Management Plan for Api Nampa Conservation Area, Darchula (2015-2019)

Government of Nepal
Ministry of Forests and Soil Conservation
Department of National Parks and Wildlife Conservation

ABBREVIATIONS/ACRONYMS

ACA:	Annapurna Conservation Area
ANCA:	Api Nampa Conservation Area
BNP:	Bardia National Park
CAs:	Conservation Areas
CARE Nepal:	Cooperative for Assistance and Relief Everywhere Nepal
CFs:	Community Forests
CFUGs:	Community Forest User Groups
ChAL:	Chitwan Annapurna Landscape
DEO:	District Education Office
DFO:	District Forest Office
DPHO:	District Public Health Office
DNPWC:	Department of National Parks and Wildlife Conservation
DoLIDAR:	Department of Local Infrastructure and Agriculture Roads
EIA:	Environmental Impact Assessment
FGD:	Focus Group Discussion
FM:	Frequency Modulation
GHT:	Great Himalayan Trail
GLOFs:	Glacier Lake Outburst Floods
HDI:	Human Development Index
GoN:	Government of Nepal
HQ:	Head Quarter
HRD:	Human Resources Development
HWC:	Human Wildlife Conflict
ICDP:	Integrated Conservation and Development Program
ICIMOD:	International Centre for Integrated Mountain Development
IUCN:	International Union for Conservation of Nature
KCA:	Kanchenjunga Conservation Area
KSL:	Kailash Scared Landscape
KSLCI:	Kailash Sacred Landscape Conservation Initiative
LNP:	Langtang National Park
LSU:	Landscape Support Unit
MoFSC:	Ministry of Forests and Soil Conservation
MoU:	Memorandum of Understanding
NGO:	Non Governmental Organization
NPR:	Nepalese Rupee
NRM:	Natural Resources Management
NTB:	Nepal Tourism Board
NTNC:	National Trust for Nature Conservation
PAs:	Protected Areas
PAF:	Poverty Alleviation Fund
PNRMP:	Participatory Natural Resources Management Plan
SHL:	Sacred Himalayan Landscape

TAL:	Terai Arc Landscape
TNA:	Training Need Assessment
UNDP:	United Nation Development Programme
UNESCO:	United Nations Educational, Scientific and Cultural Organization
WWF:	World Wildlife Fund

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EXECUTIVE SUMMARY

Api Nampa Conservation Area (ANCA) is the youngest conservation area of Nepal established in 2010 covering an area of 1,903 km^2. ANCA borrowed its name from Api (7,132 m) and Nampa (6,757 m) mountains. Spatially ANCA extends from 80°22' to 81°09' longitude and from 29°30 to 30°15' latitude and is a part of Kailash Sacred Landscape (KSL) in the border of China, Nepal and India.

ANCA Management Plan comprises three chapters. Chapter one briefs historical background of conservation approaches/strategies and reviews conservation policy and legal provisions. Chapter two lays the context of plan and informs current status of various components such as geography, bio-physical features, socio-economic and demographic information. Chapter three explains the most important section with issues, strategies and activities.

ANCA is endowed with floral and faunal diversity and is rich in unique cultural diversity and a sacred site. Rare and endangered species such as Snow Leopard, Himalayan Black Bear and Musk Deer are found in this protected area. The recent presence absence survey confirmed the presence of snow leopards in Byas VDC though population density is yet to be calculated. ANCA represented the snow leopard conservation complex 1- western (SLCAP, revised 2012). ANCA represents WWF's 200 globally important eco-regions: Western Himalayan Temperate Forest (1,500-2,600 msl). In addition, ANCA is a home to high value NTFPs/MAPs such as Yarsagumba (*Cordyceps sinensis*), Jatamansi (*Nardostachys jatamansi*), Sugandhawal (*Valeriana wallichaii*), Lauth Salla (*Taxus bacatta*) and Bojho (*Acorus calamus*).

The climate of ANCA varies greatly based on altitudinal gradient. Average annual minimum and maximum temperature in the region is recorded to be 13.69 ºC and 27.78 ºC respectively with the lowest monthly average minimum temperature recorded in December, January and February. Due to two major rivers systems viz. Mahakali and Chamelia and networks of rivers and tributaries, ANCA is equally rich in hydro power potential. Regarding land cover, forest (33%) occupies the largest area followed by alpine meadow (22.96%), snow/glacier (19.73%), scrubland (9.38%), agriculture (8.48%), hillside grassland (5.80%), barren area (0.39%), water bodies (0.14%) and the least by built-up areas (0.04%).

The ANCA Management Plan (2015-2019) envisions conserved natural environment where local communities are prosperous through sustainable utilization of NTFPs/MAPs and heritage tourism.
Every year over 25,000 collectors come to these pastures to collect Yarsa gumba, the most valuable NTFP of all. The collectors came from far afield including Bajhang, Doti, Gorkha, Dhading and Ramechaap. The uncontrolled flux of collector has led to social conflicts as well as destruction of high alpine shrubs particularly Chimal (*Rhododendron spp.*) and Juniper (*Tsuga dumosa*). Thus the plan recommends resources inventory and preparation of management plan of Yarsa gumba and four other high value NTFPs/Maps for adopting value chain approach. The plan suggests promotion of alternative energy sources for those collectors to reduce the pressure in alpine meadows and scrubs.

Similarly, ANCA has a unique and sacred sites (forth, shrines, temple, forest, lake etc.) and local festival with high potential for heritage/cultural tourism but unfortunately is with poor physical infrastructure and

inadequate tourism skills among the locals. Physical infrastructure (road access, bridge, hotels/lodges, rubbish pits, sing posting, camping sites etc.) will contribute to the overall development of region which will benefit local communities.

ANCA represents the remotest part of Nepal. Due to vertical terrain, limited arable land and cold climate, it is a poverty pocket with acute food insecurity. This is well indicated by that only 2.16 % of households (Out of 10,424 HHs) are able to produce food sufficient for more than 12 months while majority of HHs falls under insufficient food production (43.97% HH only for 3-6 months).

Livelihood promotion has a central thrust of this Management Plan. The Plan recognizes the significance of both farm based and off farm based livelihood sources. The local people of ANCA have to rely on off farm activities after a harvesting of agricultural crops. In recent years, remittance share increases in total household income.

Special feature of the livelihood program are a provision of i) a special package for poor and marginalized households and ii) one village, one product program. Without livelihood security of local communities, it is very difficult to bring the local communities into the conservation mainstream. Thus the very objective of livelihood program is to ensure economic benefits to communities by providing farmed based or off farmed activities. Poor and marginalized households will be given priority while implementing livelihood program. It is also envisioned to create an Apex Women Group to collectively work toward livelihoods and empowerment of women and disadvantaged groups. Similarly, the management plan will invest to set up a community based Chuiree grinding mill so local entrepreneur and farmers can add value and generate income.

The plan also proposes activities related with rural development. These indicative activities are collected at village level discussion. It is likely that communities have demanded some of these activities from DDC and other agencies. It is therefore important to note that such overlapping, if any, should be sorted out at planning workshop of DDC where District Agriculture and Livestock Development Office, District Education Office, District Drinking Water Development Office, District Irrigation Office, District Women Development Office etc. (government offices), NGOs, Civil Society Organizations will have to present their annual programs.

Conservation education and awareness program will be another important focus of the management plan. Awareness is a prerequisite for right attitude which might lead to behavioural change. School children will be targeted for conservation awareness and extra-curriculum activities. Conservation education aims to motivate students to appreciate biodiversity and natural world and help to engage in conservation activities. Similarly, community outreach program will target villagers/community members. Conservation awareness is the foundation of all other programs. In addition, capacity building activities (workshop/seminar/training/exposure visit) will be provided to PA institutions wherever possible to impart skills required to manage the conservation area effectively and efficiently.

The local perceptions on climate change are phonological changes such as ripening of fruits and agricultural crops as well as days are getting warmer and nights are less cold. Precipitation are becoming erratic, reduced rainfall in the dry months, snow line changed and rapid snow melt, including increased

extreme weather condition. Long term monitoring of climatic variable will be carried out. Likewise, the plan recognizes climate related risks which pose conservation and livelihood challenges. The soil erosions and river cutting wash away the arable land and damage the road networks. In addition, forest fire also appears to have damaged forested land. Building resilience of communities and ecosystems are another objective of the plan. Perhaps the most important aspect in disaster risk reduction is the institutionalization of Conservation Council (CC), Conservation Area Management Committee (CAMC), Women Group (WG) and, Farmer's Cooperatives (FC) to tackle these hazards. Climate adaptation programs will be mainstreamed in livelihood promotion programs.

It is important to note that ANCA constitutes an important PA of larger Kailash Sacred Landscape (KSL) and needs to be informed by the regional cooperation. Based on the Memorandum of Understanding with China in 2010 and Joint Resolution with India on mutual basis along with Kailash Sacred Landscape Regional Program Implementation Plan (2012-2016), ANCA office will seek technical and financial assistance in common concerned issues. Cross learning and sharing best practices at a regional level will be emphasized.

Besides adequate and competent human resources, well equipped headquarters and sector offices are imperative for effective implementation of ANCA Management Plan. The management plan clearly outlines the importance of set up of ANCA headquarters, three sector offices and range post with defined human resources. Set up of council office will be also arranged in ANCA headquarters for effective coordination and cooperation as ANCA believes in "Conservation with the Human Face". In this line, the capacity building of ANCA staffs and PA institutions will be give an outmost priority. The Management Plan (2015-2019) puts forth an estimated budget of NPR 234 million.

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CHAPTER 1

1.1HISTORICAL BACKGROUND

The importance of conserving wild species of fauna and flora was first recognized by then HMGN in Nepal first Five-Year Development Plan (1956-1961). It was only after the 1960s that an effective conservation program allowed for the establishment of protected areas. Now, the protected areas in Nepal include ten national parks, three wildlife reserves, one hunting reserve and six conservation areas and twelve buffer zones covering an area of 34,186.62 km^2that is 23.23 % of the total area of the country.

Protected Areas (PAs) were initially established in Nepal for the protection of wildlife, especially endangered wildlife. However, the objectives have since been broadened to include the preservation of natural, historic, scenic, and cultural values.The most relevant is National Parks and Wildlife Conservation (NPWC) Act, 1973. This Act has been a key legal instrument in protecting biodiversity in the protected areas. Himalayan National Park Regulations, 1979 has made special provisions for Mountain people to collect natural resources for their daily requirements, such as firewood, leaf litter, small pieces of timber and fodder. The Regulations also allow people to continue to graze their domestic animals on park rangeland.

Conservation Area Management Regulation, 1996; Buffer Zone Management Regulations (1996) are key Regulations. The NPWC Act was amended to incorporate provisions for conservation areas and buffer zones. The conservation area is area set aside to implement community based conservation and development programs. The Regulation entrusts conservation area management committee to collect the tax from natural resources and utilize as per the approved operational plan. Subsequently, the Buffer Zone Management Regulations (1996) and Guidelines (1999) were approved to design program compatible with national park management and to facilitate public participation in the conservation, design and management of buffer zones. The amended NPWC Act makes provisions for 30-50% of the park or reserve revenues to be retained for community development activities in the buffer zone. The buffer zone and conservation area model thus emphasize in people's participation in biodiversity conservation and strongly advocates for people’s livelihoods.

Annapurna Conservation Area is the first conservation area of Nepal. Others are Manaslu Conservation Area, Kanchenjunga Conservation Area, Black Buck Conservation Area, Gaurishankar Conservation Area and Api Nampa Conservation Area. In order to provide a policy framework, the Government of Nepal issued Conservation Area Management Regulation, 2053; Kanchenjunga Conservation Area Management Regulation, 2064 and Conservation Area Conservation Guidelines, 2056.

The Nepal always has been at forefront in innovation in PA management. The NPWC Act subsequently amended four times, in 1974, 1982, 1989 and 1994 to respond to the chaning socio-economic and development needs .Following are key legal framework or policy provisions related with PA management with brief descriptions:

National Parks and Wildlife Conservation (NPWC) Act, 1973- NPWC Act has been a key legal instrument in protecting biodiversity in the protected areas. Section 3 of the NPWC Act prohibits hunting any animal or bird, building any house, hut or other structure, clearing or cultivating any part of the land, harvesting, cutting, burning or damaging any tree, bush or other forest product, and mining within national parks or protected areas.

Himalayan National Park Regulations, 1979- These are the special provisions for people living in Himalayan national parks to collect forest resources (firewood, leaf litter, small pieces of timber and fodder). It also allows people to continue to graze their domestic animals on park rangeland.

Conservation Area Government Management Regulation, 2011- This regulation is for government managed CA. The focus is on Integrated Conservation and Development Program-with twin goals of biodiversity conservation while improving the socio-economic conditions of local communities living there. The Regulation has a provision of handing over of community forests to user's groups for creating local.

Buffer Zone Management Regulations,1996-Subsequently, the Buffer Zone Management Regulations (1996) and Guidelines (1999) were approved to design program compatible with national park management and to facilitate public participation in the conservation, design and management of buffer zones. The amended NPWC Act makes provisions for 30-50% of the park revenues to be retained for community development activities in the buffer zone.

Widlife Damage Relief Support Directives, 2012- this directives provisions for relief for loss and damage caused by eight wild animals viz. tiger, rhino, elephant, snow leopard, common leopard, bear, wild boar and wild buffalos. There is a provision of max NPR 300,000 in case of causulty and NPR 50,000 in serious injuries. Similarly, up to 10,000 will be distributed for property damage and livestock depredation. Supporting documents and claim procedures are also mentioned in the directives.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)- Nepal signed the convention of CITES by accessing on 18th June 1975 and entering into force on 16th September 1975. In Nepal, there are 281 species of wildlife including 44 animals and 2 plants on Appendix I, 122 animals and103 plants on Appendix II and 6 animals and 4 plants on Appendix III(http://www.cites.org/). Following existing laws guide implementationof CITES in Nepal: The National Parks and WildlifeConservation Act, 1973, The

Forest Act, 1993, The Export Import (Control) Act 1961,The Customs Act, 2007, The Police Act, 1995 and The Environmental Protection Act1997. In addition, Government of Nepal has introduceddifferent plans and programsto curb illegal wildlife trade and poaching, and to promote conservation:The Wildlife and Plants International Trade Control Act, 2010; the National ConservationStrategy for Nepal, 1988; the Nepal Environmental Policy and Action Plan, 1993; theRevised Forestry Sector Policy, 2000; the Nepal Biodiversity Strategy (NBS) and its Implementation Plan, 2002. Further, to curb wildlife trade in trans-boundary region, the Memorandum of Understanding with China and India have been signed in 2010 while the South Asian Wildlife Enforcement Network (SAWEN) was established in 2011.

In ANCA, faunal species listed in Appendix I of CITES are Snow leopard, Yak, Musk deer, Ghoraland Impeyan pheasants. The floral species that are listed in Appendix II of CITES are PanchAunle, Jantamansi, Sugandhawal, Sarpagandha, Talispatra and GobreSalla. Detail lists of flora and fauna found in ANCA with their CITES categories are presented in Annex-7.

NTCC (National Tiger Conservation Committee) - The Government has formed a high level National Tiger Conservation Committee (NTCC) chaired by Right Honourable Prime Minister. The primary objective of NTCC is to provide a strategic direction and suggestions to concerned institutions for tiger conservation. Similarly, NTCC will forge partnership among Tiger Range Countires and potential international agencies for technology transfer, resources support and information network to fight against poaching and illegal trade.

National Wildlife Crime Control Coordination Committee (NWCCCC) and Central Level Wildlife Crime Control Beauro (WCCB) , Organizational Structure, Role, Responsibility and Authrority, 2067- NWCCCC is a high level committee chaired by Ministry of Forests and Soil Conservation to mobilize the resources against wildlife crime and forge/expand cooperation with NGOs/INGOs/International donors working in the field of biodiversity conservation. On the other hand, WCCB is Beauro chaired by Director General of Department of National Parks and Widllife Conservation to control wildlife trade and poaching. WCCB also forms wildlife crime control beauro at district level.

Integrated Landscape Planning Directives, 2012- Institutional arrangement of Landscape Coordination Committee (chaired by NPC member), Landscape Working Group (chaired by secretary, MoFSC), Landscape Support Unit (chaired by chief, Planning and Human Resource, MoFSC) was devised. The notable objectives are i) to address the social, economical and environmental issues in relation with conservation and development of ecological system at landscape level and ii) to assess the effects of existing programs/activities on ecological system in order to identify appropriate strategies.

1.2 LANDSCAPE CONSERVATIONAND TRANSBOUNDARY COOPERATIONS

Another marked shift witnessed in Nepal's Protected Area Management Systems was emergence of landscape conservation. Nepal is among the few earlier countries realizing that the large tract of mosaic habitats with adequate heterogeneity of numerous ecosystems is required for dispersal of mega fauna. The landscapes capture more biodiversity than similar sites because of the 'beta-diversity effect', especially since landscapes include more ecosystems, wildlife habitats, local communities and their lifestyles and land-management variability (**Sharma & Chettri 2005**). The conservation discourse around landscape level conservation led to declaration of three conservation landscapes in Nepal respectively i) Terai Arc Landscape and ii) The Sacred Himalayan Landscape and iii) Chitwan Annapurna Landscape.

The TAL extends from Nepal's Bagmati River in the east to India's Yamuna River in the west. It is one of the most spectacular assemblages of large mammals in Asia. It covers a vast conservation landscape of approximately 49,000 km^2, with a network of protected areas, forests, agricultural land, settlements, and wetlands along the Indo-Nepal International border. In 2001, the Government of Nepal endorsed TAL-Nepal with a vision of protecting a "globally unique landscape where biodiversity is conserved, ecological integrity is safeguarded and sustainable livelihoods of its people are secured". The TAL-Nepal encompasses 23,199 km^2, covering part or whole of 14 Terai districts, and is home to over 6.7 million people of multi-ethnic and multi-culture origins.

Likewise, Government of Nepal, China and India agreed on the need of Himalayan trans-boundary landscape, which later emerged as Sacred Himalayan Landscape (SHL) which covers 49,899 sq. km. It extends along the Himalayan Mountains, from the Kali Gandaki gorge in central Nepal to the western boundary of Bhutan and links 18 protected areas of Nepal and India. The SHL covers, partially or wholly, 26 districts and seven protected areas of Nepal, It spreads over Kanchenjunga Conservation Area in the east to Langtang National Park in the west.

Similarly, Government has been implementing Kailash Sacred Landscape (KSL), Kanchenjunga Complex landscape and Chitwan Annapurna Landscape (ChAL) in association with conservation partners such as ICIMOD, WWF Nepal, NTNC, IUCN, CARE Nepal etc.Landscape Support Unit (LSU) was set up at the Ministry of Forests and Soil Conservation to provide strategic direction, coordinate and monitor for landscape conservation initiatives. The landscape conservation has made possible the field level interventions in corridors, bottlenecks, linkages and trans-boundary cooperation with China and India. Local level trans-boundary meeting are being carried out in borders of CNP, BNP, SWR, KCA, LNP, while central level meeting resulted in to MoU with China and Joint Resolution with India for cooperation in biodiversity and for fighting poaching and illegal wildlife trade.

Kailash Sacred Landscape (KSL)

The KSL is a trans-boundary landscape with highly diverse topography and rugged terrain that spreads from the subtropical foothills of central India and northwestern Nepal (on the northern edge of the Gangetic Basin) across the crest of the Central Himalayas and onto the Tibetan Plateau (in the remote southwestern portion of the Tibetan Autonomous Region of China) to encompasses the greater Mount Kailash region. The KSL covers 31,175 km^2 extending from 79° 49' 26" E to 82° 26' 54" E longitude and from 29° 18' 23" N to 31° 12' 42" N latitude. The KSL area includes almost all of Pulan County in the TAR-China; most of Pithoragarh District and a small part of Bageshwar District in India; and portions of Humla, Bajhang, Darchula, and Baitadi districts in northwestern Nepal. Over a million people live within landscape; however, most of this population resides in India and Nepal, with very few persons inhabiting the sparsely populated high-elevation areas on the Tibetan Plateau.

CHAPTER 2: CONTEXT SETTING AND CURRENT STATUS OF KEY THEMES AND AREAS

2.1 NAME, AREA AND GEOGRAPHIC CONDITION

Api Nampa Conservation Area (ANCA) is the most recent CA that covers the northern Darchula, bordering with two big land masses viz. China in North and India in West. This is also an important part of trans-boundary Kailash Scared Landscape (KSL). ANCA is established in 2010 with an area of 1,903 km^2. ANCA borrowed its name from Api (7,132 m) and Nampa (6,757 m) mountains which are situated in the region. Spatially ANCA extends from 80°22' to 81°09' longitude and from 29°30 to 30°15' latitude. Northern border extends up to autonomous region of Tibet Autonomous Region while its Southern border extends up to Lasku and Naugad kholaof India. The eastern border other hand extends up to Bajhang district and its western border extends up to Mahakali river which separates it from India (**FIGURE 1**).

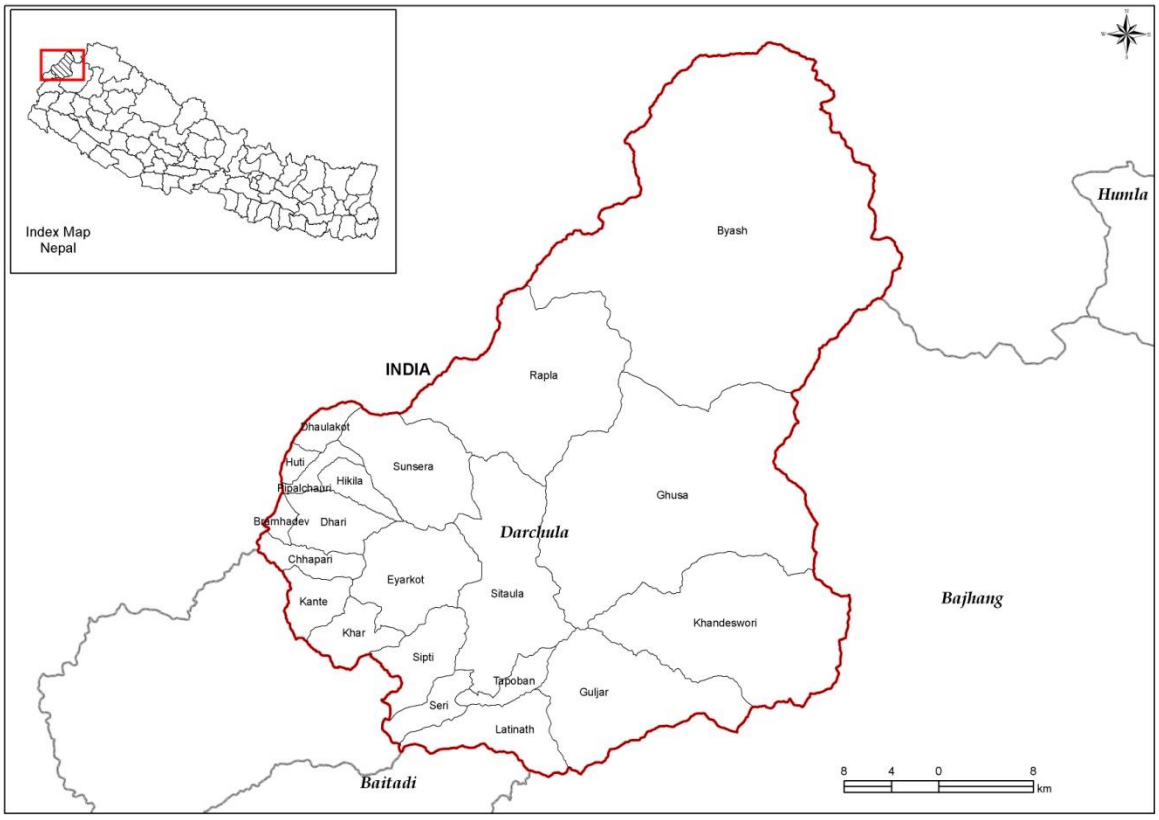


Figure 1. Location map of ANCA (Source: ANCA 2008)

ANCA covers wide range of altitude variation which extends from 539m to 7,132m elevation. ANCA is endowed with mountains such as Api (7,132 m), Nampa (6,757 m) and Byas (6,670 m). Soils in the middle mountains are moderately acidic, medium- to light- textured coarse

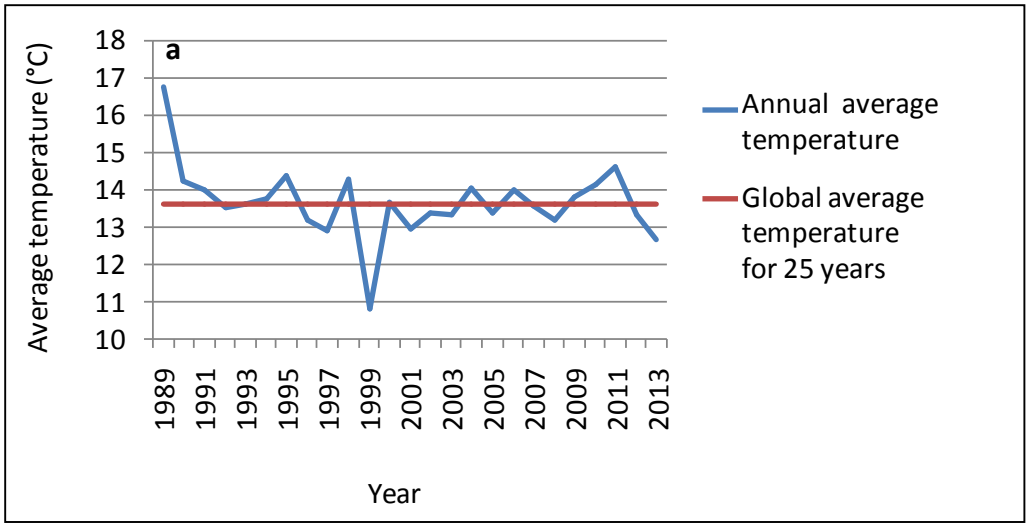
grained sand and gravel (ANCA 2008). In the high mountains, fine particles of stony soils exist in cracks of larger rocks (**ANCA 2008; DNPWC 2008**).This region is geologically fragile because of crash of Indian subcontinent plate with Tibetan plate. Since these areas comprises of rocks such as Schist, Gneiss, Limestone and Sediment, they are highly sensitive to landslide and flooding particularly during rainy season. Other rocks such as Granite, Pegmatite, Phyllite and Quartzite are also found in ANCA. Based on land form, land use characteristics and sensitivity to soil erosion, ANCA can be divided into nine categories. The majority of these areas are very steep (> 40 degree) (**District Profile Darchula, 2008**).

2.2 CLIMATE

The climate in the greater Kailash landscape is primarily governed by the monsoon in the southern part (Greater and Lesser Himalayan Zones), by the rain shadow zone (cold desert conditions) over the crest of the Himalayas (Trans-Himalayan zone), and by continental and Central Asian climatic influences on the Tibetan Plateau (**Zomer and Oli, 2011)**. Due to variations in altitude and topography, the climate of the region varies widely from subtropical to temperate, alpine, and cold high altitude desert types.

In the Southern Himalayas, The average temperature is around 18°C with minimum temperatures of 7°C, and average rainfall in excess of 2,100 mm .Temperature and rainfall patterns of the southern Himalayan ranges are tropical to subtropical up to 2,000 masl; and temperate up to above 3,000masl (Ibid). In these locations an increase in minimum temperatures has been recorded since the 1970s (**Zomer and Oli, 2011**). As the average altitude of the KSL China portion is more than 4,500 masl and the minimum altitude of this region of the Tibetan Plateau is above 3,600 masl, the climate there is cold and arid, with an average of only 200 mm of precipitation annually.

The climate of the ANCA is diverse due to variation in altitude and topography. Sub-tropical climate is more prevalent in south-eastern part and along the valleys of ANCA while temperate and alpine climate types are more dominant in the middle mountains and high Himalayas. In line with this, subtropical climate types found in southern part of Latinath, Tapoban, Sipti, Khar and Kante VDCs whereas temperate to alpine climate types occur in VDCs such as Byas, Rapla, Ghusa and Khandeswori situated at higher altitude (ANCA Mgt. plan, 2010-2014). Average annual minimum and maximum temperature in the region is recorded to be 13.69 ºC (**Figure 2a)**and 27.78 ºC(**Figure 2b)** respectively with the lowest monthly average minimum temperature recorded in December, January and February (**Figure 3a)**and highest monthly average maximum temperature recorded in May, June and July(**Figure 3b)**.



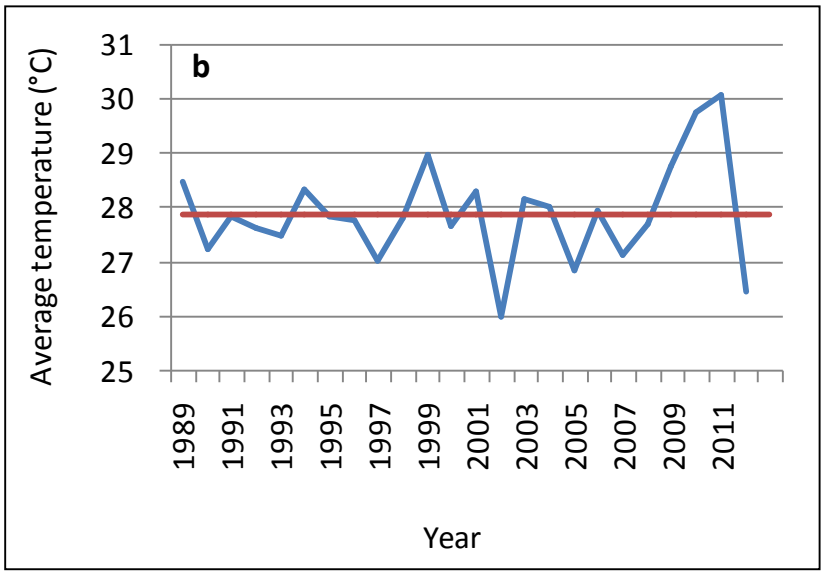
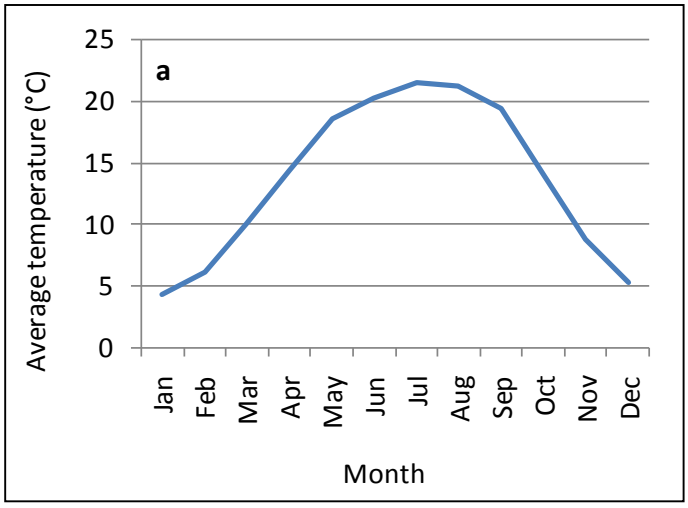


Figure 2. Average annual minimum (2a) and maximum temperature (2b) calculated over 25 years (1989-2013) (Source: DHM, 2014)



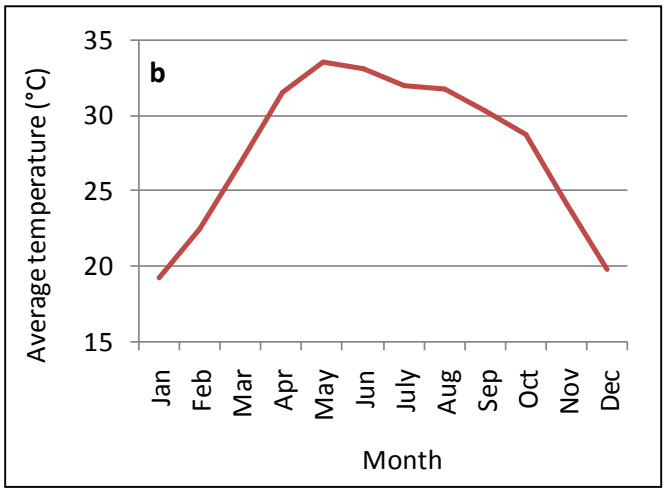
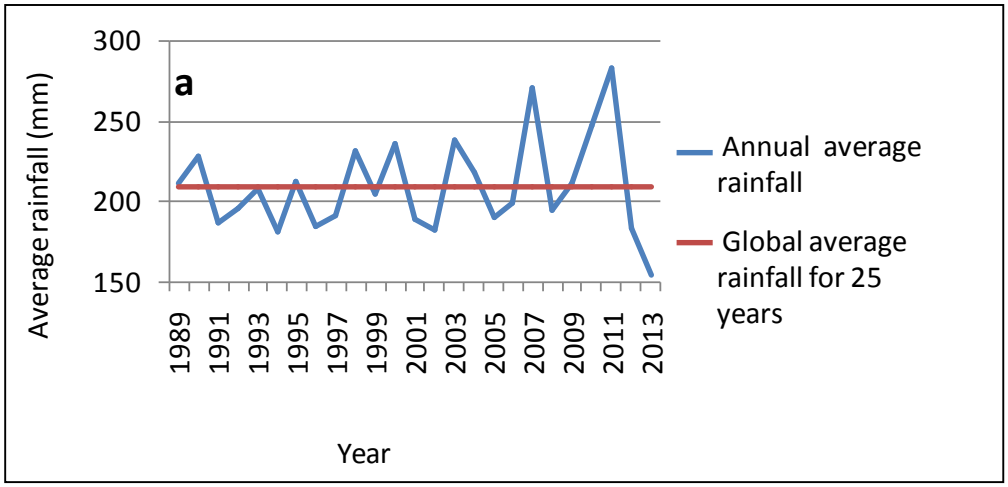


Figure 3. Average monthly minimum (3a) and maximum (3b) temperature calculated over 25 years (1989-2013) (Source: DHM, 2014)

The average annual precipitation was recorded to be 209.4 mm (**Figure 4a)** with highest rainfall in the months of July and August and the least from November to April (**Figure 4b).** Details of climate data are presented in **Annex-1.**



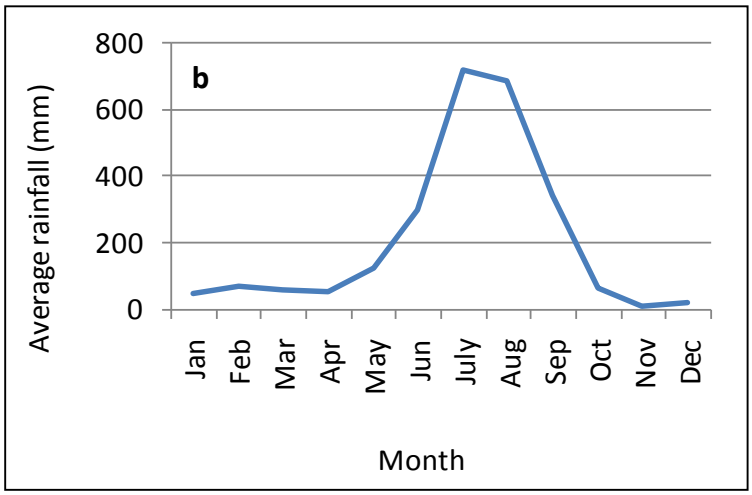


Figure 4. Average annual (4a) and average monthly rainfall (4b) calculated over 25 years (1989-2013) (Source: DHM, 2014)

2.3 WATER RESOURCES

Mahakali and Chameliya are the two major river systems in ANCA. These rivers are snow fed and perennial in nature. Other rivers found in the areas are Tinker, Nampa, Api, Gomti, Tampak, Kalju, Dumling, Nijanga, Rankal, Phatgad, Riting, Tusarpani, Kala Gad, Lasku, Naugad, Chumchume, Cheti, Makari and Jude. Moreover, Glaciers are also found in higher altitude of Khandeshwori, Ghusa, Rapla and Byash VDCs (**Figure 5**).

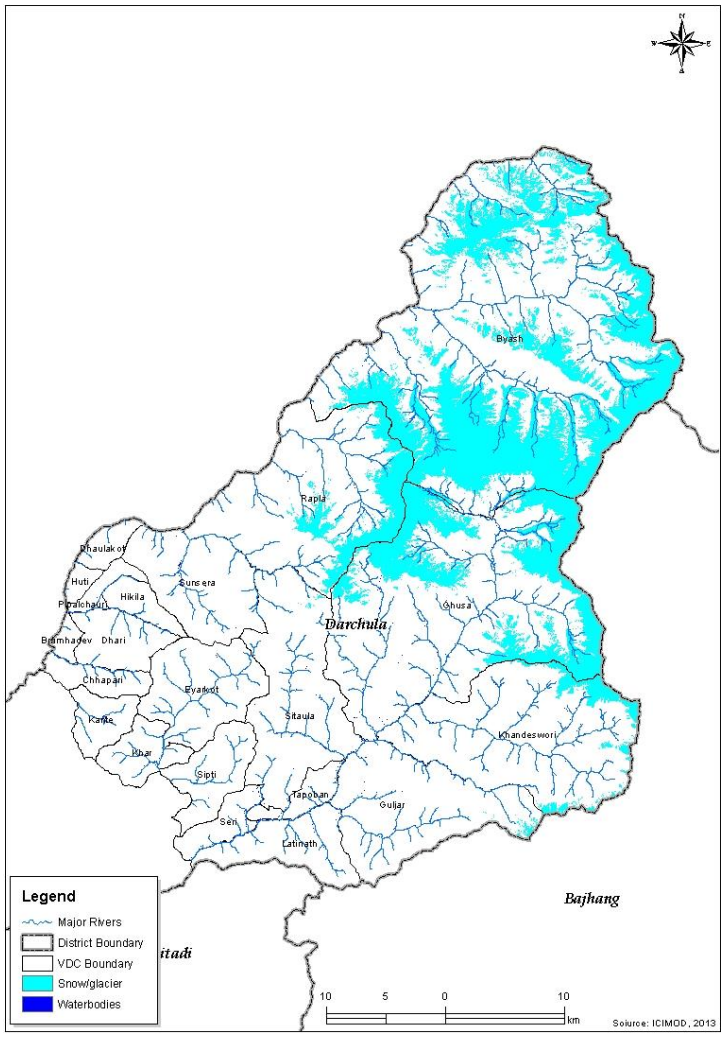


Figure 5. Snow/glaciers/water bodies of ANCA (Source: ICIMOD, 2013)

These Perennial Rivers and glaciers are reliable source of water for hydropower projects and irrigations. Chamelia is 30 MW power project currently under construction. Similarly, Pancheshor dam is proposed at the confluence of Mahakali and Sarju River situated at the border of Nepal and India. This will one of the highest dams which would have significant ecological, cultural and spiritual of the locality (Everard and Kataria, 2010). Till now, there are 24 micro-hydro powers which generate about 432.9 KW of electricity benefiting 4,701 households (**Annex-2**).

2.4 LAND COVER

Out of the total area of ANCA, forest (33%) occupies the largest area followed by alpine meadow (22.96%), snow/glacier (19.73%), scrubland (9.38%), agriculture (8.48%), hillside grassland (5.80%), barren area (0.39%), waterbodies (0.14%) and the least by built-up areas (0.04%)(**Figure 6, Annex-3)**.

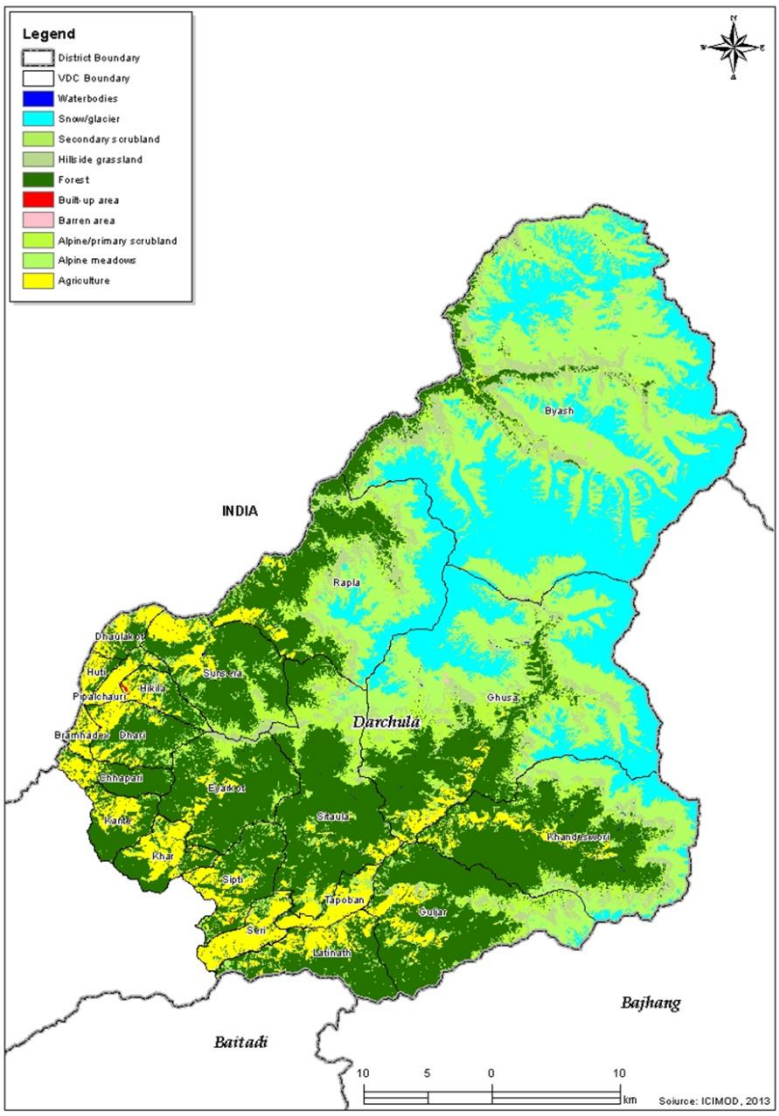


Figure 6. Land cover of ANCA (Source: ICIMOD, 2013)

2.5 DEMOGRAPHIC AND SOCIO-ECONOMIC CONDITION

2.5.1 POPULATION

The total population of 21 VDCs that lies in ANCA is about 59,609, of which the proportion of female (52%) is slightly more than the male (48%). The population density is consistent with the national trend where northern VDC (Byas) comprised of sparse density while southern VDCs at lower altitude are densely populated (Guljar, Latinath, Sipti, Khar and Dhari VDC)(**Figure 7**).

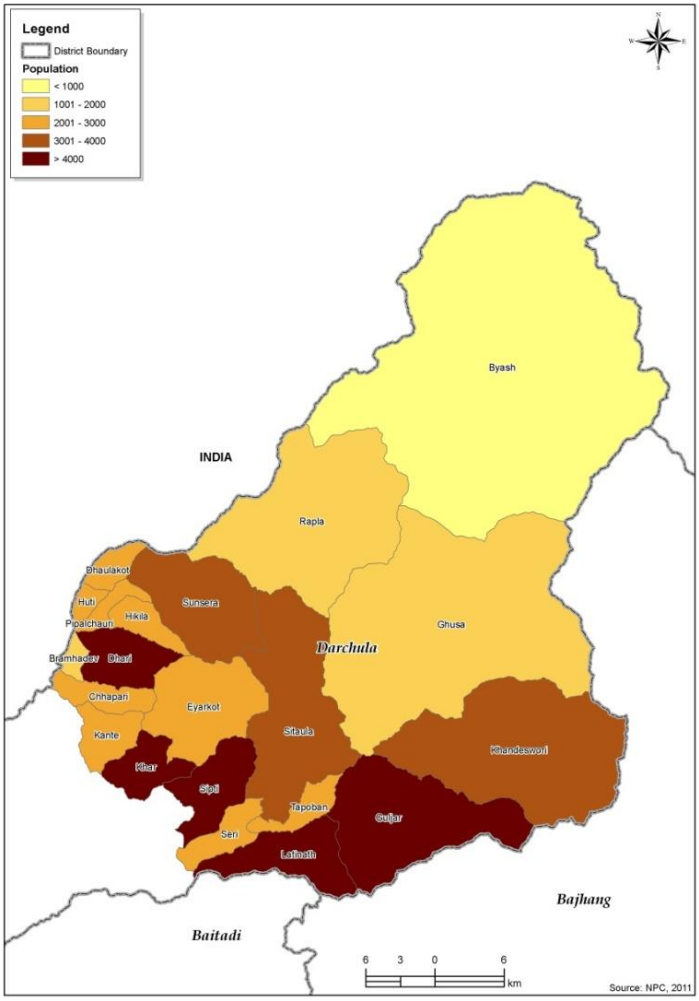


Figure 7. Population density in ANCA (Source: NPC, 2011)

2.5.2 ETHNIC GROUPS AND RELIGIONS

Out of the total population in ANCA, Chhetri (63.0%) occupy the highest proportion followed by Brahmin (17.32%), Dalit (11.85%), others (6.59%) and the indigenous group Byasi Sauka (1.25%-see box). Hinduism (98.2%) is the major religion followed by Buddhism (1.8%)(District Profile Darchula, 2008).

Box 1: Byasi Sauka

People living at the base of Byas Himalaya (6,670 msl) is called Byasi Sauka. It is believed that Saint Ved Byas used to meditate (*tapasya*) here. Byasi Sauka people are also known as *Rang*. Byasi Sauka has own dialect which is on the verge of extinction. They are very rich in terms of cultural heritages, traditional norms and local festivals. The traditional dress of women is called *Chyungwala* while that of men called *Ranga Be Thulbu*. They are Bon-po (Pre-Buddhist). *Gabla* is the major festival of Byasi Sauka. They have been living in Chharung and Tinker of Byas VDC, in addition to Shitola and Rapla VDC. During cold harsh season in winter, they migrate to Khalanga, district headquarters of Darchula and urban centers. They return to villages after winter. In recent years, Yarsagumba has become a major source of income. The population of *Byasi Sauka* is 2,103 (NPC, 2001). They are the known for trade and business. In addition, Byasi Sauka is known for hospitality.

2.5.3 MAJOR OCCUPATION

Agriculture is the major occupation where nearly third (32.6%) population is involved. Likewise, livestock is the second major occupation with neary 8 %. Agriculture is of subsistence type merly adequate for couple of months. The proportion of female engaged in agriculture and livestock is higher **Table 1.** It implies that women's contribution to agriculture and livestock is higher than men.

The local community brings the leaf litter and fodders from community forests. In the upper regions, rotational grazing system still exists that uses winter and summer pasture depending on season. Besides agriculture and livestock rearing, majority of households now generate cash income by collecting Yarsa Gumba in June –July (1.5-2 months). The entire family member engage in collecting yarsa and average income has been around NPR 150,000-350,000 (hh/season). Recently, there is a growing interest of NTFPs/MAPs in private and community land as village road is expanding. Similarly, there is long tradition of seasonal migration to India

for wage labor. There are about five agriculture based small cottage industries and seven other industries.

Table 1. Major occupation of local population (District Profile Darchula, 2008)

Occupation	Proportion of Male (%)	Proportion of Female (%)
Agriculture	32.61	39.86
Livestock farming	7.59	15.56
Bee keeping	0.45	0.82
Forest based	0.24	0.52
Mines	0.02	0.00
Productive industry	0.18	0.06
Construction	0.14	0.01
Electricity and water	0.34	0.29
Business	0.32	0.08
Transportation and communication	0.13	0.04
Investment business	0.04	0.01
Community service	0.58	0.11
Total	**42.64**	**57.36**

2.5.4 POVERTY SITUATION

Nepal Living Standard Survey III (NLSS III) establishes that an individual in Nepal is considered poor if his/her per capita total annual consumption is below NPR 19,261. This is very strict categorization which may not be applicable to certain context. The study team is well aware that in rural communities, income only cannot reflect the true poverty situation as access on natural resources, social capital, land holding and availability of micro-finance institutions in the community also greatly matter. The study team thus analyzed the food sufficiency months by own production to measure poverty. The basic premise is that foods item constitutes the basic needs and reasonablyreflect the poverty situation. The report also explains how deficient households supplements deficit months from other sources.

Of the total households (10,424), only 2.16% of households (HH) are able to produce food sufficient for more than 12 months while majority of HHs falls under insufficient food production (43.97% for 3-6 months, 30.90% less than 3 months and 22.97% 6-12 months) (**FIGURE 8**, **Annex-4)**. Human Development Index (HDI) of Darchula also provides comparative picture of Dharchula and Nepal. Life expectancy of Darchula (56.43 years) is lower than National average (60.98). Similarly, mean years of schooling is 2.73 against national average of

2.75. The per capita income is 216 US $ against national average of 240. The details are presented in **Annex-5.**

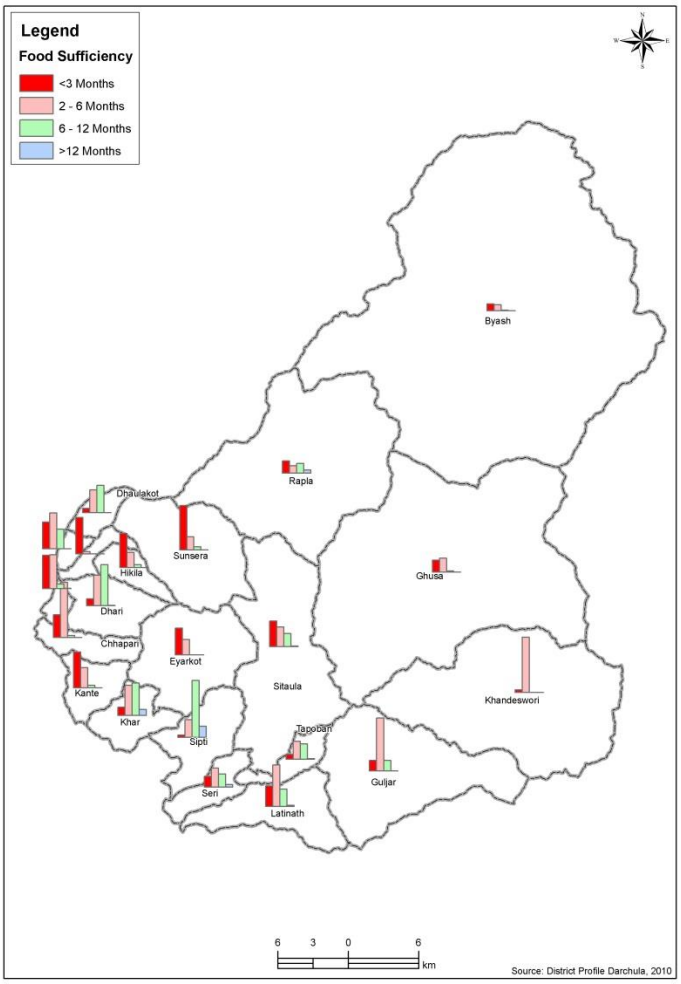


Figure 8. Food sufficiency months (Source: District Profile, Darchula, 2010)

2.5.5 STAKEHOLDER ANALYSIS

The study team conducted a stakeholder analysis during a field visit. The interests/ concerns of southern VDCs and northern VDCs are quite different. Southern VDCs are more interested in receiving supports in plantation of fruit, NTFPs, cash crops and off farm income generation activities. They opine that they should have an access on high alpine pasture for yarsa gumba collection. On the other hand, stakeholders from Byas, Rapla, Khandeswori and Ghusa (northern VDCs) are more interested in regulating the pasturelands for wild animals, livestock and yarsa gumba. Their worry is that chimal tree were cut for fuel wood for collectors and alpine ecosystemis being altered by large number of collectors coming from outside. Their main demand is proportional share of revenue generated from NTFPs. The possible threat might

emerge if this issue is not resolved. The community willingness for developing tourism is also opportunity.

Youth clubs, local festival committees, women group, local NGOs and village level committee of political parties are active in development activities in communities. There is an opportunities to work with these grass root institutions through ANCA management council, apex women group and community forest user's groups. Strength is the existing appreciation and support for GoN's decision to declare conservation area however; they are concerned on the slow development of conservation and development programs/activities.

2.6. NATURAL RESOURCES

2.6.1 FOREST ECOSYSTEMS

ANCA lies within Himalayan Biodiversity Hotspots due to its diverse array of eco-regions, ecosystem, and biomes where many endangered and endemic species of flora and fauna are inhabited (Conservation International, 2005). Among 200 globally important eco-regions, ANCA represents Western Himalayan temperate Forest, which occurs between 1500-2600m and comprises of verities of oak species (*Quercus semecarpifolia, Q. dilatata, Q. lamellosa* and *Q. incana), Pinus, Abies*, *Picea*, and deodar (*Cedrusdeodara*) species at higher altitude. Major eco-regions which represent unique habitat types in ANCA are listed as follows:

Himalayan subtropical broadleaf forest: This eco-region lies from 500m to 1000 m and extends from east to west. In this eco-region, mostly forest such as subtropical broadleaf hill forests comprising *Sal* (*Shorea robusta*) occurs in the lower altitude while early-successional species such as *Alnus* species occur along the landslide areas and forms mono-specific stands along with *Albizia* species (Zomer and Oli, 2011).

Himalayan subtropical pine forest: Himalayan subtropical pine forest extends between 1000-2000m. The major forest type found in this eco-region is *Pinus roxburghii*.

Western Himalayan temperate/broadleaf forest: This eco-region is one of the 200 globally important eco-regions which lie between 1500-2600m altitudes. The species of Oak (*Quercus semecarpifolia, Q. dilatata, Q. lamellosa* and *Q. incana are)* dominant on the moister southern slopes whereas *Quercus* and *Ilex* species are dominant on the north-facing slopes and along the higher elevations, sometimes mixed with conifers such as *Pinus, Abies*, *Picea*, and *Cedrus* species.

Western Himalayan subalpine conifer forest: Western Himalayan subalpine conifer forest extends from 3,000 to 3,500 m where extensive conifer forest with species such as blue pine, silver fir, Himalyan fir, spruce mixed with oaks are more dominant. Moreover, this eco-region is also very rich in economically valuable NTFPs.

Western Himalayan alpine shrub and meadows: This eco-region extends between 3,000 m and 5,000m altitudes where alpine scrub flora such as dwarf *Rhododendron* species is dominant along with shrubby species *Hippophae tibetana*, *Cotoneaster microphyllus*, and *Juniperus* species whereas herbaceous species such as *Anaphelis* spp., *Aster* spp., *Cyananthus* spp., *Jurinia* spp., *Morina* spp. and *Potentilla* etc. are dominant in alpine meadow.

A total of eight vegetation classes have been identified in ANCA (ICIMOD, 2013) with more than 500 species of flowering plants (ANCA records, 2014). Among them, alpine meadows occupied the largest area (32%), followed by the temperate broadleaved forest (20%), sub-alpine conifer forest (17%), alpine/primary scrubland (9%), sub-tropical broadleaved forest (9%), hill grassland (8%), and secondary scrubland (4%) respectively. The sub-tropical broadleaved forest (mixed broad leaved Sal forest) covered the least area (**Figure9, Annex-6)**. Major floral and faunal species found in ANCA is given in **Annex-7.**

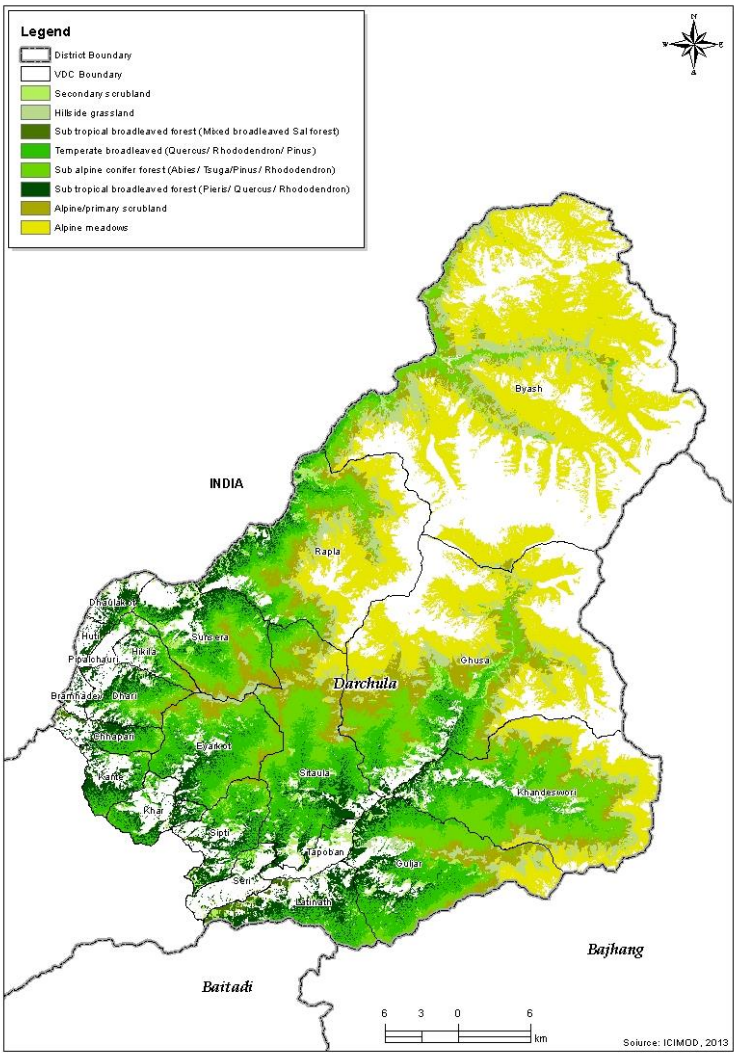


Figure 9.Spatial distribution of vegetation types (Source: ICIMOD, 2013)

These vegetation types also include high valued Non Timber Forest Products such as Yarsa Gumba (**Figure 10*a***), Jatamansi, Sugandhawal, Chimal (**Figure 10*b***), Chiuree (*Diploknema butyraceae*), Lauth Salla (*Taxus baccatta*), Panch Aule, Bojho, Chiraito, Guchii chyau, Kutki, and Pakhan ved. According to Feasibility Report of KSL (2010), a total of 83 species for NTFPs are recorded from Darchula District, of which 73 species are used as ethnomedicine. Lists of high valued NTFPs and MAPs are given in **Annex-8.**Export details of NTFP from ANCA in 2013/14 have been presented in **Annex-9**. Sustainable use of these high valuedNTFP is challenging.

Figure 10. Destruction of Chimal tree, Byas alpine (a) and Yarsa Gumba (b) (GGN/Narendra Gautam)

2.6.2 ANCA MANAGEMENT SYSTEM AND STATUS OF COMMUNITY FORESTS

ANCA management system is governed by bottom up approach where 23 members ANCA Interim council already formed under the chair of Mr. Lalit Bohara, a residence of Byas VDC. Based on Conservation Area Management Rules-Government Managed 2011),a total of 25 VDC level ANCA Conservation Committees, 189 Ward Level Committees and 189 Women groups has been proposed to form at local level. Till now, a total of 6 VDCs level committees in five VDC and 180 Ward Level Committees have already been formed in 20 VDCs of ANCA. However, the ward level committees still need to be formed in Byas VDC.

94 community forests were handed over to user groups in ANCA except in Seri and Tapoban VDC (**Figure 11**). All of these community forests were handed over by District forest office before 2010, however, currently tenure ship of this community forests are under the jurisdiction of ANCA. Most of these community forests operation plans were already expired and needs to be renewed. Recently, a total of 39 conservation community forests were renewed and handed over to community forest user groups while other 10 CF are under renewal process. The total area covered by these community forests is 15,064 ha which benefits 8,095 HHs or 51,839 populations. The size of the forest greatly varies from 2.34 ha of Jugepani, Khar-7 to 2,805 ha of Hikela-1 and 7 to 5,698 ha of Dhumling, Rapla 7, 8 and 9. Detail lists of community forests are given in **Annex-10.**

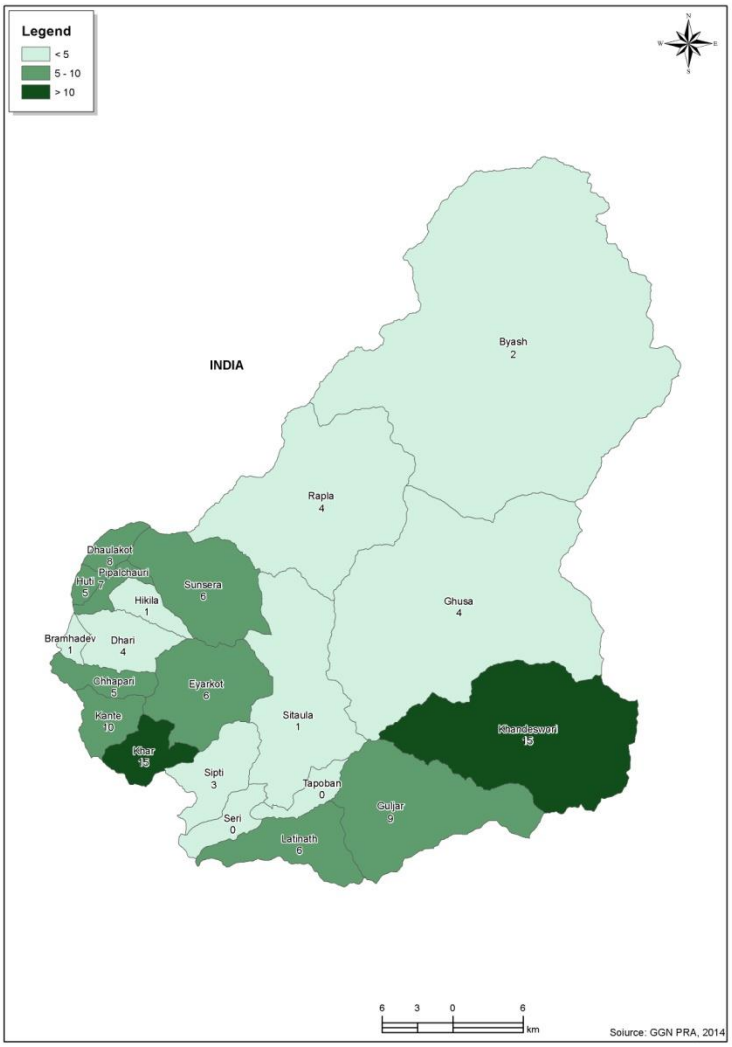


Figure 11. Status of Community forest in ANCA (Source: Field survey 2014)

Major forest types in these community forests are Himalayan subtropical broadleaf forest, Himalayan subtropical pine forest, Western Himalayan temperate/broadleaf forest, Western Himalayan subalpine conifer forest and Western Himalayan alpine shrub and meadows. A typical subtropical broad leaf forest found in Southern most part of ANCA is presented in **Figure 12**.

Figure 12. A subtropical pine and broad leaf forest (GGN/ Narendra Gautam and Roshan Sherchan)

The great variation in size is attributed by the altitude. There is a further demand for community forests from local people and currently 16 community forests are yet to be handed over to local community (per comm. with Ranger).

2.6.3 FAUNAL DIVERSITY

ANCA is home to many globally and regionally threatened species of mammals and bird species such as snow leopard (*Panthera uncia*), musk deer (*Moschus moschiferous*) and cheer pheasants (*Catreus wallichii*). Earlier study reported occurrence of Clouded leopard (*Neofelis nebulosa*) and Red panda (*Ailurus fulgens*), however, study team did not confirm their presence. Other ecologically important mammalian species recorded in ANCA are Himalyan black bear (*Ursus thhibetanus),* common leopard (*Panthera pardus*), Grey wolf (*Canis lupus*),jackal (*Canis aureus),* barking deer (*Muntiacus muntkaj),* blue sheep (*Pseudois nayaur*), Rhesus (*Macaca mulata),* Langur monkey (*Semnopithecus entellus),* porcupine (*Hystrix indica),* Himalayan thar (*Hemitragus jemlahicus*), Serow (*Capricornis sumatraensis*), Goral (*Nemorhaedus goral*) etc (**See annex-7 for details**) .

Wildlife crime, human wildlife conflict, habitat loss/fragmentation, over harvesting of NTFPs, excessive grazing, deforestion, encroachment and forest fires are key threats for conservation of biodiversity in ANCA.

ANCA (denoted by A in **Figure 13**) represents part of snow leopard conservation complex 1 (western). Other PAs in the western complex are Khatpad NP, Rara NP, Shey Phoksundo NP and Dhorpatan HR (**Figure 13**). Western complex is estimated to have a highest density of snow leopards with 3.2/100 km^2 (NSLCAP, Revised 2012) and for this reason, conservation of snow leopard habitat and functional connectivity in ANCA is crucially important.

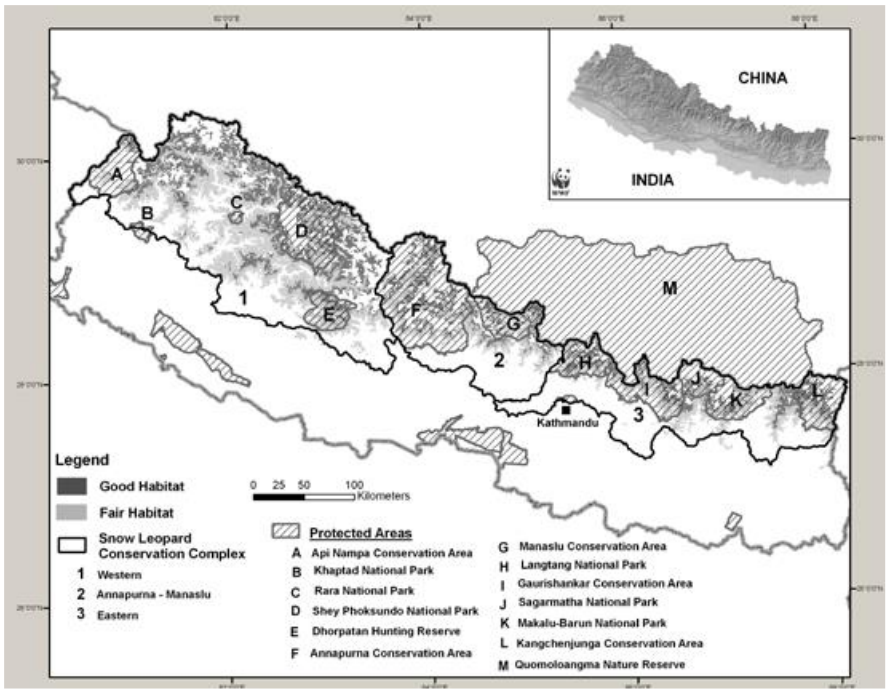


Figure 13: Snow leopard conservation complexes in Nepal (Source: SLCAP, 2012)

There is dearth of data on snow leopard ecology and their prey species in ANCA. However, recently scats of snow leopards were collected in Tinker area of Byas VDC to estimate the population density. Based on literature survey and field observation, the study team mapped suitable habitat for snow leopard and musk deer.

Snow leopard mostly occurs between 3000-5400 meter altitudes across the Nepal Himalaya (**Jackson and Ahlborn, 1990**). Snow leopard prefers cliff with broken terrain, rocky outcrops and ravines where vegetation is sparse. In the Nepal Himalaya, snow leopards occur in three distinct habitat blocks, separated by large forested barriers (snow leopards are thought to avoid forested habitats) or high mountain glaciers and peaks that challenge the physiological limits of snow leopard **(**SLCAP, revised 2012**)**. A recent presence/absence survey of snow leopard in Byas VDC collected 32 scats (4 scats/transect) from 3,412-4,150 m altitudinal range. Majority of these scats/signs were found in grassland habitat (50%), followed by barren land (38%) and the forest (13%). Approximately 81,196 ha of area are identified as a suitable habitat for snow leopard (**Figure**) (WWF, 2014).

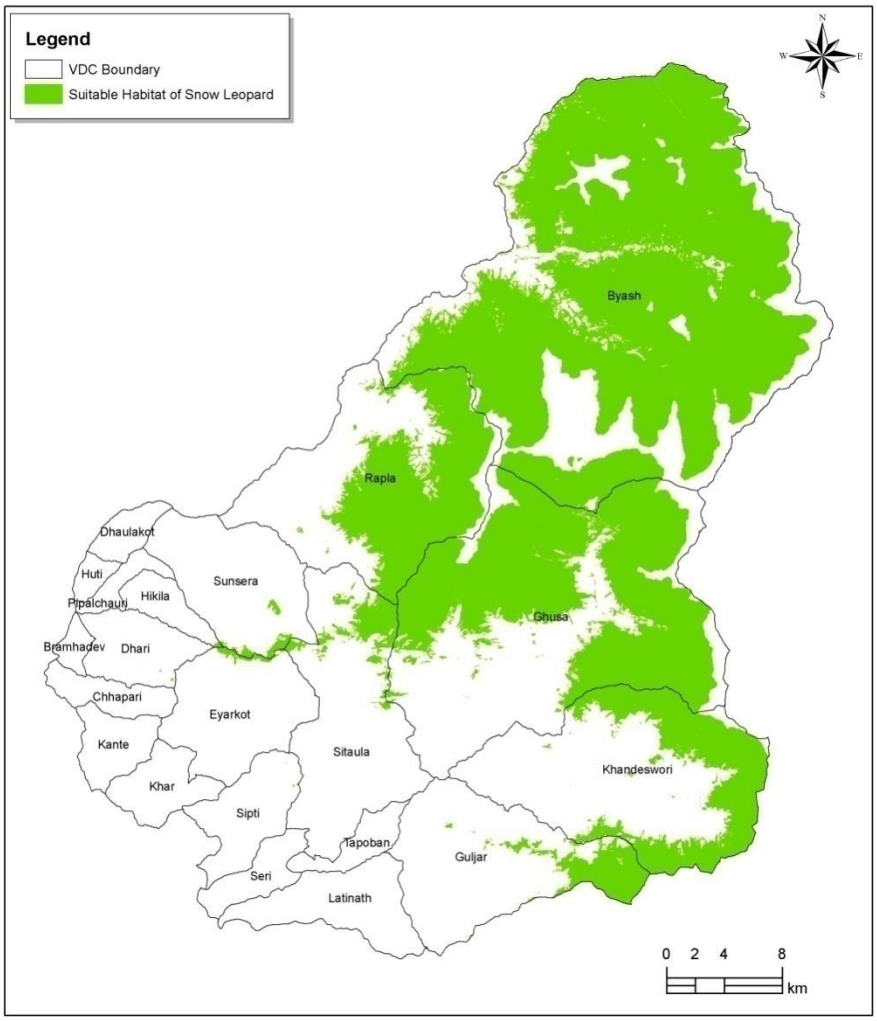


Figure 14.Suitable habitat of snow leopard in ANCA (Source: Field Survey, 2014)

The Musk Deer occurs in alpine forest and scrub and is widely distributed along the Himalayas at elevations of 2,200 to 4,300 m. It is found on barren plateaus, meadows, fell-fields, shrub lands or fir forests and feeding mainly on grasses, shrubs, leaves, moss, lichens, shoots and twigs **(Jnawali et al. 2011)**. In ANCA, the suitable habitat for musk deer is estimated to be 68,041 ha distributed over different habitat types (**Figure**).

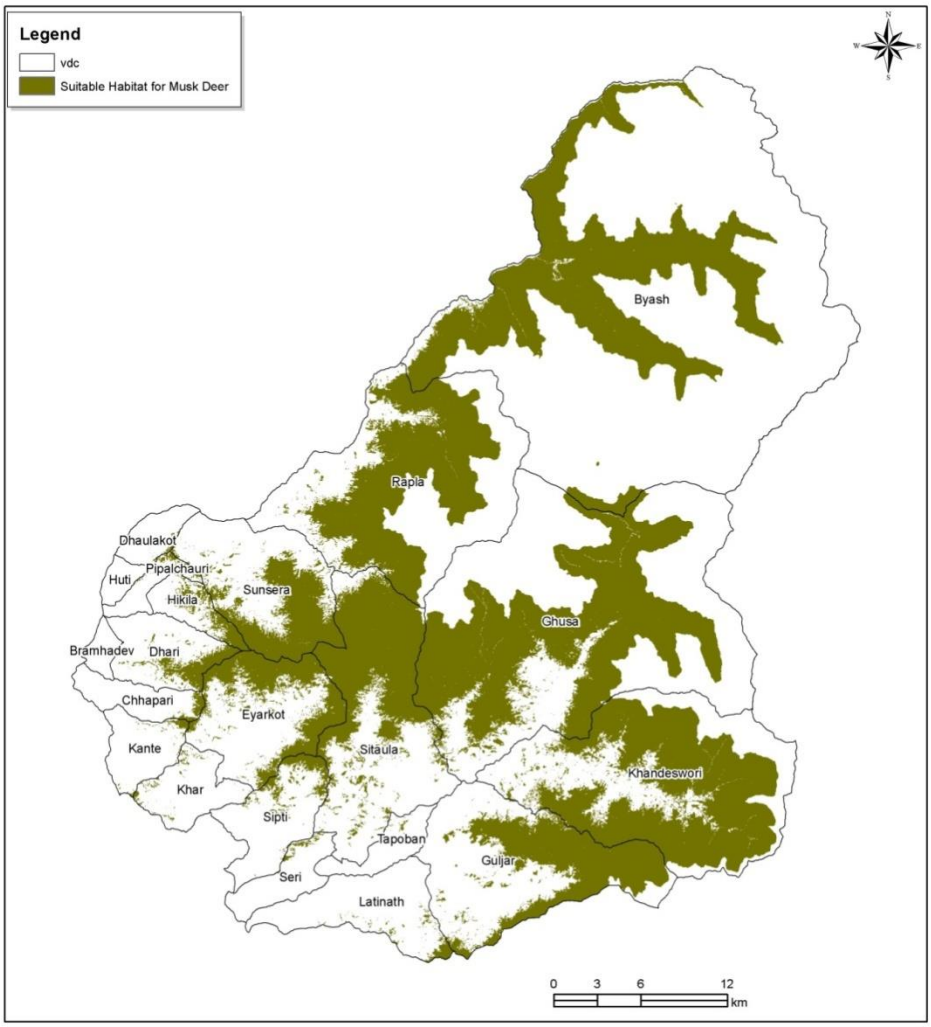


Figure 15. Suitable habitat of Musk deer in ANCA (Source: Field Survey, 2014)

2.6.4 Human Wildlife Conflicts

Livestock depredation and crop damage have been observed in ANCA. Snow leopard is reported to kill yak/chauri and jhopa in sub-alpine and alpine meadows while wild dogs are main predators of sheep and goats in rangeland (

Table 2). Himalayan Black Bears, Wild Boars and Porcupines are responsible for raiding crops (**Karki, 2014**). Local people have adopted traditional mitigation measuressuch as guarding crops/livestock and fencing to reduce human wildlife conflictbut with limited success.

Table 2. Habitat types of wild animals causing conflict (Source: Karki, 2014)

Wild animals	Habitat types
Snow leopard	Rangelands, Sub-alpine and alpine meadows
Himalayan Black Bear	Rangelands, Sub-alpine and alpine meadows, Temperate forest
Wild Boars	Crop fields
Wild Dog	Rangelands
Wolf	Rangelands
Porcupine	Crop fields
Rhesus Macaque	Crop field and fruit orchards
Jackal	Community forests of temperate region
Common Leopard	Hill Sal forest, Pine forest, Shrub land

Avian species

About 250 avian species are recorded in ANCA (ANCA Office, 2014). The common species found in the region are Danphe (*Lophophorus impejanus)*, Monal (*Tragopan satyra)*, Kalij (*Lophura leucomelanos*)different species of vulture species, eagles, jungle fowl (*Gallus gallus*) and different species of babblers, buntings and wabblers (**Zomer and Oli, 2011**).

Fish species

ANCA is also rich in fish diversity. The common species recorded in the region are, Asela (*Schisothorax spp.),* Mahseer *(Tor spp.), Garra and Labeo spp., Pseudoechinus spp., Glypothorax spp., Barilius spp. and Puntius spp. (***Zomer and Oli, 2011***).*

2.7 RURAL DEVELOPMENT

2.7.1 ROAD NETWORK

In ANCA, all roads are seasonal. As of now, about 72km. of seasonal road has been existed along with about 44 km of Deuthala-Khalanga village road. Most of the people in and around ANCA frequently use foot trail for their movement, of which the most important ones are: Khalanga-Gokule (51 km), Gokule-Latinath (35 km) and Khalanga-Tinker (80 km) (**Figure 16; District Profile, Darchula, 2009**).

Figure 16.Foottrail: the most dominant mode of access in ANCA (GGN/Roshan Sherchan)

Mules, sheep and yak are the primary means of transportation in northern Darchula. In addition, about 125 kilometer long Darchula-Tinker Road has been under construction since last few years which is planned to be completed by 2018. This road passes through Chhapari, Dhari, Hikila, Pipalchauri, Huti, Dhaulakot, Sunsera, Rapla and Byas VDCs of ANCA (**Tiwari, 2013**). Therefore, in terms of road networks, these areas are poorly developed.

2.7.2 Status of School Infrastructure

There are 107 primary schools, 14 lower secondary schools, 19 secondary schools and only 7 higher secondary schools in ANCA (**Table 3**). There is no university (above high secondary). Therefore, students living in this area have gone or will have to go to urban centers for higher education.

Table 3.Lists of schools in ANCA (Source: District Profile Darchula, 2010)

S.N	VDC	Level of Education			
		Primary	Lower Secondary	Secondary	Higher Secondary
1	Seri	4		1	
2	Tapoban	4		1	
3	Latinath	9	1	1	1
4	Guljar	7	1	1	
5	Khandeswari	5	1	1	
6	Ghusha	3		1	
7	Sitaula	10		1	
8	Sipti	4	1	1	1
9	Eyarkot	7	1	1	

10	Khar	6		2	
11	Kante	6	2	1	
12	Chhapari	6		1	
13	Bramhadev	2	1	1	1
14	Dhari	5	1	1	
15	Hikila	3		1	1
16	Pipalchauri	4	1		
17	Huti	6	1	1	1
18	Dhaulakot	5		1	
19	Sunsera	6	1	1	
20	Rapla	4	1		
21	Byash	1	1		
	Total	**107**	**14**	**19**	**5**

2.7.3 HEALTH

The state of health infrastructure in ANCA is poor as there is only one hospital in Khalanga. Therefore, there is accessibility issue for better health facility for people living in the rural areas. Moreover, this hospital has limited capacity in terms of number of bed (only 15) and health professionals (out of two resident doctor, only one is residing in the hospital), therefore, the ratio of number of doctors compared to population is not sufficient. There are about 11 health posts, one primary health care center and 29 sub-health posts. Child mortality rate per 1000 is estimated to be 62. Based on house hold survey in 2008, about 1,893 children were born in the region while 119 child of less than one year was dead per year. Sadly, mortality of mother per year was estimated to be 63 (**District profile, Darchula 2009**).

Though there is lack of information specifically on prevalence of diseases in VDCs of ANCA, a high incidence of diarrhea, malaria and HIV positive cases were recorded in Darchula districts (**Zomer and Oli, 2011**).

2.7.4 DRINKING WATER SUPPLY AND SANITATION

The situation of drinking water seems to be satisfactorily distributedin ANCA. Among 21 VDCs, about 1,953 public water taps have been benefiting 9,711 households. In addition to public water taps, 258 individual households have access on private water taps (**Annex-11**). However, sanitation situation is very poor as it is well indicated that only 19.5 % household have own permanent toilet. Remaining 79.5 % still use the open toilet. Poor access to sanitation has been resulted in to high incidences of diarrhea and malaria as reported by KSL feasibility report. Now

District Development Committee has initiated Open Defecation Free Zone campaign by allocating its resources and mobilizing local communities, local NGOs, political party representatives and CBOs.

2.7.5 HERITAGE/CULTURALTOURISM

ANCA has great potential of eco-tourism as it harbors unique natural and cultural diversity. As the gateway to the holy Kailash Mansarovar, ANCA comprised not only world's three > 5,000 m high mountains peaks namely Api, Nampa and Byas but also it contains rich cultures, and many sacred religious sites. (**Figure**). In addition, this region is also inhabited by *Byasi Shauka*, an ethnic group famous for hospitality. Therefore, tourism in ANCA holds great potential to contribute to sustainable livelihood of the people. However, there is a serious lack of sustainable tourism plan, strong institutions and basic physical infrastructures.

Local festival is a key to heritage tourism in ANCA. Surama Bhawani festival (*Jatra*), Cheetti and Ghanjir is major festival which is celebrated during Janai purnima. Similarly, Mahadev Jatra and Bishu Parva are other popular festivals in Ghusa where people gather at Ghusa-4, Mahadev Mandap. In addition, Dhami Jhakri (shamanism) dance is a regular attraction. Bishu Parva of Ghuljar is perhaps the most popular among all, which is celebrated in first day of Baishak. Not only festivals but lakes are also considered sacred sites such as Bayal lake, Kalidunga lakeand Khatti lake etc.

A spectacular view of mountain can be seen from Khatti view point of Khandeswori. This is an elevated land overlooking Khandeswori village and appropriate place for developing community based camping sites/hotels/lodges. The study team also indentified a possibility of home stay tourism in Latinath-7, Bajhani (35-40 HHs); Tapoban-8, Dhankanne (109 HHs) and Latinath -4, Matela (80 HHs). The attractions of Bajhani are Api peak and Chamelia watershed while from Dhankanne, one can see Api peak, Bajura district and Pithauragadh of India. Three routes, given below, that lead to Seri-7, Binayak are potential routes for trekking tourism:

Route 1 Uparigad-Sinti-Nimtha (view tower)-Seri-7, Binayak
Route 2 Bitale-Seri-4, Seri-3, Seri-5, Seri-7, Binayak
Route 3 Seri 1 –Seri 8, Seri-7, Binayak

Figure 17. Poor access in ANCA and unique culture in Khandeswori (GGN/ Narendra Gautam & Roshan Sherchan)

Similarly, Tiwari, 2013 also listed three potential trekking routes which need to be developed to maximize the tourism benefits.

- *Trekking route 1 - Khalanga–Rapla–Byas trekking route:* This could be a 5-6 day trekking that passes through beautiful mountain forest areas, enables sighting of beautiful mountain picks, visit of religious spiritual and heritage sites e.g. Brahma Daha (pristine lake in inner mountains), Mrityu binayak, Sidhha topi, Rani kotta. It also crosses through natural hot water spring at Gotu. The final destination in Byas provides opportunity to meet the Shauka community in Byas and learn their culture, religion and traditions. One could head to Kailash Mansarovar from Byas for pilgrimage;

- *Trekking route 2 - Brahmadev–Huti religious pilgrimage trekking:* This is a relative short (half day) trekking route to Latinath and Brahmadev temples and religious sites. It originates from Shri bagar on the road to Tinker to meet it again at Huti Service Center.

- *Trekking route 3 – Hikila-Thaisain-Brahmadaha:* This is estimated to be a 2-day trekking route leading to Brahma daha and Pansa daha (natural lakes with scenic mountain peaks in the background). Visitors may opt to head towards Byas from Thaisain and may go to Kailash Mansarovar.

2.8 Natural Disasters

Changing climate is becoming increasingly evident across this region. For instance, in Kailash Sacred Landscape-Nepal, the average annual temperature has increased at a rate of 0.06ºC per year from 1975 to 2006 (Zomer et al. 2013). Similarly, Western Himalayan broad leaved forest and Western Himalayan subalpine conifer forest eco-region has been experiencing substantial

increased temperature (Shrestha et al. 2012). The changing climate has consequences such as fast glacier melting, drying of wetlands, and changes in precipitation, which may affect distribution and phenology of flora and agricultural crops. It may also influence frequency of natural disaster such as landslides, river cutting, prolonged drought, forest fire etc.

For example, people in Tinkar reported changes in cropping calendar over the decades: "in the earlier times, naked barley and naphal (a local variety of wheat) sown after the first of Baisakh (mid-April) would not mature until harvesting time in October. However, now these crops can be planted as late as the first week of Jestha (mid-May), almost one month later, and mature for harvesting at the same time" (Zommer et al. 2013).

The projected impact of climate change in KSL predicts that all the climatic zones in KSL will be upward shift from 285m to over 600m except the highest elevation zone 'extremely cold and moist'. As a consequence, all the vegetation type zones are also predicted to upward shift almost 400m on an average (**Zomer et al. 2013**). For example, tropical broadleaf forest is predicted to increase from less than 450 km^2 to over 2,000 km^2, similarly, the extent of upper alpine meadow, alpine shrub and meadow classes are substantially predicted to increase. However, the West Tibetan Plateau alpine steppe will drastically reduces from over 3,100 km^2 to a mere 163 km^2in 2050 while several zones will disappear almost completely: for instance it is predicted that by 2050, subtropical pine/mixed forest class will remain only 2 % of the area in the region (Zomer et al. 2013).

Landslides (**Figure 13a)**and river cutting (**Figure 18b)** are the most prevalent natural disaster in ANCA, which may increase due to predicted increase in precipitation with combined effects of vertical terrain, unplanned village road network, sparse vegetation, deforestation and over grazing. Landslides are major phenomena in ward number 2-6 of Khandeshwori. Ghusa is no exception as landslide affected the livelihoods of local communities in Arukhor, Lwanti and Gurukhola. For instance, 8 years ago, out of 29 HHs, 10 HHs were heavily affected and get displaced. Similarly, forest fire is also a natural disaster occasionally observed. In Khandeswori, local people didn't experience forest fire since last two years.

Figure 13. Landslide (a. GGN/Narendra Gautam) and river cutting (b. GGN/Roshan Sherchan) as a livelihood challenge.

2.9 Trans-boundary Cooperation

Regional Program Implementation Plan (2012-2016) clearly outlines the approach of trans-boundary cooperation, its mechanism and outcome indicators for ecosystem management and an enabling policy environment in the region. Establishment of a regional platform for scientific information exchange, policy cross-learning, and a programme steering mechanism; development and implementation of common methodologies for programme components at the landscape level has been visualized. All programmes will be coordinated by ICIMOD with the help of partner institutions within each country. Thematic working groups will be established in respective countries to review existing policies and suggest appropriate amendments for ecosystem management at the landscape level within the Kailash Sacred Landscape.

In addition, a MOU and Joint Resolution have paved a wave for transboundary cooperation with China and India respectively on biodiversity conservation. The trans-boundary cooperation includes collective research and assistance on various areas such as forestry, biodiversity conservation and climate change. Similarly, both parties agreed to promote wildlife conservation by combating poaching and illegal wildlife trades.

CHAPTER 3: MANAGEMENT OF API NAMPA CONSERVATION AREA

VISION

Conserved bio-diversity and improved livelihood of local communities

3.1 NATURAL RESOURCES MANAGEMENT

ANCA Management Plan is an integrated plan at PA level. It covers biodiversity conservation, livelihoods, heritage tourism, physical development, climate change and transboundary cooperation. It also proposes a management structure and governance of PA institutions.It is important to note that ANCA is the only PA in Kailash Sacred Landscape (KSL) – tranaboundary landscape encompassing Nepal, India and China. In addition, the plan is informed by Kailsah Sacred Landscape Regional Conservation Strategy (2010) and KSL Conservation Development Initiative Regional Cooperation Framework (2010). At VDC level, Participatory Natural Resources Management Plan (PNRMP) operates as a sub-set plan while while the management plan identifies and prioritizes the conservation objectives at the PA level.

3.1.1 PASTURELAND/RANGELAND MANAGEMENT

Issues

ANCA is rich in high alpine pasture lands/rangelands, NTFPs/MAPs in upper ridges of Byas, Rapla, Ghusa and Khandeswori. Local people of Byas, Rapla, Ghusa and Khandeswori worry that they may lose traditional right over natural resources. They have demanded to channel back 50% of revenues because they think over 90 % of revenues are being generated from these areas. This is the issue which caused delay in formation of ANCA council and needs to be sorted out as soon as possible. Substantial pressure on high alpine pasture by thousands of Yarsa gumba collector is important issue.

ANCA Office estimated over 25,000 collectors, largely outsiders in these pastures in 7 days monitoring in recent year. It also identifies 13 major alpine pastures in ANCA. Bhatta (2007) went further to list 63 Yarsa gumba sites in six VDCs and estimated annual yield of 899 Kgs (**Figure 19).**

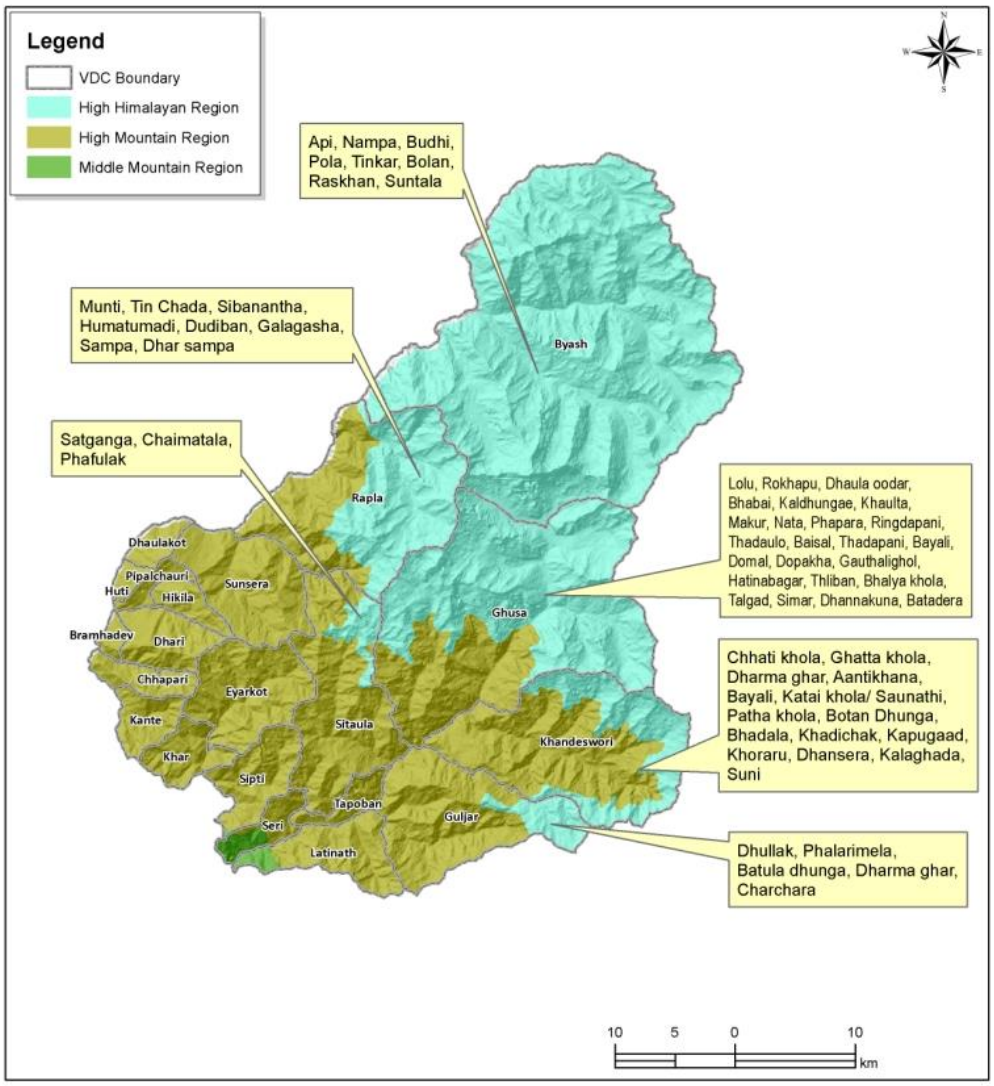


Figure 19: Yarsa gumba sites in ANCA (Source: Bhatta, 2007)

Besides Yarsa gumba, other key NTFPs such as Panch aunle, Rittha, Satuwa and Kutki are mapped out based on their distribution **(Figure20 and Annex 12).**

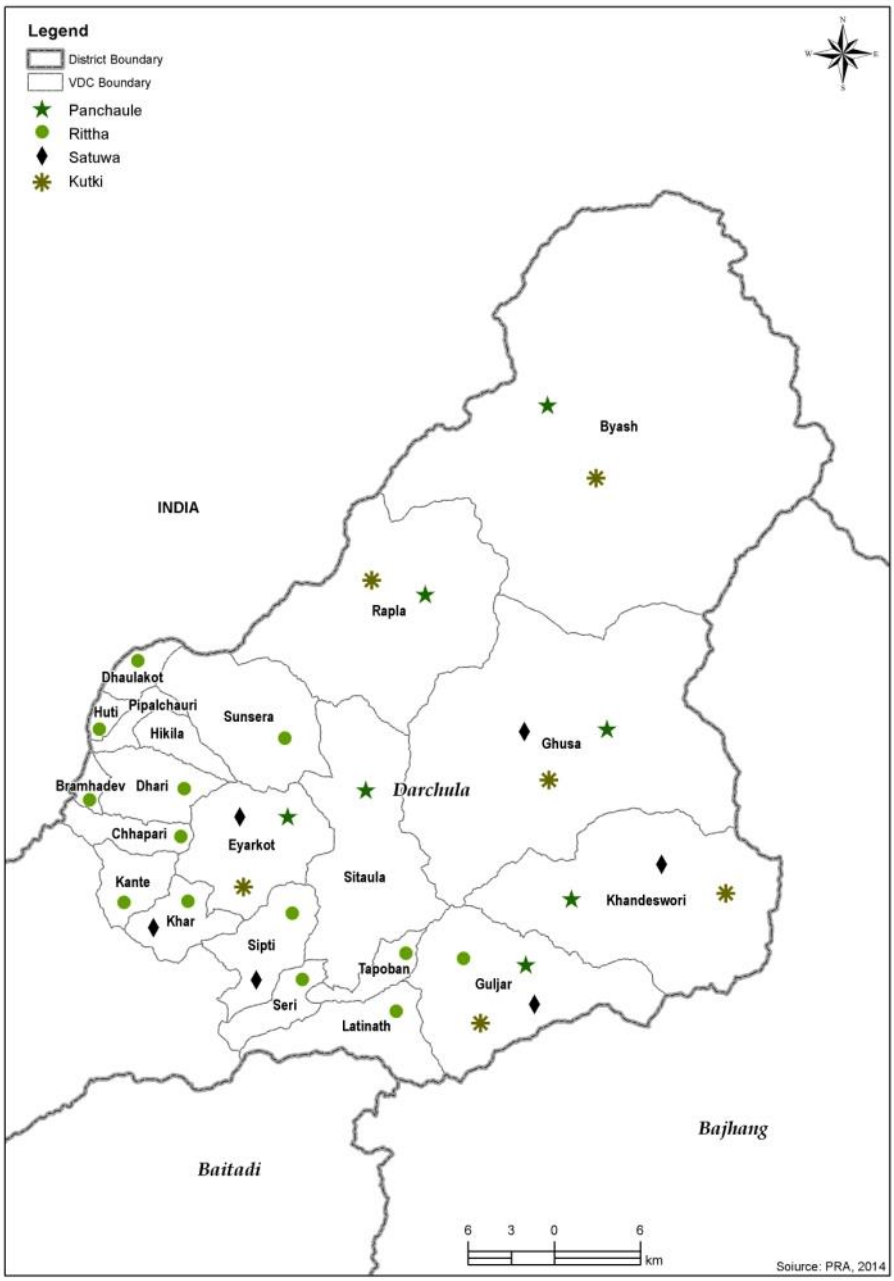


Figure 20: Distribution of key NTFPs in ANCA (Field survey, 2014)

Transhumance livestock practices are a traditional way of livestock husbandry in ANCA. But due to heavy grazing, the quality of grasses/forages is exceedingly degrading.Heavy grazing in the northern and eastern part of Byas and Rapla VDCs were observed. In addition, changing climate impacts the pastureland/grazing land. Lack of trail and bridge, water hole in pastureland is another issue. This puts the particular pastureland under stressed, while others left unused.

The livestock diseases have become a serious threat. This has caused death of many livestock. Moreover, this also poses risk to wild animals which co-habit pasturelands. There is an issue of unavailability of timely veteneiry services. Similarly, Inadequacy of human resources for livestock herding is another issues due to the increased seasonal migration and awareness on children's' education.

Strategy

Regarding NTFP Management, there there will be basically three strategies respectively i) resources inventory ii) sustainable harvesting and iii) equitable benefit sharing.

Permissible quantity of Yarsa gumba, Chiraito, Gucchi Chau, Satuwa, Ban Lasun, Chau, Timur, Rittha, Dal chini bark, Kala dana, Kutki, Pakhan Bedh, Jata masi, Sugandawal, Tej Pat and Allo can be taken as the quantity mentioned in Annex-9 for year 2015 and 2016. From 2017, the quantity of harvest should be based on the resource inventory/subsector plans.

Resource inventory and preparation of sub-sector plans for NTFPs i) Yarsa gumba ii) Panch aule iii) Rithha iv) Satuwa and v) Kutki will be done. Other strategies related with pastureland are i) assessment of quality of pastureland/grazing land for restoration ii) rangeland infrastructure and iii) coordination with District Agriculture and Livestock Development Officefor arranging timely veteneiry services. ANCA office will provide subsidy (40-50%) to farmers/herders to buy productive/hybrid livestock.

Activities

i) Resource inventory and preparation of sub-sector plans for 5 key NTFPs
ii)Inventory of pastureland- 3 units (Marma, doo and other)
iii)Restoration of degraded pasturelands-3
iv)Support to mobile veterinary services – 6 pastures (Marma and doo)
v)Conduct awareness program for herders
vi)50 % Subsidy to herders in close collaboration with District Agriculture and Livestock Development Office (25 units)
vii)Fodder production in pastures (white clover, nepier, epil epil, fodder species etc.)
viii) Support marketing of diary product

3.1.2 FOREST MANAGEMENT

Issues

Handover of community forestry is a growing concern but due to the human resources constraint, this had been delayed in some cases. In those forests, local users have no access on forest resources. There is confusion among CFUGs on the role clarity between District Forest Office and ANCA Office regarding renewable of community forests. Associated issues are boundary conflict for resource use, low level of awareness from women and disadvantagedgroups (poor and dalit people) and lack of skills.

Chimal forest has been under severe threat from Yarsa collectors who use this species for cooking during collection period (1.5-2 months). Over 30,000 collectors put high pressure to the alpine pastures. Approximately 25 % of Chimal forest might have been lost in Byas pasture (per comm. with Byas people). Chimal doesn't coppice in the high altitude due to the adverse climatic factors and loss therefore is irreversible.

Loth salla is also facing the same fate as Chimal. Loth salla is a high value tree species, which leaves are used to extract Taxol, one of the main ingredients of anti-cancer medicine. Deforestation of pine species is another issue in those regions where CFUG is not active and weak in monitoring.

Afforestation is more expensive in mountain areas. However, in degraded land, there is no choice. The study found that Latinath, Tapoban, Khandeswori, Ghusa VDCs are interested in afforestation of but commercial valuable tree species and NTFPs/MAPs.

Strategy

ANCA office will keep the tracking of operational plan in advance and focus on renewable process. Skill development will be given priority through basic and refreshment training in inventory, GPS operation and financial/accounting.

Alpine pasture/forests will be strictly monitored particularly during Yarsacollection season (June-July). Three distinct strategies will be adopted i) extensive awareness package for collectors on sites ii) provision of alternative energy sources (kerosene, LPG etc.) iii) law enforcement for those breach rules.

ANCA office continues preparing Participatory Natural Resource Management (PNRM) plan for remaining VDCs based on the learning of PNPM Plan of Khar.

Program/activitymonitoring mechanism will be strengthened. Staffs will be evaluated based on their performance which includes monitoring as one of the key responsibilities. Review on monitoring outcomes will be done.

Multipurpose nurseries will be at appropriate/strategic locations to supply seeding to communities. Private plantation will be of equal focus of ANCA Office.

Activities

i) Preparation of Forest operational plans
ii) Supports in alternative energy sources for yarsa gumba collectors
iii)Regular monitoring of Chimal forest in alpine
iv) Preparation of Participatory Natural Resources Management Plan -16 VDCs
v)Multipurpose Nursery operation in Latinath, Khar and Hikila VDCs- 3 VDCs (Marma, Doo and other)
vi) NTFP/Multipurpose Nursery operation in Byas
Vii) Afforestation(250,000 seedlings)
viii) Organize field/exposure visit to UGs

3.2 Species Conservation Program

3.2.1 Habitat Management

Issues

The ANCA supports important habitats of rare and endangeredwild animals (snow leopards, clouded leopards, musk deer, blue sheep, himalayan black bear, common leopard etc.). Snow leopard is the indicator species of high alpine pasture. Important wildlife habitats include forests, grasslands, agricultural lands, and wetlands. However, there is a limited scientific study on spatial distribution and suitability of those habitats for wild animals in the changing climate. However the study team reports some important habitats, for instances, Surma Sarobar taal (in Khandeshowri VDC), Mahakali River, Chaulani (Chameliya), Takar khola, Tusharpani khola, Kala gaad, Naugaad, Thali gaad, Lasku khola, Bartola, and Lipu lekh (at 5,000m).However, wild animals are being constantly stressed by habitat overlapping, heavy grazing and climate impact. It is projected that Nepal will lose about 40% of the current alpine areas by climate change (**Forrest et al., 2012**). Consequently, snow leopards can become isolated in smaller fragments, compromising their demographics and their ecological as well as genetic viability.Limited information on predator-prey relation, dispersal of snow leopards, distribution of mega fauna and their ecology is the constraint.

Habitat loss/fragmentation is an issue for the long term viability of wildlife population. Due to the unplanned development of village road and physical infrastructure, corridors are losing their efficiency for connectivity. For instance, barking deer (*Muntiacus muntjak*) and Mountain goat (*Naemorhedus goral*) were once abundant in the areas which are now very rare to see in the forests nearby the Khar village (PNRM Plan, 2013).

Increased forest fire is an emerging issue. Prolonged drought due to climate change and lack of forest monitoring, there is an increased incidences of forest fire in community forests.

The development activities (electric transmission line, road construction and inbuilt areas) are causing habitat fragmentation in lower altitude of ANCA. This causes wild animals to move to another habitat leading to competition for food and space.

Strategies

Detailed habitat study will be carried out for restoring those in critical condition. Prime habitats of snow leopards, himalayan black bears, red panda, blue sheep and musk deer will be declared as "*Biodiversity Hotspot Zone*" as no development activities will be allowed in these areas. There will be regular monitoring of this zone. The delineation of "*Biodiversity Hotspot Zone*" will be based on the outcomes of detailed survey.

Periodic monitoring of key wild animals (snow leopard, black bear, blue sheep and musk deer) will be a key strategy where local people will be trained for long term sustainability.The cutting edge technologies (camara trapping etc.) will be used for monitoring purpose. The time period of monitoring will be five years.

Identification, improvement and restoration of critical areas (corridor, bottle necks and linkage)

Activity

i) Detailhabitat study ofkey wild animals (snow leopard, blue sheep, Himalayan black bearand musk deer)
ii) Monitoring of key wild animals in every five year.
iv) Delineation of "Biodiversity Hotspot Zone" considering the prime habitats of key wild animals
v)Habitat restoration initiatives in critical areas (corridor, bottle necks and linkage)

3.2.1 Poaching and Illegal Wildlife Trade

Issues

Poaching and illegal wildlife trade is widespread in ANCA. Due to the vertical terrain, geographic isolation and lack of adequate monitoring, poaching of wild animals (snow leopards, musk deer, blue sheep and himalayan black bear) and trade of wildlife body parts is a major issue.Interior parts of Northern Darchula (Ghusa, Kandeswori, Rapla and Byas) have been used as trade routes that lead to Tibetan Autonomous Region of China- final international market. Following are the wildlife trade routes identified:

Makarigad-Khandeswori-Chetti-Tibet
Khar-Eyarkot-Sunsera-Rapla-Byas-Tinker-Tibet
Guljar-Bajhang-Saipal-Humla-Tibet

In addition, there are several ropeways (*tuin*) over Mahakali river (**Figure 21**) that connects Nepal and India. These are actually set up for transportation of goods and carry people across but unfortunately, ropeways have been used by poachers for transportation of wildlife parts and valuable NTFPs/herbs.

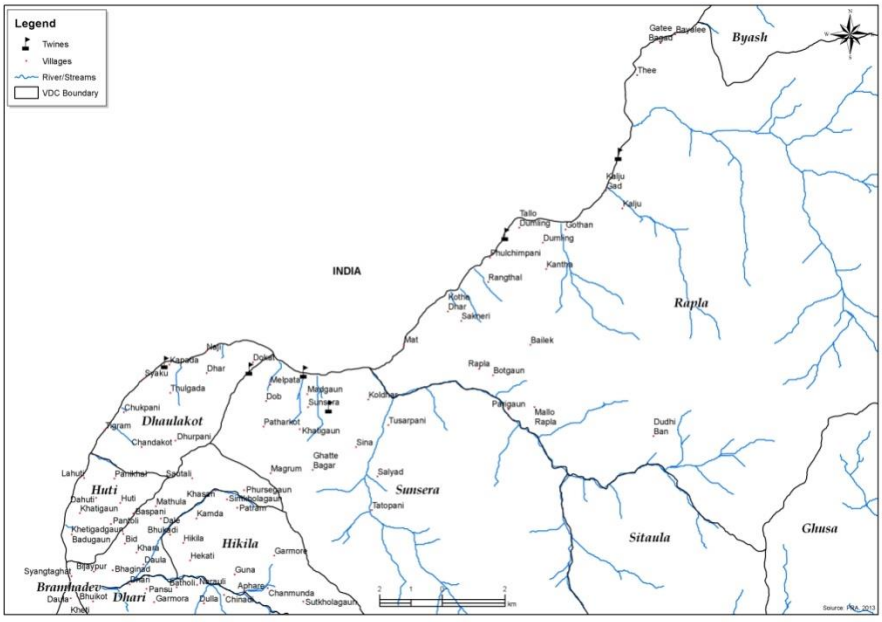


Figure 21: Ropeway (*Tuins*) over Mahakali River (Field Survey, 2014)

Strategy

Law enforcement will be a key strategy. ANCA office will strengthen Wildlife Crime Control Bureau (WCCB) unit and mobilize as and when appropriate.

Anti-poaching operation units (APOUs) and training on handling poaching and wildlife trades.

Awareness program for PA institutions

Activities

i) Institutional supports to WCCB
ii) Set up of anti poaching operation units and capacity building
iii) Organize/institutionalize transboundary cooperations/coordinations
iv) Carry out mapping of wildlife trade routes – 5 units
v) Conduct awareness and education on wildlife crime control

3.2.2 Human Wildlife Conflict

Issues

Recently, International Center for Integrated Mountain Development (ICIMOD) commissioned a Human Wildlife Conflict assessment study that covers parts of Darchula, Baitadi, Bajhang and Humla. The major species causing conflict are Snow Leopard (*Uncia uncia*), Himalayan Black Bear (*Selenarctos thibetanus*), Porcupine (*Hystrix indica*) and Wild boars (*Sus scrofa*). Similarly, In Bajhang district, Thalara area and Kanda VDC were affected severely (**Karki, 2014**). Karki also reported that Khar VDC of Darchula suffers for livestock depredation and crop loss. The Khandeswori and Byas VDC suffer from snow leopards, bears and wolf attack to horse, sheep and goats.

Crop Damage and Livestock Depredation

In Latinath and Tapoban porcupine, monkey and barking deer raid the crop. Other problem animals are ghoral, black bear, wild boar and musk deer. While porcupine damage wheat and barley most, monkeys damage maize. However in Ghusa, millet and potatoes are being damaged. The summer months and early winter season have higher risk.

Snow leopards, Common leopards, Jackals and Yellow throated martens are responsible for livestock depredation. Sheep, goat, chicken and bee hive are reported to be killed. For example, in Ghusa VDC, local communities perceive common leopard as a primary problem animal. In year 2013, 3 sheep/goats were killed by common leopards. Yellow throated marten attacks bee hives. Currently Ghusa has approximately 3,000 sheep and 500-600 sheep from other VDCs. In Byas, 12 livestock mainly horse, donkey, Jhupa (male hybrid of yak and local chauri), Jhuma (female hybrid of yak and local chauri), sheep/goats were killed in three years (**Karki, 2014**).

Snow leopards and wolf are the major wild animals causing livestock depredation. Khar is more vulnerable from conflict as this area has better forested and grazing land. Black bear was in conflict in Hikola, Ghari, Khandeswori, Sunsera, and Dhaulapur area.

Strategies

Public education and awareness program on HWC will be a mitigation strategy.
Investment in appropriate mitigation measures including alternative crops.

Activities

i) Conductpublic education and awareness program on HWC
ii) Support in mitigation measures (fencing, crop guarding, watch tower etc.)
iii) Support alternative crops
iv) Establish community based insurance scheme

3. 3Rural Development

In this section, the plan proposes rural development related actitivities. This inclues school, health post, rural road, public trail and bridge, drinking water, irrigation and hydropower. These activities are collected from focus group discussion. It is likely that communities have demanded some of these activities from DDC and other agencies. It is therefore important to note that such overlapping, if any, will be sorted out during annual planning workshop of DDC.

3.3.1 Trail and Bridge Construction

Issues

Access is the key to development. People have been facing problems associated with the poor quality of physical infrastructure. Rural road networksand bridgesare either absent or of poor quality. Improved access will ensure the good market for local products thereby boosting an economic growth. Normally it takes 4-5 days to get to Tinker from Khalanga. It can be reduced to 2-3 days if there is a year around road. In addition, local communities have been paying high price for household commodities due to higher transportation cost.

Due to lack of accessible trail and bridge, women and marginalized household suffer mostly.
In rainy seasons, injuries and causalities due to landslide, flooding and river cutting is common. However it is important to note that DNPWC is not a development institution per se but conservation institution and therefore, it doesn't invest in development projects. It supports small to medium development projects only if these help to enhance the economic conditions of natural resources dependent communities.

Strategies

ANCA office is well aware that it is not a development institution per se but will invest in small/medium trail and bridge construction.Depending on the nature of projects, ANCA collaborate with DDC and Department of Local Infrastructure and Agricultural Roads (DoLIDAR).

ANCA will work to make a development Green. ANCA will make sure that development activities will be environmentally friendly through compliances such as Initial Environmental Assessment (IEA) and Environmental Impact Assessment (EIA).

ANCA seeks local contribution- essential for project's sustainability.

Activities

i)Support Trail Construction, Tapoban VDC
ii)Support Trail Widening, Khandeshwari-6, Makarikot forte with fencing
iii)Trail Construction, Sipti and Hikila
iv)Trail Construction in Sukalu Gufa, Pipalchaure-1
v)Trail Construction, Dhaulakot
vi)Wooden Bridge Construction, Pipalchaure 1 and 2, Khet gat
vii)Trail Construction, Chhapari – 1 (Brama daha) to 8
viii)Trail Construction, Dhari and Bramahadev
ix)Bridge Construction (between ward no. 5 and 9), Eyarkot
x)Byas Cave road construction, Byas
xi)Bridge Construction, Byas, Gaga
xii)Trial Construction, Dumling ward- 8 to Dudi Ban ward- 9, Rapla
xiii)Trail construction from Huti-5, Khati Gau to Gori Chhana masan ghat

3.3.2 School and Health post Construction/Repair

Issue

A quality education and access to health services is the most basic rights of all Nepali citizens irrespective of caste, class, income and religious belief. Without quality education, children are less likely to realize their true potential. To help students to realize their true potentiality, sufficient numbers of schools with trained teachers and good physical facilities are necessary. In ANCA, most schools lack adequate rooms, trained teachers and enabling environment. Some

schools simply close due to the lack of reliable roofing materials in rainy seasons. Lack of separate toilets for boy and girl students is another example for drop out of girl students.

Poor infrastructure of health post is another issue. People residing in these areas have not easy access to quality health services. Or people have no quality services due to the lack of trained staffs. Some health posts share the building with VDC or on rent. In this situation, own building is needed. In most cases, local people need to travel long to get health services.

Strategy

AAN will invest in construction or repair of school and health post in its working VDCs with local contribution. The outmost priority will be given to those VDCs which are not receiving supports from District Education Office (DEO), District Health Office (DHO) and DDC. ANCA will also mobilize PA institutions while invest for school and health post infrastructure.

AAN supports PA institutions to proactively approach to DEO, DHO, DDC and other stakeholders to construct or repair school and health post. ANCA and PA institutions will provide partial supports/incentives to DEO, DHO and DDC for such construction.

Activities

i)School Repair, Tapoban Secondary School, Tapoban-5
ii)School Repair, Bhuwaneshwor P.S., Tapoban – 2, Dhodedhar
iii)Construction of four new rooms for Chipul Kedarnath Lower Secondary School, Sitola- 7 (This school runs by private source)
iv) Furniture support to Salladhara Secondary school, Sitaula- 1, Murai
v) Establish Sub-Health Post, Sitaula-7, Dhangkang
vi) Supports in relocation/school construction of Ganesh Binayak Higher Secondary School , Sipti-7 Hikila- 8 and 9 (Currently school is in danger of river cutting)
vii)Construction of school building for Dahadar primary school, Pipalchauri-4 (whole VDC benefited)
viii)Construction of health post, Hikila-8
ix)Pipalchaure Secondary school construction, Pipalchauri-4, (whole VDC benefited),
x)Ranistan Primary School building construction, Huti-2,Naupanir
xi)Api-Nampa Campus building construction, Huti-2
xii) Sampal Secondary School building construction and furniture support, Sunsera
xiii)Bramastan Lower Secondary School repair and furniture support, Dhaulakot-2
xiv)Support furniture to Jana Bikash Higher Secondary School, Bramahadev-1(Benefited VDCs are Bramadev, Chhapari and Dhari)
xv)Fencing material support, Aalkapuri Secondary School, Chhapari- 3,

xvi)Fencing material support Chhapari Lower Secondary School, Chhapari- 6
xvii)Fencing material support, Kante- 9, Huskar Higher Secondary School (RCC wall), Benefitted VDCs are Katai, Chhapari 7 and 9 and Khalanga 8 and 9
xviii)Support Gabion wire to protect from river cutting, Kante- 1, Badal Gau, Bhubanaswar Primary School, Benefitted VDCs are Kate -1, Khalanga-9 and Chhapari-9
xix)Support to Fencing and Furniture Support, Kante, Dhari Pata Secondary School and Bhagawati Primary School
xx)Support to Fencing, Rapla-4, Rapla Secondary School

3.3.3 Drinking Water, Health and Sanitation

Issues

Access to drinking water, health and sanitation is the basic needs of people. These facilities create an enabling environment for effective conservation and development. Ill and suffering people can't conserve biodiversity. In ANCA, women are the most affected from lack of health and sanitation due to their lower social status and reproductive health requirement. Moreover, fetching drinking water is traditionally women's role. Children also spend hours for fetching drinking water.

Due to the geographic isolation and poverty, many villages have no access on safe drinking water. Water quality is a big questionin most villages, which causes water born diseases. Large numbers of HHs have no toilet facility though situation is improving as DHO has been campaigning for free open defecation.

Limited or poor access to water and sanitation has resulted in poor health of women and children. Safe drinking water and sanitation services are needed fro local communities, tourists and yarsa collect at pastures.

Strategy

Drinking water, health and sanitation will be a development focus of ANCA for enabling local communities for conservation. ANCA will identify such projects and invest for drinking water and sanitation schemes as a reward for their contribution to biodiversityconservation. Major criteria while identifying such projects will be i) absenceof government/non-government's supportsii) contribution to biodiversity conservation through anti-poaching operation, fighting wildlife trade, control deforestation/forest fires, afforestation, NFFPs/MAPs farming etc. and iii) willingness of local communities to contribute.

Seeking matching resources (kind or cash) will be the strategy. Local contributes in transportation of market materials from nearest road head, unskilled and semi-skill labors and

local materials (sand, stone, timber etc.). ANCA will approach to District Drinking Water Office, DDC, District Women Development Office, donors for additional supports. ANCA will try to create synergy with likeminded institutions.

Activities

i)Sanitation/toilet, Khandeshwari-8, Khatti Lake, (where Surama Bhawani Jatra take place)
ii)Waste Management, Khandeshwari-1, (Surama Bhawani Jatra)
iii)Toilet Construction, Ghusa-4, Mahadev Mandap (Separate toilet for male and female)
iv)Drinking water Supply, Huti-1 and 8 (Benefitted HH 145)
v)Drinking water repair for school, Dhaulakot-2 (Bramastan Lower Secondary School)
vi)Drinking water Supply, Bramahadev-1, 2 and 3
vii)Drinking water Supply, Byas, Chanruk (Benefitted wards are 1 – 5)
viii)Public toilet, Kunti Sanghu, Byas

3.3.4 HYDROPOWER

Issues

ANCA People have very limited access to electricity though it is considered as a backbone of development. Lack of limited access to electricity is a major challenge for ANCA's socioeconomic development despite of high hydroelectric potential.ANCA has Mahakali and Chamelia rivers with rich networks of tributaries but energy potentiality largely untapped. Poverty Alleviation Fund (PAF) has supported communities setting up micro-hydro projects in some VDCs. However, energy generated is primarily used for lighting. For cooking, people depend on fire wood. Thereforecases of respiratory diseases among women are high in rural communities.

Strategy

ANCA promotes hydro power energyfor lighting and cooking. Unless hydro power is used for cooking, forest resources would not be saved. Energy saving devices (low wattage cooker, thermo-flask) will be promoted. ANCA supports in feasibility study of hydro power project in collaboration with likeminded institutions. ANCA will work with DDC, PAF and other appropriate agencies in building capacity of hydropower project staffs. ANCA will gradually replace all wooden poles used in transmission by iron/aluminum/metal poles gradually.

Activities

i) Support iron/metal pole to Khandeswori, Rapla, Sipti
ii) Exposure of micro-hydro committees to ACA
iii) Feasibility study of micro-hydro schemes

3.4 Livelihood Improvement Program

3.4.1 High value NTFPs Management

Issues

Non Timber Forest Products (NTFPs) and Medicinal and Aromatic Plants (MAPs) can provide a significant source of income for rural people, especially through the sale of wild-harvested materials. The high alpine pasture of ANCA is the storehouse of high value Yarsa gumba which draws thousands of local and outside collectors during early monsoon. One hand, it generates substantial income for collectors; on the other hand, due to the overexploitation and uncontrolled movement of collectors, pasture ecosystem has undergone environmental pressure. The Chimal trees are being cut for firewood. There are always conflicts between people of Byas VDC, and those collectors coming from outsides since Byasi people restrict them collecting Yarsa gumba in their VDC. Decreasing quality of Yarsa gumba is another concern (with per communication with local people). School going children comprises the largest number of collectors (**Figure 22**). During the yarsa season, all schools are closed in Northern Darchula as most children go to pastures with their parents. The yarsa collection practice has hindered the education of children and adversely affected their eye sights.

Figure-22: children collecting yarsa gumba
(Photo: Krishna Dutta Bhatta)

Climate change is another issue. There is no systematic study on the likely impacts of climate change on NTFPs/MAPs so it is very difficult to say anything conclusively. However, increased temperature and erratic snow fall surely have impacted. Similarly, Chiraito, Satuwa, Amala, Pakhanbhed, Rittha etc. were over harvested. There is no equitable benefit sharing mechanism. Few have been benefited at the expenses of larger communities. Trampling effect on pasture and illegal cutting of shrubs for fuel wood were observed.

Others NTFPs found are allo (nettle fiber), lokta (*Daphne spp*.), rittha (*Sapindus mukorossi*), amala (*Phyllanthus emblica*) etc. These NTFPs are not properly harvested. Failing to add value is another issue. Good quantity of NTFPs/MAPs is a pre-requisite for making forest based enterprises profitable and sustainable. Good forests of Chuiree found in Seri, Tapoban, Guljar and Latinath VDC but due to the lack of processing, benefit is less. Private plantation of Chuiree is also observed.

Strategy

Permissible quantity of Yarsa gumba, Chiraito, Gucchi Chau, Satuwa, Ban Lasun, Chau, Timur, Rittha, Dal chini bark, Kala dana, Kutki, Pakhan Bedh, Jata masi, Sugandawal, Tej Pat and Allo can be taken as the quantity mentioned in **Annex-9** for year 2015 and 2016 . From 2017, the quantity of harvest should be based on the resource inventory/subsector plans. Value chain approach will be adopted for i)Yarsa gumba, ii) Panch Aule iii) Ritha iv) Satuwa and v) Kutki.

Specialfocus will be given on plantation and extraction of oil/ghee of Chuireein commercial scale. Seri, Tapoban, Guljar and Latinath VDC will be developed as a Chuiree production pocket.

Activities

i)Carry out resource inventory for Yarsa gumba, Panch Aule, Rittha, Satuwa and Kutki for preparing sub-sector plan-5 units
ii) Carry out resource Inventory and prepare sub-sector plan for Chuiree
iii)Operate Nursery focusing on Chuiree
iv)Carry out massive afforestation of Chiuree seedling in community and private land
v)Set up of Chiuree grinding mill
vi) Carry out feasibility of essential oil processing plant at Rapla (from Sunpati/juniper)
vii) Conduct exchange visit for Chiuree processing plant (Chiuree-trans-boundary value chain) in Pithoragadh (India)

3.4.2 FARM BASED LIVELIHOOD

Issues

Livelihood promotion is a central to management plan. This is well reflected in the vision where prosperity of local communities has been given outmost priority. Livelihood options are of two type i) farm based and ii) off farm (non-farmed). Farm based livelihood options such as vegetable, fruit farming and cash crop will be focused to increase the household income. Kitchen gardening will also be focused to provide the nutrition to women and children of rural communities.

Excessive use of chemical fertilizer, insecticides and pesticides is another issue. The excessive use of fertilizer kills the bee and impacts the cross pollination of numerous cereal crops and floral species. It also harms human and degrades the fertility of soil.

ANCA is widely known for Kidney bean (*Rajma)* but farmers haven't been gotten good price. There is a high potentiality of Nettle fiber (allo) in Khar VDC. Production is not at commercial scale but for internal consumption. Lack of irrigation facility is another issue.

Strategy

ANCA promotes organic farming techniques by providing required skills and knowledge to farmers. ANCA supports for farming at commercial scale as focus of agriculture in the Himalayan region is slowly shifting from traditional cereal crops to high-value cash crops.

Pocket approach is necessary based on the climatic condition. For e.g. product such as Kidney bean will be intensively supported.

While identifying the households for supports, ANCA will consult with District Agriculture and Development Office for technical assistance. ANCA mobilize its PA institutions for promoting farmed based livelihood activities.

ANCA explores the possibility of using public land with stakeholders. Strategy is to use public land for commercial farming targeting poor and disadvantaged households. AAN provides subsidy to seed, tools and equipments and skill training target beneficiaries.

ANCA will set up women's group in close consultation with PA institutions and involve these groups in income generation. In the PA level, **apex women group** will be created for furthering

the women's livelihood and empowerment issues. Capacity building training, workshop and exposure visit will be provided to apex women group.

Activities

i) Provide organic farming training for kitchen/vegetable gardening, fruit farming and cash crop- 10 units (5 Marma, 5 doo) and seed/materials supports
ii) Prepare fruit and cash crop seedling in multipurpose nurseries- 2 units
iii) Support in agricultural inputs (seeds, plastic tunnel, pipe lining, sprinkler, bamboo, bio-fertilizer, repair of community water tank/reservoirs etc.)
iv) Set up of Apex women group and institutional support
v) Support in set up of cold store 2 units (1 mamra, 1 doo)
vi) Initiate livelihood program to poor, marginalized and women headed households (5 socio-economically disadvantaged VDCs)
vii) Provide training for making/processing of fibers from Bhang/nettle fiber (*allo*)/lokta and subsidy support (Sitaula, Sipti, Hikila, Khar, Brahmadev, Eyarkot, Byas and Rapla)

3.4.3 Off farm Livelihood

Issues

There has been increasing recognition that the rural economy is not confined to the agricultural sector but also depend on off farm activities such as handicraft, carpet, wage labor, mineral water etc.This program basically targets poor and marginalized households.

There is an adequate wiliness among communities on off farm livelihood activities as some of these were already been in existence. For example, women of Khandeswori have been usingthin bamboo (*nigalo*) for making basket, green mat but couldn't make a surplus product to create a big market. In other VDCs where thin bamboo (*nigalo*) forest exists, there also exists the untapped market.

Access on micro finance schemes and lack of entrepreneurship is another issue. Prevailing cultureis also holding back local people, in some communities, being more open in business.

There is a perennial source of clean springs in ANCA. Due to the heritage tourism, collection of Yarsa gumba and festivals, there seems to be a good market for mineral water. Even these products can be sold to nearest urban centers including Khalanga bazaar, district headquarters. Similarly, wage labor has become additional source of income for rural people.

Strategy

ANCA will focus on off farm livelihood opportunities to diversify their income sources. In the context of climate change, it is important to diversity the income sources to reduce vulnerability of poor and marginalized households.

ANCA will focus on handicraft making out thin bamboo (nigalo). Secondly, water resources will be sustainably used for high value mineral water product. There preliminary study already indicates the feasibility of such plant in Guraku khola (Kante-9). Detail study is necessary to pilot a mineral water plant in ANCA.

The existing and emerging sources for daily wages will be explored. This might include sikarmi-dakarmi training and appropriate IGAs. ANCA mobilizes PA institutions.

Activities

i) Off farm based livelihoodpromotion to poor, marginalized and women headed household
ii) Support in market linkages/training for those products
iii) Carry out detail feasibility study at Guraku khola (Kante-9) and set up of Mineral water plant
iv) Capacity building training (leadership/financial/exposure visit) to Apex women group
v)Harvesting/sawing (*ara*) training with equipment support (Latinath -7)
vi)Provide Bio-briquette training with equipment support (Khar and other VDC)
vii)Provide furniture and handy craft training from Nigalo/bans (Hikila, Khandeswori, Ghusa)
viii)Provide training on Juice making from Laliguras and soap making from rittha/pangram and supports to equipments (Sunsera, Dhari and possible sites)
ix)Support Grass Cutting Machine to community, Kate
x)Carry out feasibility study /furniture making training and supports to tools/equipments (Brahmadev, Kate, Dhari, Eyarkot, Rapla VDC)
xi) Provide Incense (*himali dhoop*) making Training (Dhari, Byas, Rapla)
xii) Provide tailoring Training with materials support (Sipti, Hikila, Huti, Dhaulakot, Sunsera, Brahmadev and Khati)
xiii) Provide Dakarmi/Sikarmi training (Huti, Sunsera)
xiv) Electronics goods repair Training, Huti
xv)Carpet making Training, Dhaulakot
xvi) Bee keeping training and supports in bee hives (Bramhadev, Chhapari VDC)

4. Promotion of Heritage/Cultural Tourism

4.1 Documentation of Sacred sites, tourism attractions and their significance

Issue

ANCA is the youngest conservation area of Nepal which was established to improve the socioeconomic condition of local community through biodiversity conservation and tourism. Byas, Api (7,132 m), Nampa (6,755 m) and Saipal (7,035m) are beautiful mountains in ANCA that also drains biodiversity and communities. It is believed that saint Byas who wrote an epic holy scripture *Mahabharat*, meditated at the foot of Byas Himal. Besides these mountain peaks, there are high altitude wetlands, caves and pastures which are considered as a sacred sites.

ANCA is the traditional route to Mt. Kailash and lake Manosarover, perhaps the most sacred of all. Mt. Kailash is situated in Tibet but equally worshiped by Hindu and Buddhists alike. In terms of cultural heritage and local festivals, Manma and doo valley are known for both local and outsiders visitors. The Bishu festival attracts thousands of visitors from neibouring districts in New Year (Nepali calendar).

People's awareness and active participation while restoring these sites are urgently required. Promotion of these cultural sites is neither strategic nor adequate. Tourism infrastructure such as hotels, toilets, camp sites, information centers, view points, rubbish pits, sing posts, proper eco-trail, home stay facilities are poor. People are not skilled and adequately knowledgeable to cater the need of tourists/visitors.

Safe drinking water, reliable transportation, safe trail and bridge, electricity etc. have to be improved/upgraded to attract the tourists be it domestic or international. ANCA officials and local communities need to be aware that there are numerous rival tourist destinations available for potential tourists elsewhere. Unique selling point should be identified in tourism sector and promote strategically.

Strategy

ANCA is pristine endowed with high mountain peaks and unique scared sites thus heritage will be an appropriate model that allows minimum cultural and environmental impacts. Cultural tourism of ANCA is unique with Sauka Byasi lifestyle, vibrant cultural festivals, age old shamanistic practices and distinct lifestyles.

ANCA will set up tourism information check posts to provide quality information to tourists/trekkers. The primary objective is to provide the updated information on nature and

cultural attractions, weather conditions, safety and on accommodation/foods. **Do and Don't** of tourism will be displayed. ICE materials will be distributed through center. The visitor information also checks the trekking permits from international visitors.

Activities

i) Detail feasibility survey of tourism and historical/religious sites
ii) Document religious/sacred sites, their significance (ANCA level)

4.2 Development of Trekking routes/Home stay

Issues

ANCA is the youngest conservation area with high possibilities in heritage and cultural tourism. Being connected with India in west, it can attract Indian tourists to its sites. However the trekking routes are not well developed.

Landslide, flooding is a major natural hazards. Quality hotels/guest house is hardly available that can truly catering the needs of visitors. Home stay is not there to experience the local culture. Safe drinking water, toilets and proper sanitation are hurdles in sustainable tourism.

Since last few years, a 125 kilometer Darchula-Tinker Road is under construction which passes through Chhapari, Dhari, Hikila, Pipalchauri, Huti, Dhaulakot, Sunsera, Rapla and Byas VDCs of ANCA. The construction is planned to be completed by 2019. By the end of the first phase of KSLCDI, there is likely to be considerable movement of vehicles inside the ANCA. Though this road is expected to contribute in the development of mountain villages, it is likely to exert environmental impacts on bio-diversity.

Strategy

ANCA will develop tourism infrastructure in routes to Mt. Kailsah and Lake Manosarovar including potentials tourism destinations in collaboration with DDC, VDC and stakeholders. ANCA works closely with Nepal Tourism Board for promotion of heritage tourism.

As ANCA is a far western part of Great Himalayan Trail (GHT), it explores to access on fund from GHT project. ANCA will invest in developing tourism infrastructure such as trail, bridge, view points, camping sites, rubbish pits, incinerators, community based hotel/loges and home stay in appropriate sites.

ANCA will reach out to private sectors to work collectively for tourism development in ANCA.

Activities

i)Develop Khatti view point, Kandeswori VDC
ii) Develop*Siddha ko topi* view point (Eyerkot VDC)
iii)Promote/support traditional and cultural festivals/events (Bishu parba, Gujlar)
iv)Support community camp sites, rubbish pits and sign posts – 3 potential sites
v)Explore/develop home stay (Khalanga-Ranikota: 9 sites)
vi)Support in renovation historically importance features (temple, cave, lake, gumba etc.)
vii)Develop and upgrade of existing trekking routes
viii)Support to local museum- 2 units
vix) Support for tourism materials (website/brochure/ sign posting)

4.3 Skill Development

Issues

The tourism sector is a multi stakeholderindustry which provides job opportunities for large numbers of people. Lack of adequate skill for tourism business is an issue. This industry cannot run properly without skills and knowledge of local communities. Therefore it is crucial to impart skills for tea shop owners; hoteliers' and local guides on various aspect of tourism business. Maximum tourism benefit can be retained in the local economy if skilled guides/porters can be arranged.

Strategies

ANCA will focus on skills development training to tea shop owners, hoteliers and potential guides. It will cover cooking, waste management, language, hospitality, safety and rescue operations etc.

Activities

i) Conducthotel management training (cooking, waste management, hospitability, language etc.)
ii) Provide guide training for local youths (Byas, Rapla, Ghusa and Khandeswori)

5. Climate Change and Disaster Risk Reduction Program

5.1 Building Community resilience

Issue

Climate impact is the most visible in mountain region of Nepal as other variables are less operative. According to the local people of Chhyangru the snow in the peaks and glaciers has

been depleting rapidly, due to which the frequency of avalanches has increased. Since 2000, there has been a trend that snowfall starts prior to the usual season but the frequency and intensity of snowfall has reduced substantially. As a result, yields are affected adversely. They have switched to garlic, onion, tomato, beans, apples, etc. which were not planted 10 years ago. They attribute such changes in agriculture to the rise in temperature of the region (**KSL feasibility report, 2010).**

Those living along the river banks are the most vulnerable. Recently the Mahakali flood caused many deaths and substantial loss of property in Darchula. Chamelia river cuts the river bank affecting arable lands.

Local people have been responding to climate impacts but that was inadequate. There is no systematic planning to respond to climate impacts. In many VDCs, communication network is not reliable.

The erraticrainfall pattern and variation in temperaturehave impacted the production of agricultural crops and fruit trees.

Strategy

ANCA adopts strategy to help local communities in diversifying the livelihoods assets. This includes formation of farmer's groups/cooperatives, setup of micro-finance schemes, and tourism business etc.Coordination with DDC, DALD Office, local governments for response and recovery will be central to this strategy. In addition, climate change adaptation will be mainstreamed to other themeatic components.

Activities

i) Set up of three climate smart communities (one in each sector)
ii) Formation and institutional supports to cooperatives/ access to micro-finance -10 units
iii) Set up of local seed banks (of drought/flood resistance varieties, native race)-2 units

5.2 Disaster Risk Reduction (DRR)

Issue

Landslide, flood and river cuttings are common disasters in ANCA. Landslides/soil erosions and river cuttingsare the most prominent disaster in ANCA. Besides, that forest fire is also reported increasing in recent years. This might be due to the warmer climate caused by prolonged droughts.

Strategy

ANCA will strengthen and support to existing Emergency Rescue Team which is already existed in district. ANCA Office or council works closely with this team for timely rescue and recovery during disasters. ANCA focus both on mitigation and adaptation measures as appropriate.

Activities

i) Institutional support to Emergency Rescue team
ii) Provide supports in soil erosion/landslide/river cutting control measures (Gabion box, bio-engineering techniques) - 5 critical sites
iii) Climate disaster hazard mapping (21 VDCs)

6.Conservation Education and Public Awareness

Issues

ANCA is located in one of the most remote regions and therefore least developed in many aspects. Among five development regions, far west region is the least focused by the government. Behavioral change is prerequisite for conservation which flows fromright attitude. The awareness level of rural population is low due to multiple reasons. Education is underinvested -physical infrastructures are poor, no quality curriculum is followed and there are no adequately trained teachers. Widespread poverty alsohinders the school enrollment and retaention of the children.

Children are also the bread earners and help their parents in livestock farming, collecting forest resources and wage labors. The most striking case is the involvement of children in Yarsa gumba collection-the scale is so big that school is closed during June-July.Despite a short term benefits, it has a negative consequence.

Majority earlier generation are not educated. They are the poor farmers and herders who are dependent on natural resources. The low level of awareness has been reflected on the incidence of deforestation, destruction of Chimal, poaching and illegal wildlife trade.

Strategy

ANCA works with school children as a long term investment in biodiversity conservation. For this matter, school focused activities will be launched through eco-clubs and conservation activities. Eco-club will be a common platform for students to work towards conservation of

biodiversity. This includes exposure visit, nature hike, nursery works, bird watching, heritage walk to cultural sites etc.

On the other hand, public awareness will be another strategy. This strategy will facilitate discussion on forest conservation, sustainable use of NTFPs/MAPs, forest based enterprises, climate change, livelihood issues and heritage tourism. Audio-visual aids will be widely used.

Activities

i) Set up and institutional supports to eco clubs
ii)Conduct conservation education at school
iii) Celebrate special events (ANCA anniversary, World Environment Day etc.)
iv) Organize exposure visit to eco-clubs members/ teachers
v) Conduct community outreach program (mobile camp, door to door visit, street theatre, group discussion etc.)
vi) Use FM radio
vii) Develop ANCAvisuals/documentaries
Viii) Develop and desimminate ICE materials (brochure, booklets, and posters)

7. Institutional Set up and Capacity Building

Issues

To implement Integrated Conservation and Development Programs (ICDP)effectively, proper institutional setup with adequate human resources is crucial. Management structure and governance of ANCA institutions needs to be clearly spelt out. Existing physical infrastructure is poor and human resources are inadequate. There is no sector office to cover entire ANCA areas. Thoughvacancy for 60 staffs was approved, only 14 staffs are currently working in ANCA.

Proper placement of human resources need carefully thought out plan as very synergy depends on effective human resources management.

Knowledge and skills of ANCA staffs need timely upgrade in line with new conservation and development challenges.

Strategy

The CAM Govermant Management Regulation (2011) provides an institutional framework of ANCA office and PA institutions including ANCA Management Council. The ANCA office

strives to regulate and facilitate the conservation and development programs through PA institutions. On the other hand, Management Council functions as an umbrella body to implement over all programs inside ANCA. The formation procedure, responsibilities and authorities of council are guided by regulation. Among others, the primary responsibilities are allocation of funds to user committees, recommend Integrated Plan for approval and monitor plan and programs. In every three months, user committee holds meeting while meeting of Council will be called by warden with the consent with chairperson as necessary. ANCA headquarter will be set up in Khalanga, District Headquarters while sector offices in Khar, Sunsera and Khandeshwori/Guljar respectively. Field range posts will oversee natural resources management. Mangement and monitoring of existing CFUGs will be taken care by ANCA office and ANCA council as CAM Government Regulation makes a provison of conservation community forestry in ANCA.

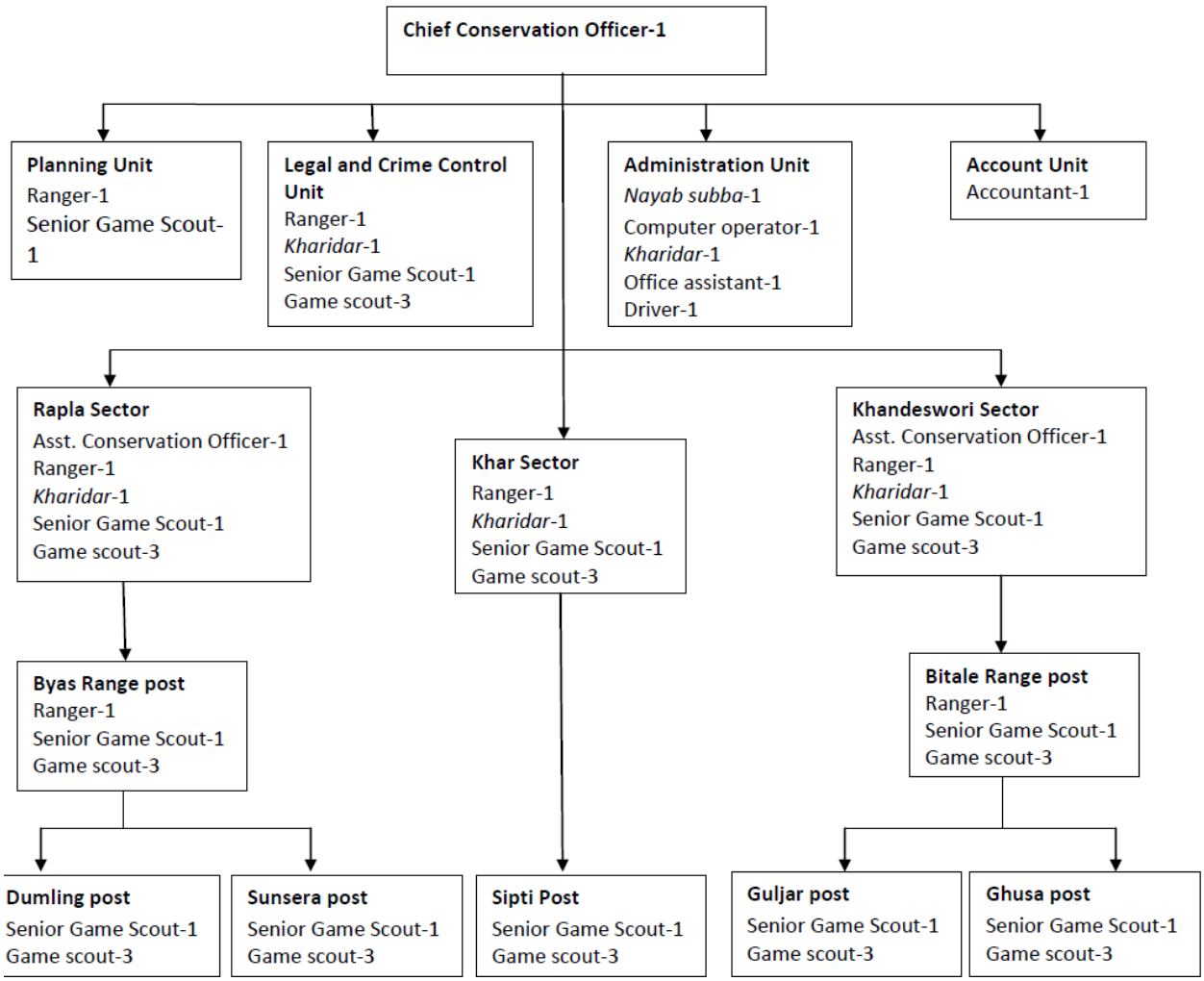
Unlike ACA and KCA, currently ANCA doen't have own regulation. There needs to be ANCA Management Regulation with clear cut outline of institutional structures. Bascially, there are three institutional structural models repspectivly i) ACA model ii) Buffer zone model and iii) KCA model. Initiation needs to be taken to develop an institutional structures based on the learning, oppurtunities with close consultation of ANCA Manegement Council.

Table 5. Proposed sector offices in ANCA

Khar Sector	**Sunsera Sector**	**Khandeshwori/Guljar Sector**
i)Khar (secotr office-ward # 1, Dallekh)	i)Sunsera (Sector office-ward # 5)	i)Guljer (Sector office-ward # 3)
ii)Sipti	ii)Pipalchauri	ii)Khandeshwori
iii)Iyarkot	iii)Huti	iii)Sitaula
iv)Sheri	iv)Dhaulakot	iv)Ghusa
v)Kantai	v)Hikila	v)Latinath
vi)Brahmadev	vi)Rapla	vi)Tapoban
vii)Dhari	vii)Byas	-
viii)Chhapari	-	-

Following will be the proposed human resources for ANCA (DNPWC, 2014):

Proposed Organization Structure of Api Nampa Conservation Office



Institutional capacity building and relevant training and exposures will be provided to ANCA Office and ANCA Management Council staffs. Training Need Assessment (TNA) will be done to suite the appropriateness of training.As a part of KSL, ANCA continues to learn from like-minded institutions working in Kailash landscape. ANCA will closely work out the needs and chart out the capacity building plans with conservation partners ICIMOD, UNDP etc.

Activities

i) Set up of warden Office
ii) Support in set up of ANCA Management Council Office
iii) Set up of Sector offices – 3 places
iv)Set up of field range post offices
v)Purchase capital assets for ANCA HQ, ANCA council office and Sector offices
vi)Conduct Training Need Assessment (TNA)
vii)Invest in capacity building (training/workshop/exposure visit) for staffs/council members

8. RESEARCH, MONITORING AND EVALUATION

Issues

Research, Monitoring and Evaluation are crucial components for the success of ANCA programs. The study team found that ANCA is the least researched area and therefore there is dearth of data and information on biodiversity, water and tourism sites. In absence of robust research, realistic management plan is not possible. Similarly, monitoring is a continuous process of timely reporting, collecting and analyzing information to measures the progress against goals and outcomes. Monitoring has to be timely otherwise it fails to do course correction and incurs substantial cost later. Evaluation on the other hand, is a periodic and comprehensive assessment of the overall achievements and lessons learned of ANCA Management Plan implementation.

Strategy

Research (particularly on spatial database generation) will have a central focus of management plan. ICIMOD will be consulted for support in generating spatial databse. The monitoring process will look at the progress at two levels i) activities and ii) outcome. In the activities level, physical achievements will be measured. In the outcomelevel, impacts of those physical achievements on the livelihoods of people and biodiversity conservation will be assessed.In addition, field visit report, work completion report and report of research study will also serve for monitoring objectives. Similarly, long term research plots will be established.

Monthly meeting and briefing will be a monitoring process. In terms of involvement of institutions, there might be internal monitoring exclusively conducted by ANCA or joint monitoring with DNPWC, MOFSC and conservation partners.Inputs and comments/suggestions of local institutions will be very important for M & E process.

In addition, geospatial monitoring will be conducted by ICIMOD on the regular basis to assess the extents and changes in forest fire incidences/brunt areas, landslides, forested areaand provide

the information to ANCA Office and ANCA council. ICIMOD will train ANCA Office and ANCA council for ground truthing.

Findings of monitoring process will feed the monitoring indicators to refine the monitoring indicators/processes in new realities (**Table 6).**

Table6: Revised monitoring matrix (ANCA Plan and Field survey, 2014)

Areas	**Method of information collection**	**Forms**	**Frequency**	**Reporting to**
Natural Resources Management/Species Conservation	Field survey (Direct collection), Sector Office	Natural Resources Management/Species Conservation form	Triannual	DNPWC, Regional Director
Physical Infrastructure development	Field survey, Sector Office	Physical Infrastructure form	Triannual	DNPWC
Livelihood Program	Field survey, Sector Office	Monitoring form	Triannual	DNPWC
Heritage/Cultural Tourism	Field survey, Sector Office	Monitoring form	Triannual	DNPWC
Conservation Education and Public Awareness	Field survey, Sector Office	Monitoring form	Triannual	DNPWC
Extent and changes of forest fires/brunt areas, landslides, forested land and spatial database etc.	Geospatial/remote sensing by ICIMOD	Satellite images/layers	Quarterly	DNPWC, Regional Director, ICIMOD
Outcomes	Field survey Participatory monitoring	Effects from activities Participatory effects monitoring form	Triannual Second and Fifth year	DNPWC, Regional Director
Evaluation				
	Direct and Indirect (secondary review reports/document	Evaluation framework	Interim Evaluation-At the end of second	DNPWC, Regional Director

	s/monitoring reports)		year	
	Direct and Indirect (review reports/documents/monitoring reports	Evaluation framework	Final Evaluation- at the end of the five year	DNPWC

9. BUDGET

The estimated budget NPR 233,991,000 (234 million) is required for implementing ANCA Management Plan (**Table 7).** It is important to note that ANCA has covered 21 VDCs- large number of VDC. This budget includes the salary of all the staffs as per the organization structure. The reason for low share by Research, Monitoring and Evaluation is that Research inputs will be supported by ICIMOD and therefore not reflected in the budget. The thematic budget share is presented in **Figure 23.**

Table7. Proposed thematic budget (2015-2019)

S.N	**Themes**	**Budget (in 000)**
1	Natural Resource Management	33670
2	Physical infrastructure development	29150
3	Livelihood Promotion Activities	52900
4	Promotion of Heritage tourism	13630
5	Climate change adaptation and Disaster Risk Reduction	12925
6	Conservation education and public awarenes	10735
7	Institutional set up and capacity building	78431
8	Research, monitoring and evaluation	2550
Total		**233,991**

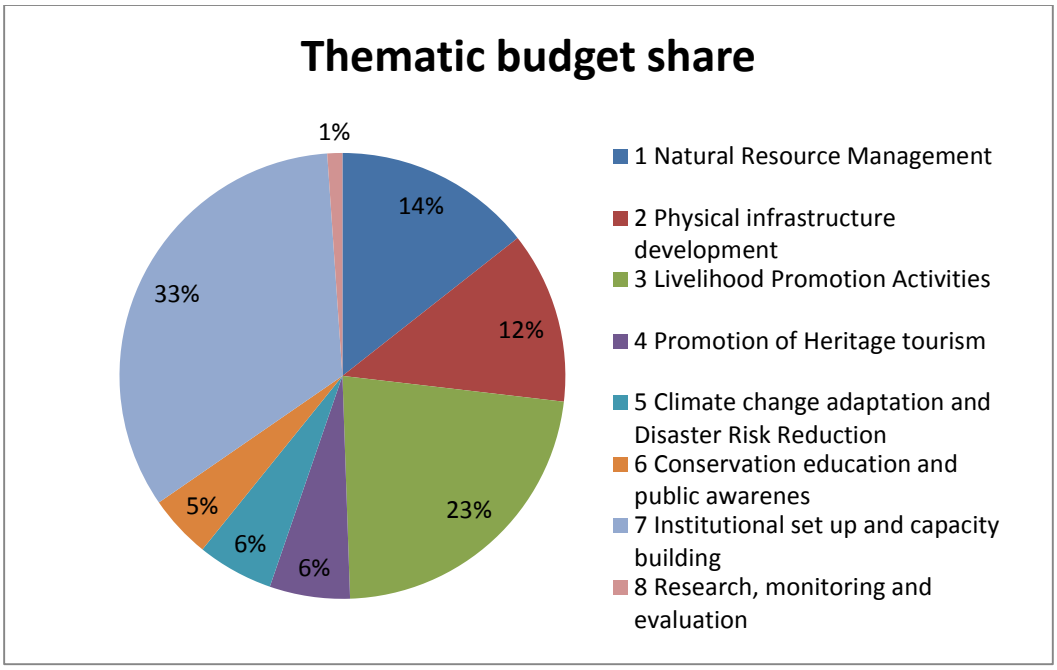


Figure 23. Proportion of thematic budget share of ANCA (2015-2019)

Likewise, yearly breakdown has been also presented (

Figure 24;

Table 8). It is expected that there will be around 25-40% people's contribution in kind particularly in physical infrastructure development and heritage tourism. The financial compliance will be as per the prevailing rules and regulations of Nepal Government. ANCA Office and PA institutions can bring additional funds to match the proposed programs that would leverage additional resources. This is exactly the spirit of management plan- bringing in a synergy from concerned stakeholders and conservation partners. In essence, separate annual work plan will be prepared in line with this plan therefore these budgetary items should be treated as indicative -certain changes during the course of planning might be expected. However, their strategies, approaches and budgetary focus should be respected as much as possible.

Table 8. Proposed yearly budget of ANCA

Yearly breakdown	Budget (in 000)
First year	41154
Second year	47484.4
Third year	42556
Fourth year	53119
Fifth year	49677.6
Total	**233, 991**

Yearly budget share is respectively 18%, 20%, 18%, 23% and 21% respectively (Figure 24).

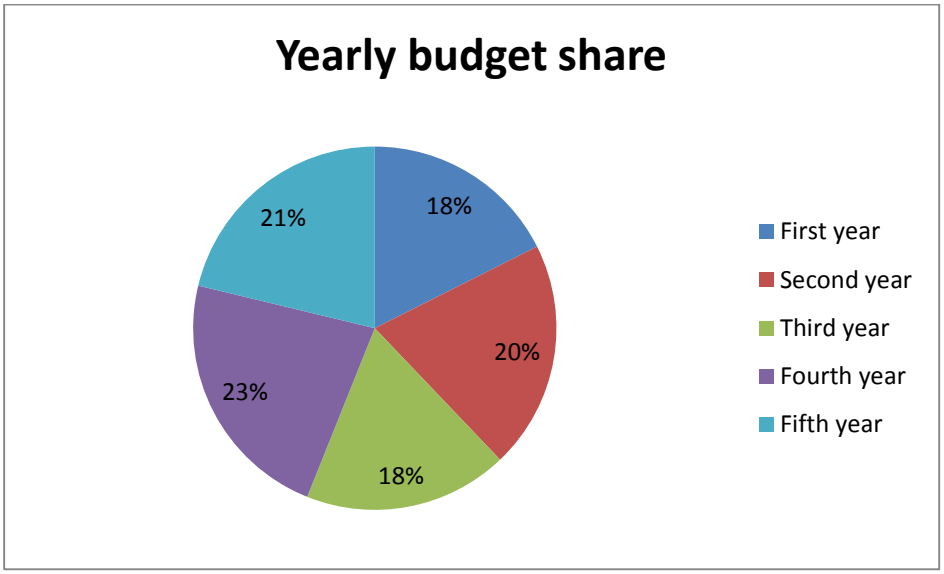


Figure 24. Yearly share of ANCA budget (2015-2019)

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ANNEXES

Annex-1a: Temperature data of Darchula district from 1989 to 2013(DHM)

Year	Jan		Feb		Mar		Apr		May		Jun		July		Aug		Sep		Oct		Nov		Dec	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1989	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	34.10	19.60	30.60	21.70	30.30	21.70	30.30	20.90	31.10	20.20	28.90	14.50	23.40	9.30	19.30	6.30
1990	22.1	6.2	19.5	8.0	22.2	9.4	30.1	13.3	31.2	18.7	34.4	21.5	30.9	22.5	31.8	21.9	31.1	20.5	28.8	14.0	25.0	8.7	19.8	5.9
1991	18.0	4.7	22.6	7.4	25.7	10.7	30.0	13.4	35.6	17.0	33.5	20.3	32.3	22.1	31.2	21.7	31.7	21.0	29.7	13.9	24.1	9.1	19.6	6.7
1992	17.8	5.0	20.8	6.1	25.2	9.6	31.8	14.4	32.7	17.0	33.6	19.8	32.6	20.4	32.4	20.8	32.0	19.5	27.9	14.6	24.2	9.5	20.4	5.5
1993	17.6	4.7	22.1	5.8	22.7	8.0	29.7	12.5	32.9	18.1	33.0	20.6	32.3	21.8	32.5	21.6	30.2	20.0	29.1	15.3	25.7	9.7	22.0	5.4
1994	19.2	4.6	19.8	4.4	29.7	10.7	28.7	13.0	34.4	18.7	36.1	20.8	32.6	22.2	31.3	21.8	31.7	20.1	29.7	13.1	25.3	9.5	21.7	6.4
1995	17.5	4.3	20.9	5.9	26.0	10.1	31.0	15.2	35.0	21.2	35.3	21.9	32.6	21.3	31.1	21.1	30.3	19.4	28.8	17.0	25.1	9.3	20.6	5.9
1996	19.2	5.1	21.3	5.6	26.5	10.3	31.6	14.6	35.7	19.7	34.1	20.5	31.3	21.5	31.0	21.3	29.7	16.5	27.1	11.6	25.9	7.7	19.7	3.8
1997	18.8	3.6	22.8	4.5	27.6	9.5	28.4	13.0	33.6	18.0	34.7	20.3	32.5	21.1	31.6	20.7	30.7	19.4	25.2	11.6	21.9	8.8	16.6	4.5
1998	18.3	4.0	22.2	6.1	24.4	8.7	30.3	13.2	33.9	19.2	35.2	22.3	33.2	22.6	32.3	22.1	31.8	21.1	27.9	16.4	23.8	9.9	20.5	5.6
1999	20.0	5.0	24.9	7.7	30.6	10.4	35.2	15.7	34.8	20.8	33.1	DNA	32.1	DNA	32.5	DNA	31.3	DNA	27.8	DNA	25.1	DNA	20.5	5.2
2000	19.7	4.8	19.5	5.0	25.1	9.2	33.3	14.2	32.9	19.2	31.4	21.1	31.7	21.6	30.2	21.1	30.1	19.1	30.4	13.9	26.1	10.4	21.5	4.5
2001	20.8	3.4	25.3	5.1	26.4	8.1	30.8	13.2	32.5	17.3	31.2	19.5	32.6	21.2	32.5	20.8	31.1	18.5	30.0	14.7	25.4	8.9	21.1	4.9
2002	18.9	3.9	21.9	6.0	17.1	9.6	31.8	15.5	32.1	17.9	33.3	20.5	32.6	20.9	31.3	20.9	19.0	18.0	28.4	13.7	24.1	8.2	21.4	5.4
2003	19.8	3.5	21.9	5.4	26.1	8.9	33.3	14.6	33.5	17.8	34.0	21.0	31.8	20.8	32.0	21.4	30.5	19.7	30.1	13.2	24.1	8.1	20.7	5.4
2004	19.4	4.5	24.9	6.8	31.7	12.3	31.6	16.0	33.0	18.7	32.8	20.5	31.0	21.2	31.7	21.1	31.4	20.3	26.2	13.3	22.9	8.4	19.6	5.7
2005	17.4	3.9	20.2	5.7	26.8	10.9	31.5	15.4	32.6	17.4	36.1	21.5	30.1	21.2	31.4	20.9	29.6	19.3	27.5	13.6	21.9	6.6	17.1	4.0
2006	19.1	4.4	27.4	8.5	28.1	9.8	30.8	13.9	33.0	19.4	32.7	20.9	31.1	22.1	32.7	20.9	30.9	19.9	27.4	14.1	24.0	8.5	18.4	5.4
2007	20.6	3.8	20.6	6.4	25.9	9.6	32.3	15.4	31.8	18.8	32.3	20.4	31.0	21.1	30.5	20.4	30.0	19.1	28.4	13.7	24.2	9.2	18.0	4.8
2008	17.7	4.4	22.6	4.8	29.4	10.1	30.7	13.0	32.5	17.6	32.9	20.8	31.8	20.5	31.8	20.6	29.8	18.1	28.0	13.1	23.9	8.4	21.4	6.9
2009	22.7	5.2	26.2	7.2	29.6	10.6	32.5	15.1	32.4	18.4	35.6	21.7	33.8	21.9	32.6	21.6	30.7	18.6	26.9	12.4	23.1	7.6	19.3	5.4
2010	19.5	4.1	23.6	5.3	31.0	12.6	35.1	17.5	35.4	20.4	35.8	21.7	33.6	21.2	32.2	20.6	30.1	18.9	38.6	13.7	24.5	9.6	17.8	4.1
2011	18.8	3.4	22.5	5.2	29.5	9.1	33.0	14.1	34.5	19.1	34.3	20.2	33.5	20.8	33.1	20.4	31.5	19.1	DNA	DNA	DNA	DNA	DNA	DNA
2012	16.5	4.0	22.1	6.3	25.1	10.9	DNA	14.0	DNA	17.1	DNA	21.4	DNA	21.5	DNA	21.0	DNA	19.0	DNA	12.1	18.8	7.6	18.0	5.0
2013	20.0	3.7	22.6	7.5	29.3	10.6	31.3	14.5	35.0	18.5	19.6	3.6	30.5	21.5	31.2	21.4	31.2	19.4	28.1	16.9	21.0	8.4	17.6	5.8

Annex-1b: Precipitation data of Darchula district from 1989 to 2013 (DHM)

Year	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Mean	Stand dev.
1989	125.1	27.2	49.5	4.2	42.1	276.3	672.6	992.5	251.3	61	24.4	9	211.3	311.4
1990	0	107.6	171.7	87.5	223.6	323.1	719.8	544.3	439.6	38.4	9	78	228.6	231.9
1991	25.3	81.2	94.2	73.6	66.4	188	560.8	847.4	207.8	20	14	58.1	186.4	256.6
1992	106.3	49	42.5	8.8	57.2	171.1	659.9	848	345	62.2	0	0.2	195.9	280.5
1993	130.2	67.5	129.9	63.7	174.4	243.1	449.9	619.6	576.6	41.5	0	0	208.0	220.1
1994	53.2	85.8	18.2	81	118.9	243.6	675	680.1	156.6	60.4	2	3	181.5	241.5
1995	54.8	82.1	58.6	21.8	126.8	361.8	783.6	750.1	260.9	43	2	5.1	212.6	280.4
1996	57.8	73	53.6	46	17.2	473.8	613.9	583	246.3	55	0	0	185.0	235.2
1997	52.6	22.6	59.8	13	88.9	230.4	759.8	388.6	423.2	61.4	36	161.8	191.5	226.9
1998	8	41.4	89	42.4	204.5	409.1	620.5	868.9	419.4	61	19.6	0	232.0	285.2
1999	28	24.6	1	11	70.8	278.8	886	716.2	351.6	71.2	0	16	204.6	302.8
2000	20.6	129.8	53.8	93.6	221.3	626.8	647.6	821.8	196.4	0	16	0	235.6	292.0
2001	41.4	38.4	56	75.6	273.2	425.1	725.8	430.2	176.6	24	0	7	189.4	229.7
2002	52	90.2	71.6	88.2	215.4	210.4	595.8	451.6	325.6	72	10	0	181.9	187.7
2003	48.8	141.8	61.8	29.6	73	340.5	946.6	737.4	473.2	0	4	7	238.6	320.3
2004	39.6	7	0	94.8	222	266	825.6	849.2	180.6	122.4	0.5	8	218.0	303.2
2005	136.4	138.4	49.6	9	103.8	156.4	746.2	421.8	405.8	92.6	6	15	190.1	223.6
2006	20	6	56	100.4	115.4	265.2	768.2	678.4	307.2	45	2	22.6	198.9	264.6
2007	0	111	144	46.6	197	286.8	996.8	778	619	62.2	2	13	271.4	338.3
2008	31.6	24.6	8	111	146.4	380.8	681	650	200.9	94	7.2	0	194.6	245.2
2009	4.6	35	61.4	44	83.1	357	694.6	636.2	245	346	26	0	211.1	247.6
2010	16	97	13.4	58.6	98	201.2	893	910	622	51	2	1	246.9	349.9
2011	40.4	86.2	22.2	28.4	97.2	489	724	703.8	355	DNA	DNA	DNA	282.9	292.4
2012	56.3	2.8	17.8	34.2	64.4	185.6	732.1	509	540.2	44.2	8.6	9	183.7	257.1
2013	77.2	114	27.2	32.6	31.8	77.2	597.7	672.8	174.1	45.5	8.2	0	154.9	230.1

Annex-2: Micro-hydro projects in ANCA (DDC, 2013)

S.N	Scheme Name	VDC	Electricity (KW)	Beneficiary HHs
1	Hoparigad	Sipti	50	600
2	Kalagad	Bramhadev	43	453
3	Khar Khola ll	Khar	34	400
4	Kalagad	Hikila	34	314
5	Ghattegad	Latinath	25	377
6	Bagad Khola	Eyarkot	25	226
7	Guljar	Guljar	25	400
8	Kukuregad	Pipalchauri	21	210
9	Bunglibagad	Guljar	20.5	191
10	Sina	Sunsera	18	250
11	Khar Khola	Khar	17	172
12	Dumling gad	Rapla	13.4	110
13	Shulmi Khola	Guljar	13	152
14	Tinkar Ghatta Khola	Byash	12	65
15	Dogad	Latinath	11.5	115
16	Dahagad	Guljar	11	78
17	Mulkhola	Sipti	9.5	90
18	Ranthal	Rapla	9	75
19	Shimar	Dhari	9	108
20	Rapla	Rapla	8	65
21	Chade l	Khandeswari	7	72
22	Chade ll	Khandeswari	6	66
23	Thumki khola	Tapoban	5.5	56
24	Barku	Tapoban	5.5	56
		Total	**432.9**	**4701**

Annex-3: Land cover of ANCA (ICIMOD, 2013)

SN	Land Cover Classes	Area ha	Area %
1	Forest	62,930.61	33.08
2	Alpine meadows	43,670.10	22.96
3	Snow/glacier	37,524.31	19.73
4	Scrubland	17,846.99	9.38
5	Agriculture	16,128.28	8.48
6	Hillside grassland	11,037.66	5.80
7	Barren area	750.90	0.39
8	Waterbodies	265.38	0.14
9	Built-up area	79.25	0.04
	Total	**190,233.47**	**100**

Annex-4: Food Sufficiency Month in ANCA (District Profile Darchula, 2009)

VDC	Months				Total HHs
	<3	3-6	6-12	> 12	
Brahmadev	280	323	46	4	653
Byas	79	319	133	12	543
Chapari	192	273	17	0	482
Dhari	56	256	310	2	624
Dhaulakot	38	193	232	0	463
Eyarkot	224	130	0	0	354
Ghusa	100	116	8	0	224
Guljar	90	446	90	0	626
Hikila	288	128	24	0	440
Huti	153	167	151	0	471
Katai	302	170	21	0	493
Khandeshwori	21	646	0	0	667
Khar	71	254	278	51	654
Latinath	172	349	147	10	678
Pipal Chauri	306	18	0	0	324
Rapla	103	63	81	25	272
Sheri	96	160	110	20	386
Shitola	217	166	110	4	497
Sipti	18	147	479	93	737
Sunshera	374	110	27	0	511
Tapoban	40	151	130	4	325
Total	3220	4585	2394	225	10424

Annex-5: HDI value of Darchula (HRD Report, UNDP, 2011)

HDI index	Nepal	Darchula
Life expectancy	60.98	56.43
Life expectancy index	0.60	0.52
% Adult literacy ratio	48.60	41.50
Mean years of schooling	2.75	2.73
Educational attainment index	0.39	0.34
Per capita income ($)	240.00	216.00
Income index	0.43	0.41
HDI index	0.47	0.42

Annex-6: Vegetation types in ANCA (ICIMOD, 2013)

	Area	
Vegetation types	**Ha**	**%**
Alpine meadows	43,670.10	32.23
Temperate broadleaved	26,572.25	19.61
Sub alpine conifer forest	23,316.16	17.21
Alpine/primary scrubland	12,515.69	9.24
Sub-tropical broadleaved forest	12,425.98	9.17
Hillside grassland	11,037.66	8.15
Secondary scrubland	5,331.30	3.93
Sub-tropical broadleaved forest	616.21	0.45
Total	**135,485.35**	**100**

Annex-7: Endangered, Threatened and Protected Flora and Fauna of ANCA (Source: ANCA, DNPWC, 2009)

S.N	Scientific Name	नेपाली नाम	Family	Status Code		Legal Status
				IUCN	CITES	
A.	**Floral Species**					
1	*Dactyaloriza hattazeria*	पाँच औले	Orchidaceae	-	II	P
2	*Picrorhiza scrophulariflora*	कटुकि	Scrophulariaceae	V		P
3	*Nardostachys grandiflora*	जटामसि	Valerianaceae	V	II	P
5	*Valeriana jatamansi*	सुगन्धवाल	Valerianaceae		II	P
6	*Rauwolfia serpentine*	सर्पगन्धा	Apocynaceae	E	II	P
7	*Abies spectabilis*	तालिसपत्र	Pinaceae		II	P
8	*Pinus wallichina*	गोब्रेसल्ला	Pinaceae		II	
9	*Aconitum hetrophyllum*	विष	Ranunculaceae	R		
10	*Meconopsis regia*	हिमाली पप्पी	Papaveraceae		III	
11	*Lichens*	झ्याँउ	-			P
12	*Orchidaceae*	सुनगाभा	Orchids		II	
13	*Swertia chirayita*	चिराईतो	Gentianaceae	V		
14	*Taxus baccata*	लौठ सल्ला	Taxaceae		II	P
B.	**Fauna - Mammals**					
1	*Naemorhedus goral*	घोरल	Bovidae		I	
2	*Moschus chrysogaster*	कस्तुरि मृग	Cervidae	E	I	P
3	*Ailurus fulgens*	हाब्रे	Ailuridae	E	I	P
4	*Uncia uncia*	हिउ चितुवा	Felidae	E	I	
5	*Selenarctos thibetanus*	कालो भालु	Ursidae	V		

S.N	Scientific Name	नेपाली नाम	Family	Status Code		Legal Status
				IUCN	CITES	
A.	**Floral Species**					
6	*Bos grunniens*	याक	Bovidae	V	I	
7	*Hemitragus Jemlahicus*	झारल	Bovidae	V	K	
8	*Canis aurevs*	स्याल	Canidae		III	
C.	**Fauna – Avian**					
1	*Lophophorus impejanus*	डाँफे	Phasianidae		I	
2	*Tragopan Satyra*	मोनाल	Phasianidae	E	III	

Annex-8: List of NTFPs/MAPs in ANCA(Source: ANCA, DNPWC, 2009)

S.N	Local Name	नेपाली नाम	Scientific Name	S.N.	Local Name	नेपाली नाम	Scientific Name
1	Amala	अमला	*Phyllanthus embilca*	29	Paun ko bokra	पौनको वोक्रा	*Bauhinia spp*
2	Bhakimlo	भकिम्लो	*Rhus javanica*	30	Ritha	रीठा	*Sapidus mukorossi*
3	Bhaykur	भ्याकूर	*Dioscores deltoides*	31	Sanjiban	सजिवन	*Origanum vulgare*
4	Bhojpatra	भोजपत्र	*Betula utilis*	32	Satuwa	सतुवा	*Peris poliphylla*
5	Bhorlako bokra	भोर्लाको वोक्रा	*Bauhinia valli*	33	Setak chini	सेतक चिनि	
6	Bhutkesh	भुतकेश	*Selinum condollii*	34	Siltimur	सिलतिमुर	*Lindera neesiana*
7	Bojho	वोझो	*Acorus calamus*	35	Tejpat	तेजपात	*Cinnamoum tamala*
8	Chayu	चयु	*Agricus spp.*	36	Thingre salla	ठिग्रे सल्ला	*Tsuga dumosa*
9	Chhatiwanko Bokra	छतिवनको वोक्रा	*Alstonia spinulosa*	37	Timur	टिमुर	*Zanthoxylum aramatum*
10	Chiryito	चिराइतो	*Swertia chirita*	38	Yarsa	यार्सागुम्वा	*Cordyceps*

					gumba		*sinensis*
11	Chutro Bokra	चुत्रोको वोका	*Berberis aristrsta*				
12	Daru haldi	दारु हल्दि	*Mahonia napalensis*				
13	Dhupipat	धुपि पात	*Juniperous indica*				
14	Dlachani	दालचिनि	*Cinnamomum tamala*				
15	Guchii Chyau	गुच्चि च्यांउ	*Morchella Spp.*				
16	Haldi	हल्दि	*Curcuma angustifolia*				
17	Jhyau	भच्यानु	*Permelia nepalensis*				
18	Kachur Jara	कचुर जरा	*Curcuma zedooria*				
19	Kakadsingi	ककडसिंगि	*Cucummis melo*				
20	Kalchuri ko bokra	कलचुरिको वोका					
21	Kaulko bokra	कौलोको वोका	*Persea odoratissima*				
22	Kurilo	कुरिलो	*Asparagus racemosus*				
23	Kurilo Jara	कुरिलोको जरा	*Asparagus racemosus*				
24	Kutki	कटुकि	*Picrorhiza scorphularieflora*				
25	Kutko	कटुकि	*Picrorhiza spp*				
26	Lauth salla	लौठ सल्ला	*Taxus baccata*				
27	Nirmasi	निरमसि	*Pamassia nubicola*				
28	Pakhenved	पाषाणभेद	*Bergenia ciliata*				

Annex-9: Export details of NTFPs (in kg) (DFO Darchula, 2013/14)

Year 2013	Yarsha Gumba	Chairaito	Gucchi Chau	Satuwa	Ban Lasun	Simple Chau	Timur	Rittha	Dal Chini Bark	Kala Dana	Kutki	Pakhan Bedh	Jata Masi	Suganda Wal	Tej Path	Allo
April/May	179.78		27	2650	80							200	140	150	2000	
May/June	466.55		11.7	1248	87											
June /July	149.5			821	1134	1540										
July/ August	8.7			104.7		1000	250									
August / September	1.8	1800		97		195										
September/ October																
October / November	32.1	500						3000.5	200	40	530					
November/ December																6000
Year 2014 December / January												2000			3500	2800
January / February																
February/ March	1												200			
March / April	15.95															
Total	862.98	2300	38.7	4921	1301	2735	250	3000.5	200	40	530	2200	340	150	5500	8800

Annex-10: Details of Community Forests (DFO, Darchula,2009)

S.N	Community Forest	VDC/Wards	Area (Ha)	HHs	Population
1	Youba	Dhari-6	46.5	97	695
2	Daula Bhuekot Pairo	Dhari 5, 6	5.3	60	205
3	Tutu Titari	Dhari 6, 7	54.4	121	844
4	Kholse	Dhari 5	24.75	44	321
5	Thamdhar Ratuwa	Bhramdev 8,9	36	57	424
6	Shreebagad	Chapari 8	78.75	67	433
7	Angle	Chapari 6	4.5	34	209
8	Tham Panayer	Chapari 7, 9	5.2	59	101
9	Kafal Dhar Malera	Chapari 5	11.6	34	318
10	Latinath	Chapari 2, 9	162	360	2247
11	Rani	Ierkot 7,6	2.68	20	143
12	Dhanphe	Ierkot	32.5	84	581
13	Basandhar	Ierkor 77	72	35	193
14	Siddanath	Ierkor 6, 7	10.4	64	450
15	Bhagwatirani	Iearkot 7, 8	31.6	59	357
16	Mua	Kante 4	5.26	78	566
17	Donaeya	Kante 9	42.542	185	1266
18	Gadani Dhar	Kante 7	7.81	32	178
19	Sirad	Kante 4	10.2	37	195
20	Dada Mahila	Kante 4	3.5	26	154
21	Latinath	Kante 4	8.98	76	544
22	Malikarjun	Kante 6,7, 8	74.18	185	1266
23	Deukakotha	Kate 1, 2, 3	15.18	147	903
24	Chuwad	Kante 7	5.67	50	194
25	Parikhar	Khar 6	10.4	33	233
26	Jyamire	Khar 5	9.4	51	333
27	Jugepani	Khar 7	2.34	60	409
28	Gokarnagodani	Khar 3	23.1	116	791
29	Cinadkhola	Khar 8, 9	4.48	44	107
30	Chandan	Khar 2	2.64	43	262
31	Biraldharthaulapani	Khar 1	3.21	64	407
32	Ghattekhola	Khar 4	4.16	22	91
33	Hudkekhola	Khar 1, 2	2.5	29	192

34	Paripatal mahila	Khar 7, 8, 9	11	120	836
35	Kakanau khola	Khar 5	10	34	199
36	Lampani	Khar 9	8.06	29	149
37	Tham	Khar Kante 1, 2, 3, 5	150.65	126	423
38	Simaldhar Jyamire	Khar 6 & Dhuligada	5.73	18	91
39	Kedarnath	Khar 1 2 3	13.18	116	484
40	Pateli Bisaunew	Khar 6 & Dhuligada	52.47	136	969
41	Kateribisaoone	Septi 4	5	110	378
42	Selapatal	Septi 8	6	12	100
43	Bajlyani	Septi-2	21	40	272
44	Pagrani	Ghusa 1	119.52	25	163
45	Joledhar	Khandeshori - 5, 6, 7	6.12	29	214
46	Dothi	Khandeshori -7	7.36	45	316
47	Barosepani	Khandeshori -8	12.5	41	304
48	Dothinala	Khandeshori -7	10.8	45	316
49	Kholteraula	Khandeshori -5,6	3.41	55	378
50	Bisundhar	Khandeshori -4	8	35	261
51	Chadepani	Khandeshori -5,6	8.7	21	139
52	Childhungra mahila	Khandeshori -9	78.5	40	227
53	Phapare	Setola -9	45.5	120	882
54	Sallyadi	Guljar-2,3	10	75	468
55	Herana	Guljar-4	5.6	37	262
56	Durga mandir	Guljar-7	7	51	346
57	Gauri	Guljar-4,5,6	60	122	976
58	Lidele	Guljar-5,6	6	87	601
59	Damkumari	Guljar-7,8	33.5	103	681
60	Bisona	Guljar-7,8	10.4	105	632
61	Kalenjar	Guljar-7,8	15.5	106	632
62	Daluna	Latinath-8	38.59	45	270
63	Oosani	Latinath-8	7	45	270
64	Oosani	Latinath-8	5.4	41	198
65	Tiloli	Latinath-1,2,3	64.4	274	1831
66	Ghattekhola	Latinath-9	5.67	28	194
67	Bajani kila Osad	Latinath-7	121	56	928

68	Changru	Byas-1,2,3,4,5	125	96	521
69	Tinker	Byas-6,7,8,9	91.7	66	316
70	Dumling	Rapla-7,8,9	5698	87	498
71	Gorakhnath	Rapla-=,4 5,	78	52	311
72	Namjung	Rapla -1,2,3,4	49.25	55	321
73	Durgabhawani	Rapla- 4,6	260	28	219
74	Thadaiejar	Sunsera 6	5.6	110	753
75	Rani	Sunsera 8	122.5	44	280
76	Sideshore	Sunsera - 1,2 ,3, 9	2672	162	1060
77	Brahmlekh	Sun.-4,5,6,7 Dhaulakot -1,2	310.25	226	1596
78	Sampalrani	Sunera-4,5,6,7	255	148	956
79	Mahadev	Sunsera-9	69	27	173
80	Jankatha	Dhaulakot-4,5	24.4	89	617
81	Buraushdahr	Dhaulakot-4	3.3	46	243
82	HapalaKamdeni	Dhaulakot-3	4	56	328
83	Hapalakamdeni	Dhaulakot-9	81.15	40	310
84	Ghar tali	Dhaulakot-1,2	7	85	500
85	Jya durgee	Dhaulakot-4,5	30.64	131	822
86	Gharmathi	Dhaulakot-6	15.5	29	194
87	Gaurirani	Huti-1,2,3,8,9	131.25	205	1000
88	Bhasekahali	Huti-3,4,& Dhaulakot 8	27.37	100	769
89	Pariban tusradi	Huti-6	11.15	54	384
90	Okhal Gada	Huti-2,3	11.11	51	310
91	Malikarjun	Huti-7	74.37	43	259
92	Phaparadi	Pipelchauri-7	5.99	148	954
93	Basapali	Pipelchauri-6,7	3.62	80	1100
94	Sauteli	Pipelchauri-9	3.2	63	428
95	Brhamlekh Kaiechula	Pipelchauri-2,3,4	139	148	954
96	Malikarjun dnad	Pipelchauri-6,7	35	80	500
97	Chaupari chaukedshunga	Pipelchauri-2,3,4	51.1	147	961
98	Durge bhawani	Pipelchauri-8,9	76.29	63	428
99	Hikela	Hikela-1,9	2805	491	2772
Total			**15064.032**	**8095**	**51839**

Annex-11: Status of drinking water supply and sanitation in ANCA(DDC Darchula, 2009)

SN	VDC	Population	Number of house hold	Public water tap	Benefitted house holds	Private water tap	Perm. toilet
1	Seri	2146	379	75	247	3	154
2	Tapoban	2115	340	80	391	27	202
3	Latinath	3920	623	201	923	33	75
4	Guljar	3648	584	153	732	37	121
5	Khandeswari	2587	376	80	392	9	177
6	Ghusha	1293	182	39	234	1	102
7	Sitaula	2612	428	97	464	17	10
8	Sipti	3639	642	73	812	111	199
9	Eyarkot	2108	323	71	380		107
10	Khar	3666	623	165	753	11	96
11	Kante	2865	479	164	512		113
12	Chhapari	2808	454	118	403		
13	Bramhadev	2988	319	95	357		70
14	Dhari	3899	671	145	684		40
15	Hikila	2583	399	85	774		70
16	Pipalchauri	2137	347	37	299		8
17	Huti	2694	439	37	299		34
18	Dhaulakot	2581	411	123	384	8	9
19	Sunsera	3211	620	78	307	1	63
20	Rapla	1207	227	29	214		46
21	Byash	653	149	8	150		62
	Total	**55360**	**9015**	**1953**	**9711**	**258**	**1758**

Annex-12: Yarsa collection sites in ANCA (Bhatta, 2064)

S.N	VDC	Yarsa sites
1	Byas	Api, Nampa, Budhi, Pola, Tinkar, Bolan, Raskhan, Suntala
2	Rapla	Munti, Tin chada, Sibanantha, Humatumadi, Dudiban, Galagasha, Sampa, Dhar sampa
3	Khandeswari	Chhati khola, Ghatta khola, Dharma ghar, Aantikhana, Bayali, Katai khola/ Saunathi, Patha khola, Botan Dhunga, Bhadala, Khadichak, Kapugaad, Khoraru, Dhansera, Kalaghada, Suni
4	Ghusa	Lolu, Rokhapu, Dhaula oodar, Bhabai, Kaldhungae, Khaulta, Makur, Nata, Phapara, Ringdapani, Thadaulo, Baisal, Thadapani, Bayali, Domal, Dopakha, Gauthalighol, Hatinabagar, Thliban, Bhalya khola, Talgad, Simar, Dhannakuna, Batadera
5	Sitaula	Satganga, Chaimatala, Phafulak
6	Guljar	Dhullak, Phalarimela, Batula dhunga, Dharma ghar, Charchara

Annex-13 Activity budget of ANCA (2015-2019)

S.N	Thematic Activities	Unit	Quantity	1st year	2nd year	3rd year	4th year	5th year	Total (NRS in 000)
1.Natural Resources Management Program									
1.1 Pastureland/Rangeland Management and improve livestock breed									
1.1.1	Resource inventory and preparation of sub-sector plans (yarsa gumba, panch aunle, satuwa, rittha and kutki)	Unit	5	0	600	660	360	0	**1620**
1.1.2	Inventory of pastureland	Pasture	3	0	300	440	360	0	**1100**
1.1.3	Restoration of degrated pastureland	Pasture	3	0	400	440	480	0	**1320**
1.1.4	Provide physical infrastructure in rangeland	Units	3	200	200	200	0	0	600
1.1.5	Support to Mobile veterinary camps	Pasture	6	0	100	220	120	260	**700**
1.1.6	Conduct awareness program for herders	No.	6	300	0	360	0	360	1020
1.1.7	50 % Subsidy to buy quality/hybrid livestock	Unit	25	250	275	300	325	350	1500
1.1.8	Fodder production in pastures	Pasture	3	100	110	120	0	0	330
1.1.9	Support marketing of diary product	Unit	2	200	220	0	0	0	420
	Total			1050	1875	2620	1645	970	**8160**
1.2 Forest Management									
1.2.1	Preparation of Forest operational plans for renew	Units	80	1000	1100	1200	650	700	**4650**
1.2.2	Supports in alternative energy sources for yarsa gumba collectors	Depot	2	600	0	0	0	0	**600**
1.2.3	Regular monitoring of Chimal forest/yarsa gumba in alpine	Units	10	200	220	240	260	280	**1200**

1.2.4	Regular monitoring/joint monitoring of forests/forest resources	Units	10	300	330	360	390	420	**1800**
1.2.5	Preparation of Participatory Natural Resources Management Plan	Unit	16	640	704	768	832	896	**3840**
1.2.6	Multipurpose/NTFP Nursery operation in Khar, Latinath, Hikila & Byas	Unit	4	800	880	120	130	140	**2070**
1.2.7	Afforestation	Seedlings	250,000	0	220	240	260	280	**1000**
1.2.8	Organize field/exposure visit to CFUGs	Unit	2	0	300	0	360	0	**660**
	Total			3540	3754	2928	2882	2716	**15820**
2. Species Conservation Program									
2.1 Species conservation and habitat Management									
2.1.1	Detail habitat study of flagship species (snow leopard, blue sheep, black bear, musk deer)	Species	4	0	500	550	600	650	**2300**
2.1.2	Train to local people /monitoring of key wild animals (in every five year).	Species	4	0	0	0	0	1200	**1200**
2.1.3	Delineation of "Biodiversity Hotspot Zone" considering the prime habitats of key wild animals	Species	4	300	300	0	0	0	600
2.1.4	Habitat restoration initiatives in critical areas	Units	3	0	500	550	600	0	**1650**
	Total			300	1300	1100	1200	1850	5750
2.2 Poaching and Illegal wildlife trade									
2.2.1	Institutional supports to WCCB	**unit**	**1**	**150**	**110**	**120**	**120**	**120**	
2.2.2	Set up of anti poaching operation units and capacity building	Units	6	200	220	120	130	0	**670**
2.2.3	Organize/institutionalize transboundary cooperations/coordinations	Unit	5	200	220	240	260	280	**1200**
2.2.4	Carry out inventory of wildlife trade routes – 5 units	lump sum		0	0	300	0	0	**300**

2.2.5	Conduct exposure visit for APOUs/WCCB/council members	Unit	3	0	0	300	0	300	**600**
	Total			400	220	120	390	280	**1410**
2.3 Human wildlife Conflict									
2.3.1	Conduct public education and awareness program on HWC	unit	2	100	0	110	0	0	210
2.3.2	Support in traditional mitigation measures	lump sum		0	0	300		360	**660**
2.3.3	Support in alternative crops	lump sum	4	0	0	200	240	220	660
2.3.4	Establish community based insurance scheme	Unit	2		1000				1000
	Total			100	1000	610	240	580	**2530**
3. Rural Development Program									
3.1 Trail and Bridge Construction and Repair									
3.1.1	Support Trail Construction, Tapoban VDC	Site	1	0	0	0	600	0	600
3.1.2	Support Trail Widening, Khandeshwari-6, Makarikot forte with fencing	Site	1	0	300	0	0	0	300
3.1.3	Trail Construction, Sipti and Hikila	Site	2	0	0	300	330	0	630
3.1.4	Trail Construction in Sukalu Gufa, Pipalchaure-1	Site	1	0	0	0	500	0	500
3.1.5	Trail Construction, Dhaulakot	Site	1	0	300	0	0	0	300
3.1.6	Wooden Bridge Construction, Pipalchaure 1 and 2, Khet gat	Site	1	0	0	0	400	440	840
3.1.7	Trail Construction, Chhapari – 1 (Brama daha) to 8	Site	1	0	0	0	400	0	400
3.1.8	Trail Construction, Dhari and Bramahadev	Site	2	0	0	400	0	480	880
3.1.9	Bridge Construction (between ward no. 5 and 9), Eyarkot	Site	1	0	0	0	800	0	800
3.1.10	Byans Cave road construction, Byans			0	0	800	0	0	800

3.1.11	Bridge Construction, Byas, Gaga			0	900	0	0	0	900
3.1.12	Trial Construction, Dumling ward- 8 to Dudi Ban ward- 9, Rapla			0	0	0	0	800	800
3.1.13	Trail construction from Huti-5, Khati Gau to Gori Chhana masan ghat			800	0	0	0	0	800
	Total			800	1500	1500	3030	1720	**8550**
3.2 School and Health post Construction and Repair									
3.2.1	School Repair, Tapoban Secondary School, Tapoban-5			0	0	0	0	500	500
3.2.2	School Repair, Bhuwaneshwor P.S., Tapoban – 2, Dhodedhar			700	0	0	0	0	700
3.2.3	Construction of four new rooms for Chipul Kedarnath Lower Secondary School, Sitola- 7 (This school runs by private source)			0	0	0	800	0	800
3.2.4	Furniture support to Salladhara Secondary school, Sitaula- 1, Murai			0	0	0	400	0	400
3.2.5	Establish Sub-Health Post, Sitaula-7, Dhangkang			0	0	0	0	900	900
3.2.6	Supports in relocation/school construction of Ganesh Binayak Higher Secondary School , Sipti-7 Hikila- 8 and 9 (Currently school is in danger of river cutting)			0	1100	0	0	0	1100
3.2.7	Construction of school building for Dahadar primary school, Pipalchauri-4 (whole VDC benefited)			0	0	0	0	800	800
3.2.8	Construction of health post, Hikila-8			0	0	0	0	700	700
3.2.9	Pipalchaure Secondary school construction, Pipalchauri-4, (whole VDC benefited),			800	0	0	0	0	800
3.2.10	Ranistan Primary School building construction, Huti-2,Naupanir			0	0	0	800	0	800
3.2.11	Api-Nampa Campus building construction, Huti-2			0	0	0	0	1000	1000
3.2.12	Sampal Secondary School building construction and furniture support, Sunsera			0	0	0	0	900	900

3.2.13	Bramastan Lower Secondary School repair and furniture support, Dhaulakot-2			900	0	0	0	0	900
3.2.14	Support furniture to Jana Bikash Higher Secondary School, Bramahadev-1(Benefited VDCs are Bramadev, Chhapari and Dhari)			0	0	200	0	0	200
3.2.15	Fencing material support , Aalkapuri Secondary School, Chhapari- 3,			0	0	0	200	0	200
3.2.16	Fencing material support Chhapari Lower Secondary School ,Chhapari- 6			0	0	0	200	0	200
3.2.17	Fencing material support, Kante- 9, Huskar Higher Secondary School (RCC wall), Benefitted VDCs are Katai, Chhapari 7 and 9 and Khalanga 8 and 9			0	0	0	0	200	200
3.2.18	Support Gabion wire to protect from river cutting, Kante- 1, Badal Gau, Bhubanaswar Primary School, Benefitted VDCs are Kate -1, Khalanga-9 and Chhapari-9			600	0	0	0	0	600
3.2.19	Support to Fencing and Furniture Support, Kante, Dhari Pata Secondary School and Bhagawati Primary School			0	0	0	200	0	200
3.2.20	Support to Fencing, Rapla-4, Rapla Secondary School			0	0	0	200	0	200
	Total			3000	1100	200	2800	5000	**12100**
3.3 Drinking water, health and Sanitation									
3.3.1	Sanitation/toilet, Khandeshwari-8, Khatti Lake, (Place where Surama Bhawani Jatra take place)			0	0	0	1000	0	1000
3.3.2	Waste Management, Khandeshwari-1, (Surama Bhawani Jatra)			500	0	0	0	0	500
3.3.3	Toilet Construction, Ghusa-4, Mahadev Mandap (Separate toilet for male and female)			0	300	0	0	0	300
3.3.4	Drinking Water Supply, Huti-1 and 8 (Benefitted HH 145)			0	500	0	0	0	500

3.3.5	Drinking water repair for school, Dhaulakot-2 (Bramastan Lower Secondary School)			0	350	0	0	0	350
3.3.6	Drinking Water Supply, Bramahadev-1, 2 and 3			0	0	400	0	0	400
3.3.7	Drinking Water Supply, Byas, Chanruk (Benefitted wards are 1 – 5)			1000	550	0	0	0	1550
3.3.8	Public toilet, Kunti Sanghu, Byans			0	0	500	0	0	500
	Total			1500	1700	900	1000	0	**5100**
3.4 Hydro Power Project									
3.4.1	Support to iron electric pole, Rapla	Unit	70	700	0	0	0	0	**700**
3.4.2	Support iron electric pole, Sipti	Unit	75	750	0	0	0	0	**750**
3.4.3	Support to iron electric pole, Khandeswori	Unit	75	750	0	0	0	0	**750**
3.4.4	Exposure of micro-hydro committees to ACA	Unit	1	0	0	800	0	0	**800**
3.4.5	Feasbility study of micro-hydro schemes	Unit	1	0	400	0	0	0	**400**
	Total			2200	400	800	0	0	**3400**
4. Livelihood Improvement Program									
4.1 High Value NTFPs Management									
4.1.1	Carry out resource Inventory and prepare sub-sector plan for Chuiree	species	1	600	0	0	0	0	600
4.1.2	Operate Nursery focusing on Chuiree	Unit	1	300	220	120	130	140	910
4.1.3	Massive afforestation of Chiuree seedling in community and private land	VDC	4	300	330	360	390	420	1800
4.1.4	Setting up of Chiuree grinding mill	Unit	1	500	440	0	0	0	940
4.1.5	Feasibility of essential oil processing plant at Rapla (from Sunpati/juniper and other NTFPs)	Unit	1	300	440	240	0	0	980

4.1.6	Exchange visit for local leaders/CFUGs for Chiuree processing plant (Chiuree – transboundary value change) in Pithoragargh (India) -participants from Latinath/Seri/Tapoban)	Unit	2		300		330		630
	Total			2000	1730	720	850	560	**5860**
4.2 Farm based livelihood (Vegetable gardening, Fruit farming and Cash crops)									
4.2.1	Organic farming Training (kitchen gardem vegetable gardening) amd seed/materials support	Unit	10	600	660	720	780	840	3600
4.2.2	Set up of Apex women group and institutional support	Unit	1	0	500	0	0	260	760
4.2.3	Support in set up of cold /chilling store	Unit	2	0	600	0	0	0	600
4.2.4	Taregt program to poor, marginalized and women headed households (GSI component)	VDC	5	4000	4400	2400	0	0	10800
4.2.5	Training for making/processing of fibers from Bhang/nettle fiber (*allo*)/lokta /honey bee and subsidy support (Sitaula,Sipti, Hikila, khar, Brahmadev, Eyarkot, Byas and Rapla)	Unit	8	0	0	0	7000	7700	14700
	Total			4600	6160	3120	7780	8800	**30460**
4.3 Off farm livelihood (handicraft/carpet, mineral water, daily wage etc.)									
4.3.1	Off farm based livelihood (woolen, carpet, bamboo based handicraft/mats, sikarmi/dakarmi etc.) promotion to poor, marginalized and women headed household (**GSI component**)	HHs	200	0	3000	3300	3600	0	9900
4.3.2	Supports in market linkages for those products	Lump sum		0	200	220	0	0	420
4.3.3	Detail feasibility study at Guraku khola (Kante-9) Mineral water plant	Unit	1	0	0	300	0	0	300
4.3.4	capacity building training (leadership/financial/exposure visit) to Apex women group	Units	3	300	300	0	200	0	800
4.3.5	Harvesting/sawing (*ara*) training with equipment support (Latinath -7)	Unit	1	200	0	0	0	0	200
4.3.6	Bio-briquette making training and equipment support (Khar and other place)	Unit	2	0	0	200	220	0	420

4.3.7	Furniture and handy craft making Training from Nigalo/bans (Hikila, Khandeswori, Ghusa),	Unit	3	0	0	200	330	0	530
4.3.8	Training on Juice making from Laliguras and soap making from rittha/angram and supports to equipments (Sunsera, Dhari and possible sites)	Unit	2	500	0	0	0	0	500
4.3.9	Grass Cutting Machine (chopping support to community, Kate	Unit	1	0	100	0	0	0	100
4.3.10	Feasibility study /furniture making training and supports to tools/equipments (Brhamadev, Kate, Dhari, Eyarkot, Rapla VDC)	Unit	1	400	0	0	0	420	820
4.3.11	Incense (*himali dhoop* Making Training (Dhari, Byans, Rapla)	Unit	3	0	0	0	100	220	320
4.3.12	Tailoring Training and materials support (Sipti, Hikila, Huti, Dhaulakot, Sunsera, Brahmadev and Khati)	Unit	3	0	0	300	330	360	990
4.3.13	Dakarmi/Sikarmi training (Huti, Sunsera)	Unit	2	0	0	150	165	0	315
4.3.14	Electronics goods repair Training, Huti	Unit	1	0	0	0	300	0	300
4.3.15	Carpet making Training, Dhaulakot	Unit	1	0	0	350	0	0	350
4.3.16	Bee keeping training and supports in bee hives (Bramhadev, Chhapari VDC)	Unit	2	0	0	150	165	0	315
	Total			1400	3600	5170	5410	1000	**16580**
5. Promotion of Heritage/Cultural Tourism									
5.1 Documentation of Sacred Sites, their significance and tourism attractions									
5.1.1	Detail feasibility survey of tourism and historical/religious sites	Unit	1		600	0	0	0	600
5.1.2	Document religious/sacred sites, their significance (ANCA level)	Unit	1	0	0	400	0	0	400
	Total			0	600	400	0	0	**1000**
5.2 Development of trekking routes/home stay									
5.2.1	Develop Khatti view point, Kandeswori VDC	Unit	1	0	0	0	1000	0	1000
5.2.2	Develop Siddha ko topi view point	Unit	1	0	0	0	0	1000	1000

5.2.3	Promote/support traditional and cultural festivals/events (Bishu parva, Gujlar and others)	Year	5	100	110	120	130	140	600
5.2.4	Support communities for camping sites, trail and bridge, information boards, sign post along the trekking routes	Sites	3	0	400	440	480	0	1320
5.2.5	Support in home stay tourism (Khalanga-Ranikota: 9 sites)	Sites	9	0	0	500	550	600	1650
5.2.6	Support in renovation historically importance features (temple, cave, lake, gumba etc.)	Sites	10	100	110	120	130	140	600
5.2.7	Waste management (support in cleaning, rubbish pits)	Sites	3	0	100	110	120	0	330
5.2.8	Development and upgrade of existing trekking routes	Sites	4	0	500	550	600	650	2300
5.2.9	Supports for tourism materials (website/brochure/ sign posting)	Units		200	220	0	0	0	420
5.2.10	Prepare sing board and hording board with clear information about ANCA	Lump sum		1000	0	0	650	0	1650
	Total			1400	1440	1840	3660	2530	**10870**
5.3: Skill development									
5.3.1	Hotel Management skill training (cooking baking, waste management, hospitability, language etc.) – Byans, Rapla, Ghusa, Khandeswori and others	Sites	5	0	500	440		520	1460
5.3.2	Guide training for local youths (Byans, Rapla, Ghusa, Khandeswori vdc)	Person	20	300	0	0	0		300
	Total			300	500	440	0	520	**1760**
6 Climate Change Adaptation and Disaster Risk Reduction Program									
6.1 Building Community resilience through CC adaptation									
6.1.1	Three climate smart communities (one in each sector)	Units	3	0	1000	1200	1100	0	3300
6.1.2	Cooperatives/ access to micro-finance	Units	10	0	250	0	300	0	550
6.1.3	Local seed bank (of drought/flood resistance varieties, native race)	Units	2	0	0	300	330	0	630
	Total			0	1250	1500	1730	0	**4480**

6.2 Disaster Risk Reduction									
6.2.1	Institutional support to Emergency Rescue team	Unit	2	0	300	330	0	390	1020
6.2.2	Supports in soil erosion/landslide/river cutting control measures (Gabion box, bio-engineering techniques)	Sites	4	1000	1100	0	1300	1400	4800
6.2.3	Cimate hazard mapping at VDC level	VDC	21	1250	1375	0	0	0	2625
	Total			2250	2775	330	**1300**	1790	**8445**
7. Conservation Education and Public Awareness Program									
7.1 Conservation Education in School									
7.1	Set up eco clubs	Schools	20	50	55	60	65	70	300
7.2	Institutional supports to eco-clubs (environmental education training to teachers, material supports and others)	Schools	20	1000	1100	1200	1300	1400	6000
7.3	Celebration of special events (World environment Day, ANCA anniversary etc.)	Schools	20	125	137.5	150	162.5	175	750
7.4	Exposure visit to eco-clubs members/science teachers	Units	20	500	0	600	0	0	1100
	Total			1675	1292.5	2010	1527.5	1645	**8150**
7.2 Community Outreach Awareness									
7.2.1	Community outreach program (mobile camp, audio-visual, informal group discussion, street theater, role play, cultural event etc.)	Units	35	200	220	240	260	280	**1200**
7.2.2	FM Conservation message	months	12	50	55	60	65	70	**300**
7.2.3	Prepare ANC documentary /audio visual	Lump sum	-	300	330	0	0	0	**630**
7.2.4	Prepare audio-visual aids, brochure, booklets, ICE material (Nepali and local languages/dialects)	Lump sum	-	150	110	60	65	70	**455**
	Total			700	715	360	390	420	**2585**

8. Institutional Setup and capacity building									
8.1 Headquarters, Sector offices and Staffing									
8.1.1	Support of ANCA council formation and institutional support (annual meeting)	Unit	1	400	220	240	260	280	**1400**
8.1.2	District level multi-stakeholder meeting (semester)	Unit	10	50	55	60	65	70	**300**
8.1.3	Office rents (headquarters, ANCA council office and sector offices)	lumpsum		220	242	0	0	0	**462**
8.1.4	Office Running cost (electricity, internet/fax, vehicle fuel, water etc.)	lumpsum		30	33	36	39	42	**180**
8.1.5	Office capitals/equipments (computers, GPS, camera, binoculars etc.)	lumpsum		200	220	0	130	0	**550**
8.1.6	Salary of Chief Conservation Officer and Assistant Conservation Officer	Person	2	585	643.5	702	760.5	819	**3510**
8.1.7	Salary of Programs staffs (ranger etc.)	Person	7	1820	2002	2184	2366	2548	**10920**
8.1.8	Salary of account and admin staffs	Peson	2	520	572	624	676	728	**3120**
8.1.9	Game scouts and kharidar	Person	52	9464	10410	11357	12303	13250	**56784**
	Total			13289	14398	15203	16600	17737	**77226**
8.2 Capacity Building									
8.2.1	Capacity building (training/workshop/seminary/exposure visit) for staffs (program and administrative/finance)	unit	8	400	0	385	0	420	1205
	Total			400	0	385	0	420	**1205**
9.Research, monitoring and evaluation									
9.1	Generat spatial database (microhydro plants, poverty index, trade routes, tourism sites, sacred sites, forest stock, summer and winter pasture, water index, drouht mapping etc.)- Support By ICIMOD	no. of layers/database	12	0	0	0	0	0	0
9.1	Support to Long term environmental and socio-economic process through mobilizing/orientation by conservation committees s (in close coordination RECAST)			0	0	0	0	0	0

9.1	Internal monitoring of the programs against target/indicators	Units	5	250	275	300	325	350	1500
9.2	Joint monitoring (with DNPWC, MoFSC and/or conservation partners)	Unit	2	0	300	0	360	390	1050
9.3	Review workshop of the monitoring plan/matrix based on the outcomes of monitoring visit	Unit	1	0	200	0	0	260	460
	Total			250	775	300	685	1000	2550
							Grand total		**233991**

Annex-14: Participant's list in FGD at Seri, Latinath and Tapoban VDC

Date: 2070/12/30

S.N	***Name of participants***	***Address***	***Position***
1	Dev Singh Mahar	Seri -1	President
2	Prem Singh Dhami	Seri-4	Secretary
3	Dev Dutta Panta	Seri-9	Member
4	Prem Sing Korathi	Seri-7	President
5	Pan Singh Dhami	Seri-5	President
6	Dev Singh Dhami	Seri-8	Member
7	Anar Singh Kotari	Seri-	VDC Technician
8	Keshab Singh Dhami	Seri	User
9	Mandev Joshi	Seri	User
10	Nama Raj Panta	Seri	User
11	Gopal Singh Kotari	Seri-8	User
12	Janak Singh	Seri-6	User
13	Narendra Singh Mahar	Seri-1	User
14	Ishwar Singh Badal	Seri-8	User
15	Ganesh Singh Badal	Seri-6	User
16	Hari Bhakta Joshi	Seri-4	User
17	Gopal Pant	Seri-9	User
18	Bhunti Badal	Seri-6	User
19	Dan Singh Mahar	Seri-2	User
20	Rabindra Singh Dhami	Latinath	User
21	Keshab Singh Bista	Latinath	User
22	Krishna Singh Thagunna	Latinath	User
23	Jagat Singh Mahara	Latinath	User
24	Shankar Singh Mahara	Seri	User
25	Dipu Sing Kotarti	Seri	User
26	Kashi Sing Bista	Seri	User
27	Dipendra Singh Mahar	Seri-1	User
28	Krishna Singh Mahar	Seri-2	User
29	Amar Singh	Seri	User
30	Shankar Singh Badal	Seri	User
31	Ganesh Dutta Joshi	Latinath-7	User
32	Dipendra Bahadur Singh	Latinath-3	User
33	Basudev Joshi	Latinath-7	User

34	Ram Singh Bista	Latinath-8	User
35	Gopal Dutta Bhatta	Latinath-3	User
36	Ram Dutta Joshi	Latinath-7	User
37	Dipendra Singh Bista	Latinath-5	User
38	Dev Singh Dhami	Latinath-8	User
39	Dhananjaya Joshi	Latinath-7	User
40	Narendra Bahadur Singh	Latinath-4	User
41	Ram Singh Dhami	Latinath-7	User
42	Devendra Bahadur Singh	Tapoban-3	User
43	Sher Bista	Tapoban-2	User
44	Dabal Singh Dhami	Tapoban-5	User
45	Keshar Singh Dhami	Tapoban7	User
46	Karan Singh Bista	Tapoban-1	User
47	Jaya Singh Bista	Tapoban-2	User
48	Gopal Bista	Tapoban-1	User
49	Kamal Dhami	Tapoban-4	User

Annex-15: Participation of Focus Group Discussion at Guljar VDC

Date: 2071/01/01

S.N	***Name of participants***	***Address***	***Position***
1	Daman Singh Dhami	Guljar-3	Member
2	Mohan Dhamai	Guljar-2	Aa.Chairperson
3	Hariman Singh Thagunna	Guljar-2	Secretary
4	Gagan Singh Bohora	Guljar-3	User
5	Naresh Singh Thagunna	Guljar-7	Member
6	Basta Singh Thagunna	Guljar-7	Member
7	Narendra Singh Thagunna	Guljar-7	Aa.Chairperson
8	Dhani Ram Thagunna	Guljar-7	Member
9	Harak Singh Dhami	Guljar-9	Member
10	Bir Singh Thagunna	Guljar-8	Member
11	Karan Singh Dhami	Guljar-8	Member
12	Phakir Singh Thagunna	Guljar-7	Aa. Secretary
13	Man Singh Thagunna	Guljar-4	Member
14	Harak Singh Dhami	Guljar-8	Member
15	Harak Singh Bhandari	Guljar-2	Member
16	Jeet Singh Dhami	Guljar-6	Member
17	Birman Singh Thagunna	Guljar-2	Member
18	Krishna Singh Mahara	Guljar-3	Member

Annex-16: Participants of FGD in Ghusa VDC

Date: 2071/01/4

S.N	Name of Participant	Address
1	Deepak Singh Lothyal	Ghusha-7
2	Harak Singh Lothyal	Ghusha-7
3	Ramesh Singh Karki	Ghusha-9
4	Mohan Singh Lothyal	Ghusha-1
5	Delandra Lothyal	Ghusha-7
6	Birendra Lothyal	Ghusha-1
7	Pashupati Jagari	Ghusha-2
8	Lalu Rokam	Ghusha-5
9	Saraswati Lothyal	Ghusha-1
10	Amar Karki	Ghusha-8
11	Lilabati Bhatta	Ghusha-5
12	Nakhar Singh Lothyal	Ghusha-7
13	Pokhar Singh Lothyal	Ghusha-1
14	Jeet Singh Dhami	Ghusha-4
15	Kaman Singh Dhami	Ghusha-3
16	Jeet Singh Dhami	Ghusha-6
17	Sundar Singh Dhami	Ghusha-6
18	Narsa Karki	Ghusha-8
19	Saradha Karki	Ghusha-8
20	Bisan Singh Dhami	Ghusha-4
21	Nandan Dhami	Ghusha-6
22	Gopal Dhami	Ghusha-6
23	Suman Dhami	Ghusha
24	Narendra Dhami	Ghusha
25	Chaita Dhami	Ghusha
26	Jhalak Dhami	Ghusha
27	Gagan Singh Lothyal	Ghusha

Annex-17: Participants of FGD in Sitola VDC

Date: 2071/01/05

S.N	Name of Participants	Address
1	Karbir Singh Mahata	Sitola-7
2	Karan Singh Mahar	Sitola-7
3	Bhaban Singh Mahata	Sitola-7
4	Puran Singh Dhami	Sitola-7
5	Aangat Singh Mahata	Sitola-7
6	Narbhan Singh Mahata	Sitola-7
7	Gopal Singh Mahata	Sitola-7
8	Gobardhan Singh Mahata	Sitola-7
9	Dilip Singh Mahata	Sitola-7
10	Aakal Singh Mahata	Sitola-7
11	Min Bahadur Mahata	Sitola-7

Annex-18: Participants of FGD in Sipti VDC

Date: 2071/01/06

S.N	Name of Participants	Address
1	Jagat Singh Thagunna	Sipti-6
2	Rajendra Singh Dhami	Sipti-5
3	Nar Singh Dhami	Sipti-7
4	Krishna Singh Thagunna	Sipti-6
5	Jasmal Singh Thagunna	Sipti-6
6	Sundar Singh Mahat	Sipti-3
7	Rayamala Dhami	Sipti-5
8	Lal Singh Dhami	Sipti-6
9	Ram Singh Thagunna	Sipti-3
10	Nar Bahadur Thagunna	Sipti-6
11	Man Singh Dhami	Sipti-6
12	Janajan Thagunna	Sipti-6

Annex-19Participant of FGD in Khar VDC
DATE: 2071/01/08

S.N	Name of Participant	Address
1	Ramchandra Singh Thagunna	Khar-8
2	Bahadur Singh Bohora	Khar-4
3	Dain Bahadur Mahar	Khar-1
4	Sopan Singh Thagunna	Khar-7
5	Sher Singh Mahar	Khar-3
6	Ganga Kumari Mahatara	Khar-2

S.N	Name of Participant	Address
1	Bir Thagunna	Eyarkot-2
2	Ratan Thagunna	Eyarkot-2
3	Jaya Bahadur Thagunna	Eyarkot-2
4	Narayan Thagunna	Eyarkot-2
5	Indra Thagunna	Eyarkot-2
6	Lalit Thagunna	Eyarkot-2
7	Karbir Thagunna	Eyarkot-2
8	Dhauli Thagunna	Eyarkot-9
9	Indra Dadal	Eyarkot-7
10	Than Singh Dadal	Eyarkot-7
11	Ragubir Thagunna	Eyarkot-2

Annex-20: Participants of Katai VDC

Date: 2071/01/09

S.N	**Name of Participant**	**Address**
1	Bir Singh Shahi	Katai-4
2	Bir Singh Bhandari	Katai-6
3	Bir Singh Dowal	Katai-4
4	Pratap Singh Badal	Katai-1
5	Jaman Singh Fadal	Katai-3
6	Dhan Singh Bhandari	Katai-9
7	Bir Singh Nagal	Katai-9
8	Dilip Singh Mahar	Katai-9
9	Padam Bahadur Kunwar	Katai-2
10	Ganesh Raj Badu	Katai-7

11	Padam Singh Badal	Katai-1
12	Mahendra Singh Dhami	Katai-7
13	Dan Singh Karki	Katai-9
14	Janak Ram Kami	Katai-9
15	Rajendra Prasad Joshi	Katai-3
16	Madan Singh Badal	Darchula

Annex-21: Participants of FGD in Chhapari

Date: 2071/01/10

S.N	Name of Participants	Address
1	Dhan Singh Karki	Chhapari-8
2	Ram Singh Karki	Chhapari-8
3	Bir Singh Karki	Chhapari-7
4	Lal Singh Karki	Chhapari-6
5	Sher Singh Karki	Chhapari-3
6	Bahadur Singh Karki	Chhapari-5
7	Ram Singh Karki	Chhapari-8
8	Kalyan Singh Kunwar	Chhapari-6
9	Biram Karki	Chhapari-6
10	Darpan Lohar	Chhapari-2
11	Padam Singh Karki	Chhapari-6
12	Kalyan Singh Karki	Chhapari-6
13	Charan Karki	Chhapari-9
14	Harak Singh Karki	Chhapari-4

Annex-22: Participants of FGD in Bramhadev VDC

Date: 2071/01/11

S.N	Name of Participants	Address
1	Karbir Bahadur Karki	Bramhadev-3
2	Janak Raj Joshi	Bramhadev-9
3	Dhir Bahadur Bam	Bramhadev-5
4	Ram Singh Dhami	Bramhadev-4
5	Shanti Devi Bam	Bramhadev-5
6	Ganesh Singh Bohora	Bramhadev-4
7	Harak Singh Bohora	Bramhadev-4
8	Bir Singh Karki	Bramhadev-3

9	Kisan Singh Luhar	Bramhadev-2
10	Amar Singh Karki	Bramhadev-2
11	Mohani Luhar	Bramhadev-1
12	Bijaya Luhar	Bramhadev-2
13	Padam Luhar	Bramhadev-1
14	Hanati Bam	Bramhadev-7

Annex-23: Participants of FGD in Dhari VDC

Date: 2071/01/11

S.N	Name of Participants	Address
1	Narendra Singh Kunwar	Dhari-1
2	Daljit Mahara	Dhari-8
3	Rajubir Singh Kunwar	Dhari-2
4	Hari Dutta Bhatta	Dhari-3
5	Govinda Singh Karki	Dhari-4
6	Urmila Karki	Dhari-3
7	Harak Singh Karki	Dhari-8
8	Kaansi Karki	Dhari-4
9	Dhani Lal Lohar	Dhari-7
10	Man Singh Dadal	Dhari-9
11	Manirath Bhatt	Dhari-6
12	Ganesh Singh Kunwar	Dhari-7
13	Jaman Bahadur Kunwar	Dhari-4

Annex-24: Participants of FGD in Hikila VDC

Date: 2071/01/12

S.N	Name of Participants	Address	Post
1	Narendra Singh Badal	Hikila-5	President
2	Bahadur Singh Dadal	Hikila-9	Member
3	Dilip Singh Karki	Hikila-9	Member
4	Lokendra Bahadur Bam	Hikila-8	Journalist
5	Bijaya Singh Badal	Hikila-4	Coordinator
6	Kalyan Singh Badal	Hikila-1	
7	Aambadath Joshi	Hikila-8	
8	Bishnu Dutta Joshi	Hikila-8	
9	Pulaendra Bahadur Karki	Hikila-7	

10	Shiva Dutta Joshi	Hikila-8	
11	Dev Singh Dhami	Hikila-6	
12	Gora Singh Dhami	Hikila-4	
13	Man Singh Karki	Hikila-2	
14	Udhaya Singh Badal	Hikila-2	
15	Nar Singh Dhami	Hikila-6	
16	Shiva Dutta Joshi	Hikila-8	
17	Harak Singh Dadal	Hikila-9	
18	Har Singh Dhami	Hikila-6	

Annex-25: Participants of FGD in Papal Chaure
Date: 2071/01/12

S.N	Name of Participant	Address	Post
1	Gopal Singh Bohora	Pipal Chaure-	VDC Secretary
2	Karna Bahadur Kunwar	Pipal Chaure-	
3	Laxmi Dutta Bhatta	Pipal Chaure-3	Member
4	Lokendra Bahadur Bam	Pipal Chaure-1	Secretary
5	Narendra Dev Joshi	Pipal Chaure-3	Member
6	Nanda Bam	Pipal Chaure-2	Volunteer
7	Mahadev Bhatt	Pipal Chaure-4	Member
8	Lalita Mahara	Pipal Chaure-7	Member Secretary
9	Amara Bam	Pipal Chaure-1	Coordinator
10	Dhan Bahadur Bam	Pipal Chaure-2	Member
11	Mohan Bahadur Bam	Pipal Chaure-2	Sub- coordinator
12	Uttam Bahadur	Pipal Chaure-4	Member
13	Lok Bahadur Kunwar	Pipal Chaure-5	Ward coordinator
14	Karna Bahadur Bam	Pipal Chaure-3	Secretary
15	Jaya Bahadur Basm	Pipal Chaure-2	Ex-Teacher
16	Dhan Bahadur Bam	Pipal Chaure-4	Member
17	Ram Dutta Bista	Pipal Chaure-4	Ward coordinator
18	Aan Singh Mahara	Pipal Chaure-6	Ward Secretary
19	Mohan Singh Dhami	Pipal Chaure-9	Coordinator
20	Dal Bahadur Bam	Pipal Chaure-5	Mawobadi (Rep.)

Annex-26: Participants of FGD in Huti VDC
Date: 2071/01/13

S.N	Name of Participant	Address	Post
1	Prayag Dutta Bhatta	Huti -6	Technical Assistance
2	Rajendra Singh Kunwar	Huti-8	President
3	Jaya Dutta Bhatta	Huti-4	
4	Upendra Singh Kunwar	Huti-2	President
5	Ramesh Singh Kunwar	Huti-2	Member
6	Man Bahadur Bam	Huti-3	President
7	Chintamani Bhatta	Huti-2	President (Forest)
8	Kunti Khati	Huti-5	President
9	Saradha Sharma	Huti-4	President
10	Laxmi Kunwar	Huti-2	President
11	Ram Datta Bhatta	Huti-6	President
12	Joga Datta Bhatta	Huti-2	Member
13	Harajit Bhatta	Huti-1	President
14	Birma Devi Luhar	Huti-2	Member

Annex-27: Participants of FGD in Dhaulakot VDC

Date: 2071/01/13

S.N	Name of Participants	Address	Post
1	Man Singh Dhami	Dhaulakot -4	Member
2	Narsingh Bista	Dhaulakot-1	Member
3	Lalit Singh Bista	Dhaulakot-2	Member
4	Narendra Singh Bista	Dhaulakot-2	Member
5	Karan Singh Bista	Dhaulakot-2	Member
6	Chandari Datta Bhatta	Dhaulakot- 9	Member
7	Gopal Singh Dhami	Dhaulakot-4	Member
8	Prem Singh Dhami	Dhaulakot-4	Member
9	Birman Singh Dhami	Dhaulakot-4	Member

Annex-28: Participants of FGD in Sunsera VDC

Date: 2071/01/14

S.N	Name of Participants	Address	Post
1	Madan Singh Kunwar	Sunsera- 4	President
2	Dev Singh Kunwar	Sunsera- 5	President
3	Bir Singh Bista	Sunsera- 7	Member
4	Janak Ram Bhatta	Sunsera- 6	Member
5	Man Singh kunwar	Sunsera-6	President
6	Kalama Singh Bista	Sunsera-9	Member
7	Jaman Singh Kunwar	Sunsera- 9	Member
8	Bharat KC	Game scout	
9	Dhan Singh Kunwar	Sunsera-4	Member
10	Sobindra Khati	Sunsera- 4	Social Mobilizer
11	Bahadur Singh Kunwar	Sunsera-5	Office Helper
12	Saroj Budhathoki	Rapla-6	