, and learning and sharing about project achievements and shortcomings, such as at scientific conferences and other project gatherings. The requested trips are all included in the budget and will not exceed the approved amount of funding. See Table 3 for a summary of AHM Project Year 4 international project travel.

Table 3. International project travel planned for Year 4 of the Asia High Mountains Project.

FROM	TO	WHO	PURPOSE	# TRIPS
USA	Bhutan	WWF Program Administration	Cross-cutting/support and oversight of AHM Program office compliance and administration.	6
USA	Bhutan	WWF Program Officer/M&E specialist	Support and oversight of AHM Program office measures and support documentation	1
USA	Nepal	WWF Program Administration	Support and oversight of AHM Program office compliance and administration.	1
USA	Mongolia	WWF Program Administration	Support and oversight of WWF Mongolia partner office compliance and administration.	1
USA	Kyrgyzstan	WWF Program Administration	Support and oversight of GSLEP administration.	3
Canada	Nepal	WWF Snow Leopard Biologist	Meetings/Field Work	2
Canada	Kyrgyzstan	WWF Snow Leopard Biologist	Meetings	2
Bhutan	Project Region M&E Travel	WWF Program Officer	Monitoring and Evaluation, Meetings	2
Bhutan	USA	AHM Program Manager	Annual Home Leave, Meetings,	1
Bhutan	USA	AHM Program Manager	Field Operations Training; Meetings, Consultations on Snow Leopard Secretariat	1
Bhutan	Regional Travel to AHM Project Countries and Asia/Europe	AHM Program Manager	Site Visits, Meetings, Trainings, Monitoring, GSLEP Meetings	8
Bhutan	Kyrgyzstan	AHM Program Manager	AHM Project Site Visit, Meetings, follow-up meeting with the Global Snow Leopard Forum Secretariat	3
Bhutan	Mongolia	AHM Program Manager	AHM Project Site Visit, Meetings	1
USA	Kyrgyzstan	Eastern Himalayas Program Director	AHM Project Site Visit	1
Bhutan	Kyrgyzstan	Conservationists/Government Officials	Attend GSLEP Meetings	9
Mongolia	Kyrgyzstan	Conservationists/Government Officials	Attend GSLEP Meetings	9
Nepal	Kyrgyzstan	Conservationists/Government Officials	Attend GSLEP Meetings	9
Pakistan	Kyrgyzstan	Conservationists/Government Officials	Attend GSLEP Meetings	9
Tajikistan	Kyrgyzstan	Conservationists/Government Officials	Attend GSLEP Meetings	9
India	Nepal	WWF/SLT	GSLEP Planning Meeting	2
Kyrgyzstan	Nepal	GSLEP Staff	GSLEP Planning Meeting	2
USA	Nepal	WWF/SLT	GSLEP Planning Meeting	3
India	Kyrgyzstan	WWF	GSLEP Landscape Management Plan Training	3
Russia	Kyrgyzstan	WWF	GSLEP Landscape Management Plan Training	2
USA	Kyrgyzstan	WWF	GSLEP Landscape Management Plan Training	5
Kyrgyzstan	Nepal	WWF/SLT/Government/GSLEP	Landscape Plan Study Tour to Nepal Terai Arc	3
Pakistan	Nepal	WWF/SLT/Government	Landscape Plan Study Tour to Nepal Terai Arc	3
India	Nepal	WWF	Landscape Plan Study Tour to Nepal Terai Arc	1
India	Kyrgyzstan	WWF	GSLEP Landscape Management Plan Technical Meeting	2
Russia	Kyrgyzstan	WWF	GSLEP Landscape Management Plan Technical Meeting	2
USA	Kyrgyzstan	WWF/SLT	GSLEP Landscape Management Plan Technical Meeting	5
India	Kyrgyzstan	WWF	GSLEP Steering Committee Meeting	1
USA	Nepal	WWF/Mapping and Climate Consultants	WWF SL Range Mapping Workshop	5
Sri Lanka	Nepal	WWF Staff Scientist	WWF SL Range Mapping Workshop	1
Laos	Nepal	Mapping and Climate Consultant	WWF SL Range Mapping Workshop	1
Pakistan	Nepal	WWF/SLT Staff	WWF SL Range Mapping Workshop	3
Sweden	Nepal	SLT Staff Scientist	WWF SL Range Mapping Workshop	1
India	Nepal	WWF/SLT Staff Scientist	WWF SL Range Mapping Workshop	4
Bhutan	Nepal	WWF/Government Staff	WWF SL Range Mapping Workshop	5
Russia	South Asia	TRAFFIC	SAWEN Wildlife Trade Training	1
Vietnam	South Asia	TRAFFIC	SAWEN Wildlife Trade Training	1
Russia	Central Asia	WWF Central Asia Program Director	Attendance at the annual ICSD meeting in one of the five Central Asia States	1

Bhutan	Central Asia	Asia High Mountains Program Manager	Attendance at the annual ICSD meeting in one of the five Central Asia States	1
Kyrgyzstan	Asia	GSLEP Secretariat Staff	Attendance at International Wildlife Conservation and Climate Change Meetings	4

ANNEX

Annex 1: Developing Climate-smart Snow Leopard Landscape Management Plans

Climate-smart Snow Leopard Landscape Management Plans (CSLLMP)

What is a climate-smart landscape management plan?

A climate-smart management plan is one that incorporates climate change related information into strategies and activities designed to conserve biodiversity in a defined landscape (species range, watershed, etc.).

What are some of the characteristics of a climate-smart management plan that distinguishes it from more traditional management plans?

1. Based on the premise that climate change is an unstoppable and inescapable force that affects all biodiversity, communities and livelihoods, albeit to different degrees, either directly or indirectly. Also acknowledges that climate change can drive and change the nature of direct human threats to ecosystems, often synergistically exacerbating their impacts.
2. Uses appropriately scaled (geographic and temporal) climate-related information (e.g. observed climate trends, near- and longer-term climate change projections, community perceptions of change, climate change vulnerability assessments) to inform planning.
3. Recognizes that people are important parts of landscapes and ecosystems and that human responses to the changing climate can have profound and negative consequences on biodiversity. Therefore, ample attention is devoted to helping communities living in proximity with nature adapt in ways that maintain, or at least do not undermine, ecosystems and their services.
4. Manages (rather than avoids) uncertainty associated with climate change and its impacts through the use of scenario planning and other relevant tools.
5. Openly acknowledges information gaps and has plans to address them. Incorporates continuous monitoring and evaluation of ongoing climatic, biological, geophysical and socio-economic change, all of which have implications on management design and implementation.
6. Acknowledges the need for continuous updates. Could be based on a shorter time horizon (2020 vs 2050) so that plans are flexible and adaptable as conditions change and new information becomes available.
7. Avoids maladaptation. Near-term planned activities do not close conservation and development options for the future that may be needed as the climate continues to

change. Activities do not reduce vulnerability of one interest at the expense of others (biodiversity vs community, community vs community, etc.)

8. Does not contribute to increased carbon-emissions and better still, actively seeks to reduce them.

What do we need to do to produce 2-3 Climate-smart Snow Leopard Landscape Management Plans in the context of Asia's High Mountains?

1. Convince GSLEP and other partners that developing a climate-smart plan is a worthwhile endeavor.
2. Interview communities at demonstration sites to learn about their perceptions of climatic, geophysical and biological change, how these changes affect their well-being, responses they have taken to cope with these changes and impacts of these responses on the environment? How do they perceive they are most vulnerable to these changes?
3. Work with stakeholders to identify climate-science needs. This needs to be a facilitated process guided by climate change scientists. Stakeholders for the AHM Project include GSLEP partners and communities at demonstration sites.
4. Conduct a review of currently available climate information and assess its usefulness in development a CSSLLMP.
5. Gather observed climate trends and develop climate projections that are customized to the climate science needs identified by stakeholders.
6. Identify uncertainty in projections and develop scenarios (plausible futures) with stakeholders and climate science partners.
7. Using all of the above data/info, review community-based activities to see how we are actually reducing vulnerability to climate change and under which scenarios. Make adjustments to activities if time/finances permits and make note of what changes need to be made in the future to inform the CSSLLMP.
8. Using all of the above data/info, engage GSLEP partners to incorporate knowledge gathered into existing (or new plans) for GSLEP priority landscapes. Make special note of assumptions and information gaps that need to be addressed during implementation of the plan. New activities that might result include:
 - a. Understanding the vulnerability of additional communities in a given landscape beyond demonstration sites.
 - b. Conducting vulnerability assessments for snow leopard prey species and their food sources.

- c. Gathering more weather data by installing weather stations or engaging communities in weather monitoring.
- d. Preparing additional climate projections as science improves.
- e. Conducting research on correlating behavioral change in species with changes in weather pinpointed through data analysis (e.g. changes in migrations and feeding patterns, breeding behavior, range occupied, etc.)
- f. Conducting research suggested in the WWF snow leopard vulnerability assessment such as understanding genetic diversity among populations and monitoring for new pests and disease outbreaks.
- g. Conducting monitoring and evaluation work for project communities to assess the efficacy of adaptation interventions being conducted and identify changes needed, if any. In particular, assess if vulnerability has unintentionally increased as a result of adaptation interventions, such as by leading to unsustainable exploitation of local natural resources.
- h. Reviewing external conditions that promote or hinder the implementation of CSSLLMP. Identify and advocate for needed policy changes with governments and donors.

NOTE: All of these activities are elements of a climate-smart landscape management plans that be produced by the AHM Project. However, this process will require participation of multiple WWF US thematic teams, as well as WWF field staff, GSELP partners, and others.

Annex 2: Overview of Key Actors

Key Actors

The key actors in the landscape are outlined below on a country by country basis:

Bhutan

1. Ministry of Agriculture and Forests (MoAF): The MoAF is comprised of a number of departments, including the Department of Forest and Park Services (DoFPS), the Watershed Management Division (WMD, under the DoFPS), the Department of Agriculture, and the Department of Livestock. There is one research institute under the DoFPS, The Ugyen Wangchuck Institute for Conservation and Environment (UWICE), which does research focusing on sustainable forestry, conservation biology, water resources, and environmental policy. In addition there are five non-departmental agencies within this ministry, namely the National Biodiversity Center, Information and Communication Services, Agriculture Marketing Services, and the Bhutan Agriculture and Regulatory Authority. The Ministry is directly supported by two divisions, the Planning and Policy Division (PPD) and the Administration and Finance Division (AFD). Within the ministry there is also the Council for Renewable Natural Resources Research of Bhutan, which guides and coordinates research programs implemented by Regional Natural Resources Research Centers and other institutions, such as the National Soil Services Center and the Agro-Meteorology Section.
2. Gross National Happiness Commission (GNHC): The Gross National Happiness Commission was created from the former Planning Commission of the Royal Government of Bhutan. This commission's role is to ensure that GNH considerations are embedded firmly into governmental policies, and that proper coordination is undertaken to ensure proper implementation of all plans and programs of the Royal Government. The membership of the GNH Commission is as follows: 1) the Prime Minister as chairman, 2) the Cabinet Secretary as the vice chairman, 3) secretaries of the ten government ministries, 4) head of the National Environment Commission, and 5) the GNHC Secretary. All GNHC plans and policies focus on promoting the following objectives:
 - Bhutan's people - investing in the nation's greatest asset;
 - Harmonious living – living in harmony with tradition and nature;
 - Effective and good governance;
 - Developing a dynamic economy as the foundations for a vibrant democracy.

The GNHC is also Bhutan's focal point for coordination and management of all external assistance to Bhutan within the framework of Bhutan's Development Cooperation Policy.

3. Bhutan Trust Fund for Environment Conservation (BT FEC): The BT FEC is the world's first environmental trust fund, established in 1992 as a collaborative venture between the Royal Government, the United Nations Development Program (UNDP), and WWF. The

trust fund is governed by the Royal Charter of 1996 and a high-level Management Board that was fully “Bhutanised” in May 2001. Today, it is an effective conservation grant making organization autonomous of the government. BTFEC will leverage additional funds to implement other activities in the target areas that will create more synergy and impact.

4. District Level Institutions: These are the executing agencies for development programmes and activities at the district (Bhutanese: *dzongkhag*) level of government. Headed by the District Administrator (Bhutanese: *dzongdag*), they are made up of agriculture sector, livestock sector and forestry sector in addition to other government sectors such as health, education and engineering. *Dzongkhag* policies, plans and programmes are reviewed, approved and guided by the *Dzongkhag Yargay Tshodu* (DYT). The DYT is a forum made up of village headmen, people’s representatives, representative for municipalities/towns, deputy district and block administrator heads, and observers from various sectoral agencies.
5. National Parks/ Wildlife Sanctuaries/ Strict Nature Reserves: All protected area systems under DoFPS are headed by the Chief Forestry Officer with set of administrative, finance and technical staff. Parks receive technical backstopping from the respective functional divisions of the DoFPS, which are centrally located. All parks have management plans to guide them that are revised every five years.
6. Local communities (Pastoralists/Yak herders): These are the alpine and sub-alpine dwellers and semi-nomadic yak herders who depend on yak rearing and other scarce mountain resources (e.g. medicinal aromatic plants, MAPs) for their livelihood. Yak herders practice a centuries-old process of transhumance.

India

1. The Forest, Environment and Wildlife Management Department (FEWMD): The Government of Sikkim’s FEWMD is the main government agency responsible for management and protection of all forest areas in the state, with more than 84 percent of the state’s geographical area under its jurisdiction. The FEWMD has been WWF’s main government partner in training and capacity building under WWF’s Khangchendzonga Landscape Programme.
2. The Khangchendzonga Conservation Committee (KCC): The KCC is a field based NGO working for biodiversity conservation, natural resource management through community empowerment, and promotion of responsible tourism that is based in Yuksam, West Sikkim, the gateway to Khangchendzonga National Park.
3. The Ecotourism and Conservation Society of Sikkim (ECOSS): The ECOSS is an NGO based in Gangtok which works for promotion of community based tourism in the state.

4. The *Himal Rakshaks* (English: Mountain Guardians) of Sikkim: The Himal Rakshaks are a cadre of community volunteers who have been empowered by the State Government for protection of high altitude areas. They conduct regular monitoring in high altitude areas, where field staff of FEWMD have limited access.
5. Other Partners: Other important government partners include the Government of Sikkim's Rural Development and Management Department, Department of Science and Technology, and Department of Human Resource Development. Other WWF non-governmental partners in Sikkim include the Sindrabong Khangchendzonga Eco-friendly Society NGO and local communities.

Kyrgyzstan

1. The Global and Local Information Partnership (GLIP): GLIP is an Issyk-Kul-based NGO lead by Farida Balbakova that is WWF's primary implementing partner for projects in Kyrgyzstan. Projects co-implemented to date have dealt with protected areas, biodiversity monitoring, awareness raising, and ecological education. GLIP will be responsible for recruiting national experts from various institutions to assist in implementation of various project activities.
2. State Agency of Environment Protection and Forestry of the Kyrgyz Republic: This agency together with its regional departments is the leading governmental agency responsible for protected areas, rare species conservation, and regulation of sustainable natural resource management. All project activities in Kyrgyzstan will be implemented in close cooperation with this agency. This agency is also the main government agency organizing Global Snow Leopard Conservation Forum related activities in Kyrgyzstan.
3. The Sarychat-Ertash State Reserve: The Sarychat-Ertash Reserve is presently the largest protected area in Kyrgyzstan and the primary project protected area. The reserve has what is perhaps Kyrgyzstan's best protected population of snow leopards and their prey species, and the reserve staff carries out snow leopard and prey species monitoring as well as anti-poaching patrols in and around the reserve.
4. The Tian-Shan High Mountainous Scientific Center: The Tian-Shan High Mountainous Scientific Center is an institute which operates glacier and hydro-meteorological monitoring stations in the Chong Kyzyl Suu Valley in Issyk Kul province. The center is managed by the Institute of Water Problems and Hydro-energy under the Kyrgyzstan Academy of Sciences.
5. Independent Ecological Expertise (IEE): IEE is an NGO experienced in ecological legislation and legal consultations that WWF will partner with to develop an ecological code for Kyrgyzstan.

6. Institute of Evolutionary Ecology – Russian Academy of Sciences: Specialists from this institute carry out a variety of biological and ecological studies on tigers, Asiatic leopards, and snow leopards in Russia and Central Asia, and they have already completed an initial survey of snow leopards over much of the project area. The institute will continue to be involved in follow-up monitoring activities.
7. Other partners will include: UNDP, which will collaborate with WWF on establishment of the future Khan Tengri Protected Area; the Kyrgyzstan office of the Snow Leopard Trust (SLT), which will cooperate with WWF to implement snow leopard monitoring and anti-poaching patrols; and the Kyrgyzstan office of Fauna and Flora International (FFI), which will help coordinate technical support for the Sarychat-Ertash Reserve.

Mongolia

1. Ministry of Environment and Green Development (MEGD): MEGD is the Mongolian government agency that manages, coordinates, and provides technical and methodological assistance on implementation of laws, policies and programs concerning sustainable use, conservation, and restoration of natural resources, including protected area management. The agency places a high priority on community involvement in these matters and WWF has worked closely with the MEGD and its predecessors since WWF opened its first office in Mongolia in 1992.
2. Institute of General and Experimental Biology (IGEB), Mongolian Academy of Sciences: The mission of IGEB is to conduct research on the biology and ecology of mammalian species in Mongolia, such as by undertaking nationwide integrated surveys on population status and ecology of mammals. IGEB provides the Mongolian government with scientific data on the status of mammalian species, advises decision makers, and undertakes government-assigned projects with regard to keystone species.
3. Irbis Mongolian Center (IMC): The Irbis Mongolian Center is an NGO dedicated to research and conservation of endangered wild cats in Mongolia, such as the snow leopard, Pallas's cat (manul), and leopard cat. IMC was established in 2001 by a group of scientists that have more than 20 years of experience working in the fields of snow leopard biology, ecology and conservation. IMC has taken the lead on developing and implementing a number of important documents for snow leopard conservation, including the Snow Leopard Conservation Management Plan of Mongolia (1999), the Snow Leopard Conservation Management Plan of Uvs Province (2000), the Snow Leopard Conservation Policy of Mongolia (2005), the Uvs Lake Strictly Protected Area Management Plan (2006), and the Gobi Gurvansaikhan National Park Management Plan (1996).
4. Snow Leopard Conservation Fund (SLCF): SLCF is a Mongolian NGO that was established in 2007 to promote active community participation in snow leopard conservation activities. SLCF cooperates closely with SLT and Panthera in implementing

projects in cooperation with poor communities located in snow leopard habitat. These projects involve setting up compensation schemes to compensate herders for livestock killed by snow leopards and for-profit crafts programs that increase local incomes in exchange for a guarantee that participants will refrain from poaching snow leopards and their prey species. SLCF also assists with research on snow leopard distribution, movements, habitat requirements and other critical issues of snow leopard ecology.

5. **Local Communities:** The actual conservation and sustainable management of biodiversity at project sites in Mongolia is primarily in the hands of local communities whose livelihoods are nearly totally dependent on traditional use of the local natural resource base, particularly for grazing livestock, haying, subsistence hunting, collection of non-timber forest products (NTFP), and firewood collection in areas with forests. WWF-Mongolia's engagement with local communities will therefore focus on supporting them in sustainably managing their local natural resources, particularly by revitalizing traditional transhumance.
6. **Aimag Governments:** Aimag (provincial) governments in Mongolia are the main government institutions making decisions concerning the sustainable use and conservation of local species. WWF Mongolia has cooperation agreements with all local governments within snow leopard range in the Altai-Sayan Ecoregion (ASER).

Nepal

1. **Department of National Parks and Wildlife Conservation (DNPWC):** The DNPWC manages a network of nine national parks, three wildlife reserves, six conservation areas, one hunting reserve, and their buffer zones in Nepal, which cover a total of about 23 percent of Nepal's national territory.
2. **Department of Forests (DOF), Nepal:** The Department of Forests in Nepal is responsible for all forest resources outside the protected areas and has District Forest Offices (DFO) in 74 of 75 administrative districts in Nepal.
3. **The National Trust for Nature Conservation (NTNC)** is an autonomous, not-for-profit organization that works in the field of nature conservation in Nepal. Projects conducted since its establishment in 1982 have included biodiversity conservation projects focusing on various rare and endangered species, ecotourism, and sustainable development as well as protection of cultural heritage. NTNC projects place a particular emphasis on addressing the needs of local peoples to ensure sustainability of their conservation efforts. NTNC has conducted projects in all regions of Nepal from the Terai lowlands to the high Himalaya.
4. **Kangchenjunga Conservation Area Management Council (KCAMC):** The KCAMC is a local body with legal authority for managing the Kangchenjunga Conservation Area that

was formed in 2006 following the historic handover of management rights from the government to local communities.

5. Federation of Community Forestry's Users Nepal (FECOFUN): FECOFUN is a national federation of forest users across Nepal that is dedicated to promoting and protecting users' rights.

Pakistan

1. Khyber Pakhtunkhwa Forest Department (KPF) and Gilgit-Baltistan Forest, Wildlife and Environment Department (GBFWED): The KPF and GBFWED are the provincial government forest departments responsible for formulating forest policies; enforcing forest laws; managing state-owned forests; and regulating the harvest and transportation of timber, fuel wood, and associated non-timber forest products within their respective jurisdictions. In GB the Forest, Wildlife and Environment Department is also responsible for wildlife management and conservation including management of protected areas.
2. Khyber Pakhtunkhwa Wildlife Department (KPWD): The KPWD is the provincial wildlife department for Khyber Pakhtunkhwa under the provincial ministry of environment. The responsibilities of the KPWD include the conservation and management of wildlife and protected areas as well as the formulation and enforcement of wildlife related policies and laws within KP province.
3. Local Communities: Local communities in the vicinity of project sites include villages in Hoper Valley in GB and in the Laspur and Kalash Valleys in KP, which comprise the key project stakeholders. Residents of these villages are the primary users and stewards of the local natural resource base, including forests and pastures, and many of these residents have been the victims of conflict with snow leopards and other carnivores.
4. National and Local NGOs: NGOs working in the environment and development sectors in the project region include the Chitral Integrated Development Program, Agha Khan Rural Support Program (AKRSP), Inter-Cooperation, and Karakoram Area Development Organization (KADO), among others, which are all particularly active in the Chitral District of KP and the Hunza-Nagar District of GB.
5. Universities: Under this project, WWF-Pakistan will build partnerships with the University of Malakand, University of Peshawar, Haripur University and Karakoram International University to cooperatively implement project activities, such as those involving field surveys, awareness raising, capacity building, and training

Regional Actors

The key regional actors in the project landscape include:

1. Global Snow Leopard Conservation Forum Secretariat. This secretariat is based in Bishkek and is responsible for implementation coordination for the 12-nation Global Snow Leopard and Ecosystem Protection Program (GSLEP) that was universally adopted by all 12 snow leopard range states at the October 2013 forum held in Bishkek.
2. The Snow Leopard Trust (SLT), an NGO based in Seattle Washington that has been conducting both high-level snow leopard research and community conservation programs in the Himalaya and Central Asia regions for over 30 years, and which will be taking a lead in co-organizing several workshops and meetings under this project.
3. TRAFFIC is the joint WWF-IUCN wildlife trade organization based in Gland Switzerland. TRAFFIC has been a global leader in monitoring and controlling the trade in elephant ivory, rhino horn, and tiger parts, and will be taking a lead on project snow leopard trade-related activities.
4. INTERPOL is currently operating the USAID-funded wildlife trade control project "Project Predator" from its base in Lyon, France. Under this project, INTERPOL will co-organize training meetings with TRAFFIC and WWF for snow leopard range country law enforcement officials on controlling the illegal trade in snow leopard parts.
5. The Snow Leopard Conservancy, Wildlife Conservation Society, and Panthera are three long running US-based NGOs with programs dedicated to snow leopard conservation. Scientists from these organizations were the early pioneers of snow leopard research in the 1970s and 1980s, and these organizations will be making contributions to regional activities led by WWF, such as contributing data and expertise to this project's snow leopard range climate change mapping activity.
6. The Snow Leopard Network (SLN) is a virtual network of snow leopard researchers and conservation workers that serves as an online forum for discussing the latest news and developments on the research and conservation of snow leopards. Members of the SLN steering committee will be providing advice and collaborating on organization of various workshops, meetings, and research under this project as well as organizing a snow leopard research small grant program co-funded by the AHM Project.
7. The Global Tiger Initiative (GTI) is an alliance of governments, international organizations, civil society organizations, the conservation and scientific community, and the private sector committed to working together toward a common agenda to save wild tigers from extinction. The secretariat of GTI is based at World Bank headquarters in Washington DC and GTI has been playing a leading role in co-organizing Global Snow Leopard Conservation Forum related activities.

The Global Environment Facility is an independently operating financial organization that works with international institutions, civil society organizations (CSOs), the private sector and 183 nations to provide funding to address global environmental issues and support national

sustainable development initiatives. Notably, GEF is currently funding or considering funding a wide array of biodiversity conservation projects in snow leopard range areas, including in Bhutan, Pakistan, Kyrgyzstan, and the other former Soviet Central Asian States.

Annex 3: Communications Plan

Asia High Mountains Project 2015-2017 Communications Plan



WWF-US Communications Lead: Catherine Blancard

Program Lead: Kate Newman

Last Edited: 30 October 2015

INTRODUCTION

Asia's high mountains form the headwaters of river systems that provide fresh water for millions of people. The mountains are also rich with biodiversity, and are the primary habitat for the endangered snow leopard. However, as the climate changes, unpredictable rainfall and shifting temperatures are changing the landscapes, threatening traditional livelihoods, water security for local and downstream communities and endemic species like the snow leopard. Additional threats further exacerbate pressure on these high mountain ecosystems and all that depend on them.

In October 2012, WWF launched the USAID-funded Conservation and Adaptation in Asia's High Mountain Landscapes and Communities project (hereafter referred to as the AHM project). The project is centered on four core approaches: promote water security; conserve snow leopards as the region's flagship species; help communities address vulnerabilities and prepare for climate change; and advance sustainable development at local, national, and regional levels. Our tactics include conducting field activities in and improving collaboration among six of the snow leopard's 12 range countries: Bhutan, India, Nepal, Mongolia, Kyrgyzstan, and Pakistan. These nations suffer from ecological threats such as climate change impacts, declining availability of water resources, overgrazing of alpine meadows, poaching and retaliatory killing of wildlife, deforestation, unsustainable harvesting of non-timber forest products, forest fires, and poorly planned infrastructure, as well as other more localized issues.

Through this integrated strategy, WWF will deliver greater benefits for wildlife, ecosystems, and people than by focusing on any one of the four core approaches alone.

PROGRAM VISION

By conserving high-altitude ecosystems and improving the livelihoods of communities on the edge of the snow leopard range, we can better protect biodiversity and the natural resources that sustain millions of people in Asia, even in the face of a changing climate. By focusing on the iconic, endangered snow leopard in six of the twelve range countries, we can foster stronger transnational cooperation to protect and increase the resiliency of Asia's high mountain landscapes.

Specifically, we are developing models of climate-smart conservation activities in the communities that serve as gateways to snow leopard habitat. These integrated demonstration sites can help pave the way for climate-smart landscape management plans for GSLEP priority landscapes.

PROGRAM GOALS

- Support ten integrated demonstration sites in five snow leopard range countries.
- Support development of one model climate-smart landscape plan for a GSLEP priority landscape.

COMMUNICATIONS GOALS

- All target audiences will understand that climate adaptation and sustainable practices in high altitude communities of Asia will help safeguard livelihoods throughout the region, and reduce impacts on snow leopard habitat and prey.
- The snow leopard research and conservation community, land-use decision makers and the general public will access and use AHM's science-based snow leopard data, including GPS mapping from satellite collars and camera trap imagery, as well as the Third Pole GeoLab and other project tools and publications.

- Policymakers in the project region will recognize the need for transnational cooperation on snow leopard conservation and climate resiliency.
- Policymakers, the snow leopard research and conservation community, and the general public will see USAID as a champion of integrated, climate smart conservation and development in Asia’s high mountain regions.
- The work and objectives of partners, in particular GSLEP and in-country grantees, will be highlighted and made known to decisions makers and the public.
- WWF supporters will further embrace the snow leopard as an ambassador for climate change adaptation, landscape-scale conservation and high mountain livelihoods.
- USAID Missions and WWF offices in the region will be avid advocates for AHM and integrated, climate-smart, community-based snow leopard conservation.

SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Extensive WWF expertise, including John Farrington (snow leopards, climate, high mountain ecosystems), Shaun Martin & Ryan Bartlett (climate adaptation), field staff, partners • Growing base of research (e.g. Climate Vulnerability In Asia's High Mountains: How Climate Change Affects Communities and Ecosystems in Asia's Water Towers; Guardians of the Headwaters: Snow Leopards, Water Provision, and Climate Vulnerability; Snow Leopard: WWF Wildlife and Climate Change Series; Columbia University’s data and projections) • WWF Snow Leopard Species Action Plan • Compelling, optimistic stories with strong characters and creative solutions 	<ul style="list-style-type: none"> • Seven countries (including US office) across which project leaders must coordinate • WWF US, country offices, and field project team communications are virtual • Perceived competing agendas (e.g. snow leopard research and conservation vs. freshwater or climate; means to fully embrace adaptation or protect traditional livelihoods) • Project sites have lack of understanding of climate adaptation as integrated with ecosystem management and snow leopard conservation, a core part of the work plan
Opportunities	Threats
<ul style="list-style-type: none"> • Charismatic species associated with climate and water, two issues that are complicated and often without an iconic species • Working collaboratively with the Snow Leopard Network and its members • Deepening support for GSLEP/NSLEP Action Plan • Increasing interest in the “Third Pole” • Potential to pioneer adaptation strategies in region broadly • USAID support • GEF and potential GCF alignment • Paris COP raising global dialogue on climate • Global Tiger Initiative high level meetings, 	<ul style="list-style-type: none"> • Still seeking sustainable funding after project closeout • Communicating the project in the context of the greater holistic landscape ecosystem management context and needs. • Dependence on pace/strength of external institutions (i.e. GLSEP) • Can’t travel to Pakistan for security reasons • May not be able to work visibly in Kyrgyzstan because of current challenges in USAID-Kyrgyzstan relationship

<p>IUCN World Conservation Congress, Convention on Biological Diversity Conference of the Parties</p> <ul style="list-style-type: none"> • WWF's APGS fundraising campaign • "Ghost of the Mountains" documentary 	
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TARGET AUDIENCES

Audience	Readiness	Values	Barriers
Policymakers and governments in Bhutan, India, Kyrgyzstan, Mongolia, Nepal, Pakistan and all other range countries	Varies – some countries/offices are more ready to collaborate than others, and some elements of the project are politically easier to discuss than others	<ul style="list-style-type: none"> • Long-term wellness of citizens • Economic security • Protection from/resiliency to extreme events • Global perceptions and political positioning 	<ul style="list-style-type: none"> • Biodiversity relatively low priority • Lack of commitment • Historic conflicts
The public in project countries	Low-medium – largely concerned with economic well-being. Conservation secondary. Don't often understand climate change.	<ul style="list-style-type: none"> • Social and Economic security and well-being • Patrimony of the nation • Iconic species from their countries • Future of their children 	<ul style="list-style-type: none"> • Poor access to internet • Difficult to reach in target areas • May not care about activities in other countries.
Partners, practitioners and conservation managers	High – largely because they know and trust WWF	<ul style="list-style-type: none"> • Biodiversity conservation, community-based adaptation and/or water security • Learning and sharing, particularly best practices and data 	<ul style="list-style-type: none"> • Varied priorities (species experts vs. climate specialists) • Proprietary information/legal barriers to sharing • Inter-NGO competition
USAID Missions and DC HQ	Medium	<ul style="list-style-type: none"> • Visibility of USAID in countries • Visibility of USAID results to senior management and Congress • Development • Climate change • Biodiversity conservation 	<ul style="list-style-type: none"> • Stringent guidelines on branding difficult for offices • WWF offices want to brand WWF • Like to see frequent success stories and sophisticated

Audience	Readiness	Values	Barriers
			marketing of the project
Other public sector organizations	Medium – USAID has already offered credibility; transboundary nature of the work is also appealing	<ul style="list-style-type: none"> • Biodiversity • Climate resiliency for communities and landscapes • Conservation = Development • Transboundary collaboration • Sustainable financing/lasting benefits 	<ul style="list-style-type: none"> • Bureaucratic processes • Competition for funds and attention
WWF members and supporters	High – snow leopards and local communities are well-received by our audiences	<ul style="list-style-type: none"> • Species and people • Efficient and innovative work 	<ul style="list-style-type: none"> • Complexity of water and climate issues

MESSENGRERS

WWF

- AHM US-based project staff including Kate Newman, Jon Miceler, John Farrington and Barney Long
- Rishi Sharma, WWF SAP Lead
- WWF country/field office representatives
- WWF-US Freshwater and Climate team members, including Karin Krchnak, Shaun Martin and Ryan Bartlett
- WWF-US development staff

USAID

- Mary Melnyk
- Laura Cornwell

Snow Leopard, Climate Adaptation and Development community

- Snow Leopard Trust (SLT) – Brad Rutherford
- GSLEP – Koustubh Sharma

MESSAGES TO USE WITH OUR TARGET AUDIENCES

- **Asia's high mountains are crucial for people and nature.** The mountains that surround the Tibetan plateau, an area also known as the “Third Pole,” form the headwaters of river systems that provide freshwater for nearly one-third of the world's population. The mountains are rich in culture and biodiversity, and are the primary habitat for the endangered snow leopard.
- **These high mountain landscapes—and the ecosystem services they provide—are at risk.** Climate change is melting glaciers, causing perennial snow cover and permafrost to disappear,

and increasing the variability of weather patterns. These shifts put local and downstream communities and biodiversity at risk. Poor management and degradation of natural resources further exacerbate the climate pressures on these high mountain ecosystems.

- **Snow leopards are Asia's climate ambassadors.** In a politically charged region, saving such an iconic species is a mission all countries can commit to. Saving the snow leopard also saves people; conservation efforts are simultaneously improving local livelihoods, increasing water and food security, and building climate change resiliency. Snow leopard conservation and habitat protection provides a variety of environmental, economic, and social benefits.
- **WWF, USAID and our key partners are committed to the region's future.** By both working in Asia's high mountain communities, where many impacts are already being felt, and influencing policy, which governs natural resource management across the snow leopard range, we are contributing to a future where both people and biodiversity can thrive, even in the face of climate change.
- **We are developing models of climate-smart conservation activities** that benefit both people and nature in "gateway communities" nestled on the edge of the snow leopard range. These demonstration sites will help pave the way for integrated, climate-smart landscape plans for GSLEP priority landscapes.
- Through GSLEP, governments across the snow leopard range have boldly committed to empowering their most remote—and often most vulnerable—communities to build the resiliency of high mountain landscapes.
- We must act quickly to build the resiliency of Asia's high mountain landscapes and communities.
 - Snow leopard range nations are amongst the first to feel the impacts of a changing climate, and communities and governments are pioneering community-based adaptation approaches. Communities, governments, and multi-sectoral stakeholders must continue to work to safeguard the rich heritage of these high mountain communities and the iconic snow leopard.
 - Climate and snow leopard experts currently operate in silos, yet the future of the region depends on their collaboration. **ThirdPoleGeoLab.org provides a common platform for sharing knowledge about Asia's high mountains across expertise.**
 - Informed in part by USAID-funded research, WWF has developed the first-ever species action plan (SAP) for snow leopards, which will guide efforts to save this iconic species and its habitat. However, a significant funding gap challenges the success of this plan.

APPROACH/TACTICS

- **Engage existing and potential partners by populating and promoting the Third Pole GeoLab**
 - Promote the Third Pole GeoLab in climate, snow leopard, development and conservation networks (i.e. newsletters, digital libraries, etc.)
 - Discuss the resource at conferences and speaking events
 - Share and promote with AHM sites and partners, and encourage/empower them to share beyond the project (through personal emails, webinars and targeted newsletters) and

- share data (including their research findings, data, camera trap footage, collaging info, etc.)
 - Develop “Snowy’s Stories” with more content from across the region
 - Capture and share stories about community-based climate adaptation throughout the region
- **Raise awareness of public sector organizations and the general public through targeted outreach and collateral development**
 - Develop a compelling, comprehensive story package as well as materials specific to each site
 - Secure coverage in WWF-US communications outlets (i.e. *Worldwildlife Magazine*, WWF annual report, social media)
 - Organize 2-3 US-based events raising awareness of the project, including as an example of an existing public initiative aligned with new mandates on climate adaptation, natural capital and ecosystem services
 - Secure 2-3 feature stories in third-party media outlets
 - Increase social media coverage of AHM activities
 - **Leverage high-level events to elevate the AHM project amongst climate, water and snow leopard conservation experts and practitioners**
 - Society for Conservation Biology in Marseille
 - World Water Week in Stockholm
 - Climate COP in Paris
 - IUCN World Conservation Congress
 - Convention on Biological Diversity Conference of the Parties in Mexico
 - **Raise awareness amongst WWF and USAID audiences by building the AHM brand throughout our materials**
 - Establish the our **web page** (Worldwildlife.org/AHM) as the hub for project communications
 - Develop [project pages](#) for each of the AHM sites
 - Keep the [story](#) and [publication](#) sections up-to-date
 - Establish AHM page on each WWF Office website in the project countries
 - Co-host events with the USAID mission in each project country
 - Ensure a steady **drumbeat of stories** to support activities and ensure AHM messages reach USAID and members and supporters, and can be used as assets for other key audiences
 - *Outlets*
 - *Worldwildlife Magazine*
 - USAID article(s)
 - Stories published on Worldwildlife.org, ThirdPoleGeoLab.org and field offices’ websites
 - Social media support when applicable from WWF-US and field offices
 - *Hooks*
 - Oct. 23 – Snow Leopard Day
 - Dec. 2015 – UNFCCC climate COP
 - GSLEP meetings

- Publication of any reports or findings as a result of AHM or other snow leopard/high mountain landscape conservation work
 - New camera trap footage
- Produce a quarterly **newsletter** for distribution by project sites, USAID missions and partners
- **Raise awareness in project countries through media outreach, social activation and other tactics**
- **Engage regional policymakers**
- **Mark end of USAID grant by celebrating successes, sharing lessons learned and articulating transitional plans**

EXISTING ASSETS

Digital

- [Worldwildlife.org Initiative page](#)
 - Linked to from the [freshwater](#), [climate](#) and [wildlife conservation](#) pages
 - Exploring options to shift this to a [place-page](#)
 - Seeking to expand the [affiliated projects](#) to represent main areas of work for each site
 - Continuously adding to stories as content comes in from the field
- [Third Pole GeoLab](#)
- [40+ hours of professional snow leopard tracking video and stills shot in KCA in Dec 2015.](#)

Publications

- [Climate Vulnerability In Asia's High Mountains: How Climate Change Affects Communities and Ecosystems in Asia's Water Towers](#)
- [Guardians of the Headwaters: Snow Leopards, Water Provision, and Climate Vulnerability](#)
- [Snow Leopard: WWF Wildlife and Climate Change Series](#)

Stories

- *Worldwildlife Magazine*
 - [Inquiry: Can saving snow leopards quench people's thirst?](#) *Winter 2013*
 - Feature story [TO COME NOVEMBER 2015]
- Worldwildlife.org web stories
 - [The Earth Has a Third Pole](#)
 - [Human-Wildlife Conflict Mitigation in Nepal](#)
 - [Promoting Sustainable Livelihoods in Kyrgyzstan](#)
 - [Citizen Scientists Saving Snow Leopards](#)
 - [Amazing Snow Leopard Images from Nepal](#)
 - [Building a Future for Snow Leopards](#)

DELIVERABLES

By 2017, we will...

- Finalize the Third Pole GeoLab and populate it with compelling project site content, stories, social tools and data; traffic and data contribution to the site will increase, particularly from within the region
- Develop 1 high-end, comprehensive story package (e.g. video, brochure/booklet)
- Develop at least 1 compelling story package (e.g. 500 word stories, photos, one-page overview) from each of the six project countries
- Publish and promote one feature package for *Worldwildlife Magazine*
- Secure 2-3 AHM feature placements in third-party outlets
- Ensure there are at least 12 AHM stories on Worldwildlife.org
- Ensure there are at least 4 stories per year promoted by the local WWF office to their media outlets in the six priority countries.
- Technical reports on snow leopards prepared in consultation with the GSLEP Secretariat.
- Produce up to 8 issues of a newsletter – with a flexible format that allows each country to customize the edition to feature their news prominently
- Meet with and present results, findings, success stories to USAID Missions and embassy staff
- Co-host events with USAID in at least two countries
- Develop a suite of close-out reporting materials, including a report, stories from the field, and issue papers highlighting specific big win areas of the project (e.g. climate-smart landscape management plans, demonstration site activities and how they are feeding into landscape scale work)

GLOSSARY

Target Audience: Who are the *main* people (internally and/or externally) and/ or what are the main entities we need to reach in order to achieve our communications goals? For each audience, we assess the following:

- *Readiness:* Is your audience ready for what you want to tell them? For example, do they know about and generally support what you are trying to do? Or are they skeptical about what you are trying to do? Neutral? Do they have a basic knowledge of – and a personal connection to – the issue? Are they willing/able to overcome their barriers?
- *Values:* What is most important to your audience when it comes to the goal you are pursuing (e.g., power, achievement, benevolence, tradition, security, conformity)?
- *Barriers:* What do they see as the risks associated with working with WWF to reach the goal?
- *Goal:* What behavior are you trying to change and/or action do you want your target audience(s) to take *this year* in order to help meet the vision? (Example: WWF members, donors and Americans with a conservation-affinity have a better understanding of how climate change and ocean acidification impact species, priority places and the solutions to combat them.)

Message: A simple yet compelling statement that addresses one the values of your target audience and/or helps them overcome one of their concerns/barriers. The message should inspire a change in behavior or an action. Emotional messages are better than rational messages. Hopeful messages (e.g., messages that inspire wonder, awe and joy) are more effective than doom and gloom messages, as the latter are likely to lead people to apathy.

Messenger: Which people/entities will be most effective at funneling our key messages to our target audiences? These are also referred to as “influentials” or “champions.” They are the people we will work with on a regular basis to reach our target audiences. They must be credible people/entities who can influence your target audiences. In some instances, messengers and target audiences are one in the same.

Metrics: Quantifiable and anecdotal ways to measure success in reaching your goals. The measures can be a mixture of outputs (i.e., the things you are doing to move your strategy forward, such as news articles) and outcomes (i.e., the changes that occur because of the outputs, such as people who read the articles started sourcing more sustainable products).

SWOT: What circumstances are going to make it easier to reach our communications goal(s) and what circumstances are going to make it more challenging to do so? Consider internal and external circumstances, such as funding, staffing, reputation and the political environment.

- *Strengths* = Internal opportunities
- *Weaknesses* = Internal challenges
- *Opportunities* = External opportunities
- *Threats* = External challenges

Vision: What do you envision conditions will be like in three years if we achieve the communications goals set for this program? This should be a general one- to two-sentence statement. (*Example: Americans demand government action to combat climate change.*)

Annex 4: Estimated snow leopard population size and range area in the 12 snow leopard range nations

Range Country	Estimated Population	Estimated Area (km²)	Year of Evaluation
Afghanistan	100—200	50,000	2003
Bhutan	100—200	15,000	1994
China	2,000—2,500	1,100,000	2003
India	200—600	75,000	1994
Kazakhstan	100—110	50,000	2001
Kyrgyz Republic	150—500	105,000	2001
Mongolia	500—1,000	101,000	2000
Nepal	300—500	30,000	2009
Pakistan	200—420	80,000	2003
Russia	70—90	60,000	2012
Tajikistan	180—220	100,000	2003
Uzbekistan	20—50	10,000	2003
Totals	3,920-6,390	1,776,000	

Source: 2013 Global Snow Leopard and Ecosystem Protection Program.

Annex 5: Conservation Targets, Threat Analysis, and Program Response

Direct Threats:

1. "High Threats"

Threats ranked as "high" were drought, retaliatory killing of wildlife, and ungulate/prey base decline (Table 1 above). Droughts, particularly in spring, appear to be increasing in occurrence due to climate change impacts, including increasingly erratic rainfall patterns and disappearance of smaller glaciers that results in the loss of time-released glacier melt water during the long dry season. Spring droughts have a particularly severe impact on herders who are extremely dependent on spring grass growth to support livestock severely weakened by long mountain winters. And as discussed by Smith (2013), "reports throughout AHM have noted that farmers are the first to notice changes in water availability," with these farmers being particularly dependent on spring rains and spring glacier melt water to raise staple crops. Thus loss of glaciers will further exacerbate the problem spring drought since the lack of rain there will also be compounded by a lack of time-released glacier meltwater. In extreme cases, spring drought can also severely impact wildlife, particularly alpine ungulates, as well as montane ecosystems such as forests and grasslands which suffer severe stress from drought. As noted in Sindorf (2013), "permafrost, acts as a stabilizing force for both water provision and snow leopard habitat," and melting of permafrost due to climatic warming will no doubt have a high impact on both. Another high risk is the retaliatory killing of wildlife, which is increasing due to the increasing incidence of human-wildlife conflict as human and livestock populations increase in mountain areas. As the wild ungulates that form the prey base of large mountain carnivores decline due to hunting and being pushed out of mountain grassland habitat by growing domestic herds, attacks on livestock by snow leopards and other wild predators can only be expected to increase.

Sindorf, N. 2014. Maps of the Snow Leopard Range, Water Provision, and Climate Change. Washington DC: WWF.

Smith, T. 2014. Assessing Community and Ecosystem Vulnerability to Climate Change and Glacial Melt in Asia's High Mountains. Washington DC: WWF.

2. "Medium Threats"

Threats ranked as "medium" were subsistence and for-profit poaching, unsustainable harvesting of NTFPs and MAPs, mining and other extractive industries, and pasture degradation (Table 1). Although great strides have been made in the project region in reigning in organized poaching rings and subsistence hunters over the past decade, these activities persist and still constitute a threat to wildlife. At the same time, poor communities in the project region have increasingly turned to the collection and sale of NTFPs and MAPs, the most economically important of which is caterpillar fungus, *Cordyceps spp.*, the overharvesting of which is having severe impacts on alpine and sub-alpine meadows. In many areas of the project region, mining and other extractive industries such as logging and quarrying pose the largest direct threat to conservation efforts and protection of water resources. The most well-known of these mines is the large Kumtor gold mine in Kyrgyzstan, which sits in the buffer zone of Kyrgyzstan's most important snow leopard

reserve, the Sarychat-Ertash State Reserve. Pasture degradation in alpine meadows resulting from overgrazing, climate change impacts, and poor land use practices poses a severe threat to the livelihoods of livestock herders in alpine areas as well as to water resources and wildlife as these pastures disappear due to erosion and desertification.

3. "Low Threats"

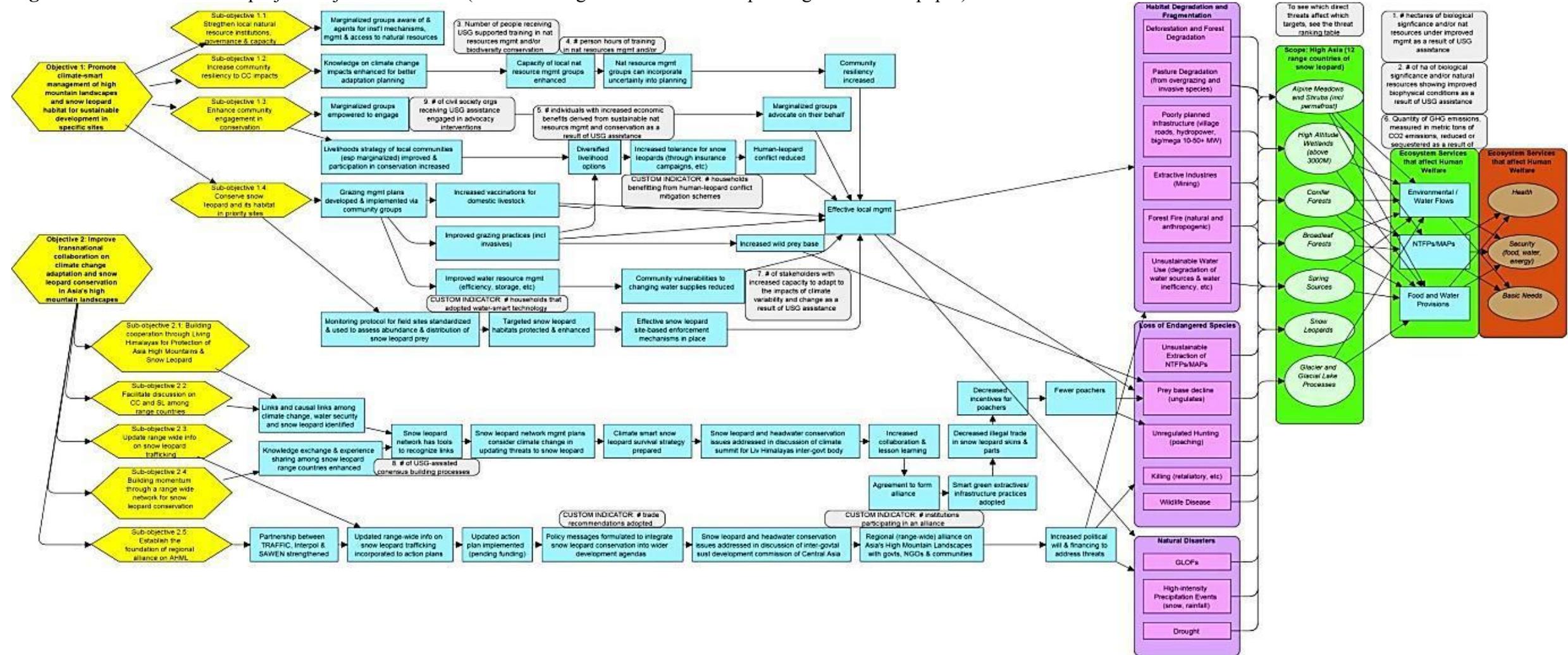
Threats ranked as low "were" glacial retreat, GLOFs, unsustainable water use, forest fires, poorly planned infrastructure, deforestation, high-intensity precipitation, and wildlife disease (Table 1). While loss of glaciers will reduce the storage of freshwater and its timed release, the complete disappearance of major glaciers in the project region appears to be many decades away. While GLOFs can cause catastrophic loss of property and even lives, GLOF incidents are extremely localized and generally occur at sites where there are years to plan advance measures to minimize losses resulting from these events. Unsustainable use of water resources is a fairly large problem throughout the region, which is currently being exacerbated by climate change and construction of hydropower dams. However, proven low cost methods for retaining water, efficiently using water resources, and improving dam management are available that could greatly reduce this problem. Although water use issues in the project region are a large problem for agricultural areas at lower elevations, herders dwelling at higher elevations make little use of surface water resources beyond household use and watering livestock, consequently this threat was ranked as low. Forest fires were ranked as a low threat due to the fact that, in general, such fires are rather localized. Poorly planned infrastructure projects result in both direct disturbance of habitat, such as by valleys being flooded by hydropower reservoirs and erosion and landslides being triggered by mountain road construction. However, again these threats were ranked as low due to their fairly localized nature. While deforestation is a large problem at lower elevations in the project area, primarily due to cutting of trees for fuel, clearing of forests to open up agricultural lands, and various climate change impacts, this threat is presently considered low due to such forest loss being relatively reversible. High-intensity precipitation is a threat in that it is increasing flooding, reducing groundwater recharge, and resulting in accelerated erosion. But again, methods for mitigating these impacts are available. The extent of wildlife disease in the region is largely unknown, but it is believed to presently be a much smaller threat to wildlife than poaching and retaliatory killing. However, the threat of disease may grow as interactions between wildlife and domestic livestock increase with growing herder populations and as the climate warms, providing more favorable conditions for disease transmission.

Indirect Threats:

Indirect threats to biodiversity, water resources, and livelihoods in the project region result from a variety of social, economic, and political factors as well as from climate change (Fig. 1). Indirect social factors affecting environmental conditions in the project region include international, national, and local needs for economic growth and increased employment resulting in industrial development and increased demand for energy, raw materials, and agricultural products. In rural areas, this can result in food and water shortages, a lack of livelihood security for those dependent on the local natural resource base, and ultimately in poverty. All these factors are also contributing to shifting cultural values that increasingly place a higher priority on consumption than on conserving local resources. Other social factors that constitute indirect

threats include low levels of education and lack of public awareness of environmental issues. Indirect economic factors contributing to deterioration of environmental conditions in Asia's high mountains include weak markets for agricultural and livestock products, population growth, migration to new areas in the mountains as the climate warms, and limited opportunities for engaging in alternative and/or sustainable livelihoods. Indirect political factors contributing to deterioration of environmental conditions in Asia's high mountains include weak or lack of enforcement of laws and regulations concerning pasture management, illegal trade and transport of wildlife products, extractive industries, tourism, protected areas, and ecosystem management as well as weak government institutions and lack of capacity for management of protected areas and fire prevention programs. Other political factors that contribute to environmental degradation include a general lack of transboundary collaboration and communication among regional governments on environmental issues and poor land use planning by local administrative bodies. Finally, perhaps the most intractable indirect factor contributing to the deterioration of environmental conditions in high Asia is climate change, which is having acute impacts on the quantitative and temporal availability of water resources in the region as well as on high mountain ecosystems that now need to adapt to warming temperatures.

Figure 3. Results Chains for project Objectives 1 and 2 (Note: This figure is formatted for printing on 11"x17" paper)



Annex 6: Site Strategy

Project site descriptions and maps of site locations in each project country are provided below. Table 4, below lists project sites by the major river basins that they are located in.

Table 4. Summary of river basin locations of individual project sites.

Project Site	River Basin
Bhutan – Wangchuck Centennial Park	Manas and Brahmaputra Basins
India – Khangchendzonga Biosphere Reserve	Teesta and Brahmaputra Basins
Kyrgyzstan – Sarychat-Ertash State Reserve and Khan Tengri National Park	1) Naryn River and Syr Darya Basins 2) Saryjaz/Aksu and Tarim Basins
Mongolia – Altai Range	Khovd River and Khar Us Lake Basins
Nepal – Kangchenjunga Conservation Area	Tamur, Kosi, and Ganges Basins
Pakistan – Chitral and Gilgit Baltistan	Chitral, Hunza-Nagar, and Indus Basins

Bhutan Site Strategy



Figure 4. Location of Wangchuck Centennial Park, Bhutan (6) in the Brahmaputra River Basin.

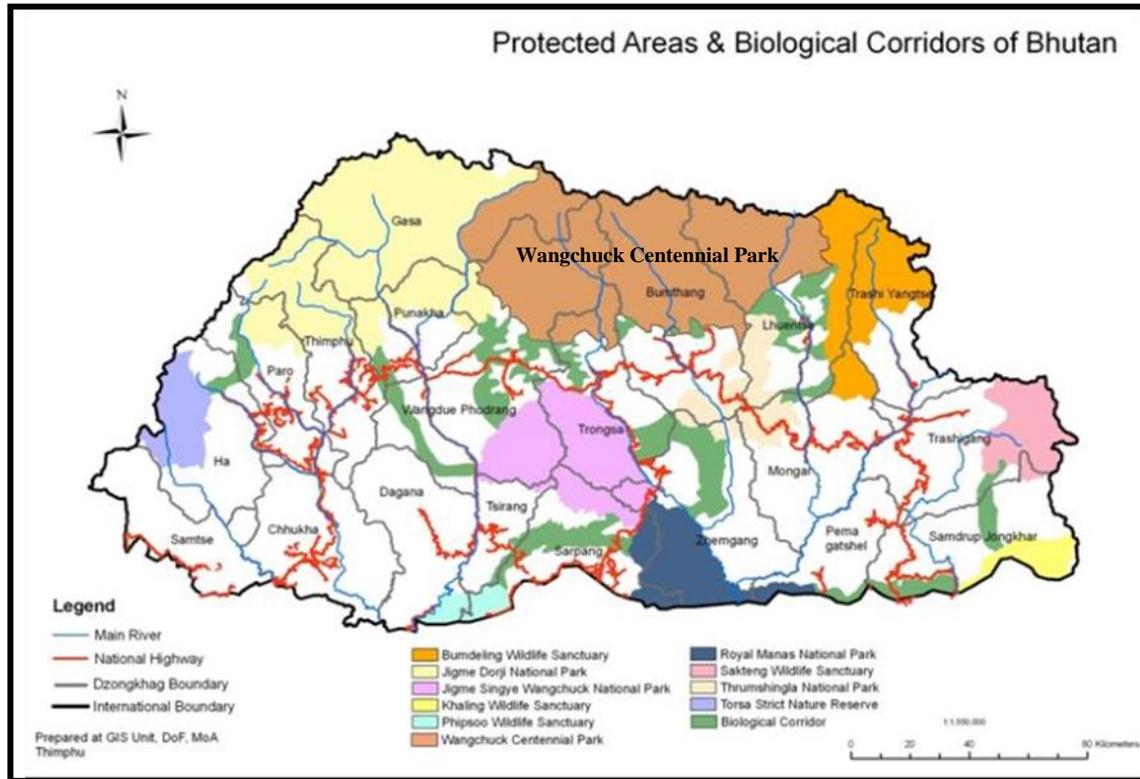


Figure 5: Map of protected areas in Bhutan with the project priority site, Wangchuck Centennial Park, shaded in brown.

In Bhutan, the WWF Asia High Mountains Project will build upon WWF's 30 years of experience working in close partnership with the Royal Government of Bhutan to implement Project activities in the nation's largest protected area, the 4914 km² Wangchuck Centennial Park (WCP), population approximately 10,000. WCP is located on Bhutan's northern border with China (Fig. 3 and 4), notably in the headwaters of Bhutan's largest river system, the Manas River, which flows into the Brahmaputra River in Assam, India. WCP is arguably Bhutan's single most important snow leopard range area, and is the location of about one-quarter of Bhutan's snow leopard population and snow leopard range area. In WCP, specific threats to be addressed by AHM Project activities include climate change impacts on local livelihoods and ecosystems, such as shifting rainfall patterns, increasing frequency of drought, and an attendant decline in water security; lack of adequate capacity for natural resource monitoring and management with respect to water, wildlife, forests, pastures, and farmland; human-wildlife conflict; wildlife poaching; fuel wood cutting; and lack of alternative livelihoods.

WWF priority actions to address these threats in Bhutan include establishing a hydro-meteorological monitoring program in WCP to quantitatively measure changes in temperature and precipitation; developing and implementing a comprehensive climate adaptation strategy for demonstration sites in WCP, including on such matters as springshed restoration and improving forest and pasture management to improve water and livelihood security; planning and starting demonstration watershed management activities on the Nikka Chu and Kuri Chu Rivers in WCP;

strengthening community awareness of and participation in conservation efforts such as wildlife monitoring and anti-poaching operations; improving protection of snow leopards, their prey species, and habitat; developing alternative fuel sources to wood; promoting sustainable community-based tourism; and mapping snow leopard habitat and dispersal corridors in Bhutan and development of watershed management plans. In total, these activities will produce synergies to improve climate resilience of ecosystems and livelihoods, increase water and livelihood security, and improve the prospects for survival of the endangered snow leopard. In implementing all these activities WWF will use both landscape and threat-based approaches while working closely with local stakeholder to connect biodiversity conservation and natural resource management with improved livelihoods.

India Site Strategy



Figure 6. Location of Khangchendzonga Biosphere Reserve, Sikkim, India (5) in the Brahmaputra River Basin.

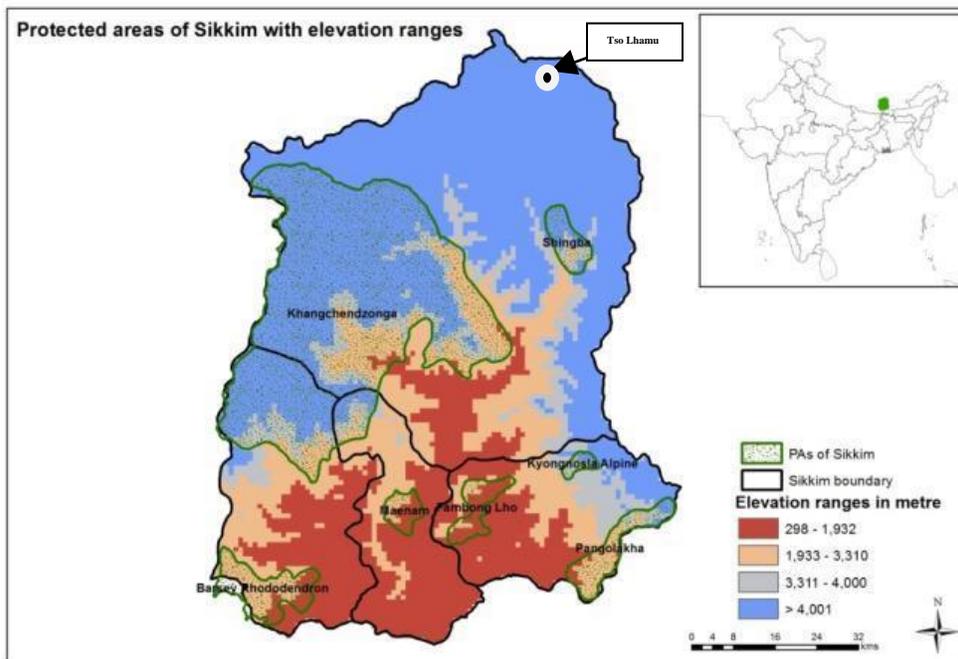


Figure 7. Map of Sikkim showing Protected Areas and altitudinal zones.

In India, the WWF Asia High Mountains Project will build upon WWF's eight years of earlier experience implementing conservation activities for the Khangchendzonga Landscape Programme in cooperation with the government of Sikkim and local NGOs. AHM Project activities in Sikkim will be implemented primarily in the Khangchendzonga Biosphere Reserve (KBR), which includes the 1784 km² Khangchendzonga National Park. The KBR features the eastern half of the 8586 m high Kangchenjunga Peak, the world's third highest mountain, located on the border between Nepal and India (Fig. 5 and 6). A second priority project area in Sikkim is Tso Lhamu Lake, Sikkim's highest lake and also an important snow leopard site. Tso Lhamu is located at an elevation of about 5100 m in the cold desert region of northeast Sikkim, in the headwaters of Sikkim's most important river system, the Teesta River. The two main project communities are both located in North Sikkim, namely, Lachen (Elevation 2750 m, Population 2900) and Lachung (Elevation 3000 m, Population 2800), while there are approximately 25 herders living in the greater Tsho Lhamu region in summer. All rivers in the project site lie within the Teesta River basin in the headwaters of the Brahmaputra River, which the Teesta flows into in northern Bangladesh. Snow leopard habitat in Sikkim accounts for about one-third the total area of Sikkim State and 3 percent of India's total snow leopard habitat. Specific threats to be addressed by AHM Project activities in Sikkim include a lack of conservation and climate change impact awareness; climate change impacts on agriculture; poor watershed management practices, such as over-extraction of NTFPs; a lack of alternative energy sources to fuel wood cutting; poor solid waste disposal practices; a lack of livelihood options; wildlife poaching; and human-wildlife conflict.

WWF priority actions to address these threats in Sikkim will include conducting a climate vulnerability assessment and climate adaptation training for improving agricultural practices in mountain communities; building the capacity of local organizations for improved watershed and natural resource management; improving protection of snow leopards and their habitat by improving community participation in conservation and monitoring activities; developing alternative fuel sources to wood; improving solid waste disposal at ecotourism centers; and promoting a system for certifying sustainability of community-based tourism enterprises. In combination, these activities in Sikkim will demonstrate a comprehensive program for adapting local livelihoods to changing climatic conditions, improving natural resource and watershed management, developing alternative livelihoods, and improving community conservation efforts. Taken in total, these activities will delineate a new path forward for the long term preservation of Sikkim's fragile mountain ecosystems by increasing the sustainability of local livelihoods in the face of a changing climate and improving regional wildlife and ecosystem conservation efforts.

Kyrgyzstan Site Strategy



Figure 8. Location of the Sarychat-Ertash State Reserve (2), Kyrgyzstan, in the Syr Darya and Ak Su River Basins.



Figure 9. Map showing the location of project areas centered around 1) the Sarychat-Ertash State Reserve and 2) the future Khan Tengri National Park in the Sary-Jaz region of Kyrgyzstan.

In Kyrgyzstan, the Asia High Mountains Project will build upon knowledge gained through WWF Russia’s nine years of previous experience implementing conservation projects in the inner and central Tian Shan regions of Issyk Kul Province in northeastern Kyrgyzstan. This region is known for the most extensive glacier fields in Central Asia, vast alpine pastures, forest

belts, and abundant wildlife, including snow leopard, argali, and ibex. Notably, the primary project site, the 1491 km² Sarychat-Ertash State Reserve, is the location of the source of the Syr Darya, one of the two most important rivers in Central Asia that flow to the Aral Sea. Sarychat-Ertash also lies in the upper Ak Su River basin, a critical water source for the large desert oasis city of Ak Su in Xinjiang, China (Figure 7 and 8). The secondary project site is the Chong Kyzyl Suu River basin, located approximately 10 km north of the western tip of the Sarychat-Ertash Reserve, on the north slope of the Tersky Range. The Chong Kyzyl Suu River has its source in the glaciers of the Terskey Range and flows approximately 50 km northward to Lake Issyk Kul. The river's watershed is a mix of alpine meadows, forests, and farmlands that provides valuable wildlife habitat for snow leopards and other species, and the river is an important source of water for local agriculture. The soon-to-be-established 1870 km² Khan Tengri National Park, lies primarily in the Ak Su River basin (Figure 8).

Intensive community conservation work will be carried out in the three main villages in the buffer zone of the Sarychat-Ertash state Reserve, namely Karakolka (Elevation 3050 m, Population 140), Akshyrak (Elevation 3150 m, Population 195) and Engilchek (Elevation 2495 m, Population 153), the last of which will be the gateway village to the new Khan Tengri National Park. Combined, Sarychat-Ertash and the proposed Khan Tengri National Park have the highest known population density of snow leopards and snow leopard prey species in Kyrgyzstan and cover about 3 percent of the nation's total potential snow leopard habitat. AHM watershed management and other climate and conservation activities will be conducted in the Chong Kyzyl Suu Valley, which, notably, is location of the Tian-Shan High Mountainous Scientific Center under the Kyrgyzstan Academy of Science's Institute of Water Problems and Hydroenergy. Specific threats to be addressed by AHM Project activities in the project region of eastern Kyrgyzstan will include activities on climate adaptation, watershed management, sustainable natural resource management, snow leopard conservation, community conservation, and protected area management.

WWF priority actions to address these threats in Kyrgyzstan will include developing a climate adaptation strategy to mitigate climate change impacts on ecosystems and rural livelihoods in the project region; improving the capacity of local NGOs to implement effective sustainable natural resource management projects and providing technical support to these NGOs; promoting climate-smart agricultural and herding practices; conducting demonstration watershed management activities; promotion of eco-friendly alternative income generating activities such as production and marketing of felt handicrafts; increasing the capacity of local protected areas rangers by training them and providing necessary equipment; supporting local community anti-poaching teams and community conservation education programs; establishing new protected areas in snow leopard habitat in headwaters areas; and continuing with snow leopard surveys using both camera trapping and DNA analysis technologies to establish priority areas for wildlife conservation action. Taken together, these activities will form a comprehensive approach to improving natural resource management in the project region by addressing community climate adaptation; pasture, ecosystem, and watershed management; wildlife conservation; and sustainable livelihoods. By improving management of these three sites in the Central Tian Shan, these activities will serve as an effective demonstration for replication in other climate-impacted and water-stressed high altitude regions of Kyrgyzstan and elsewhere in Central Asia.

Mongolia Site Strategy

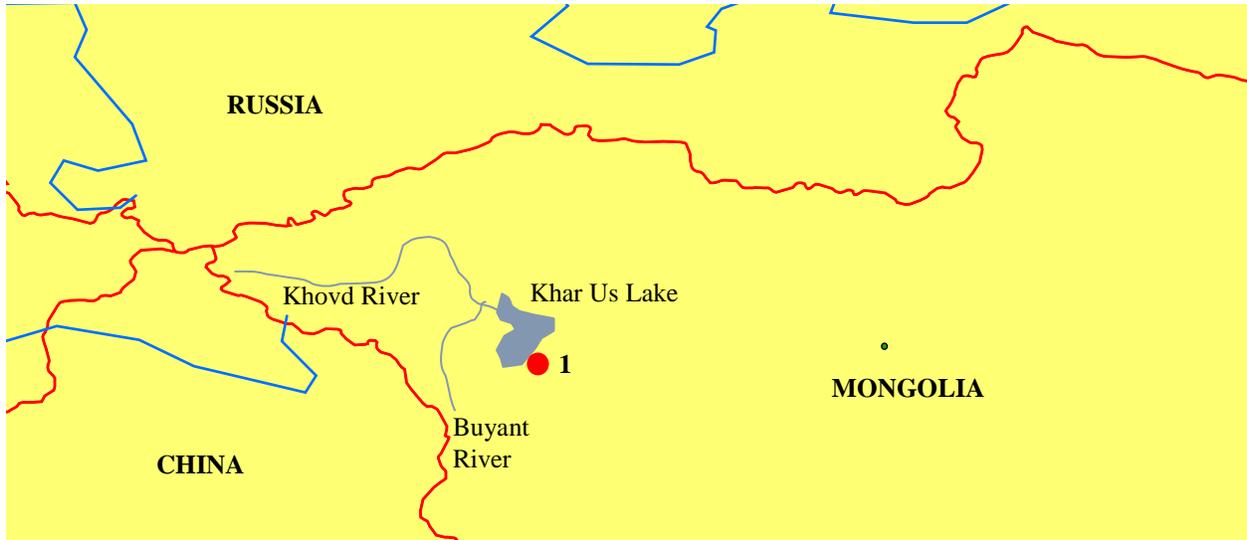


Figure 10. Location of Jargalant Khairkhan Mountain (1), Mongolia, one of several AHM project sites in the Khovd River and Khar Us Lake Basins.



Figure 11. Map showing snow leopard distribution in Mongolia with AHM Project priority areas for Mongolia's Altai-Sayan Ecoregion circled in red.

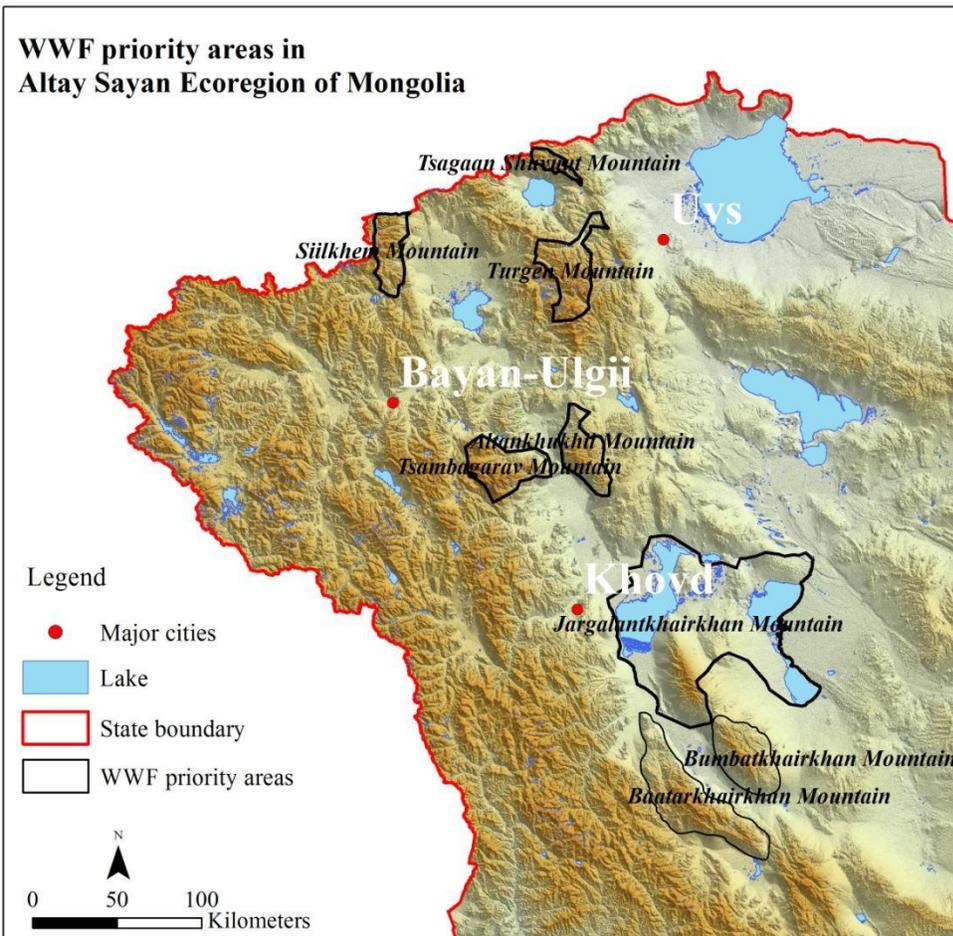


Figure 12. Map showing AHM Project priority areas for the Altai-Sayan Ecoregion of western Mongolia.

In Mongolia, the WWF Asia High Mountains Project will build upon WWF's earlier 17 years of experience working in the Altai-Sayan Ecoregion (ASER) of western Mongolia, which is now part of a major transboundary program spanning northwest Mongolia and Russia's south-central Siberian provinces. The remote Altai Mountains of western Mongolia lie on the northern fringes of the snow leopard's known range and are an inhospitable land of glaciers, grasslands, and windswept mountain valleys that are only occupied by semi-nomadic livestock herders. Potential snow leopard habitat in the Mongolian portion of the ASER includes as much as 53,690 km² of territory straddling a complex network of mountain ranges, with existing protected areas only covering 20 percent of this potential habitat. At present, it is estimated that there are about 150 snow leopards in this region. The region lies entirely within hydrologically closed basins, with the largest river system being the 516 km long Khovd River, which drains into the Khar Us Lake and is the main source of freshwater in the region (Fig. 9). Activities under the AHM Project in Mongolia will focus on eight critical snow leopards sites that need improved conservation efforts. These sites are located within the six priority areas shown in Figures 10 and 11, which with their surrounding populations are: 1. Altanhukhi Mountain (Population 7763), 2. Turgen

Mountain (Population 10,096), 3. Jargalant Khairkhan and Bumbat Khairkhan Mountains (Population 15,822), 4. Munkh Khairkhan Mountain (Population 21,472), 5. Baatar Khairkhan Mountain (Population 12,371), 6. Siilkhem Protected Area – Section B (Population 6200), 7. Tsagaan Shuvuut (Population 2267), and 8. Tsambagarav (Population 17,502). For the AHM Project, the single highest priority site will be Jargalant Khairkhan Mountain in the Khar Us Lake Basin. These sites cover much of Mongolia's highest density snow leopard range area and include perhaps one-sixth of the nation's total snow leopard habitat. Threats to be addressed by the AHM Project in western Mongolia include a lack of local capacity for sustainable watershed and pasture management; decline of local water sources such as springs and streams; lack of capacity for evaluating climate change impacts and developing adaptation strategies; human-wildlife conflict, particularly involving snow leopards; lack of community participation in conservation efforts; and a general lack of alternative livelihood options.

WWF priority actions to address these threats in western Mongolia will include conducting a climate vulnerability assessment and developing a climate adaptation strategy for AHM Project areas; assisting herding communities to improve their watershed, water source, and pasture management; training herders on methods for reducing the impact of human-wildlife conflict on their livelihoods; increasing community participation in conservation efforts by training citizen scientists to monitor snow leopards and their prey species; and diversifying local livelihoods, such as by starting handicraft and ecotourism enterprises. Taken together, these activities will mitigate local climate vulnerabilities, improve watershed and ecosystem management; improve water and livelihood security; and improve the prospects for survival of the endangered snow leopard in the Altai Region.

Ecoregion, and in particular the USAID funded Sacred Himalayan Landscape (SHL) SCAPES Project. The SHL is the crowning glory of the Eastern Himalayas Complex, and includes Langtang National Park, the Mount Everest Region, the Kangchenjunga area of Nepal and Sikkim, and the Toorsa Strict Nature Reserve in Western Bhutan. Elevation-wise, this landscape stretches from the heights of Mount Everest to subtropical lowlands, endowing the region with an amazing array of ecosystems lying within a remarkably compressed area. Notably, the region includes two of WWF's internationally important Global 200 Ecoregions, the Eastern Himalayan Alpine Scrub and Meadow and the Eastern Himalayan Broadleaf and Conifer Forest Ecoregions. This landscape supports both remarkable biodiversity and human diversity, and provides ecological services critical for maintaining this diversity, such as by providing time released water needed to maintain ecosystems and support the livelihoods of tens of millions of downstream users.

Within this remarkable landscape, the WWF AHM Project will focus its efforts on the 2035 km² Kangchenjunga Conservation Area (KCA) (Total Population: 6500) in eastern Nepal, located on the western slopes of the world's third highest mountain, the 8586 m high Kangchenjunga Peak (Fig. 12 and 13). This region is a globally important biodiversity hotspot with breath-taking mountain scenery and a rich cultural heritage. Ecosystems found in the KCA include juniper, Himalayan larch, rhododendron, oak forest, alpine grasslands, and a wide variety of globally threatened endemic fauna, including the snow leopard and red panda. The Kangchenjunga area's rich ethnic mosaic includes Sherpa, Limbu, Lama/Bhutia, Rai, Gurung, Chettri and Tamang peoples, who subsist through a combination of farming, livestock herding, and trade. Because the Kangchenjunga landscape overlaps Nepal, Sikkim in northeast India, Bhutan, and the southern Tibet Autonomous Region (TAR) of China, there are a number of opportunities for promoting trans-boundary conservation initiatives in the region. Notably, most of the KCA drains into the Tamur River, which flows into the Kosi River, Nepal's largest river and a major tributary of the Ganges. In total, the KCA covers about 5 percent of Nepal's total snow leopard habitat and is some of the nation's best protected snow leopard and prey species habitat.

Threats to be addressed by the AHM Project in northeastern Nepal include climate change impacts on water and food security; poor pasture and watershed management; human-wildlife conflict; lack of alternatives to fuel wood cutting; overharvest of economically valuable NTFPs; wildlife poaching; weak governance of local natural resource management groups; lack of inclusive participation in conservation activities; and a lack of alternative sources of income.

WWF priority actions to address these threats in the Nepal Kangchenjunga Region will include implementing climate adaptation strategies to improve food and water security in the KCA, in particular with respect to agriculture; improving pasture and watershed management; conducting demonstration watershed management activities at selected sub-basins in the KCA; introducing improved cookstoves to reduce fuel wood cutting; providing support for producing guidelines on sustainable harvesting of NTFPs; promoting alternative livelihoods, such as ecotourism and marketing of NTFPs; supporting community-based anti-poaching and human-wildlife conflict reduction efforts; training local citizen scientists to monitor snow leopards; and continuing with snow leopard radio-collaring efforts to further delineate primary snow leopard habitat in the KCA and surrounding region.

In implementing these activities, WWF will be taking a comprehensive, integrated approach to improving climate resilience; water, food, and livelihood security; ecosystem protection; and wildlife conservation in the KCA - with benefits for both local residents and rare wildlife such as the snow leopard. This approach will serve as a model for integrated conservation, sustainable livelihood development, and climate adaptation suitable for replication elsewhere in the Himalaya region.

Pakistan Site Strategy



Figure 15. Location of the Chitral District (3a) and Gilgit Baltistan (3B) AHM project sites in the Indus River Basin of Pakistan.

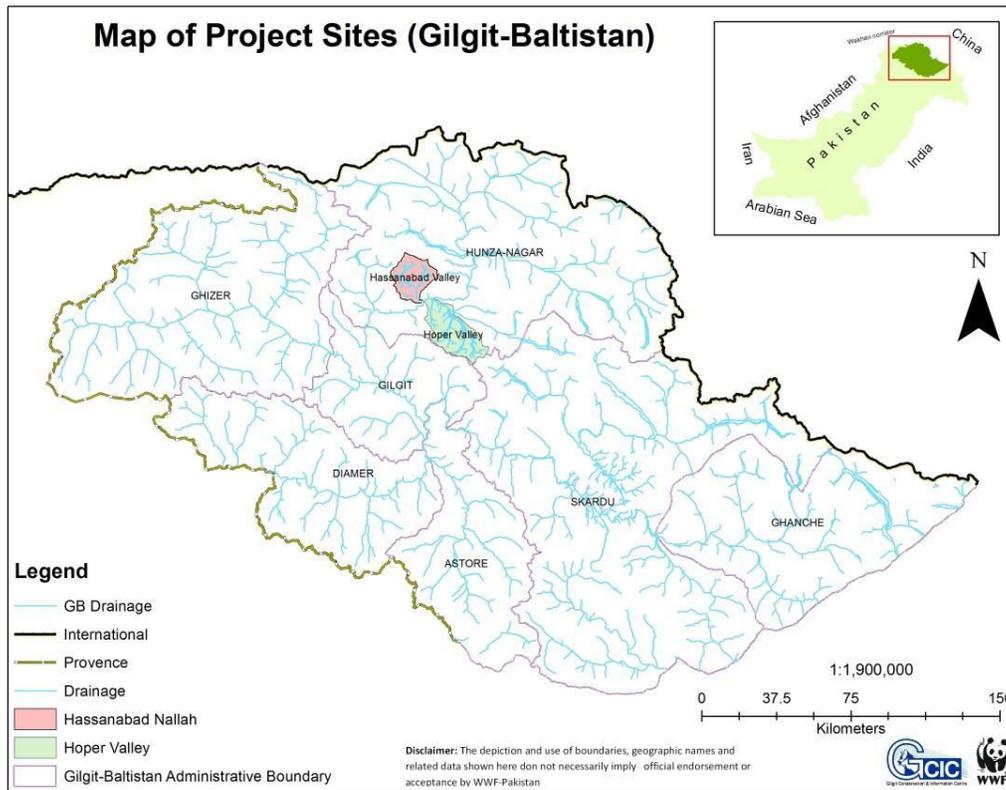


Figure 16. Map showing the location of the Hopper Valley AHM Project site in Hunza-Nagar District, Gilgit-Baltistan Province, Pakistan.

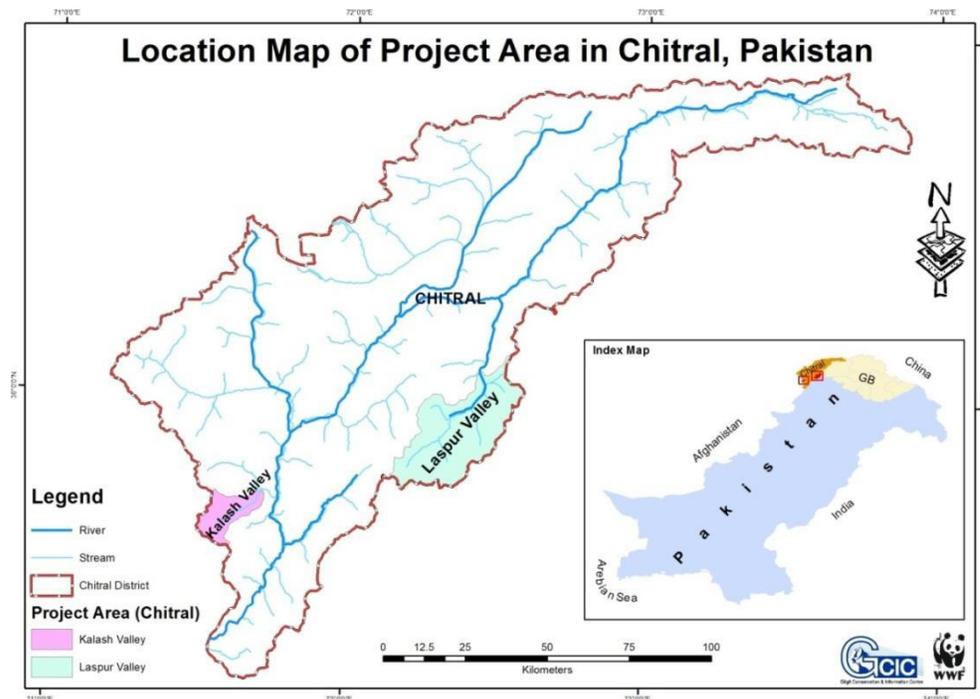


Figure 17. Map showing the locations of the Kalash and Laspur Valley AHM Project sites in Chitral District, Khyber-Pakhtunkhwa Province, Pakistan.

In Pakistan, the Asia High Mountains Project will build upon WWF's long experience working in the Karakorum Range in the north of the country. The Karakorum forms a western extension of the Himalayas and includes parts of two WWF Global 200 Ecoregions, namely the Western Himalayan Broadleaf Forest and the Tibetan Plateau Alpine Shrub and Meadow Ecoregions. This region also features vast ice fields and five of the world's 14 peaks over 8000 m in elevation. Biodiversity in the Karakorum region includes snow leopard, argali, markhor, ibex, and blue sheep while important forests occur in lower valleys of the range.

AHM Project activities in Pakistan will be implemented at three project sites, the first being the Hopper Valley in Hunza-Nagar District, Gilgit-Baltistan (Fig. 14 and 15). The Hopper Valley lies at an elevation of 2900 m and is home to about 8100 people. The valley and surrounding mountains provide habitat for the endangered snow leopard and ibex. There are a number of glaciers in the valley and two mountain peaks over 7000 m, while the 12 ha Rush Lake provides important habitat for migratory waterfowl. The valley lies in Central Karakoram National Park and is an important site for both WWF's conservation and climate change adaptation work. WWF has been working with the community of Hopper for several years on wildlife protection, but poaching of snow leopards and their prey, among other species, continues to be reported from the area. Notably the Hopper Valley drains into the northernmost reach of the Indus River via a short tributary.

In Khyber-Pakhtunkhwa Province's Chitral District, WWF will work in the Laspur Valley and the Rumbur sub-valley of the Kalash Valley (Fig. 14 and 16). The 929 km² Laspur Valley is

located at an elevation of about 2950 m in eastern Chitral District and has a population of about 7500 people. Land cover in the valley includes agricultural land, sub-alpine scrub forest, alpine pastures and snow-capped mountains. The valley is home to a diverse array of fauna, including snow leopard, brown bear, grey wolf, lynx, ibex, and musk deer. Consequently, the mix of humans, livestock, and wildlife make Laspur an important site for undertaking conservation activities in the region. The Laspur Valleys drains to the Hunza Nagar River, which flows into Afghanistan. There it joins the Kabul River which returns to Pakistan to merge with the Indus.

The Rumbur Valley is one of three branches of the Kalash Valley and is located about 50 km southwest of the town of Chitral on the border with Afghanistan's Noristan Province, lying just southwest of Chitral Gol National Park (Fig. 14 and 16). The Valley has an elevation of about 1950 m and a population of 5000. Project activities will be conducted in the 80 km² Rumbur sub-valley, 35 km² of which are pasture lands, the remainder being forests and agricultural lands. Primary sources of income in the Rumbur Valley are livestock herding, farming, horticulture, and harvest of timber and NTFPs. Because of the presence of livestock on alpine pastures in this area, loss of livestock to snow leopards is a persistent problem. As with the Laspur Valley, the Rumbur Valley also drains into the Hunza Nagar River which ultimately flows into the Indus.

In total, these three valleys cover about 2.5 percent of Pakistan's total snow leopard habitat, and valley communities are at the forefront of snow leopard protection efforts in Pakistan. Threats to be addressed by the AHM Project in northern Pakistan include a low awareness of climate change impacts on local ecology, low water security, and methods to mitigate these threats; a lack of capacity to sustainably manage the local natural resource base; human-wildlife conflict; wildlife poaching; a lack of alternative livelihoods; a lack of community participation in conservation activities; and a general lack of awareness of conservation issues.

WWF priority actions to address these threats in northern Pakistan will include conducting climate vulnerability assessments to guide climate adaptation and water security work at project sites in Pakistan; conducting demonstration watershed management activities on selected sub-basins at AHM Project sites; building the capacity of local community groups to sustainably manage watersheds and the local natural resource base in a climate smart manner; educating project area residents about methods for reducing human-wildlife conflict and its economic impact; building the capacity of local community groups to monitor wildlife and combat wildlife poaching; promoting climate-smart alternative livelihoods to reduce pressure on the local natural resource base; and conducting conservation awareness raising activities for all sectors of society in the project region. In total, these actions will serve as an effective program for improving watershed management and water security, increasing the resilience of local ecosystems and livelihoods to climate change impacts; and improving the protection of wildlife – all of which will be suitable for replication elsewhere in northern Pakistan.

Annex 7: Summary of Project Year 4 Activities by Country

1. Bhutan – AHM Project Year 4 Activities

Activity Number	Activity	Brief Description
1.1.3 (WCNP)	Provide technical support for local associations and NGOs to conduct awareness raising activities regarding sustainable natural resource management and use.	WWF will provide support to Wangchuck Centennial National Park (WCNP) to engage Buddhist monks in WCNP to teach local residents about the need to protect the park's wildlife. WCNP will provide training on wildlife ecology, conservation, and protection efforts in the park to monks from the Peseling Monastery in WCNP's Central Range. Then, as part of Buddhist teachings at public gatherings such as Buddhist religious festivals, monks will give talks on the importance of wildlife conservation and protection in WCNP. Monks from Peseling Monastery will also participate in anti-poaching work by conducting trap and snare removal activities in the vicinity of their monastery.
1.1.5 (WCNP)	Raise awareness and provide education about the role of predators, particularly snow leopards, in maintaining the ecological health of mountain pastures.	WWF will provide support to Wangchuck Centennial National Park (WCNP) staff to hold rotating International Snow Leopard Day events at five schools in the Western Range of WCNP in October. Through these events, awareness of threats to snow leopards will be raised among both children and their parents. Activities to be held at these will include snow leopard-themed quiz, debate, and drawing contests as well as lessons on snow leopard ecology taught by WCNP staff. Educational materials about snow leopards, such as posters, notebooks, and bookmarks with information on snow leopards, will also be distributed.
1.2.1A (UWICE)	Work with local communities to implement adaptation actions identified in climate change vulnerability assessments that reduce vulnerabilities of communities, high mountain ecosystems, and snow leopards.	The Ugyen Wangchuck Institute of Conservation and Environment (UWICE) will develop a demonstration "Climate-Smart Village" in Wangchuck Centennial National Park (WCNP) to showcase climate adaptation actions that can benefit rural farming communities in WCNP and elsewhere in northern Bhutan. At the selected village, UWICE will demonstrate climate-smart agricultural technologies and practices, such as rain water and waste water harvesting, cultivation of drought resistant crop varieties, mulching of crops to inhibit weed growth and maintain topsoil moisture, composting of waste material and manure for enhancing fertility of fields, introduction of pesticide-free pest management strategies and human-wildlife conflict reduction strategies, and in general increasing the adaptive capacity of the selected village with respect to climate change impacts on their livelihoods.
1.2.1B (UWICE)	Work with local communities to implement adaptation actions identified in climate change vulnerability assessments that reduce vulnerabilities of communities, high mountain ecosystems, and snow leopards.	The Ugyen Wangchuck Institute of Conservation and Environment (UWICE) will map, inventory, and conduct a time series change analysis of high altitude wetlands in Wangchuck Centennial National Park (WCNP). The purpose of this work will be to evaluate climate change impacts on high mountain water sources, such as lakes, ponds, bogs, wet meadows, and other wetlands, and to evaluate the potential hydrological implications of these changes for park and downstream residents whose livelihoods depend on these water sources.
1.2.2A (WCNP)	Work with local institutions (e.g. agricultural extension offices, local resource user groups, and herder groups) to promote best land management practices and enhance crop productivity and climate resilience through rainwater harvesting, small-scale water storage, and introduction of drought and pest-tolerant crops.	Wangchuck Centennial National Park (WCNP) will conduct a demonstration to restore 30 acres of degraded land to its original bamboo cover in the western range of WCNP. Bamboo cover in western WCNP has declined drastically in recent years, resulting in the loss of important source of livelihood for local herding families.

		In order to address this issue, WCNP will work with the Sephu Geog government and local communities to establish bamboo plantations that will be sustainably managed. This activity will have a variety of benefits for herder incomes, watershed management, and increasing the resilience of local ecosystems to climate change impacts.
1.2.2B (WCNP)	Work with local institutions (e.g. agricultural extension offices, local resource user groups, and herder groups) to promote best land management practices and enhance crop productivity and climate resilience through rainwater harvesting, small-scale water storage, and introduction of drought and pest-tolerant crops.	Wangchuck Centennial National Park (WCNP) will perform springshed protection work on an important spring recharge area in Nubi Geog in WCNP's western range. WCNP will plant a 5 acre catchment area above the spring source with native trees and shrubs and will fence off the area to keep free-roaming livestock out of the village's water supply source area. Groundwater recharge trenches will also be dug at the site and a small pond will be constructed below the spring source for watering domestic livestock.
1.2.2C (WMD)	Work with local institutions (e.g. agricultural extension offices, local resource user groups, and herder groups) to promote best land management practices and enhance crop productivity and climate resilience through rainwater harvesting, small-scale water storage, and introduction of drought and pest-tolerant crops.	The Watershed Management Division (WMD) will develop demonstration watershed management plans for degraded areas of the upper Nikka Chu and Kuri Chu Rivers in Wangchuck Centennial National Park (WCNP). Using findings of watershed degradation and climate vulnerability assessments and community consultations, WMD will develop comprehensive landscape management plans for both basins that will focus on issues related to surface water supply and quality at these two sites.
1.2.3A (WCNP)	Promote climate-smart grazing practices that maintain healthy pastures for livelihoods and wildlife (e.g. rotational grazing and grazing set asides).	Wangchuck Centennial National Park (WCNP) will repair two bridges on a major trail in the highland area of Sephu Geog in WCNP's western range. Repairs to these bridges will ensure that yak herders continue their full seasonal migration between their summer and winter pastures and will also be used by rangers patrolling the park as well as by caterpillar fungus collectors who migrate to the area in June.
1.2.3B (WCNP)	Promote climate-smart grazing practices that maintain healthy pastures for livelihoods and wildlife (e.g. rotational grazing and grazing set asides).	Wangchuck Centennial National Park (WCNP) will conduct trail repairs in WCNP's Western Range. Trail repairs will benefit yak herders, rangers, caterpillar fungus collectors, and tourist trekking groups using this trail. Repair of this trail will also reduce disturbance to surrounding habitat by users looking for safe ways around damaged trail sections.
1.2.5 (UWICE)	Partner with University of Colorado to establish a system of monitoring and evaluation to test headwater ecosystem conservation efforts and downstream benefits for water supplies.	The Ugyen Wangchuck Institute of Conservation and Environment (UWICE) will conduct a hydro-meteorological study of highland valleys in WCNP. Working in cooperation with the University of Colorado, UWICE will design a study using multiple portable HOBO weather stations to measure temperature, precipitation, and wind speed gradients as well as other parameters along the axis of major valleys in WCNP.
1.3.1A (WCNP)	Strengthen participation of local communities, (e.g. <i>Himal Rakshaks</i> – mountain guardians, herder groups, and SLCCs) in conservation of snow leopards and climate change adaptation activities in headwater ecosystems.	Wangchuck Centennial National Park (WCNP) will conduct a snow leopard awareness raising workshop for residents of Kazhi and Nubi Geogs in western WCNP. Participants will be taught about a variety of topics, including the ecological significance of the snow leopard, human-snow leopard conflict, grazing conflict between domestic livestock and snow leopard prey species, threats to snow leopards, and the need for local citizen scientists to monitor and protect snow leopards.
1.3.1B (WCNP)	Strengthen participation of local communities, (e.g. <i>Himal Rakshaks</i> – mountain guardians, herder groups, and SLCCs) in conservation of snow leopards and climate change adaptation activities in headwater ecosystems.	Wangchuck Centennial National Park (WCNP) will establish a Snow Leopard Conservation Committee (SLCC) in Kazhi Geog in WCNP's Western Range. Once trained, members of the Kazhi SLCC will work with WCNP staff to conduct local snow leopard conservation activities, including local awareness raising, anti-poaching, and wildlife monitoring activities. Training provided to the SLCC members will include further

		lessons on snow leopard ecology and methods for reducing human-snow leopard conflict.
1.3.1C (WCNP)	Strengthen participation of local communities, (e.g. <i>Himal Rakshaks</i> – mountain guardians, herder groups, and SLCCs) in conservation of snow leopards and climate change adaptation activities in headwater ecosystems.	Wangchuck Centennial National Park (WCNP) will send local Snow Leopard Conservation Committee (SLCC) members on exchange to Sikkim to learn about community conservation work conducted by members of volunteer Himal Rakshak's groups in snow leopard range areas of the Khangchendzonga Biosphere Reserve in Sikkim. On this exchange, participants from the two groups will share lessons learned about controlling poaching and human wildlife conflict, wildlife monitoring, and increasing local community participation in conservation activities.
1.3.10 WCNP	Provide alternatives to fuel wood including clean energy sources and more efficient fuel wood cook stoves to reduce adverse effects on forests.	Wangchuck Centennial National Park (WCNP) will introduce solar lighting technology to WCNP on a demonstration basis to yak herders from Sephu Geog in WCNP's western range. Under this activity, WWF will provide half the USD 107 purchase price of portable solar lighting panels, for 71 herding families in the Western Range, with these families themselves providing the other half of the purchase price. This donation will be accompanied by lessons on snow leopard ecology and ways of reducing human-wildlife conflict and threats to snow leopards in the highlands of WCNP. In WCNP's central range, WWF will demonstrate solar hot water heaters for bathing facilities at the Peseling Monastery, where Buddhist monks will soon be participating in AHM Project conservation activities in WCNP
1.3.11 WCNP	Promote sustainable Community Based Tourism (CBT) by strengthening existing initiatives of home stays and sustainable tourism practices, and engaging private sector, investors, and operators.	Wangchuck Centennial National Park (WCNP) will carry out site improvements on a hot spring popular with both local residents and tourists in Chokhor Geog in WCNP's Central Range. Improvements to be conducted at this site will include construction of sheds near the pools for visitors to change in, improvement of the trail to the hot spring, and general cleanup of the area surrounding the spring. Following improvements, the hot spring site, along with local homestays and other ecotourism activities in the area, such as trekking, mountain biking, and birdwatching, will be promoted through the Association of Bhutanese Tour Operators (ABTO).
1.4.6 WCNP	Train local community members, such as livestock herders, to be citizen scientists conducting monitoring of snow leopard populations, prey species, and threats to snow leopards (e.g. poaching, retaliatory killing, and habitat degradation) and to conduct anti-poaching efforts through local SLCCs and other wildlife protection organizations.	Wangchuck Centennial National Park (WCNP) will strengthen anti-poaching efforts in WCNP by conducting a field survey on current poaching activities in the park and preparation of a strategy to combat poaching in WCNP. As a first step to strengthening anti-poaching work in the park, a WCNP staff member will collect and summarize poaching data from WCNP from recent years. This desk study will be followed by a park-wide survey of local community leaders about poaching activities in the park that will be accompanied by anti-poaching patrols along major travel corridors in the park to look for both snares and poachers engaged in illegal wild animal and plant harvesting activities.

2. India – AHM Project Year 4 Activities

Activity Number	Activity	Brief Description
1.1.10	Work with tribe/community-based traditional resource management groups to build capacity for better natural resource management, including curtailing illegal hunting of wildlife and resource extraction, better regulating free grazing near core snow leopard habitat, and enacting watershed conservation measures.	WWF will continue work on improving management of caterpillar fungus (<i>Cordyceps</i>) harvesting in alpine meadows above Lachen Village in North Sikkim. The draft manual on sustainable harvesting of caterpillar fungus developed in AHM Project Year 3 will be revised as required and will be distributed in Lachen and Lachung

		Villages to improve awareness of best harvesting practices. In the spring of 2016, garbage bags will be distributed to caterpillar fungus harvesters for bringing their trash back to town for proper disposal. The possibility of providing portable, efficient, wood stoves for reducing cutting of rhododendrons for fuel by caterpillar fungus collectors will also be discussed with the Lachen Dzumsa (village council). Other natural resource management activities to be supported in AHM Year 4 will include continued patrolling of the Green Lake trekking trail in cooperation with Lachen Dzumsa to prevent illegal activities; continued monitoring of wildlife, medicinal plants, and other natural resources in the Khangchendzonga Biosphere Reserve by local Himal Rakshaks ("mountain guardians"); and formation of a <i>Pokhri Samrakshan Samitee</i> ("lake protection society") dedicated to sustainable management of high altitude lakes.
1.2.2	Work with local institutions (e.g. agricultural extension offices, local resource user groups, and herder groups) to promote best land management practices and enhance crop productivity and climate resilience through rainwater harvesting, small-scale water storage, and introduction of drought and pest-tolerant crops.	WWF will work on developing climate adaptation strategies for Lachen and Lachung villages in Sikkim based on the earlier climate vulnerability assessment conducted by WWF. In the agriculture sector, the focus for this year will be on working with farmers' groups in Lachen and Lachung villages and conducting awareness programs for them on sustainable farming practices looking at issues of promoting traditional crop varieties, crop diversification and land management. WWF will train a few selected farmers as local adaptation resource persons to disseminate lessons learned to other farmers in their Lachen and Lachung. A study on changes in agricultural practices over the last few decades and the reasons for these changes will be conducted to inform development of adaptation actions. Possible adaptation actions for farming may include using locally available resources to increase soil fertility, integrated pest management, and crop diversification.
1.3.1	Strengthen participation of local communities, (e.g. <i>Himal Rakshaks</i> – mountain guardians, herder groups, and SLCCs) in conservation of snow leopards and climate change adaptation activities in headwater ecosystems.	WWF will continue to conduct awareness raising and capacity building programs with respect to ecological issues for high altitude communities in Sikkim that are closely associated with snow leopard habitat. Community members will be trained on monitoring snow leopards and their prey base species to build local capacity and increase community participation in wildlife conservation activities. Selected community representatives will also be taken on exchanges to other snow leopard landscapes in India for enhancing their understanding of snow leopard conservation. At the same time, WWF will continue to lobby the Sikkim state government with respect to launching a control program for feral dogs in the snow leopard range areas of the state where these dog packs pose a major threat to both wildlife and livestock.
1.3.2	Study the severity of livestock depredation and develop a comprehensive human-snow leopard conflict mitigation program (e.g. livestock insurance schemes).	WWF will continue to examine patterns of livestock depredation in snow leopard range areas of Sikkim and will map out human-wildlife conflict hotspots. Key factors that predispose livestock to depredation will be determined and appropriate conservation interventions will be planned in consultation with the herders. In addition, WWF will also conduct semi-structured interviews with residents of project communities to gain a better understanding of their attitudes and perceptions of local predator populations.
1.3.11	Promote sustainable Community Based Tourism (CBT) by strengthening existing initiatives of home stays and sustainable tourism practices, and engaging private sector, investors, and operators.	WWF will continue to cooperate with ECOSS in regard to promoting sustainable tourism practices in the ecotourism centers of Lachen, North Sikkim and Kitam, South Sikkim which are both adjacent to important wildlife sites. WWF and ECOSS will focus on developing ecotourism products in consultation with local participants, as well as

		continuing to build their capacity through targeted ecotourism training programs. WWF and ECOSS will also work to improve promotion and marketing of these ecotourism initiatives through the Sikkim Homestays website. In addition, WWF will continue work to improve solid waste management at high altitude ecotourism sites.
1.4.1	Develop a monitoring protocol for selected field sites to assess abundance and distribution of snow leopards and their prey base using sign surveys, fixed-point counts, camera traps, and genetic analysis.	WWF will continue with the snow leopard camera trap survey launched in AHM Project Year 3 in North Sikkim. This survey will cover an area of 3000 km ² of potential snow leopard habitat in Sikkim. Findings of the survey will be used to estimate snow leopard population size and density using available models. At the same time a snow leopard prey species survey will also be conducted focusing primarily on local blue sheep and argali populations while snow leopard scat samples will be collected for later genetic analysis. A report on findings will be produced with recommendations for improving protection of snow leopards, their habitat, and prey species in Sikkim.

3. Kyrgyzstan – AHM Project Year 4 Activities

Activity Number	Activity	Brief Description
1.1.2	Train local associations and NGOs to improve institutional governance and their capacity on sustainable management of natural resources.	In Kyrgyzstan in AHM Project Year 4, WWF will organize capacity building trainings and provide trainers to lead trainings on best practices for natural resource management and climate adaptation in the Chong Kyzyl Suu River basin. These trainings will target community groups in the basin and will include trainings on pasture management, sustainable forest use, and sustainable medicinal plant and mushroom collection for inhabitants of the upper basin; trainings on sustainable pasture management for inhabitants of the middle basin; and sustainable water use technique, such drip irrigation techniques, for farmers residing in the lower basin.
1.1.3	Provide technical support for local associations and NGOs to conduct awareness raising activities regarding sustainable natural resource management and use.	WWF will provide support to community groups to organize “Land of the Snow Leopard Festivals,” International Snow Leopard Day events, and other conservation awareness raising activities. These events will focus on informing communities about wildlife conservation and environmental issues, sustainable management of local natural resources, local climate change impacts, and possible climate adaptation strategies. These events will feature a variety of activities targeting men, women, and children, such as expert lectures; speech, drawing, and essay contests; ecological theatre and various activities and games for school ecology clubs. An educational summer eco-camp for schoolchildren from the project region will be organized on the shore of the Lake Issyk Kul.
1.2.1	Work with local communities to implement adaptation actions identified in climate change vulnerability assessments that reduce vulnerabilities of communities, high mountain ecosystems, and snow leopards.	WWF will begin implementation of proposed natural resource management and climate adaptation actions. The first action will be development and implementation of a climate-smart pasture management plan for the Chong Kyzyl Suu River basin using “Electronic Pasture Management” software developed by UNDP-Kyrgyzstan. This software facilitates development of local pasture management plans based on the seasonal movements of both livestock and local wildlife, among other factors. WWF will also conduct a drip irrigation demonstration for farmers in the lower Chong Kyzyl Suu Valley to illustrate one strategy for making more efficient use of limited water resources.

1.2.3	Promote climate-smart grazing practices that maintain healthy pastures for livelihoods and wildlife (e.g. rotational grazing and grazing set asides).	WWF will continue to support keeping of a demonstration yak herd to illustrate one method of climate-smart herding suitable for replication elsewhere in the Tian Shan and beyond that will directly benefit participating communities. Notably, with the success over the first two years in building up the yak herd's size, additional high altitude pasture area will need to be leased from local pasture committees to support the growing herd.
1.3.9	Develop and support community-based eco-friendly income generation training and alternatives (e.g. felt production, facilitating market linkages, production of yak/horse milk and cheese, eco-tourism).	WWF support startup of new livelihood activities such as yak wool processing, establishment of family homestays, and training of local families on basic ecotourism principles and marketing. WWF will also provide continued training on both felt making and handicraft production as well as supporting marketing of crafts produced, such as by sponsoring AHM Project participants to take part in the annual "Oiyimo" handicraft fair and market at Lake Issyk Kul. In the Chong Kyzyl Suu River valley, WWF will begin a series of livelihood activities that will include demonstrations on milk product, mushroom, and medicinal herb processing as well as beekeeping and solar fruit drying equipment. In addition, support will be provided for product and for development of community-based eco-tourism operations
1.3.10	Provide alternatives to fuel wood including clean energy sources and more efficient fuel wood cook stoves to reduce adverse effects on forests.	WWF will demonstrate the use of clean alternative energy sources in remote summer pastures off the power grid, such as solar panels for lighting, solar hot water heaters, and small wind turbines. In addition, in the Chong Kyzyl Suu River Valley, WWF will also demonstrate solar panels for lighting, solar hot water heaters, and a micro-hydropower generator.
1.4.4	Perform snow leopard population survey by collecting and performing genetic analysis, and potentially using camera traps in sites where snow leopards are present.	WWF will work with Duquesne University to genetically analyze snow leopard scat samples collected in the Sarychat-Ertash State Reserve. Results of these analyses will be used to better estimate the snow leopard population size at the reserve and to look at broader regional population dynamics in the snow leopard's northern range areas based on earlier Duquesne genetic analysis of snow leopard scat from Pakistan and Mongolia.
1.4.7	Train high mountain nomadic herders to monitor snow leopards, habitats, and threats (eg. poaching, retaliatory killing, and habitat degradation)	WWF will train herders and other interested parties residing in the Chong Kyzyl Suu River basin to conduct snow leopard sign, camera trap, and prey species surveys. In the course of this work, herders will also be taught about basic snow leopard ecology and threats to these cats.
1.4.9	Support patrolling by providing anti-poaching teams with field supplies and gear, and conduct trainings to improve capacity of private game management entities.	WWF will replicate successes of earlier mobile anti-poaching patrols conducted by rangers and community members. WWF will continue cooperation and coordination on mobile anti-poaching patrols with the Kyrgyz State Agency on Environment Protection and Forestry (SAEPF), the Issyk Kul Biosphere Reserve, and the rangers of the various nature reserves in Isyk Kul Province, including the Sarychat-Ertash State Reserve. Additional support will be provided to the Sarychat-Ertash State Reserve anti-poaching team, such as providing fuel and spare parts for jeeps, horses for rangers to patrol vast areas of the reserve that are not accessible by motor vehicle, and uniforms and field equipment needed by rangers.
1.4.10	Involve local communities in species conservation activities through conservation education, training, and practical experience in snare removal and fire prevention.	WWF will work with local communities in the buffer zone of the Sarychat-Ertash State Reserve and Chong Kyzyl Suu River basin to increase their involvement in species conservation activities through a diverse array of activities. These activities will include snare removal, community anti-poaching patrols, implementing methods to reduce loss of livestock from snow leopards and wolves, and wildfire prevention.
1.4.11	Pursue establishment of a system of protected areas for snow leopard conservation that considers recent and	WWF will continue to work to pursue expansion of the national protected area system to improve protection of

	predicted changes in key habitats.	snow leopards, their prey, and habitat. In AHM Project Year 4, WWF will lead a full biodiversity assessment of the Chong Kyzyl Suu River basin. WWF will also work in cooperation with government partners to establish a protected area covering the Chong Kyzyl Suu River gorge. At the same time, WWF will continue to implement activities of the ongoing WWF Central Asia Econet Project to expand and improve management of protected areas in the inner Tian-Shan.
1.4.12	Support wildlife habitat management practices (e.g. establishing feeding fields and ensuring mosaic structure of habitat in agricultural landscapes).	WWF will establish cooperation with the Issyk Kul Biosphere Reserve administration and the Issyk Kul Province Hunting department to improve management of wildlife in the Chong Kyzyl Suu River Basin, which provides habitat for snow leopards, Tian Shan brown bears, and their prey. This cooperation will include providing technical support to improve sustainability of infrastructure planning and to maintain a mosaic structure of wildlife habitat within farming areas to preserve local biodiversity.
1.4.17	Prepare climate smart snow leopard landscape management plans for AHM and GLSEP Priority Landscapes.	WWF will work to develop a climate-smart snow leopard landscape management plan (CSSLLMP) for the Central Tian Shan Region of eastern Kyrgyzstan, in particular in the vicinity of the Sarychat-Ertash State Reserve. Elements of this plan will include land cover and species distribution mapping, climate vulnerability assessment, future climate scenarios, threats to snow leopards and other wildlife, habitat assessment, sustainable livelihoods, water and natural resource management, and infrastructure development. Development and implementation of this CSSLLMP will play a large role in fulfilling Kyrgyzstan's Global Snow Leopard and Ecosystem Protection Program (GSLEP) implementation commitments.

4. Mongolia – AHM Project Year 4 Activities

Activity Number	Activity	Brief Description
1.2.3	Promote climate-smart grazing practices that maintain healthy pastures for livelihoods and wildlife (e.g. rotational grazing and grazing set asides).	WWF will implement pasture management plans in four soums (counties) surrounding the Jargalant Khairkhan and Bumbat Khairkhan AHM Project sites. These plans will promote group herding and will draw on experiences learned through improving management of saiga antelope habitat in western Mongolia. The plans will emphasize the important role of maintaining intact ecosystems and wildlife populations in keeping pasturelands healthy and productive.
1.3.1	Strengthen participation of local communities, (e.g. Himal Rakshaks – mountain guardians, herder groups, and SLCCs) in conservation of snow leopards and climate change adaptation activities in headwater ecosystems.	WWF will provide support to two community-based organizations (CBOs) at Khajingiin Nuruu and Sair Khairkhan Local Protected Areas to improve natural resource management, including by developing and implementing a wildlife-friendly pasture management plan and pasture use regulations as well as by conducting snow leopard prey species conservation activities. WWF staff will also organize snow leopard and prey species monitoring surveys at Sair Khairkhan, Bumbat Khairkhan, Baatar Khairkhan and Darvi Mountains with the participation of local herders, who will be provided with necessary field equipment.
1.4.4	Perform snow leopard population survey by collecting and performing genetic analysis, and potentially using camera traps in sites where snow leopards are present.	WWF will partner with Duquesne University to conduct a program of collection and genetic analysis of snow leopard scat samples in the Altai-Sayan Ecoregion. Training on collection of snow leopard scat samples for DNA analysis will be led by a WWF staff scientist and scat collection will rigorously follow the sampling

		protocol developed by Duquesne University. Scat samples will be shipped to the Duquesne University wildlife genetics laboratory where university scientists will perform the actual DNA analyses. Results of these analyses will be used to determine kinship relationships and possible migration corridors between widely scattered snow leopard populations in the Altai-Sayan Ecoregion.
1.4.6	Train local community members such as livestock herders to be citizen scientists conducting monitoring of snow leopard populations, prey species, and threats to snow leopards (e.g. poaching, retaliatory killing, and habitat degradation) and to conduct anti-poaching efforts through local SLCCs and other wildlife protection organizations.	WWF will train interested local herders, protected area administration specialists, and rangers on systematic methods for monitoring snow leopards and their prey species using sign surveys, camera trapping, and fixed point prey survey counts. By involving local herders in snow leopard monitoring activities, better long term data on the status of snow leopards and their prey can be gathered at project sites at a minimal cost, which can be used to better inform the design of future wildlife conservation initiatives in the region.
1.4.13	Provide technical and financial support to forest departments and communities to protect habitat.	WWF will provide training and technical support to community-based organizations (CBO) and government agencies to implement improved pasture management plans and snow leopard conflict mitigation measures in critical snow leopard habitat. These activities will include improved pasture monitoring, improved water resource protection, establishment of livestock-free pasture set-asides, and corral improvement and relocation of winter livestock sheds to reduce human-wildlife conflict in predator hot spots. Support for these groups will also include donation of necessary monitoring equipment and materials, such as GPS units and maps.

5. Nepal – AHM Project Year 4 Activities

Activity Number	Activity	Brief Description
1.1.3	Provide technical support for local associations and NGOs to conduct awareness raising activities regarding sustainable natural resource management and use.	WWF will provide support to local communities in the Kangchenjunga Conservation Area for holding public awareness raising events to mark International Snow Leopard Day, National Conservation Day, Environment Day, and Wildlife Week. These events will seek to raise awareness of both local and international conservation, environment, and climate change issues. These events will be organized in cooperation with local communities, AHM partner organizations, and other stakeholders. A Snow Leopard Day celebration is also planned for Kathmandu that will be covered by local media.
1.2.2A	Work with local institutions (e.g. agricultural extension offices, local resource user groups, and herder groups) to promote best land management practices and enhance crop productivity and climate resilience through rainwater harvesting, small-scale water storage, and introduction of drought and pest-tolerant crops.	WWF will work on preparation of a comprehensive watershed management plan for the Tamor River sub-basin within the Kangchenjunga Conservation Area (KCA). The 2012 Tamor River basin climate change vulnerability assessment prepared by WWF revealed that climate-related issues affecting the basin included drying up of spring water sources; declining stream flow levels; increases in flooding and landslides; a decline in pasture productivity; increasing incidence of forest fire; a decline in NTFP harvests in higher areas; and an increase in avalanche occurrence, among other issues. WWF will address these issues through preparation of a climate-smart watershed management plan for the basin. Stakeholders to be consulted during the watershed management plan development and implementation process will include the Kangchenjunga Conservation Area Management Council (KCAMC), local communities, government line agencies, and other relevant stakeholders.
1.2.2B	Work with local institutions (e.g. agricultural extension offices, local resource user groups, and herder groups) to promote best land management practices and enhance	WWF will continue to support local institutions and communities in the KCA to implement climate adaptation plans that were prepared with earlier support (2010-2013)

	crop productivity and climate resilience through rainwater harvesting, small-scale water storage, and introduction of drought and pest-tolerant crops.	under the USAID-funded SCAPES Sacred Himalaya Landscape Project. This will include providing support to implement local climate change adaptation activities that strive to improve both water and food security. With respect to water security, WWF will conduct spring source protection and rainwater harvesting activities as well as introducing water efficient practices and technologies. With respect to food security, WWF will promote adaptive agriculture, such as by promoting climate resilient crop varieties that are drought and pest resistant.
1.2.3	Promote climate-smart grazing practices that maintain healthy pastures for livelihoods and wildlife (e.g. rotational grazing and grazing set asides).	WWF will work with the local communities and herders in the KCA to promote sustainable grazing and pastureland improvement initiatives. These pasture management initiatives will include promoting rotational grazing; invasive species control; water source protection and improvement; improved predator-proof corrals; and improvement in pasture access facilities, such as trail improvements, that result in increased rotation of pastures and improved quality of all local pasture lands. WWF will also support selected KCA communities with a trial livestock vaccination campaign to reduce disease transmission from domestic livestock to wild ungulates in the KCA. These pasture management initiatives, will also help improve habitat for wild ungulate species, such as blue sheep, that form the local snow leopard prey base.
1.3.1	Strengthen participation of local communities, (e.g. Himal Rakshaks – mountain guardians, herder groups, and SLCCs) in conservation of snow leopards and climate change adaptation activities in headwater ecosystems.	WWF will continue to build the capacity of local snow leopard conservation committees (SLCC) members in the KCA to monitor snow leopards and their prey species. This will involve include providing further training to these citizen scientists and mobilizing them to monitor snow leopards and snow leopard prey species such as blue sheep in their home regions. Findings of these monitoring surveys will be used to plan future wildlife conservation activities at these sites.
1.3.11A	Promote sustainable Community Based Tourism (CBT) by strengthening existing initiatives of home stays and sustainable tourism practices, and engaging private sector, investors, and operators.	WWF will provide to support local communities to promote sustainable community based tourism (CBT) in the Kangchenjunga Conservation Area (KCA) and adjoining areas. These efforts will include supporting the KCA management council (KCAMC) to engage the private sector, including trekking companies and private investors, for cooperation in promoting sustainable ecotourism practices. WWF will also support KCAMC on improving ecotourism facilities and establishing a KCA hotel owners' network to Develop improved menus in hotels and eateries along the main trekking routes. WWF will also organize a stakeholder workshop to discuss other ecotourism issues in the KCA.
1.3.11B	Promote sustainable Community Based Tourism (CBT) by strengthening existing initiatives of home stays and sustainable tourism practices, and engaging private sector, investors, and operators.	WWF will support local communities and tourism enterprises to resolve the problem of solid waste disposal in the KCA. Community-managed solid waste disposal systems will be established in the larger villages along the main KCA trekking route which will emphasize reuse and recycling of local rubbish. Workshops will be held in all participating villages to introduce new solid waste disposal protocols and a follow-up evaluation will be conducted to see how new systems are working.
1.4.4	Perform snow leopard population survey by collecting and performing genetic analysis, and potentially using camera traps in sites where snow leopards are present.	WWF will conduct a snow leopard DNA survey in the region surrounding the Kangchenjunga Conservation Area (KCA) to better understand the population dynamics of snow leopards in this region. Snow leopard scat will be collected along new snow leopard sign transects in the study area and will be sent to a laboratory for genetic analysis. Findings of the DNA analyses will be compared with findings of the earlier 2012 snow leopard DNA survey conducted in the KCA, after which key snow leopard priority landscapes and dispersal corridors in the region will be identified.
1.4.5	Begin radio-tracking of snow leopards using GPS collars to collect information on home range size, habitat type and preferences, hunting behavior and frequency, and	WWF will continue monitoring of the two snow leopards collared in the KCA earlier, and will attempt to collar a third snow leopard. Through this process, WWF is gathering

	activity patterns.	invaluable detailed information on snow leopard home range size, habitat preferences, and behavior in the KCA. Findings of this activity will be shared with scientists in neighboring countries for the purpose of improving transboundary snow leopard conservation efforts in the Kangchenjunga landscape.
1.4.6	Train local community members such as livestock herders to be citizen scientists conducting monitoring of snow leopard populations, prey species, and threats to snow leopards (e.g. poaching, retaliatory killing, and habitat degradation) and to conduct anti-poaching efforts through local SLCCs and other wildlife protection organizations.	WWF will support the Kangchenjunga Conservation Area Management Council (KCAMC) and local communities to conduct community-based anti-poaching operations (CBAPO) at selected sites in the KCA. These operations will include anti-poaching patrols that will search for both poachers and evidence of illegal wildlife trade in the KCA as well as remove wildlife snares and traps as they are discovered.
1.4.13A	Provide technical and financial support to forest departments and communities to protect habitat.	WWF will provide support to the KCAMC and the Department of National Parks and Wildlife Conservation to conduct monitoring of AHM Project activities in the Kangchenjunga Conservation Area (KCA). This support will include both training on monitoring procedures as well as logistical support for field visits to project sites. Findings of these monitoring efforts will be used in the adaptive management process to improve current and future conservation activities in the KCA.
1.4.13B	Provide technical and financial support to forest departments and communities to protect habitat.	WWF will provide support to government agencies such as the Department of National Parks and Wildlife Conservation (DNPWC), the Department of Forests (DOF), and their district level offices to improve protection of snow leopard habitat in the Kangchenjunga Conservation Area (KCA). This support will focus on building capacity for high altitude conservation work but will also include support for directly implementing habitat protection initiatives. In addition, WWF will also support meetings of Kangchenjunga Conservation Area Program (KCAP) Program Coordination Committee, Project Executive Committee, and stakeholder meetings. Finally, WWF will also support the (KCAMC) with respect to institutional strengthening, such as improving KCAMC project coordination with local stakeholders.
1.4.17	Prepare climate smart snow leopard landscape management plans for AHM and GLSEP Priority Landscapes.	WWF will work with the Kangchenjunga Conservation Area Management Council (KCAMC), relevant government partners, and other conservationists to develop a climate-smart snow leopard landscape management plan (CSSLLMP) for Nepal's eastern GSLEP priority site. Elements of this plan will include land cover and species distribution mapping, climate vulnerability assessment, future climate scenarios, threats to snow leopards and other wildlife, habitat assessment, sustainable livelihoods, water and natural resource management, and infrastructure development.

6. Pakistan – AHM Project Year 4 Activities

Activity Number	Activity	Brief Description
1.1.5	Raise awareness and provide education about the role of predators, particularly snow leopards, in maintaining the ecological health of mountain pastures.	WWF will organize a series of six awareness raising events, of which four will be held in Gilgit and two will be held in Chitral. These events will mark the International Day for the Preservation of Ozone Layer, International Snow leopard Day, International Mountain Day, and World Environment Day. These events will target both school children and adults in Asia High Mountains (AHM) Project communities to raise their awareness on a variety of environmental issues ranging from snow leopard conservation to water, climate, and land-use issues.

1.1.10	Work with tribe/community-based traditional resource management groups to build capacity for better natural resource management, including curtailing illegal hunting of wildlife and resource extraction, better regulating free grazing near core snow leopard habitat, and enacting watershed conservation measures.	WWF will continue its temporary support to local village conservation committees in Chitral District by training committee members on proposal writing for conservation and livelihood development grants as well as on relevant donor networks.
1.2.2	Work with local institutions (e.g. agricultural extension offices, local resource user groups, and herder groups) to promote best land management practices and enhance crop productivity and climate resilience through rainwater harvesting, small-scale water storage, and introduction of drought and pest-tolerant crops.	WWF will begin implementing actions recommended in improved watershed management plans in Project Year 3. Activities will likely include introduction of improved water storage methods, such as clean water storage tanks and ponds, as insurance against spring droughts. With respect to improved land management, methods for reducing rates of riverbank erosion and subsequent loss of agricultural lands will be introduced, such as by reinforcing river banks with densely planted sea buckthorn, willow shrubs, and multiple rows of live brushwood spurs as well as limited rip-rap work to protect new plantings. WWF will also introduce improved grazing management techniques in KP.
1.2.6A	Perform GLOF risk assessment in Gilgit-Baltistan to determine potential risks to local communities and snow leopards, and establish adaptation measures to increase climate resilience of communities.	WWF will conduct district level consultative workshops on climate change impacts to finalize project climate change adaptation strategies. Project communities will be educated about threats from climate change related hazards, such as GLOFs and increased occurrence of flooding and avalanches, and WWF will train community members on how to avoid loss of life and property to these events. WWF will also prepare recommendations for local administrators on reducing risks from the above mentioned hazards, such as improved community planning and development of early warning systems for communities in the path of potential hazards, and will begin demonstration activities for hazard mitigation. Finally, WWF will organize exposure visits between local AHM Project communities in Chitral and GB so that they can share their experiences with one another regarding climate change impacts and hazards.
1.2.6B	Perform GLOF risk assessment in Gilgit-Baltistan to determine potential risks to local communities and snow leopards, and establish adaptation measures to increase climate resilience of communities.	WWF will continue to support local project communities in diversifying their livelihoods as part of community climate adaptation strategies. This work will include further promotion of planting fast-growing, multi-purpose tree seedlings, particularly in deforested areas of watersheds, as well as planting of home fruit orchards, and fodder crop cultivation. Another alternative livelihood activity that will be promoted is production and marketing of high value woolen products, such as shawls, gloves, socks, jackets, rugs, etc., with establishment of a community resource center to train women artisans. WWF will also demonstrate the benefits of fuel-efficient stoves, techniques for insulating homes, and use of low cost solar panels for lighting in both Gilgit-Baltistan and Chitral District. Local communities will also be given trainings on improving sustainability of non-timber forest product (NTFP) collection and on improving the processing and marketing of local NTFPs.
1.4.4	Perform snow leopard population survey by collecting and performing genetic analysis, and potentially using camera traps in sites where snow leopards are present.	WWF will conduct a series of snow leopard sign surveys that will place an emphasis on collection of snow leopard scat for DNA analysis to identify individual snow leopards and better estimate snow leopard population sizes at AHM Project sites. Findings of DNA analyses of snow leopard scat will be shared with all interested researchers in both AHM and non-AHM project countries so that further progress can be made towards assembling a complete picture of snow leopard population interactions throughout the species range.
1.4.8	Establish a watch and ward system of Village Wildlife Guards (VWGs) to protect snow leopards and other	WWF will continue to combat killing of wild predators and other wildlife at AHM Project sites through continued

	species against hunting and poaching in Gilgit-Baltistan and Chitral.	support of local village wildlife guards (VWG). This support will include providing VWGs with small monthly honorariums as well as necessary training and equipment.
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7. WWF – AHM Project Year 4 Regional Activities

Activity Number and executing party	Activity	Brief Description
2.2.4 WWF Central Asia Program	Engage the Central Asian Interstate Commission on Sustainable Development (ICSD) to initiate a dialogue across the Central Asia nations on snow leopard conservation in the face of climate change which feeds into revised national snow leopard conservation action plans.	WWF will continue to cooperate with the Interstate Commission on Sustainable Development (ICSD) on conservation issues, particularly with respect to snow leopard conservation and integrating climate adaptation principles into snow leopard conservation initiatives in Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan. Notably, WWF will again send a representative to the ICSD annual meeting to present the latest results of the AHM Project to ICSD country representatives. At this time WWF will also discuss opportunities for continued cooperation on regional snow leopard conservation and climate change initiatives with these representatives.
2.3.1 TRAFFIC	Update information on commercial hunting and trade of snow leopards.	TRAFFIC will complete its ongoing research on the illegal killing and trade of snow leopards and their parts and complete a final report on research findings. Progress in this regard has been slowed due to a lack of information on the snow leopard trade in key snow leopard range states. However, TRAFFIC will address this information gap conducting targeted discussions with relevant conservationists and NGO workers in key locations. Before finalizing the report, a draft report will be prepared and distributed to relevant experts for comment with these comments being incorporated into the final report.
2.3.2 TRAFFIC	Develop an action-oriented set of recommendations for reducing illegal trade in snow leopard pelts and other products along the trade chain and inform government enforcement efforts.	TRAFFIC will draft a set of action-oriented recommendations addressing the illegal trade in snow leopards and parts for distribution to relevant government environment and law enforcement agencies in the snow leopard range states as well as to NGOs, researchers, and other interested conservation workers. These recommendations will be based on the report on commercial hunting and trade of snow leopards compiled under Activity 2.3.1, above. These recommendations will also address wildlife trade policy gaps and briefly summarize ecological threats to the snow leopard.
2.3.3 TRAFFIC	Incorporate recommendations into range-wide dialogues on snow leopard conservation, revision of the Snow Leopard Survival Strategy, national snow leopard conservation action plans, and regional trade initiatives.	TRAFFIC will work to get the snow leopard range states to incorporate snow leopard trade recommendations developed in Activity 2.3.2, above, into national snow leopard conservation action plans and regional trade initiatives via presentation of the recommendations at meetings of the Global Snow Leopard Conservation Forum Secretariat and SAWEN among others.
2.3.4 TRAFFIC	Partner and coordinate with INTERPOL through the USAID-funded Project Predator initiative to exchange relevant information.	TRAFFIC will continue to work with INTERPOL's Project Predator to combat the illegal trade in snow leopards and their parts. This will include discussion of the snow leopard trade report findings compiled under Activity 2.3.1, above, development of a follow up strategy based on these findings, and presentation of findings at a range-wide snow leopard trafficking meeting and law enforcement training meeting to be held in AHM Project Year 4, likely under the auspices of the GSLEP Secretariat in Bishkek.
2.4.1 WWF US-	Conduct a range-wide snow leopard habitat climate vulnerability and grassland degradation analysis using GIS and remote sensing and use this analysis to	WWF US will continue work on producing a coordinated set of country-scale thematic maps for Global Snow Leopard and Ecosystem Protection Program (GSLEP)

Conservation Science Department and Climate Adaptation Team	identify core snow leopard habitat, potential snow leopard habitat, and the impacts of grassland degradation on water supply.	Priority Landscapes that will illustrate the connection between snow leopard habitat, water security, and climate change impacts. The new higher resolution maps will have practical application for improving management of snow leopard range areas with respect to water provision and ecosystem protection. To facilitate the mapping process, WWF will hold a workshop for experts, at which time, up-to-date field data from the six AHM Project countries will be collected, compiled, and shared. The expert group will also set priorities for the next phase of higher resolution mapping, although these mapping efforts will initially focus on several GSLEP Priority Landscapes. Following the workshop, work will continue on compiling and refining contributed map data to develop a coordinated set of higher resolution maps, which will feature thematic layers on snow leopard distribution, snow leopard range areas ecosystems, land degradation, permafrost distribution, and water provision in priority areas.
2.4.5 SLN/SLT	Support a small grants program for site-based and national activities through SLN's Snow Leopard Conservation Grant to support conservation programs across the snow leopard's range.	WWF and SLT will continue to provide funding for the Snow Leopard Conservation Grants Program (SLCGP) which is overseen by the Snow Leopard Network. The SLCGP has been supporting snow leopard conservation work that addresses priority needs identified in the Snow Leopard Survival Strategy (SLSS), including climate impacts on snow leopards and their habitat. The 2015-2016 SLCGP awards will be jointly supported by World Wildlife Fund and the Snow Leopard Trust (SLT), among others. Finally, funds will be available for small grants up to USD 5000 to help countries develop Landscape Management Plans for some of the 23 landscapes identified through the GSLEP process.
2.5.3A WWF/SLT	Provide Support to the GSLEP secretariat and partner with respect to developing climate-smart snow leopard landscape management plans for GSLEP Priority Landscapes.	WWF will sponsor a planning meeting to discuss development of demonstration climate-smart snow leopard landscape management plans (CSSLLMP) for GSLEP Priority Landscapes in 1-3 AHM Project countries. This planning meeting will be attended by GSLEP secretariat staff as well as technical staff of both WWF and SLT. Topics of discussion will include both technical content of these plans, particularly climate adaptation concepts, as well as a path forward for training GSLEP member countries on plan development and implementation. This meeting is tentatively planned to be a three-day meeting to be held in Bishkek in December 2015.
2.5.3B WWF/SLT	Provide Support to the GSLEP secretariat and partner with respect to developing climate-smart snow leopard landscape management plans for GSLEP Priority Landscapes.	WWF, SLT, and the GSLEP Secretariat will organize a two-week training on developing climate-smart snow leopard landscape management plans (CSSLLMP). Topics to be covered during this training will include developing future climate scenarios based on existing climate trends; mapping of snow leopard distribution, land cover, land use, and natural resources; designing ecological friendly infrastructure; conducting participatory conservation planning and stakeholder consultations; and comprehensive landscape mapping to identify priority ecological areas, areas of economic importance, and infrastructure corridors. The target audience of this training will be the landscape planning coordinators from each of the 12 snow leopard range nations responsible for implementing national snow leopard conservation plans at the 23 GSLEP Priority Landscapes. This meeting is tentatively planned to be a 10-day meeting to be held in Bishkek in the spring of 2016.
2.5.3C WWF/SLT	Provide Support to the GSLEP secretariat and partner with respect to developing climate-smart snow leopard landscape management plans for GSLEP Priority Landscapes.	WWF, SLT, and the GSLEP Secretariat will organize a study tour to Nepal for GSLEP national landscape planning leads from the three planned AHM demonstration countries. The focus of this study tour will be the Terai Arc tiger landscape where the landscape management planning process for wildlife conservation

		has been ongoing since 2001. Topics to be discussed during this exchange will include the landscape management planning process for tigers, detailed landscape mapping, business cooperation, sustainable infrastructure development, community participation in the landscape planning process, and climate adaptation efforts under the Terai Arc landscape management plan. In addition to a site visit, a series of meetings for participants will also be held in Kathmandu with WWF, the National Trust for Nature Conservation, ICIMOD, and others to discuss landscape level conservation efforts in Nepal. This is tentatively planned to be an 8-day study tour that will be conducted in the spring of 2016.
2.5.3D WWF/SLT	Provide Support to the GSLEP secretariat and partner with respect to developing climate-smart snow leopard landscape management plans for GSLEP Priority Landscapes.	WWF, SLT, and the GSLEP Secretariat will organize a technical meeting that will review draft climate-smart snow leopard landscape management plans for GSLEP Priority Landscapes developed as a result of the training under Activity 2.5.3B, above. The participants of this meeting will include GSLEP national focal points, other range country government representatives, and climate change adaptation experts who will assist in reviewing the plans for climate smartness. Planning guidelines and further development of plans will be discussed as will timetables for completion and launch of national landscape management plans at GSLEP Priority Landscapes. This meeting is tentatively planned to be a 4-day meeting to be held in Bishkek in the summer of 2016.
2.5.3E WWF/SLT	Provide Support to the GSLEP secretariat and partner with respect to developing climate-smart snow leopard landscape management plans for GSLEP Priority Landscapes.	WWF, SLT, UNDP, and the GSLEP Secretariat will organize the second meeting of the GSLEP Steering Committee. Participants of this meeting will be relevant ministers from snow leopard range countries or their designated GSLEP national focal points as well as steering committee advisory board members, donors, and other interested participants involved in snow leopard conservation work. At this meeting, governance and oversight of the GSLEP process will be reviewed, progress reports on development of climate-smart snow leopard landscape management plans for GSLEP Priority Landscapes will be presented and reviewed, and participation of GSLEP in the new Global Tiger Initiative (GTI) Council will be discussed. This meeting is tentatively planned to be a 4-day meeting to be held in Bishkek in September 2016.