



Kangchenjunga Conservation Area Project 1998-2017

A Retrospective Report

WWF Nepal
2018



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Preface

Nestled in the Sacred Himalayan Landscape, the Kangchenjunga Conservation Area is home to the world's third highest peak, and is Nepal's first conservation area managed by the local community. Marking a decade in community stewardship with illustrious conservation gains since the official handover in 2006, the conservation area is a striking example of community empowerment and stewardship to take conservation action.

Kangchenjunga Conservation Area (KCA) was declared "A Gift to the Earth" by the Government of Nepal in support of WWF's Living Planet Campaign in April 1997, given its natural and cultural riches. The conservation imperative for KCA comes from its area of 2035 km² that protects important biological diversity of Eastern Himalayan Global 200 ecoregions as well as the people that depend on it for their livelihood.

WWF Nepal's involvement in KCA began with a feasibility study in 1997 and the inception of the Kangchenjunga Conservation Area Project in 1998 in partnership with the Department of National Parks and Wildlife Conservation. KCAP formed the basis for the handover of KCA to the local community which used an Integrated Conservation and Development Program approach to build local capacity, and empower the local community while enhancing their socio-economic status.

KCA holds deep meaning for WWF Nepal. Through its local people, KCA takes forward a legacy of the Conservation Heroes who lost their lives in a tragic helicopter accident on 23 September 2006 in Kangchenjunga after the historic handover.

Following the handover, communities have been at the heart of substantial conservation wins including increase in forest cover, increased populations of snow leopards and blue sheep, boost to conservation science through the successful collaring of snow leopards with GPS-satellite technology and strengthened community institutions to take forward conservation results into the future.

KCA is proof that when communities are empowered to manage their resources, provided livelihood options linked to biodiversity, and when good governance practices are institutionalized, communities are very likely to become conservation stewards.

WWF Nepal is deeply thankful to the Government of Nepal, the people of KCA, WWF-Network support, and our conservation and development partners in helping make possible this conservation success an apt tribute to our Conservation Heroes.



Ghana S. Gurung, PhD
Country Representative
WWF Nepal



Snow leopard collared in the Kangchenjunga Conservation Area



Government of Nepal
Ministry of Forest and Environment
Department of National Parks & Wildlife Conservation



Date : 15 May 2018

FOREWORD

Department of National Parks and Wildlife Conservation (DNPWC) in partnership with WWF Nepal launched the Kangchenjunga Conservation Area Project (KCAP) in March 1998, which laid the foundations for the historic handover of Kangchenjunga Conservation Area by the government on 22 September 2006, making it the first protected area to be managed by the local community.

Kangchenjunga Conservation Area (KCA), located in the Sacred Himalayan Landscape, is a key link in a vast contiguous protected areas network between Nepal, India and China. In recognition of its beautiful landscape, rich biodiversity and culture and opportunities for tri-nations transboundary conservation initiatives, the government of Nepal conferred KCA with protected area status in July 1997.

With the goal of KCAP to conserve the biodiversity of KCA and ensure sustained provision of natural resources and ecosystem services to the people in the conservation area, the work of the local communities after the handover of KCA has helped achieve significant conservation impact and outputs.

At the heart of the project lies important community-based institutions including the Kangchenjunga Conservation Area Management Council, user committees and user groups, snow leopard conservation committee and community-based antipoaching units that have led conservation initiatives from the grassroots level. The project helped to establish 27 community forests in the KCA benefiting all the 1,257 households of KCA. Populations of snow leopard and blue sheep have increased, and state-of-art technologies such as camera trapping and satellite telemetry have been used in community participation for snow leopard and prey-base monitoring. Community-based local adaptation plans were developed and implemented to reduce climate vulnerabilities through agro-based adaptation and water-based adaptation while human-wildlife conflict mitigation and sustainable livelihoods interventions have improved the wellbeing of the local people.

I would like to thank WWF Nepal, Kangchenjunga Conservation Area Management Council, local communities, and all conservation partners for their consolidated efforts toward making significant conservation and socio-economic impact in Kangchenjunga Conservation Area.

Man Bahadur Khadka
Director General



The Sacred Himalayan Landscape encompasses more than two-thirds of Nepal's remaining red panda habitat

Executive Summary

The Kangchenjunga Conservation Area (KCA) lies within the Sacred Himalayan Landscape and is a key link in the chain of transboundary protected areas in the vast landscape, maintaining contiguity between Quomoloangma Nature Reserve in China and Kanchendzonga Biosphere Reserve in India. The KCA harbors important biological diversity from two Global 200 ecoregions of the Eastern Himalaya—the Eastern Himalayan Broadleaf and Conifer Forests and the Eastern Himalayan Alpine Meadows—and was declared “A Gift to the Earth” by the people of Nepal to the global community in April 1997. Kangchenjunga Conservation Area Project (KCAP) was launched as a joint initiative of Department of National Parks and Wildlife Conservation (DNPWC) and WWF Nepal in March 1998. After 9 years’ of work of the DNPWC and WWF, the Government of Nepal took the historic step of handing the KCA over to local communities, making it the first protected area to be managed by local community stewards, in 22 September 2006.

The process of handing KCA over to its local communities was gradual and deliberate. KCAP helped to form and strengthen the Kangchenjunga Conservation Area Management Council (KCAMC), the institutional mechanism of self-governance through which local communities have become stewards of the conservation area. KCAP has successfully built capacity of local people, community based organizations and KCAMC institutions and provided the enabling conditions to manage the KCA in a transparent and accountable manner. Women, poor, and excluded groups were especially targeted for capacity building to ensure they could effectively participate in KCA management and benefit sharing.

The project helped establish 27 community forests benefiting entire households of the KCA and trained user groups to manage these forests sustainably. Community efforts and KCAP interventions resulted in increasing 3,300 ha of forest cover (including shrub) in KCA between 2000 and 2015.

Population of focal species such as snow leopard and blue sheep increased during the project period due to increased

community participation in conservation and community based wildlife monitoring initiated by the project through developing and strengthening citizen scientists. Snow leopard population increased by 28% between 2009 and 2013. Whereas, blue sheep population increased by 40% between 2007 and 2015.

KCAP also facilitated the research on snow leopards in KCA using a range of methods including sign-based surveys, camera traps and fecal DNA. Satellite telemetry methods to study the ecology and behavior of snow leopards was initiated in KCA for the first time in Nepal. The first snow leopard was collared in 2013, followed by three more snow leopards each in 2015, 2016 and 2017.

Four community based livestock insurance schemes and seven crop damage relief funds were established with support from KCAP which significantly contributed to reduce human-wildlife conflict and retaliatory killings of wildlife in KCA.

Climate risks and vulnerabilities in the KCA were identified and mapped at landscape/river basin level (Tamor River basin) and local/village/settlement levels. Community based local adaptation plans were developed and implemented at five strategic sites to reduce climate vulnerabilities. Agro-based and water-based adaptation were supported to reduce vulnerability and increase resiliency. All 1,257 households benefited with the climate change adaptation initiatives increasing their adaptive capacity and resiliency. Alternate energy and energy efficient technologies have been promoted in KCA to reduce dependency on forests for fuelwood and to improve living conditions. All KCA households received home solar systems, and over 50% households received improved cooking stoves. Matching funds were provided for micro-hydro schemes including Ghunsa micro-hydro.

Non-Timber Forest Products (NTFP) and ecotourism have been promoted to increase alternate livelihoods and economic opportunities in KCA. NTFP and agro-based opportunities include cultivation, sustainable collection

and processing of essential oils, aromatic plants, hand-made paper, kutki, chiraita, cardamom, horticulture, and off-season vegetables. Ecotourism initiatives include tourism facilities such as trails, campsites, toilets, solid waste dumping sites and visitor information centers. Development of tourism related micro-enterprises along the trails was also facilitated starting with a saving-credit scheme. Over NRs. 40 Million (USD 0.4 million) has been generated and

mobilized for conservation and livelihoods with focus on women empowerment.

KCAP also facilitated the formulation of appropriate policies such as KCA Management Regulations and operational guidelines to institutionalize the community based protected area management. Systematic planning was also facilitated through developing periodic KCA management plans.



KCA management being handed over to the local communities in September 2006

Acronyms

CAUC	Conservation Area User Committee
CBAPU	Community Based Anti-Poaching Unit
CFUG	Community Forest User Group
DNPWC	Department of National Parks and Wildlife Conservation
EHAM	Eastern Himalayan Alpine Meadows
EHBCF	Eastern Himalayan Broadleaf and Conifer Forests
ICDP	Integrated Conservation and Development Program
KCA	Kangchenjunga Conservation Area
KCAMC	Kangchenjunga Conservation Area Management Council
KCAP	Kangchenjunga Conservation Area Project
MG	Mothers Group
NFE	Non-Formal Education
NGO	Non-Governmental Organization
NTFP	Non-Timber Forest Products
SHL	Sacred Himalayan Landscape
SLCC	Snow Leopard Conservation Committee
UG	User Group
WWF	World Wide Fund for Nature

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Background

The Kangchenjunga Conservation Area (KCA) is located in the northeastern part of Nepal in the lap of Mt. Kangchenjunga (8,586 m), the third highest peak in the world, and is a key link in a vast contiguous protected areas network with Quomoloangma Nature Reserve in China to the north and Kanchendzonga Biosphere Reserve in India to the east.

Because of its rich natural and cultural resources, the KCA was declared “A Gift to the Earth” by the people of Nepal to the global community in April 1997. In recognition of its beautiful mountain landscape, rich biodiversity and culture, and opportunities for tri-nations transboundary conservation initiatives, the government of Nepal conferred it with protected area status in July 1997. In September 1998, the boundary of KCA was extended from 1,650 km² to 2035 km².

As an integral part of the Sacred Himalayan Landscape (SHL), KCA protects and conserves the important biological diversity of two Eastern Himalayan Global 200 ecoregions; namely the Eastern Himalayan Broadleaf and Conifer Forests (EHBCF) and the Eastern Himalayan Alpine Meadows (EHAM). The EHBCF represents some of the most species-rich, but threatened temperate forests in the world, while the EHAM ecoregion supports alpine grasslands at the highest elevations in the world.

The elevation ranges from 1,200 m in Thiwa Khola along the southern boundary to over 8,586 m. The Kangchenjunga Peak, and the complex, dissected topography has resulted in an area of high biological diversity, with many endemic species. Over 30 species of mammals, 158 birds, 10 species of reptiles and over 800 species of flowering plants have been recorded from the conservation area, but these numbers

are very likely underestimates. There are only about 1,257 households in the KCA, but they represent diverse ethnic groups, and pursue a variety of livelihood options, including agriculture, pastoralism, forestry, and trade, resulting in a vibrant cultural tapestry.

While the area represents rich diversity of nature and culture, there are many challenges to conservation. Over 6,500 people from 1,257 households reside in the KCA. The population is dominated by Limbu, Rai and Sherpa ethnic groups. Agriculture (including slash and burn agriculture), pastoralism and trade are major livelihood means in this area. The remote location and lack of infrastructure makes large swathes of the KCA inaccessible. The weather, especially in the upper reaches, is extreme, and the area is highly vulnerable to climate change impacts. In addition, over 90% of the households experience food deficits for over half the year, and illiteracy is high, with 57% of the population being unable to read or write.

When WWF Nepal got involved in the KCA in the mid-90s, the challenges and opportunities here called for innovative approaches to conservation. The inaccessibility of the region meant that community stewardship would be necessary. The community showed great interest in conservation, however, their low literacy and socioeconomic status hindered instantaneous involvement. Therefore, conservation interventions had to be introduced gradually, with a focus on empowering the communities to fully manage them. Moreover, enhancing the socioeconomic status of the communities had to be an important aspect of these interventions. As a result, Kanchenjunga Conservation Area Project (KCAP) was born, under the Integrated Conservation and Development Program (ICDP) approach.

Kangchenjunga Conservation Area Project

WWF Nepal in partnership with the Department of National Parks and Wildlife Conservation (DNPWC) launched Kangchenjunga Conservation Area Project (KCAP) in March 1998, which laid the foundations for the handover. Since then, WWF Nepal has invested over USD 1.5 million in the KCA to conserve and protect its biodiversity; improve the livelihoods of local communities; create awareness and advocacy; and facilitate overall conservation management.

Since the initiation of the KCAP, the local communities had expressed an interest in self-governance and management of the conservation area. Below is the sequence of events that led to the KCA becoming the first protected area to be fully managed by its communities, an innovative model of protected area management in Nepal.

Timeline

Handing the KCA Over to Local Communities

Nov 1995	Feasibility study of Kangchenjunga area by DNPWC and WWF.
April 1996	Baseline study conducted on biodiversity and socio-economics.
April 1997	The KCA declared "A Gift to the Earth" by the government of Nepal.
July 1997	KCA conferred with protected area status by the government of Nepal.
March 1998	Kangchenjunga Conservation Area Project (KCAP) launched by WWF Nepal in partnership with DNPWC.
Sept 1998	KCA boundary extended from 1,650 km ² to 2,035 km ² to facilitate the community based/participatory conservation.
Sept 2000	Conservation Area Government Management Regulation, 2000 endorsed.
April 2003	Kangchenjunga Conservation Area Management Council (KCAMC) was formed as per the provisions of Conservation Area (Government Led Management) Regulation.
Jan 2004	Letter of Intent provided by the government of Nepal to the KCAMC in response to the proposal submitted by the KCAMC for the management of the KCA.

Aug 2006	The meeting of the council of the ministers of the Government of Nepal decided to handover the management responsibility of KCA to local communities as per the provision of Conservation Area (Government Led Management) Regulation. The first five-year management plan of KCA (2006-2011) was endorsed.
Sep 2006	On behalf of the government of Nepal, Late Mr. Gopal Rai, Honorable Minister of State for Forests and Soil Conservation, handed over the KCA to the KCAMC for five years.
April 2008	A separate regulation (KCA Regulation 2008) was approved by the government to manage KCA, delegating authority to local communities. It aimed to facilitate community management of the protected area.
May 2011	An independent evaluation recommended WWF to continue its support to the KCAMC for at least 3 years until the KCAMC is able to fully develop its capacity to manage the conservation area. WWF shifts its focus of engagement and investment in the KCA to address these shortfalls.
June 2012	Upon successful completion of KCAMC's first five-year tenure, the Government of Nepal hands over the management of KCA to local communities, through KCAMC, for the next five years in 2012.
Jan 2015	Government of Nepal approves the new 'Organization and Management', provisioning four government staff with regular budget in KCA.
Jan 2016	The process of handing over KCA to its local communities is complete and the KCAP is closed. WWF provides grants directly to the KCAMC to address contemporary challenges and remains involved in the area in an advisory and support capacity.

Over a decade after this important global resource was handed over to its communities, we do this retrospective so that others may benefit from the project's experience in building community capacity for inclusive conservation that works for both nature, and the people whose livelihoods depend on it.

WWF Nepal and the KCA

Since 1997, WWF Nepal has invested over USD 1.5 million in KCA on several programs implemented to: conserve and protect the flora and fauna; improve the livelihoods and socio-economic status of local communities; create conservation awareness among local communities; develop institutions of local communities and build capacity for management and advocacy; and facilitate overall conservation management of the KCA. WWF Nepal also played a key role in transforming the management of KCA by working in partnership with DNPWC and the local people to form, strengthen, and support the KCAMC, and the institutional mechanism of self-governance through which local communities have become stewards of the conservation area.

An independent evaluation in 2011 recommended that WWF should continue its support to the KCAMC for at least 2-3 years until the KCAMC was able to fully develop its capacity to manage the conservation area. The assessment concluded that, while the KCAMC was able to handle day-to-day operations, its capacity for outreach, and ability to access sustainable funds for management and to address complex conservation issues had to be developed further. Thus, WWF shifted its focus of engagement and investment in the KCA to address these shortfalls in subsequent years.



Communities involved in snow leopard conservation

Project and Program Overview

Goals and Objectives

The objective of the KCAP was to improve livelihoods of local communities for greater participation and leadership to manage KCA. Over time, the goal and objectives have been revised. The revised goal of the KCAP is to conserve the biodiversity of the KCA and ensure sustained provision of natural resources and ecosystem services to people in the conservation area.

Objectives:

- To form institutional mechanisms and required regulations for community based management.
- To increase the capacity of the KCAMC to manage the KCA.
- To enhance community understanding of the KCA as a participatory governance model for managing, protecting and benefiting from the natural resources.
- To enable communities to mitigate, manage, and resolve conflicts stemming from natural resource management.
- To increase the communities' ability to measure and understand changes in their natural resources through monitoring and evaluation and creating information systems so that they can better manage and protect these resources.
- To increase conservation opportunities and impact at the transnational landscape level.
- To prepare communities to respond to the ecological and social impacts of climate change and formulate a climate adaptation strategy.

Outcomes and Impact

Forest and Pastureland Management

Community forestry has been an effective strategy to prevent, and even reverse forest degradation in Nepal. Local communities, when given use rights to the state-owned forest land through community forests and are empowered to manage them, restore, protect, and manage such forests more responsibly. This project adopted community forestry as a principal forest management strategy and helped to establish 27 community forests in the KCA. The community forests cover over 72,000 ha of areas benefiting the entire 1,257 households of the KCA. Similarly, an area of 676 ha

was declared a sacred forest in the memory of conservation martyrs of the Ghunsa helicopter crash in 2006. Three community managed forest nurseries have been producing seedlings of timber and non-timber forest products species to enhance community and private plantations.

To ensure sustainable management and equitable access to forest resources, the project supported the preparation of all 27 forest operational plans, their periodic revisions, and supported in the implementation of the plans. The operational plans were developed with the provisions of sustainable management, equal access to forest resources and equitable benefit sharing among all social and economic groups within the communities. Community based firefighting groups were established, trained, and equipped to mitigate forest fires, and community awareness programs were organized to prevent such fires in the first place.

Community managed nurseries were established to raise seedlings for reforestation of degraded lands and for plantation on private lands for agroforestry. Over 158,000 seedlings of fruit trees, agro-forestry crops, fodder, timber, and non-timber forest products were distributed to community forests and private lands. Institutional and technical support was extended to these nurseries for efficient and sustained operations.

Local communities were capacitated on sustainable management of natural resources through trainings, and were also informed of their rights, roles, and responsibilities of stewardship, which was backed by a policy brief that dealt specifically with KCA management. Community forest user groups were trained on subjects ranging from forest operations, sustainable management, and legal issues. Community forest users, and local traders and entrepreneurs from KCA were provided training on sustainable management, harvesting of natural resources and processing for local value addition, an understanding of the ecology of the plants, propagation techniques, and other relevant aspects of trade for commercially valuable non-timber forest products and medicinal and aromatic plants. As the executive committee members of the community forests change over time several refresher trainings were

Table 1: Change in the status of forest and pastureland

Items	Before Project	After Project	Change
Forest cover	51,500 ha (2000)	54,800 ha (2015)	Net forest gain 3,300 ha
Community forests	No community forests	27 community forests	27 community forests formed covering entire households of KCA
Pasturelands	No systematic management	Systematic management of pastureland	35,600 ha of pastureland quality improved

conducted during the project period. Sustainable harvesting of valuable natural resources, particularly non-timber forest products, and processing for local value addition has laid the groundwork for communities to benefit from forest resources.

The project also promoted a participatory pastureland management system in the KCA. Herders were trained on pastureland management including rotational grazing practices. Pastureland qualities were improved through increasing access trails and bridges, protecting water sources and increasing water availability, and livestock management to control disease transfer from livestock to wild ungulates.

Community efforts and KCAP interventions resulted in increasing the forest cover in KCA. The net forest (including shrub) gain in KCA between 2000 and 2015 is 3,300 ha.

Species Conservation and Monitoring

The KCA is home to several endangered, Himalayan iconic species whose habitats and populations are now actively conserved by local communities. A threats-based approach was adopted to conserve targeted species and habitat integrating into the KCA management plan.

The endangered snow leopard is a conservation target in the KCA. WWF, in leadership of the DNPWC, has been conducting research and monitoring of snow leopard using range of methods including sign-based surveys, camera traps and fecal DNA to estimate the snow leopard and prey species populations in the KCA. Satellite telemetry methods to study the ecology and behavior of snow leopards was initiated in KCA for the first time in Nepal. The first snow leopard was collared in 2013, followed by three more snow leopards each in 2015, 2016 and 2017. The satellite-GPS collaring is now providing valuable information about the ecology, ranging behavior and habitat use of snow leopards that will help to develop landscape level snow leopard conservation and management plans.

Community based snow leopard and prey base monitoring was also initiated and institutionalized through developing citizen scientists. Four Snow Leopard Conservation Committees (SLCCs) were formed, trained and developed



as citizen scientists equipped to monitor and survey snow leopards, and their primary prey species blue sheep. Citizen scientists are therefore engaged and capacitated to use conventional technologies such as sign survey to state-of-art technologies such as camera traps, fecal DNA survey and GPS collaring in monitoring snow leopard and prey species. An endowment fund was established to support the SLCCs and sustain their work.

It was reported by biologists that there was no residential population of snow leopards in KCA (Gurung, 2006). In October 2003, two adult snow leopards with three cubs were sighted after many years of no sighting (Gurung, 2006). However, periodic surveys have indicated that the snow leopard population has increased by 28% from an estimated 18 (+13-21) individuals in 2009 (DNPWC, 2012) to 23 individuals (+19-29) in 2013 (KCAP, 2014). Similarly, periodic surveys of blue sheep have also shown an increase of 40%, from 1,167 individuals in 2007 to 1,638 individuals in 2015 (KCAP, 2015). It can be attributed to better protection by the increased efforts of local communities of KCA. Tibetan wolf and wild dogs are also found in KCA in recent years. Moreover, a common leopard was also recorded at 4,600m above sea level in KCA (KCAP, 2013).

A community-based red panda monitoring mechanism was established, and the red panda was also used as a flagship species to develop an eco-tourism program and raise its conservation profile. The community-based red panda monitoring program has helped to keep track of this charismatic species, and raise awareness for its conservation. The detailed population estimate is not available; however, conservation and sustainable management of community forests has helped to conserve habitat for red panda. A musk deer survey was conducted as it was one of the heavily poached animals in KCA.

A community-based biodiversity monitoring guideline was developed for community forests with indicators for important species of fauna, flora, and status of habitats and ecosystems. Threat-based biodiversity conservation approach was adopted to identify current threats to integrate into the KCA management plan.

A human-wildlife conflict mitigation strategy was prepared and implemented. Wildlife preventive infrastructures such as stone walls were built around agriculture lands to prevent crop depredation. Four community based livestock insurance schemes and seven crop damage relief funds were established in 2004 and 2010 respectively to reduce human-wildlife conflict and prevent retaliatory killing of snow leopard and other wild animals. The community-based 'livestock insurance schemes' and 'crop damage relief fund' significantly contributed to reduce human-wildlife conflict and retaliatory killings of wildlife in KCA. It has institutionalized community-based human-wildlife conflict management for sustained protection of endangered species, rather than being a short-term project-initiated exercise.

Eight community-based anti-poaching units were established to protect and prevent poaching of protected wildlife and

other illegal activities, such as unauthorized collection of timber and non-timber forest products. The members were represented mainly from community forests user groups and conservation area user committees. Training programs, with periodic refresher courses, were held to build, improve, and maintain capacity. Orientation training on wildlife crimes and associated regulations was provided to the KCAMC and its affiliated institutions and enforcement agencies. A district cell of Wildlife Crime Control Bureau (WCCB) was established and institutionalized.

A local-level transboundary meeting was held with China and four regional-level transboundary meetings were held between Nepal and India to share information on major issues and challenges of biodiversity conservation and on curbing poaching and illegal trade. Since the KCA borders with India and China, cross-border illegal activities such as poaching, illegal trade of wild animals and non-timber forest products are prevalent, necessitating collaborative transboundary patrolling and enforcement activities and information sharing. Joint patrolling mechanism in the border areas were established at government and community levels between Nepal and India. A joint report was published reflecting the outcomes of joint patrolling by the government officials from Nepal and India.

Livelihoods

Forest based green enterprises with focus on non-timber forest products were promoted for income generation. Local communities were trained and capacitated in techniques and technologies for value addition through natural resources processing. These included microenterprises based on forest products such as processing and weaving *allo* (nettle) fiber into cloth, making hand-made paper from plants and plant fiber, processing aromatic plants into incense sticks, distilling essential oils, producing juice from sea buckthorn, and cultivation of chiraita.

Table 2: Change in the status of species

Items	Before Project	Early Project Interventions	After Project Interventions	Change
Snow Leopard	No residential population reported	18 ($\pm 13-21$) individuals in 2009	23 individuals ($\pm 19-29$) in 2013	<ul style="list-style-type: none"> Residential population confirmed 33% population increased from 2009 to 2013 Community based monitoring through 4 SLCCs in function
Blue Sheep	No data available	1,167 individuals in 2007	1,638 individuals in 2015	<ul style="list-style-type: none"> Systematic community based survey institutionalized 40% population increased from 2007 to 2015
Human-Wildlife Conflict Management Schemes	Conflicts reported but no schemes		4 LIS schemes 7 Crop Damage Relief Schemes	<ul style="list-style-type: none"> 4 community managed LIS and 7 crop damage relief schemes in function No records of retaliatory killing

In order to provide local farmers with current market prices, both locally and in Indian market centers, a Market Price Information System was created in partnership with the Taplejung Chamber of Commerce and Industry. Value chain analyses and an assessment of sustainable harvesting of Kutki, (*Neopicrorhiza schrophulariiflora*), a perennial Himalaya herb that is highly sought for its medical value, was done to provide local collectors and growers with maximum income from its sale. Sustainable harvesting plans for Kutki and other medical and aromatic plants, notably lokta (*Daphne bholua*), argeli (*Edgeworthia gardneri*), bikh (*Aconitum ferox*) and bikhma (*Aconitum heterophyllum*) were prepared.

Farmers were oriented on better agriculture technology, such as terrace improvement for better soil management on the steep-sloped lands of KCA, and unproductive agriculture practices such as slash and burn were discouraged. Moreover, training and support for vegetable farming, horticulture, bee-keeping and cardamom cultivation was provided to promote local livelihoods.

Ecotourism was promoted and developed as a source of income for local communities. Supporting tourism infrastructure, such as construction and maintenance of trails, campsites, toilets, community information centers, sign posts and information boards, and producing trekking guidelines and information was developed. Three tourist information centers, 14 km of trekking trails, six still/irondeck bridges, 31 wooden bridges, a view tower and snow poles throughout the trekking trails were constructed. A total of 27 religious and cultural heritage sites were restored and maintained. Development of tourism-related micro-enterprises along the trails was facilitated.

KCA communities have improved livelihoods, due to interventions such as NTFP-based green enterprises which has provided communities with sustainable sources of income generation linked to forest and pastureland conservation. Community members from all livelihood fields—from farmers to entrepreneurs—are now benefitting along the market chains. Nature-based tourism revenues are also demonstrating the economic benefits of conserving biodiversity. The project has helped local communities maximize benefits from forest resources, by building their capacity to understand and deal with market forces and to manage natural resources sustainably. Independent assessments have clearly indicated that KCAMC members, user group members and community people have a much more positive attitude and outlook towards biodiversity conservation, and see the linkage between conservation interventions and livelihood outcomes.



Blue Sheep

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Over NRs. 40 million (USD 0.4 million) of community capitals (revolving funds and endowment funds) generated and mobilized within the KCA communities for conservation and livelihoods. Institutionalization of the community capital through cooperatives is stepping ahead in provisioning sustainable financing for conservation and local livelihoods. All 1,257 households of the KCA are benefiting from one or other livelihoods initiatives and community capitals.

Community Development, Health and Education

The project also helped to construct, restore, and maintain essential infrastructure for continued provision of basic services. 30 drinking water supply schemes were supported to provide access to safe drinking water. The drinking water schemes saves 886,826 hours (994 hours/household) of water collection time per year. Four health posts and 21 schools were supported with reconstruction and furnishing. Communication facilities established at 5 sites to access communication to the local communities. These community development initiatives ensured continued provision of services and benefits to the local communities. A child care center was established and run to reduce workload of women, a girls' hostel was established to empower girls for education. Saving and credit schemes were initiated through Mothers Groups. Moreover, an endowment fund was established for each mother groups to provide scholarships for student education particularly for girls from poor families. The endowment fund reached to NRs. 5 million (USD 50,000). A total of 206 poor and marginalized girls received scholarship through the schemes.

Climate Change Adaptation and Energy

Climate change is now recognized as a pervasive driver of socio-ecological threats. But, because the immediate impacts of climate change can neither be accurately predicted nor are readily apparent, community stakeholders

have to be sensitized to the consequent impacts, and made aware of the potential threats and the possible adaptation strategies they can adopt. These concepts were introduced through awareness, orientation and sensitization programs, and further reinforced through development and implementation of community based local adaptation plans for community and ecosystem resiliency.

Several orientation programs on climate change, its impacts, and adaptation measures were held to raise awareness among local communities, local leaders, and stakeholders at local and district levels. Climate risks in the KCA were identified at landscape/river basin level and local level to understand the complete picture of the impact. Vulnerability assessment was conducted at Tamor river basin level to understand and map the climate risks at larger level using Flowing Forward method. Climate Vulnerability and Capacity Analysis (CVCA) methods was used to understand and map the climate risks at settlement/village levels. Based on these participatory exercises, climate vulnerable and resilient sites were identified, climate change impact was documented and community based local adaptation plans were developed for five sites within the KCA.

Community based local adaptation plans were implemented to reduce climate vulnerabilities. Agro-based adaptation by increasing crop resilience and integrated pest management, water based adaptation by establishing water smart communities for efficient water use through protecting water spring sources, conservation ponds, small-scale irrigation and other water efficient technologies were supported. Irrigation schemes reached 28% of KCA households, and resulted in a shift in traditional cropping pattern to high

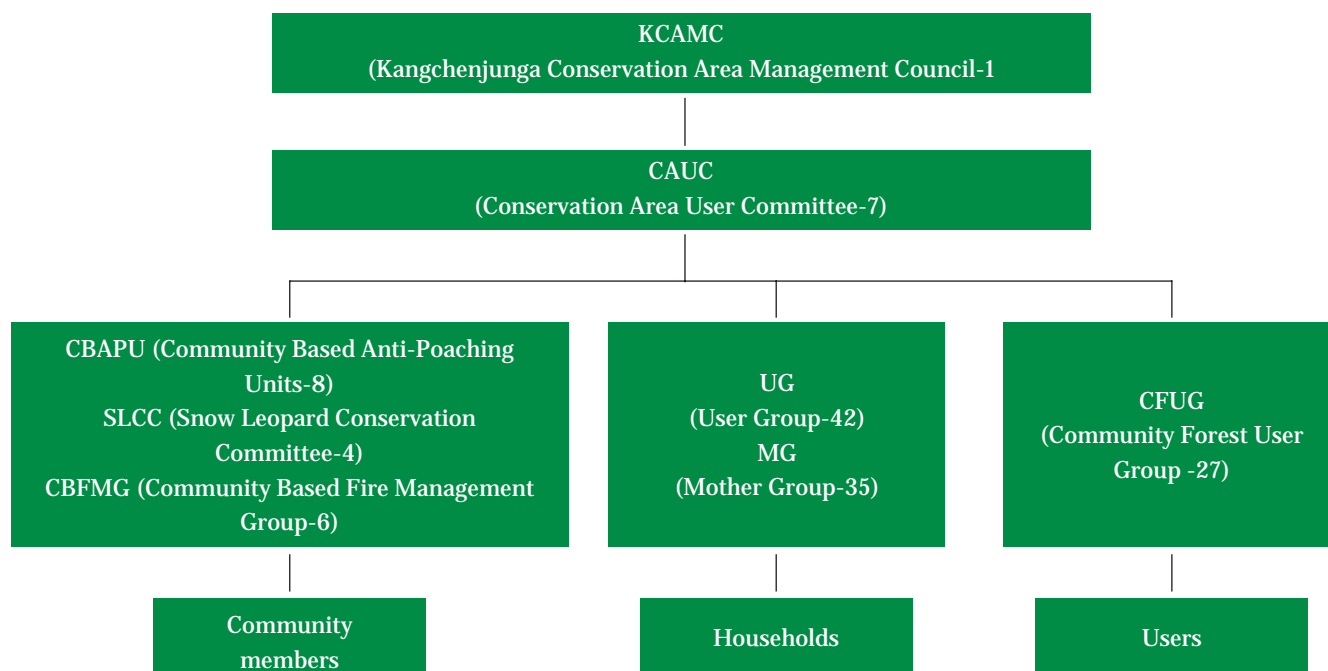


Local communities in KCA

value crops such as cardamom. Cardamom increased income by NRs. 41 million (NRs. 136,769/household) [USD 0.4 million] per year. All 1257 households benefited from the climate change adaptation programs increasing their adaptive capacity and resiliency.

Sustainable energy was promoted widely in KCA to reduce dependency on fuelwood, which was being sourced from forests. Alternative, renewable energy was promoted. All 1257 households in KCA received home solar systems, and more than 50% households received improved cooking stoves. The improved cooking stoves saves 426,733 kg (1,266 kg/household) of fuelwood and 26,293 hours (78 hours/household) of fuelwood collection time per year. Twelve improved water mills and 28 improved cardamom dryers were supported. Eleven water mills were installed to grind grains, and support provided to Ghunsa micro-hydro and

Organizational Structure of KCAMC



matching funds were provided to Tapethok village to build the 10KW Menthungma micro hydro power plant. With alternative sources of energy provided for cooking, heating, and lighting, dependency on fuelwood has decreased, reducing forest degradation.

Policy and Advocacy

Initially KCA was managed under the Conservation Area Management Regulation, 1996 which was developed to manage Annapurna Conservation Area by National Trust for Nature Conservatin, a national NGO. Conservation Area Government Management Regulation was approved in 2000 to facilitate the community based protected area management under the government leadership. Realizing the need of a legal framework to manage KCA by the local communities, a separate regulation was prepared in 2008 delegating authority to the local communities. The KCA Management Regulation was approved by the government in 2008. The regulation is the key milestone to promote community based protected area management in the country. This project provided support in this process. Intensive orientations on the regulation were done for KCAMC, its affiliated bodies and local communities to help them better understand the rights, roles, and responsibilities. A simplified version of the KCA Management Regulation 2064 was prepared and distributed among management authorities and local communities to help them better understand rights, roles, and responsibilities of community stakeholders.

The preparation of two consecutive five-year management plans for KCA was supported by this project. The first KCA management plan was prepared for 2006-2011, followed by

a second KCA management plan approved in 2012 for five years.

A mid-term review of the project in 2011 found that the KCAMC members and other stakeholders had little understanding of policy issues that govern KCA management. Therefore, the project prioritized awareness programs and held an orientation workshop to increase understanding of policy and advocacy among the KCAMC members and community leaders, to enable them to identify priority policy issues of KCA.

Institutional Strengthening and Capacity Building

Realizing the need for a community institution to manage the KCA, the project developed and established community based institutions. KCA institutions was set up with KCAMC as an apex body. A total of 7 Conservation Area User Committees (CAUC), 27 Community Forest User Groups (CFUG), 42 User Groups (UG), 35 Mother Groups (MG), 4 Snow Leopard Conservation Committees (SLCC), 8 Community Based Anti-Poaching Units (CBAPU), and 6 community based fire management groups were formed, capacitated, and supported in the KCA to take over the responsibility of conservation and management. Importantly, at least 33% women representation in the KCAMC institutions has been ensured.

Institutional and office management support was provided to KCAMC and its affiliated bodies. Construction of KCAMC head office in Lelep, its three sector offices in Tapethok, Ghunsa and Wolangchung-Gola, and a liaison office at Fungling was supported by the project. Moreover, all four offices were equipped with furniture and basic office



equipment and tools such as computer, printer, GPS, camera, and other gear to organize monitoring field visits even in inaccessible areas. The KCA head office building that was badly damaged during the 2011 earthquake was reconstructed and office management and furnishing was funded.

Local communities now have a good understanding of their rights and responsibilities and have become fully capable of managing the KCA. Orientation programs, trainings, and learning tours have enabled KCAMC leaders to see for themselves what is possible, and represent themselves in international forums. The exposure visits helped the KCA communities gain first-hand knowledge of conservation and sustainable natural resource use in other protected areas and conservation areas of Nepal.

The project has specifically empowered women, the poor, vulnerable, and excluded communities through training and orientation programs, making KCA institutions much more equitable and representative. Targeted programs to women groups such as Non-Formal Education (NFE) classes, scholarship schemes, income generating activities, and sensitization/trainings helped in empowering women. Independent assessments have confirmed that women and mother groups are now actively participating in various conservation and development initiatives, and are active against gender-based violence, conflict resolution, and dispute mediation. The women-focus programs are contributing to develop their leadership capacity for natural resource management. The trainings on good governance has ensured that all management decisions, and accounting and financial transactions are conducted in a transparent manner, and are based on participatory discussions involving all relevant stakeholders.

Despite the logistical and other challenges faced in building capacity, the persistent and repeated training programs have paid off. Even local level sub-committees have a good understanding of the provisions of the management plan and the KCAMC regulations, and their participation has contributed to effective and transparent implementation of management interventions, with delivery of results from conservation of wildlife, forests and other natural resources to policy advocacy at local, districts and central levels.

With the support from the project, KCAMC successfully lobbied with the government of Nepal and initiated the allocation of a small budget for KCA management. Moreover, government recently created four staff positions in KCA to facilitate KCAMC on technical and legal issues.

The different and illustrious dimension observed is that, the project interventions continued during the insurgency



Greenhouse farming in the KCA

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period. It was due to the deep commitment of local people and KCAMC institutions. And, importantly, these institutions acted as the service provider in villages in the long absence of local political bodies in the country.

Conservation Awareness, Communication and Marketing

Various strategies were adopted to raise conservation awareness in the KCA. The strategies include eco-clubs engaging students and teachers at school, celebrating conservation events, issue based awareness campaigns, and radio programs.

Eco-clubs were established at all schools to raise awareness on conservation. The National Conservation Day and World Environment Day have been celebrated with cultural programs, school-level competitions, plantation ceremonies, conservation speeches, and clean up campaigns. These events have been well attended by community people, KCAMC members, teachers, students, and local stakeholders and has helped to raise conservation awareness.

A half-yearly newsletter, the “Kangchenjunga Upahar”, is published and distributed to the communities and stakeholders at local and district levels. The newsletter covers aspects of conservation and management themes, and events of interest. A local FM Radio program, the “Kangchenjunga Awaaj”, was initiated to broadcast conservation messages. A website was developed to provide information about the Kangchenjunga Conservation Area.

A database was established to support information-based management of the KCA, and a resource center was established in KCA headquarter. The resource center is accessible to local communities, KCAMC members, eco-club students, teachers, local youth, researchers and scientists, social workers, and community based organizations. Local journalists were provided with awareness and training programs on conservation issues.

Key Lessons Learned

- When communities are empowered to manage their resources, provided livelihood options linked to biodiversity, and when good governance practices are institutionalized, communities are very likely to become conservation stewards. The handover of the KCA to the KCAMC increased local ownership, and with it, instilled a greater sense of responsibility and stewardship. Local institutions and capacities are crucial to sustain conservation programs
- Conservation awareness plays an important role in natural resource management. The process of handing responsibilities over to the community has to be gradual, with tailored programs to slowly build capacity in the community, until they are ready to take on the reins. Improving understanding of their new roles and responsibilities as conservation stewards, and rights to natural resources and governance at landscape-scales had to be overcome through a series of workshops, training programs, orientations, and study tours. The low literacy rates demanded that all communications had to carry simplified messages.
- Remote mountain communities face many livelihood and infrastructure challenges, and conservation interventions have to address these to ensure communities see the value in engagement. The value-added market linkages maximized the economic revenues to local communities, encouraging establishment of microenterprises and entrepreneurship. However, it is important to conduct a cost-benefit analysis of economic ventures so local stakeholders are able to judge the risks, and make informed decisions. Alternative livelihood options need to be linked to markets to minimize the dependency of local communities on project inputs.
- Training and mobilization of local youth for research and monitoring is not only cost effective, but it also increases their sense of ownership and accountability, thus contributing to sustained conservation efforts. Citizen scientists in KCA conducts blue sheep census independently and snow leopard camera trap monitoring with minimum input from the experts.
- With successful conservation, human-wildlife conflict is becoming inevitable. Most communities will tolerate a certain degree of conflict, but proactive conflict mitigation strategies are essential to prevent its escalation beyond the threshold of tolerance. The innovative community-managed livestock insurance scheme contributed immensely towards overcoming human-wildlife conflict. Other mitigation methods, ranging from wildlife preventive infrastructure for crop depredation and awareness programs, complemented the insurance program.
- Participatory methods can ensure communities understand complex issues. The region is prone to natural disasters, from earthquakes to flash floods, and landslides. Climate change can exacerbate some of these disasters. Creating an understanding of climate vulnerabilities among a rural population with low literacy was a major challenge. However, the participatory mapping exercises using Climate Vulnerability and Capacity Analysis (CVCA) methods enabled communities to understand vulnerabilities and adaptation techniques. The climate vulnerability-adaptation tool and the orientation programs helped create a good understanding of these issues.
- Long term investment (10-15 years) is required to implement phase wise conservation and development interventions for sustainability.

THEMATIC AREAS of KCAP's INTERVENTIONS

1. Forests
2. Species
3. Climate Change and Energy
4. Freshwater
5. Policy and Advocacy
5. Livelihood
7. Conservation Education and Capacity Building
8. Communication and Marketing
9. Planning, Monitoring and Coordination

Way Forward

- I. While KCAMC is undertaking management of the KCA, community based protected area management approaches can be replicated in other protected areas in the country and in the region. Experience from the project shows that community leaders and KCAMC members will change over time, capacity development should be continued for new executive members of KCAMC and its institutions.
- II. The following strategies have been recommended for continuation and scaling up in KCA and replication in other landscapes:
 - a. **Community based species monitoring through citizen scientists.** Currently, focus is only on snow leopard and its prey base, it should be extended to other species as well such as red panda, musk deer, and threatened avifauna. Most recently, citizen scientists successfully engaged in state-of-art technologies such as camera trap and satellite telemetry of snow leopard. This approach should be continued.
 - b. **Community managed livestock insurance schemes.** The four schemes currently managed by the communities are effectively run. It is now practiced only for the livestock killings by snow leopards. It need to be continued with increased its scope to other animals as well such as wolf, wild dog, common leopard, and others.
 - c. **Community based anti-poaching operations engaging youths in conservation.** It worked well so need to continue increasing monitoring/patrolling frequencies in poaching sensitive areas.
 - d. **Gender and social inclusion.** KCAMC institutions are ensured with at least 33% of women representation in council and committees empowering women through mothers group. This should be continued with increasing women representation and meaningful participation in decision making.
 - e. **Sustainable financing and self-sustenance.** Programs to seek sustainable funds and to make the KCA self-sustaining must be pursued- NTFP, tourism, sustainable harvesting of blue sheep, streamlining community capitals into cooperatives and micro-finance institutions.
- III. Tri-nation peace park was envisioned to increase collaboration between neighboring countries China, India and Nepal. This initiative needs to move forward to attract attention of global communities for landscape scale transboundary conservation.

A TRIBUTE TO OUR CONSERVATION HEROES

KCA was handed over to the Kangchenjunga Conservation Area Management Council on 23 September 2006 making it the first community managed conservation area. An outcome of long expressed eagerness of local communities to take on the responsibility of managing the conservation area, as well as the commitment of the Government of Nepal towards devolution of power to local communities, the handover is representative of community stewardship and its significant role in conservation. While a major landmark, this day is also remembered as a black spot in Nepal's conservation history. 20 conservationists along with four crew members lost their lives in a tragic helicopter accident while returning from the handover ceremony. In tribute to their deep commitments towards conservation, 23 September was declared as "National Conservation Day" by the Government of Nepal. Through its local people, KCA therefore takes forward a legacy of these Conservation Heroes who lost their lives on this fateful day.

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3

WWF Nepal works in three landscapes- Terai Arc Landscape, Chitwan-Annapurna Landscape and Sacred Himalayan Landscape

1993

WWF Nepal office was established in 1993



4

WWF Nepal's programs focus on 4 goals; Forests, Wildlife, Climate & Energy and Freshwater

1500+

WWF Nepal works with 1500+ community-based organizations in conservation nationwide



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To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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