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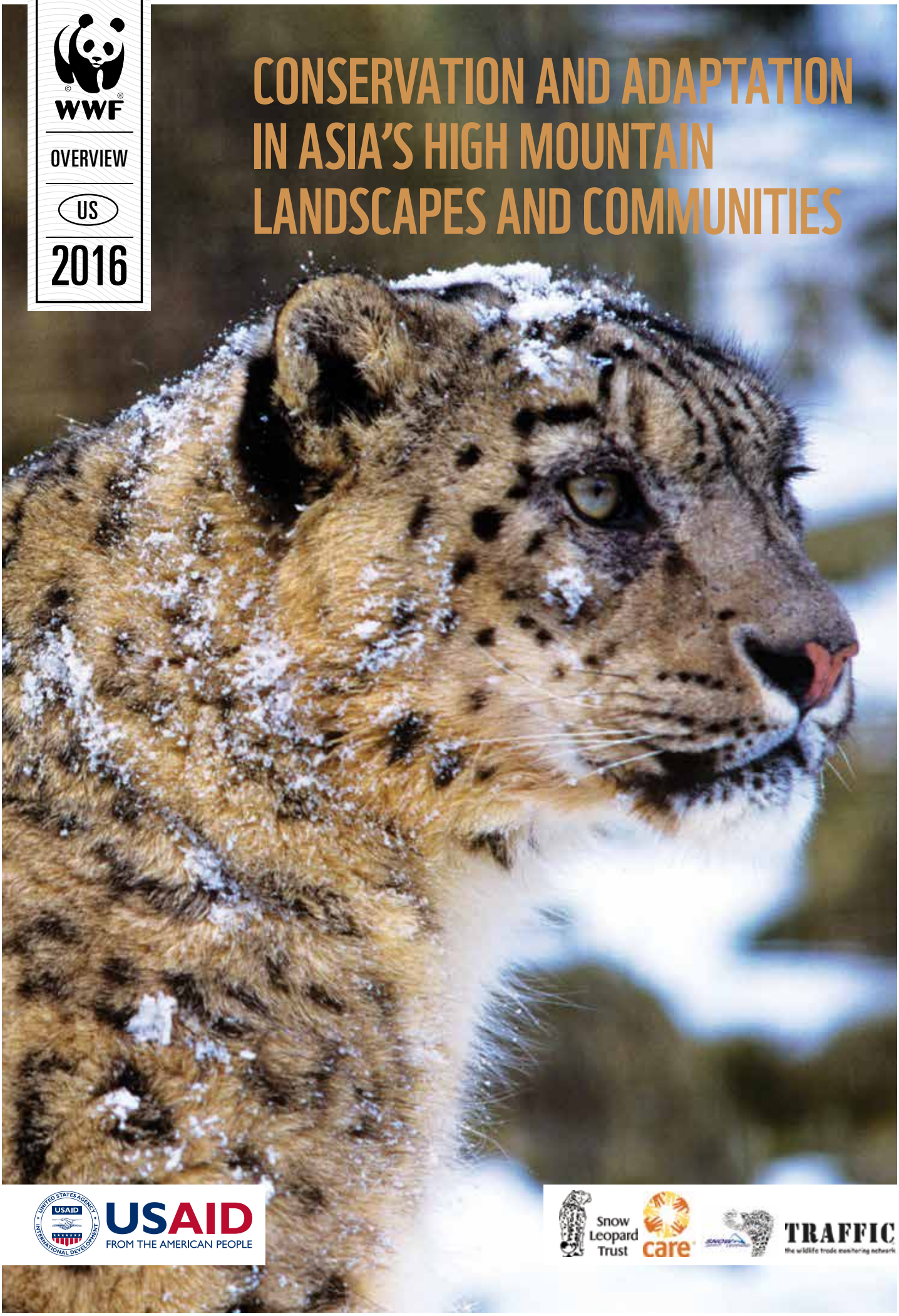
OVERVIEW

US

2016

CONSERVATION AND ADAPTATION IN ASIA'S HIGH MOUNTAIN LANDSCAPES AND COMMUNITIES



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Snow Leopard Trust

care

TRAFFIC the wildlife trade monitoring network

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IN SUPPORT OF THE GRANT: Conservation and Adaptation in Asia's |High Mountain Landscapes and Communities (No. AID-0AA-LA-12-00003, under EM-A-OO-09-00006-00)

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AN INTEGRATED, CLIMATE SMART CONSERVATION APPROACH

To ensure the snow leopard, its high mountain home, and the people who live there can all thrive, even in the face of a changing climate.

KYRGYZ REPUBLIC MONGOLIA PAKISTAN INDIA NEPAL BHUTAN

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Asia's high mountains are a source of water for one third of humanity. Climate change threatens these critical water sources.

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THE ASIA HIGH MOUNTAINS APPROACH

THE THIRD POLE (ASIA'S HIGH MOUNTAINS)

Asia's high mountains are the Earth's "Third Pole," an ice and snow-covered landscape that forms the headwaters of Asia's most economically and culturally important rivers. These rivers include the Ganges, Brahmaputra, Indus, Yangtze, Yellow, Mekong, Salween, Syr Darya, and Amu Darya — waters that are the economic lifeblood for nearly one-third of humanity. The Third Pole, home to the iconic and endangered snow leopard, is also highly vulnerable to climate change impacts. Today, climate change is already having alarming consequences for high Asia's alpine ecosystems which could affect millions of people living downstream.

The WWF Conservation and Adaptation in Asia's High Mountain Landscapes and Communities Project ("Asia High Mountains" or AHM Project) is funded by USAID and aims to galvanize greater understanding and action at local, national, and regional levels to conserve the iconic snow leopard. In this regard, the AHM Project seeks to connect snow leopard conservation to a broader set of environmental, economic, and social issues with consequences for Asia's future sustainable development, namely local livelihoods, water and food security, and climate change adaptation.

The AHM Project is currently working at 10 demonstration sites in six project countries across the snow leopard range: Bhutan, India, the Kyrgyz Republic, Mongolia, Nepal, and Pakistan. At each demonstration site, WWF is taking an integrated, climate-smart approach to snow leopard conservation that includes snow leopard research and protection, climate adaptation for ecosystems and livelihoods, improved water and food security, improved natural resource management, and livelihood diversification — all with full community participation.

Activities at these demonstration sites are helping mountain communities in snow leopard range areas appreciate and coexist with their snow leopards as well as improve their economic prospects.

All AHM Project demonstration sites lie within Global Snow Leopard and Ecosystem Protection Program (GSLEP) priority landscapes, and lessons learned at these sites are informing development of climate-smart snow leopard landscape management plans for these priority landscapes under the 12-nation GSLEP Program. Through support of the GSLEP process, the AHM Project is helping project countries improve protection of their high mountain landscapes as well as fostering a broader international dialogue on transboundary conservation issues affecting the high Asia region.

DEMONSTRATION SITES

COMMUNITIES | CLIMATE CHANGE ADAPTATION | SNOW LEOPARDS | WATER SECURITY | NATURAL RESOURCE MANAGEMENT | LIVELIHOODS

PILOTS → LEARNING → GSLEP PROCESS

GSLEP PROCESS
20 SNOW LEOPARD LANDSCAPES SECURED BY 2020

Ghanjenzunga, the first snow leopard to be fitted with a GPS collar in Nepal, was tracked moving frequently between Nepal and India, highlighting the need for transboundary conservation efforts. This collaring expedition in the Kangchenjunga Conservation Area was supported by the AHM Project.

© Kamal Thapa / WWF Nepal

SNOW LEOPARD CONSERVATION

The elusive and endangered snow leopard is an indicator of the health of its high mountain ecosystem and also an ambassador who can bring countries together to work on conservation issues of transnational importance. However, very little is known about these mysterious cats that inhabit one of the most remote and challenging terrains on Earth.

Advanced conservation and research work ongoing in the six AHM Project countries is providing new insight into snow leopard conservation and building in-country capacity to conduct this work. Notably, findings of AHM Project snow leopard conservation efforts are already informing conservation decisions at the national level.

Bhutan: The AHM Project funded the first snow leopard population survey of Wangchuk Centennial National Park, which trained park staff in snow leopard survey methodologies. These trained park staff members are now leading the work on Bhutan's first national snow leopard survey.

India: A camera trap survey supported by the AHM Project captured the first photos of snow leopards in North Sikkim and trained a number of local citizen scientists to conduct snow leopard surveys. Findings of the survey are guiding development of new conservation interventions in North Sikkim.

Kyrgyz Republic: Public conservation awareness programs are turning inhabitants of mountain communities into snow leopard guardians, with these communities now conducting snow leopard population surveys and anti-poaching work.

Mongolia: WWF led a snow leopard camera trap survey of Jargalant Khairkhan Mountain in the Altai Range of western Mongolia. This survey alerted conservationists to an alarming problem of snow leopards being maimed by steel traps and inspired the local community to take action to eliminate this problem.

Nepal: The AHM Project supported the first ever GPS collaring of a snow leopard in Nepal in 2013, which has since been followed up by collaring of two more snow leopards. Through this effort, new insights have been gained into the snow leopard's transboundary movements in the Kangchenjunga region of eastern Nepal.

Pakistan: A recent survey on snow leopard killings in the Khunjerab and the Central Karakorum National Parks in Gilgit-Baltistan found a decline in snow leopard killings since 2013, due, in part to AHM Project conservation awareness raising and anti-poaching activities in this district.

TRAFFIC ANTI-POACHING REPORT

With support from the AHM Project, TRAFFIC has compiled a report on the killing and trade of snow leopards from 2003 to 2016 titled "An Ounce of Prevention: Snow Leopard Crime Revisited." This report is a follow up to the 2003 TRAFFIC report on the snow leopard trade, "Fading Footprints." The report sheds light on the extent and current trends in snow leopard poaching and trade and provides recommendations for combating the illegal trade in snow leopard parts.

COMMUNITY CONSERVATION

Community ownership is central to AHM Project conservation and adaptation work in the forbidding mountains of high Asia. Snow leopard conservation groups, citizen scientists, and community wildlife guards are all ensuring that communities change from being persecutors of local snow leopards to being their protectors.

Bhutan: Two village snow leopard conservation committees (SLCC) have been formed based on the successful examples of these community-based committees in neighboring Nepal. These SLCCs are now working to halt poaching of snow leopards and conduct wildlife monitoring work in their remote areas.

India: In North Sikkim, volunteer Himal Rakshaks (mountain guardians) are working to monitor wildlife and halt poaching activities in the Kanchendzonga Biosphere Reserve. At the same time, mountain communities are improving their trash management and becoming stewards of their natural environment in order to promote ecotourism in the region.

Kyrgyz Republic: In the Central Tian Shan, the AHM Project is empowering local nature reserve staff to conduct snow leopard population surveys and to work with community members to conduct anti-poaching patrols. Community members are also active participants in a variety of conservation awareness activities targeting both adults and children in project communities.

Mongolia: In the Altai Region, school children have become guardians of the snow leopard, working on an innovative trap exchange campaign that has now collected nearly 500 traps from snow leopard range areas, preventing the injury and death of these endangered cats. This trap collection campaign is now being scaled up to the national level.

Nepal: Snow leopard conservation committees (SLCCs) in the Kangchenjunga Conservation Area are active protectors of this iconic species, going on regular anti-poaching operations and continuously monitoring snow leopards and their prey species. SLCC members also played key roles in the success of AHM-funded snow leopard collaring missions in the KCA, including by setting and monitoring a network of snares that were used to capture snow leopards for collaring purposes.

Pakistan: In the mountain communities of northern Pakistan, village wildlife guards have been recruited and trained to monitor snow leopards and their prey and to combat wildlife poaching. These wildlife guards now work closely with district wildlife departments and help communities implement voluntary hunting bans.

© WWF Mongolia

Young guardians of the snow leopard pose in front of a sculpture made out of traps they collected, which were causing injury to these endangered cats.

Veteran citizen scientist Tashi Sherpa from Nepal sets up an omni-directional antenna to monitor trap alarms, with help from other members of his community. This mission was successful in finding and collaring a female snow leopard, who was named Lapchhemba.

© WWF Nepal

CLIMATE ADAPTATION

Innovative climate adaptation demonstration activities are at the heart of the AHM Project's approach to integrated landscape-level conservation of snow leopard habitat. These activities are the first to integrate climate adaptation for high mountain areas with snow leopard conservation and will serve as models for replication elsewhere in the snow leopard's range. As a first step in developing climate adaptation activities for AHM Project sites, draft climate vulnerability assessments were completed for all demonstration sites, after which site-specific climate adaptation interventions were developed.

Bhutan: A model climate-smart village in eastern Wangchuk Centennial National Park is playing a leading role in piloting a suite of integrated climate adaptation activities for mountain farming communities. These activities include springshed protection work for the village water source, use of biogas as an alternative fuel source to firewood, improved water storage and delivery systems to improve water security, and trials of greenhouse farming for growing alternative crops at high altitude.

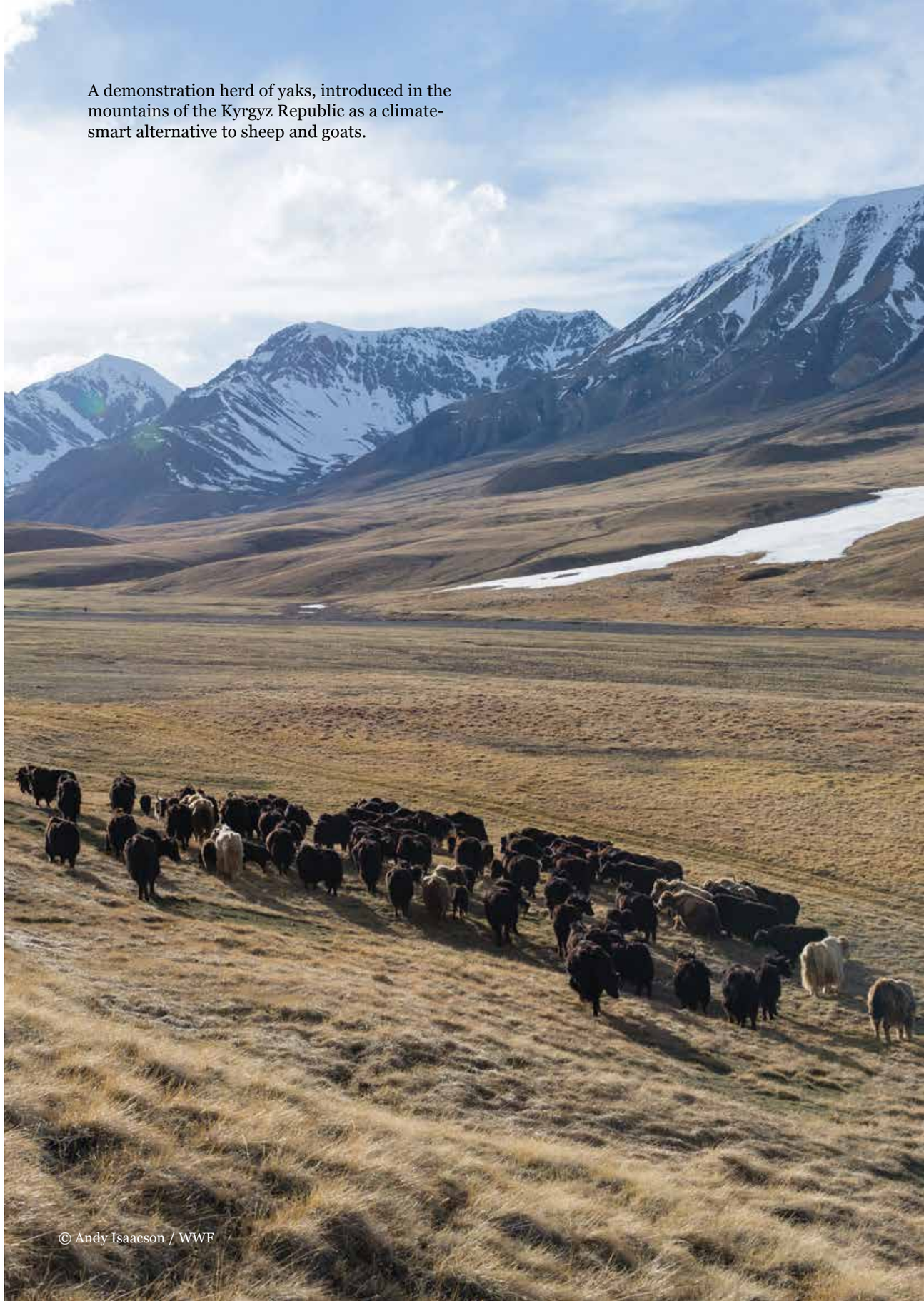
India: Climate adaptation activities in North Sikkim have included a sustainable caterpillar fungus collection campaign to improve protection of this valuable high altitude resource and its alpine meadow habitat, training on making bio-briquettes to reduce cutting of trees and brush for fuel wood, and diversification of livelihoods to include ecotourism to improve livelihood security in the face of a changing climate.

Kyrgyz Republic: At AHM Project sites in the Kyrgyz Republic, yaks have been introduced as a climate-smart alternative to keeping of sheep and goats. Other climate adaptation activities include improvement of pasture rotation practices to improve resilience of alpine ecosystems, and introduction of greenhouse farming to diversify crops, particularly in winter.

Mongolia: Climate adaptation activities being implemented in the Altai Mountains include promoting collective management of livestock amongst groups of families to increase rates of pasture rotation, repair of broken wells in remote pasture areas to reduce grazing pressure around water sources, and establishment of two local protected areas in snow leopard habitat to increase the resilience of grassland ecosystems.

Nepal: In the Kangchenjunga region, climate adaptation demonstrations include the introduction of greenhouses to high altitude areas to diversify crops and improve food security, introduction of water efficient sprinkler irrigation systems to improve water security for farmers, and repair of trails and bridges to improve access to disused alpine pastures and improve rates of pasture rotation in these areas.

Pakistan: In Pakistan, an intensive campaign has been ongoing to raise community awareness of climate change impacts. On the ground adaptation activities have included the creation of a demonstration grazing set aside to close a degraded mountain pasture to livestock grazing for several years, planting of trees on degraded land to prevent further deterioration of these sites, and extensive planting of fodder crops on disused land for stall feeding of livestock to reduce grazing pressure on mountain pastures.



A demonstration herd of yaks, introduced in the mountains of the Kyrgyz Republic as a climate-smart alternative to sheep and goats.

© Andy Isaacson / WWF

RESILIENT LIVELIHOODS

In all six AHM Project countries, WWF is working with mountain herding and farming communities to diversify and improve the sustainability of livelihoods to increase household incomes while reducing pressure on local ecosystems. Climate-smart livelihood activities are preparing communities for a resilient future, and allowing them to become better stewards of their local environment.

Bhutan: Training mountain communities on sustainable caterpillar fungus harvesting practices is ensuring that they can reap the economic benefits of this lucrative natural resource year after year.

India: Ecotourism is being developed as an alternative livelihood for communities in North Sikkim while successes of this effort are informing development of a new state tourism policy for Sikkim.

Kyrgyz Republic: Production and marketing of both traditional felt handicrafts and new handicraft designs with appeal for tourists is providing village women with new income earning opportunities.

Mongolia: Improved marketing of livestock products, training on management of mobile ecotourism camps, and the production and marketing of snow leopard-themed handicrafts to visiting tourists are boosting the incomes of nomadic herders.

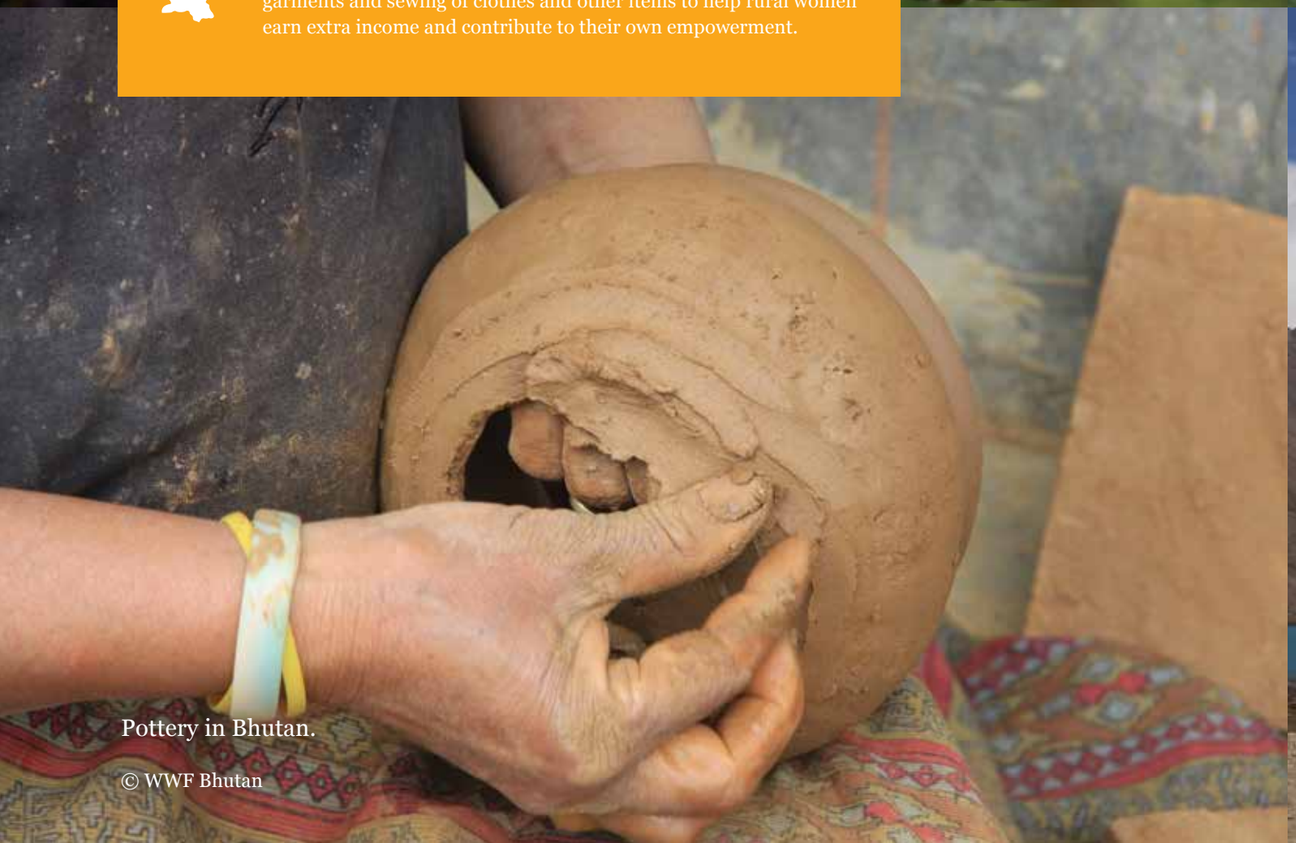
Nepal: A demonstration predator-proof corral has shown residents one simple way of better protecting their yaks in areas where yak herding is the only livelihood option but snow leopards and wolves are a recurring problem.

Pakistan: One climate-smart alternative livelihood activity for village women is providing vocational training on production of knitted wool garments and sewing of clothes and other items to help rural women earn extra income and contribute to their own empowerment.

© Mamata Pokharel / WWF Nepal

Cushion covers produced by women in Pakistan.

© WWF Pakistan



Pottery in Bhutan.

© WWF Bhutan

The sacred Gurudongmar Lake in North Sikkim is cleaned up by the community, as part of an eco-tourism drive.

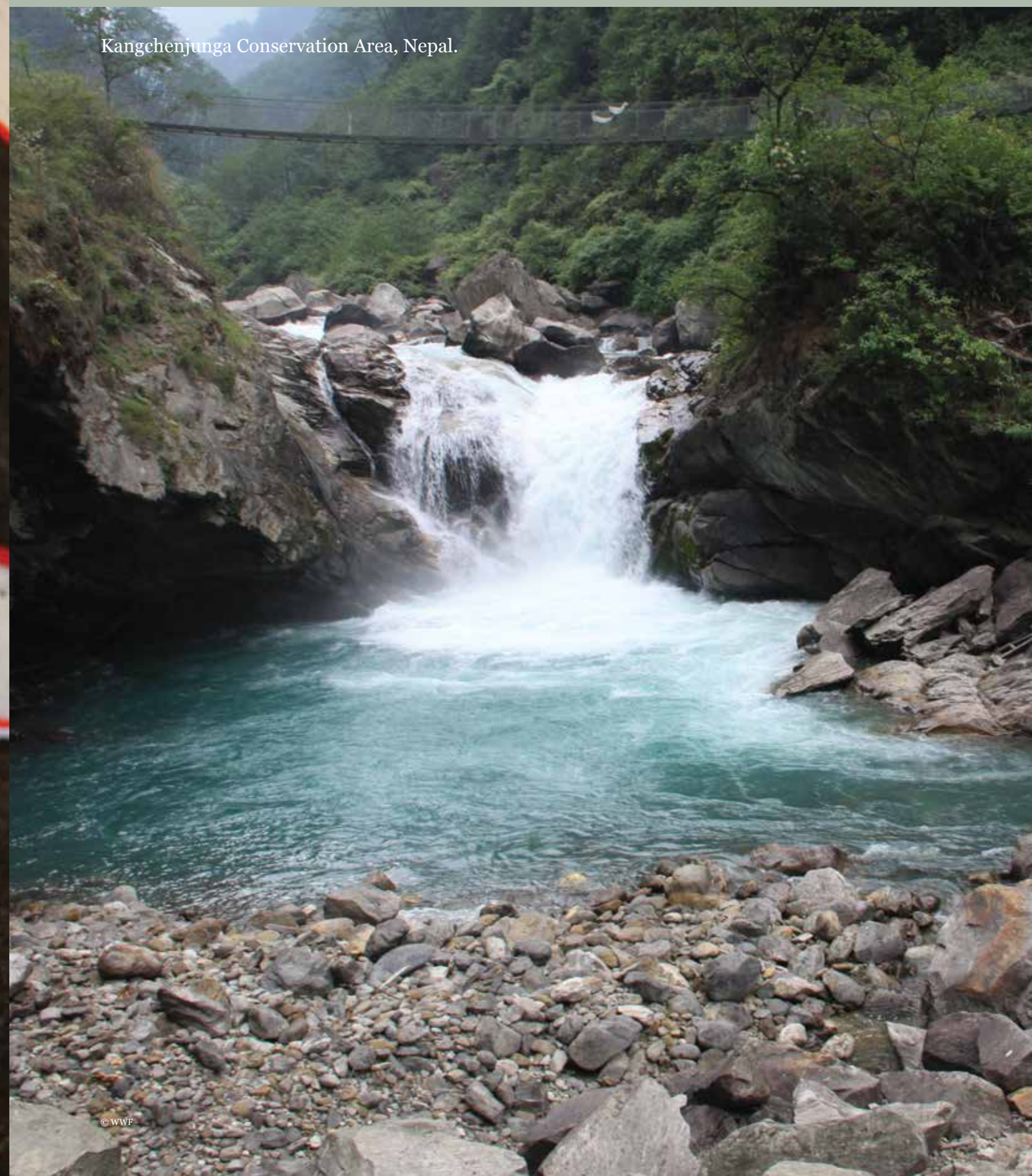
© WWF India

A snow leopard toy made by women in Kyrgyzstan.

© WWF Kyrgyzstan

WATER MANAGEMENT
(ACROSS SIX COUNTRIES)

Demonstration integrated watershed management plans are being prepared and implemented at AHM Project sites in all six project countries. These plans being prepared in a participatory manner in close consultation with local stakeholders and are taking a climate-smart approach to watershed management. Through this process, WWF is charting a course for communities to better manage their water resources in the face of a changing climate through improved protection of water sources as well as improved land management.



Kangchenjunga Conservation Area, Nepal.

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INTERNATIONAL COLLABORATION

In October 2013, the 12 snow leopard range nations came together and signed the landmark Bishkek Declaration, which voiced the need for international cooperation to protect the endangered snow leopard across its 12-nation range.

At this event, the Global Snow Leopard and Ecosystem Protection Program (GSLEP) was unanimously adopted by all 12 snow leopard range states, the goal of which is to secure 20 snow leopard landscapes by 2020.

Notably, all 10 AHM Project demonstration sites fall within GSLEP priority landscapes. AHM activities at these project sites are currently playing a critical role in informing development of climate smart snow leopard landscape management plans to guide achievement of GSLEP goals at these sites.

In addition, the AHM Project has been providing support for GSLEP Secretariat meetings and events since its inception of the GSLEP process in 2012. This support has included providing logistical and technical assistance for these event as well as experienced WWF conservation trainers. The AHM project will also be providing support for the planned GSLEP Summit in 2017 to ensure the success of this historic international conservation initiative.

Camera trap photo of a snow leopard at the AHM Project demonstration site in Mongolia

© WWF Mongolia

CLIMATE-SMART SNOW LEOPARD LANDSCAPES

The AHM project is supporting the GSLEP goal of securing 20 snow leopard landscapes by 2020 by helping develop model, climate-smart landscape management plans for snow leopard landscapes.

As a first step, the AHM project is supporting collaboration between WWF and government partners to develop the first model climate-smart snow leopard landscape management plan for the Eastern Nepal GSLEP priority landscape. This plan will be completed in February 2017 and the process for preparing it will serve as a model for replication for other GSLEP member states.

The project is also directly supporting development of a second model climate-smart snow leopard landscape management plan for the Kyrgyz Republic's Central Tian Shan GSLEP priority landscape.

Developing a model climate-smart landscape management plan is a complex undertaking. Findings from research supported by the Asia High Mountains project on topics such as snow leopard and habitat distribution, climate impacts, and water management are complemented by learning from AHM community activities, which all inform development of the management plans.

GSLEP country delegations have been trained on data collection and analysis for conservation planning and have learned how climate change may affect snow leopard and habitat distribution. They have also been familiarized with tools for mapping of development activities, natural resources, and the connections between snow leopard habitat and important areas for water supply.

Participating countries have also received guidance in developing preliminary risk analyses that will serve as the basis for developing comprehensive landscape management plans. Climate change and conservation planning experts from WWF and Columbia University's Center for Climate Systems Research have guided participants through the process of developing climate change scenarios for their regions and incorporating climate change impacts into their landscape management plans to make them climate-smart.

In these conservation planning exercises, climate change has been included as a driver that has direct impacts on the snow leopard, but also exacerbates existing threats like over-grazing, poaching and retaliatory killing. Participants have also learned to prioritize threats and mitigation strategy using criteria such as cost, feasibility, and whether the strategy would be effective in all of the climate scenarios.

The ultimate goal of this work is the implementation of climate-smart snow leopard landscape management plans for the protection of fragile high altitude snow leopard habitat at trial sites in each country that can later be replicated elsewhere in each nation at a range-wide scale.

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