LANGTANG NATIONAL PARK

AND ITS BUFFER ZONE MANAGEMENT PLAN

2077/78-2081/82
AMENDMENT

Government of Nepal
Ministry of Forests and Environment
Department of National Parks and Wildlife Conservation
Langtang National Park Office
Dhunche, Rasuwa

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FOREWORD

Langtang National Park (LNP) is a merging point of Eastern and Western Himalayan Biotic provenance and represents mid Himalayan ecosystem on the globe. It is an integral part of the Sacred Himalayan Landscape (SHL) which starts from the mid to the eastern Himalayas including Sagarmatha National Park, Makalu Barun National Park, Kanchanjunga Conservation Area, Quomolongma Nature Reserve (TAR region of China) and northern Protected Areas (PAs) of West Bengal, Sikkim and Bhutan. It is the veritable home of ecological and biological diversity. The Park harbors various species of rare and threatened flora and fauna having narrow endemism. Similarly, it conserves the watershed of Melamchi, Larke, Yangri, Balephi and Trishuli rivers which are main source of drinking water supply in Kathmandu valley, hydropower generation and irrigation, and also known as a hub of clean energy of Nepal. The LNP is one of the most popular destination for trekking in Nepal.

Park staffs together with Nepal Army and local people play a vital role in conserving biological diversity, supporting social and economic development of Buffer Zone communities, promoting and enhancing visitor experience and ensuring that biodiversity is conserved and enhanced for future generations. Success of the park relies on close coordination and meaningful partnership with buffer zone communities. We all see that the plan is important as it provides a framework for achieving and measuring progress and to understand and share those goals and feel actively involved in making them happen. To address current the need and changing circumstance, few activities have been added in this management plans which seems to be appropriate for efficient management of the National Park and development of people in buffer zone area. As such it is not only a plan for park authority, but also an umbrella plan for all the stakeholders and many organizations and individuals who have crucial role in managing and caring for this precious and fragile landscape.

This amended periodic plan has been produced as an outcome of hard work of Management Plan Preparation Team, Park authorities of the LNP. I would like to acknowledge to the Chief Conservation Officer Mr. Pramod Bhattarai and his entire team and also the support extended by local bodies, conservation partners, professional's practitioners, BZ communities and the service provider for their generous support.

Finally, I would like to thank all the individuals, organizations and stakeholders who provided necessary suggestions feedback and extended their support and cooperation to bring this document to this final stage. At this juncture, I would like to request all the concerned stakeholders in joining hands in translating the vision of this plan into meaningful action.

Maheshwar Dhakal, PhD.

Director General

Government of Nepal
Ministry of Forests and Environment
Department of National Parks and Wildlife Conservation
Lantang National Park
Dhunche , Rasuwa

ACKNOWLEDGMENT

I would like to express acknowledgment to all the Government line agencies, experts from all institutions, BZ institutions, civil society and other key stakeholders who contributed for the preparation of this Management Plan (amendment).

First and foremost, I would like to express my gratitude to the Director General Dr. Maheshwar Dhakal for his continuous guidance, trust and critical review of the plan. Similarly, I am thankful to Deputy Director General Mr. Ajaya Karki for his indepth review and critical remarks on the amended management plan. Meanwhile I would like to thank Management Officer Mr. Bishnu Prasad Shrestha, Assistant Management Officer Mr. Rishi Ram Dhakal, all DNPWC section head and other staffs who have provided critizal suggestions and support for the betterment of this Management Plan.

I would like to thank all the field respondents for their lively interaction and assistance in a process of preparing this plan. I would like to thank all the member of BZUC's who participated during formulation and amendment of this periodic plan.

I would like to thank Team Leader Dr. Annapurna Nand Das and his expert team involved in the field study, stakeholder consultations and field data collection and integrating into management plan that will serve better conservation efforts supporting BZ communities more efficiently.

At last but not least, special thanks to all my LNP office team, Chief District Officer Mr. Prakash Chandra Adhikari, BZ Council Chairperson Mr. Uttam Bahadur Thapa, Bishnu Dal Gan, BZUCs, and representatives from all rural municipalities in LNP and its Buffer Zone area for supporting and constructive suggestions in preparation of this amended Managment Plan.

Mr. Pramod Bhattrai

Chief Conservation Officer

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पत्र संख्या :- २०७९/८०-व्य ४८५

चलानी नं. :- ३८०४

मिति: २०८०/०३/०७

विषय: व्यवस्थापन योजना संशोधन सम्बन्धमा ।

श्री लामटाङ राष्ट्रिय निकुञ्ज कार्यालय,
धुन्चे, रसुवा ।

प्रस्तुत विषयमा तहाँ कार्यालयको प.सं. ०७९/८० च.नं. ६७९ मिति २०८०/०३/०५ को पत्रसाथ लामटाङ राष्ट्रिय निकुञ्ज तथा मध्यवर्ती क्षेत्रको पञ्चबर्षिय व्यवस्थापन योजना (२०७७/०७८- २०८१/०८२) को संशोधन तथा परिमार्जित वातावरणीय परिक्षण अध्ययन सहमती सम्बन्धमा पेश हुन आएको टिप्पणी फाईल उपर कार्वाही हुँदा राष्ट्रिय निकुन्ज तथा वन्यजन्तु संरक्षण नियमावली, २०३० को नियम ३क. को उपनियम (५) र (६) तथा संरक्षित क्षेत्र व्यवस्थापन योजना तयारी कार्यविधि, २०७३ को दफा ५.५ मा व्यवस्था भए अनुसार पेश हुन आएका प्रस्तावित संशोधनका बुँदा मध्ये लामटाङ राष्ट्रिय निकुञ्ज र मध्यवर्ती क्षेत्रबाट दिगो रूपमा नदिजन्य पदार्थ संकलन गर्न प्रस्ताव गरिएको बुँदा/कार्यक्रममा मध्यवर्ती क्षेत्रबाट मात्र नदिजन्य पदार्थ संकलन गर्न सकिने व्यवस्था हुने र संशोधित योजनाको परिमार्जित प्रारम्भिक वातावरणीय परिक्षण प्रतिवेदन स्वीकृत भए पश्चात व्यवस्थापन योजना लागु हुने गरी व्यवस्थापन योजना संशोधन गर्ने तथा वातावरण संरक्षण नियमावली, २०७७ को नियम १२ अनुसार स्वीकृत संशोधित व्यवस्थापन योजनाको परिमार्जित प्रारम्भिक वातावरणीय परिक्षण अध्ययन गर्न सहमति प्रदान गर्ने भनि मिति २०८०/०३/०७ मा विभागीय निर्णय भएको व्यहोरा निर्णयानुसार अनुरोध छ ।

(ऋषिराम ढकाल)
सहायक व्यवस्थापन अधिकृत

फोन नः ४२२०८५०
४२२०९१२
४२२७९२६
फ्याक्स नः ४२२७६७५

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(व्यवस्थापन शाखा)

संकेत नः
पत्र संख्याः २०८०/०८१/ व्य.66
चलानी नः ४९९

मितिः २०८०/०४/३१

विषयः **परिमार्जित प्रारम्भिक वातावरणीय परिक्षण (RIEE) प्रतिवेदन स्वीकृत सम्बन्धमा ।**

श्री लामटाङ राष्ट्रिय निकुञ्ज कार्यालय,
धुन्चे, रसुवा ।

प्रस्तुत विषयमा तहाँ कार्यालयको प.सं. २०८०/०८१ च.नं. २८ मिति २०८०/०४/१९ को पत्रबाट टिप्पणी साथ पेश हुन आएको **लामटाङ राष्ट्रिय निकुञ्ज र यसको मध्यवर्ती क्षेत्रको संशोधित व्यवस्थापन योजना (२०७७/०७८ देखि २०८१/०८२) को परिमार्जित प्रारम्भिक वातावरणीय परिक्षण (RIEE) प्रतिवेदन** विभागको मिति २०८०/०४/३० को निर्णयानुसार स्वीकृत गरिएको छ । स्वीकृत **संशोधित व्यवस्थापन योजना** तथा परिमार्जित वातावरणीय परिक्षण (RIEE) प्रतिवेदन कार्यान्वयनका लागी यसैसाथ संलग्न राखी पठाईएको व्यहोरा निर्णयानुसार अनुरोध छ ।

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(ऋषि राम ढकाल)
व्यवस्थापन अधिकृत

EXECUTIVE SUMMARY

Langtang National Park was established by Government of Nepal in Chaitra 09, 2032 (26th March, 1976). The Park has an area of 1,710 km^2 and extends over parts of Nuwakot, Rasuwa and Sindhupalchowk Districts. It is the first Himalayan National Park of the country and one of the most popular trekking destinations after Annapurna Conservation Area and Sagarmatha National Park. The Buffer Zone of the Park was declared in Baisakh 14, 2055 (27th April 1998) with an area of 418.3 km^2. Gosaikunda lake which is situated at 4360 m was listed in Ramsar site, wetland of international importance in September 23, 2007. The park lies in pinnacle being the meeting point between Eastern and Western Himalayan Biotic Provenance which embellished with the important ecosystems.The Park harbors maximum number of rare and threatened plants having narrow endemism. Similarly, it conserves the watershed of M elamchi, Larke, Yangri, Balephi and Trishuli rivers which are major source of drinking water supply in Kathmandu valley and supporting hydropower generation and irrigation effective.

It represents a good spectrum of vegetation types and harbours various wildlife including endangered speices along the altitude range between 1000 m and 7245 m. There are 1043 plants, 46 mammals, 380 birds, 4 reptiles and 40 species of fishes. Out of them nine species of mammals, viz Red Panda (*Ailurus fulgens*), Musk deer (*Moschus chrysogaster*), Snow leopard (*Panthera uncia*), Assamese monkey (*Macaca assamensis*), Grey wolf (*Canis lupus*), Leopard cat (*Felis bengalensis*), Great Tibetan sheep (*Ovis ammon*), Pangolin *(Manis pentadactyla)* and Clouded leopard (*Pardofelis nebulosa*) are protected under National Parks and Wildlife Conservation Act , 2029.

The pristine quality of nature, rich cultural heritages and life style of Hyolmo people offers wonderful tourism attractions in the Park. Langtang valley, Kyanjin valley, Gosaikunda lake, Ganjala ridge, Jugal Himal, Dorje lakpa ridge, Helambu, Shermathan, Melamchi-ghyang, Tarke-ghyang, Panch pokhari, Aama Yangri peak, Ghyanphedi, Dupcheshwor Temple are the popular tourism sites of the Park.

Major issues of the Park are: human wildlife conflicts; harsh climatic and topographic conditions; wildlife habitate management; degraded and deteriorating high altitude lands and unmanaged *goths*; forest fire during dry and windy season; issues regarding equitable tourism benefits, exploration of new eco-tourism sites and trekking routes; extension and enhancement of park facilities for conservation support; improper management of solid waste and heavy dependency of local people on Park's forest resources including timber, firewood, NTFPs and extraction of river bed materials from BZ.

The plan emphasizes in controlling the poaching and illegal trade of wildlife body parts, and compensiation of damage on crop, livestock and human life, meshwire fencing to prevent crop damage; improve wildlife habitat by zonation and management intervention and promotion of eco-tourism. Sustainable harvesting of NTFPs in BZCF, Yarsagumba collection from the core area and sustainable collection of river bed materials from BZ area. Meanwhile, extension and enhancement of park facilities like electricity and communication in remote area is a priority programs for conservation and tourism promotion. Mapping of forest fire prone areas in the park and BZ area for control and effective management. Awareness and income generation activities for BZ communities has been equally prioritize. BZ communities will be strengthened to implement conservation, community development, skill development and awareness raising in order to solicit participation in biodiversity conservation.

This amended Management Plan is prepared under the leadership of Chief Conservation Officer following the Protected Area Management Plan Preparation Procedure, 2073. The plan envision maintaining biodiversity, cultural values, and scenic the Park's landscape for the benefit of the present and future generations of human being. To achieve this vision, the Park will emphasize on conservation of biological diversity through improvement and management of wildlife habitat involving local communities in participatory manner. The specific objectives of this Management Plan are:

- To conserve and enhance biodiversity at species, ecosystem and landscape levels by focusing habitats and sites of special importance and giving high priority to nationally protected and globally threatened wildlife species linking with other ecological networks in order to maintain ecological functions and processes,
- Improve and maintain watershed capability of Langtang region by protecting at catchment level

in sustainable way to generate electricity, provide drinking water and irrigation to downstream communities,

- To promote adventure, nature, cultural and religious tourism in a sustainable manner and regulate it in such a way that it maintains ecological integrity, cultural heritage and flourishing local economy,
- To enhance community partnership on biodiversity conservation by increasing awareness and improving livelihood of local people,
- To renovate and construct infrastructures those were damaged by earthquake and strengthen institutional capacity through research, capacity building, co-ordination and collaboration.

The major amended and added topics in the management plan are:

(1) Sustainable extraction of River bed construction materials from BZ area for household purpose and local development;

(2) Sustainable extraction of Dhasingre, Lokta, Pine Resin from BZCF and Yarsagumba from core area of LNP;

(3) Exploration and management of previously used trekking route and explore potential eco-trails for promotion of eco-tourism;

(4) Habitat mapping of key species like Red Panda, Musk Dear, Snow Leopard, Assemes Monkey and Pangolin;

(5) Mapping of forest fire prone area in LNP and BZ area ;

(6) Extension of electricity and telecommunication facilities on Ghodatabela Range post and Cholanpati post area for enhancement of park facilities and tourism promotion.

The plan aims to achieve the above-mentioned objectives through specific interventions in Park protection; Habitat management, Species conservation, Fire control, Encroachment control, Research-monitoring, Capacity building, Climate change adaptation and BZ management. In this revised management plant total budeget of NRs. 80,040,000.00 (Eighty Million Forty Thousand) is appended. Thus, the total budget of the plan has become NRs. 1,06,19,67,962.00 (One billion Sixty One million nine hundred sixty seven thousand nine hundred sixty two rupees only).

सारांश

वि.सं. २०३२ साल चैत्र ९ गत स्थापना भएको लाङटाङ राष्ट्रिय निकुञ्जको क्षेत्रफल १,७१० वर्ग कि.मि. रहेको छ । यो निकुञ्ज रसुवा, नुवाकोट र सिन्धुपाल्चोक गरी ३ जिल्लामा फैलिएका छ । पदयात्राको लागि सगरमाथा राष्ट्रिय निकुञ्ज र अन्नपूर्ण संरक्षण क्षेत्र पछिको प्रख्यात गन्तव्यस्थलका रूपमा रहेका यो निकुञ्ज नेपालको पहिला हिमाली राष्ट्रिय निकञ्ज हो । निकुञ्जको सिमाना भित्र रहेका गाँउ वस्ती र वरिपरीका क्षेत्रलाइ समेटेर वि.स २०५५ बैशाख १४ गते घोषणा भएको मध्यवर्ती क्षेत्रको क्षेत्रफल ४१८.३ वर्ग कि.मि रहेका छ । समुद्री सतहवाट ४,३६० मी.को उचाईमा अवस्थित गोसाईकुण्ड ताल सेप्टेम्बर २३, २००७ मा अन्तर्राष्ट्रिय महत्वको रामसार सुचीमा सूचिकृत भएको छ । यो निकुञ्ज पूर्व र पश्चिम हिमालय क्षेत्रको जैविक मिलन विन्दु हो र यसले महत्वपूर्ण हिमालय पारस्थितिकीय प्रणालीका संरक्षण गरेको छ । यो निकुञ्जले खतरामा रहेका र लोपोन्मुख वन्यजन्तु र वनस्पतिलाई वासस्थान प्रदान गरेको छ । त्यस्तै यस क्षेत्रले मेलम्ची, लार्के, याङग्री, बलेफी र त्रिशुली नदीहरूको जलाधार क्षेत्रहरूका संरक्षण गरी जलविद्युत उत्पादन, सिँचाइ र काठमाण्डौ उपत्यकाको बासिन्दाको लागि खानेपानी उपलब्ध गराएको छ ।

१००० मि. देखि ७,२४५ मि.को उचाईसम्म फैलिएको यस निकुञ्जलाई जैविक विविधताको धनी भण्डार मानिन्छ । यस निकुञ्जमा १०४३ प्रजातिका वनस्पतिहरू, ४६ स्तनधारी, १८२ चराचुरूङी, ४ सरिसृप, र ४० प्रकारका माछाहरू रहेका छ । जस अर्न्तगत ९ प्रजातिका स्तनधारी वन्यजन्तु (जस्तैः हाब्रे, हिँउ चितुवा, कस्तुरी मृग, ध्वाँसे चितुवा, आसामी रातो बाँदर, ब्वांसो, सालक, चरि बाघ र नयन) राष्ट्रिय निकुञ्ज तथा वन्यजन्तु संरक्षण ऐन २०२९ का अनूसुची १ मा समावेश भएका संरक्षित प्रजाति हो ।

यहाँ रहेका धार्मिक, साँस्कृतिक, सामाजिक पहिचानहरूले यस निकुञ्जको गरिमालाई थप उचाई प्रदान गरेको छ । लाङटाङ उपत्यका, क्यान्जिङ उपत्यका, गन्जला पास, गोसाईकुण्ड, जुगल हिमाल, दोर्जे लाक्पा हिमाल, हेलम्बु, शेर्माथाङ, मेलम्चीघ्याङ, तार्केघ्याङ, पाँच पोखरी, आमा याङग्री, घ्याङफेदी, दुप्चेश्वर महादेव मन्दिर आदि यस निकुञ्जका प्रमुख आकर्षण र अवलोकन गर्ने स्थलहरू हुन ।

मानव वन्यजन्तु द्वन्द्व, भौगोलिक विकटता, वन्यजन्तुको बासस्थान व्यवस्थापन, उच्च हिमाली भूधरातल क्षयिकरण, खर्कहरूमा अनियन्त्रित चरिचरन तथा अव्यवस्थित गोठ राख्नु, वन डढेलो, पर्यापर्यटनबाट हुने फाइदाको असमान वितरण, नयाँ पदमार्गहरूको पहिचान तथा व्यवस्थापन, निकुञ्ज क्षेत्रका दुर्गम पोष्टहरूमा सेवा विस्तार, फोहरमैला व्यवस्थापन र स्थानीय जनसमुदायको निकुञ्ज क्षेत्रको वन पैदावर माथि निर्भरताको अत्याधिक चाप हुनु जस्तैः काठ, दाउरा, गैरकाष्ठ वन पैदावर र नदीजन्य निर्माण सामग्री ।

लाङटाङ राष्ट्रिय निकुञ्जले वन्यजन्तुको चोरी शिकार नियन्त्रण, मानव-वन्यजन्तुको द्वन्द्व व्यवस्थापन, वन्यजन्तुको संरक्षण लागि बासस्थानको सिमाङ्कन तथा व्यवस्थापन, पर्यापर्यटन प्रर्वद्धन जस्ता कार्यक्रमहरू प्राथमिकतामा राखिएको छ । मध्यवर्ती क्षेत्रका सामुदायिक वनबाट गैरकाष्ठ वन पैदावरहरूको दिगो संकलन, निकुञ्जको कोर क्षेत्रबाट यार्सागुम्बाको संकलन र मध्यवर्ती क्षेत्रका खोलाहरूबाट नदीजन्य पदार्थको दिगो संकलन गर्ने कार्यक्रमहरू समावेश गरिएको छ । साथै, निकुञ्जको दुर्गम क्षेत्रका पोष्टहरूमा विद्युतिकरण र दुरसञ्चार सेवा विस्तार गरी संरक्षण कार्यलाई प्रभावकारी बनाउनका साथै पर्यापर्यटनलाई प्रवर्द्धन गरिनेछ । वन डढेलो नियन्त्रण तथा व्यवस्थापनको लागि वन डढेलो लाग्ने प्रमुख क्षेत्रहरूलाई नक्साङ्कन गरिएको छ । त्यसै गरी मध्यवर्ती क्षेत्रका समुदायहरूमा जीविकोपार्जनका स्रोत तथा आयआर्जन वृद्धिको कार्यक्रमहरू समेत समानरूपमा प्राथमिकतामा रखिएको छ । निकुञ्जको जैविक विविधता संरक्षणको लागि माध्यवर्ति क्षेत्रको समुदायिक विकास, सिप विकास र जनचेतना अभिवृद्धिका कार्यक्रमहरू समेत

संचालन गरिने छ ।

लाङटाङ राष्ट्रिय निकुञ्जको प्रमुख संरक्षण अधिकृतज्यूको नेतृत्व र संरक्षित क्षेत्र व्यवस्थापन योजना तयारी कार्यविधि, २०७३ अनुसार यो व्यवस्थापन योजना संशोधन गरिएको छ । यस योजनाले लाङटाङ राष्ट्रिय निकुञ्ज तथा यसको मध्यवर्ती क्षेत्रको जैविक विविधता संरक्षण, साँस्कृतिक मूल्यमान्यता र भूदृश्यको दिगो व्यवस्थापन गरी वर्तमान र भाविपिडिलाई लाभ दिने परिकल्पना गरिएको छ । उल्लेखित परिकल्पनाहरू पूरा गर्न जैविक विविधता संरक्षणको लागि वन्यजन्तुको बासस्थान व्यवस्थापन र सुधार कार्यमा स्थानीय समुदायको सहभागिता गराइनेछ । यस व्यवस्थापन योजनाका प्रमुख उद्देश्यहरू निम्नानुसार रहेका छन् ।

- जैविक विविधताको संरक्षण कार्य प्रजाति, पारिस्थितिकिय प्रणालि र भूपरिधि स्तरमा बासस्थान र लोपोन्मुख प्रजातिलाई लक्षित गरी संचालन गरिने छ ।
- जलाधार क्षेत्रको उचित व्यवस्थापन गरी तल्लोतटीय समुदायलाई खानेपानी, सिंचाइ उपलब्ध गराउनुको साथै जलविद्युत उत्पादनमा समेत टेवा पुऱ्याउने ।
- दिगोरूपमा साहशिक, प्राकृतिक, साँस्कृतिक र धार्मिक पर्यापर्यटन प्रवर्द्धन गर्दै पारिस्थितिकीय, साँस्कृतिक सम्पदा र स्थानीय अर्थ व्यवस्थालाई अक्षुण राख्ने ।
- स्थानीय समुदायको जीविकोपार्जन सुधार तथा सचेतना अभिवृद्धि गर्दै समुदाय साझेदारीमा जैविक विविधता संरक्षण गर्ने ।
- भूकम्पले क्षति भएका पूर्वाधारहरू पुननिर्माण गरिने र संस्थागत क्षमता विकासको लागि अनुसन्धान, क्षमता विकास, समन्वय र सहकार्य गरिने छ ।

यस संशोधन गरिएको व्यवस्थापन योजनामा थप भएका विषयहरू निम्नानुसार रहेका छन् ।

१. मध्यवर्ती क्षेत्रमा भएका नदीहरूबाट घरायसी प्रयोजन र स्थानीय विकास निर्माणको लागि नदीजन्य निर्माण सामग्रीहरूको दिगो संकलन ।

२. मध्यवर्ती सामुदायिक वन क्षेत्रबाट धासिंग्रे, लोक्ता र सल्लाको खोटोको दिगो संकलन साथै राष्ट्रिय निकुञ्जको कोर क्षेत्रबाट यार्सागुम्बाको दिगो संकलन ।

३. विगतमा प्रयोग हुँदै आएको पदमार्गको पहिचान गरी उचित व्यवस्थापन र सम्भावित ईको ट्रेलहरूको पहिचान गरी पर्यापर्यटनको प्रवर्द्धन गर्ने ।

४. हाब्रे, कस्तुरी मृग, हिउं चितुवा, सालक, आसामिज बाँदर जस्ता महत्वपूर्ण प्रजातिहरूको बासस्थान नक्सांकन गर्ने ।

५. राष्ट्रिय निकुञ्ज तथा मध्यवर्ती क्षेत्रमा रहेका वन डढेलो जोखिम क्षेत्रको नक्सांकन गर्ने ।

६. निकुञ्जको दुर्गम क्षेत्रमा रहेका पोष्टमा सुविधा उपलब्ध गराउन र पर्या-पर्यटन प्रवर्द्धन गर्न घोडातबेला रेञ्जपोष्ट क्षेत्र र चोलाङ्पाटी पोष्ट क्षेत्रमा विद्युत र दूरसञ्चार लगायतको सुविधा विस्तार गर्ने ।

परिमार्जित योजनाअनुसार थप भएका क्रियाकलापको कुल कार्यक्रमको बजेट रू.८०,०४०,०००.०० (रूपैया आठ करोड चालिस हजार मात्र) थप भएको छ । व्यवस्थापन योजनाले परिलक्षित गरेका कार्यहरू कार्यान्वयन गर्न रूपैया १,०६,१९,६७,९६२.०० (रूपैया एक अर्ब छ करोड उनाइस लाख सट्साठ्ठी हजार नौ सय बासाठ्ठी मात्र) लाग्ने प्रस्ताव गरेको छ ।

ACRONYMS

ACA	Annapurna Conservation Area
APR	Annual Progress Report
BZ	Buffer Zone
BZCF	Buffer Zone Community Forest
BZMC	Buffer Zone Management Committee
BZUC	Buffer Zone User Committee
BZUG	Buffer Zone User Group
CBAPU	Community Based Anti-Poaching Unit
CCO	Chief Conservation Officer
CCTV	Close Circuit Television
CHAL	Chitwan-Annapurna Landscape
CIB	Central Investigation Bureau
DAO	District Administration Office
DFO	Divisional Forest Office
DHR	Dhorpatan Hunting Reserve
DHM	Department of Hydrology and Meteorology
DIMS	Disaster Information Management System
DNPWC	Department of National Parks and Wildlife Conservation
DRMC	Disaster Risk Management Communittee
DUHE	Durham University Himalayan Expedition
EIA	Environment Impact Assessment
FAO	Food and Agriculture Organization
FY	Fiscal Year
GCA	Gaurishankar Conservation Area
GESI	Gender Equality and Social Inclusion
GIS	Geographic Information System
GSLEP	Global Snow Leopard & Ecosystem Protection Program
GoN	Government of Nepal

GPS	Global Positioning System
HH	Household
HRD	Human Resource Development
IEC	Information Education and Communication
IG	Income Generation
IUCN	International Union for Conservation of Nature
KCA	Kanchenjunga Conservation Area
KL	Kanchenjunga Landscape
KSL	Kailash Sacred Landscape
LNP	Langtang National Park
LSO	Livestock Service Office
MBNP	Makalu Barun National Park
MoFE	Ministry of Forests and Environment
NGOs	Non-Governmental Organizations
NPWC	National Parks and Wildlife Conservation
NTFP	Non Timber Forest Product
PA	Protected Area
PDNA	Post Disaster Need Assessment
PRA	Participatory Rural Appraisal
RMP	Rural Muncipality
RNP	Rara National Park
SNP	Sagarmatha National Park
SNNP	Shivapuri Nagarjun National Park
SHL	Sacred Himalayan Landscape
ToT	Training of Trainers
UNDP	United Nations Development Programme
VDCs	Village Development Committee
VIC	Visitor Information Center
WCCB	Wildlife Crime Control Bureau
HH	Household

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Part B–The Proposed Management

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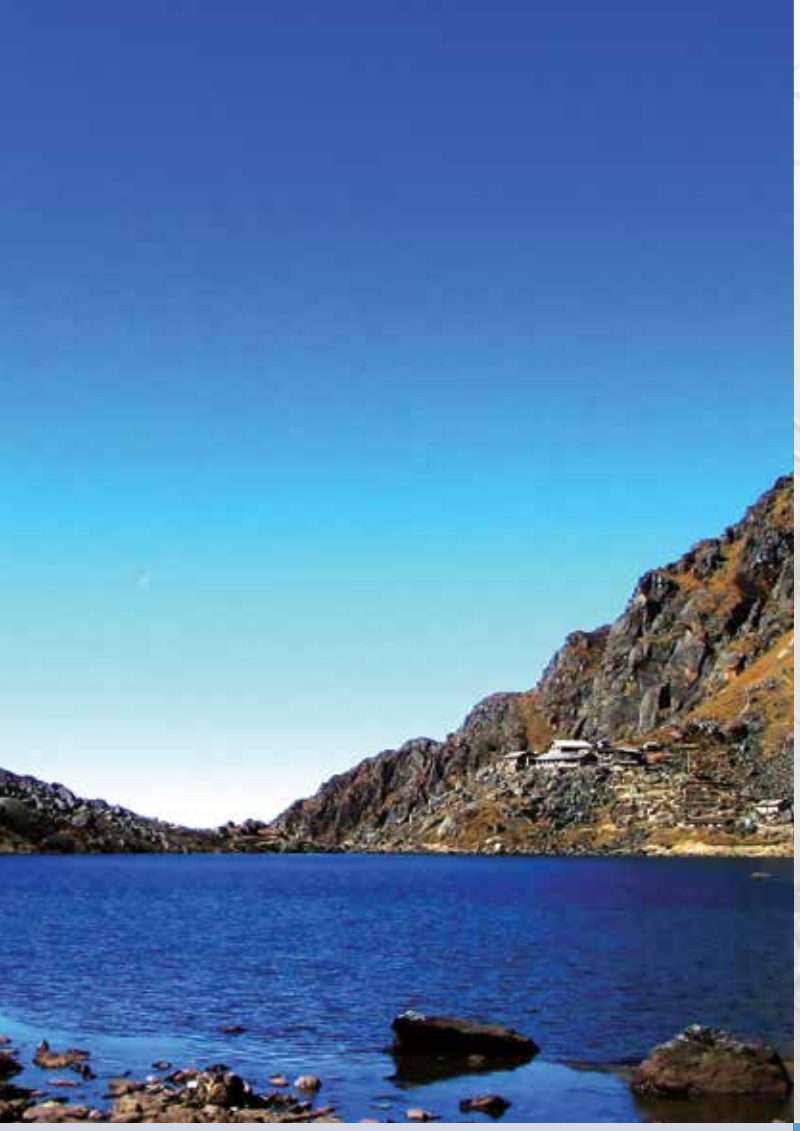
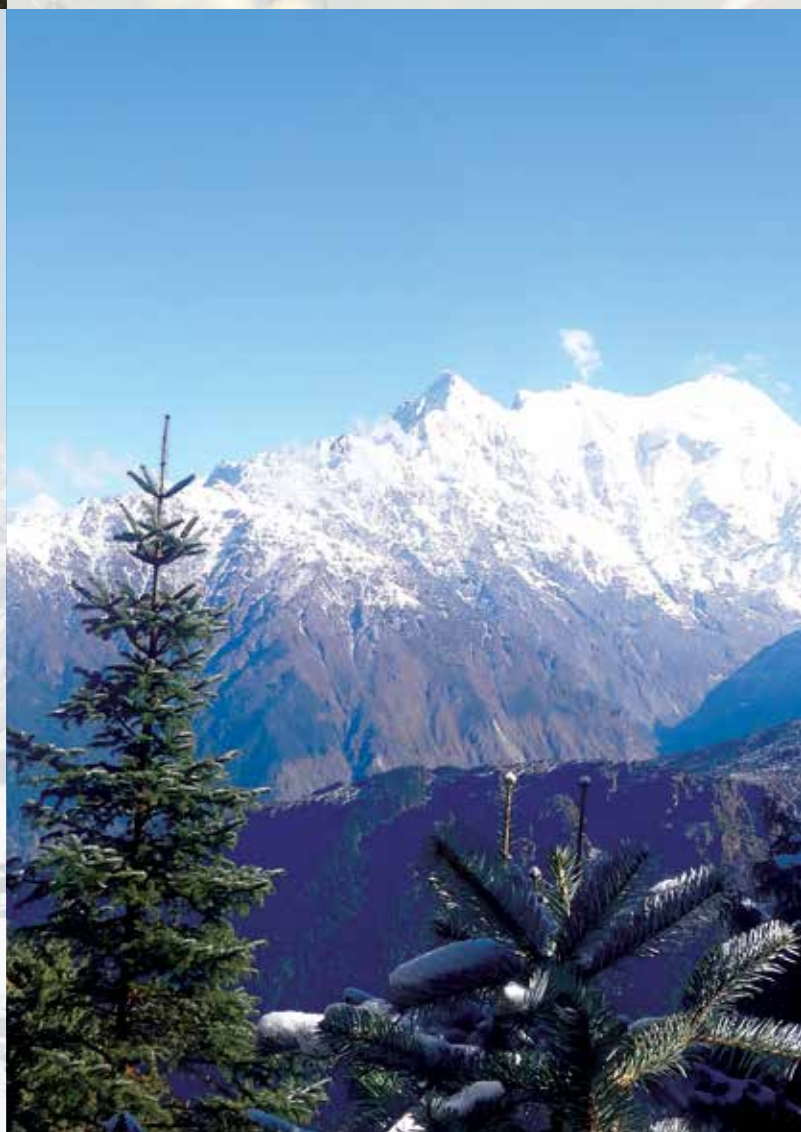


PART A

THE EXISTING SITUATION



CHAPTER 1.

INTRODUCTION OF THE PROTECTED AREA

1.1 Name, Location, Constitution and Extent

1.1.1 Name

Langtang National Park, Dhunche, Rasuwa.

Langtang National Park was established in 2032 under the provisions of the National Park and Wildlife Conservation Act, 2029.

1.1.2 Location

Geographically, Langtang National Park is located in Bagamati Province sharing its northern mountain peak boundary with Chine approximately between 85°15' to 86° E and 28° to 28° 20' N.

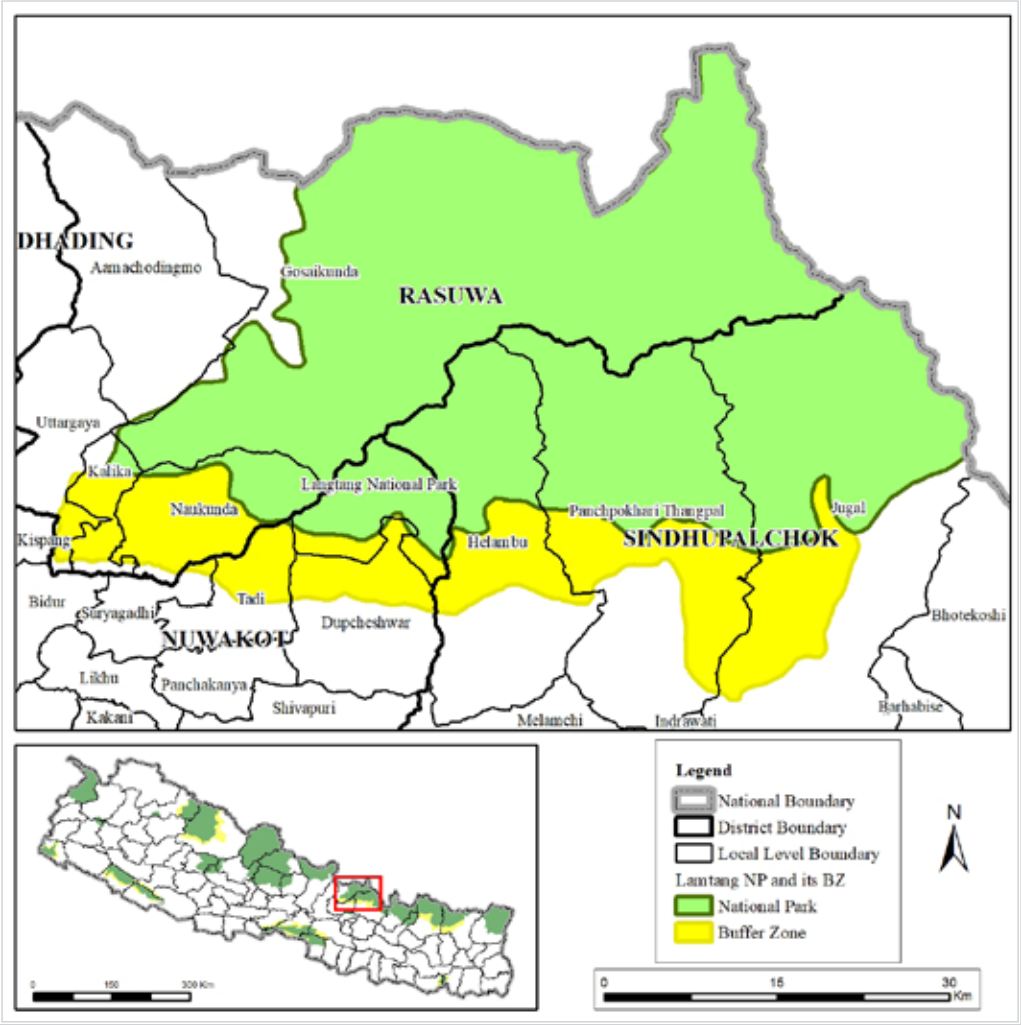


Figure 1: Location map of Langtang National Park and its Buffer Zone.

1.1.3 Constitution and Extent

Langtang National Park (LNP) is located in the central Himalayan region of Nepal, specifically in Bagmati Province. It was officially gazetted on 9 Chaitra 2032 (26 March, 1976). The park covers an area of 1,710 km^2 and spans across Nuwakot (4.28%), Rasuwa (56.62%), and Sindhupalchowk (39.10%) districts, including the southern mountainous terrain along the Nepal-China (Tibet) border.

The Buffer Zone (BZ) of the park, which includes settlements within the park and the mutual impact zone around it, was declared on Baisakh 14, 2055 (27th April 1998) and encompasses an area of 418.3 km^2.

Table 1. LNP a glance with timeline.

1927	Dhowj and Sharma conducted botanical survey in the temperate and alpine region of Rasuwa district
1949	Major H.W. Tilman carried out first expedition to the Langtang Valley
1966	Sayers and schilling (1969) participated in a Government of Nepal (GoN) botanical survey of the Langtang Valley
1969	Cougley commissioned by GoN/ Food and Agriculture Organization (FAO) supported by United Nations Development Programme (UNDP) conducted survey and proposed an 'Himalayan National Park' including upper Langtang Valley and the area surrounding the sacred Gosaikunda lake
1970	Dairy Development Corporation established cheese factory in Chandanbari
1972	Stainton carried out vegetation survey of Langtang area
1973-74	Mr. J.L. Fox, U.S. Peace Corps Volunteer, produced ecological data of proposed Park
1974	Dobremez and Tokyo University conducted vegetation survey
	Preliminary Development Plan for LNP was produced by Mr. J.H. Blower (FAO Wildlife Management Advisor)
	Mr. M. Bolton, FAO, Wildlife Ecologist visited Langtang and realized that the preparation of a management plan required socio-economic survey of the area
1976	On March 26, GoN declared LNP with and area of 1710 Km^2 representing Himalayan ecosystem
	After the Park establishment, University of Durham undertook detailed survey of the area with a multidisciplinary team comprising Physical Geographers, Mammologists, Tourism Experts, Anthropologists and Aquatic Biologists to support Park in preparing the first management plan of LNP
1977	University of Durham supported GoN to prepare the first management plan for LNP (1977-1982) with compendia of scientific and baseline information
1982	LNP initiated a programme to delineate distinguished core areas for Red panda and prescribed special management attention
1998	On April 27, BZ of the LNP was gazetted with an area of 418.3 Km^2
2001	GoN/MoLD/UNDP implemented Tourism for Poverty Reduction Programme (2001-2007) in LNP and its BZ
	LNP prepared First management plan for the BZ
2004	Tourism management plan of LNP (2004-2008) prepared with the support of DDC/TRPAP
2010	Gosaikunda lake was listed in Ramsar site, wetlands of international importance
	Sacred Himalayan Landscape (SHL) project (2007-2017) launched in LNP and its BZ with the support of WWF Nepal
	Site management plan of Gosaikunda prepared
2010	Red panda conservation action plan for LNP and its BZ (2010-2014)
2012	Second management plan of LNP and its BZ (2013-2017)
2015	Disastrous earthquake took place taking life of many people and damaging most of the houses in Rasuwa, Sindhupalchowk and Nuwakot districts
2016	Update of Sites management plan of Gosaikunda Lake (2073 BS-2077 BS)

The GIS expert for this study identified few locations were missing from the LNP and BZ area boundary. The existing map of the LNP is not upto date as per gazette which has declared and identified the area of this national park.

1.2 Access

The National Park headquarters is in Dhunche, and western sector can be reached by vehicle from Kathmandu via Pasang Lamu Marga (Kathmandu-Trishuli-Syaphrubesi road) in about six hours. The eastern sector of the National Park, Timbu Sector, can be approached by one and half days walk from Sundarijal or four hours drive from Kathmandu to Helambu through Melamchi Pul Bazaar. Helicopter service is also available for tourists flying at Shermathan, Dhunche, Ghodtabela and Kyanjin of the National Park.

1.3 Statement of Significance

The government decision to constitute LNP and its BZ was extremely important because:

(i) It is the area of convergence of Eastern (that extends from Arunachal Pradesh, Bhutan, Sikkim towards Nepal) and Western Himalayan Biotic Provenance (that extends from Jamu and Kasmir, Ladak, Himanchal Pradesh, Uttarakhanda of India towards Nepal). It represents the central Himalayan ecosystem on the globe;

(ii) LNP is an 'outdoor laboratory' with unique assemblage of rare and threatened species having narrow endemism. The endangered mammalian species include Red panda, Snow leopard, Clouded leopard, Great tibetan sheep, Musk deer and birds like Ibisbil, Snow partridge, Wood snipe, Danphe and Monal;

(iii) Langtang Valley and Gosaikunda Valley are areas for different endemic and endangered flora within a geographical limit;

(iv) Gosaikunda lake was listed in Ramsar site, wetland of international importance in September 23, 2007;

(v) The important watersheds of Melamchi, Larke, Yangri and Balephi lie in the Park which ultimately joins to Koshi and Gandanki basin are highly potential for drinking water supply in Kathmandu valley, and to generate hydropower from those rivers;

(vi) Large contiguous wilderness areas along the Bhotekoshi River, Chusumdo valley, Tilman col and Sisa Panga col which are crucial for trans boundary movement of wild animals in core zone and Quomolongma Nature Reserve in TAR China PR;

(vii) The Park has tenuous linkage with Shivapuri-Nagarjun National Park (SNNP) through community managed forest stretches;

(viii) The Park is one of the most popular destination for trekking in Nepal after Sagarmatha (Everest) and Annapurna Region;

(ix) The Langtang Glacier in Kyanjin valley is the nearest glacier from the human settlement in the world;

(x) Langtang Valley, Gosaikunda, Dorje Lakpa Pass, Melamchi, Helambu, Tarke Ghayang, Ganjala Pass, Tilman Col, Langtang Lirung, Yala Peak, Langsisa Valley, Langsisa Ri, Briddim are the areas of attractions for culture, trekking and adventurous tourism;

(xi) Kyanjin Gompa, Sing Gompa, Tarke Ghayang, Rasuwa Gadi and Gosaikunda are the religious, cultural and historical sites for both Hindu and Buddhist pilgrimage.

CHAPTER 2.

BACKGROUND INFORMATION AND ATTRIBUTES

2.1 Boundaries

2.1.1 Legal

Langtang National Park (LNP) was officially established and gazetted on 9 Chaitra 2032 BS (26 March, 1976) under the provisions of the National Parks and Wildlife Conservation (NPWC) Act, 2029 (1973). The western boundary of the park is formed by the Bhotekoshi and Trishuli rivers, while the northern and northeastern borders are formed by the Nepal-China border. The ridge of Gosaikunda and Lekh-Dorjelakpa divides the park into eastern and western sectors. The park's area has been duly notified and demarcated on the ground, and the precise boundaries of the park are provided in Annex VI of the gazette notification by the Government of Nepal (GoN).

2.1.2 Legislations

2.1.2.1 National Parks and Wildlife Conservation Act, 2029

The clause 3 (1Ka) of the fifth amendment of NPWC Act, 2029 has made it mandatory that National Parks, Reserve and Conservation Area has to be conserved and managed by the approved management plan. Similarly, 3 (1Kha) also mentions that management plan of BZ should be prepared with the support of respective PAs. The management plan shall be approved by the DNPWC.

2.1.2.2 Himalayan National Park Regulations, 2036

The Park is governed by Himalayan National Park Regulations 2036 (1979) which has made following special provisions for local residents with the permission of Chief Conservation Officer (CCO):

- Rule 18 provides facility of traditional use right access to local people from dawn to dusk and can take also their livestock from one place to another using road or trail of NP;
- Rule 24 allows local people to collect wood and timber for certain period of time with the permission after they receive slip from authorized staff of the Park;
- Rule 27 provides facility for the herders to take their herd mainly sheep and chauri in the alpine region and establish shed and graze in certain pastures (*kharka)* for specified period of time; and
- Similarly, Rule 28 has a provision to operate hotel, lodge or tea house in the trekking route after taking the permission form CCO on contractual basis.

2.1.2.3 Buffer Zone Management Regulation, 2052

The BZ Management Regulation, 2052 (1996) has clearly spelled out requirement of management plan and user committee's operation plans. The management plan is prepared by CCO with the support of Assistant Conservation Officers (ACOs) and experts, if required, and submit it to the Director General (DG) of DNPWC for approval. Similarly, under this rule, the CCO can form Buffer Zone User Group (BZUG), BZUC and BZMC which will be responsible to carry out participatory biodiversity conservation in the BZ with the support of Park authority.

2.1.2.4 International Trade in Endangered Wildlife and Plant Control Act, 2073

International Trade in Endangered Wildlife and Plant Control Act, 2073 (2017), generally known as CITES Act, has recently been enacted. This Act has authorized CCO or officer assigned by him/her of the Protected Area (PA) to work as Investigation Officer in illegal wildlife trade case and to file case in District Court as per the Clause 23.

2.1.3 Ecological

LNP is a vital part of the SHL which starts from the central to the eastern Himalayas including Quomolongma Nature Reserve in Tibet, China,

Sagarmatha National Park, Makalu Barun National Park, Kanchanjunga Conservation Area and northern PAs of West Bengal, Sikkim and Bhutan. The eastern Himalaya is one of the 200- Eco Regions.

The ecological boundary and zone of influence of LNP are still nebulous. High number of endemism of plants in Goljung, Gatlang, Langtang and Gosaikunda indicates the slight intrusion of central Asiatic floristic elements in the narrow gorges between Langtang-Dorjelakpa-Sanjen- Ganesh Himalayan chains in the south of Kerung Himalaya and trapped for new speciation in Upper Trishuli and Bhotekoshi River. However, Bhotekoshi is equally known as the divider of eastern and western floristic distribution. Bhotekoshi River also divides the Langtang and Ganesh Himalaya Ecological Complex where tenuous habitat connectivity exists in between Timure-Rasuwagadi area but predominated by cultivated landscape.

2.2 Geology and Soil

LNP occupies a technically crucial position within the central Himalaya. The Langtang and Jugal Himalayas are considered integral part of great Himalayan range. These correspond geologically to the main crystalline roots of Kathmandu nappes. Erosion of these over-folds has produced the impressive snow peaks which dominate the Park's landscape in the northeast, Langtang Lirung, Langtang Ri, Lonpo Gang and Dorge Lakpa to name but a few. The inner valleys (i.e. Langtang, Lende and Chusumdo) enveloped by these peaks are geologically related to the Tibetan Marginal synclinorium (sediment basin). The region between Langtang Ri and Shisha Pagma is considered to be a transition zone linking the great Himalaya and Tibetan marginal ranges, Shisha Pagma being an axial culmination of the latter (Hagen, 1969 stated in DUHE, 1977). Hot Sulphur spring along Bhotekoshi Khola in Timure, Syaphrubesi and Chilime are the indication of deep seated tectonic activity.

Igneous, metamorphic and migmatite rock types are found within the Park. According to available maps, from the headwaters of the Tadi Khola northwest to Syaphrubesi, a schism occurs between chloritic and quartizitic mica schists to the north and east and garnet biotite schists and gneisses to the south. The latter are separated from a large area of gritty mica phyllites, containing bands of quartizite, to the west by carbonaceous and graphitic schist. This formation is aligned north-south, curving east from Ganesh Mountain and thence south from the Langtang Khola-Bhote Koshi confluence. A narrow outcrop of variegated phyllites forms a parallel western margin to these schists and the Gosaikunda massif is a gneissic plateau. From just north of Bridim Khola to its confluence with the Bhote Koshi, a transition of paragenies occurs. Gneissic Granites are exposed along the crest of Langtang whilst the parent rock of most upper valleys in the Park is covered by thick layer of glacial and outwash material (Tautscher,1970). The precious stones in Gosaikunda area was said to be collected and sold in Kathmandu in past but needs verification. In upper Langtang Valley, the local people used to collect salt from west of Yala which was important source of salt (Tsaychho for salt lake in Tibetan language) in the past. Cattle and Himalayan Tahr still go to that area for salt licks.

Due to multifarious topography, vegetation and underlying lithological characters, it is very difficult to generalize the soil type in specific scales. In the upper valleys where weathering rates are rapid, soils are young or skeletal. Mature soils occur in the lower forested region, mainly fertile loams. In the upper Langtang Valley, the most common textural component is sandy-loam with a large proportion of rocks. The mean proportion of sand decreases with elevation and loamy-sands became pre-dominant below 2440 m (DUHE, 1977).

Outside the Langtang valley, soils are more evolved and show podosol characteristics, especially between 3500 and 3700 m in areas of less steep slopes. As in other high altitude forested area of the Himalayas, the relationship between the organic top layers and soil beneath contrast with forested area of northern latitudes. Although the Himalayan soils surface layers is irregular and difficult to explain (Dhir 1970, Marie 1973) Skeletal soils are evident in areas boulder scree and sand dunes form the lateral moraine of some glaciers. On subalpine pastures in the Langtang Valley, where the practice of pasture burning occurs, the top soils layers often comprise alternating dart and pale horizons due to ash accumulation and PH is more homogenous between them. Soils are generally fairly acidic with ph 5-6 (Marie, 1973).

In most metamorphic regions the topography shows a distinct lineation which also influences erosion rates. For example, where a formation's angle of dip is in the same direction as the mountain slopes, erosion occurs more rapidly. Generally angle of dip south of Gosaikunda is south-facing whereas to the north it is north-facing. This is related to the underlying nappe structure. This pattern accounts for the steeper, more stable south facing slopes of the Langtang valley whereas the incidence of slip and erosion is greater on the less stable, north facing side, resulting in less steep, forested slopes (Hagen 1969; Tautscher 1970 stated in DUHE1977).

The erosion in Park is greatly affected by over grazing, trampling, forest fire and meandering trekking trail without proper stone soling and stepping. The erosion is enormous in Nupsu Kharka due to over grazing in rainy season around the cattle camp. The gully erosion is observed along the trekking trail from Magingoth to Kutumsang, Thade pati to Gosaikunda and Cholangpati to Lauribinayak. In Lower altitude, the cattle congregate

near to settlement and heavy trampling occurs in the adjoining forest areas resulting formation of rills and subsequently in large gullies.

2.3 Topography and Drainage

The drainage of the Park can be divided into two main parts. South of the Gosaikunda Lekh- Dorje Lhakpa range, drainage is southwards and then east into the Sunkoshi. North of this range drainage is initially westwards into the Bhote Koshi-Trishuli river and then southwards.

The Park has two broad drainage systems. These two drainage systems have been divided by Gosaikunda Lekh-Dorje Lhakpa range into eastern and western system. In western system, the rivers are swiftly following westwards then join Bhotekoshi and then Trishuli River. Lendi, Trishuli and Langtang are the main tributaries in this system. In eastern drainage system, rivers follow the southwards then east wards direction and join Sunkoshi River.

Due to steep topography towering to Langtang Lirung and Lekh Dorje Lakpa, all the rivers inside the Park flow with high current on boulder subtracts.The Park has a good series of wetland originated either from glacier or from rain water accumulation. Panch Pokhari, Gosaikunda Lake series, Naukunda Lake series are fed by rain water whereas River Kunda, Dudh Pokhari are fed by glacier. Gosaikunda lake was included in the list of Ramsar sites, wetlands of international importance in September 23, 2007. Small amount of zooplanktons and phytoplankton are recorded in Gosaikunda Lake. Such oligotrophic lake is greatly affected by pollution during pilgrimage time. Fish diversity is nil in such extremely cold oligotrophic lakes and rivers in high altitude. However, limited numbers of insect species (i.e. corixids and water beetles) are recorded in Langtang River in Kyanjin which are strongly suspected to migrate in winter season for favorable water temperature.

Typically, U shaped valleys are found with marine deposits in high altitude areas. They turn to v shaped gorge in lower altitude supporting dense forest with excellent wildlife habitat. In case of Langtang valley, the river has further cut down into the bed of valley floor resulting combined U and V shaped cross sectional profile.

The only water birds noted on high altitude lakes are tufted pochard and ruddy shelduck in Saraswatikunda which are vagrant visitors and rarely seen. Upper Langtang valley provides breeding ground for Ibisbil, a globally threatened bird and very often seen in summer season in Kyanjin and Langsisa. The water quality of Trishuli River and associated tributaries are excellent for breeding Japanese rainbow trout. A trout breeding station has been recently established in Dhunche after extensive experiment in farmers based trout breeding station at Bokejunda.

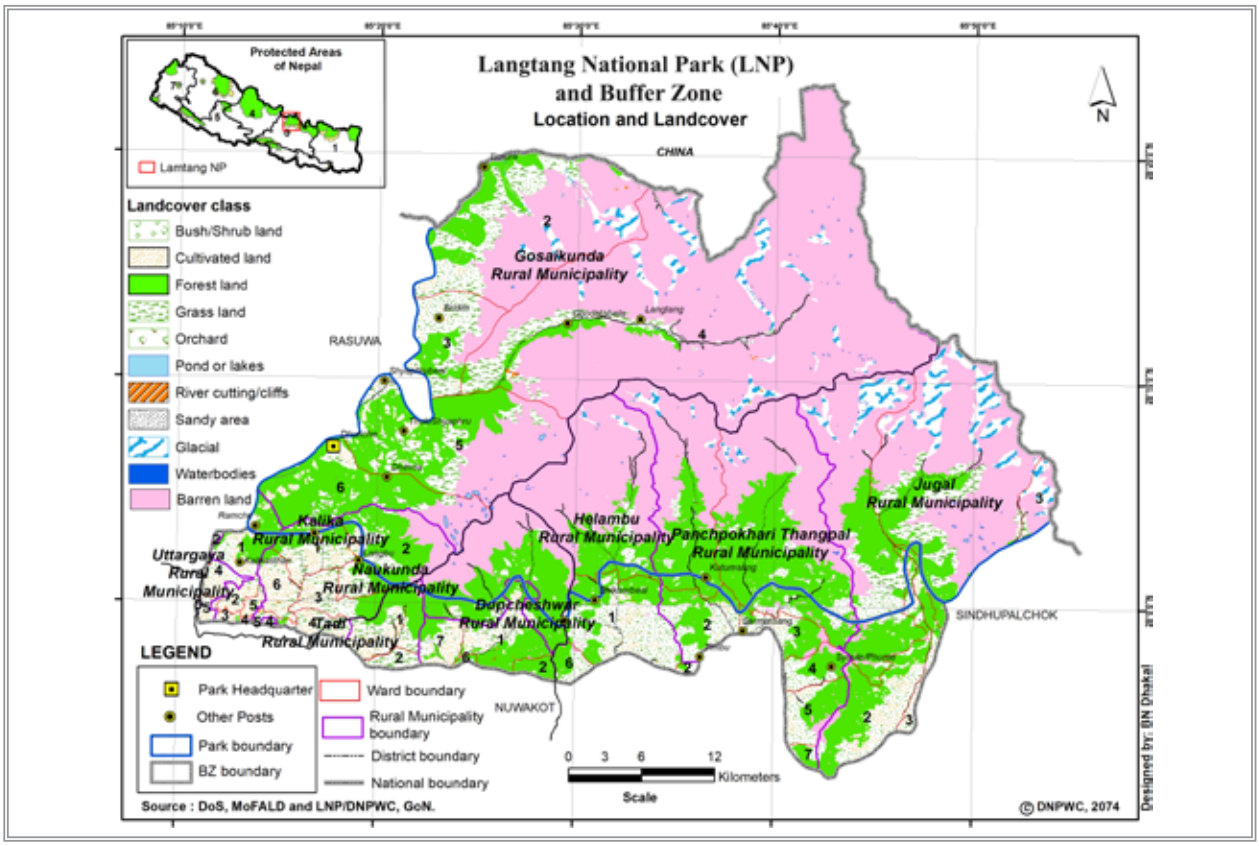


Figure 2: Landcover with vegetation of LNP

2.4 Climate

2.4.1 Rainfall

The seasonal climatic pattern is dominated by the southerly monsoon which occurs between June and September. The incidence and type of precipitation is mainly assorted effect of aspect, altitude and the presence of a rain shadow area (e.g. Langtang and Lende valleys). The north- south aligned Helambu drainage basins are exposed to the full effect of monsoon air streams, as far west as the upper Tadi River. Rainfall data shows that Shermathan and Tarkeghyang receive the highest precipitation. The Langtang and Lende valleys are sheltered from southerly airstreams by the Gosaikunda Lekh-Dorje Lhakpa Range and Langtang Himal respectively. Consequently, the monsoon arrives later and departs earlier from these inner valleys.

The average highest rainfall occurred in 2001 with 928 mm of rainfall, while in 1991 it plummeted to 255 mm (Figure 3) based on observation of rainfall data from 1987 to 2010 (DHM).

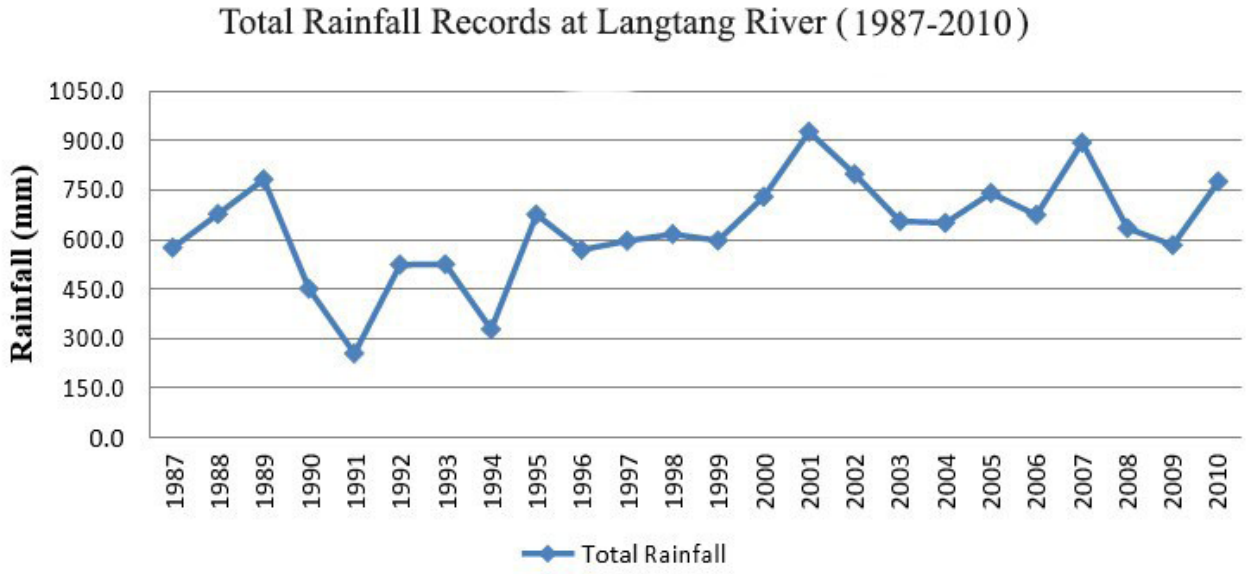


Figure 3: Rainfall data from 1987 to 2010 recorded at Langtang river (Source: DHM)

Similarly, while referring to the rainfall data of 2010, the highest rainfall was found to be 210 mm in July. It was found that in 2010, rainfall concentrated mostly in three months i.e. June to August (Figure 4).

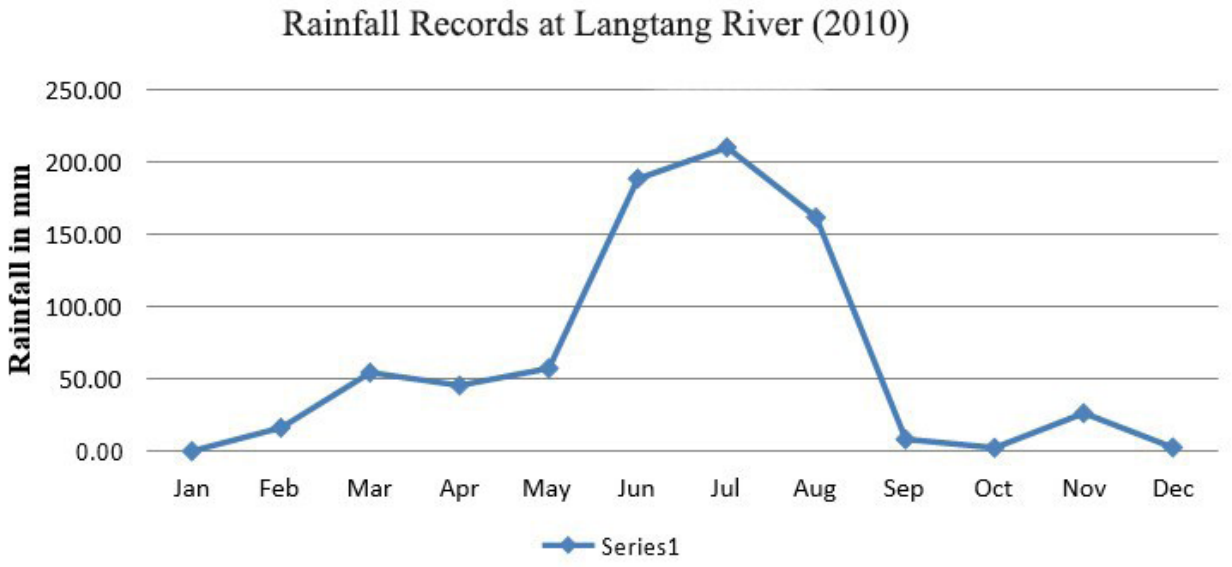


Figure 4: Rainfall pattern in different months of year 2010 (Source: DHM)

2.4.2 Temperature

The average monthly maximum and minimum temperature recorded in Langtang river Metrological Station based on observation from 1987-2010 by Department of Hydrology and Meterology (DHM) are presented in following graph (Figure 5). The temperature at Langtang River was recorded below zero degree celsius in 2005 and 2006. The minimum temperature between October to March was below zero degree till 1994 which slowly rise from 1995 till 2004 which again peaked from 2007

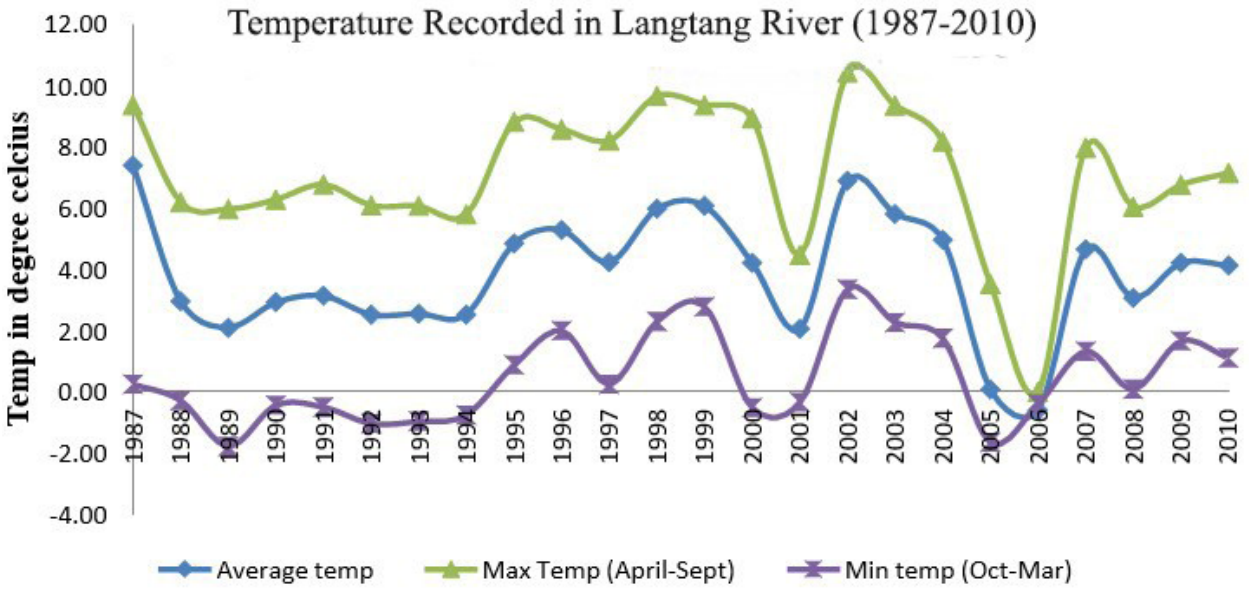


Figure 5: Mean average, maximum and minimum temperature (Source: DHM)

The temperature reaches its maximum around July-August and falls to minimum during December - January. The minimum average temperature falls below zero degree between November to January

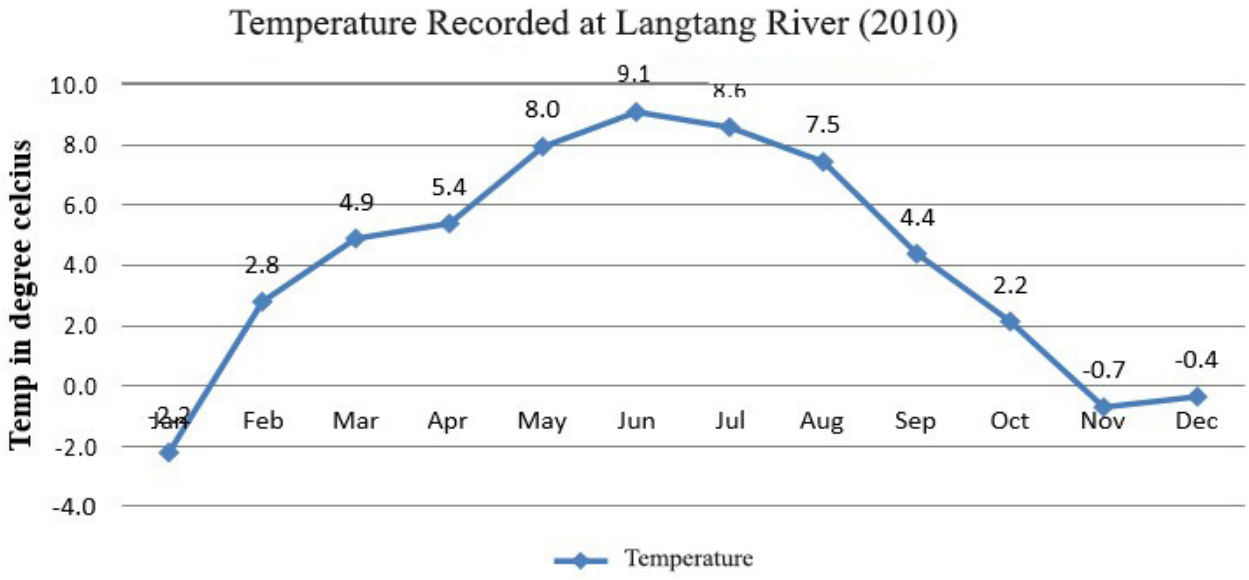


Figure 6: Temperature in different months of 2010 (Source: DHM)

The temperature across different months of year 2010 is presented in Figure 6 which shows that temperature slowly rises from April to September. However, the temperature remained below 10 degree Celsius.

2.5 Biodiversity Status

2.5.1 Floral Diversity

There are 1043 plant species found in the Park and out of them 21 are endemic species (Annex II). The Park's rich vegetation is characterized by Sal (Shorea robusta) forest in the southern section of Park and it is gradually taken over by hill forest (2000-2600 m) consisting of Chirpine *(Pinus roxburghii)*, Rhododendrons and Nepalese alder *(Alnus nepalensis)*. The temperate zone (2600-3000m) is covered mainly by oak forest fading to old growth forest of silver fir, hemlock, and larch in the lower sub–alpine zone (3000–3600m). The Nepalese larch *(Larix nepalensis)*, the only deciduous conifer in the region, is found in the Park and few places elsewhere. Throughout these zones different species of Rhododendron such as *R. arboretum, R.barbatum, R. campanulatum,* scrubs of *R. lepidotum* to name a few, from an incredible under-story. Tree species such as birch, silver fir, *Sorbus microphyla* and twisted *Rhododendron campanlatum* are found near the tree line. Along the 4000meter elevation, juniper and Rhododendron shrubs *(R. anthopogon)* slowly merges into the serene wild land of expansive alpine grassland meadows.

Among the twenty-one endemic species recorded in the Park, *Carum carvi* is recorded in Langtang valley, two species of *Meconopsis* are reported in Gosaikunda area, one species of *Meconopsis* in Sindhupalchowk, one *Primula* species in Gosaikunda and one *Primula* species in Chandanbari, one *Zanthoxylum* species in Ghodtabela, and two Rhododendron species in Lauribinayak are among the crucial endemic plants in the Park.

Recently, Department of Plant Resource and Edinburg Royal Botanical Garden, UK have jointly organized an expedition in LNP for the Lichen flora study. More than 800 specimens of different lichen species have been collected. Lichens listed under Usnea, Sarkeria and Peltigra families have conservation importance. Birch forest of Kyanjin, pine forest in Thulo Syaphru and *Rhododendron* mixed forest in Thadepati possess excellent lichen diversity. Lichens under Usnea family constitute Musk deer diet whilst *Parmelia nepalensis* is traded to make dye.

Taxus wallichiana under Taxaceae family, *Aconitum bisma*, *A. gammiei*, *A. spicatum*, *A elongate*, *A. rivularis* under Ranunculaceae family, *Michelia kisopa* under Magnoliaceae family, *Nardostachys jatamansi* under Valerianaceae family, *Saussurea deltoidea*; *S. gossipiphora*; *S. taraxifolia*; *S. densiflorus*, *S. chenopodifolius* under compositae family, *Rheum nivale* under Polygonaceae family are threatened species due to tenuous distribution, over exploitation and illegal trade.

LNP comprises five ecological zones comprising tropical, subtropical, temperate, sub alpine and alpine zone.

- **Tropical zone (below 1000 m)**

  It comprises very small area in the lower Bhote Koshi Khola and Trishuli in Ramche. Sal (*Shorea robusta*) is the dominant species but in limited areas.

- **Subtropical zone (1000-2000 m)**

  In this zone, mainly Chilaune (*Schima wallichii)* and Uttis (*Alnus nepalensis)* occurs in the damper areas of the lower Trishuli, Melamchi, Larke, Panch Pokhari Khola and Bhote Koshi. During winter season, herders congregate their livestock in this region and local people exploit the forest for fodder and fuel wood. Shrubs like *Berberis aristata*, *Rubus species*, *Rosa brunonii* and herbs including *Eupatorium* and *Artemisia vulgaris* predominate on the heavily grazed areas. Khote Salla (*Pinus roxburghii)* predominates in drier rocky slopes along the Trishuli and Bhotekoshi Khola from Dhunche to Timure.

- **Temperate zone (2000-3000 m)**

  Quercus semicarpifolia, Quercus lamellose, Q. lanata, Rhododendron arboretum and other associated species predominates in this region. *Ilex species* and *Lyonia ovalifolia* are common in middle storey. Blue pine (*Pinus wallichiana*) forest is found in parch regions in upper Bhote Koshi, Lower Langtang valley and lower Lendi Valley in Nupsu and Chojang area. Spruce (*Picea smithiana*) in Lendi valley and Ghatekhola marks the eastern limits of its recorded distribution in the Himalayas. Hemlock (*Tsuga dumosa*) in the damp, muggy and shaded areas is the characteristics of upper temperate zone with associated species *Pieris fermosa*, *Daphne bholua, Viburum grandiflorum* and *Berberis wallichiana*. Bamboo thickets including *Himalayacalamus falconaris* is ubiquitous in ground canopy.

- **Sub-alpine zone (3000-4000 m)**

  The lower subalpine zone (3000-3600 m) is characterized by the predominance of conifers such as Hemlock (*Tsuga dumosa*), silver fir

(*Abies spectabilish*), *Rhododendron barbatum* mixed with *Acer campbellii* in moist sites in north and west facing slopes. On the sere area of south facing slopes *caragana species*, *Juniperus recurva* are prominently associated with *R. campanulatum*.

Rhododendron anthopogon, Juniperus indica, Ephedra gerardiana, Hippophae salicifolia, Salix species, Caragana species are common species in upper sub alpine zone. Below tree line *Larix nepalensis, Betula utilis* are fairly common. A narrow stretch of Birch-Rhododendron forest is found around 3800 m altitude

- Alpine zone (above 4000 m)

  Ephedra gerardiana, *Myricaria rosea*, *Hippophae tibetana, Salix* species, *Rhododendron nivale*, *Rhododendron anthopogon* are the characteristics of alpine zone between 4000 - 5000 m. In the upper alpine zone between 4500 to 5000 m, consists of alpine medows and include amazing composition of herbs including *Primulas* and *Potentia* species.

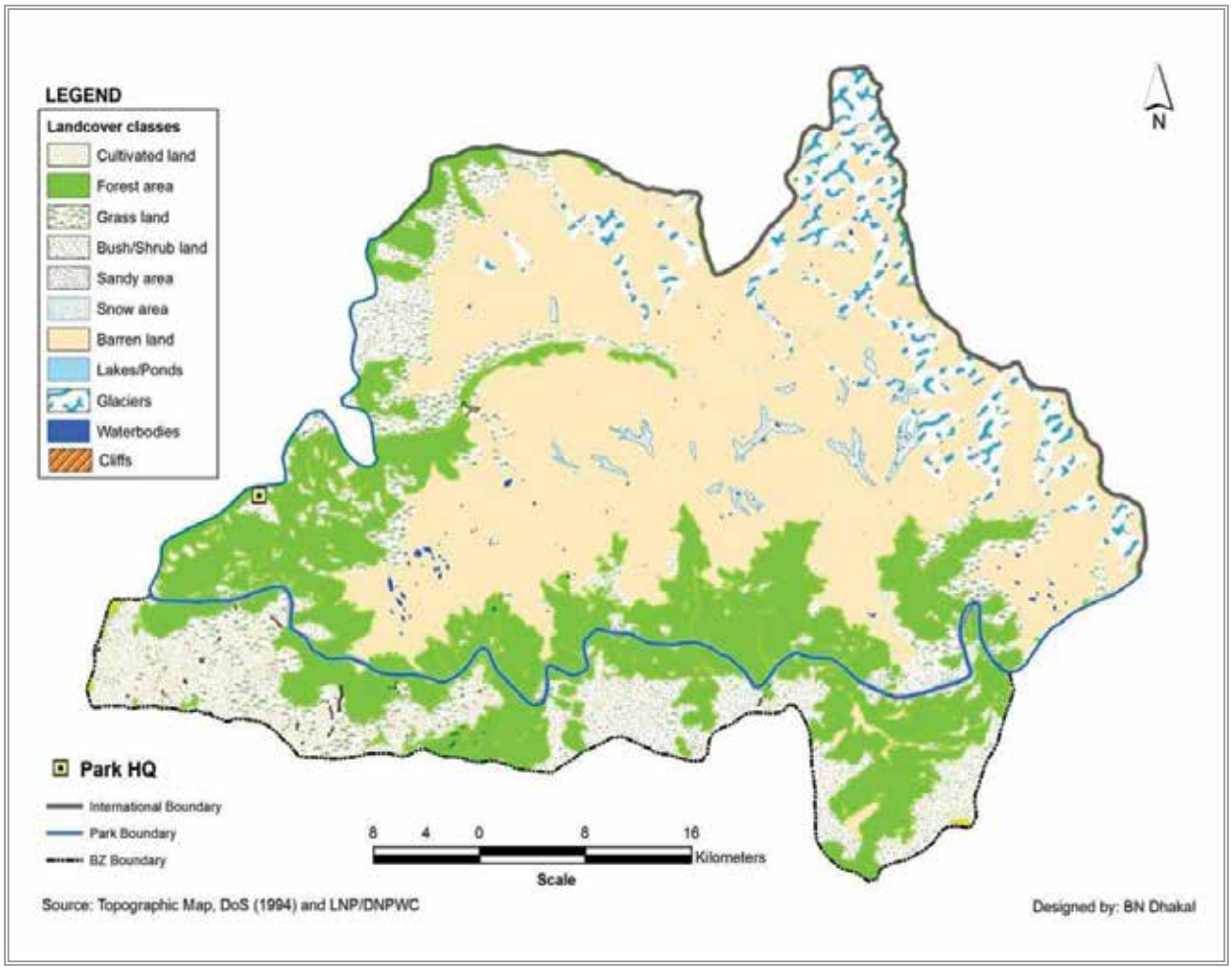


Figure 7: Land cover with vegetation of LNP

Regarding the biodiversity hot spot study team conducted biodiversity hot spot in LNP. Major biodiversity hotspot identified were in area around forest of Timure Sedan, Ghattakholagaun, Pangsang Lek, Langtang river valley left hilly along Ghodatabela, Langtang, and Mundu, Linlin, Deural, Cholanpati, Laurebina, Northen aspects of Gosaikunda Danda, Phedi, Talu, Thadepati Bhyanjan, Kyumasherpu, Sisipu and Gyang Danda, forest around Baccha and Sinmali, Nasimpati, Panchpokhari, Tharpu, Mahatna, Tembathan and forest in river valley of Belephi khola (figure 8).

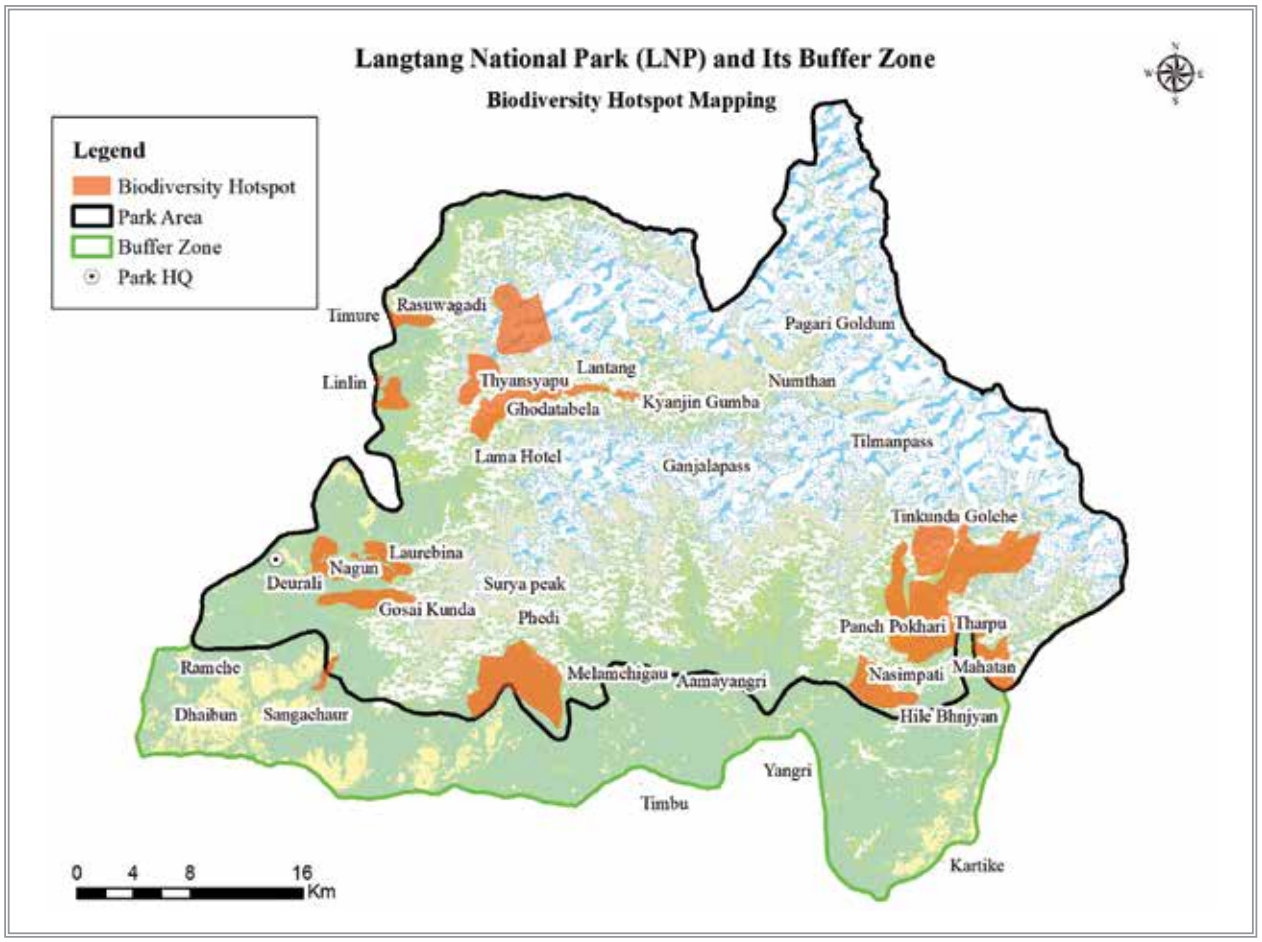


Figure 8: Biodiveristy hotspot mapping

2.5.2 Faunal Diversity

The mammalian fauna of the central Himalayas is the intermediate of Indo-malayan and Palaearctic fauna. Most of the Indo-malayan species are found in lower altitude however Red panda as an exception is the only element of Indo-malayan fauna that ascends up to 4800 m. There is noticeable dearth of mammalian species in the Himalaya of Central Nepal (i.e. Langtang area) which probably suggests the result of a forked post-pleistocene route of dispersal from the north causing a species gap in the central region (coughley 1969 stated in DUHE, 1977).

There are 46 mammal species (Annex III) recorded in LNP and out of them Red panda (*Ailurus fulgens*), Musk deer (*Moschus chrysogaster*), Snow leopard (*Panthera uncia*), Assamese monkey (*Macaca assamensis*), Grey wolf (*Canis lupus*), Leopard cat (*Felis bengalensis*), Great Tibetan sheep (*Ovis ammon*), Pangolin (*Manis pentadactyla*) and Clouded leopard (*Pardofelis nebulosa*) are included in the protected list of NPWC Act, 2029.

Occurrence of Great Tibetan sheep is strongly suspected in head water of Lende River in Chusumdo and Chojang Valley in Nepal Tibet border. Dead specimen of clouded leopard was found in Ghatte Khola and another dead specimen of leopard cat has been collected from Syaphrubesi in 1999 (LNP, 2003). There is plausible record of the clouded leopard (*Neofelis nebulosa*) being seen north of Melamchigaon (Fleming Jnr Pers. Comm. stated by DUHE, 1977). Snow leopard has been reported to occur in upper Langtang, Upper Yangri and Upper Lendi Valleys. Red panda is frequently sighted in Polangpati, Ghodtabela, and southern flank of Cholangpati, Panchpokhari, Yangri and Magingoth areas. Fox *(Vulpes vulpes*) occurs between 3300 to 5300 m. Many times, researchers captured fox in the camera traps targeted for snow leopard in Kyanjin and Ganjala.

Himalayan black bear is frequently sighted in Timure, Thulo Bharku, Melamchi, Briddim, Thulo Syaphru, Lokil and Ghodtabela. Black bear is likely to occur throughout the temperate forest in the Park. Several villagers are attacked and mauled by the bear.

Common leopard (*Panthera pardus*) is fairly common

in temperate region. However, its habitat overlaps with snow leopard in Langtang valley since common langur, one of important prey moves up to Numthan Kharka of Upper Langtang Valley. Killing of livestock and feral dogs by common leopard in Dhunche, Bharku, Syaphrubesi, Ramche, Kutumsang and Shermathan is frequently recorded. Ghoral (*Nemorhaedus goral*) is a frequent event around Sherpagaon and Bamboo areas. Local people reported sighting of Serow (*Capricornis summatraensis*) in Ghodtabela and Lower Langtang Valley. Himalayan tahr is an important prey base of Snow leopard and occurs predominantly on the south facing slopes in Langtang Valley and Lendi Valley. However, unlike in Sagarmatha National Park, the mountain ungulates such as Ghoral, Himalayan tahr and serow are extremely timid and more agile in LNP and reflects the poaching stress inside the Park.

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Pangolin is nocturnal, shy, non-aggressive, solitary, strange and burrowing mammal which has received low scientific attention. The status of this mammal is decreasing in the country but there is no any research regarding its biology, status and distribution. Although, this mammal is protected nationally and internationally, it is facing too much problems due to habitat destruction and illegal trade. This article mainly focuses on the biology, status, distribution and conservation threats of this ecologically beneficial handsome creature.

In LNP, during this study, It is found that Assamese Monkey habitat is confined in small area in the river valley of Langtang Khola in side of Syaphrubesi to Doman area where as in Trishuli river valleyin area in between Bandare to Dhunche and Syaphrubesi

2.5.2.2 Birds

Checklist of birds includes 380 species (Annex IV). Himalayan monal (*Lophophorus impejanus*) and Satyr tragopan (*Tragopan satyra*) are protected birds found in the Park. Upper Langtang Valley provides excellent breeding ground for Ibisbil (*Ibidorhyncha struthersii*), a globally threatened bird species. Wood snipe (*Gallinago nemoricola*) another globally threatened bird species is also found in birch forest of Kyanjin. Snow partridge is frequently seen in Gosaikunda valley in summer

season. Tibetan snowcock (*Tetraogallus tibetanus*), Himalayan snowcock (*Tetragallus himalayensis*), Tibetan partridge (*Perdix hodgsoniae*), Oriental honey buzzard (*Pernis ptilorhyncus*), Himalayan griffin (*Gyps himalayansis*), Eurasian griffin (*Gyps fulvus*), Red headed vulture (*Sarcogyps calvus*) are some of the attractive birds found in the Park. The trekkers are often enticed by yellow rumped honey guide (*Indicator xanthonotus*) in Bamboo and Lamahotel, and Gliding lammergeier (*Gypaetus barbatus*) in Lauribinayak and Upper Langtang Valley.

Important wetland dependent birds in Langtang are bar headed goose (*Ancer indicus*), Ruddy shelduck (*Tadorna ferruginea)*, Common teal *(Anas crecca*), Tufted duck (*Aythya fuligula*) and Common Merganser (*Mergus merganser*)

2.5.2.3 Reptiles and Amphibians

There are 4 reptiles and amphibians reported from the Park (Annex V). Three-keeled forest agama (*Oriotiaris tricarinatus*), Stejneger's pit viper (*Trimeresurus stejnegeri*) are common herpeto fauna found in the Park. Himalayan toad (*Bufo himalayanus*) and Khaptad pelobatid toad (*Scutiger nepalensis*) is found around 2745 m in LNP

2.5.2.4 Fish

There are 40 fish species reported in the river system of LNP. Out of these, 11 species are reported from Melamchi River only. Among the remaining 19 species, 11 species are reported only from Trishuli River and remaining 8 species are reported from both river systems (LNP,2002). An endemic fish species Buchhe asala (*Schizothorax plagiostomus*) is found in Bhotekoshi and Langtang Khola. Popular sport fish like Sahar (*Tor tor*) and Mahasheer (*Tor putitora*) are found in Betrawati Khola.

CHAPTER 3.

PAST AND PRESENT MANAGEMENT PRACTICES

3.1 Conservation History

Before the establishment of Park, livestock rearing and trade with Tibet through Kerung was the main economic base of Langtang region. Butter, Churpi and medicinal plants were also exported to Kathmandu. Major H.W. Tilman carried out first expedition to the Langtang Valley in June 1949, subsequently the unexplored valley was revealed to outer worlds specially trekkers, mountaineers and scientists.

Cougley, 1969 (stated in DUHE, 1977) proposed an 'Alpine National Park' including upper Langtang Valley and the area surrounding the sacred Gosaikunda lake as part of the survey conducted by the NG/FAO/UNDP Trishuli Watershed Development Project. In April 1974 a 'Preliminary Development Plan' for the LNP was produced by Mr. J.H. Blower (FAO Wildlife Management Adviser), which incorporated much ecological data obtained by Mr. J.L. Fox (U.S. Peace Corps Volunteer) during 1973-74. This document was intended only as a 'provisional working document, for the preparation of Management Plan' (DUHE, 1977).

In March 1974, Mr. M. Bolton (FAO, Wildlife Ecologist) visited Langtang and realized that 'the preparation of a management plan, which would constitute a significant improvement on the (aforementioned) working document, would be a very lengthy and painstaking'. This is because a number of villages occur within the Park's boundaries and, although not part of it, rely upon its natural resources. A much greater number of villages were located around the Park's periphery, again depending on it for much of their livelihood. Thus, a detailed survey was needed to elicit the socio-economic factors operating within the Park and the areas adjacent to its borders (DUHE, 1977).

An expedition was lunched by University of Durham in April 1976 including multidisciplinary team comprising Physical Geographers, Mammologists, Tourism Experts, Anthropologists and Aquatic Biologists. The field work emphasized on meteorological, aquatic systems, mammal and bird, human factors such as transhumance, agriculture, forest cropping and tourism. Thus, the first management plan for LNP (1977-1982) was produced with compendia of scientific and baseline information since the area was inchoate for scientific exploration before. However, the important recommendations were not completely implemented and are still not obsolete for Park management.

In 1982, LNP initiated a programme to delineate distinguished core areas for special management attention and each core area had icon of conservation importance. Red Panda Conservation zone was created in Cholangpati area of Syaphru, Langtang Larix Conservation zone in Langtang, Musk deer Conservation zone in Langtang, Juniper Conservation zone in Ghyangphedi, Sal forest Conservation zone in Ramche, Rasuwagadi area as special historical site and Gosaikunda valley as special religious site.

Fourth amendment of the NPWC Act 2029 (1973) and enactment of BZ Management Regulation 2052 opened the opportunity for local people's participation in carrying out integrated conservation and development activities to meet the needs of local residents and maintain and enhance natural bio-diversity. In Baisakh 14, 2055 (27th April 1998), settlements inside the Park areas and adjoining area of 418.3 km^2 was declared as a BZ of the Park (LNP, 2001). A Park management strategy framework was prepared by DNPWC with assistance of UNDP/ GEF to provide guidance for Park managers (DNPWC, 1999).

After establishment of NP, many scientific expeditions, researches and documentation works were carried out by several scientists. The current management planning is an effort to provide the long term vision of Park management in the fresh trend of tourist and human pressure, needs of local people, creation of new market niches and development infrastructures inside and periphery of the Park to enhance the efficacy of management interventions

3.2 Protection of the Park

Before the establishment of the Park, hunting of wild dog, Himalayan black bear, Leopard, Wild boar, Musk deer, Brown ghoral, Serow and Himalayan tahr was widespread (Fox 1974). Several kilometers of brush barricades often constructed at the bottleneck of ridge and narrow slopes where Musk deer often passes and needlessly killed. Similarly, Pheasants are trapped using similar brush barricades but at a much smaller scale. Fishing with rod and line for Buchhe asala or Blunt snow trout (*Schizothorax plagiostomus*) is in vogue in the Bhotekoshi at Syaphrubesi and confluence of Mailung and Trishuli River among Tamangs. Paha (*Bufo* sp., edible frog) is found trapped in Ghatekhola and Langtang Khola with filter basket. Himalayan black bear, wild boar and Muntijac were killed by farmers as retaliation to crop depredation. The ignorant of fine, imprisonment or punishment in killing and helping to kill the wildlife is also a cause of increased poaching. According to Annual Progress Report (APR) of 2074/75, six cases were filed against the possession of Red Panda skin. Similarly, the Park confiscated 4 pcs. of tiger teeth in FY 2075/76. In FY 2076/77, 2 people were arrested while trafficking Yarsagumba.

Rakta Chandan (*Santalum Album)* is a threatened species indigenous to South India. It is also called Red Sandalwood or Rakta Chandan in Nepali. Rakta chandan is an aromatic wood and retain their fragrance for decades. It is one of the most wood in the world as a result it has suffered over-harvesting in the past century and considered threatened in India. Although, *S.album* is not included in CITES list, India has placed an export ban on Sandalwood timber. Due to this, it is illegal to trade this species. Its quality of retaining fragrance for decades, it is in high demand in Tibet as its wood is used in monasteries. Due to the high price, Rakta Chandan is found to be illegally traded between Tibet and India using Nepal's land. Formerly, it used to be trafficked through Tatopani border and nowadays, smugglers are also using Kerung highway. In Fiscal Year (FY) 2074/75, a bus was caught with 39 logs (1055 kg). After the completion of Betrawati-Kerung highway, the trafficking can increase and thus more concentration has to be given towards this new illegal trade.

LNP has witnessed several challenges in its history of four decades in Park protection. The concept of protection started with the establishment of LNP in 2032 BS (1976) and the Government deployed Nepalese Army ever since. There is a separate battalion of Army deployed to protect the Park and they have 13 security posts (Armed security unit and combined with Park) at different locations in core and BZ of the Park (Annex X). The headquarters of the Nepal Army is situated at Dhunche of Rasuwa District which is adjacent to the Park headquarter. Park staffs/Army force, deployed in these posts, carries out regular patrol to their respective areas to ensure that there are no illegal activities in the core area and BZ.

3.3 Habitat Management

In Langtang, majority of people have depended on rangeland for grazing their livestock for centuries. Grazing is pervasive where the topography and altitude favors to bring cattle. Large areas of the Park are heavily overgrazed in lower altitude especially around the village and localized areas in higher elevation. Gradual invasion of *Caragana* and B*erberis* species in dry slopes and *Rumex, Fagopyrum, Aconicum* in humid valley implies the grazing pressure in high altitude Kharka. Due to increased livestock pressure, herders heavily lop fodder trees in lower altitude and regeneration of palatable species decreases and extent of grazing land requirement increases. The continuous grazing pressure has deteriorated the quality of range land and caused change in floristic composition. For example, Sword leaf plant which is extremely poisonous to livestock is dominant in Langsisa and upper Langtang due to excessive grazing. The rangelands cover 4.94% (89.28 Km^2) of the total area and are situated mostly in the alpine areas of the Park where herders bring their livestock to graze in the summer and descend to lower altitude with the onset of winter practicing transhumance grazing. Only the residents of the Park are allowed to bring their livestock and establish shed as per the Himalayan National Park Regulation, 2036. The Park has formed 10 Kharka Management Groups across Rasuwa, Nuwakot and Sindhupalchok districts. The Park is maintaining the grassland in regular basis by involving these herders through BZUCs.

There are several wetlands in the Park and one of the important wetland is Gosaikunda lake which was listed in Ramsar site in 2007. Other notable wetlands include Bhairav kunda, Sury kunda, Aama kunda, Sarswoti kunda, Rakta kunda, Lamu kunda, Raja kunda, Nau kunda, Sagar kunda, Aekle kunda, Dhud kunda, Panch pokhari, Teen pokhari. These wetlands provide provide habitat for a great number of aquatic, migratory birds and territorial species. The Park undertook inventory of wetlands in Tempathan and Panch pokhari region in FY 2076-77 and identified 16 wetlands (APR 2076-77). Similarly, the Park updated site management plan of Gosaikunda in the FY 2076-77.

3.4 Antipoaching and Intelligence Gathering

In fact, intelligence gathering is the first step towards an effective anti-poaching operation. However, the Park at present does not have a network of informants for intelligence gathering. In order to control poaching of wildlife species and illegal trade of their body parts, there is a need of informants' network to collect reliable information regarding the probable wildlife

crimes in this area. There were several legal cases filed in LNP based on the information provided by local volunteers. Thus, there is a need to form and strengthen informant's network to obtain reliable information for effective anti-poaching operations.

In order to make anti-poaching operations more effective, district level Wildlife Crime Control Bureau (WCCB) has been formed in Rasuwa and Sindhupalchowk districts. The bureau of Rasuwa is coordinated by the CCO of LNP whereas the bureau of Sindhupalchowk is coordinated by Divisional Forest Officer. The bureau in each district comprises of the officer representatives from District Administrative Office, NA, District Police Office, Armed Police Force, National Investigation Department, District Attorney General Office, National Park Office, Divisional Forest Office and other relevant government offices as well. In both the districts, three each WCCB meeting is organized to discuss issues, share experiences and exchange support towards wildlife crime. Besides these, the Central Investigation Bureau (CIB) of Nepal Police has been providing significant support in intelligence gathering and controlling illegal wildlife trade.

3.5 Tourism and Interpretation

LNP is one of the most popular tourist destinations in Nepal. Trekking is one of the major attractions for the visitors in Langtang region after Annapurna Conservation Area and Sagarmatha National Park. Tourism is the major source of income, which not only benefits the local communities, but also generates significant amount of revenue for the country. Before the earthquake around 15,000 tourists visit the area annually. The earthquake in April, 2015 killed six hundred and sixty-one people by deadly avalanche triggered by the earthquake sweeping away an entire Langtang village. In 2016, the tourist number plummeted to 4292 number. The tourist number is rising which reached 17691 in FY 2075/76 (2019) after renovation of tourism infrastructures and reconstruction as well as renovation of damaged hotel and lodges

3.6 Research and Monitoring

The first scientific expedition in Langtang Region was done by Major H.W. Tilman in association with Taylor and Polunin in June 1949. They collected herbarium and bird specimens for British Museum. Before this expedition, only two collectors named Dhowj and Sharma conducted botanical survey between 1927 and 1937.

In June 1966, Sayers and Schilling (1969) participated in a GoN botanical survey of the Langtang Valley. Vegetation surveys have been conducted by Stainton (1972), Dobremez et al (1929, 1974) and Tokyo University Museum in conjunction with the Department of Medicinal Plants. The latter have just published the Flora of Langtang, a cross section vegetation survey. In

1976 Kyoto University carried out a north-south vegetation transect of Nepal which included the Langtang Area. The Trishuli Watershed Development Project had undertaken multidisciplinary studies in the Park and its adjacent areas. Hagen (1969) included Langtang in his geological survey of Nepal. A six month ecological survey of the Park was conducted by Fox (1974 a, b,c,). Between 1976, April- 1977, Junethe Duram University Himalayan Expedition worked in the Park in collaboration with NG and the FAO project. Although the Durham University Himalayan Expedition (DUHE) visited most of the areas in the Park, time was insufficient to make detailed studies throughout. Thus, the most specific, accurate and quantitative data were derived only from Langtang Valley.

After the extensive field work of DUHE and preparation of management plan of LNP, many scientists visited the Park for wildlife, plant, geology and glacier studies. Bisop, 1972 studied the anthropology of Melamchigaon focusing on herding system and analyze the social change in 1992 in the same study area. Clark, G. 1977 studied the Lama people of Helambu. B. Gurung studied socio-economic development and conservation in Syaphru and Langtang. Maire, A. 1973 studied 'La' valley of Langtang focusing the relation of latitude, altitude, and soil group and vegetation distribution. Shrestha M.K., 1988 studied vegetation in Red panda habitat in LNP. Timmerman, C. and E.R.P. Platije 1987 studied environmental impact of energy requirements of the cheese factory in Kyanjin (LNP). Karki J. B., Poudel D.P., Khanal B. and Shrestha K (2002) studied the butterfly and published the book entitled 'Some Beautiful Butterflies of Langtang National Park'. Similarly, Karki J.B. and Thapa B. (2001) prepared the checklist of birds and published 'Birds of Langtang'. NAHSON 2003 investigated Snow leopard in Langtang. Similarly, Chalise, M.K., R.C. Kyes, J. Adhikari, J. Khatiwada, M.K. Ghimire (2004) studied the status of the Snow leopard population in LNP.

Every year students from various counties as well as organization conduct study in the various aspect of conservation in LNP. In the FY 2076-77, 14 studies were conducted and out of them 13 researchers were from Nepal and one study was carried out by Nepalese organization (APR 2076-77)

3.7 Human Wildlife Conflict

Human-wildlife conflict was not a pronounced issue in the Park and BZ in the past. However, at present,

human-wildlife conflict is one of the important management issues. It is mainly because local people, herders and outsiders often collect forest resources illegally from core area. On the other hand, Wildlife, mainly Wild boar and Assamese monkey, often raids agriculture crops in the BZ. Similarly, casualty of livestock and human by Himalayan black bear and leopard is frequently reported. As a result, killing of few wildlife species using trap, poison by local people has been observed recently. Three cases were filed against illegal transportation of Yarsagumba; trafficking of wildlife parts and illegal felling of trees in District Court in the FY 2076-77 (APR 2076-77). Thus, in recent years, human-wildlife conflict is becoming one of the major hindering factors for maintaining harmonious relationships with local people and increase people's participation in conservation. LNP is adopting the strategy of human-wildlife co-existence and amity rather than conflict following Relief Guideline 2066 BS. HWC revolving fund is being launched and systematized such that fund is provided to all the BZUCs. This fund is used to assist victims for quick treatment under quick response mechanism. People get relief support within 7 days of submitting required documents to Park administration. The Relief Guideline has been amended twice in 2072 and 2074 respectively.

In the FY 2075-76, 36 HHs from Rasuwa and 4 HHs of Sindhupalchowk received the relief out of the total 40 HHs. To maintain human-wildlife amity Park initiated to raise awareness about the provision of relief against casualty to human and livestock, property damage and crop damage by wildlife since FY 2076-2077 (2019-2020). With the widespread dissemination and awareness about the availability of relief fund in FY 2076-77, the recipient HHs to collect relief rose to 431 and out of them 291 HHs belong to Nuwakot district followed by 181 HHs and 2 HHs of Rasuwa and Sindhupalchowk respectively.

3.8 Projects in the Park

3.8.1 Hydro-electric projects in and around the Park

Nepal has lots of potentiality to generate hydropower throughout the country. Designing PA is government's special land use policy to protect representative ecosystem for the benefits in local, national and global scale. In this regard, many hydro power companies are allured by the rivers and tributaries to generate electricity inside and periphery of the Park due to proximity to Kathmandu, road facility and already constructed central transmission grid of Nepal Electricity Authority. Trishuli, Devighat and Chilime Hydropower Projects are already in operation along Trishuli River corridor that harvests completely or partially the conserved hydrological functions of LNP.

There are several other projects in pipe line including Mailung Khola, Surya Kunda and the like. LNP can demonstrate how the ecological benefits of Park can be translated into economic benefits through hydro power generation. The projects that are proposed outside the national Park boundary have to be encouraged and levied conservation fees for the mutual benefits of Park, local people and the investors.

However, some companies' coercion to construct power projects in the habitat of endangered species, such as Red panda and Snow leopard, is unjustifiable since the negative impact of the project to the wildlife habitat cannot be resurrected. Therefore, Environment Impact Assessment (EIA) has to be undertaken to assess the impact to the wildlife conservation.

3.8.2 Galchhi – Syaphrubesi Road Upgrading Project

EIA of Galchhi-Syaphrubesi Road Upgrading project has already been completed with assistance of Asian Development Bank. The EIA report has stipulated different mitigation measures during the construction and post construction phase to mitigate the adverse environmental effects into wildlife habitat. The mitigation measures should be implemented and monitored with close supervision of CCO.

3.8.3 Syaphrubesi –Rasuwagadi Road Project

Syaphrubesi-Rasuwagadi Road Project is the national priority high way to promote the trade link between India and China through Nepal. The road passes along the Bhotekoshi Khola within the boundary of the Park. Though, the proposed road alignment passes only 4 km within the core area of the Park that does not cover the important wildlife habitat except the habitat of Assamese monkey. However, it has the risk of habitat fragmentation among Langtang, Ganesh Himal and Chongchu Core Zone Ecological Complex of Qomolangma Nature Reserve. During the construction phase, the road project may impact to Rasuwa-gadi Historical Site of the Park. Therefore adequate mitigation measures should be implemented for the abatement of negative impacts under the close supervision of staffs of the Park.

During various trans-boundary meetings between China and Nepal, green corridor maintenance was much talked topic. In this regard, LNP authority should focus to stop all the grey activities including trafficking of wildlife parts and continue to work on plantation on road banks area and carry out sanitation activities to control littering.

3.8.4 Melamchi Drinking Water Supply Project

The Melamchi Drinking Water Supply Project is the national priority project. Ichok, Kiul and Baruwa village and core area of the Park yield water for Melamchi Khola. The Construction of 26 Km tunnel from Tempathan of Timbu to Sundarijal of Melamchi Drinking Water Project is almost completed and Park has to ensure minimization and mitigation of possible impacts towards the conservation from the of project in the long run.

3.8.5 Himalayan Spring Water Company

Himalayan Spring Water, a mineral water harvesting company has been established in Dhunche. The company has been granted permission to construct intake, pipe line, and reservoir tank and break pressure tank inside the Park in Dhunche. The EIA for this company has been completed and the operation of mineral water has been production. Royalty charged to the company at the rate of one rupee per bottle can increase Park income significantly. On the ratio of royalty earning, the Ministry of Finance can approve more money in subsequent years and these funds can be used amicably for better conservation.The company started producing mineral water in full operation. In fiscal year 2073/74, the Himalayan Spring Water provided Rs. 173,475 to Park as a contribution for conservation.

3.8.6 Chandanbari and Kyanjin Cheese Factories

Chandanbari and Kyanjin Cheese Factories under the ownership of Diary Development Co- operation are important component linked with as resource users and socio-economics of herders. These cheese factories use more than 25 stacks of fuel wood each year for processing cheese through different milk collection centers which is moved following the movement of chauri in high altitude pastureland and around the village during winter. However, milk collection in winter is low. As a compensatory mechanism, LNP forced the chese factory to support the restoration of chandanbari by plantation of indigenous species and remove unpalatable throny species.

The cheese factory provides soft loan to the chauri farmers so that they can manage better livestock to supply milk. The factory supports Kharka management committees for managing kharka for sustainable use of rangeland along with improving socio-economic condition of herders in co-ordination with the Park authority. The IEE of rural electrification through national grid at Chandanbari is underway. After the electricity supply is in place, the cheese factory will use electricity for the production of cheese and thus use of fuel wood will be reduced.

A co-operative based cheese factory with Italian technology has been established in Langtang village by local people. The cheese factory is already using electricity provided by Langtang Micro-hydro.

3.9 Administration and Organization

The Park's organizational structure and staff positions have been approved and there are altogether 96 staffs under CCO. There are 3 ACOs, out of which two are stationed at Timure and Helambu Sectors respectively while one is responsible in supporting CCO at headquarter. Out of the total 96 staffs only 75 staffs are fulfilled (Annex IX). The vacant staffs are mainly Game scouts and Senior Game scouts who frequently leave their job for better opportunity.

The headquarters of the Park is situated at Dhunche of Rasuwa District. Similarly, the Park is divided into eastern and western sector and are by headquarter. The eastern sector comprises the part of Sindhupalchowk and Nuwakot District, whereas, western sector comprises part of Rasuwa and Nuwakot District. There are 17 administrative units of the Park across all three districts (Annex X) which is also shown in Fig 7.

Head quarter

The headquarter supervises both the sectors. Similarly, the head quarter also looks after 6 posts such as Ramche, Lokil, Yarsa, Kalikasthan, Bandare in Rasuwa District and Sikharbesi in Nuwakot District. One post is proposed in Bondro of Rasuwa.

Eastern sector

The eastern sector office, Helambu, is located at Timbu in Sindhupalchowk district. Under this sector, there are 3 posts i.e. Kutumsang, Shermathan and Tempathan.

Western sector

The western sector, Timure sector office, lies in Rasuwa district and supervises 4 posts i.e. Ghodtabela, Timure, Syaphrubesi, Thulo Syaphru. Kyanjin post was destroyed during insurgency period and could not be re-established since then. It is difficult to monitor Kyanjin from Ghodtabela, therefore, Kyanjin post have to be re-established.

3.10 Review of Preceding Management Plan and Achievements

A comprehensive management plan of LNP and its BZ (2013-2017) comprised of 4 components, i.e. a) Park management; b) Tourism management; C) BZ management; D) Institutional strengthening. A number of achievements have been obtained with the implementation of the plan.

Park management consists of Park protection and

habitat management activities mainly management of rangeland, wetlands, and forest fire control. Rangeland management has been undertaken by regulating transhumance grazing, rangeland improvement, control of invasive species and improvement of rangeland infrastructure. Altogehter 25 ha of rangeland was managed and improved in the previous plan period. In addition to this, forest fire control awareness raising and have been undertaken every year. Gosaikunda and its associated lakes, has been important wetland as it has been enlisted in Ramsar site in 23rd September 2007. The first site management plan for Gosaikunda was prepared in BS 2065 (2008) and was updated in BS 2073 (2016). In the 2013-2017 plan period, 15 waterholes were constructed in water deficient areas. Iron pole which is also called as Lingo in local language is popular program to replace wooden pole and altogether 3747 poles have been distributed through BZUCs. In the FY 2074/75 awareness raising acitivities with regards to encroachment control was organized at 20 different places to discourage encroachment.

The proposed Larke khola and Yangri khola conservation zone could not be establish as catchment of these proposed zone falls on the priority area of Melamchi water supply project as the GoN planned to divert these two rivers to add water in Melamchi river. These two areas are again proposed in the present plan period as well as LNP authority will support Melamchi project to construct activities in eco-friendly manner.

In the tourism sector, LNP constructed and maintained trekking trail, wooden bridge, public toilet and resting place. Sign borad with information and maps, signage showing route and public notice have been erected at various places. In the previous plan period, altogether 85 km of trekking trail has been constructed for the visitors. Similarly, 65 monasteries, chorten and temples have been maintained and repaired.

The BZ management programmes were developed and implemented by the people for themselves under the facilitation and supervision of the Park staff. In this regard, a number of soil and watershed conservation work has been conducted, livelihood training has been imparted to create self-employment, small scale infrastructure has been constructed, eco-clubs and community based anti-poaching groups have been mobilized to increase conservation awareness. Similarly, numerous important conservation days and events were celebrated every year.

In previous plan period, LNP spent NRs. 74,384,722.00 (Nepalese Rupees sevety four million three hundred withty four thousand and seven hundred twenty two) in the Park management, tourism management and institutional strengthening. Whereas, In the BZ activities, a total of NRs. 133,716,775.00 (Nepalese Rupess: One hundred thirty three million seven hundred sixteen thousand and seven hundred seventy five) has been spent the BZ activities.

Despite these achievements, there has been great difficulty to accomplish day to day office work due to shortage of game scout in all the postas they tend to shift their job for better opportunity even they enter into the jobs. In the past five years, the trafficking of Rakta Chandan (*Santalum album*) has increased through this route. The smugglers tend to use this highway as alternative to Tatopani custom office of Sindhupalchowk. Similarly, skin of Red panda, scales of Pangolin, skins of Leopard, body parts of Porcupine and many other wildlife parts has been confiscated by the Park. This trend has increased and is likely to increase in the coming years as the Betrawati- Rasuwagadhi-Kerung highway is fully operates. In addition to this, the disastrous earthquake of 2015 severely affected the local communities, park administration and infrastructure in Rasuwa, Nuwakot and Sindhupalchowk. Most of the park posts, and sectors were completely damaged while few were partially damaged. Similarly, hotels and lodges on the way to Langtang, Kyanjin, Gosaikunda, Thadepati, Melamchi, Sundarijal were damaged. In many places landslides were triggered by earthquake.

In the upcoming five-year plan, reconstruction and renovation is still a major priority for the Park, hotels and local communities. Similarly, habitat management needs additional focus for improving and expanding rangelands. The additional Red panda conservation zone in Cholangpati, Magingoth and Panch pokhari needs to be operational. More posts have to be established with additional post to check in between Kerung and Betrawati to combat poaching and illegal trafficking of banned rakta chandan and wild life parts. Fire-fighting skill and equipmemt has to be improved to protect the representative Himalayan ecosystem. Effective regulation of relief fund to the victims of human-wildlife conflict should be carried to maintain Park people relationship.

3.11 Strength Weakness Opportunity Threat (SWOT) Analysis

3.11.1 Strengths

- Renowned destination for ecotourism and trekking;
- Availability of perennial source of water for various purposes;
- Substantial revenue generation from tourism which has been channelled for conservation and

development through BZ;

- Encouraging partnership with local communities and stakeholders, including national and international conservation organizations;
- Community participation in biodiversity conservation;
- Ecologically significant site for protecting high altitude ecosystem and biodiversity.

3.11.2 Weakness

- Harsh climatic and topographic conditions;
- Degraded and deteriorating high altitude pasture lands and unmanaged cattle camps (*goths*);
- Specific sites for tourism and issues regarding equitable tourism benefits;
- Improper management of solid waste during Gosaikunda fair along the Gosaikunda route;
- Slow pace of reconstruction and renovation of damaged posts after disastrous earthquake of April 2015;
- Insufficient disaster risk preparedness;
- Heavy dependency of local people on Park's forest resources;
- Lack of plans and strategies of sustainable tourism and use of NTFPs for developing enterprise.

3.11.3 Opportunities

- Diversification of eco-tourism and involvement of local people in micro-enterprises;
- Research opportunities through collaboration at different levels;
- Potential self sufficiency of the resources required for conservation from ecotourism;
- Possibility of receiving funds from Melamchi Drinking Water Supply Project in perpetuity;
- Perrenial sources of water for different purposes such as drinking, irrigation, rainbow trout fish farming and hydro-electricity, etc.

3.11.4 Threats

- Human-wildlfie conflict mainly due to Himalayan black bear, Wild boar and Assamese monkey;
- Uncontrollable forest fire during dry and windy season;
- Landslides in and around Ramche and Dhunche;
- Poaching continues to be a threat as market value for illegal wildlife parts exists which can greatly increase along with the development Betrawati - Rasuwagadi – Kerung highway;
- Possible impact on reduction of Snow leopard habitat which is decreased due to shifting of tree line as a result of climate change;
- Loss of biodiversity can take place due to ever increasing development works in the area due to the construction of Betrawati - Rasuwagadi - Kerung highway;
- Degradation of habitats and wetlands due to increased demand/construction of mega projects (hydropower, road etc)

PART B

THE PROPOSED MANAGEMENT

CHAPTER 4.

VISION, GOAL AND OBJECTIVES

4.1 Vision

To conserve and maintain biodiversity, cultural values and scenic beauty of the Park's landscape for the benefit of the present and future generations of human society.

4.2 Goal

To protect, conserve and promote biological, geological and cultural environments and the wildlife to contribute to the well-being of local people.

4.3 Management Objectives

(i) To conserve and enhance biodiversity at species, ecosystem and landscape levels by focusing habitats and sites of special importance and giving high priority to nationally protected and globally threatened wildlife species linking with other ecological networks in order to maintain ecological functions and processes,

(ii) Improve and maintain watershed capability of Langtang region by protecting at catchment level in sustainable way to generate electricity, provide drinking water and irrigation to downstream communities,

(iii) To promote adventure, nature, cultural and religious tourism in a sustainable manner and regulate it in such a way that it maintains ecological integrity, cultural heritage and flourishing local economy,

(iv) To enhance community partnership on biodiversity conservation by increasing awareness and improving livelihood of local people,

(v) To renovate and construct infrastructures those damaged by earthquake and strengthen institutional capacity through research, capacity building, co-ordination and collaboration.

(vi) To legalize the collection of Yarsagumba

(vii) To legalize the collection of river bed construction material

(viii) To extend and expand the trekking route for tourism development

(ix) Strengthen the internal capacity of National Park and its Range Posts for effective and efficient Park management.

4.4 Major issues and challenges in achieving objectives

(i) Reconstruction and renovation of infrastructures that was damaged by earthquake ofApril 2015 is yet to be completed;

(ii) Rangelands are degrading and its quality are declining due to uncontrolled livestock grazing threat resulted to habitat degradation with colonization of invasive weeds like white clover;

(iii) The hotel and herders heavily depend upon forest resources like timber and firewood for construction and maintainence of temporary cattle camps and for cooking;

(iv) Langtang has become transit point for trade of wildlife body parts between India and Tibet-China;

(v) The harsh climate, steep topography, rugged terrain and remoteness have made monitoring and patrolling difficult especially during peak periods of both winter and rainy seasons;

(vi) The illegal traders of Red sandalwood or Rakta chandan consider LNP as transit point between India and China-Tibet for illegal trading and trafficking due to the its high price in Tibet;

(vii) NTFPs like Yarsagumba, Lokta, Panchaule, Chiraito and Jatamansi are illegally collected

and traded in eastern and north western side of the Park;

(viii) Forest fire especially in dry and windy season, causes deterioration of site quality by changing soil moisture and soil nutrients regimes;

(ix) Himalayan black bear, Wild boar and Assamese monkey often comes out of the Park and raid crops in the private land thus leading to human wildlife conflict;

(x) Challenges in management of solid waste in the route of Gosaikunda especially on Janai Purnima (festival);

(xi) Encroachment of forest land is prevalent due to emergence of new market centers after construction of Betrawati-Syaphrubesi-Rasuwagadi road;

(xii) Inadequate foot trail network creating problem to move staff from one site to another in difficult terrain particularly in Lendi, Chusumdo and Panch Pokhari area;

(xiii) In-sufficient information on status, habitat use and extent of suitable habitat of many endangered species like Great tibetan sheep, Snow leopard, Musk deer, Clouded leopard, Smooth coated otter and Red panda;

(xiv) Weak linkage of wildlife habitat connectivity towards Changcun core zone of Quomolongma Nature Reserve and community managed forest towards Shivapuri- Nagarjun National Park;

(xv) The off-trail communities (other than Gosaikunda, Langtang, Kyanjin, Shermathan etc.); have not been able to benefit from tourism;

(xvi) Inadequate management capacity of Buffer Community Forests (BCFs);

(xvii) To regulate hotels has been big challenges in LNP that were permitted to run in the past.

(xviii) Poor park infrastructure

(xix) Sustianble management of river bed construction materislas like stone gravel and stone.

CHAPTER 5.

MANAGEMENT STRATEGIES

5.1 Boundaries

5.1.1 Legal

It is described in 2.1.1.

Langtang National Park (LNP) was officially established and gazetted on 9 Chaitra 2032 BS (26 March, 1976) under the provisions of the National Parks and Wildlife Conservation (NPWC) Act, 2029 (1973). The western boundary of the park is formed by the Bhotekoshi and Trishuli rivers, while the northern and northeastern borders are formed by the Nepal-China border. The ridge of Gosaikunda and Lekh-Dorjelakpa divides the park into eastern and western sectors. The park's area has been duly notified and demarcated on the ground. The precise boundaries of the park are provided in Annex VI of the gazette notification by the Government of Nepal (GoN).

5.1.2 Administrative

The administration of the Park is headed by the Chief Conservation Officer (CCO) based at the headquarters. Under the CCO, there are three ACOs who are responsible to lead two sectors located at Timbu (eastern), and Timure (western) and one ACO is stationed at headquarter to support CCO and BZMC. The BZMC manages the funds received as per the BZ guidelines. The CCO serves as member secretary of the BZMC and provides technical support. The sectors provide administrative and technical support assigned by headquarter. The ACOs are supported by Rangers who supervises Range posts and they communicate with BZ communities and implement Park activities. The smallest administration unit of the Park is guard posts which is managed by Senior Game Scout or Game Scout and deliver the work assigned by Range post. The game scouts who are vital for day to day operation tend to leave their job for better opportunities frequently. Although, Game Scouts are recruited on a regular basis, long term solution has to be taken by DNPWC. In FY2074/2075, all the posts of Game Scouts were fulfilled while 15 Senior Game Scouts are yet to be recruited (Annex IX).

5.1.2.1 Staff amenities

Good accommodation facilities and incentives to field level staffs create motivation to work even in harsh environment and difficult terrain. It has been realized that current provision of ration and uniform provided by Government motivated a lot to field staffs. However, ration facility provided by the government is insufficient when the staff conducts high altitude anti-poaching operation. During this period, Park have to provide additional nutritious dry victuals during the arduous work days in high altitude operation. In addition to this, Park head quarter provide field gears like tent, sleeping bags, torch, first aid kits, knife, field bags and other necessary equipment.

Almost all the Government residences of CCO, ACO, Rangers and Game Scout dormitory in Park Headquarter Dhunche were damaged in the 2015 earth-quake. The staff quarters have been almost renovated and constructed at Ghodtabela, Shermathan, Ramche, Tempathan and Kutumsang including buildings at Dhunche. Melamchi Drinking Water Project has supported to construct sector office at Timbu. Similarly, Rasuwagadi Hydro-electric project has supported to construct head quarter at Dhunche which is recently completed.

5.1.3 Ecological

The narrow forest stretches between Timure and Thuman (adjacent to Park boundary) are crucial for habitat continuity between Changcun core zone of Quomolongma Nature Reserve and LNP. There is a good population of blue sheep in Lende Khola Valley in Chojang and Chusumdo which shares the habitat of both Nepal and Tibet (Regmi, 2004). This area is equally important for Snow Leopard, Musk Deer, Danphe, Monal and Blood Pheasants. Duram University team report and field survey carried out by LNP Staff in 2004 strongly suspects the occurrence of Great Tibetan Sheep in hinterlands of Nepal-Tibet Border and needs Tran-boundary collaboration to conserve these precious areas (Regmi, 2004).

5.2 Zonation

A zone is an area of specific management unit distinguishable on account of its objectives. Zoning helps to unravel or reduce conflict between different users of the PA for example improves the quality of activities such as tourism and facilitates compliance. Zoning scheme generally includes area under strict protection and areas with less restriction. The scheme should aim to provide a balance between conservation and use, and should be a simple as possible. If it is too complex and ambivalent, it would be difficult to enforce as stakeholders may have difficulty in distinguishing the different zones.

Due to vast areas with complex geo-physical features, diverse wildlife habitat and land use pattern, it is impossible for the whole part to be managed in monolithic ways. Some efforts have been already carried out to delineate the core areas to safeguard the key habitat type and wildlife species as well as historical monuments and religious sites.

DUHE (1977) proposed twelve protected natural areas including tropical reserve at Ramche, Dhunche Reserve, Trishuli Khola Reserve, Langtang Lirung Reserve, Garwang Chho Reserve, Pemdang Reserve, Larke Khola Reserve, Dhuskol Reserve, Langtang Khola Reserve, Langsisa Reserve, Ganjala-Yala-Lingsing Reserve, Yangri Reserve, Dorje Lhakpa Reserve, Phurbi Chyachu Reserve.

However, the proposed zoning is not implemented in subsequent years with strict reinforcement as these zoning lack special management policies and management prescription. In 1987, LNP delineated 5 sanctum sanctorum or red flag zone for special management attention and two special historical and religious sites.

Current management zoning recognizes following categories of core areas:

(i) Red panda conservation area in Polangpati
(ii) Larix Conservation area in Langtang
(iii) Juniper Conservation area in Ghayangphedi
(iv) Gosaikunda special religious site
(v) Rasuwa Gadi special historical site
(vi) Hill Sal conservation area in Ramche
(vii) Musk deer conservation area in Kyanji

Based on management objectives and pragmatic understanding of ground reality, following zonation plan has been proposed.

5.2.1 Core Zone

The area of Park apart from facility zone and utility zone are set out as core area. It is wilderness areas which include all the parts of the Park, except for management facility zone and utility zone. The key objective of this zone is protection and maintenance of the natural state of the natural ecosystems and provide suitable habitat for wildlife and to encourage research and science-based management interventions.

5.2.2 Facility zone

Facility zone comprises of cultivated landscape, alpine and temperate pasture land, woodlots and medicinal plants harvested traditionally by the local people. This also includes the area of tourism promotion with accommodation, trekking, pilgrimage, birding and wildlife viewing. The appropriate zoning and management prescription should fulfill compliance set by International Union for Nature Conservation (IUCN).

5.2.3 Grazing zone

This zone comprises summer and transit rangelands in alpine, sub alpine and upper temperate, lower temperate and subtropical region. All the Park areas which do not fall under any zonation plan come under this zone. Grazing only facility zone is the multiple habitat management strategy zonesand is managed as per general habitat management approach. Local people are allowed to bring their cattle in this zone. However, collection of medicinal plants, cutting timber and fuel wood from the core area are strictly restricted.

5.2.3.1 Traditional use zone

This zone comprises the forests along the vicinity of settlements. According to Himalayan National Park Regulation 2036 (1979) local people living inside the Park are allowed to use fuel wood, fodder, timber, stone and medicinal plants for non-commercial purpose by paying royalty. In LNP, there are more than 50,000 people living in the BZ enclaved inside the Park. They depend upon the Park resources directly or indirectly. Being the third trekking destination of the country, tourists are also the main resource users especially for fuel wood for cooking and heating room in hotels. The forests around the settlements are turning to bush land due to continuous harvesting for construction timber as in Thulo Syaphru, Dhunche, and Briddim. On the other hand, local people have to safeguard the forest around the settlement against forest fire and illegal felling.

By the experience, delineation of traditional use zone may bring synergetic effect for people's participation for husbanding the forest around the settlements against forest fire and illegal felling. However, traditional use zone is soft management zoning which is neither handed over to local people as BCFs nor exploited as production forest. Delineation of traditional use zone only promotes the bonafide use of forest products whilst creating ownership to local people.

5.2.3.2 Pilgrimage, trekking and tourism zone

Unlike the other management zoning, it is the linear zone along the trekking and pilgrimage routes. There are several established trekking route in LNP like Shermathan-Tarkeghyang- Thadepati-Ghopte-Gosaikunda-Dhunche, Syaphrubesi - Ghodtabela-Langtang-Kyanjin, Bharku– Thulo Syaphru–Lama hotel-Kyanjin, Bharku - Thulo Syaphru - Chandanbari-Cholangpati- Gosaikunda, Kutumsang- Magingoth-Thadepati - Gosaikunda-Dhunche and Shermathan - Ganjala - Kyanjin - Langtang - Sherpagaon - Khanjim - Briddim-Syabfrubesi. Gosaikunda and Panchpokhari are important pilgrimage sites. Details of this management zone are described in separate chapter under tourism, interpretation and visitor's use management.

5.2.4 Utility Zone

This is an area of the Park allocated for limited recreational activities for the visitors along with nature interpretation services for conservation awareness. There is limited tourism infrastructure developed inside the Park, including visitor center at Dhunche. The main objective of managing this zone is to regulate tourism outside the core area to minimize the disturbance to wildlife and its habitat and to enhance visitors' satisfaction through providing wilderness experience.

5.2.5 Buffer zone

This zone comprises settlements and agriculture landscape inside the Park. Unlike BZ outside the Park, local people in this zone are allowed to use forest products from the vicinity of their settlements for fulfillment of their bonafide needs. The BZ management program should give special thrust to this zone because of enormity of impacts of PA and local people which greatly influence the management of the Park. In the BZ environment-friendly development activities will be carried out to reduce dependency of people on forest resources and improve livelihood of local people living in the area.

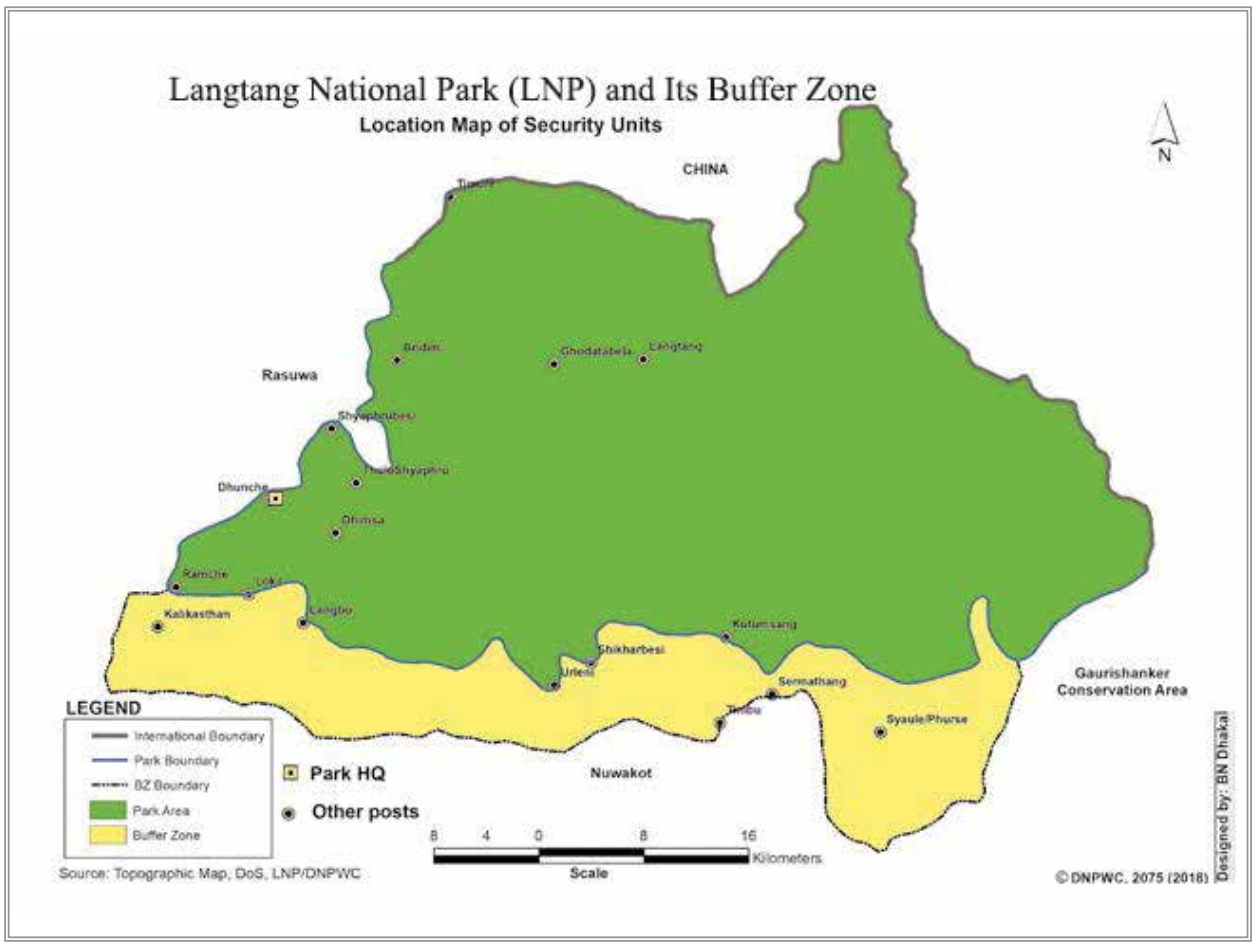

Figure 9: Location of security post in LNP

5.3 Theme Plans

5.3.1 Park Protection

5.3.1.1 Context

Park protection is one of the important activities of Park management. Nepal Army has been deployed in the protection through the enforcement of NPWC Act, 2029 and subsequent conservation rules and legislation. Park protection has been undertaken by a battalion of Nepal Army. The battalion, headed by lieutenant colonel, has its headquarters at Dhunche. There are 11 security posts at strategic locations to guard and secure the core area (Figure 9 and Annex X).

In the Helambu sector of eastern area there are 3 security posts (Shermathan, Kutumsang and Tempathan) adjoining or close to the Park's administrative posts. Similarly, there are 4 security posts (Timure, Syaphrubesi, Thulo Syaphru and Chandanbari) in Timure sector of western area. While, there are 4 security posts (Headquarter, Syaphrubesi, Urleni and Kalikasthan) which are supervised by head quarter. Some of the security posts are jointly operated by Park staffs and army. Staffs/Army deployed in these posts patrol their respective areas regularly to ensure that there are no illegal activities in the core area and BZ of the Park. Recently, Park has initiated Community Based Anti-poaching Unit to support the Park to control poaching by participatory patrolling and raising awareness about consequences of involvement in poaching. There are 15 Community Based Anti-poaching Units (CBAPU) in all three districts of the Park. Similarly, the Park will conduct regular district level WCCB in Rasuwa to exchange relevant information provide support in the protection.

In 2049, landslide swept away the post of Briddim and this post was shifted to Syaphrubesi in 2050. Similarly, the security posts in Langtang, Ghodtabela and Dhimsa were demolished by the earthquake in 2072 (2015). The security post of Dhimsa is shifted to Chandanbari, while the security posts at Langtang and Ghodtabela is yet to be reconstructed. The Polangpati post was with drawn during insurgency period and could not be re-established afterwards, therefore security post in Polangpati is proposed to protect the red panda habitat. Similarly, one security post is proposed in Mailung to monitor vehicles plying in Betrawati-Kerung highway

5.3.1.2 Issues

- The geography of the Park is very difficult and patrolling takes lots of time in field activity;
- Communication in all the parts of the Park is difficult;
- The infrastructure such as facility of drinking water system, electrification, road access is inadequate in the Posts;
- There are several landslides in the area mainly between Ramche, Dhunche andway to Syaphru (Figure 10); and
- There is insufficient budget for maintenance and repair of electrical and mechanical equipment.

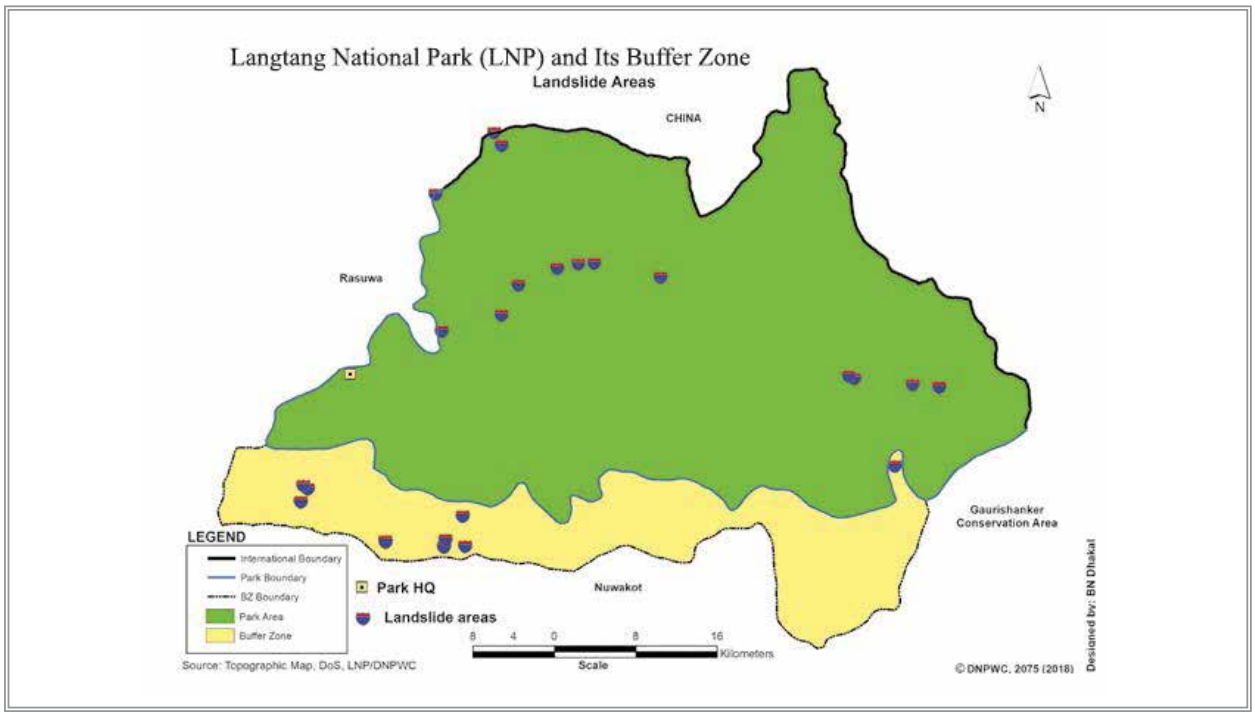

Figure 10: Major Landslide in the Park and BZ

5.3.1.3 Strategies

- Improve infrastructure for mobility and accommodation in the Park during all seasons;
- Regulate patrolling through foot trail, vehicle and real time SMART patrolling to control illegal activities using various available means;
- Explore and use innovative and advance technology to monitor sensitive areas during high risk periods;
- Mobilize Park staffs and army as per situation;
- Establish and strengthen information sharing and reporting mechanisms with key stakeholders including Central Investigation Bureau (CIB), Sagarmatha National Park (SNP), SNNP and Divisional Forest Offices (DFOs), and local communities;
- Establish and strengthen communication facilities;
- Strengthen anti-poaching units and networks, mobilize local communities and herders; and community based anti-poaching operations;
- Reward front line staff for Jungle crafting to detect wildlife crime and anti-poaching;
- operation, reward the front line staff for their good performance; and

5.3.1.4 Activities

Construction of 4 office quarters at Dhunche;

- Construction of 5 Posts (Briddim, Kynajin, Bhotang, Lengsi, Talukeshari);
- Construction of 5 buildings for security unit (Mailung, Lengsi, Bhotang, Cholangpati, Tembathan);
- Construction, repair and maintenance of 15 wooden bridges;
- Maintenance and repair buildings of head office, sector offices, Range posts, posts and security posts;
- Maintenance, repair and improvement of kitchen and toilets in the posts;
- Electrification at sectors and posts through national grid or solar PV;
- Construction of reservoir and drinking water facility in posts;
- Provide clean and safe drinking water facility in 10 posts;
- Installation, repair and maintenance of CCTV cameras in Dhunche, Timure, Kalikasthan, Salle, Syaphrubesi;
- Install BTS tower in co-ordination with telecom companies;
- Procure 3 metal detectors to identify iron set foot traps probably used by poachers to trap wildlife (especially for Musk deer and bear);
- Orient army staff for anti-poaching, create a flying squad including army staff at Park Headquarter;
- Form more CBAPUs and mobilize them;
- Support to informers in purchasing information of mendacious persons operating inside and periphery of the Park and BZ;
- Undertake sweeping and camping operations;
- Procure field gears required for patrolling in the high altitude;
- Organize regular co-ordination meetings with stakeholders;
- Procure 10 binoculars, 15 digital cameras, 3 Global Positioning System (GPS) units; and Procure 2 four-wheel drive vehicle and 5 motorbikes

5.3.2 Habitat Management

5.3.2.1 Context

Rangelands contain a wide diversity of grasses and other plant species on which several endangered wildlife species rely on. Rangeland is a home to a diverse array of wildlife and is also grazed by livestock, which are an integral part of livelihood of local community. Rangelands at high elevation are considered to be overgrazed but very little is known about the ecology and sustainability of the existing practices (ICIMOD 2000). Sustainable management of rangeland ecosystems has direct implications for conservation of biological diversity and for the livelihoods of local communities. The rangelands are used primarily for livestock grazing, collection of fodder, wild foods, medicinal and aromatic plants. Despite rangeland's understood significance, there is inadequate information on their present management status. It is reported that rangelands have come under increased pressure in the recent years mostly due to unregulated grazing which in turn has promoted the emergence of weeds and unpalatable throny species.

Wetlands are recognized as among the most productive and diverse ecosystems on earth. These wetlands harbor wide range of flora and fauna including endangered wildlife. Wetlands act as sources of water in drought periods especially for birds and wildlife. It is also considered as important source of freshwater for people living in downstream.

In order to maintain mosaic of suitable habitat in the Park, management of rangelands and wetlands has been in practice as habitat management intervention. The main focus of habitat management in the Park has been to regulate grazing in rangelands and keep rangelands free from anthropogenic pressure such as unsystematic collection of forest products.

5.3.2.2 Issues

- The range-lands are degraded due to heavy livestock grazing, invasion by weeds and woody vegetation;
- The hapahazard disposal of garbage by liverstock herders pollutes the rangeland as well as wetlands;
- The wetlands are degraded due to siltation and anthropogenic activities;

5.3.2.3 Strategies

- Maintain or restore the health, ecological integrity and biological diversity of rangelands there by supporting agro-pastoralist activities of local people;
- Improve rangeland by regulating grazing in sustainable manner and controlling invasive species;
- Enhance understanding and knowledge of rangelands and wetland management using geo-information science through collaboration with research and academic institutions;
- Collaborate with Livestock Service Office to encourage stall-feeding, replacing unproductive livestock and vaccination against foot and mouth disease;
- Adopt communication, education and public awareness among local community and stakeholders in participatory biodiversity conservation.

5.3.2.4 Activities

- Undertake spatial mapping of rangelands and wetlands in Park and BZ;
- Important wildlife habitat mapping;
- Conduct long-term research on invasive species and rangeland dynamics;
- Assess water quality of wetlands in regular intervals;
- Carry out controlled burning activities in fire prone areas before pilgrimage season, along the roads and trails;
- Reclaim degraded rangeland to increase rangeland productivity;
- Provide support to strengthen Rangeland Management Committee (RMC);
- Prepare land use plans for critical habitats of Red panda outside PA's and manage them on the basis of land use plans;
- Construct self-guided Red panda habitat eco-trail outside the core zone;
- Construct physical barriers to prevent intrusion of cattle from outside to Red panda zone;
- Provide support to improve range land infrastructures like chauri trail, bridge, water hole,etc at Chedang, Dhokachet, Dangdung Kharka to reduce grazing pressure in Polangpati area;
- Provide support to extend satellite red panda conservation zone in Panchpokhari and Magingoth;
- Construct infrastructures to protect the confluence of Kerung and Lende khola;
- Adopt bioengineering to control landslides and support soil conservation measures;
- Connect various Red panda habitats through biological corridor;
- Undertake habitat suitability study for Snow leopard at Kyanjin and Ghodtabela;
- Carry out study to identify priority habitat, critical corridors and climate refugia for snow leopards in the face of climate change;
- Assess possibility of conservation zone at Panchpokhari and Dudhkunda as a Snow leopard habitat;
- Undertake study of Chojang Valley considering its importance for trans-boundary conservation of Snow leopard;
- Carry out mapping of climate variability and vulnerability of snow leopard habitats in order to manage its habitat by addressing the potential impacts of climate change;
- Prepare rangeland development plan for Upper Langtang Valley to manage the grazing pressure in core areas of Kyanjin like Larix conservation area and Musk deer conservation area;
- Carry out study to identify key habitat for Musk deer followed by protection and management of its habitat;
- Identify and manage key areas for regular supply of forage for Musk deer;

- Undertake study to identify critical pangolin habitat and map the priority sites;
- Undertake study regarding development and other construction works in the prime/ designated pangolin habitats to implement mitigation measures;
- Identify indicator species to assess habitat condition;
- Repair and maintain micro-hydroelectricity project of Kyanjin to reduce fuelwood pressure on forests;
- Maintenance of biological corridor connecting to other PAs;
- Distribute grass seed to create grassland in private and public land;
- Promote fodder tree plantation in public and private land; and
- Support to operate nursery.

5.3.3 Forest fire control

5.3.3.1 Context

Forest fire is one of the major threats to wildlife and there habitat in LNP. The fire incidents in the Park are sometime unwitting but mostly intentional. The motif to ignite in forest is for hunting, clearing the forest areas for prolific growth of forage, increasing the visibility near the crop field to prevent crop raiding by wild animals, etc. Occasional surface fire is unscathed because it helps to release minerals from the dead and decaying logs and clears thick mat of leaf litter and accelerates the germination and establishment of regeneration. But repetitive forest fire causes the alteration of nutrients, moisture regime of soil and changes floral composition towards abundance of thorny, bushy under-storey of fire resistant species.

There were 7 incidents of fire in both Park and BZ in FY 2070/71 affecting 614 ha. of forest (APR 207071) and it was regarded second biggest loss after forty years. In FY 2072/73, forest fire sensitization workshop, forest fire control training and fire fighting equipment distribution activities were carried out and it has greatly reduced forest fires (APR 2071/72). However, in FY 2072/73, forest fires occurred around seven different villages and they were controlled immediately without much damage (APR 2072/73). Forest fire risk map below show the vulnerable areas.

Figure 11: Forest fire mapping

5.3.3.2 Issues

- During windy season, fire spreads very quickly due to dried grass, fallen leaves, bushes and fallen branches as a result wildlife panics and cannot flee out quickly for survival;
- There is lack of fire-fighting strategy for fire suppression;
- There is no well-equipped fire- fighting equipment at field level to combat fire incidents; and
- There is no database and systematic data collection regarding occurrence of fire incidents for analysis to guide future course of action.

5.3.3.3 Strategies

- Develop capacity of Park staffs, security personnel, BCF members and BZ communities to control fire in LNP and its BZ;
- Increase awareness towards BZ communities about prevention of fire incidents;
- Utilize fire-fighting toolkits very amicably within the Park area; and
- Establish fire fighting squad and rapid response team by involving local people, community instutions, Park staff and security personnel for fire fighting in Park headquarter, sector and other fire prone areas.

5.3.3.4 Activities

- Prepare and implement fire control and management plan;
- Conduct study to identify fire prone areas by using satellite imagery analysis or web- based fire mapper;
- Clear fire line or undertake control burning in the fire lines before the onset of fire prone season;
- Early burning of grasslands on the basis of burning regime and creation of firebreaks annually;
- Identify fire prone areas by using satellite imagery analysis or web-based fire mapper;
- Provide fire fighting equipment to Park post and BCFs;
- Establish rapid action squad for fire fighting in park headquarter, sector office and other fire prone areas including local people, park staff and security personnel;
- Carry out fire prevention education and awareness activities through interaction;
- Prepare fire occurrence reporting and statistical databases;
- Mobilize rapid action squad for fire fighting; and
- Train Park staff and security personnel and BCF members for fire fighting.

5.3.4 Wildlife health management

5.3.4.1 Context

In LNP, many of the cattle are taken to higher elevation pasture lands for grazing specially in summer season. There is a high degree of interaction between domestic livestock and wildlife in the region and as a result there is possibility of disease transmission between domestic livestock and wildlife. It is very difficult to treat free ranging wild animals and control epidemics if outbreaks. It is important to ensure that chances of any infectious disease being transmitted to the wild animals are minimized. Therefore, the whole Park including BZ should be considered as a single unit of health ecosystem.

There are six types of cattle population in Langtang region:

(a) Domestic cattle fully stall fed particularly in lowland,

(b) Floating cattle that goes to forest in day time and return in night,

(c) Transhumance cattle that is taken in high altitude in summer and brought in low altitude in winter,

(d) Transient cattle that are brought from Trishuli kept sometimes in Dhunche and Syaphrubesi and sold to Kerung,

(e) Horse and jhoppo brought for drafting purposes.

The old aged/emaciated horse, chauri and jhoppo are left at vicinity of settlement and transient populations of cattle with emaciated/diseased individuals that are brought to sell in Kerung are the most dangerous in wildlife health point of view.

There is no record of disease outbreak in LNP. However, cases of Foot and Mouth Disease (FMD), brucellosis, rinderpest are frequently recorded in domestic animals so suspected to occur in wild animals. Jackal, barking deer, wild pigs and feral dogs come in close contact at dumping sites constructed in Dhunche, Thulo Syaphru

and Syaphrubesi. The increased parasitic load to wild animals has been suspected where wildlife-domestic cattle interface is high. Emancipated and subsequently succumbed by diseases/wound, dead carcass of Red panda were collected two times from same place of Ghodtabela within last five years. There is no clear speculation of cause of death of such an endangered species in same place.

5.3.4.2 Issues

- There is very inter-mingling and complex wildlife-domestic animal interface;
- Increasing pressure of free-ranging livestock in and around the Park,
- Wildlife health management inadequately addressed in planning and budgeting,
- Inadequate capacity to monitor and diagnose health issues in the Park,
- Inadequate medical facilities at the Park resulting in deaths of injured animals

5.3.4.3 Strategies

- Formulate a protocol for wildlife health monitoring and disease surveillance,
- Coordinate with Veterinary Offices, and seek their support whenever required,
- Build capacity of existing staff to provide primary/basic medical facility to wildlife.

5.3.4.4 Activities

- Undertake research and development works towards management of wildlife health;
- Conduct regular snail survey specially in monsoon to detect liver-fluke, cytosomiasis;
- Check quality of water of major wetlands regularly;
- Coordinate with Livestock Service Office (LSO) and conservation partners to provide vaccine to livestock against potential diseases that can be transferred to wildlife;
- Support to establish a community based veterinary center with materials required in medical emergencies;
- Build capacity of frontline staff to recognize, record and report disease or poor health condition of animals or plants;
- Collect random fecal materials of all ranges of herbivores including Red panda and test it in lab;
- Report and document mortality of wild animals immediately after it comes to notice of any staff as part of disease surveillance strategy;
- Provide basic postmortem and sample collection instruments in Shermathan, Ghodtabela and Dhunche; and
- Coordinate with livestock office to undertake post-mortem of deceased endangered wild animals.

5.3.5 Encroachment control

5.3.5.1 Context

Despite strict regulations, encroachment of forest land is prevalent in LNP as well. The encroachment has been occurred in Timure and Kyanjin of Rasuwa, Phusre, Tempathan of Sindhupalchowk and Ureleni BCF of Nuwakot. Encroachment is mainly due to excessive pressure of resource use due to creation of new market niche. There is possibility of encroachment alongside proposed Syaphrubesi Rasuwagadi road.

5.3.5.2 Issues

- Encroachment has fragmented the habitat and obstructs free movement of wildlife inviting conflict between human and wildlife;
- Encroachers disturb the habitat with illegal fuel wood collection and tree felling,
- The illegal or informal settlers increase encroachment areas as they grow in numbers taking more land for agriculture and expansion of settlements.

5.3.5.3 Strategies

- Collaborate with District Administration Office (DAO), Nepal Army, BZ communities, Political Parties, Local Non-Governmental Organization (NGOs), conservation partner to evacuate encroachment as per current government policy to control encroachment in more co-ordinated and effective manner;
- Evacuation and plantation of encroachment of Park and BZ forest; and
- Use information and communication strategy to aware the local people about consequences of encroachment.

5.3.5.4 Activities

- Undertake spatial mapping of encroached areas and potential areas where it can expand;
- Update encroachment records in both Park and BZ;
- Demarcate boundary of Park and settlement area to discourage encroachment;
- Carry out fencing, plantation and restoration of evacuated and vulnerable areas;
- Issue notice to evacuate the encroached area on a regular basis;
- Undertake co-ordination meeting with DAO to resolve the encroachment problem; and
- Form committee to address the issues of illegal settlers as unregistered land and encroachers;

5.3.6 Regulation of River-bed Construction Material

5.3.6.1 Context

Traditionally river-bed construction material has been collected from the river like, Melamchi Khola, Jalbire Khola, Shikharbesi Khola, Trishuli Khola, Langtang Khola, Betrawati Khola with area of LNP and BZ. Regulation of river-bed construction material collection under LNP and BZ management is crucial for management of those area, control on potential exploitation and generation of revenue.

5.3.6.2 Issues

a) River-bed construction material has been poorly controlled by the LNP and BZ authorities.

b) Revenue from river-bed construction material has not been collected.

c) River bed management activites has not been undertaken.

5.3.6.3 Strategies

a) Identification of potential site and volume estimates of river-bed construction material at potential collection site.

a) Monitoring of river bed deposition and evaluation of potential collection

5.3.6.4 Activities

a) Identify river-bed construction material collection site with details on area boundary, estimated volume and type of available materials.

a) Establish a management structure for regulation of river-bed material collection and revenue generation

CHAPTER 6.

RESEARCH, MONITORING AND CAPACITY BUILDING

6.1 Research

Research is necessary for wise management of a PA as it helps to develop database and supports in decision making process. In order to ensure effective management, there should be sufficient information on bio-physical, ecological and socio-cultural aspects of PAs. In addition, it allows basis for scientific management of PA and also serves as a tool to solve problems. Factors such as climate, hydrographic, watershed, soils, erosion, topography, vegetation zone, animal population and their ecological requirement, wildlife habitat and its dynamism, predator prey relationships, diseases, migration path, corridor and habitat fragmentation, socio-economic relationship of wild animals and role of humans on bio-communities are the major concerns for PA management. Ecological research is never ending but provides the guidance to PA managers at each step.

In fact, LNP is one of the well-studied PA in Nepal for floral diversity. Since long history of conservation, various scientists have studied in Langtang. Most of the research and documentation has been concentrated in plants, however the status of endemic and threatened plants has not been updated. Very few researches have been conducted for Red panda, snow leopard and Assamese monkey. The status of snow leopard, its prey base and trans boundary movement are unknown. None of the research has been conducted on habitat and population status of Musk deer and Himalayan tahr, the former is endangered animal and the latter is main prey base of snow leopard. There are huge gaps in scientific knowledge for management decision as there are still many unexplored areas. Department of Plant Resource, Tribhuvan University; Department of Botany and Zoology, DHM and other academic and non-academic institutions in country and abroad have involved in several research activities.

Current research activities are arrhythmic and extemporaneous dints of various scientists and researchers from governmental and non-governmental institutions. LNP has not established pragmatic specific research areas and priorities. Participatory forest management, tourism, endangered species and their population/habitat status, socio-economics in BZ and livelihood options are the priority areas of research in LNP.

6.1.1 Research priorities

Habitat management

- Study of impact of invasive species to wildlife habitat;
- Study of vegetation dynamics and its impact on wildlife habitat;
- Study land cover change using geo information and earth observation science.

Species Conservation

- Study of population status of rare and endangered species such as Red panda, Snow leopard, Musk deer, Clouded leopard, Leopard cat and Himalayan black bear;
- Conduct feasibility study to translocate blue sheep in suitable habitats of LNP to supplement prey base for Snow leopards;
- Conduct regular snail survey specially in monsoon to detect liver-fluke, cytosomiasis;
- Study occurrence/population status of grey wolf and wild dogs;
- Study the status, ecology and Guild structure of birds, reptiles and amphibians;
- Update digital database using latest topo sheets and satellite imageries;
- Study ecological processes that affect in maintaining healthy wildlife population.

Climate Change

- Conduct study of climate change indicators and impact on biodiversity conservation along with identification of adaptation activities;
- Climate change impacts and indicators on biodiversity conservation along with adaptation strategies;
- Study impacts of changes in precipitation and temperatures to vegetation and grassland;
- Potential impacts of climate change on ecology of wildlife.

Buffer Zone

- Undertake assessment of socio-economic condition of local people in the areas where human-wildlife conflict is high;
- Carry out study to identify use of corridors and other habitat features to reduce conflict;
- Conduct study to assess impact of BZ programme on conservation and sustainable livelihoods of local communities;
- Conduct studies towards the conservation of biodiversity through various Government prioritized project.

Tourism

- Carry out study towards impact of tourism on ecological aspects to determine Limit of Acceptable Change which will help in devising site-specific method for regulating tourism; and
- Undertake study to identify contribution of tourism to generate local employment and its contribution in national economy

Institutional

- Prepare bibliography of the literatures for which studies were conducted in LNP;
- Celebration of conservation days;
- Organize World Wildlife Week;
- Establish reporting, recording, database and feedback mechanism on the biodiversity of the park;
- APR publication;
- Design digital informations;
- Website creation and hosting;
- Organize/participate in trans-boundary meeting;
- Strengthen District Level Wildlife Crime Control Bureau (WCCB);
- Undertake Mid-term review of the management plan;
- Undertake evaluation of management plan in the fourth year of implementation;
- Conduct management effectiveness of LNP;
- Document success stories and best practices in the areas of community-based biodiversity conservation.

6.2 Monitoring

6.2.1 Monitoring and management information system

LNP has carried out monitoring programmes on Assamese monkey and Red panda population and their habitat status through its annual budget. Park has compiled good information regarding different population of Assamese monkey in Trishuli river corridor and habitat status of Red panda in Cholangpati and Magingoth areas. In this plan period, further more information will be collected on Musk deer, Himalayan tahr, Snow leopard, smooth-coated otter, clouded leopard, Himalayan black bear, Great tibetan sheep, globally threatened bird species: Ibisbill and wood snipe, wet land birds in high altitude wet lands and Trishuli-Tadi-Melamchi river corridors. Park has established two researches transect, three control points and 6 road side transects as source of MIS data base in past.

Two researches transect one in between Sole and Brabal and other in lower point of Mineral water source have been established near Dhunche. The main objectives of these research transects are to monitor habitat use by different wild animals and the impacts of grazing on wood land habitat.

Three permanent quadrates have been established in National Park. The first lies at Dopche of Red panda habitat near Brana Khola and another uphill side of Thade near old trail from Thade to Gosaikunda. The third control point lies near to Dhunche Lake above Mineral Water Factory.

Three experimental plots were established with three different treatments (no treatment, removal of thorny species, uprooting and burning of thorny species) in grazing land invaded by unpalatable species in Polangpati to experiment the reclamation of grazing land in upper temperate climatic zone in the FY 2061/062. Front line staff were trained and involved to identify, mark, delineate, construct and monitor this research transects and permanent quadrates. In the same FY, Park compiled the Management Information

System Report of the Park and sent to DNPWC. Such type of activities should be resumed and extended in this plan period.

A separate data base section was established in Park headquarter Dhunche. It compiles the monthly arrival of tourists and Park related data base. It is equipped with computer, Printer, Global Position System (GPS), digital Camera, altimeter, binoculars, compass, measuring tapes, plant pressure and other necessary field equipment.

One representative staff from posts gather at Dhunche (Park headquarter) for monthly reporting. During this time, they submit post wise report and also present the progress during the month including major incidents of wildlife observation, patrolling and illegal activities encountered during the Park patrolling. Such reports are one of the MIS data source. MIS report is compiled annually and sent to DNPWC and other documentation center (Libraries) to disseminate the information in public domain.

The programmes related to BZ management is jointly monitored by Park staff and members assigned by BZ Management Committee as prescribed by BZ management guidelines.

Species Monitoring

- Monitoring of Red panda on periodic basis;
- Identification and monitoring of climate sensitive species on a long-term;
- Monitoring of migratory water birds; and
- Monitoring of globally threatened and nationally protected birds.

Habitat Monitoring

- Undertake habitat monitoring, prepare check list of food plants, document physical and phenological changes in vegetation, quantity and quality of discharges in streams and biotic disturbance;
- Undertake monitoring of permanent plots, transect lines in forests, rangelands and other habitats;
- Periodic wetlands and water holes monitoring including water quality.

Fire monitoring

- Monitor spatial and temporal pattern of fire incidence; and
- Monitor fire and fuel dynamics.

Tourism Impact Monitoring

- Monitor existing trekking trail;
- Monitor tourism impact on social, economic and culture; and
- Monitor the contribution of tourism to the livelihood of poor, women and marginalized community.

6.3 Capacity Building

6.3.1 Training

The staff knowledge, skills and trainings are not sufficient to meet the growing management challenges of the Park. The frontline Park staffs are mostly untrained. The need for training differs according to the position and roles given to the staff. Thus, training needs assessment should be meticulously done before planning the training programme. There is a need of both horizontal and vertical participant trainings. The horizontal type of training involves the participants of equal rank whereas vertical type of training involves participants of different ranks from chief warden to game scouts and from battalion commander to soldiers. Vertical type of training is important to maintain chain of command and to understand field staff of different tiers and share experiences that would help to build mutual trust and relations.

The training requirements include emerging techniques on wildlife management, personnel management, legal and anti-poaching operation, community development and conservation awareness, human rights, wildlife management/handling techniques, conservation education, monitoring and evaluation, fire fighting, basic computers, Geographical Information System (GIS) and GPS, Participatory Rural Appraisal (PRA) and eco-tourism management. In addition, basic conservation training is needed for Nepal Army protection unit and special training on conservation and BZ management for BZ committees. The Park will collaborate with conservation partners to impart the various training.

Frontline Staff and Security Units

- Orientation training to security units on history of conservation and importance of biological diversity;
- Orientation training to Senior Game Scouts and Game Scouts on legal issues;
- Basic training on field equipment like GPS, Range Finder, Compass, etc;
- Train staff to collect sample of blood, fecal matter, urine or vital organs;
- Field techniques, including signs and indirect evidences of wildlife;

- Training on anti-poaching operation;
- Orientation training on social mobilization and participatory planning;
- Wildlife management and handling training;
- Basic training on vegetation quantification for recording data in monitoring plots; and
- Training to park staff in wildlife habitat monitoring.

For Rangers

- Training on social mobilization;
- General and specialized Training of Trainers (ToTs);
- Community forestry inventory and silvicultural operation training;
- GIS and Database management Training to Rangers.

For ACO and CCO

- Training on People-wildlife amity;
- Training on appreciative enquiry;
- Human rights training to handle the convicted people;
- Training on GIS application for natural resource management focusing on wildlife;
- ToTs (general and specialized);
- Public administration and management training;
- Training on organization development and management;
- Planning, monitoring and evaluation training;
- Crime scene investigation training;
- Wildlife crime investigation and prosecution training; and
- Build capacity of front line staff to recognize disease or health condition of animals or plants.

Others

- Real time smart patrolling training to security unit;
- Forest Fire Management Training to park staff and security personnel and BCF members;
- Training for CBAPUs;
- Provide trainings to nature guides to enhance their capacity in nature interpretation specifically on wildlife, birds, plants;
- Build capacity of poor and disadvantaged local people in the areas of hospitality, housekeeping, cooking and hygiene to initiate tourism enterprises;
- Training on nature interpretation and display management; and
- Conduct refresher trainings to nature guides to update their knowledge and skills in nature interpretation.

6.3.2 Institutional and Infrastructures Development for Conservation Support

For the improvement of facilities in remote area posts telecommunication and electricity seems to be important. Following activties are proposed:

- Extension of electricity in Ghodatabela and Cholanpati post. In the context of biodiversity conservation, extension of electricity works should be underground or insulated wire .
- Extension of telecommunication facilities for Cholanpati Post and Gosaikunda Area; a telecommunication tower is needed in Buddha mandir Area.
- Upgrading of Range Post and Post structure is needed in Ghodatabela Range Post, Kutumsang Range Post, Bondro Post, Langbu post and Syaprubesi Post.
- For the area coverage Range Post should be extended in Bhotang, Tembathan, and Bridim
- Installation of spy camera for real time surveillance in the national Park

CHAPTER 7.

SPECIES CONSERVATION SPECIAL PROGRAMME

7.1 Red panda

7.1.1 Status

The national Red panda survey 2016 documented the potential red panda habitat available across 23,977 km^2 in Nepal, out of which, almost 70% of the total habitat lies outside the PAs network (Bista et al. 2016). This estimation is close to the finding of other studies: 22,400 km^2 (Kandel et al. 2015) and 20,150 km^2 (Thapa et al. 2018). The Red panda has sparse distribution in temperate and sub-alpine forest zones of the Himalayan ecosystem between 2000 m and 4800 m in Nepal (Baral & Shah 2008). Its distribution primarily depends on the availability of the bamboo forests.

Based on anecdotal evidence, study reports, sightings and signs, the presence of the Red panda has been confirmed in Rara National Park (RNP), Shey Phoksundo National Park, LNP, SNP and Makalu Barun National Park (MBNP), Dhorpatan Hunting Reserve (DHR), Annapurna Conservation Area (ACA), Manaslu Conservation Area, Gaurishankar Conservation Area (GCA) and Kanchenjunga Conservation Area (KCA). Apart from the PA district, it is also reported in Ilam, Panchthar, Bojpur, Khotang, Ramechap, Dhading, Rolpa and East Rukum, West Rukum, Jajarkot, Jumla, and Kalikot (Suwal and Verheugt 1995, Steff ens 2004, William 2006, Jnawali et al. 2012, Thapa et al. 2014, Bhatta et al. 2014, Panthi et al. 2015, Rai et al. 2018, Bista et al. 2018). The ecology of the Red panda is poorly known due to its elusive behavior and restricted distribution in inaccessible areas (LNP, 2010). The national population size of Red panda has been estimated to be 317-582 individuals (Jnawali et al. 2011). However, Population and Habitat Viability Assessment on Red panda (Jnawali et al. 2012) suggested total population ranging from 237 to 1061 individuals.

7.1.2 Significance

The Red panda is listed as 'endangered' in the IUCN Red Data Book and as an Appendix I species in CITES, prohibiting international trade of the live species or its body parts. The species is included in the protected priority mammals list under the NPWC Act, 2029 in Nepal. The NBSAP (2016-2020) emphasizes priority actions in conserving endangered species including the Red panda. Nepal has strong legal provisions to control wildlife crimes particularly for protected priority mammals. Red panda is also considered as one of the key flagship species of eastern Himalayan broadleaf and conifer forest in the SHL and KL (Williams 2004, Gurung et al. 2017).

7.1.3 Conservation efforts

Establishment of PAs in mountain region of Nepal is contributing to conservation of Red panda, Snow leopard and many other mammals to some extent. Red panda conservation status within those PAs is better as the threats are minimized by adopting appropriate conservation measures within those areas. Community based conservation initiatives have also been ensured through the BZ programme in MBNP, SNP, LNP, DHR and RNP. Red panda monitoring is being carried out in LNP. Besides, some of the DFOs are also implementing Red panda focused conservation programmes outside the PAs in small scale.

The GoN has also adopted landscape level approach for the conservation of mountain ecosystem including the Red panda and other associated sympatric species. In Nepal, Red panda habitat is distributed across Kailash Sacred Landscape (KSL), SHL, Chitwan-Annapurna Landscape (CHAL) and KL, but the species presence has been confirmed only from the last three landscapes and this landscape level approach also aims in fostering transboundary level co- operation.

The first national Red panda survey was conducted in 2016 which is the only study carried out at national level in the entire distribution range. This study provided the baseline scenario on Red panda distribution and habitat status in Nepal which will be critical for taking conservation efforts to forward in the country.

Some conservation interventions are being carried out at local level outside the PAs in Nepal including community-based Red panda conservation programme in Panchthar, Ilam and Taplejung districts since 2010. This programme has been recently extended in three districts of western Nepal, namely, Jumla, Jajarkot and Kalikot since 2017. Based on these learning, the GoN has published a protocol on Red panda survey and community-based monitoring (MoFSC 2015). Likewise, some of these people are trained as Red panda trackers to promote Red panda based eco-tourism. This Red panda-based tourism is being promoted in five different communities of Ilam, Taplejung and Nuwakot districts.

A population and habitat viability assessment and species conservation strategy workshop for Red panda was held in Nepal in 2010. The national and international participants of the workshop expressed a vision for the overall conservation of the species. Participants identified Red panda's status, distribution, threats, estimated population, sub-populations, and developed a Vortex based model for assessing the risk of Red panda's population decline and extinction.

The vision expressed by the workshop was "to secure viable populations of Red panda distributed in contiguous natural habitat throughout the Himalaya regardless of political boundaries where this flagship species brings benefits to the region and is valued and protected by all stakeholders". In addition, several studies on different aspects of Red panda have been carried out so far.

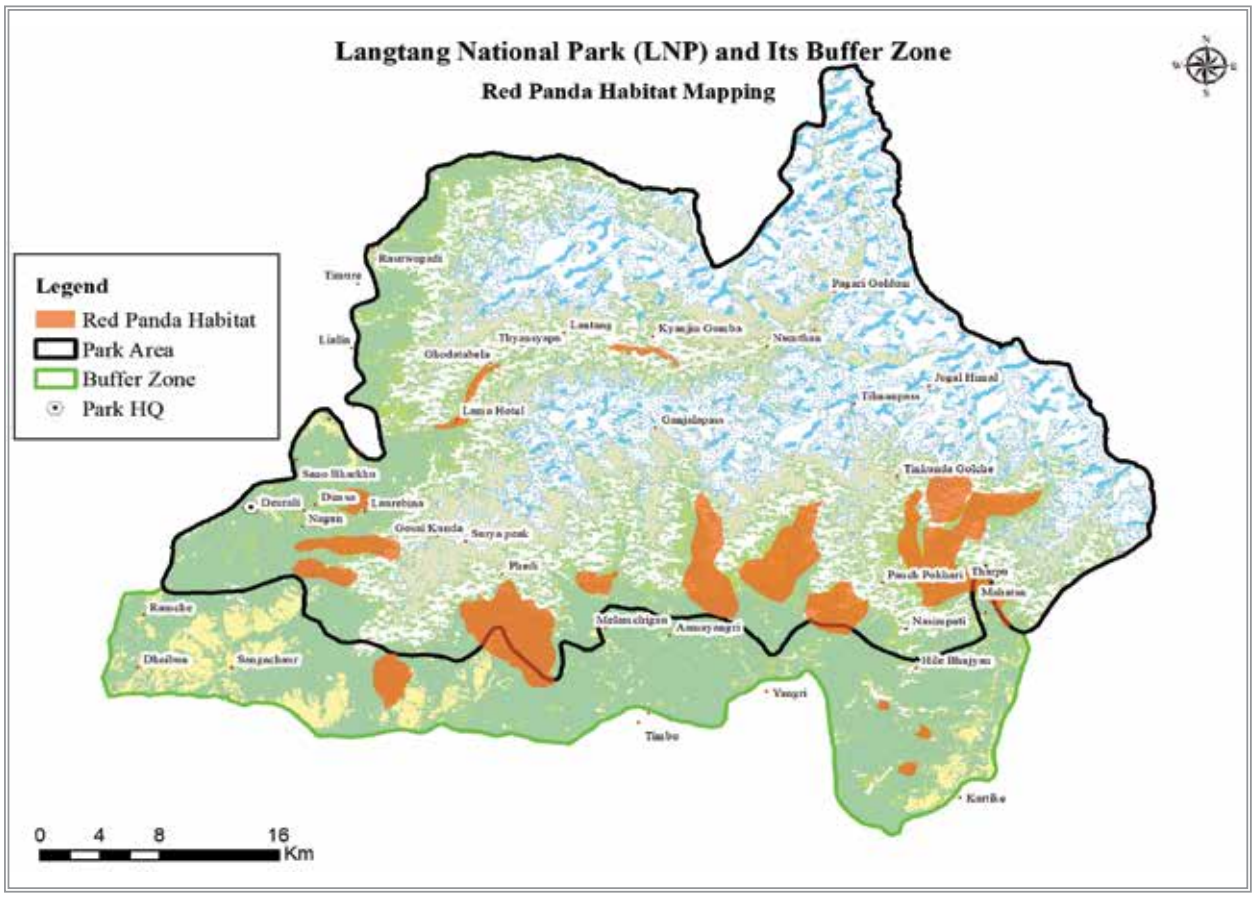

Figure 12: Red Panda Major Habitat Area

7.1.4 Issues

- Inadequate information on status and distribution of Red Panda.
- Ecology and behavior of Red panda in LNP and around is poorly documented;
- Increasing anthropogenic pressure to Red panda especially at Polangpati; local people bring cattle and pass through the Red panda habitat to Kolmo, Dhokachet, Brana, Chedang and Dangdung Kharka and stay for one month in core area;
- Inadequate regular monitoring of grazing and

tree felling in restricted areas of Red panda habitat;

- High infant mortality rate of Red panda due to disturbance by herders and their dogs during breeding season; and
- Difficult to ensure the long-term existence of small fragmented population of Red panda in Polangpati.

7.1.5 Strategies

- Use state of art techniques and tools to manage the natural habitat of Red panda;
- Collaborate with academic institutions to undertake studies on Red panda;
- Mobilize Red panda conservation committee to conserve the habitat;
- Evacuate cattle camps (goth) from Brana Kharka;
- Adopt information, communication and education strategy to increase awareness;
- Collaborate with conservation partners for financial resources for the species conservation, capacity building and knowledge management;
- Regulate the use and harvesting of bamboo shoots/clumps and other dietary/shelter tree species;
- Regulate herding practices - rotational grazing, improved herder's sheds; and
- Promote Red panda based tourism.

7.1.6 Activities

- Conduct research activites to estimate of population of Red Panda.
- Implement awareness activities in Cholangpati, Kutumsang, Panchpokhari, Magingoth and Gotheghyang, Ghyangphedi, Gurugumba and Ghodatabela to conserve Red panda;
- Strengthen and institutionalize Red panda conservation committee including local herders, hoteliers and local people in Panchpokhari and Magingoth;
- Provide support to improve range land infrastructures like chauri trail, bridge, waterhole etc. at Chedang, Dhokachet, Dangdung Kharka to reduce grazing pressure in Polangpati area;
- Construct physical barriers to prevent intrusion of livestock from outside;
- Carry out feasibility study with habitat assessment, population estimation, grazing and other anthropogenic impact assessment in Panchpokhari and Magingoth area;
- Construct self-guided Red panda habitat eco-trail outside the core zone;
- Restore potential habitats and connect these habitats through biological corridor;
- Conduct regular monitoring of Red panda in identified important areas;
- Carry out the studies on bamboo diversity, distribution and phenology in Red panda habitat considering potential climate change impacts;
- Plant bamboo (native and palatable spp.) in identified habitat patches;
- Study Red panda's ecological and behavior through cutting-edge technology (satellite/radio collaring, camera trapping etc.);
- Study climate change impact on Red panda and its habitat;
- Establish climate change study plots for long-term monitoring;
- Conduct researches on poaching and illicit trade of Red panda;
- Organize trans-boundary level meeting with India and China;
- Formulate rules for the guard dogs and control presence of stray dogs in Red panda habitats;
- Identify bottle necks, hotspots, priority areas and site-specific conservation threats;
- Prepare site-specific management plan for identified priority areas;
- Sensitize and aware local forest users/herders, school children and other stakeholders;
- Conduct training for local forest users on governance and entrepreneurship;
- Train and mobilize selected community members as citizen scientist on Red panda monitoring;
- Regulate the use and harvesting of forest resources and grazing and control habitat encroachment;
- Develop a Red panda-based eco-tourism promotion manual; and
- Develop and promote bamboo and NTFP based enterprises.

7.2 Snow leopard

7.2.1 Status

In Nepal, Snow leopards are found in three Snow leopard landscapes. The eastern landscape coincides to SHL and includes Langtang, Gaurishankar, Sagarmatha, Makalu-Barun and Kanchanjunga. Out of 13,000 km^2 of Snow leopard potential habitat in Nepal, 220 km^2 lies in SNP, which spreads from eastern part of Tashi Lapcha to the northwest towards Ama Lapcha/ Mera peak. The estimated Snow leopard population in Nepal is 301 to 400 individuals whereas there are only 4 Snow leopards estimated in LNP (DNPWC, 2013).

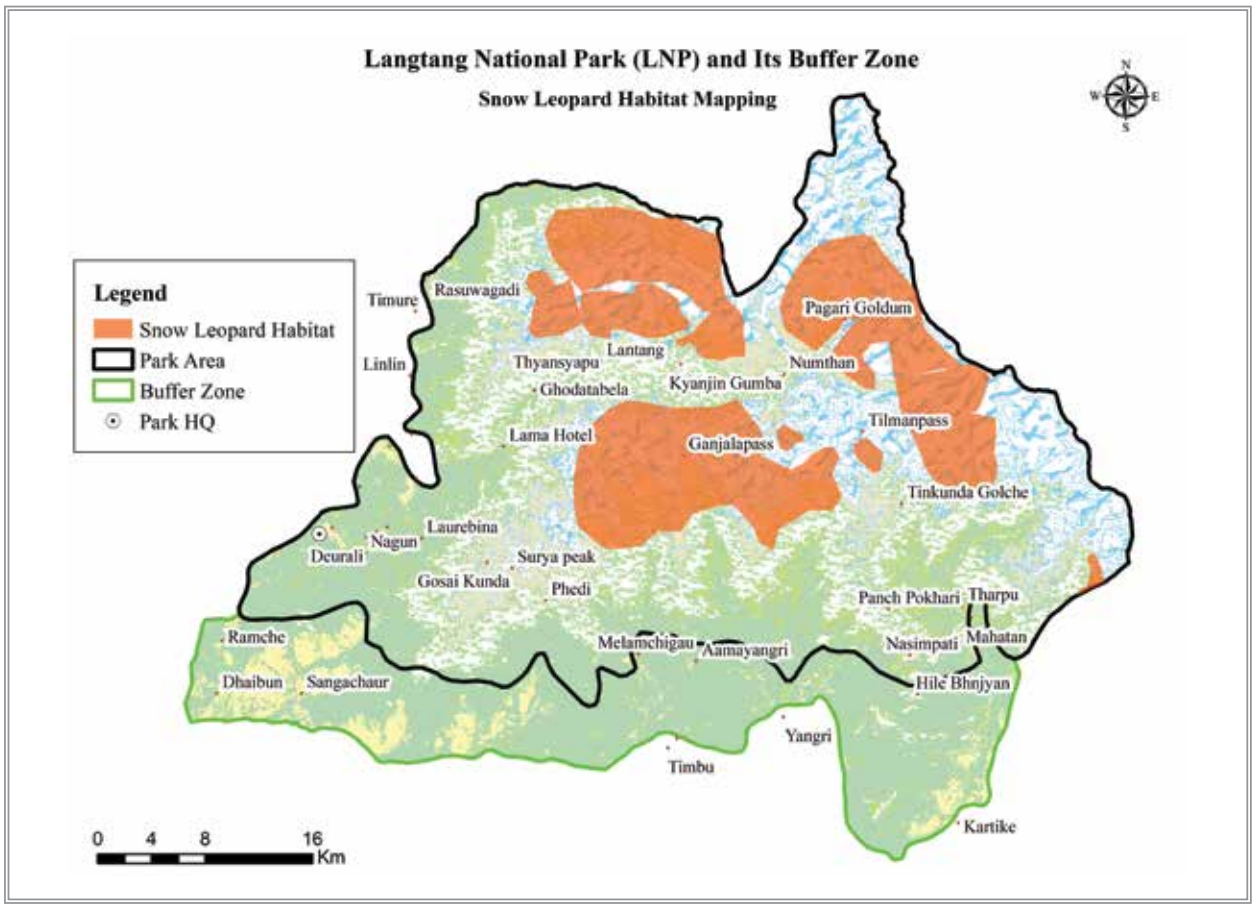

Figure 13: Snow Leopard Major Habitat

7.2.2 Significance

Snow leopard (*Panthera uncia)* is an indicator species of a healthy mountain eco-system which is widely but patchily distributed along the Himalayas in Nepal (DNPWC, 2013). Snow leopard is listed in Appendix I of the CITES and endangered category on the IUCN Red List of Threatened Species (IUCN, 2015). The GoN has included the Snow leopard in the list of protected mammals and has implemented several activities for its conservation in collaboration with various conservation partners (DNPWC, 2013).

7.2.3 Conservation efforts

Nepal has been working on multiple fronts to enhance conservation efforts in the Snow leopard landscape. This includes bringing in policies and guidelines that benefit nature, enhancing and adapting them to suit evolving needs, periodically. The Forest Policy, 2071 B.S. and NBSAP, 2014-2020 A.D. stress the need for biodiversity conservation, particularly focusing on the protection of threatened and protected species of Nepal. It emphasizes on the preparation or revision and implementation of action plans for effective conservation of those species.

Conservation of wide-ranging species like the Snow leopard needs a landscape approach, often covering areas beyond man-made geo-political boundaries. In 2012, the trans-national KSL was designated covering

a total area of 31,252 km^2 of north-western Nepal, China and India. Nepal covers about 42.5% of this landscape, or an area of 13,289 km^2. The KSL Implementation Plan (2012-2016), SHL Strategic Plan (2006-2016) and the SHL Interim Implementation Plan (2010- 2014) offer opportunities to implement landscape approach in Snow leopard conservation. During this plan period, the GoN extended SHL to Kali Gandaki River in the west increasing its coverage. A new CHAL has been created to enhance the landscape conservation approach covering an area of 32,090 km^2. CHAL covers the rain shadow of the trans-Himalayan area and the snow-capped mountains of Annapurna, Manaslu and Langtang in the north, descending southwards through diverse topography to the midhills, Churia range and the flat lowlands of the Terai.

In 2005, GoN produced the first national Snow Leopard Conservation Action Plan (2005-2015) and this plan was implemented by DNPWC and conservation partners. This plan was revised in 2017 and new updated Snow Leopard Conservation Action Plan (2017-2021) has been produced and under implementation.

Nepal is also a member of the Global Snow Leopard & Ecosystem Protection Program (GSLEP) an initiative of 12 Snow leopard range countries for collaborative conservation and to promote Snow leopard conservation globally. As per the 2013 Bishkek Declaration, aiming to secure 20 Snow leopard landscapes by 2020, Nepal produced one of the first climate integrated landscape level management plan Snow Leopard and Ecosystem Management Plan (2017-2026). This plan aligns Snow Leopard Conservation Action Plan (2017-2021) as well.

The Snow Leopard is a top most and mega fauna in ecosystem pyramid with wide range of habitat territory. The assessment that is why is difficult but it is necessary to conduct population assessment for its conservation within the LNP.

7.2.4 Issues

- Inadequate information on status and distribution of Snow leopard in the Park and its BZ;
- Lack of collated database on information of Snow leopard conservation;
- Organizations that are engaged in Snow leopard conservation activities work independently;
- Likely impact of climate change on Snow leopards and their habitat;
- Unmanaged grazing of the livestock and haphazard infrastructure development in the Park poses serious threat to Snow leopard habitat;
- Intrusions of invasive species are degrading the rangelands biodiversity;
- Inadequate prey base for Snow leopard in the Park;
- Human-Snow leopard conflict is likely to be one of the serious threats for its survival in the Park;
- To control illegal trade of wildlife and body parts is difficult due to porous international border;
- Delay and lengthy procedure of relief delivery mechanism is frustrating for the victim;
- Inadequate public awareness on Snow leopard conservation; and
- Inadequate capacity of Park staff and local communities in Snow leopard conservation including Snow leopard and its prey monitoring.

7.2.5 Strategies

- Intensify patrolling effort and initiate latest technology in patrolling;
- Use GIS, Remote Sensing and advanced technology in the conservation of Snow leopard;
- Collaborate with Research institution to undertake studies about Snow leopard;
- Adopt information communication and education strategy to increase awareness;
- Work with conservation partners to pool the resources in Snow leopard conservation, build the capacity and knowledge management; and
- Regulate relief fund in an effective manner to treat the injured people immediately and instant support to the victim of Snow leopard attack.

7.2.6 Activities

- Conduct research activites to estimate of population of Snow Leopard.
- Carry out regular monitoring of Snow leopards using GPS-satellite telemetry research;
- Undertake study on sympatric carnivores (wolf, common leopard, wild dog) to understand resource competition, mainly diet and habitat use;
- Carry out long-term study on ecology and behavior of Snow leopards and their prey in the Park through the use of cutting-edge

technologies;

- Provide capacity building trainings to Park staffs and local community to monitor Snow leopards and their prey;
- Undertake mapping of climate variability and vulnerability of Snow leopard habitats to manage its habitat by addressing the potential impacts of climate change;
- Carry out study to identify priority habitat, critical corridors and climate refugia for Snow leopards in the face of climate change;
- Undertake study to identify critical corridors and key areas used by Snow leopards;
- Establish permanent sampling sites/plots in Snow leopard habitats for regular monitoring of the key species such as Himalayan tahr and blue sheep;
- Piloting of camera trap for Snow leopard census and monitoring.
- Undertake study on status of Snow leopard;
- Conduct study on impacts of changing traditional pastoralism system on wildlife habitats and rangeland productivity;
- Mobilize Park staffs and local youths to monitor and control likely killings of Snow leopards and illegal trade of its body parts;
- Research on the scale, extent and intensity of human-wildlife conflict, mainly focusing on Snow leopards and retaliatory killings;
- Assess possibility of conservation zone at Panchpokhari and Dudhkunda as a Snow leopard habitat;
- Undertake study of status of Chojang Valley, also called as hidden valley for long time for scientific exploration, and prescription of required intervention as it is important for trans boundary conservation of Snow leopard;
- Organize and participate trans-boundary co-ordination to control illegal trade of Snow leopard body parts and to foster co-operation for Snow leopard conservation at trans- boundary landscape;
- Undertake co-ordinated patrolling and illegal wildlife trade control activities along international borders between Nepal, China and India;
- Provide relief against the Snow leopard depredation and casualties in order to reduce human-Snow leopard conflict;
- Provide support for alternative livelihoods for local communities including human- Snow leopard conflict affected families;
- Conduct attitude perception assessment of local people on Snow leopard;
- Carry out a study on impact of NTFPs collection in key Snow leopard hotspots;
- Produce citizen scientists and build capacity to undertake Snow leopard conservation initiatives;
- Produce information, education and communication materials regarding Snow leopard conservation;
- Carry out conservation education and outreach programmes extensively for community awareness;

7.3 Musk deer

7.3.1 Status

The Himalayan Musk Deer (*Moschus chrysogaster*) is distributed from the eastern to the western Himalayas of Nepal. This species is thinly distributed in least disturbed subalpine and alpine parts of high mountainous areas usually above 3000 m and mainly occurs within the PAs of Khaptad, Makalu Barun, Rara, Sagarmatha, Langtang, Shey Phoksundo National Parks and Annapurna, Api nampa, Gaurishankar, Kanchanjunga and Manaslu Conservation Areas, Dhorpatan Hunting Reserve and outside PAs including the districts of Accham, Baitadi, Bajhang, Darchula, Dolpa, Humla, Jumla and Rolpa. Green (1986) estimated a potential habitat of 10,000 km^2 of habitat in Nepal but it should be noted that this refers to all the Musk deer species found in the country.

Aryal and Subedi, (2011) mentions that Musk deer are distributed in previous four VDCs of the LNP viz. Syaphrubesi, Langtang, Helambu and Ghyanphedi. They cover 897.03 km^2 as a potential Musk deer distribution area in the park. There was an estimated population of 500 individuals in the Park (Aryal and Subedi, 2011). A high density was recorded in Syaphrubesi and Langtang village. However, the current status of Musk Deer is unknown. It is important to assess the present status so as to conserve this important species on sustainable basis.

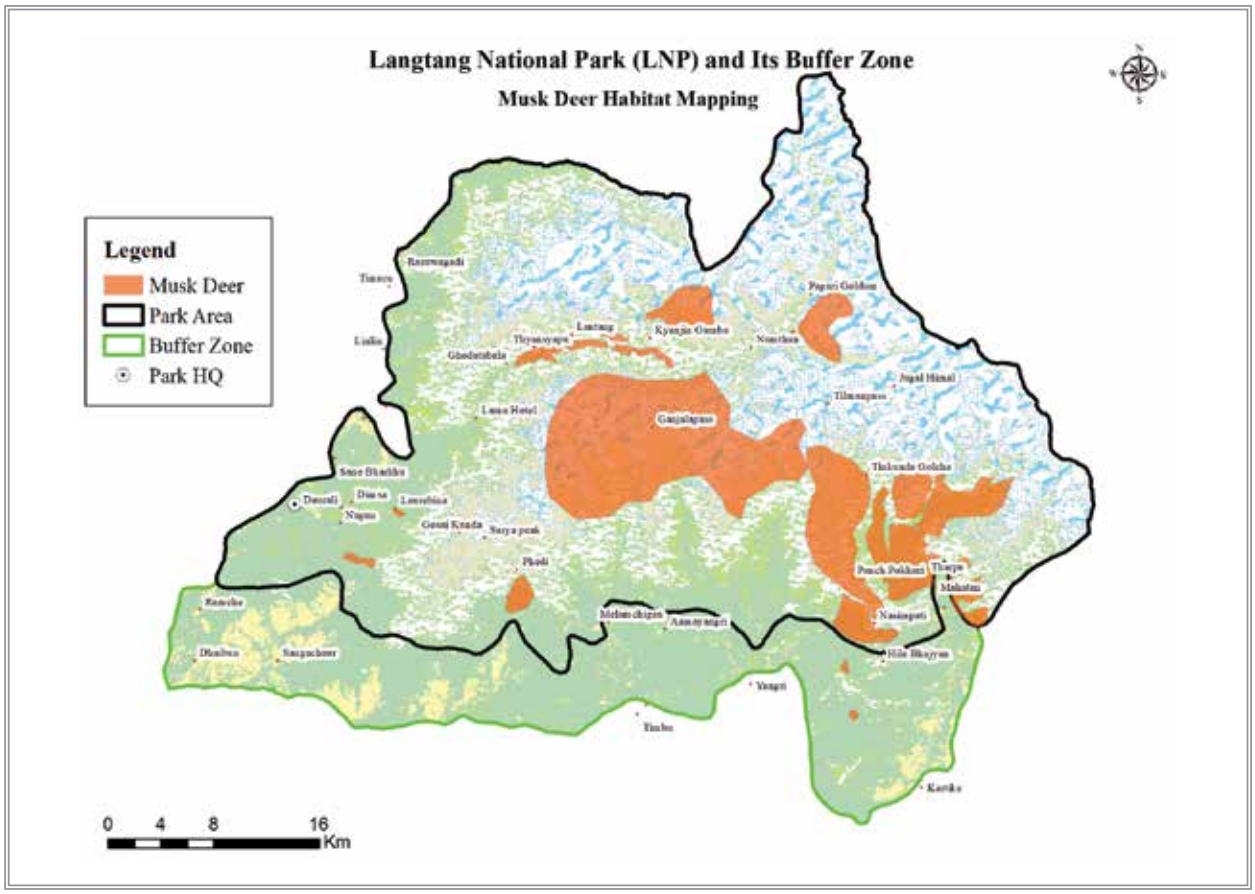

Figure 14: Musk Deer Major Habitat

7.3.2 Significance

This animal is one of the iconic species in the higher Himalayan ecosystem and the most important prey species for Snow leopard. Population of Musk deer is declining due to poaching, high human and domestic livestock pressure, consequent degradation of habitat.

The GoN protected Musk deer as an endangered species, under the NPWC Act, 2029 and CITES listed it in appendix I and the IUCN Red List of threatened species listed it as endangered.

7.3.3 Conservation efforts

Conservation of rare and endangered species like Musk deer is reflected in various conservation policies of Nepal. National Conservation Strategy (1988) has timely re-emphasized on the need for preserving rare or endangered species and protecting genetic diversity and/or essential wildlife habitat. Master plan for the Forestry Sector has laid out ecosystem and genetic resource conservation programme as one of the six primary development programmes. Nepal Environmental Policy and Action Plan (1993) have put much emphasis on the preservation of endemic and endangered species and their habitat. The Forestry Sector Policy (2000) has clearly spelled out the conservation of biodiversity, ecosystems and genetic resources. Nepal Biodiversity Strategy and Action Plan (2014-2020) urges extensive research on several endangered species including Musk deer. The NPWC Act, 1973 has been a key instrument in protecting biodiversity within the PA system. Section 10 of the Act provides complete protection to 27 species of mammals including Musk deer, 9 species of birds and 3 species of reptiles. The Musk deer is enlisted under "endangered" category of IUCN red data list (IUCN, 2006) and is in Appendix I under CITES.

The conservation of Musk deer started with the establishment of LNP in March 26, 1976 and SNP in July 19, 1976. The Himalayan National Park Regulation, 2036 allows local people their traditional right to use forest products, without posing negative impact to wildlife, such as collecting dead and dying twigs (as firewood), graze cattle, and use of timber with special permits.

The GoN has initiated Musk deer breeding at Godawari, outside Kathmandu since 1996 as an ex-situ conservation initiative; and several male and female Musk deer were translocated to Godawari as well. However, the male deer could not survive due to unsuitable habitat and unfavourable climatic condition and therefore breeding programme could not be

successful. Thus grazing that is allowed in traditional grazing areas also happens to be Musk deer habitat.

In 2007, Himalayan Musk Deer Conservation Project prepared site-specific participatory Musk deer conservation action plan for Marpha village of Mustang was prepared and implemented. Scared Himalayan Landscape (SHL) project was established in LNP in 2007 with the support of WWF Nepal. This project had supported BZ institutions to conserve the Musk deer as well. Earlier, Musk deer was not a preferred wildlife for study. However, in recent years, there are number of studies undertaken with regards to Musk deer in various PAs of Nepal. The species conservation action plan for Musk deer needs to be formulated so as to give impetus towards Musk deer conservation.

7.3.4 Issues

The major threats to long term survival of the Himalayan Musk deer in LNP and its BZ are

- Inadequate information on status and distribution of Musk Deer.
- Habitat degradation due to anthropogenic activities;
- Inadequate monitoring of livestock grazing in the Musk deer habitat leading competition as they have to share the rangeland for grazing;
- Poaching of Musk deer for illegal trade of its musk pod;
- Killing of Musk deer by feral dogs.

7.3.5 Strategies

- Keep key habitat of Musk deer inviolate from all sorts of anthropogenic pressure;
- Use GIS and Remote Sensing to identify the habitat condition;
- Collaborate with Research institution to undertake studies of Musk deer;
- Adopt information communication and education strategy to increase awareness; and
- Work with conservation partners to pool the resources in Musk deer conservation, capacity enhancement and knowledge management.

7.3.6 Activities

- Conduct research activites to estimate of population of Musk Deer.
- Provide support to manage regular supply of forage to Musk deer;
- Control feral dogs to protect Musk deer from being killed or injured;
- Repair and maintain micro-hydro project of Kyanjin to reduce disturbance of its habitat and to manage pressure of fuelwood;
- Prepare rangeland development plan for Upper Langtang Valley to reduce grazing pressure in core areas like Larix conservation area and Kyanjin Musk deer conservation area; and
- Conduct awareness campaign.

7.4 Pangolin

7.4.1 Status

In Nepal, Pangolins (*Manis pentadactyla*) are found in diverse areas ranging from Terai to the mid-hills occupying different habitats from grasslands, reforested areas, bamboo and coniferous forests and agricultural lands. Despite wide distribution of Pangolin, limited information is available on overall status of these species in Nepal, mainly due to insufficient studies focusing on the ecology of this species. Habitats of pangolins, however, are seen to be abundant. Since, habitats of pangolins are found close to human settlements; they have been threatened by humans. Their habitats outside PA are severely degraded due to unsustainable affected by climate induced disasters including prolonged drought, fire and landslides.

The first national survey conducted in 2016 revealed distribution of Chinese Pangolin (*Manis pentadactyla*) in 25 districts and Indian Pangolin (*Manis Crassicandata*) in 7 districts of Nepal. The Chinese Pangolin in Nepal is distributed up to 2,000m in the central and eastern region and in the lowlands and foothills of Siwalik (Churia) range towards the west (Baral and Shah 2008). Chinese pangolins are well protected within the PAs including Shuklaphanta National Park, Bardia National Park, Chitwan National Park, Parsa National Park, SNP, MBNP, SNNP, ACA, GCA and KCA.

Similarly, Indian pangolin is also reported from Shuklaphanta, Bardia, Banke, Chitwan and Parsa National Parks (Basnet et al. 2016). Although not recorded during the recent national survey, the species is likely to occur in the eastern foothills and Terai regions since there have been many records in the adjoining Indian side. Pangolins are found inhabiting diverse vegetation and other types of land uses, such as riverine forests, Sal forest, mixed hardwood forests, grasslands, agricultural lands and degraded marginal lands. In most cases, pangolins were found in the proximity of the human settlements and near the water sources. Pangolins are reported to adapt well to modified habitats.

Figure 15: Pangolin Major Habitat

7.4.2 Significance

The GoN has listed both species of pangolins under schedule I of NPWC Act 2029. Both species of pangolins found in Nepal are categorized as Endangered by National Red List of Mammals (Jnawali et al. 2011, Amin et al. 2018). CITES Act 2074 also prohibits any illegal taking, killing and trading of wildlife species. However, pangolins have been exploited locally for decorative material, food and traditional medicines through history. This continues today, and main threat to pangolins today is hunting and poaching for illegal international trade. This typically involves live pangolins, and their meat and scales, which are primarily destined to East Asia, most conspicuously China and Vietnam.

7.4.3 Conservation efforts

The Pangolins are under threats mostly due to poaching, illegal trade and loss and degradation of their habitats. The species is highly threatened due to high demand for its skins, scales, and meat in the local and international market. Pangolin is one of the most elusive and poorly studied small mammals across its range. The GoN is committed to conserve and safeguard threatened and endangered wildlife including pangolins.

Pangolin poaching is rising with the increasing number of seizure cases, mainly around Kathmandu valley, indicating alarming state of this beautiful animal. DNPWC, CIB and WCCB have been working closely to control poaching and save this beautiful animal. Similarly, various NGOs have also been implementing community-based pangolin conservation mainly in Kathmandu valley and CFs have started to include Pangolin conservation in their operational plan. Recently, study of status and distribution of Pangolin has been undertaken. Most notably, Pangolin Conservation Action Plan (2018-2022) has been prepared and is under implementation.

It is very well perceived that pangolin is an important

species in community level but knowledge about this species is very little known to the local communities. During this field work for the revision of management plan of LNP, the study team have been informed that this species is found at the interface of forest and settlement and cultivated areas. Thus, it is in high risk of poaching and habitat disturbance.

7.4.4 Issues

- Limited information and knowledge on pangolin ecology and population dynamics;
- Pangolins are hunted for local consumption of meat and medicinal purpose and use in garland, boots, belts and handicrafts;
- Increasing demand for pangolin body parts in the international black market;
- Loss of habitats due to fragmentation and encroachment of forest and fringe areas for agricultural expansion and development of Infrastructures;
- Extraction of red soil for domestic use causing habitat degradation, loss of burrows and disturbance;
- Frequent wild fires;
- Climate change can cause prolonged dry spells, heavy rainfall, floods and flash floods resulting in possible scarcity of water resources.

7.4.5 Strategies

- Enhance understanding and knowledge on conservation status, ecology and habitat dynamics of pangolin;
- Protect available termite mound to the extent possible;
- Curb poaching and control illegal trade of pangolin;
- Identify and manage priority sites to improve habitat quality for pangolin conservation;
- Develop local stewardship for conservation of pangolin;
- Engage academic institutions for short term as well as long term studies on pangolins and their habitats;
- Develop awareness packages for policy makers, developers, local government and local communities.

7.4.6 Activities

- Conduct research activites to estimate of population of Pangolin.
- Identify the Potential threat and map critical pangolin habitat;
- Conduct training on pangolin habitat and population monitoring techniques;
- Design and conduct scientific studies on population status, distribution, space use, behavior and habitat requirement of pangolins in potential and priority areas;
- Undertake monitoring of permanent plot, transect lines in forests, grasslands and other habitats;
- Conduct awareness campaigns on Pangolin conservation;
- Conduct capacity building program for mobilization of BZUCs and BCFs;
- Organize regular co-ordination meetings at local and regional level for sharing information on pangolin related activities;
- Organize regular trans-boundary conservation cooperation meetings with neighboring countries;
- Undertake study regarding development and other construction works in the prime/ designated pangolin habitats to implement mitigation measures; and
- Assess local knowledge, traditions, attitude and perceptions on pangolin conservation.

7.5 Assamese Monkey

7.5.1 Status

The legally protected animal Assamese monkey (*Macaca assamensis*) was first recorded in 1985 in Shivapuri Nagarjun National Park. Assamese monkey resembles the Rhesus Monkey having a brownish-grey to yellowish-greycoat, which is uniform in pelage, lacks a pinkish face and absence of red loins/buttock. Ithas darker fur in exposed area while whitish-blonde haired to ashy-white in abdominal and inner parts. Male has dark purple (egg-plant color) snout particularly around the nose while female has crimsoned red to pinkish red around the eyes and cheeks. Local saying appro-priately reflects the fur color variation within a group as this species is called 'Missal'- meansmixed color. The palm, sole and nails are dirty brown/black in color. The ischial callosities inmale are conspicuous

from a distance and distinct in darker individuals. In higher elevation, the animals are with darker fur on back and whitish in abdominal parts resembling Tibetanmonkey. However, a distinct difference in color was also found in higher elevation and lowerelevation of the country, as it is recorded from 380m asl to 2350 m asl in Nepal (Chalise 2003, 2008, 2008a, Chalise 2011). The macaque male has a dark beard on the cheeks which arefound directed backwards to the ears while the hair on the crown is divided from the middle. Itis a thickest Macaque in the wild, which travels along the ground laying its tail parallel to the ground (Menon 2003).

During surveys carried out in 1976, 1978, and 1984 in Nepal, Assam macaques were found to be patchily distributed along rivers in tropical and subtropical forests at altitudes from 200 to 1,800 metres (660 to 5,910 ft). They are apparently absent from areas west of the Kaligandaki River (Wada, 2005). During a survey in Nepal's Langtang National Park in 2007, a total of 213 Assamese macaques were encountered in 9 groups in the study area of 113 km^2 Troop sizes varied between 13 and 35 individuals, with a mean troop size of 23.66 individuals, and comprised 31% adult females, 16% adult males, and their young of various ages. They preferred maize kernals, followed by potato tubers, but also raided fields with wheat, buckwheat, and millet (Regmi and Kandal, 2008).

In LNP, during this study, It is found that Assamese Monkey habitat is confined in small area in the river valley of Langtang Khola in side of Syaphrubesi to Doman area where as in Trishuli river valleyin area in between Bandare to Dhunche and Syaphrubesi.

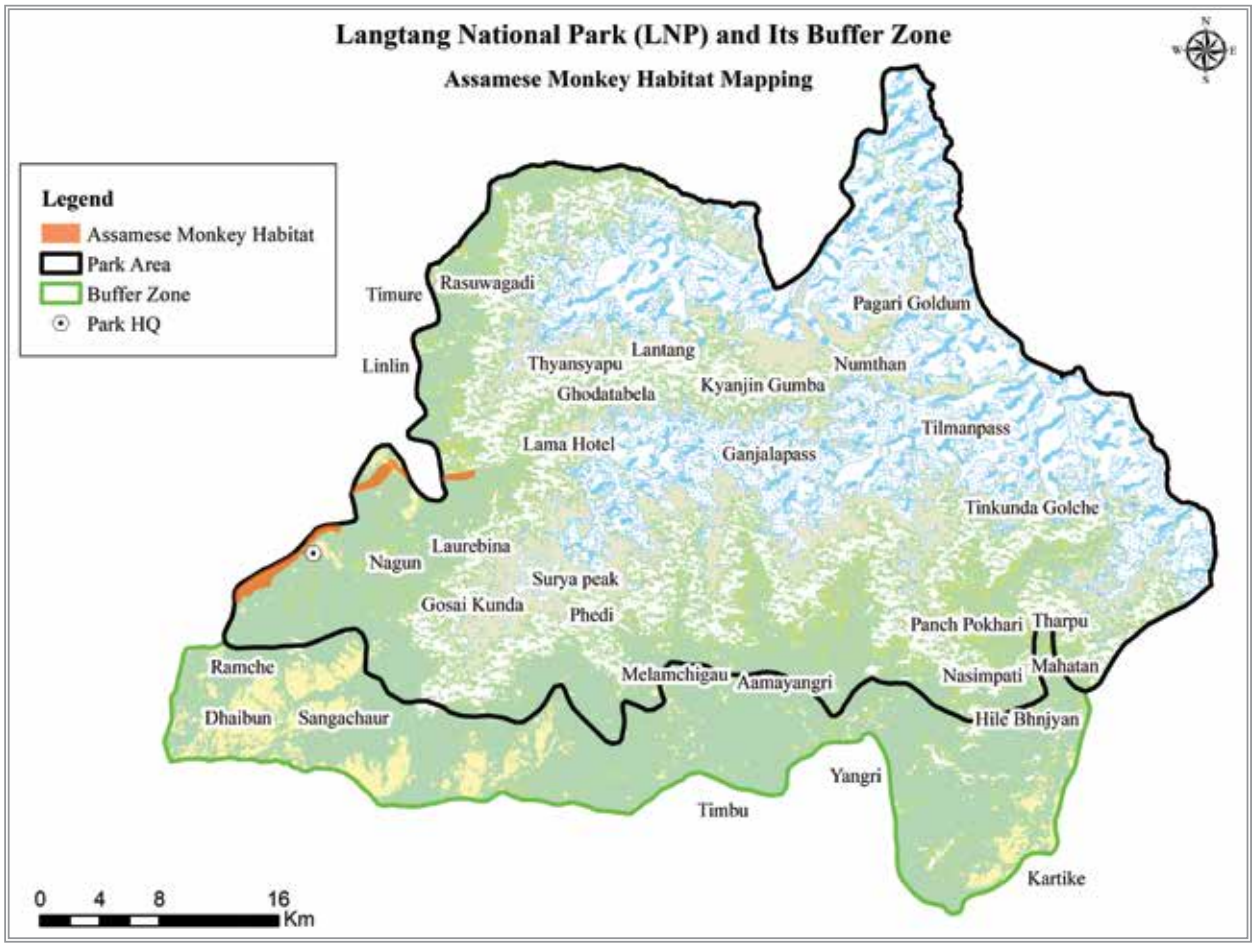

Figure 16: Assamese Monkey Major Habitat

7.5.2 Significance

The GoN has listed Assamese Monkey under schedule I of NPWC Act 2029. This mammal is categorized as Endangered by National Red List of Mammals. CITES Act 2074 also prohibits any illegal taking, killing and trading of wildlife species.

7.5.3 Conservation efforts

The Assamese Monkey is under threats mostly due to poaching, illegal trade and loss and degradation

of their habitats. The GoN is committed to conserve and safeguard threatened and endangered wildlife including Assamese Monkey.

7.5.4 Issues

- Loss of habitats due to fragmentation and encroachment of forest and fringe areas for agricultural expansion and development of Infrastructures;
- Frequent wild fires;
- Climate change can cause prolonged dry spells, heavy rainfall, floods and flash floods resulting in possible scarcity of water resources.

7.5.5 Strategies

- Enhance understanding and knowledge on conservation status, ecology and habitat dynamics of Assamese Monkey;
- Protection of existing Assamese major habitat from human influence.
- Engage academic institutions for short term as well as long term studies on Assamese Monkey and their habitats;
- Develop awareness packages for policy makers, developers, local government and local communities.

7.5.6 Activities

- Conduct research activites to assess of population of Assamese Monkey.
- Identify the Potential threat and map critical Assamese Monkey habitat
- Conduct awareness campaigns on Assamese Monkey conservation;

CHAPTER 8.

TOURISM AND INTERPRETATION

8.1 Background

The link between PA and tourism is as old as the history of PAs tourism is directly linked with wildlife, natural landscape, or cultural heritage are the primary objective of establishment of PAs. So that tourism and wildlife are strongly coorelated. As the tourism has became a major segment of economic prospect. PAs shall be the major destinations, the development of tourism facilities and manage interpretation center has to be enhanced.

Interpretation is a process to communicate the message on natural and cultural heritage using objects, artifacts, landscapes and sites. Information is simply a fact whereas interpretation is an art of disseminating information. Thus, interpretation is not the message we communicate to visitors but it is all about how we communicate it. Interpretation enhances understanding of visitors about PA and need for its conservation and they are supposed to appreciate the nature and in turn support to conserve it.

Tourism in PA should be developed and managed at a level that benefits conservation. It is evident that tourism generates revenue for conservation and conservation promotes tourism. Sustainability of conservation will be enhanced if tourism could support for livelihoods of local people. The issue here is how to create a win-win situation, eco-tourism promotion in real sense could serve the purpose. Tourism with environmentally responsible travel to experience the nature while promoting conservation and economically contributing to local communities is regarded as eco-tourism. Thus, tourism in PA should be ecologically sustainable, economically viable and socially acceptable that will ultimately enhance wilderness experience and contributes to conservation and livelihoods of local communities.

After upsurge of tourist in visit year 1998, local people in and around LNP invested lots of money to construct hotels. However, due to conflict in the country and the disastrous earthquake of April 2015, tourism in the Park plummeted sharply. Current accommodation facilities, if carefully maintained have the capacity of more than 20 thousands tourists in the Park. New hotels have to be constructed in the new trekking route of Nuwakot, Melamchi and Panchpokhari area.

There are six recoginized trekking route by LNP for tourism promotin and trekking.

Figure 17 Established Treking Routes

Leased land for hotels

There are three categorize of hotels operating inside the Park. The first category of hotels is privately owned hotels constructed in private land. The second category of hotels is Park hotels leased to local people for operation. There are two Park hotels one in Kyanjin and another in Gumna. The third category is the private hotels constructed on Park land after getting permission from the Park office.

Figure 18: Treking Routes with Major Places and Hotels in LNP

The third categories of hotels are divided into four class namely 'Ka', 'Kha', 'Ga' and 'Gha'. Park has provided 1.5 ropani land in 'Ka' category hotels, 1 ropani in 'Kha' category hotels, 0.75 ropani in 'Ga' group hotels and 0.5 ropani in 'Gha' group hotels (Table 2).

Table 2. No. of Leased hotels in LNP

SN	Category	No. of hotels	Leased Land(Ropani)	Total leased land in ropani	Total leased land in ha.
1	Ka	10	1.5	15.0	
2	Kha	20	1.0	20.0	
3	Ga	13	0.75	9.75	
4	Gha	10	0.5	5.0	
	Total	**53**		**49.75**	

8.1.1 Tourism Scenario

The pristine quality of nature and rich cultural heritage offers wonderful tourism attractions in the Park. The available tourist record shows that 883 individuals visited the Park in FY 2035/036 nd the number increased to 13,166 individuals in FY 2057/058. From there, number decreased slowly due to insurgency period and reached 4230 in FY 2062/ 63. This was the year where second people's movement or general strike took place. After this, the tourist number slowly rose to 16,593 in FY 2071/72. In Baisakh 12, 2072

(April 25, 2015), massive earthquake hit Nepal and as a result tourist number declined to 4,292 in that year. Despite the earthquake, following year (FY 2073/74), Park received 11,068 visitors and it reached to 20,159 in FY 2076/2077 (Figure 18).

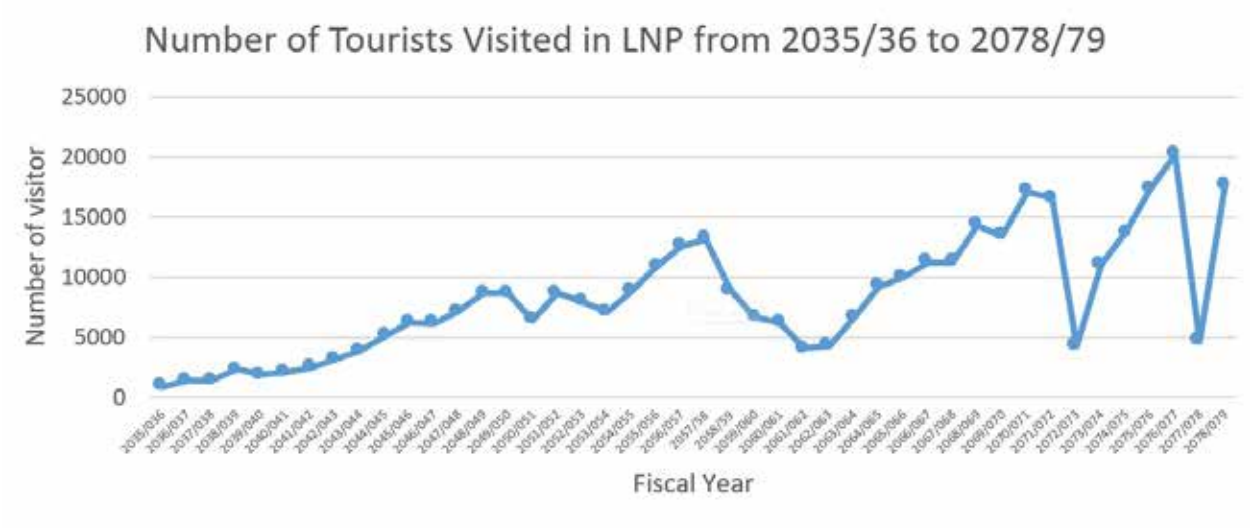

Figure 19: Trend of Tourist Visits in LNP

8.1.2 Interpretation Facilities

Interpretation facilities are an essential element of tourism management. However, it requires adequate resources to ensure that services and facilities are innovative and professional in meeting the visitors satisfaction. Successful programmes need to be planned and delivered by trained personnel and regularly upgraded.

There is a tourist information center at Dhunche check point. Well-built tourist information center still has to be furnished with more information materials and internal decoration. There is a traditional type building of Tamang Museum in Dhunche but the materials placed for display are in skim condition. The current management plan proposed to construct community managed visitor center at Thulo Syaphru and Shermathan.

8.1.3 Issues

- Overcrowding in major trekking route, especially during peak season affecting wilderness experience and visitors' satisfaction;
- Low availability of off-farm employment;
- Low level of linkage to tourism activities with off-trail communities;
- Unplanned tourism infrastructure in the Park;
- Fussy tourism policy and dedicated institutional setup to deal with the increasing number of tourists in the Park;
- Limited interpretation facilities in the Park;
- Inadequate tracking of tourist visiting the area;
- Inadequate search and operation expert to locate tourist who lost their way during trekking;
- Inadequate conservation awareness programme for local community and visitors;
- Haphazard garbage disposal, especially empty plastic water bottles and plastic garbage, can be seen on the side of trekking trail roads and public land; and
- The solid waste management problem is especially high on the special days like Janai
- Purnima in Gosaikunda, where thousands of pilgrims pay visit to Gosaikunda.

8.2 Tourism Management

8.2.1 Institutional Setup

The LNP should devise and implement regulatory framework for tourism service providers to ensure eco-friendly practices, including standards for construction of infrastructures, energy and water use, extent and capacity of the facilities to be created, employment to local people, social and environmental responsibility, etc.

8.2.2 Tourism product diversification

- Establish museum and cultural centre including showcase of 'Tamang and Hyolmo culture' in three districts;
- Open new trekking route and promote trekking in these areas;
- Provide support to rock climbing in Kyanjin;
- Promote community managed tourism products.

8.2.3 Nature interpretation

- Construct and Upgrade 3 multipurpose modern interpretation centres and upgrade and update the existing visitor centers of the Park;
- Enhance the capacity of nature guides in nature interpretation through refresher trainings and some experience sharing activities;
- Support Eco-club to initiate wall newspapers on biodiversity conservation and tourism;
- Enhance capacity of local community to interprete local products for tourist.

8.2.4 Strategies

- Promote nature and cultural tourism;
- Develop code of conduct to regulate tourism activities in the Park such as environment and culture friendly dress up, prohibit excessive use of alcohol and smoking, use trekking guide for each trekking group, maintenance of silence inside the Park, dispose litter in designated areas only;
- Develop code of conduct for the design of hotel building and potential tourism centered villages;
- Promote new areas of trekking in
    - Phusre – Panchpokhari - Bhotang / Yangri - Helambu; Panch pokhari-dipu / Tempa than-Pema sal-Jugal himal;
    - Ama Yangri – Ganjala-Kyanjin /;
    - Shermathan – Melamchigyang – Thadepati-Gosaikunda;
    - Timbu-Melamchighyang;
    - Gosaikunda-Buddha temple-Brana kharka-Dangdung kharka-Langtang;
    - Dhunche-Muh kharka-Baluwa kharka-Nau kunda-Gosaikunda;
    - Lokil-Jure dhunga-Dhunche lake-Nau kunda;
    - Mala bhanjyang-Sagar kunda-Rau chuli- Nau kunda-Gosai kunda; Briddim/ Kahamjing-Sano pangsang/Thulo pangsang – Goteghyang-Briddim; Timure-Guru gomba-Dudhkunda; and
- Ban the bottled liquor and adopt the local products.
- Propose new trekking route
    - Bhotang-Nesampati-Panch pokhari and Maidan
    - Kartike- Tembathan-Jugal Base Camp-Panch Pokhari
    - Helambu-Aamayangri-Melamchi Ghyang-Semisidan-Ganjalapass-Kyanjin
    - Kyanjin-Dakpaten-Chekuri-Langsis
    - Other potential trekking route for future plan
    - Sikharbesi (Ramati) –Ghyangjphedi –Sisipu –Talu –Phedi –Suryakund -Gosaikunda (Major domestic tourist flow in Janaipurnima festival)
    - Doklan-Bachha-Juredhunga-Gosaikunda
    - Dhunche Paulekharaka-Boxer Danda – Gosaikunda
    - Lingling-Briddhim-Khyanjim-Surga-Sherpagaun-Lama hotel
    - Betrawati-Bhorle-Sersung-Ghormu-Arukharak-Langbu-Bijulidhunga-Thandur-Sangnuyal-Singwante-Doklang-Bachha-Singdorche-Syamlang-Gosaikunda
    - Existing hotels and tea shops need to be upgraded and some of them need to tendered after monitoring and evaluation.
    - Evaluation of location of existing hotels is essential. Relocation will be done after evaluation of hotels if needed.
    - After evaluation of existing hotels, tendering process will be conducted based on requirement. In this case, priority will be given to members of buffer zone users. During tender evaluation, 10% of total evaluation score will be allocated for members of buffer zone users.
    - Ban the bottled liquor and sdopt the local products.

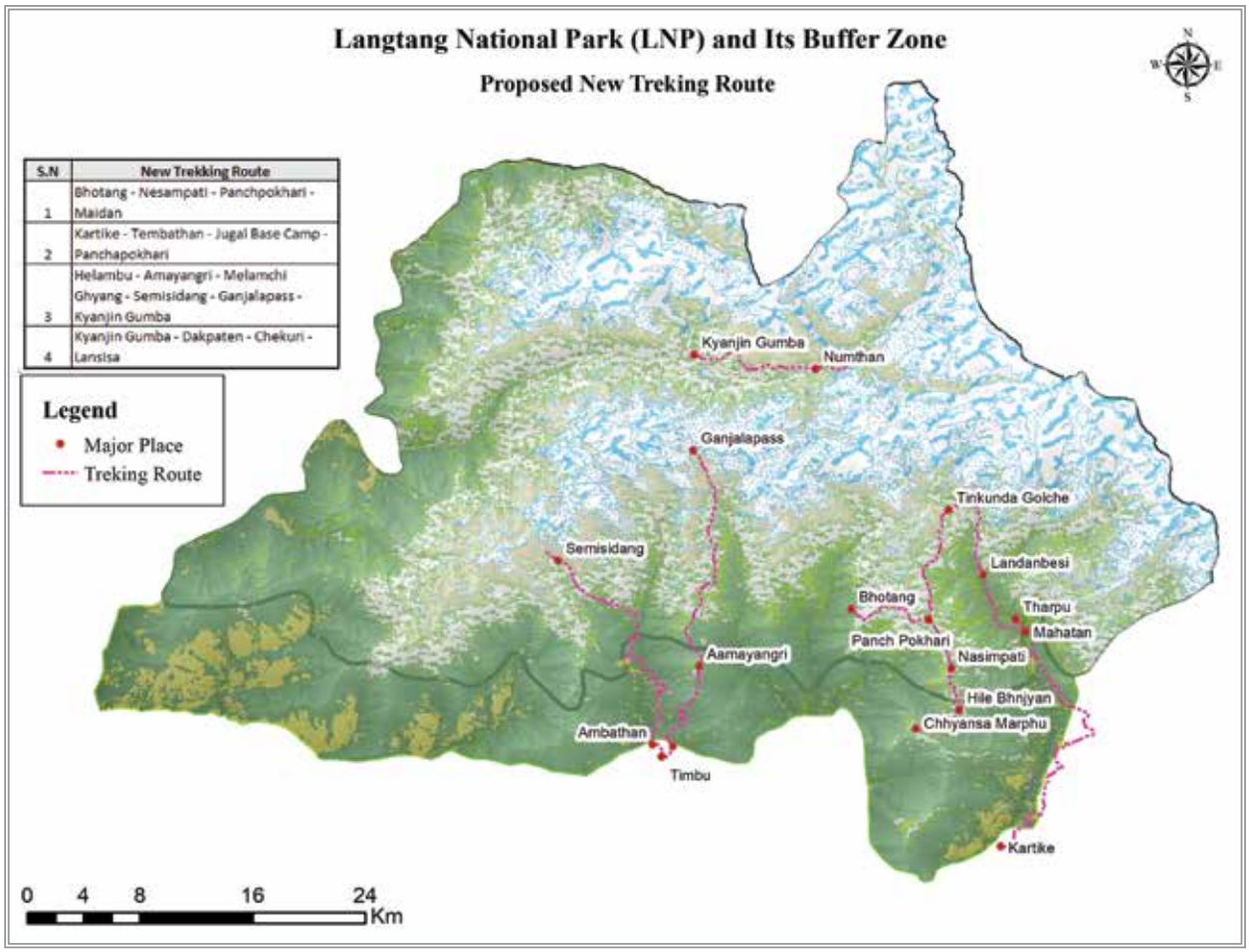

Figure 20: New Proposed Trekking Route

8.2.5 Activities

- Construct 3 multipurpose Visitor Information Centre (VIC) at Dhunche, Helambu and Kutumsang that includes ticket counter, display centre, museum, souvenir shop and rest room;
- Support BZUCs to construct culture museum in three districts;
- Provide support to renovate Rasuwagadhi fort, Dupcheshwor temple and monasteries;
- Repair and maintain culturally, religiously and historically important Trishuldhara and Amar Singh cave;
- Repair and refurbish the earthquake destroyed Buddha temple, rest places and infrastructures of Cholangpati, Lauribinayak and Gosaikunda;
- Develop comprehensive tourism plan of LNP;
- Construct new trekking trails in proposed new routes;
- Repair and maintain trekking trails as proposed above,
- Construct resting place and toilets for visitors at strategic places;
- Provide support to open tea shops or hotels in newly opened trekking areas;
- Erect hoarding boards informing Do's and Don'ts in the Park and BZ for the visitors;
- Place signage at appropriate location in the Park to show direction to the visitors;
- Undertake GPS mapping of all the tourism products in the Park and BZ;
- Carry out high altitude sickness camp in between Kyanjin, Ganjala and Yangri pass;
- Provide support to rock climbing association to carry out rock climbing at Kyanjin;
- Provide support to develop and implement visitor tracking system using smartcard to locate their movement and support in rescue operation;

- Provide support to relocate hotels and lodges near Gosaikunda to 500 m away from Gosaikunda area;
- Prepare a sanitation guideline for hotel, lodge;
- Provide support to develop linkage of tourism economy to off-trail communities through agriculture, livestock and small scale cottage industries and village tourism;
- Develop new tourism package including special interest tourism for diversification of tourism experience and shun out tourism activities from traditional areas;
- Support and strengthen trekking route management committee;
- Provide support to strengthen Gosaikunda Chetra Bikas Samiti;
- Organize Cleanup campaign to manage waste in the route (waste collection and disposal)
- Solid waste management training to hotel operators;
- Conduct nature guide trainings to local and interested individuals giving priority to back ward community and youths;
- Organize small business development and management training;
- Provide basic English language training to tourism operator in newly opened trekking areas;
- Conduct special training programs such as cook, house-keeping, basic English language, etc;
- Conduct survey regarding tourist satisfactory on a yearly basis;
- Prepare Video Spot to aware local people travelling in a bus about solid waste management;
- Provide technical support to tourism operators to carry out study of cable car Dhunche to Gosaikunda, from Ghyangphedi – Gosaikunda and Nau kunda Yarsa – Gosaikunda;
- Organize exposure visits to journalists to visit LNP and publish article on importance of ecosystem and wildlife as well as natural resources;
- Production of video documentary.

8.2.5.1 Eco-tourism promotion activities

- Exploration of previously used trekking routes and proposed for tourism promotion and formal management by LNP are:
  (i) Bhotang-Nesampati-Panch pokhari and Maidan.
  (ii) Kartike- Tembathan-Jugal Base Camp-Panch Pokhari.
  (iii) Helambu - Aamayangri - Melamchi Ghyang – Semisidan – Ganjalapass -Lama hotel/ Kyanjin.
  (iv) Kyanjin-Dakpaten-Chekuri-Langsisa.
- Installation of information sign boards.
- Maintainace of trekking routes.
- Construction of resting places.
- Providing land on lease for establishment of hotels in appropriate places of proposed routes according to approved guideline. In this case, priority will be given to members of buffer zone users. During tender evaluation, 10 % of total evaluation score will be allocated for members of buffer zone users.
- Hospitality and Cook Training for hotels.
- Promotion of home stay in near by village around the proposed trekking route.
- Management of exsisting leased hotels by the park.
- Explored potential eco-trails are:
  (i) Briddim-Gotegang-Thulo Pangsang-Ghodatabela
  (ii) Nagung-Boxer Danda-Saraswoti Kunda and
  (iii) Mala Bhanjyang-Sagar Kunda-Rauchuli-Jyakung Peak-Ekle Kunda-Gosaikunda-Bhairba Kunda-Paralthala –Doglang.

CHAPTER 9.

SPECIAL PROGRAMME

9.1 Langtang Larix conservation zone

The *Larix* conservation zone starts from small tributary across the Chamki kharka opposite of Thansyap and along the Langtang khola towards Kyanjin-Ganjala trekking trail. It encompasses *Larix nepalensis*, *Abies spectablis*, and *Rhododendron spp*. in along the Langtang Khola and *Betula utilis* forest and alpine meadows in upper part of the mountain chain. However, local people from Langtang and Thyansap are allowed to collect dead and fallen branches to fulfill their bona fide needs. Construction timber and fuel wood for Kyanjin Cheese Factory can be permitted from Ghodtabela and Gumna forest areas or downside only.

9.1.1 Issues

- Over grazing and construction of goth;
- Removal of vegetation by herders; and
- Stone quarrying to construct goth.

9.1.2 Strategies

- Regulate grazing to maintain ranged lands in perpetuity;
- Provide alternative energy source to reduce pressure on forest resources;
- Allow entry to researchers only as granted by DNPWC;
- Increase conservation awareness; and
- Penalize the offenders who remove the green trees and extract stone.

9.1.3 Activities

- Repair and maintain micro-hydro in Kyanjin on regular basis to reduce pressure of fuel wood collection; and
- Prepare rangeland development plan for Upper Langtang Valley to reduce the grazing pressure in cores of Larix Conservation Area.

9.2 Juniper conservation zone

All the forest area under Talukseri and Ghoptewodar forest area under Ghyangphedi VDC ward no 1 of Nuwakot district has been designed for Juniper conservation zone. The area is amazingly predominated by Juniper species. Gosaikunda- Phedi-Ghopte trekking trail passes through this zone.

9.2.1 Issues

- Over grazing and construction of *goths*;
- Removal of standing trees; and
- Stone quarrying to construct *goths*.

9.2.2 Strategies

- Involve BZ communities for participatory conservation;
- Strengthen surveillance of the area;
- Adopt information, education and communication approach to increase conservation awareness; and
- Penalize the offenders who remove the green standing trees and people extracting stone.

9.2.3 Activities

- Prepare interpretation facility along the trekking trail;
- Provide support to use alternative energy for lighting, cooking and heating i.e. solar light, back boiler for the hotels in Phedi and Ghopte;
- Implement awareness raising activities to conserve the Junipers;

9.3 Bandare tropical vegetation

conservation zone

Bandare tropical vegetation conservation zone lies in south-west corner of the Park in the west of Ramche village in Trishuli gorge. The predominant vegetation type is sal (Shorea robusta). This area has conservation significance since tropical vegetation in LNP is confined to this area.

9.3.1 Issues

- Removal of green vegetation;
- Stone quarrying; and
- Grazing and construction of structures for goth etc.

9.3.2 Strategies

- Punish the offenders who remove the green standing trees and people extracting stone;and
- Adopt information, education and communication to increase conservation awareness.

9.3.3 Activities

- Hand over the forest in the BZ to minimize the impact in the special conservation zone;
- Provide support to install biogas and metallic improved cook stove in order to reduce the demand of fuel wood;
- Plant fodder trees in public and barren land and promote stall feeding; and
- Increase conservation awareness.

9.4 Upper Larke Khola wilderness area (new proposed zone)

Previous management plan had proposed Larke Khola as new proposed zone with an area of 12,800 ha. However, sub-tropical dry and wet areas area and hill wet and dry areas in lower Larke Khola are frequently approached by the herders and pilgrims. Leaving this area for resurrection, current management plan purposed Montane, wet and dry area (21 km^2), Sub-alpine dry and wet areas (40 km^2) and alpine, dry and wet areas (40 km^2) to declare as upper Larke Khola Wilderness zone. This zone would preserve a continuous range of vegetation from lower temperate to nival. The habitat is suitable for Snow leopard, clouded leopard, wild dog, Himalayan tahr, goral, serow, Muntjac and Himalayan black bear.

This area has become nationally important due to fact that water of Larke Khola is sought to be routed to Melamchi river to add additional water in the long run to provide drinking water to residents of Kathmandu Valley. However, it is not possible in the upcoming five year plan as the present project is yet to be completed and it will take another couple of years to design this sub project. LNP will work with Melamchi water supply project to implement construction activity in such a way that minimal impact will be posed to the biodiversity.

9.4.1 Issues

- Melamchi Water Supply Project has planned to divert the water of Larke to Melamchi and take water to Kathmandu;
- The area is very remote with very little monitoring; and
- Lack of conservation awareness.

9.4.2 Strategies

- Develop zonation plan with close participation with local herders' group, BZUC and other stakeholders;
- Collaborate with Melamchi water supply project to implement the construction activities in eco-friendly manner.

9.4.3 Activities

- Prepare zonation plan for Upper Larke Khola Wilderness Area in close participation of local herders' group, BZUC and other stakeholders;
- Carry out study for of dependence of local people on the area and the number of livestock grazing in the area;
- Undertake study to identify alternative grazing lands; and
- Carry out study to assess habitat quality, extent and occurrence of wild animal species.

9.5 Upper Yangri khola wilderness area (new proposed zone)

The Yangri Khola is also key catchment potential for drinking water supply in Kathmandu valley, and hydro power generation. Managing the upper Yangri Khola new proposed zone will help to demonstrate the economic benefits of ecological services.

Like Larke khola, Melamchi water supply project has also plan to divert some of its water to Melamchi River to add additional water. It seems that it is also not possible in the upcoming five year plan as the present

project is yet to be completed.

9.5.1 Issues

- Melamchi Water Supply Project has planned to divert the water to Melamchi and take water to Kathmandu;
- The area is very remote with very little monitoring; and

9.5.2 Strategies

- Develop zonation plan for Upper Yangri Khola Wilderness Reserve through close participation with local herders' group, BZUC and other stakeholders;
- Collaborate with Melamchi water supply project to implement the construction activities in eco-friendly manner.

9.5.2.1 Activities

- Conduct stakeholder consultation meeting;
- Carry out the feasibility study towards the dependence of local people on the area and their origin, the number of livestock and the population inhabiting in this area;
- Study possibility of managing alternative grazing land; and
- Undertake study of habitat quality, extent and occurrence of wild animal species.

9.6 Special Natural, Religious and Historical site

9.6.1 Gosaikunda special religious and Ramsar site

This area covers entire region of Gosaikunda valley starting from Saraswati Kunda to Surya kunda along the ridge line of two mountain chains which encompasses Gosaikunda lake series. This area is important not only for religious purposes but also for endemic and threatened plants. Gosaikunda Lake has been listed in Ramsar site in September 23, 2007.

Every year thousands of Hindu and Buddhist pilgrims visit the holly lake Gosaikunda which commemorates the Hindu god Siva. Many Hindus believe that everybody should visit Gosaikunda at least once in his life. So the pilgrims come from as far away as India. The main festivals are *Dashain* in April/May and Janaipurnima in August. Such type of festival at *Janai-purnima* is also observed in Panchpokhari and about 1000 individuals visit the area. In Dudhkunda (above Briddim), about 300 individuals visit in same occasion. Another festival in Langtang are Langsisa festival in April and Langtang Festival before Losar. During these occasion, more than 2500 individuals visit at Langtang, Kyanjin and Langsisa from Thuman, Helambu and Syaphrubesi.

These festivals have contribution to local socio-economics to some extent. Hotel and lodge owners, *Tharpu* keepers (temporary sheds), apple and vegetable producers, Trishul (Sign of Lord Shiva and Gosaikunda) makers and other curio venders benefit from the festival.

9.6.1.1 Issues

One of the reasons for establishing Park is to protect Gosaikunda's religious heritage. It is also important to control the land use in important religious sites like Gosaikunda to conserve the endangered flora and sacred landscape. Park has declared the Gosaikunda Valley as protected religious site and killing animals and keeping horse and Juppa are banned because killing animal in sacred areas are viewed as sacrilegious according to *Tamang* Culture. There is the pressure of outsiders to construct Pati (building constructed for the shelter of pilgrimage). There is no possibility of constructing Pati for all pilgrimage in Janaipurnima. Park should take initiation to provide tent and other temporary shelter around the Gosaikunda through **Gosaikunda Chettra Bikas Samiti**. Allocating the land to construct pilgrim's shelters will degrade the landscape of the sacrosanct valley.

During these occasions, in addition to their physical impact on local environments, these pilgrims use wood for fuel and collect *Meconopsis* and Saussurea species around the Gosaikunda. *Meconopsis regia* is categorized as threatened species of IUCN Red Data Book and *Meconopsis dhojii* is endemic plant of Upper Trishuli Valley. Pilgrims also take the branches of Juniper trees to their home due to its religious value.

Existing hotel and lodge facility are too small to accommodate the pilgrims during the Janaipurnima festival. Park permits more than 300 temporary sheds in different places from Ghatekhola to Gosaikunda and Ghopte-Magingoth areas. These temporary sheds produce too much garbage during the festival and Park has onerous task of clearing the garbage along the trekking route.

9.6.1.2 Strategies

- Identify the status of rangeland in the Gosaikunda area for sustainable management;
- Promote alternative energy for Gosaikunda and

Lauribinayak area for electrification and cooking;

- Relocate the hotels and lodges near Gosaikunda to 500 m away from Gosaikunda area;
- Promote natural resources including wetland resources of Gosaikunda region in a wise and sustainable manner and promote use of alterative and renewable resources;
- Integrate cultural conservation and eco-tourism activities to reduce tourism impact in the culture;
- Establish appropriate mechanism to regulate Gosaikunda mela to manage in effective manner;
- Communicate wetland, culture and tourism related information in effective manner; and
- Rehabilitate and renovate the infrastructure that has been damaged by massive earthquake of April 2015.

9.6.1.3 Activities

- Strengthen and institutionalize Gosaikunda Chetra Bikas Samiti;
- Update Gosaikunda site management plan as a requirement of Ramsar site;
- Provide support to use renewable sources like solar PV, solar water heater, bio-
- briquettes and metallic improved cooking stoves;
- Produce Information, education and communication (IEC) materials to increase conservation awareness;
- Disseminate conservation awareness using print (manual, posters, handbook, erect hoarding boards), audio (radio and FM) and visual media (Video documentary);
- Repair and maintain the culturally, religiously and historically important infrastructures i.e. Trishuldhara and Amar Singh Cave;
- Train and aware lodge owners, porters and trekkers for managing and segregating solid waste for proper disposal in order to promote cleanliness and healthy environment;
- Construct proper drainage for managing fecal waste and monitor the probable leakage from safety tanks to the Gosaikunda Lake;
- Restore the area where landslide has occurred and re-route the trekking trails which are prone to landslides;
- Form and train Disaster Risk Reduction Management Committee for rescue and operation during disaster;
- Reconstruct the earthquake damaged infrastructures i.e. Cholangpati, Lauribinayak and Resting place near Gosaikunda;
- Repair and refurbish Buddha temple destroyed by earthquake; and
    - Repair and maintain the trekking trails to the Gosaikunda that was damaged by earthquake.

9.6.1.4 Rasuwagadhi special historical site

Rasuwagadhi special historical site lies in Rasuwagadhi at the confluence of Lende and Kerung khola (later it is called Bhotekoshi in Nepal side) in Nepal China border. There is a historical fort constructed in 1912 B.C. to protect the northern boundary of the country during Nepal Tibet war. The district name 'Rasuwa' was taken from the name of this historical fort. Syaphrubesi-Rasuwa Gadhi Road has been aligned adjacent to this fort as a result there needs to be immediate response to repair and maintenance of road. Similalry, landslide that occurs on the both sides of the road should also be maintained as early as possible.

9.6.1.5 Issues

- Stone quarrying, sand and aggregate collection at the toe of the historical fort;
- Removing stone, breaking fences, gates by local people;
- Keeping goats and sheep inside the fort; and
- Unpleasant look of Wall painting of the fort.

9.6.1.6 Strategies

- Advertise Rasuwagadhi historical site through various print and electronic media;
- Develop long term Rasuwagadhi restoration and management plan;
- Keep fort and surrounding area neat and clean; and
- Raise awareness of the importance of the historical site.

9.6.1.7 Activities

- Develop poster and pamphlet and hoarding boards;

- Construct infrastructures to protect the confluence of Kerung and Lende khola;
- Undertake fencing to protect from encroachment; and
- Renovate the fort on regular basis.

9.7 Other programme

9.7.1 Climate Change Mitigation and Adaptation

9.7.1.1 Context

Climate change has impacted every walk of life on earth and LNP is not an exception. The potential impact of climate change to the Park is related to glacial hazards such as avalanches, debris flow. If the appropriate measures are not taken to minimize the risk, the potential impact of climate change might have devastating loss to LNP. The international community now widely agrees that climate change will constitute one of the major challenges of the 21st century calling for an integrated approach to issues of environmental preservation and sustainable development. The melting of glaciers around the world is affecting the appearance of sites inscribed for their outstanding beauty and destroying the habitat of rare wildlife species such as the Red panda and Snow leopard, in the Park. These changes could also have disastrous effects on human lives with landslides threatening human settlements. Increasing atmospheric temperature is causing snowcapped mountains and glaciers to melt worldwide. Threats to terrestrial biodiversity mentioned above also apply to mountainous ecosystems. Shifts in tree-line are already being observed and this mechanism poses an important threat to many mountainous species (UNESCO, 2007).

9.7.1.2 Issues

Major issues of concern in the face of likely impact of climate change in the Park and its BZ are:

- Transhumance grazing calendar has become uncertain due to effect of climate change;
- There is inadequate knowledge, scientific data and information related to the science of climate change and its impact on flora and fauna of the Park;
- It is a challenge to assess the effects and likely impacts of climate change, to identify the vulnerable sectors and enhance their adaptive capacity;
- LNP has not been able to take advantage of international climate change regime to avoid or minimize the impacts of climate change on mountain environments, people and their livelihood, and ecosystems;
- There is invasion of unwanted weeds in the rangeland affecting the habitat of endangered wildlife species such as the Snow leopard, Musk deer and Red panda; and
- There are disastrous effects on human lives with land slide threatening human settlements downstream.

9.7.1.3 Strategies

- Develop, promote and implement climate change-friendly technologies and measures;
- Enhance participation of key stakeholders including BZ communities in formulation and implementation of programmes related to climate change adaptation, capacity building;
- Formulate and implement Local Adaptation Plan of Action (LAPA);
- Prohibit development of human settlements in climate-vulnerable areas (landslide-prone areas, flood-prone river banks);
- Implement early warning system and preparedness programmes to combat disaster; and
- Communicate, inform and educate the local people about ways and means to develop resiliency, adapt towards the climate change.

9.7.1.4 Activities

- Carry out study to identify people, communities and areas impacted by climate change based on local knowledge, skills and technologies;
- Conduct study to identify areas and sectors that are vulnerable to climate change impacts through participatory studies;
- Support to build the capacity of the Park staffs, key stakeholders and BZ communities towards climate change mitigation and adaptation;
- Provide support to poor people, dalits, marginalized indigenous communities, women, children and youth through the implementation of climate change-related programmes;
- Implement activities that enhance adaptive capacity of species, ecosystem and health from

probable effects of climate change;

- Publish climate change related materials, such as data, information, success stories;
- Provide support to increase participation of BZ communities and key stakeholders in information dissemination by involving them in awareness raising activities;
- Collect, publish, disseminate and utilize climate adaptation and adverse impact mitigation-related traditional and local knowledge, skills, practices, and technologies and document them;
- Conduct climate change-related research to identify measures for adapting to adverse impacts;
- Conserve soil and water through measures such as source protection, rain water harvesting, and environmental sanitation;
- Provide support to link climate change adaptation activities with socio-economic development and income-generating activities;
- Form Disaster Risk Management Committee and strengthen them;
- Implement early warning system for disaster like flood developing necessary mechanism for the preventive measures;
- Provide support to develop mechanism for forecasting and preventing vector-borne, infectious and communicable diseases induced by climate change.

9.7.2 Disaster risk reduction due to earthquake and landslide

9.7.2.1 Context

The earthquake of April 2015 and its aftershocks made huge damage of lives and property in Rasuwa, Nuwakot and Sindhupalchowk districts. There was visible impact on Park infrastructure as most of the buildings of Park and security posts were severely damaged by earthquake. The Post Disaster Need Assessment (PDNA) has shown that damage to buildings of the Park alone equivalent to more than NRs. 50 million. Likewise, community buildings as well as private houses were also damaged during earthquake. Besides, there could be some sort of disruptions in ecosystem and ecological function and processes in this area which has not been documented yet.

Langtang village was completely destroyed by avalanche which was caused due to massive earthquake. In the Langtang valley, the disastrous earthquake took life of 10 security personnel, one game scout and chairperson of Langtang UC. Similarly, one security personnel died in Mailung, Rasuwa due to the same earthquake. In addition, the trekking route of Langtang valley and Kyanjin was also completely damaged. Cracks were seen in the major trekking route of Dhunche and Gosaikunda. Altogether 55 hotels including tea house were damaged in the entire three major trekking routes (Langtang, Gosaikunda and Thadepati). There are 20 Posts, located at strategic location, in LNP and out of them 12 Posts completely destroyed and 3 partially damaged due to this earthquake. In addition to this, the earthquake destroyed most of UC offices as well. The landslide triggered by earthquake swept trees at many places. However, the loss of biodiversity has yet to be assessed. The restoration and renovation of infrastructures are being taken place.

9.7.2.2 Issues

- Damage by earthquake to buildings and other infrastructures of the Park including trekking trails, bridges, culverts, interpretation center;
- Damage to community infrastructure and private property in the Park and BZ;
- Building codes to construct earthquake resilient buildings in LNP and BZ not followed properly; and
- Inadequate construction materials available for the households damaged in the BZ.

9.7.2.3 Strategies

- Form disaster risk reduction committee under BZMC;
- Mobilize schools as important centre for propagating disaster awareness;
- Develop curricula on DRR training for different target groups and implement training programmes for all stakeholders;
- Encourage and support BZ communities and key stakeholders for developing and implementing awareness-raising programmes on disaster risk reduction and preparedness;
- Develop and implement, on a priority basis, special DRR programmes for the most vulnerable segment of the society – the marginalized and the Dalit groups, women's' groups, handicapped and the disadvantaged groups, children and the

elderly groups;

- Establish a robust communication system that can be used during emergency situation as well as in preparedness phase; and
- Enhance emergency response capacities of community at municipality and rural municipality level.

9.7.2.4 Activities

- Procure equipment that is required to establish GIS-based Disaster Information Management System (DIMS) at head quarter;
- Provide training to the staff to establish GIS based DIMS;
- Form disaster risk reduction committee and strengthen it;
- Prepare hazard-specific Standard Operating Procedures (SOPs) for specific disaster risk reduction;
- Carry out study to identify the disaster risk in the pertinent sectors;
- Pilot early warning system at Timbu (flood prone area);
- Provide support to Eco-clubs to organize disaster risk reduction awareness activities;
- Prepare manual of disaster risk reduction (DRR) training to different stakeholders;
- Provide training to Park staffs, security personnel, BZ communities and key stakeholders towards managing disaster risk especially during emergency period as well as post disaster period;
- Reconstruct the severely damaged buildings of the Park and security posts;
- Maintain the buildings of the Park and security posts with minimal damage;
- Assess the impact of earthquake in species, ecosystem as well as ecological function and processes in the Park;
- Implement the building codes developed by GoN to promote earthquake resistant building construction in the Park and its BZ;
- Maintain the major trekking routes including the damaged bridges and culverts in the Park and BZ;
- Provide support to reconstruct community infrastructures damaged by earthquake;

9.7.3 Solid waste management in Langtang region

9.7.3.1 Context

Most of the solid waste generated in the Park is composed of organic matter, paper, and minor reused waste that are mainly reused for cattle feeding and manure, while disposal of other non- degradable categories of collected waste (glass, metal, and plastic) is not properly managed. Particularly, burning or disposal in open dumps poses a great hazard to environmental, human, and animal health, as most dump sites situated close to water courses are prone to regular flooding during the rainy season, thereby directly contaminating river water. Pollutants and microbiological contamination in water bodies were found and anthropogenic activities and hazardous practices such as solid waste dump sites, open defecation, and poor conditions of existing septic tanks are suggested as possibly affecting water quality.

The pollution problem is now no longer confined to solid waste. Water sources along the major trails are being contaminated from improper affluent discharge, human waste, and garbage dumping. Sewerage and toilet waste can be found piped into nearby streams and rivers. The Park will actively participate in control of various forms of pollution and attempt to make the control system more sustainable by involving the local people with support from other stakeholders and focus on reducing waste generation and proper disposal systems.

Waste management problem is severe in Kyanjin valley, Gosaikunda and Langtang village. Now, the Park has registered the Gosaikunda and Langtang Kyanjin Hotel and Lodge Management Sub-committees and these committees are fully responsible to maintain the trekking route clean. Park conducts cleaning campaign annually and has registered Dhunche Sanitation Committee (the committee is completely chaired by women) to maintain sanitation in District Headquarter, Dhunche. The local's involvement in clean campaign is encouraging but the waste problem in wilderness trekking areas like Langsisa and Panchpokhari are still unsolved.

9.7.3.2 Issues

- Inadequate knowledge on proper disposal and recycling of the solid waste among stakeholders;

- Inadequacy of co-ordinated effort to address the issue of garbage and pollution;
- Lack of guidelines for properly managing the garbage; and
- Inadequacy of the fund required for maintaining sanitation in the Langtang region.

9.7.3.3 Strategies

- Develop strategic framework together with technical guidelines on organic composting and waste disposal to guide Households (HHs), hotels, lodges in effective Solid Waste Management (SWM);
- Reduce, reuse, and recycle (3R) should be promoted which could be realized with better public awareness and initiatives by BZ communities and hotel and lodge operators;
- Strengthening the capacity of BZ communities, hotel and lodge operators to manage waste;
- Promote public-private partnership for efficient operation and management; and
- Coordinate with Department of Tourism, Nepal Tourism Board (NTB) and other stakeholders to monitor the waste management practices by tourism entrepreneurs in the Park and BZ.

9.7.3.4 Activities

- Prepare sanitation guideline that requires that every lodge and restaurant must have adequately and properly constructed toilets with leak proof septic tanks and waste water soakage pits to prevent contamination;
- Prepare a manual to manage and dispose various waste produces;
- Manage garbage with special focus on reducing production, recycling, and destruction by prohibiting the use of polluting items such as plastic bags and glass bottles;
- Construct dumping site at Timure, Syaphrubesi, Dhunche, Kalikasthan;
- Ensure that large settlements in the Park have proper sanitation infrastructures including storm water drains, toilets, incinerators, collection and recycling systems;
- Undertake demonstration on garbage management in order to demonstrate proper techniques of garbage disposal and recycling techniques to stakeholders;
- Support to construct high quality, hygienic “user pay” toilets and washhouse facilities on private property along the main trekking routes; and
- Support Eco-club to organize clean up campaigns.

CHAPTER 10.

BUFFER ZONE MANAGEMENT

10.1 Introduction

10.1.1 Background

Declaration of BZ and subsequent BZ management programme has positive inkling for soliciting public support in biodiversity conservation. To overcome the excessive anthropogenic pressure on Park like poaching, collection of NTFPs, waste disposal, illegal timber harvesting and spin off benefits of conservation to local communities like tourism and community development. In order to ensure people's participation in conservation, the fourth amendment (BS 2069) of NPWC Act, 2029 (1973) brought the concept of BZ management in 1993. BZ is an area surrounding a Park or a reserve encompassing forests, agricultural lands, settlements, village open spaces and any other land use. The BZ programme in Nepal is a major strategy to protect the core area of the Park through community-based natural resource management in its periphery. The NPWC Act, 2029, BZ Management Regulations, 1996 and BZ Guidelines, 1999 provide policy and legal framework for BZ management in Nepal. The Act enunciates the BZ as an area designated surrounding (outside the Park and also enclave settlements with in Park boundary) in order to provide facility for use and the regular supply of forest products to the local people along with community development, Income Generation (IG) and conservation awareness programme to solicit participatory conservation minimizing human wildlife conflicts.

In Baisakh 14, 2055 (27 April, 1998), settlements inside the Park areas as well as areas adjoining were declared as a BZ of the Park with total area of 418.3 km^2. The BZ is spreaded over Rasuwa (23.20%), Nuwakot (21.42%) and Sindhupalchowk (55.38%) districts. One BZMC, 21 BZUCs and 315 BZUGs were formed to act as a participatory grass root organization aimed at consensus building with a flexible comprehensive approach to meet the needs of local people and safeguard biodiversity. These BZUCs falls in 10 different Rural Municipalities of three districts (Rasuwa-4, Nuwakot-3 and Sindhupalchowk-3). The main aim of the BZ programme is to reduce the natural resources related pressure in to the Park by developing resources in BZ and help to reduce poverty through IG activities as well as fulfilling their essential community development activities. The mainstreaming strategies in BZ will include protection of wildlife, management of wildlife habitats, regular monitoring of wildlife species, regulation for collection of forest products and livestock grazing, conflict minimization and providing relief for any damage by wildlife.

LNP has the highest Park people interface among the Himalayan Parks of Nepal. More than 14963 HH with more than 77207 people depend on Park directly and indirectly. LNP is inhabited by diverse ethnic groups, including Brahmins, Chhetris, Magar, Gurung, Newar, Dalits, but the majority of its population is formed by Tamangs. Out of 45 villages situated within park boundary (Chaudhary, 1998) three permanent settlements are in the upper Langtang valley. These three villages, Gumpadanda (3450 m), Langtang Gaun (3500 m) and Mundu (3550 m) are predominated by Tamangs of Tibetan origin (Bhotias) intermingled with local Tamangs (Beug and Miehe, 1999; cited in Rijal, 2009). Also, since the establishment of LNP, Kyanjin Gumpa (3920 m) is gradually developing into a human settlement as a result of tourism-related economic activities. Agro-pastoralism is still a main occupation in Langtang valley, although tourism in the area is growing, as well as jobs associated with tourism. The tourism only cannot mainstream the conservation benefits of different socio-economic and cultural niche of the human settlement in and around the Park. Agriculture practice is limited to the production of some single seasonal crops like potatoes, wheat, buckwheat and karu (a type of wheat) because of the physiographic as well as climatic adversity. Yak, nak,

chauris (cross breed of yak and cow: female), *jhopkes* (cross breed of yak and cow: male), sheep, goats and horses are common livestock reared in the area.

The long-term objective of BZ programme is to motivate local people and to win their support to involve them in nature and wildlife conservation. The legislation has made a provision of channeling 30-50% of the Park revenue to the communities for the implementation of conservation and community development programmes. BZ programmes are aimed at institutional development (social capital), alternative natural resource development (natural capital), capacity/skill building (human capital), financial management (financial capital), conservation education and awareness, gender and special target group main streaming. In fact, BZ programme is a benefit sharing mechanism which involves sustainable development, landscape level conservation, tourism promotion and reconciliation of Park-people conflict. The BZ management programme also provides relief to the victims of wildlife. The proposed activity and budget for the BZ management is in Annex VII.

The BZ of LNP receives around 50% of the revenue generated by Park for conservation and socio-economic development. The BZMC, the Users Committees and User Groups have to allocate 30% of their budget for conservation, 30% for community development, 20% for income generation and skill development, 10% for conservation education and 10% administration.

Administration and Organization

BZ has been managed on participatory approach through BZMC. The BZUCs elect chairperson among themselves to lead BZMC. The CCO acts as Member Secretary of BZMC and the account of BZMC is operated by joint signature of CCO and BZMC chair. There are 21 BZUCs across all the local bodies of four districts. As per the population normally there is one BZUC per ward (currently), some BZUC cover 2 or 3 wards of rural municipalities and municipalities due to the population size.

During the field work for the revision of the LNP management Plan, it has been found that, LNP map has not correctly represented the bufferzone area particularly in Phalakhu Khola area.

10.1.2 Objectives

The BZ management plan of LNP emphasizes followings objectives of BZ management:

- To implement conservation activities in the BZ so that local people can cater their need of forest resources from BCF and at the same time extending habitat for wildlife;
- To conduct community development programmes to help for fulfilling the basic needs of BZ users communities by using local resources and manpower through active participation;
- To raise living standard of BZ inhabitants through tourism and implementation of IG
- and self-employment activities;
- To improve Park people relationship through awareness raising activities; and
- To coordinate with NGOs, INGOs, developmental projects and local Government to pool the available resources for implementing programme/activities.

10.1.3 Issues related to BZ management

Followings are the outlines of major issues related to BZ management:

- High level of people's aspiration and inadequate BZ fund to meet the demand;
- Poor institutional development;
- Inadequate technical skill and knowledge to manage BCFs;
- Low availability of off-farm employment;
- Low level of literacy;
- Low level participation of under privileged caste and women in BZ committee, sub committees and groups;
- Lack of market access;
- Non to change agroforestry practices in private land consequently high degree of dependency on forest resources;
- Inadequate alternative energy promotion; and
- Low level of linkage to tourism activities with off-trail communities.

It is certain that the management plan prescribes several priority activities, all of which cannot be accomplished only by BZ fund. To surmount the budget constraints, LNP and BZUC should coordinate with DCC, Agriculture Office, DFOs, Women Development Office, Cottage Development Office, Melamchi Drinking Water Supply Project and other supportive governmental

NGOs to support the planned activities through BZUC.

Following strategies are set for BZ management in this plan:

- Give priority to the community development programmes that actually reduce the dependency to local people;
- Build up the resource base of the enclave communities;
- Build up the social capital of marginalized and frustrated communities to increase their living standard;
- Provide the startup capitals support to establish on-farm and off-farm IG activities;
- Start to build up their economic base from what local people have and what they know;
- Plan the programme to utilize the indigenous knowledge and traditional resource.

10.2 Past and Present Management Practices

10.2.1 Forest management

One of the major programmes of the BZ management is to develop alternative forest resource in the BZ through community forestry. Thus, BZ programme emphasizes sustainable management and development of the forests through involving local communities as forest user groups. The programme has been very successful with regard to forest resource development and habitat protection in the BZ and community participation in conservation. Before the implementation of the BZ programme, most of these forests were highly degraded. The BZ forests not only provide forest resources to the community but also secure additional habitats to the wild animals; alternative sites for the tourism and income for community development.

There are 92 BZCFs including 1 BZ Religious Forests in Rasuwa Nuwakot and Sindhupalchowk districts. The BZCFs are equivalent to users' Sub-committee in Institutional structure. However, most of the CFs are still in inchoate stage in their institutional development and have poor co- ordination with respective BZ Committees. Destruction of large tract of birch and abies forest for fuel wood and timber is the challenge for Park management. Local people use firewood, fodder and timber from their respective BZCF. Hydro-electricity can become a very good alternative to replace firewood for cooking and space heating. However, the electricity provided by national grid has been used only for light. The charge of micro hydro-electricity can be cheaper than national grid electricity and such project is yet to be initiated. More importantly, unless the electricity does not replace the heating and cooking stoves, the implementation of micro hydro-electricity cannot contribute to conserve the forest. Similarly, subsidy should be given to install back boiler, improved water mill and other sources of energy as well. For this, a separate energy plan is required for Langtang valley.

10.2.2 Agro-pastoralism

Lowland farmers keep buffalo for diary production like eastern bank of Trishuli river and throughout the southern part of the Park in permanent settlements up to about 2600 m. However, during the monsoon they may be taken up to 3300 m to graze in forests and clearings in western part of the Park. Chauris (crossbreed between yak and cow or bull and nak) are kept by all Tibetan culture groups (Tibetans, Sherpa and Hyolmo). However, many Tamangs have acquired the rearing of chauri husbandry. This may be induced from Syaphru such that they can produce milk and sell it to Chandanbari Cheese factory.

Yaks are predominantly found in Langtang Valley, and also found in upper Tadi Khola and Tempathan. Yaks are brought to lower altitude for cross breeding but Naks do not descend below 3000 m. The herders bring low land cattle from Balephi and Betrawati and highland Yak from Langtang Valley and Kerung to produce chauris. Unlike to other part of Nepal, male of Chauris (Jhoppa) are not commonly used as drought animal in Langtang area.

Herders in Langtang have transhumance mode of lifestyle. They graze *Chauris* below 1800 m in winter months and take their herd in the high altitude in the summer season. Their seasonal movement patterns are, therefore, primarily determined by manuring and ploughing needs, before sowing and after harvesting. During this time, they are tethered at night on the fields and graze during the day in the surrounding grassland, shrub land or forest. They may also be moved up during the monsoon to graze in the same forests and clearings which are used by highland cattle and sheep during the dry period (November to June).

Female of lowland cattle (Bos indicus) are kept mainly for manure production and males are reared as drought animals. Highland cattle (Bos taurus) and their crossbreeds with lowland cattle are found in the northern areas of the Park. Only the male is found in

some areas to the south: it is preferred to lowland bulls for its better adaptation to the cold conditions which prevail while following the transhumance patterns of the Chauri herds.

Baruwal breed of sheep and Sindal breed of goat are commonly reared in Langtang, Melamchi, Golche and Tarkegyang. Sheep herd is always mixed with goat herd because sheep is coward but goat is more agile to guide the sheep in steep mountain slopes and precipitous alpine meadows. They congregate up to 5000 m in high altitude areas. Shepherd shares the most remote part of the pasture land with steep slopes where Chauris and Yaks do not graze.

Livestock is the solid economic foundation in Langtang Region. However, the progressive decrease in rangeland quality is the issue of socio-economic upliftment of Park dependent communities. An important limiting factor for optimum populations of livestock is the availability of winter fodder, however, the continuous decrease in quality of summer pasture has produced unsound competition among herders to approach the grazing land sooner.

10.2.3 Other Land use

The major land use in BZ other than forested areas is human settlements and agricultural lands (Figure 21). There is few tourism villages coming up in the area and trekking trails and electricity transmission lines has been seen as major developmental changes in these areas

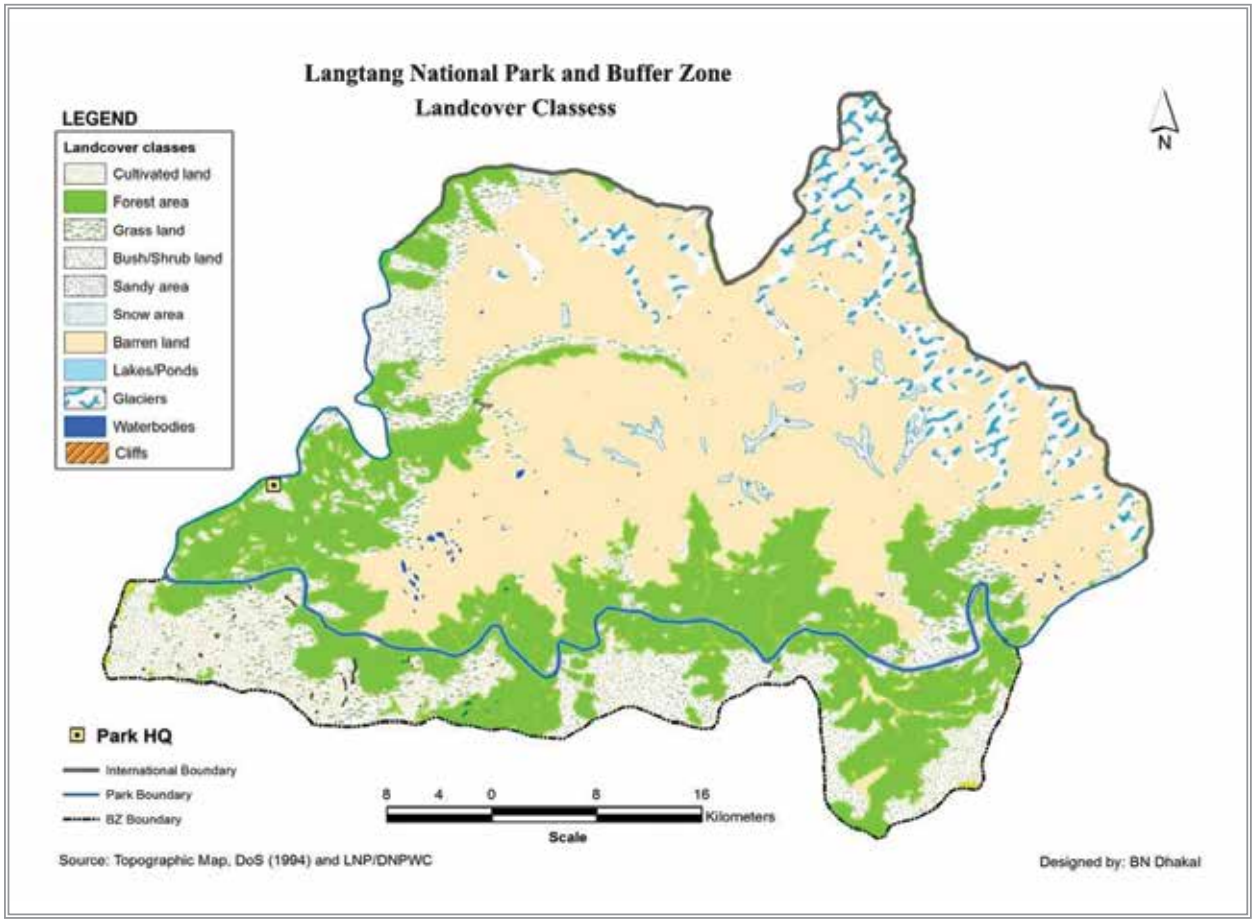

Figure 21: Land Cover Map Of LNP

10.3 Management Strategies

10.3.1 Zonation

The area of the BZ is duly notified and clearly delineated. For management purpose, BZ will be further divided into conservation zone, sustainable use zone and intensive use zone.

10.3.1.1 Conservation Zone

The large forest patches in BZ is equally good as core

area for wildlife. Thus, these areas will be basically managed as extended wildlife habitat where extraction of forest products will be restricted but the area will be allowed for regulated tourism activities if needed.

10.3.1.2 Sustainable Use Zone

The forested area in BZ which is managed by community for dual purpose of meeting the need of forest products for the households and providing refuge for dispersing population of wildlife falls under this category of zonation.

10.3.1.3 Intensive Use Zone

This is the area in the BZ, including all the settlements and private lands, where environment- friendly development activities will be carried out to enhance the livelihood of the people living in the area through various developmental inputs.

10.3.2 Community Development

The aim of community development is to provide need-based and site-specific inputs for the socio-economic development of people residing in BZ so as to reduce the dependency on forest resources. The management of the BZ is oriented towards garnering support of local people through need-based socio-economic development input and participatory forest management for fulfilling their forest product needs. Site specific plans, including livelihood support initiatives, will be the guiding document for implementing developmental initiatives in the respective BZUCs and BZUGs. The BZUCs will keep close contact with rural municipalities to pool the resources for some of the community development activities mentioned in their plan.

10.3.3 Biodiversity Conservation

One of the major objectives to bring the concept of BZ management is to develop partnership between the Park and the people in biodiversity conservation. The involvement and active participation of local people is the main thrust of biodiversity conservation not only in BZ but also in core area. People will be made aware of biodiversity conservation and several programmes will be launched focusing on different aspects of biodiversity conservation.

10.3.4 Tourism promotion

To promote community based eco-tourism in BZ as a means of sustainable livelihoods for the people living in BZ. The BZ of LNP has its own tourism potential and there are several tourist resorts and facilities targeted to tourists, there are only few eco-tourism attractions in BZ. Thus, potential areas to diversify tourism products will be explored in LNPBZ.

10.3.5 Functional co-ordination

The plan for each BZUC/BZUG will be prepared through bottom-up planning process. Participation of women and under privileged community will be ensured in planning and implementation. In order to prioritize the needs and support to be provided, participatory ranking of the users will be done based on their well-being and proximity of the settlement to the Park. In the bottom-up planning process, the executives of the rural municipalities are also invitied to pool the available resources. Prior to approval, the provision for reviewing the plan by BZMC will be made for its refinement and aligning the activities to be supported by rural municipalities and conservation partners.

10.3.6 Capacity building

Park staff needs to be trained in facilitation skill and participatory approaches. The frontline staff also needs training in basic field instruments used in a wildlife management, and in-house orientation training in participatory management. Detailed Human Resource Development (HRD) activities will be planned to include in-house workshops, training, capacity building courses, lecture by resource persons, improvement of skills to positively change staff's perceptions and improve their professionalism in Park-people cooperation and participatory management.

10.3.7 Human-Wildlife Conflict minimization

The reduction of human-wildlife conflict arising in the BZ of the Park is of primary importance to ensure the cordial relation between the Park and people. Human-wildlife conflict is not a pronounced issue in the BZ of LNP. However, there are few reported cases of wildlife damage recorded in the BZ. Crop depredation by Himalayan tahr is a management issue in the BZ over the period.

10.3.8 Income generation and skill development

In order to reduce the dependency of local people in Park resources and in the same time to uplift their standard of living, IG and skill development activities will be carried out targeted towards marginalized communities. The fund of the BZ will be made available to conduct these programmes.

10.3.9 Conservation Education

In order to develop the positive attitude of local people in conserving biodiversity, several programmes will conducted focusing on different profiles of the society, *e.g.* school children, mother groups, and social activists. The resource will be available from the BZ fund and from the Park itself as well.

10.3.10 Traditional use of forest products and consensus

The management and conservation of BZ forest resources is a matter of great concern. The demand of the forest resources right from the fuel wood to timber is realized to be the major challenge in managing forest resources.

Grazing

Grazing is inalienable practice of mountain people since their economy is largely based on range land resources. According to Himalayan National Park Regulation 2036 (1979), local people who are traditionally using the rangeland are allowed to take their livestock inside the Park for grazing.

Timber

Local people inside the Park can collect the timber paying certain royalty to repair /construct house, hotel, school, monastery, community building and other small-scale local infrastructure development works.

The LNP will allows upto 100 cu. ft. timber for construction of new house and upto 50 cu. ft. for repairment of house per household. For timber collection mature trees will be selected from the dense forest. In case of tree having volume more than 100 cu ft. timber will be permitted for 2 or more households. Before allocating a tree, LNP technican will conduct field verification for estimation of timber volumn, and identification of potential environmental and wildlife habitat impact. Trees are seleted from those areas with minimum impacts on environmental and biodiversity.

Fuel wood

People within the Park are allowed freely to collect fuel-wood from dead and fallen logs/branches for cooking and heating purposes. However, felling the standing trees and collecting the fresh wood for fuel wood is prohibited. Camping tourists need to use alternative energy like gas and kerosene for cooking and heating.

National Park provides permit to Chandanbari Cheese Factory and Kyanjin Cheese Factory to collect fuel wood to make cheese from dead and fallen logs/branches. About 1 chatta (one chatta equals to 20x 5x 5 m3 of fuel wood) of fuel wood is allowed for Chandanbari Cheese Factory and 5 chatta for Kyanjin Cheese Factory.

Gravel, stone and soil

Local people can use gravel, stone and soil to construct/repair their houses, monasteries, schools, irrigation channel, and trail without deteriorating the environment. Park gives permission to collect stone, sand and gravel according to existing rules and regulation.

Nigalo collection

Local people are allowed to harvest nigalo to make roof for goth and making basket for domestic use paying royalty in Ashwin-Kartik (September – October).

Lingo (pole for religious flags)

In previous years, every HH inside the Park demanded lingo in Losar and Ghewa occasion and Park provided free of cost. However, this practice has been reduced due to provision of Iron Lingo from the Park in some areas. In other areas, use of wooden lingo is still in vogue.

NTFPs collection

Local people are allowed to collect medicinal plants and NTFPs to fulfill their bona-fide needs according to Himalayan National Park Regulation, 2036.

10.4 Activities

- Support BCFs to renew their OPs;
- Handover additional BCFs to fulfill the demand of fuel, fodder and timber;
- Organize BCF management and refresher trainings;
- Restore degraded forests in the BZ/national forests and CFs outside the Park by artificial or natural regeneration;
- Manage grasslands in the BZ so as to provide additional habitat for wildlife;
- Provide support to establish and maintain nursery in Shikharbesi and Timbu;
- Restore wetlands in the corridors of BZ;
- Support local community to plant trees in the

roadside, river banks, public and private land;

- Provide support to install Improved Cook Stove;
- Construction of culvert and cause way in BZ;
- Provide support to repair and maintenance of agriculture road in the BZ;
- Provide support for drinking water and toilet for differently abled people in the school;
- Provide support to repair and maintenance of small irrigation;
- Prepare livelihood improvement strategy and plan;
- Provide support to establish distillation plant for medicinal and aromatic plants;
- Monitor the collection of Yarsa gumba in Kyanjin, Panch pokhari and Jugal himal Pema Sal area;
- High value agriculture crops (not preferred by wildlife) farming training;
- Introduce improved animal breed to reduce number of unproductive animals;
- Pilot integrated settlement in one of the ward of any BZUC;
- Provide leadership training to executive members of BZUG and BZUC;
- Provide account keeping training to Secretary or Treasurer;
- Provide support to organize cooperative management training;
- Participatory planning and monitoring training;
- Organize training and distribute seeds to promote crops that are not preferred by wildlife;
- Regulation of relief fund for victims of human wildlife conflict;
- Learning Visit of LNP staffs and BZUC/BZUG/ BCF members;
- Educational tour of Eco-club members to learn importance of biodiversity conservation;
- Support 'Eco-clubs' to implement school level conservation awareness activities;
- Implement ToT for the teachers of schools of BZ on biodiversity conservation;
- Produce Information Education and Communication (IEC) material;
- Conduct conservation awareness campaign at school and villages of BZ with conservation focused cultural show, street drama, concert, documentary show, etc.;
- Support CBAPU;
- Provide support to strengthen and institutionalize CBAPU;
- Orientation training regarding conservation legislation to BZ communities;
- Celebrate various conservation days (World Environment Day – June 5, International Biodiversity Day – May 22, World Wetlands Day – February 2) and Wildlife Week-Baisakh from 1 to 7, World Wildlife Day – March 03, CBAPU Day March 03 etc.);
- Produce monthly radio documentary of BZ programme;
- Produce video documentary focusing BZ programme;
- Support BZUC to prepare five-year plan; and
- Organize BZMC meetings.

CHAPTER 11.

EXTRACTION OF RIVER BED CONSTRUCTION MATERIAL

11.1 Introduction

11.1.1 Background

Construction materials such as sand, and stones are the easiest to get in nature and are basic raw material used mostly by the construction industry. Since these materials are easily available in the around Buffer Zone of the National Park and area, it is easily extracted for local peoples need and internal use within the buffer zone and national park. It can get huge volume of sand from the rivers and rivulets of of the area.

At present sand and stone collection from the buffer zone area of Melamchi, Trishuli, Dhobi, Phalakhu/ Paha Khola, and Tadi river is in practice under the permission and monitoring of LNP staffs. To bring sand and stone collection in systematic process it is important to identify the most potential sites with quanity estimates. It is well predicted that, after introducing sand and stone collection formally in the Management Plan of LNP, local people and the park personnel get legal grounds. Eventually this process will benefit local people. Meanwhile it is important to take precaution about the overexploitation and potential induced hazards like river toe cutting, river meandering, river water pollution and lowland floods.

At present LNP has given permission for the collection of sand and stone from riverbed as well as from private land. Meanwhile LNP has also collected revenue from it. However, strategically and plan-wise, collection of sand and stone has not been integrated into the preodic plan of the LNP and BZ. Thus, it is crucial to include it in the management plan for the collection of sand and stone from riverbed as well as from the private land for the better management and to legalize the process. It is to be noted that each year during monsoon season, rivers of Nepal deposit large volume of stone and sand in riverbed of low land. It is well established practices of the collection of river-bed materials for the protection of riverbank and fulfill the local demand vice versa over land 17 years is presented in Table 2.

Table 3. The Trend of collection of construction materials

S.N	Fiscal Year	Stone (m^3)	Sand (m^3)	Aggregate (m^3)	Graval (m^3)	Remarks
1	062/63	713	148	-	-	-
2	063/64	290	0	-	-	-
3	064/65	695.81	90	-	-	-
4	065/66	228	395	-	-	-
5	066/67	1303	145	-	-	-
6	067/68	1013	741	-	-	-
7	068/69	1620	755	-	-	-
8	069/70	1319	758	-	-	-
9	070/71	3160	1813	140	200	
10	071/72	1083	972	-	-	-
11	072/73	435	670	-	-	-
12	073/74	667	470	-	-	-
13	074/75	1172	835	-	-	-

14	075/76	1753	3533	25	100	
15	076/77	4100	6304	-	-	-
16	077/78	4680.5	2650	23		
17	078/79	4275	4430	30		

(Source: LNP annual report 2078/79)

Above table shows that demand of construction materials has been found growing in last five years.

11.1.2 Objective

The objective is to identify the location, quantify and facilitate sustainable collection of sand, gravel and stone for household use and to support local development.

11.2 Issues related to construction material extraction from streams

- Lack of adequate provision and framework to legalize the collection of sand, stone and aggregates.
- Lack of coordination between LNP and local level in monitoring and regulating collection of sand, gravel and stone.
- Lack of Control of illegal collection of sand, gravel and stone.
- Record of LNP shows the collection of Sand, graval and stone has been in practice since 2062/63 but its provision is not included in the management plan.

11.3 Past and Present Scenarios

- High demand of sand, gravel and stone.
- Local level and buffer zone is advocating for sustainable collection of sand, stone and aggregate.
- In the river -bank of Melamchi, Trishuli and Phalakhu river large area of agricultural land has flooded and covered with stone and sand.
- The provision for the collection of river-bed material is crucial for the management of flooded private land and river bank training.
- Beside collection from river bed; sand and stone, has been collected from right of way of road and private land.

11.3.1 Management and monitoring strategies

- Field verification from the LNP staffs and BZUC members.
- Extraction quantity of sand and stone should be limited within the prescribed quantity of management plan.
- Verification of demand.
- Regular monitoring, supervise and record keeping of extracted quantity by field staffs.

11.3.2 Assessment of potential sites and quantity

In LNP and BZ area, there are 6 rivers/stream from where river bed construction materials are being collected. Based on previous records, field observation and field exercise and stakeholder consultations quantity of river bed materials have been estimated. Potential site and estimated volume for collection of river bed materials are listed in following table.

Table 4: Assessment of potential sites and estimated annual collection

S.N.	River	Types of Construction materials	Major Sites	Estimated Volume (m^3)	Remarks
1	Melamchi River	Sand, Stone and Boulder	River banks close to Dorin and Ribarma,	5000	Buffer zone (Stone and boulder deposits due to massive flood in 2078 in the area, which requires separate detail IEE/EIA study for extraction)
			Ribal and Dana,		
			Sarkathali,		
			Dorin and Ribarma,		
			Ambathan,		
			Timbu,		
			Thuldhunga,		

2	Dhobi Khola	Stone and Boulder	Jibjibe and Bumbadanda	252	Buffer zone
3	Kuntun Khola	Sand, Stone and Boulder	Tilake	319	Buffer zone
4	Phalakhu / Paha Khola	Sand, Stone and Boulder	Okhledanda, Ghaderidanda and Larchyan	43038	Buffer zone
5	Tandi Khola	Sand, Stone and Boulder	Negi	7733	Buffer zone
6	Trishuli River (Buffer Zone)	Sand, Stone and Boulder	Bandare	12059	Buffer zone
Total				**68401**	

Collection of small volume of construction material from private land for household purposed will be allowed based on demand and field verification. In case of availability of construction materials in Right of Way of road during road construction, construction material will be allowed to collect only after paying royalty to LNP.

River bed deposit itself is very unpredictable phenomenon, thus annual deposits could be estimated and verified that will be based on actual field assessment. Heavy floods that is unknown can bring large amount of river bed deposits.

11.4 Activities

- Identification of potential rivers and sites.
- Quantification of sustainable extraction and collection of sand, stone and aggregate.
- Documentation of demand, granted permission and collected materials.
- Hoarding Board installation in different sites to aware local people on river bed material extraction and legal provision about it.

CHAPTER 12.

NON-TIMER FOREST PRODUCT

12.1 Introduction

12.1.1 Background

Non-timber forest products (NTFPs) are a collection of biological resources derived from both natural and managed forests and other wooded areas (Peters, 1996). Non-timber forest products (NTFPs) are the most important provisioning services people obtain from forest ecosystems. The importance of NTFPs in rural livelihoods and forest conservation has been well recognized as they provide income generation opportunities to millions of people around the world, and they are also a major source of supplementary food, medicines, fiber, and construction materials. NTFPs are culturally important, cheap and accessible biological resources to local people. The demand for NTFPs is increasing not only in local markets, but also in international markets. Therefore, some important steps to facilitate integration of NTFPs into the development agenda that benefits local communities include identifying potential species having trade value and conducting research on their ecology and sustainable harvest levels; conducting analyses on value chain and use patterns; and analyzing trends and challenges in marketing and management.

In the LNP's buffer zone forest at Nuwakot district, Dhasingre (*Gaultheria fragrantissima*), Chutro (*Berberis asiatica*), Angeri (*Lyonia ovalifolia*) and Jhigane (*Eurya acuminata*) are the prominent NTFPs. Argelo (*Edgeworthia gardneri*), Dhasingre (*Gaultheria fragrantissima*), Angeri (*Lyonia ovalifolia*) and Chutro (*Berberis asiatica*) NTFPS are commonly found in sindhupalchok district. Local people have perceived that the most useful NTFPs for the Nuwakot district are Dhasingre (*Gaultheria fragrantissima)*, Argelo (*Edgeworthia gardneri*), Nigalo (*Drepanostachyum falcatum)*, Sisno (*Girardinia diversifolia)*, Chiraito (*Swertia chirayita*) and Sisno (*Urtica dioica)* respectively. Most of the local people provided their interest to extract essential oil from Gaultheria fragrantissima. According to local people commercially most useful NTFPs in LNPBZ of Sindhupalchok district were *Edgeworthia gardneri*, *Gaultheria fragrantissima*, *Swertia chirayita*, *Juglans regia*, and *Rubia manjith*. In this area people were mostly interested to extract bark of *Edgeworthia gardneri* for making paper. Currently there is a Dhasingre oil-processing unit running in Syaubari, Kalika rural municipality.

During the field study, Dhasingre is found widely distributed in BZ of all three district, Rasuwa, Nuwakot and Sindupalchwok and few area with in the core area LNP. Forest Area with abundant of Dhasingre is listed in table below.

Table 5. Dhasingre abundant area

Rasuwa District	Nuwakot District	Sindhupalchwok District
Core Area of LNP		
Forest area of Gosaikunda RMP ward No. 5 and 6 1. Syaphrubesi 2. Sano Bharkhu 3. Between Bhimali and Nagun	-	-

Buffer Zone		
Forea area of 1. Kalika RMP Ward no. 1, Around Ramche 2. Naukunda RMP ward no. 3 in Between Thandar and Sangyal 3. Naukunda RMP ward no. 3 in Upper catchment area of Sangachaur (Naukunda RMP)	Forest area of 1. Tadi RMP ward no. 2 in Pahare Danda 2. Tadi RMP ward no. 2 in Chilaune village 3. Dupcheshwor RMP ward no. 7 Mala Bhanjyang	Forest Area of 1. Panchapokhari Thangpal RMP ward no. 2 in Khasreghyan 2. Helambu RMP ward no. 2 in Keshare 3. Jugal RMP Ward no. 2 in Thaldanda 4. Jugal RMP Ward no. 2 in Baruwa 5. Jugal RMP Ward no. 2 in Kamikharka Danda 6. Jugal RMP Ward no. 2 in Balephikhola around Jhulkedand to Domu and Goltegaun to Ghumthan.

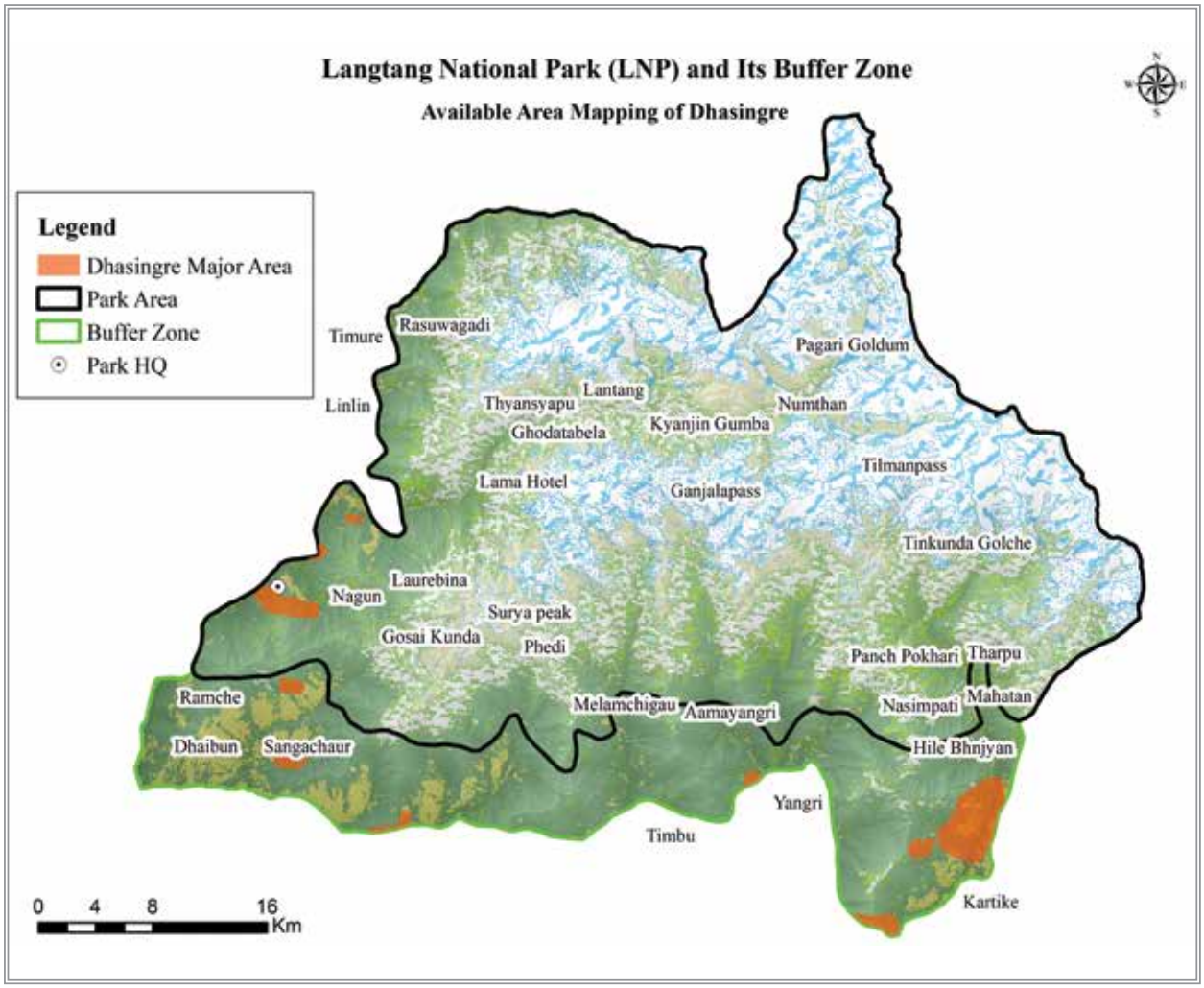

Figure 22: Distribution of Dhasingre in the LNP and Its Buffer Zone Area

Similarly, those forest area with abundant Lokta are listed in the table below.

Table 6 Lokta abundant area

Rasuwa District	Nuwakot District	Sindhupalchwok District
Core Area of LNP		
1. Gosaikunda RMP ward no. 5 in Chandanbari forest 2. Gosaikunda RMP ward no. 6 in Gosaikunda Danda	-	Upper catchment area of Namsan Khola above Melamchigaun village.
Buffer Zone		
-	1. Dupcheshwor RMP Ward No. 7 in Mala Bhanjyan 2. Dupcheshwor RMP Ward No. 7 in Hile 3. Dupcheshwor RMP Ward No. 2 in Yuldu Bhanjyang	1. Helambu RMP ward no. 6 in Bhanjyang Khara to Mane Mendan 2. Panchapokhari Thangpal Ward no 2 in Gankhark 3. Panchapokhari Thangpal Ward no 2 in Bakan 4. Helambu RMP ward no. 1 in Hegan to Tarkeghyang 5. Jugal RMP Ward no. 2 and 3 in Tharpu Mahata and Chitrethan Danda

Figure 23: Distribution of Lokta in the LNP and Its Buffer Zone Area

Pine forest is widely distributed in the buffer zone of LNP. Area with dense Pine Forest, collection of pine resin is most potential NTFP for the BZCF. Pine resin will be collected according to guideline provided in Pine Tapping Guideline, 2064.

Collection of NTFP from BZ

SN	NTFP	Potential Area	Annual Allowable Collection	Unit
1	Pine Resin	1. Chaulane Pakha BZCF, Naukunda-5	20,000	Kg
		2. Sallaghari BZCF, Naukunda-5	62,000	Kg
		3. Lamachet BZCF, Naukunda-5	20,000	Kg
		4. Rudra Devi BZCF, Naukunda 5	19,000	Kg
		5. Chihan Danda BZCF, Naukunda-5	12,000	Kg
		6. Ringjong BZCF, Naukaunda-5	19,000	Kg
		7. Thalang BZCF, Naukunda-5	18,000	Kg
		8. Simal Danda, Samarthali 1 and 2	18,000	Kg
		9. Nirkubhume BZCF, Samarthali 4	17,000	Kg
		10. Dhaireni Pakha BZCF, Kalika 2	18,000	Kg
Total			**223,000**	Kg
2	Dhasingre	1. Dhapare BZCF, Sipapokhare-2	25,000	Kg
		2. Kaaldang BZCF, Panchpokhari-2	40,000	Kg
		3. Nabile Bhongre BZCF, Panchpokhari-2	70,000	Kg
		4. Khuyet Kami, Kharka BZCF, Panchapokhari-7	50,000	Kg
		5. Gobreokhreni BZCF, Panchpokhari 7	33,000	Kg
		6. Shivaparbati BZCF, Jugal 1	12,000	Kg
		7. Devisthan BZCF, Gaunkharka 6	40,000	Kg
		8. Thapang BZCF, Gaunkharka 5	25,000	Kg
		9. Namunadanda BZCF, Gaunkharka 7	30,000	Kg
		10. Pansekharka Pangbu BZCF, Gaunkharka 8	12,000	Kg
		11. Dupcheshwori BZCF, Rautbesi-7	10,000	Kg
		12. Syaubari BZCF, Laharipauwa-8	60,000	Kg
		13. Yunjo Bhumi BZCF, Naukunda-2	40,000	Kg
Total			**447,000**	**Kg**
3	Lokta	1. Namunadanda BZCF, Gaunkharka 7	10,000	Kg
		2. Thapang BZCF, Gaunkharka 5	9,000	Kg
		3. Devisthan BZCF, Gaunkharka 6	20,000	Kg
		4. Pansekharka Pangbu BZCF, Gaunkharka 8	7,500	Kg
		5. Balangj Dupcheya BZCF, Ichowk 9	5,000	Kg
		6. Shivaparbati BZCF, Jugal 1	8,000	Kg
		7. Khuyet Kami Kharka BZCF, Panchapokhari-7	8,000	Kg
		8. Nabile Bhongre BZCF, Panchapokhari-7	9,000	Kg
Total			**76,500**	Kg

In case the NTFP collection from private land is requested, LNP technical will conduct field monitoring and verification before providing permits.

Yarsagumba

Yarsagumba (*Cordyceps sinensis /Ophiocordyceps sinensis*), also known as "Caterpillar fungus," is a unique and highly prized medicinal herb found in the high-altitude regions of Nepal, particularly in the Himalayas. It is a rare and valuable natural resource that has gained significant attention for its medicinal and economic importance.

Yarsagumba is a parasitic fungus that infects and eventually mummifies the larvae of ghost moths. The

resulting combination of the caterpillar and the fungus is believed to possess various health benefits and is highly sought after in traditional Chinese medicine.

The harvesting of Yarsagumba has become a lucrative activity in Nepal, especially in regions like Dolpa, Manang, and Mustang. In case of LNP, Yarsagumba is also available in few location and it is being collected annualy from the core area. The harvesting season usually takes place in the month of Baisakh and Jestha when the fungus emerges from the ground. It is a labor-intensive process that requires local communities and harvesters to venture into treacherous mountainous terrain. LNP plan to regulate Yarsagumba collection for the first time in the area.

The economic value of Yarsagumba has led to intense competition and unregulated harvesting practices. As a result, there are concerns about over-harvesting and unsustainable collection methods, which can have adverse ecological impacts and deplete the natural population of Yarsagumba.

Yarsagumba harvesting in Nepal has significant socio-economic implications, providing income and livelihood opportunities for many rural communities. However, it is crucial to strike a balance between economic gains and environmental sustainability to protect the long-term viability of this unique and valuable natural resource.

Table 7: Yarsagumba collection quantity

S.N.	Place	Quantity (Kg)	Remarks
1	Pangsanglek	3	Annual quantity
2	Kyanjin gumba	5	
3	Lansisa Kharka	2	
4	Panchpokhari Lek	30	Collection in alternate 3 years, next upcoming collection year-BS 2081
5	Tembathan Lek	40	

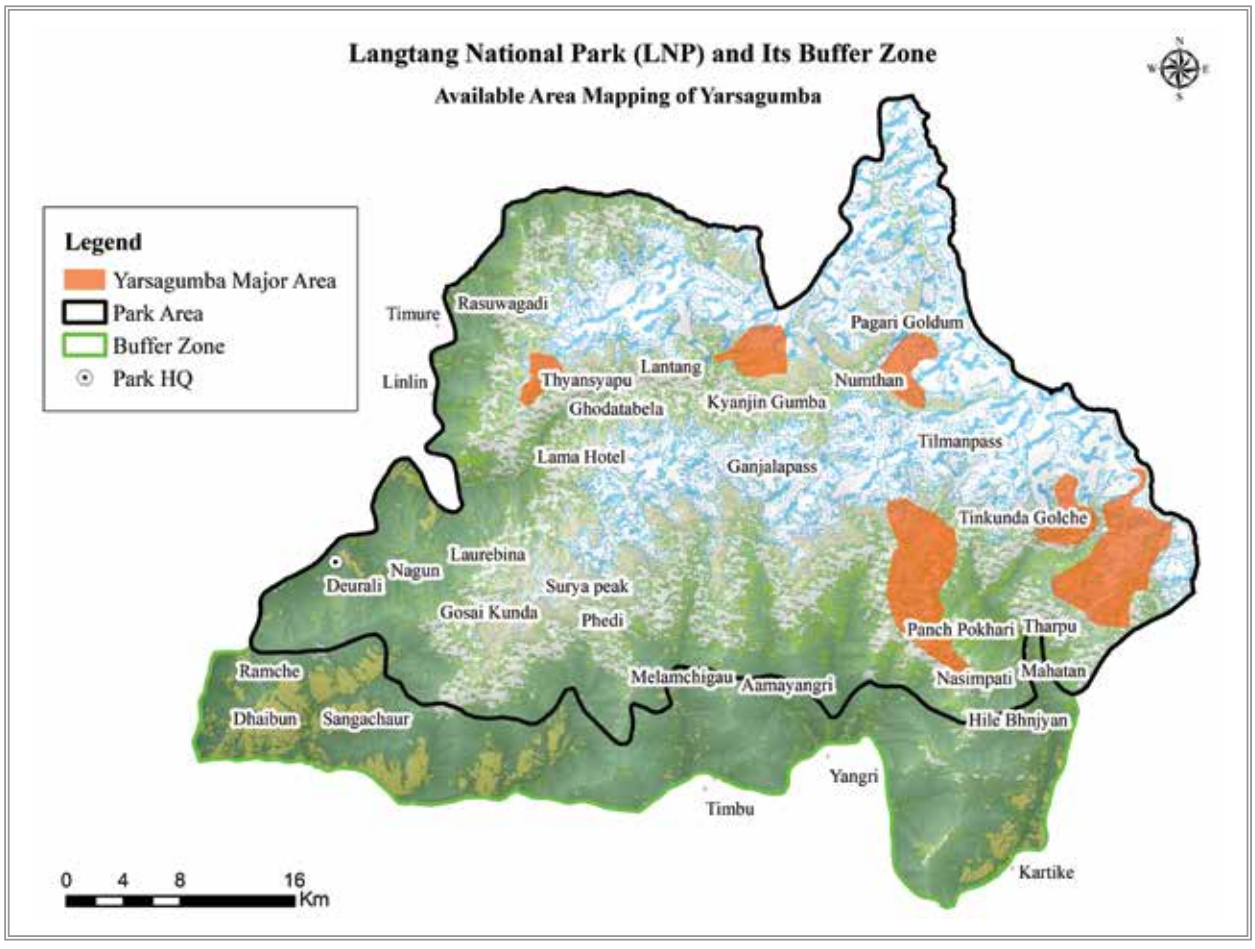

Figure 24: Distribution of Yarsagumba in the LNP and Its Buffer Zone Area

12.1.2 Objectives

- Sustainable collection of Dhasingre, Argelo, Setakchini, Lokta, Chiraito, Jatamansi and Satuwa from the buffer zone forest.
- Sustainable collection of Yarsagumba form LNP core area.

12.2 Issures related to NTFPs

- NTFPs like Yarsagumba, Lokta, Panchaule, Chiraito and Jatamansi etc. are illegally collected and traded in eastern and north western side of the Park.
- Plants are sensitive to the local climatic condition. Small changes in the microclimate may differs their distribution pattern.
- Most of BZ community forest has not included NTFPs explicitly in their operation plan. It has created hurdle in collection of NTFPs like Dhasingre, Lokta, Argelo, Satuwa, Setakchini.
- The exact amount of NTFPs that should be sustainable collected is unknown to BZ user groups.

12.3 Past and present scenarios

- Local people are allowed to collect medicinal plants and NTFPs to fulfill their bona-fide needs according to Himalayan National Park Regulation, 2036.
- People are allowed to collect NTFPs from buffer zone.
- Yarsagumba has been collected from core area LNP (Tembathan and Langtang).
- Currently, there is a Dhasingre oil-processing unit running in Syaubari, Kalika rural municipalities.

12.4 Management and monitoring strategies

- Effective management through sustainable harvesting and market driven commercialization for development of NTFPs sector.
- Major harvestable NTFPs are lokta, dhasingre, pine resin and yarsagumba. Lokta, dhasingre and pine resin will be collected from BZ CF whereas, yarsagumba will be collected from core area of LNP.
- Resouce inventory is necessary for the sustainable harvesting of lokta, dhasingre and pine resin to quantify the annual allowable harvest by BZ CFUGs.
- Analyze use patterns, trends, and challenges in traditional use and management of NTFPs.
- Monitoring the collection of NTFP.
- The study shows Seabuckthorn, *Satuwa*, and *Argeli* are potential NTFPs for further studies, sustainable harvesting and management.

12.5 Activities

- Develop and promote NTFP based enterprises.
- Commercial production of NTFPs shall be encouraged in private land of local people.
- Providing training on processing and marketing of NTFPs.
- Amendment of Operational Plan of BZ community forests.
- Detail survey of NTFPs to estimate quanity and quality.
- Regular monitoring of NTFPs and ensure sustainable harvesting supervision.

CHAPTER 13.

ACTIVITY, BUDGET AND LOGICAL FRAMEWORK

13.1 Activity and Budget

The budget required for the implementation of the activities prescribed for the period of five years including LNP and its BZ is estimated and presented in Annex VII. The summary of the activities and budget of the management plan for LNP and its BZ for the period of five years (2077/78-2081/82) is presented in Table 3. For the implementation of all the activities, NRs. **1,061,967,962.00** is proposed where as the administrative and programme budget cost is 23.35% and is 76.65% respectively. The plan gives much weightage to BZ, Park Protection, Research and Study, Tourism management and Habitat management which is around 37%, 15.62%, 6.64%, 6.61% and 5.07% respectively

Table 8: Activity heading and budget of five year LNP and its BZ

(Amout in thousand Rupees)

SN	Activities	Year					Total Amount	%
		1st Year	2nd Year	3rd Year	4th Year	5th Year		
1	Park protection	43353	40166	33113	19266	17524	153422	14%
2	Habitat management	9375	10305	10159	11905	8070	49814	5%
3	Species conservation	2310	3603	2459	7725	16542	32639	3%
4	Fire control	1000	838	1425	2438	1900	7600	1%
5	Wildlife health management	505	530	886	1156	606	3683	0%
6	Encroachment control	1475	1496	1568	1639	1710	7888	1%
7	Research and study	9937.5	13101.3	9110	23436.3	37190	92775	9%
8	Tourism development	20995	10742	10584	17923	27711	87955	8%
9	Climate change and Solid waste management	3800	4778	3803	7220	3633	23234	2%
10	BZ management	90616	75022	69787	65089	62754	363268	34%
11	Extraction of riverbed Construction materisla				50	40	90	0.01%
12	None-timber forest product				5150	5150	10300	1%
13	Office management	41645	43871	45864	47949	49973	229302	22%
Total		**225012**	**204452**	**188758**	**210947**	**232803**	**1061970**	100%

Table 9: Cost of the plan and available budget for LNP (Amount in thousand Rupees)

Description	Budget					
	FY 2077/78	FY 2078/79	FY 2079/80	FY 2080/81	FY 2081/82	Total
Cost of the management Plan	225012	204452	188758	210947	232803	1061970
Total allocation in LNP by GoN and projected budget for LNP	118373	104952	109722	114493	119263	566803
Total allocation in percentage	52.6%	51.3%	58.1%	54.3%	51.2%	53.4%

13.2 Logical Framework Analysis

Table 10: Log Frame of LNP

Narrative Summary	Objectively Verifiable Indicators (OVI)	Means of Verification	Assumptions
A. Vision			
To conserve and maintain biodiversity, cultural values, and scenic beauty of the Park's landscape for the benefit of the present and future generations of human being			
B. Goal			
To protect, conserve and promote biological, geological, and cultural environments and the wildlife to contribute to the well-being of local people	Enhanced diversity richness and status of endangered species, increased value of LNP and BZ, improved living standard of local community	• National inventory reports • APR • Progress Report of conservation partners • Human Development Index reports • Living standard survey reports • Study Reports and Research Papers	Supportive policy and priority of the GoN No occurrence followed and land slide
C. Purpose			
To conserve and enhance biodiversity at species, ecosystem and landscape levels by focusing habitats and sites of special importance and giving high priority to nationally protected and globally threatened wildlife species linking with other ecological networks in order to maintain ecological functions and processes	• Improved habitat for wildlife, • Area of Gosaikunda lake, Ramsar site, is maintained and quality of water is improved, • Increased number of Red panda, Snow leopard, Musk deer, Black bear and Assamese monkey , • Reduced number of illegal cases	• APR • Progress Report of conservation partners • GIS mapping of wetlands, • Lab test of water quality of wetlands, • Study Reports and Research Papers • Articles in the newspaper • Documentary	• Adequate budget and staffprovided to implement management activities

Narrative Summary	Objectively Verifiable Indicators (OVI)	Means of Verification	Assumptions
Improve and maintain watershed capability of Langtang region by protecting at catchment level in sustainable way to generate electricity, provide drinking water and irrigation to downstream communities	• Generation of total MW generated by hydropower company, • No. of HH benefitted by drinking water and irrigation facility, • No. of environment mitigation measure undertaken by different projects based on water source.	• APR • Progress Report of conservation partners • Progress report of hydropower company, • Socio-economic report by drinking water and irrigation project, • Study Reports and Research Papers • Articles in the newspaper • Documentary	• Adopted resilient and adaptive measure of climate change • Hydropower company and local people relationship remains good
To promote adventure, nature, cultural and religious tourism in a sustainable manner and regulate it in such a way that it maintains ecological integrity, cultural heritage and flourishing local economy	• Increased visitors'satisfaction, • increased employment opportunities	• Progress Reports • Visitors survey reports • Economic survey reports • Media reports • DNPWC reports,	• Conservation-friendly tourism promotion
To enhance community partnership on biodiversity conservation by increasing awareness and improving livelihood of local people	• Social and Economic development of local community improved, • Increased participation of local people in conservation activities, • Increased conservation awareness • Increased conservation friendly livelihood opportunities, • Conservation communities are strengthened and institutionalized,	• APR • Progress Report of conservation partners • Interview of local people in newspaper, radio and TV • Best Practice and Lesson Learnt Reports	• BZ communities are unified and positive to cooperate with effective co-ordination, collaboration and networking
To renovate and construct infrastructures those were damaged by earth quake and strengthen institutional capacity through research, capacity building, co- ordination and collaboration	• Updated database • The LNP staffs delivers both technical and management services effectively and efficiently • The delivery of services provided by Conservation committers are improved • Increased joint venture activities, projects and programmes	• APR • Progress Report of conservation partners • HRD reports • Media reports • DNPWC reports, records of correspondence	• The staffs are not frequently transferred • Staff motivation is continued

Narrative Summary	Objectively Verifiable Indicators (OVI)	Means of Verification	Assumptions
Output 1			
1.1 Improvement and restoration of habitat required for Red panda, Snow leopard, Musk deer, 1.2 Maintenance of viable population of Red panda, Snow leopard , Musk deer, black bear in the Langtang region 1.3 Reduction of illegal trade of wildlife parts in Nepal-China border	• Ha. of rangeland restored and improved • No. of wetlands restored and created • No. of Red panda, Snow leopard and Musk deer harbored at LNP • No. of illegal trade of wildlife parts decreased	• LNP habitat monitoring report, • Assessment report of Red panda, Snow leopard and Musk deer, • Progress report, • LSO progress report, • Research reports	• Climate change does not induce invasive species, forest fire and shortage of water
Output 2			
2.1 Hydropower company generate electricity mitigating environmental impacts 2.2 The local eople in the downstream communities are benefitted by drinking water 2.3 The agricultural productivity is increased from the irrigation facility	• No. of hydropower • with MW capacity running smoothly, • No. of trees planted as per the norms of GoN, • No. of soil conservation • measures adopted by hydropower • company, • No. of hh benefitted by drinking water project • Metric tons of agriculture crops increased, • No. of hh raising their quality of life	• APR • Progress Report of conservation partners • Progress report of hydropower company, • Socio-economic report by drinking water and irrigation project, • Study Reports and • Research Papers • Articles in the newspaper • Documentary Living standard • survey reports • HDI report	• The watershed • capability of Langtang region is maintained and improved • protecting water source in sustainable manner by conserving it at the catchment level to generate electricity, providing drinking water and irrigation to downstream communities • adopting mitigation measures

Narrative Summary	Objectively Verifiable Indicators (OVI)	Means of Verification	Assumptions
Output 3			
3.1 Establishment of visitor information centre (VIC) in the sectors 3.2 Establishment of new trekking route 3.3 Increased no. of tourism based private entrepreneurs 3.4 Operation of cultural events and establishment of cultural museum, 3.5 Initiation of tracking of trekkers with smart card, 3.6 Satisfaction of visitors through tourism and services and facilities received 3.7 Increased overage of LNP in media	• No. of VIC • established, • Meters of trekking trail created, • No. of increased tourism based private entrepreneurs, • No. of cultural events organized, • Reduced no. of tourist lost in the Langtang region, • No. of tourist expressing • Satisfaction in visiting • LNP • No. of news, article, interview and video documentary published, aired and broadcasted in newspaper, radio and TV respectively	• Progress report, • Conservation partners progress report, • Tourism products, • No. of tourism services operated, • Clippings of news articles, • Cultural Museum,	• Political stability is • maintained and improved
Output 4			
4.1 BCFs are handed over to the local community 4.2 Forest and rangeland developed in private and public land 4.3 Increased income of local people 4.4 Reduced human-wildlife conflict 4.5 Increased participation of local people in conservation activities	• No. of BCFs handed over • Ha. of forest and rangeland in public land, • No. of drinking water scheme supported to community people, • No. of toilets supplied with water facility, • No. of children going • to school, • No. of people benefitted by health post, • No. of people supported by skill development trainings • No. of people operating small enterprises • No. of people's participation increased in conservation activities,	• Progress report, • Monitoring report, • Progress reports of other GoN offices, • Project completion reports, • Public audit reports, • Meeting minutes	• There is adequate forest to be handed over as BCF and available of public land to develop forest

Narrative Summary	Objectively Verifiable Indicators (OVI)	Means of Verification	Assumptions
Output 5			
5.1 The infrastructures damaged due to earthquake are renovated; 5.2 LNP staffs and BZUC committee members are trained in both technical and management aspect; 5.3 Law enforcement is smooth without any conflict 5.4 Increased involvementof conservation partners in institutional strengthening	• No. of infrastructures • renovated; • No. of LNP staffs and BZ Committee members benefitted, • No. of reduced conflict between LNP and community members while law enforcement, • Resources pooled in conservation	• Training reports, • Progress reports • Records of conflict between LNP and community members	• Political members cooperate with LNP

Activities	In NRs.
Park protection ◆ Construction of 4 office quarters at Dhunche; ◆ Construction of 5 Posts (Briddim, Kynajin, Bhotang, Lengsi, Talukeshari); ◆ Construction of 5 buildings for security unit (Mailung, Lengsi, Bhotang, Cholangpati, Tempathan); ◆ Construct, Maintenance and Repair of 15 wooden bridges; ◆ Maintenance and repair buildings of head office, sector office, Range ◆ post, post and buildings of security offices; ◆ Maintenance, repair and improvement of kitchen and toilets; ◆ Electrification at sectors and post through national grid or solar PV; ◆ Construction of reservoir and drinking water facility in posts; ◆ Provide clean and safe drinking water facility in 10 posts; ◆ Construct, maintenance and repair of 15 wooden bridges ◆ Installation, repair and maintenance of CCTV cameras in Dhunche, Timure, Kalikasthan, Salle, Syaphrubesi; ◆ Install BTS tower coordinating and with the support of telecom companies; ◆ Procure 3 metal detectors to identify iron set leg traps probably used by poachers to trap wildlife (especially for musk deer and bear); ◆ Orient army staff for anti-poaching, create a flying squad including army staff at Park Headquarter; ◆ Support to informers in purchasing information of mendacious persons operating inside and periphery of the Park and BZ; ◆ Undertake sweeping and camping operation; ◆ Procure field gears for patrolling in the high altitude; ◆ Organize co-ordination meetings with stakeholders; ◆ Procure binoculars; ◆ Procure digital camera; ◆ Procure GPS; ◆ Procure 5 motorbikes; and ◆ Procure 2 four wheel drive vehicle.	**153,421,500**

Activities	In NRs.
Habitat management ◆ Undertake spatial mapping of rangelands in both the Park and BZ; ◆ Carry out spatial mapping of wetlands in both the Park and BZ; ◆ Conduct habitat mapping of important (critical) wildlife habitat and areas of high conservation significance; ◆ Conduct long-term research on invasive species and rangeland dynamics; ◆ Assess water quality of wetlands in regular intervals; ◆ Clean wetlands and water hole on regular basis; ◆ Support researchers on studies to control invasive species; ◆ Undertake interventions to control invasive species; ◆ Carry out control burning activities in fire prone areas before pilgrimage season, along the road and trail; ◆ Reclaim degraded range land to increase range land productivity; ◆ Provide support to strengthen RMC; ◆ Prepare land use plans for critical habitats of Red panda outside PA's and manage them on the basis of land use plans; ◆ Construct self-guided Red panda habitat eco-trail outside the core zone; ◆ Construct physical barriers to prevent intrusion of cattle from outside ◆ Red panda core area; ◆ Provide support to improve range land infrastructures like chauri trail, bridge, water hole etc at Chedang, Dhokachet, Dangdung Kharka to reduce grazing pressure in Polangpati area; ◆ Provide support to extend satellite red panda conservation zone in ◆ Panchpokhari and Magingoth; ◆ Construct infrastructures to protect the confluence of Kerung and Lende khola; ◆ Control landslide and support to soil conservation measures; ◆ Connect various Red panda habitat through biological corridor; ◆ Undertake habitat suitability study for Snow leopard at Kyanjin and Ghodtabela; ◆ Carry out study to identify priority habitat, critical corridors and climate refugia for Snow leopards in the face of climate change; ◆ Assess possibility of conservation zone at Panchpokhari and Dudhkunda as a Snow leopard habitat; ◆ Undertake study of status of Chojang Valley as it is important for trans boundary conservation of Snow leopard; ◆ Carry out mapping of climate variability and vulnerability of Snow leopard habitats in order to manage its habitat by addressing the potential impacts of climate change; ◆ Prepare rangeland development plan for Upper Langtang Valley to reduce the grazing pressure in core areas like Larix conservation area and Kanjin musk deer conservation area; ◆ Carry out study to identify key habitat for Musk deer followed by protection and management of its habitat; ◆ Manage key areas for regular supply of forage for Musk deer; ◆ Undertake study to identify critical pangolin habitat and map the priority sites; ◆ Undertake study regarding development and other construction works in the prime/ designated pangolin habitats to implement mitigation measures; ◆ Identify indicator species to assess habitat condition; ◆ Repair and maintain micro-hydroelectricity project of Kyanjin to reduce pressure of fuel wood; ◆ Maintenance of biological corridor connecting to other PAs; ◆ Distribute grass seed to create grassland in private and public land; ◆ Promote fodder tree plantation in public and private land; and ◆ Support to operate nursery	**49,813,750**

Activities	In NRs.
Species conservation ◆ Conduct research activites to estimate of population of Red Panda, Snow Leopard, Musk Deer, Pangolin and Assamese Monkey. ◆ Identify the Potential threat and map critical pangolin habitat; ◆ Update Flora and Fauna of LNP including study on status of Snow leopard, Red panda and Musk deer and their ecology; ◆ Study ecological impact of tourism with special reference to Red panda conservation; ◆ Random fecal sample of red panda in Ghodtabela/Magingoth and ◆ Polangpati and test it in lab; ◆ Carry out feasibility study about population estimation, grazing and other anthropogenic impact assessment in Panchpokhari and Magingoth area; ◆ Carry out long-term study on ecology and behavior of Snow leopards and their prey in LNP through the use of cutting-edge technologies; ◆ Conduct Snow leopard monitoring on regular basis using standardized Snow Leopard Information Management System (SLIMS) technique to update the status and distribution of Snow leopards and their prey; ◆ Piloting of camera trap for Snow leopard; ◆ Provide support to manage regular supply of forage to musk deer; ◆ Control feral dogs to protect Musk deer from being killed or injured; ◆ Assess local knowledge, traditions, attitude and perceptions on pangolin conservation; ◆ Provide basic postmortem and sample collection instruments in Shermathan, Ghodtabela and Dhunche; ◆ Undertake postmortem of all dead wild animals with the support of veterinary officer of LSO and maintain records; ◆ Collect random fecal materials of all ranges of herbivores including red panda and test it in lab; ◆ Vaccinate domestic animal in collaboration with LSO to reduce communicable diseases; and ◆ Produce information, education and communication materials regarding Red panda, Snow leopard, Musk deer and Pangolin conservation.	**3,26,38,750**
Fire control ◆ Prepare and implement fire control and management plan; ◆ Conduct study to identify fire prone areas by using satellite imagery analysis or web-based fire mapper; ◆ Clear fire line or undertake control burning in the fire lines before the onset of fire season; ◆ Early burning of grasslands on the basis of burning regime and creation of firebreaks annually; ◆ Identify fire prone areas by using satellite imagery analysis or web-based fire mapper; ◆ Provide fire fighting equipment to Park post and BCFs; ◆ Establish rapid action squad for fire fighting in park headquarter, sector office and other fire prone areas including local people, park staff and security personnel; ◆ Carry out fire prevention education and awareness activities through interaction; ◆ Prepare fire occurrence reporting and statistical databases; ◆ Mobilize rapid action squad for fire fighting; and ◆ Train Park staff and security personnel and BCF members for fire fighting	**7,600,000**

Activities	In NRs.
Wildlife health management ◆ Undertake research and development works towards management of wildlife health; ◆ Conduct regular snail survey specially in monsoon to detect liver-fluke, cytosomiasis; ◆ Check quality of water of major wetlands regularly; ◆ Coordinate Livestock Service Office (LSO) and conservation partners to provide vaccine to livestock against potential diseases that can be transferred to wildlife; ◆ Support to establish a community based veterinary center with materials required in medical emergencies; ◆ Build capacity of frontline staff to recognize, record and report disease or poor health condition of animals or plants; ◆ Collect random fecal materials of all ranges of herbivores including Red panda and test it in lab; ◆ Report and document mortality of wild animals immediately after it comes to notice of any staff as part of disease surveillance strategy; ◆ Provide basic postmortem and sample collection instruments in Shermathan, Ghodtabela and Dhunche; and ◆ Coordinate with livestock office to undertake post-mortem of deceased endangered wild animals.	**3,682,500**
Encroachment control ◆ Undertake spatial mapping of encroached areas and potential areas where it can expand; ◆ Update encroachment records in both Park and BZ; ◆ Demarcate boundary of Park and settlement area to discourage encroachment; ◆ Carry out fencing, plantation and restoration of evacuated and vulnerable areas; ◆ Issue notice to evacuate the encroached area on a regular basis; ◆ Undertake co-ordination meeting with DAO to resolve the encroachment problem; and ◆ Form committee to address the issues of illegal settlers as unregistered land and encroachers;	**7,887,500**
Research, Monitoring and Capacity Building **Research** **Habitat management** ◆ Study of effect of invasive species to wildlife habitat; ◆ Study of vegetation dynamics and its impact on wildlife habitat; ◆ Study land cover change using geo information and earth observation science. **Species Conservation** ◆ Carry out study of population status of rare and endangered species Red panda, Snow leopard, Musk deer, Clouded leopard, Leopard cat and Himalayan black bear; ◆ Conduct feasibility study to translocate blue sheep in suitable habitats of ◆ LNP to supplement prey for Snow leopards; ◆ Conduct regular snail survey specially in monsoon to detect liver-fluke, cytosomiasis; ◆ Study occurrence/population status of grey wolf and wild dogs; ◆ Study the status, ecology and Guild structure of birds, reptiles and amphibians; ◆ Update digital database using latest topo sheets and satellite imageries; ◆ Study ecological processes that affect in maintaining healthy wildlife population; **Climate Change** ◆ Conduct study of climate change indicators and impact on biodiversity conservation along with identification of adaptation activities, ◆ Climate change impacts and indicators on biodiversity conservation along with adaptation strategies; ◆ Study impacts of changes in precipitation and temperatures to vegetation and grassland; ◆ Potential impacts of climate change on ecology of wildlife;	**9,27,75,000**

Activities	In NRs.
Buffer Zone ◆ Undertake assessment of socio-economic condition of local people in the areas where human-wildlife conflict is high; ◆ Carry out study to identify use of corridors and other habitat features to reduce conflict; ◆ Conduct study to assess impact of BZ programme on conservation and sustainable livelihoods of local communities; ◆ Conduct studies towards the conservation of biodiversity through various Government prioritized projects; **Tourism** ◆ Carry out study towards impact of tourism on ecological aspects to determine Limit of Acceptable Change which will help in devising site- specific method for regulating tourism; **Institutional** ◆ Prepare bibliography of the literatures for which studies were conducted in LNP; ◆ Celebration of conservation days; ◆ Organize World Wildlife Week; ◆ Establish reporting, recording, database and feedback mechanism on the biodiversity of the park; ◆ APR publication; ◆ Website creation and hosting; ◆ Organize/participate in trans boundary meeting; ◆ Strengthen District Level WCCB (trimester meeting); ◆ Trimester level staff meeting; ◆ Undertake Mid-term review of the management plan; ◆ Undertake evaluation of management plan in the fourth year of implementation; ◆ Conduct management effectiveness of LNP; ◆ Document success stories and best practices in the areas of community based biodiversity conservation. **Monitoring** **Species Monitoring** ◆ Monitoring of Red panda on periodic basis; ◆ Identification and monitoring of climate sensitive species on a long- term; ◆ Monitoring of migratory water birds; and ◆ Monitoring of globally threatened and nationally protected birds. **Habitat Monitoring** ◆ Undertake habitat monitoring, prepare check list of food plants, document physical and phenological changes in vegetation, quantity and quality of discharges in streams and biotic disturbance; ◆ Undertake monitoring of permanent plots, transect lines in forests, rangelands and other habitats; ◆ Periodic wetlands and water holes monitoring including water quality; **Fire monitoring** ◆ Monitor spatial and temporal pattern of fire incidence; and ◆ Monitor fire and fuel dynamics. **Tourism Impact Monitoring** ◆ Monitor tourism impact on social, economic and culture; and ◆ Monitor the contribution of tourism to the poor, women and marginalized community.	

Activities	In NRs.
Capacity Building **Frontline Staff and Security Units** ◆ Orientation training to security units; ◆ Orientation training to Game Scouts on legal issues; ◆ Basic training on field equipment like GPS, Range Finder, Compass, etc.; ◆ Train staff to collect sample of blood, fecal matter, urine or vital organs; ◆ Field techniques, including signs and indirect evidences of wildlife; ◆ Training on anti-poaching operation; ◆ Orientation training on social mobilization and participatory planning; ◆ Wildlife management and handling training; ◆ Basic training on vegetation quantification for recording data in monitoring plots; and ◆ Training to park staff in wildlife habitat monitoring. **For Rangers** ◆ Training on social mobilization; ◆ General and specialized ToTs; and ◆ Database management Training to Rangers. **For ACO and CCO** ◆ Training on People-wildlife amity; ◆ Training on appreciative enquiry; ◆ Human rights training to handle the convicted people; ◆ Training on GIS application for natural resource management focusing on wildlife; ◆ ToTs (general and specialized); ◆ Public administration and management training; ◆ Training on organization development and management; ◆ Planning, monitoring and evaluation training; ◆ CITES training; and ◆ Build capacity of frontline staff to recognize record and report disease or poor health condition of animals or plants. **Others** ◆ Forest Fire Management Training to park staff and security personnel and BCF members; ◆ Training for CBAPUs; ◆ Provide trainings to nature guides to enhance their capacity in nature interpretation specifically on wildlife, birds, plants; ◆ Build capacity of poor and disadvantaged local people in the areas of hospitality, housekeeping, cooking and hygiene to initiate tourism enterprises; ◆ Training on nature interpretation and display management; and ◆ Conduct refresher trainings to nature guides to update their knowledge and skills in nature interpretation. **Institutional and Infrastructures Development for Conservation Support** ◆ Extension of electricity in Ghodatabela and Cholanpati post. In the prospective of biodiversity conservation, extension of electricity works should be underground or insulated wire . ◆ Extension of telecommunication facilities for Cholanpati Post and Gosaikunda Area; a telecommunication tower is needed in Buddha mandir Area. ◆ Upgrading of Range Post and Post structure is needed in Ghodatabela Range Post, Kutumsang Range Post, Bondro Post, Langbu post and Syaprubesi Post. ◆ For the area coverage range post should be extended in Bhotang, Tembathan, and Bridim ◆ Installation of spy camera for real time surveillence in the national Park	

Activities	In NRs.
Tourism development ◆ Construct 3 multipurpose VIC at Dhunche, Helambu and Kutumsang that includes ticket counter, display centre, museum, souvenir shop and rest room; ◆ Support BZUCs to construct culture museum in three districts; ◆ Provide support to renovate Rasuwagadhi fort; ◆ Provide support to renovate Dupcheshwori temple; ◆ Provide support to renovate monasteries; ◆ Repair and maintain culturally, religiously and historically important ◆ Trishuldhara and Amar Singh cave; ◆ Support to renovate religious/cultural antiquities; ◆ Reconstruct the earthquake damaged infrastructures i.e. Cholangpati, Lauribinayak and Resting place near Gosaikunda; ◆ Repair and refurbish the earthquake destroyed Buddha temple; ◆ Develop comprehensive tourism plan of LNP ◆ Construct new trekking trails in proposed new routes; ◆ Repair and maintain trekking trail (Cholangpati-Gosaikunda, Suryakunda - Thadepati Magingoth - Kutumsang, Thadepati - Shermathan, Dhunche - Goasikunda); ◆ Construct resting place and toilets for visitors at strategic places; ◆ Provide support to open tea shops or hotels in newly opened trekking areas; ◆ Erect hoarding boards informing Do's and Don'ts in the Park and BZ for the visitors; ◆ Place signage at appropriate location in the Park to show direction to the visitors; ◆ Undertake GPS mapping of all the tourism products in the Park and BZ; ◆ Carry out high altitude sickness camp in in between Kyanjin, Ganjala and ◆ Yangri pass; ◆ Provide support to rock climbing association to carry out rock climbing at Kyanjin; ◆ Provide support to develop and implement visitor tracking system using smartcard to locate their movement and support in rescue operation; ◆ Provide support to relocate hotels and lodges near Gosaikunda to 500 m away from Gosaikunda area; ◆ Prepare a sanitation guideline for hotel, lodge; ◆ Provide support to develop linkage of tourism economy to off-trail communities through agriculture, livestock and small scale cottage industries and village tourism; ◆ Develop new tourism package including special interest tourism for diversification of tourism experience and shun out tourism activities from traditional areas; ◆ Support and strengthen trekking route management committee; ◆ Provide support to strengthen Gosaikunda Chetra Bikas Samiti; ◆ Organize Cleanupcampaign to manage waste in the route (waste collection and disposal) ◆ Solid waste management training to hotel operators; ◆ Conduct nature guide trainings to local and interested individuals giving priority to back ward community and youths; ◆ Organize small business development and management training; ◆ Provide basic English language training to tourism operator in newly opened trekking areas; ◆ Conduct Cook Training; ◆ Conduct house-keeping trainings; ◆ Conduct survey regarding tourist satisfactory on a yearly basis; ◆ Prepare Video Spot to aware local people travelling in a bus about solid waste management; ◆ Provide technical support to tourism operators to carry out study of cable car Dhunche to Gosaikunda, from Ghyangphedi – Gosaikunda and Nau kunda Yarsa/ – Gosaikunda; ◆ Provide support to journalists to visit the LNP and publish articles; ◆ Publish news and article in newspaper; and ◆ Production of video documentary. ◆ Eco-tourism promotion activities for proposed new trekking routes ◆ Installation of information sign boards. ◆ Maintainace of trekking routes	**87955225**

Activities	In NRs.
◆ Construction of resting places ◆ Providing land on lease for establishment of hotels in appropriate places of proposed routes according to approved guideline. In this case, priority will be given to members of buffer zone users. During tender evaluation, 10 % of total evaluation score will be allocated for members of buffer zone users. ◆ Hospitality and Cook Training for hotels. ◆ Promotion of home stay in near by village around the proposed trekking route	
Climate change adaptation, Disaster Risk Reduction and Solid waste management **Climate change adaptation** ◆ Carry out study to identify people, communities and areas impacted by climate change based on local knowledge, skills and technologies; ◆ Conduct study to identify areas and sectors that are vulnerable to climate change impacts through participatory studies; ◆ Support to build the capacity of the Park staffs, key stakeholders and BZ ◆ communities towards climate change mitigation and adaptation; ◆ Provide support to poor people, dalits, marginalized indigenous communities, women, children and youth through the implementation of climate change-related programmes; ◆ Implement activities that enhance adaptive capacity of species, ecosystem and health from probable effects of climate change; ◆ Publish climate change related materials, such as data, information, success stories; ◆ Provide support to increase participation of BZ communities and key stakeholders in information dissemination by involving them in awareness raising activities; ◆ Collect, publish, disseminate and utilize climate adaptation and adverse impact mitigation-related traditional and local knowledge, skills, practices, and technologies and document them; ◆ Conduct climate change-related research to identify measures for adapting to adverse impacts; ◆ Conserve soil and water through measures such as source protection, rain water harvesting, and environmental sanitation; ◆ Provide support to link climate change adaptation activities with socio- ◆ economic development and income-generating activities; ◆ Form Disaster Risk Management Committee (DRMC) and strengthen them; ◆ Implement early warning system for disaster like flood developing necessary mechanism for the preventive measures ◆ Provide support to develop mechanism for forecasting and preventing vector-borne, infectious and communicable diseases induced by climate change. **Disaster Risk Reduction due to earthquake and landslide** ◆ Procure equipment that is required to establish GIS-based DIMS at head quarter; ◆ Provide training to the staff to establish GIS based DIMS; ◆ Form disaster risk reduction committee and strengthen it; ◆ Prepare hazard-specific SOPs for specific DRR; ◆ Carry out study to identify the disaster risk in the pertinent sectors; ◆ Pilot early warning system at Timbu (flood prone area); ◆ Provide support to Eco-clubs to organize disaster risk reduction awareness activities; ◆ Prepare manual of disaster risk reduction training to different stakeholders; ◆ Provide training to Park staffs, security personnel, BZ communities and key stakeholders towards managing disaster risk especially during emergency period as well as post disaster period; ◆ Reconstruct the severely damaged buildings of the Park and security posts; ◆ Maintain the buildings of the Park and security posts with minimal damage; ◆ Assess the impact of earthquake in species, eco-system as well as ecological function and processes in the Park; ◆ Implement the building codes developed by GoN to promote earthquake resistant building construction in the Park and its BZ; ◆ Maintain the major trekking routes including the damaged bridges and culverts in the Park and BZ; ◆ Provide support to reconstruct community infrastructures damaged by earthquake;	**23233724**

Activities	In NRs.
Solid waste management ◆ Prepare sanitation guideline that requires that every lodge and restaurant must have adequately and properly constructed toilets with leak proof septic tanks and waste water soakage pits to prevent contamination; ◆ Prepare a manual to manage and dispose various waste produces; ◆ Manage garbage with special focus on reducing production, recycling and destruction by prohibiting the use of polluting items such as plastic bags and glass bottles; ◆ Construct dumping site at Timure, Syaphrubesi, Dhunche, Kalikasthan; ◆ Ensure that large settlements in the Park have proper sanitation infrastructures including storm water drains, toilets, incinerators, collection and recycling systems; ◆ Undertake demonstration on garbage management in order to demonstrate proper techniques of garbage disposal and recycling techniques to stakeholders; ◆ Support to construct high quality, hygienic "user pay" toilets and washhouse facilities on private property along the main trekking routes; and ◆ Support Eco-clubs to organize clean up campaigns	
Buffer zone ◆ Support BZCFs to renew their OPs; ◆ Handover additional BZCFs to fulfill the demand of fuel, fodder and timber; ◆ Organize BCF management trainings; ◆ Restore degraded forests in the BZ/national forests and CFs outside PAs by artificial or natural regeneration; ◆ Manage grasslands in the BZ so as to provide additional habitat for wildlife; ◆ Provide support to establish and maintain nursery in Dhunche, Kalikasthan, Shikharbesi and Timbu; ◆ Restore wetlands in the corridors of BZ; ◆ Support local community to plant trees in the roadside, river banks, public and private land; ◆ Provide support to install Improved Cook Stove; ◆ Construction of culvert and cause way in BZ; ◆ Provide support to repair and maintenance of agriculture road in the BZ; ◆ Provide support for drinking water and toilet for differently abled people in the school; ◆ Provide support to repair and maintenance of small irrigation; ◆ Prepare livelihood improvement strategy and plan; ◆ Provide support to establish distillation plant for medicinal and aromatic plants; ◆ Monitor the collection of Yarsa gumba in Kyanjin, Panch pokhari and Jugal himal Pema sal area; ◆ High value agriculture crops (not preferred by wildlife) farming training ◆ Introduce improved animal breed to reduce number of unproductive animal; ◆ Piloting of integrated settlement in one of the ward of any BZUC; ◆ Provide leadership training to Chairperson and Vice Chairperson of BZUG and BZUC; ◆ Provide account keeping training to Secretary or Treasurer; ◆ Provide support to organize cooperative management training; ◆ Participatory planning and monitoring training; ◆ Organize training and distribute seeds to promote crops that are not preferred by wildlife; ◆ Regulation of relief fund for victims of human wildlife conflict; ◆ Learning Visit of LNP staffs and BZUC members; ◆ Educational tour of Eco-club members to learn importance of biodiversity conservation; ◆ Support 'Eco-clubs' to implement school level conservation awareness activities; ◆ Implement ToT for the teachers of schools of BZ on biodiversity conservation; ◆ Produce IEC material; ◆ Conduct conservation awareness campaign at school and villages of BZ with conservation focused cultural show, street drama, concert, documentary show, etc.; ◆ Support CBAPU; ◆ Provide support to strengthen and institutionalize CBAPU;	**363,268,263**

Activities	In NRs.
◆ Orientation training regarding conservation legislation to BZ communities; ◆ Celebrate various conservation days (World Environment Day – June 5, International Biodiversity Day – May 22, World Wetlands Day – February 2) and Wildlife Week-Baisakh from 1 to 7, World Wildlife Day– March 03, CBAPU Day March 03 etc.); ◆ Produce monthly radio documentary of BZ programme; ◆ Produce video documentary focusing BZ programme; ◆ Support BZUC to prepare five year plan; and ◆ Organize BZMC meetings	
Extraction Of River Bed Construction Material ◆ Identification of potential rivers and sites for extraction. ◆ Quantification of sustainable extraction and collection of sand, stone and aggragates. ◆ Documentation of demand, granted permission and collected materials. ◆ Hoarding Board installation in different sites to aware on river bed material collection and legal provision.	**90,000**
Non-Timer Forest Products (NTFP) ◆ Develop and promote NTFP based enterprises. ◆ Commercial production of NTFPs shall be encouraged in private land of local people. ◆ Providing training on processing and marketing of NTFPs product. ◆ Amendment of Operational Plan of BZ community forest. ◆ Detail survey of potential NTFP species to estimate quanity and quality. ◆ Regular monitoring of NTFPs and ensure sustainable harvesting. ◆ Training on sustaianble harvesting and legal procedure for yarsagumba collection ◆ Regulation, monitoring and facilitation for yarsagumba collection ◆ Training on sustaianble harvesting and legal procedure for yarsagumba collection ◆ Regulation, monitoring and facilitation for yarsagumba collection	**10,300,000**
Office Management ◆ Procure computers; ◆ Procure computer printer; ◆ Procure multimedia projector; ◆ Maintenance of vehicle, motorbikes ◆ Fuel for vehicle; ◆ Procure furniture; ◆ Management of office equipment; ◆ Stationeries; and ◆ Payment of electricity, telephone, Internet	**229301750**
Total budget	**1,061,967,962**

13.3 Gender Equity and Social Inclusion

Gender inequality and social exclusion are issues of global concern. Over the last decade, Asia and the Pacific region has made a remarkable progress on these issues. Nepal is not an exception to this regard. Since last decade, it has been moving ahead by fulfilling all commitments made in the international arena towards non-discrimination, gender equality and social justice. In this regard, LNP needs to better target the delivery of development to the hardest to reach segments of society, those who have been excluded from development and those who have been overlooked.

LNP will adopt Gender Equality and Social Inclusion (GESI) strategy as a core cross-cutting theme. The implementation of GESI strategy will be participatory and inclusive as possible. At the programme level the focus will be laid to identify whether the programme is GESI responsive, embraces inclusive approaches in programme appraisal, design, implementation, monitoring and evaluation. In terms of organizational preparedness, building conceptual clarity and operational skills for GESI issues is a common concern for all partners. The management plan will mainstream GESI strategy to engage and empower women and marginalized people in equitable benefit sharing through meaningful participation in biodiversity conservation activities.

13.4 Implementation and Mainstreaming Strategy

The Park will adopt biodiversity conservation at landscape approach involving BZ communities in participatory manner. The BZ institutions will be strengthened and institutionalized in participatory planning, implementation and monitoring. The BZ institution will maintain transparency about their programme to local community including local Government. The Park will continue to work together with Nepal Army to protect the biodiversity adopting innovative technology in patrolling. Pooling the resources to implement the activities with conservation partners will be one of the key strategies followed by implementation in the ground in partnership approach. Similarly, BZ institution will also coordinate with local Government to pool the resources to develop infrastructure in the BZ. The Park will adopt communication strategy to orient legislations related to conservation to local people involving BZ communities and Eco-clubs. The strategy will be taken to involve Universities and Colleges to carry out research and studies in the areas of conservation. The Park will take all possible measures to maintain Park- people amity. In this regard, relief fund will be delivered in effective manner.

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LIST OF ANNEXES

Annex I: List of Flora in LNP

SN	Family	Botanical Name
1	*Aspleniaceae*	*Asplenium ensiforme*
2	*Aspleniaceae*	*Asplenium laciniatum = A. varians*
3	*Blechnaceae*	*Woodwardia biserrata = W. unigemmata*
4	*Davalliaceae*	*Araiostegia hookeri = A. clarkei*
5	*Davalliaceae*	*Araiostegia pulchra*
6	*Davalliaceae*	*Davallodes membranulosum*
7	*Davalliaceae*	*Leucostegia immersa*
8	*Dennstaedtiaceae*	*Dennstaedtia appendiculata*
9	*Dryopteridaceae*	*Dryopteris acutodentata*
10	*Dryopteridaceae*	*Dryopteris barbigera*
11	*Dryopteridaceae*	*Dryopteris chrysocoma*
12	*Dryopteridaceae*	*Dryopteris xanthomelas = D. sinofibrillosa*
13	*Dryopteridaceae*	*Polystichum aculeatum*
14	*Dryopteridaceae*	*Polystichum atkinsonii*
15	*Dryopteridaceae*	*Polystichum lentum*
16	*Dryopteridaceae*	*Polystichum neolobatum*
17	*Dryopteridaceae*	*Polystichum obliquum*
18	*Dryopteridaceae*	*Polystichum prescottianum*
19	*Dryopteridaceae*	*Polystichum squarrosum*
20	*Dryopteridaceae*	*Polystichum stimulans*
21	*Dryopteridaceae*	*Tectaria macrodonta*
22	*Gleicheniaceae*	*Dicranopteris linearis*
23	*Gleicheniaceae*	*Gleichenia glauca*
24	*Hymenophyllaceae*	*Hymenophyllum exsertum = Mecodium exsertum*
25	*Lycopodiaceae*	*Huperzia hamiltonii = Lycopodium hamiltonii*
26	*Lycopodiaceae*	*Lycopodium japonicum = L. clavatum*
27	*Oleandraceae*	*Oleandra wallichii*
28	*Ophioglossaceae*	*Botrychium lanuginosum*
29	*Ophioglossaceae*	*Ophioglossum nudicaule*
30	*Osmundaceae*	*Osmunda claytoniana*
31	*Polypodiaceae*	*Arthromeris himalayensis*
32	*Polypodiaceae*	*Arthromeris wallichiana*
33	*Polypodiaceae*	*Drynaria mollis*
34	*Polypodiaceae*	*Drynaria propinqua*
35	*Polypodiaceae*	*Goniophlebium argutum = Polypodium argutum*
36	*Polypodiaceae*	*Lepisorus loriformis*
37	*Polypodiaceae*	*Lepisorus mehrae = L. kashyapii*
38	*Polypodiaceae*	*Lepisorus sesquipedalis = L. excavatus*
39	*Polypodiaceae*	*Loxogramme involuta*
40	*Polypodiaceae*	*Microsorium membranaceum*

SN	Family	Botanical Name
41	*Polypodiaceae*	*Phymatopteris malacodon = Phymatodes malacodon*
42	*Polypodiaceae*	*Phymatopteris ebenipes =Phymatodes ebenipes*
43	*Polypodiaceae*	*Polypodiodes amoena = Polypodium amoenum*
44	*Polypodiaceae*	*Polypodiodes hrndersonii = Polypodium atkinsonii*
45	*Polypodiaceae*	*Polypodiodes lachnopus = Polypodium lachnopus*
46	*Polypodiaceae*	*Polypodiodes microrhizoma = Polypodium microrhizoma*
47	*Polypodiaceae*	*Pyrrosia flocculosa*
48	*Pteridaceae*	*Actiniopteris semiflabellata*
49	*Pteridaceae*	*Cheilanthes dalhousiae = C. albomarginata*
50	*Pteridaceae*	*Cheilanthes grisea*
51	*Pteridaceae*	*Cheilanthes rufa*
52	*Pteridaceae*	*Coniogramme fraxinea*
53	*Pteridaceae*	*Cryptogramma brunoniana*
54	*Pteridaceae*	*Onychium japonicum = O. lucidum O. contiguum*
55	*Pteridaceae*	*Onychium siliculosum*
56	*Pteridaceae*	*Pteris puberula = P. nepalensis*
57	*Pteridaceae*	*Pteris wallichiana*
58	*Thelypteridaceae*	*Thelypteris auriculata*
59	*Vittariaceae*	*Vittaria flexuosa*
60	*Woodsiaceae*	*Athyrium atkinsonii*
61	*Woodsiaceae*	*Athyrium fimbriatum*
62	*Woodsiaceae*	*Athyrium micropterum = A. macrocarpu*
63	*Woodsiaceae*	*Athyrium pectinatum*
64	*Woodsiaceae*	*Athyrium wallichianum = Aspidium brunonianum*
65	*Woodsiaceae*	*Diplazium maximum = D. giganteum*
66	*Woodsiaceae*	*Diplazium stoliczkae*
67	*Woodsiaceae*	*Woodsia elongate*
Gymnosperms		
68	*Cupressaceae*	*Juniperus indica*
69	*Cupressaceae*	*Juniperus recurva*
70	*Cupressaceae*	*Juniperus squamata*
71	*Gnetaceae*	*Ephedra gerardiana*
72	*Pinaceae*	*Abies spectabilis*
73	*Pinaceae*	*Larix himalaica*
74	*Pinaceae*	*Pinus roxburghii*
75	*Pinaceae*	*Pinus wallichiana*
76	*Pinaceae*	*Tsuga dumosa*
77	*Taxaceae*	*Taxus wallichiana*
Dicots		
78	*Acanthaceae*	*Justicia procumbens*
79	*Acanthaceae*	*Peristrophe speciosa*
80	*Acanthaceae*	*Strobilanthes nutans*

SN	Family	Botanical Name
81	*Acanthaceae*	*Strobilanthes pentastemonoides*
82	*Acanthaceae*	*Strobilanthes wallichii = S .atropurpureus*
83	*Aceraceae*	*Acer campbellii*
84	*Aceraceae*	*Acer caudatum*
85	*Aceraceae*	*Acer oblongum*
86	*Aceraceae*	*Acer pectinatum*
87	*Aceraceae*	*Acer stachyophyllum*
88	*Amaranthaceae*	*Amaranthus caudatus*
89	*Amaranthaceae*	*Amaranthus spinosus*
90	*Amaranthaceae*	*Cyathula capitata*
91	*Amaranthaceae*	*Cyathula tomentosa*
92	*Amaranthaceae*	*Deeringia amaranthoides*
93	*Anacardiaceae*	*Rhus javanica*
94	*Anacardiaceae*	*Rhus succedanea*
95	*Anacardiaceae*	*Rhus wallichii*
96	*Anacardiaceae*	*Semecarpus anacardium*
97	*Apocynaceae*	*Chonemorpha fragrans =C. macrophylla*
98	*Apocynaceae*	*Trachelospermum lucidum*
99	*Aquifoliaceae*	*Ilex dipyrena*
100	*Aquifoliaceae*	*Ilex fragilis*
101	*Araliaceae*	*Acanthopanax cissifolius*
102	*Araliaceae*	*Brassaiopsis polyacantha = Br. plamata*
103	*Araliaceae*	*Hedera nepalensis*
104	*Araliaceae*	*Panax pseudo-ginseng*
105	*Araliaceae*	*Pentapanax leschenaultii*
106	*Asclepiadaceae*	*Ceropegia pubescens*
107	*Asclepiadaceae*	*Cryptolepis buchananii*
108	*Asclepiadaceae*	*Cynanchum auriculatum*
109	*Asclepiadaceae*	*Cynanchum canescens = C. vincetoxicum , Vincetoxicum hirundinaria*
110	*Asclepiadaceae*	*Hoya longifolia*
111	*Asclepiadaceae*	*Marsdenia roylei*
112	*Asclepiadaceae*	*Tylophora hirsuta = T. ovata*
113	*Balanophoraceae*	*Balanophora polyandra*
114	*Balsaminaceae*	*Impatiens amplexicaulis*
115	*Balsaminaceae*	*Impatiens arguta*
116	*Balsaminaceae*	*Impatiens bicornuta*
117	*Balsaminaceae*	*Impatiens discolor*
118	*Balsaminaceae*	*Impatiens falcifer*
119	*Balsaminaceae*	*Impatiens puberula*
120	*Balsaminaceae*	*Impatiens racemosa*
121	*Balsaminaceae*	*Impatiens radiate*
122	*Balsaminaceae*	*Impatiens scabrida*

SN	Family	Botanical Name
123	*Balsaminaceae*	*Impatiens serratifolia*
124	*Balsaminaceae*	*Impatiens wallichii*
125	*Begoniaceae*	*Begonia flagellaris* (es)
126	*Begoniaceae*	*Begonia leptoptera* (es)
127	*Begoniaceae*	*Begonia picta*
128	*Begoniaceae*	*Begonia rubella = Begonia scutata*
129	*Berberidaceae*	*Benthamidia capitata = Cornus capitata*
130	*Berberidaceae*	*Berberis chitria*
131	*Berberidaceae*	*Berberis concinna*
132	*Berberidaceae*	*Berberis hookeri*
133	*Berberidaceae*	*Berberis macrosepala*
134	*Berberidaceae*	*Mahonia napaulensis*
135	*Berberidaceae*	*Podophyllum hexandrum*
136	*Betulaceae*	*Alnus nepalensis*
137	*Betulaceae*	*Betula alnoides*
138	*Betulaceae*	*Betula utilis*
139	*Bignoniaceae*	*Oroxylum indicum*
140	*Bombacaceae*	*Bombax ceiba = B. malabaricum*
141	*Boraginaceae*	*Cynoglossum zeylanicum = C. furcatum*
142	*Boraginaceae*	*Hackelia uncinata*
143	*Boraginaceae*	*Heliotropium strigosum*
144	*Boraginaceae*	*Maharanga bicolor*
145	*Boraginaceae*	*Maharanga emodi*
146	*Boraginaceae*	*Microula pustulosa*
147	*Boraginaceae*	*Microula sikkimensis*
148	*Boraginaceae*	*Trigonotis multicaulis*
149	*Buxaceae*	*Sarcococca coriacea*
150	*Campanulaceae*	*Campanula aristata*
151	*Campanulaceae*	*Campanula pallida = C. colorata*
152	*Campanulaceae*	*Campanula sylvatica*
153	*Campanulaceae*	*Codonopsis convolvulacea*
154	*Campanulaceae*	*Codonopsis purpurea*
155	*Campanulaceae*	*Codonopsis rotundifolia*
156	*Campanulaceae*	*Codonopsis thalictrifolia*
157	*Campanulaceae*	*Codonopsis viridis*
158	*Campanulaceae*	*Cyananthus hookeri*
159	*Campanulaceae*	*Cyananthus incanus*
160	*Campanulaceae*	*Cyananthus inflatus*
161	*Campanulaceae*	*Cyananthus lobatus*
162	*Campanulaceae*	*Lobelia pyramidalis*
163	*Campanulaceae*	*Lobelia seguinii*
164	*Cannabinaceae*	*Cannabis sativa*

SN	Family	Botanical Name
165	*Caprifoliaceae*	*Leycesteria Formosa*
166	*Caprifoliaceae*	*Lonicera angustifolia*
167	*Caprifoliaceae*	*Lonicera lanceolata*
168	*Caprifoliaceae*	*Lonicera myrtillus*
169	*Caprifoliaceae*	*Lonicera obovata*
170	*Caprifoliaceae*	*Lonicera quinquelocularis*
171	*Caprifoliaceae*	*Lonicera rupicola*
172	*Caprifoliaceae*	*Lonicera spinosa*
173	*Caryophyllaceae*	*Arenaria debilis = A. glandulosa*
174	*Caryophyllaceae*	*Arenaria glanduligera*
175	*Caryophyllaceae*	*Arenaria globiflora*
176	*Caryophyllaceae*	*Cerastium fontanum subsp. grandiflorum = C. grandiflorum*
177	*Caryophyllaceae*	*Drymaria diandra*
178	*Caryophyllaceae*	*Gypsophila cerastioides*
179	*Caryophyllaceae*	*Pseudostellaria heterantha var. nepalensis = P. heterophylla forma nepalensis*
180	*Caryophyllaceae*	*Sagina saginoides*
181	*Caryophyllaceae*	*Silene gonosperma subsp. himalayensis = S. himalayensis Lychnis himalayensis*
182	*Caryophyllaceae*	*Silene holosteifolia (es)*
183	*Caryophyllaceae*	*Silene nigrescens*
184	*Caryophyllaceae*	*Silene stracheyi*
185	*Caryophyllaceae*	*Silene vulagaris =S. cucubalus*
186	*Caryophyllaceae*	*Stellaria decumbens*
187	*Caryophyllaceae*	*Stellaria himalayensis*
188	*Caryophyllaceae*	*Stellaria media*
189	*Caryophyllaceae*	*Stellaria monosperma*
190	*Caryophyllaceae*	*Stellaria patens*
191	*Celastraceae*	*Celastrus stylosus*
192	*Celastraceae*	*Euonymus echinatus*
193	*Celastraceae*	*Euonymus frigidus f.elongatus*
194	*Celastraceae*	*Euonymus tingens*
195	*Celastraceae*	*Maytenus rufa*
196	*Chenopodiaceae*	*Chenopodium album*
197	*Circaeasteraceae*	*Circaeaster agrestis*
198	*Clusiaceae*	*Hypericum cordifolium*
199	*Clusiaceae*	*Hypericum elodeoides*
200	*Clusiaceae*	*Hypericum japonicum = Sarothra laxa*
201	*Clusiaceae*	*Hypericum hookerianum =Norysca hookeriana*
202	*Clusiaceae*	*Hypericum uralum = H. patulum or Norysca urala*
203	*Colchicaceae*	*Gloriosa superba*
204	*Compositae*	*Ageratum conyzoides*

SN	Family	Botanical Name
205	*Compositae*	*Ainsliaea latifolia =A. pteropoda*
206	*Compositae*	*Anaphalis busua = A. araneosa*
207	*Compositae*	*Anaphalis contorta*
208	*Compositae*	*Anaphalis margaritacea*
209	*Compositae*	*Anaphalis triplinervis var. i ntermedia = A. cuneifolia A. nepalensis*
210	*Compositae*	*Artemisia caruifolia*
211	*Compositae*	*Artemisia dubia*
212	*Compositae*	*Artemisia indica*
213	*Compositae*	*Aster albescens*
214	*Compositae*	*Aster asteroides = Aster likiangensis*
215	*Compositae*	*Aster barbellatus*
216	*Compositae*	*Aster diplostephioides*
217	*Compositae*	*Aster himalaicus*
218	*Compositae*	*Aster stracheyi*
219	*Compositae*	*Aster tricephalus*
220	*Compositae*	*Aster trinervius*
221	*Compositae*	*Bidens pilosa*
222	*Compositae*	*Brachyactis anomala =B. menthodora*
223	*Compositae*	*Cacalia chenopodiifolia =Senecio chenopodifolium*
224	*Compositae*	*Cacalia pentaloba =Senecio quinquel*
225	*Compositae*	*Carpesium nepalense*
226	*Compositae*	*Cicerbita cyanea*
227	*Compositae*	*Cicerbita macrantha =Lactuca macrantha*
228	*Compositae*	*Cirsium wallichii*
229	*Compositae*	*Cirsium verutum = C. argyracanthumn*
230	*Compositae*	*Conyza stricta*
231	*Compositae*	*Cremanthodium decaisnei*
232	*Compositae*	*Cremanthodium hookeri*
233	*Compositae*	*Cremanthodium nepalense*
234	*Compositae*	*Cremanthodium oblongatum = C. nakaoi*
235	*Compositae*	*Cremanthodium reniforme*
236	*Compositae*	*Cremanthodium retusum = Ligularia nigropilosa*
237	*Compositae*	*Cremanthodium thomsonii*
238	*Compositae*	*Dendranthema nubigenum =Tanacetum nubigenum*
239	*Compositae*	*Doronicum roylei*
240	*Compositae*	*Dubyaea hispida*
241	*Compositae*	*Erigeron bellidioides*
242	*Compositae*	*Eupatorium adenophorum*
243	*Compositae*	*Eupatorium chinense*
244	*Compositae*	*Gerbera nivea*
245	*Compositae*	*Gnaphalium affine*
246	*Compositae*	*Guizotia abyssinica*

SN	Family	Botanical Name
247	*Compositae*	*Inula cappa*
248	*Compositae*	*Inula nervosa*
249	*Compositae*	*Inula rubricaulis*
250	*Compositae*	*Ixeris gracilis =Lactuca gracilis*
251	*Compositae*	*Lactuca graciliflora*
252	*Compositae*	*Leontopodium himalayanum*
253	*Compositae*	*Leontopodium jacotianum*
254	*Compositae*	*Ligularia amplexicaulis*
255	*Compositae*	*Ligularia fischeri = Senecio ligularia*
256	*Compositae*	*Myriactis nepalensis*
257	*Compositae*	*Nannoglottis hookeri =Doronicum hookeri*
258	*Compositae*	*Picris hieracioides*
259	*Compositae*	*Saussurea cf. roylei*
260	*Compositae*	*Saussurea deltoidea*
261	*Compositae*	*Saussurea fastuosa*
262	*Compositae*	*Saussurea gossypiphora*
263	*Compositae*	*Saussurea nepalensis = S. eriostemon*
264	*Compositae*	*Saussurea taraxacifolia*
265	*Compositae*	*Senecio alatus*
266	*Compositae*	*Senecio albopurpureus = S. bracteolatus*
267	*Compositae*	*Senecio candolleanus*
268	*Compositae*	*Senecio cappa*
269	*Compositae*	*Senecio chrysanthemoides*
270	*Compositae*	*Senecio diversifolius*
271	*Compositae*	*Senecio graciliflorus*
272	*Compositae*	*Senecio scandens*
273	*Compositae*	*Senecio tetranthus*
274	*Compositae*	*Senecio wallichii*
275	*Compositae*	*Sigesbeckia orientalis*
276	*Compositae*	*Sonchus asper*
277	*Compositae*	*Soroseris deasyi*
278	*Compositae*	*Soroseris hookeriana*
279	*Compositae*	*Spilanthes calva*
280	*Compositae*	*Synedrella nodiflora*
281	*Compositae*	*Tanacetum gossypinum*
282	*Compositae*	*Taraxacum parvulum = T. himalaicum*
283	*Compositae*	*Tragopogon gracilis*
284	*Compositae*	*Tricholepis furcate*
285	*Compositae*	*Waldheimia glabra*
286	*Compositae*	*Youngia japonica =Crepis japonica*
287	*Compositae*	*Youngia racemifera*
288	*Convolvulaceae*	*Dinetus grandiflorus = Porana grandiflora*

SN	Family	Botanical Name
289	*Convolvulaceae*	*Dinetus racemosus = Porana racemosa*
290	*Convolvulaceae*	*Argyreia hookeri*
291	*Convolvulaceae*	*Cuscuta europaea*
292	*Convolvulaceae*	*Cuscuta reflexa*
293	*Convolvulaceae*	*Ipomoea nil*
294	*Coriariaceae*	*Coriaria napalensis*
295	*Cornaceae*	*Benthamidia capitata = Cornus capitata*
296	*Corylaceae*	*Corylus ferox*
297	*Crassulaceae*	*Rhodiola amabilis*
298	*Crassulaceae*	*Rhodiola bupleuroides =Sedum bupleuroides*
299	*Crassulaceae*	*Rhodiola fastigiata =Sedum fastigiatum*
300	*Crassulaceae*	*Rhodiola himalensis =Sedum himalense*
301	*Crassulaceae*	*Rhodiola humilis =Sedum humile*
302	*Crassulaceae*	*Rhodiola ovatisepala =Sedum trifidum S. linearifolium var. ovatisepalum*
303	*Crassulaceae*	*Rhodiola quadrifida = Sedum coccineum S. quadrifidum*
304	*Crassulaceae*	*Rhodiola sinuata =Sedum linearifolium*
305	*Crassulaceae*	*Rhodiola wallichiana =Sedum wallichianum*
306	*Crassulaceae*	*Sedum multicaule*
307	*Crassulaceae*	*Sedum trullipetalum*
308	*Crassulaceae*	*Tillaea pentandra =Crassula pentandra*
309	*Cruciferae*	*Arabidopsis himalaica*
310	*Cruciferae*	*Arabidopsis lasiocarpa*
311	*Cruciferae*	*Capsella bursa-pastoris*
312	*Cruciferae*	*Cardamine macrophylla*
313	*Cruciferae*	*Cardamine scutata*
314	*Cruciferae*	*Draba gracillima*
315	*Cruciferae*	*Erysimum hieraciifolium*
316	*Cruciferae*	*Thlaspi arvense*
317	*Cucurbitaceae*	*Edgaria darjeelingensis*
318	*Cucurbitaceae*	*Gynostemma pentaphyllum*
319	*Cucurbitaceae*	*Herpetospermum pedunculosum*
320	*Cucurbitaceae*	*Solena heterophylla =Melothria heterophylla*
321	*Cucurbitaceae*	*Trichosanthes wallichiana = D. strictus*
322	*Dipsacaceae*	*Dipsacus inermis*
323	*Dipsacaceae*	*Morina longifolia*
324	*Dipsacaceae*	*Morina nepalensis = M. betonicoides*
325	*Dipsacaceae*	*Morina polyphylla*
326	*Dipsacaceae*	*Triplostegia glandulifera*
327	*Dipterocarpaceae*	*Shorea robusta*
328	*Droseraceae*	*Drosera peltata var. lunata*
329	*Elaeagnaceae*	*Elaeagnus caudate*
330	*Elaeagnaceae*	*Elaeagnus infundibularis = E. conferta*

SN	Family	Botanical Name
331	*Elaeagnaceae*	*Elaeagnus kanaii*
332	*Elaeagnaceae*	*Elaeagnus tricholepis (es)*
333	*Elaeagnaceae*	*Hippophae salicifolia = H. rhamnoides ssp. salicifolia*
334	*Elaeagnaceae*	*Hippophae tibetana*
335	*Ericaceae*	*Cassiope fastigiata*
336	*Ericaceae*	*Gaultheria fragrantissima*
337	*Ericaceae*	*Gaultheria nummularioides*
338	*Ericaceae*	*Gaultheria trichophylla*
339	*Ericaceae*	*Lyonia ovalifolia*
340	*Ericaceae*	*Lyonia villosa*
341	*Ericaceae*	*Pieris Formosa*
342	*Ericaceae*	*Rhododendron anthopogon*
343	*Ericaceae*	*Rhododendron arboreum*
344	*Ericaceae*	*Rhododendron barbatum*
345	*Ericaceae*	*Rhododendron campanulatum*
346	*Ericaceae*	*Rhododendron cowanianum*
347	*Ericaceae*	*Rhododendron lepidotum*
348	*Ericaceae*	*Rhododendron nivale*
349	*Ericaceae*	*Rhododendron setosum*
350	*Ericaceae*	*Vaccinium retusum*
351	*Eriocaulaceae*	*Eriocaulon nepalense*
352	*Euphorbiaceae*	*Baliospermum nepalensis*
353	*Euphorbiaceae*	*Croton caudatus*
354	*Euphorbiaceae*	*Euphorbia royleana*
355	*Euphorbiaceae*	*Euphorbia hirta = Chamaesyce hirta*
356	*Euphorbiaceae*	*Euphorbia stracheyi =Tithymalus stracheyi*
357	*Euphorbiaceae*	*Euphorbia wallichii*
358	*Euphorbiaceae*	*Exoecaria acerifolia*
359	*Euphorbiaceae*	*Jatropha curcas*
360	*Euphorbiaceae*	*Mallotus nepalensis*
361	*Euphorbiaceae*	*Phyllanthus emblica*
362	*Euphorbiaceae*	*Phyllanthus glaucus =Hemicicca glauca*
363	*Euphorbiaceae*	*Phyllanthus parvifolius*
364	*Euphorbiaceae*	*Ricinus communis*
365	*Euphorbiaceae*	*Sapium baccatum*
366	*Euphorbiaceae*	*Sauropus quadrangularis var compressus = S. compressus*
367	*Fagaceae*	*Quercus glauca = Cyclobalanopsis glauca*
368	*Fagaceae*	*Quercus lamellosa = Cyclobalanopsis lamellosa*
369	*Fagaceae*	*Lithocarpus grandiflora = L. elegans. L. spicata, Quercus*
		spicata
370	*Fagaceae*	*Quercus lanata = Q. incana, Q. lanuginosa, Q. leucotrichophora*
371	*Fagaceae*	*Quercus semecarpifolia*

SN	Family	Botanical Name
372	*Flacourtiaceae*	*Homalium napaulense (es)*
373	*Gentianaceae*	*Exacum teres*
374	*Gentianaceae*	*Gentiana algida Pall. var. nubigena (Edgew.) Kusn.*
375	*Gentianaceae*	*Gentiana algida var przewalskii*
376	*Gentianaceae*	*Gentiana capitata*
377	*Gentianaceae*	*Gentiana depressa*
378	*Gentianaceae*	*Gentiana pedicellata*
379	*Gentianaceae*	*Gentiana prolata*
380	*Gentianaceae*	*Gentiana prostata var karelini = G. karelini, G. aquatica var. karelini*
381	*Gentianaceae*	*Gentianella pedunculata (D.Don) H.Sm. Comastoma*
		pedunculatum (Royale ex D.Don) Holub
382	*Gentianaceae*	*Halenia elliptica*
383	*Gentianaceae*	*Lomatogonium lloydioides*
384	*Gentianaceae*	*Swertia angustifolia*
385	*Gentianaceae*	*Swertia ciliata = S. purpurascens*
386	*Gentianaceae*	*Swertia cuneata*
387	*Gentianaceae*	*Swertia dilatata*
388	*Gentianaceae*	*Swertia kingie*
389	*Gentianaceae*	*Swertia lloydioides*
390	*Gentianaceae*	*Swertia multicaulis*
391	*Gentianaceae*	*Swertia nervosa*
392	*Gentianaceae*	*Swertia racemosa*
393	*Gentianaceae*	*Tripterospermum volubile = Gentiana volubilis*
394	*Geraniaceae*	*Geranium collinum*
395	*Geraniaceae*	*Geranium donianum*
396	*Geraniaceae*	*Geranium lambertii*
397	*Geraniaceae*	*Geranium nakaoanum*
398	*Geraniaceae*	*Geranium nepalense*
399	*Geraniaceae*	*Geranium polyanthes*
400	*Geraniaceae*	*Geranium refractum*
401	*Geraniaceae*	*Geranium wallichianum*
402	*Gesneriaceae*	*Aeschynanthus sikkimensis*
403	*Gesneriaceae*	*Chirita bifolia*
404	*Gesneriaceae*	*Chirita pumila*
405	*Gesneriaceae*	*Chirita urticifolia*
406	*Gesneriaceae*	*Corallodiscus lanuginosus = Didissandra lanuginosa*
407	*Gesneriaceae*	*Didymocarpus aromaticus*
408	*Gesneriaceae*	*Didymocarpus cinereus*
409	*Gesneriaceae*	*Didymocarpus oblongus*
410	*Gesneriaceae*	*Platystemma violoides*
411	*Gesneriaceae*	*Didymocarpus pulcher*
412	*Grossulariaceae*	*Ribes glaciale*

SN	Family	Botanical Name
413	*Grossulariaceae*	*Ribes himalense = R. emodense*
414	*Grossulariaceae*	*Ribes takare = R. acuminatum var. desmocarpum*
415	*Hydrangaceae*	*Deutzia compacta = D. hookeriana*
416	*Hydrangaceae*	*Deutzia staminea*
417	*Hydrangaceae*	*Hydrangea anomala*
418	*Hydrangaceae*	*Hydrangea heteromalla*
419	*Hydrangaceae*	*Philadelphus tomentosus*
420	*Juglandaceae*	*Juglans regia var. kamaonia*
421	*Labiatae*	*Ajuga bracteosa*
422	*Labiatae*	*Ajuga lobata*
423	*Labiatae*	*Anisomeles indica*
424	*Labiatae*	*Clinopodium umbrosum*
425	*Labiatae*	*Coleus forskohlii*
426	*Labiatae*	*Colquhounia coccinea*
427	*Labiatae*	*Dracocephalum wallichii*
428	*Labiatae*	*Elsholtzia ciliate*
429	*Labiatae*	*Elsholtzia eriostachya*
430	*Labiatae*	*Elsholtzia flava*
431	*Labiatae*	*Elsholtzia fruticosa*
432	*Labiatae*	*Elsholtzia strobilifera*
433	*Labiatae*	*Eriophyton wallichii*
434	*Labiatae*	*Geniosporum coloratum*
435	*Labiatae*	*Rabdosia coetsa = Isodon coetsa*
436	*Labiatae*	*Rabdosia lophanthoides = Isodon lophanthoides*
437	*Labiatae*	*Rabdosia scrophularioides = Isodon scrophularioides*
438	*Labiatae*	*Leucas cilliata*
439	*Labiatae*	*Leucas mollissima*
440	*Labiatae*	*Leucosceptrum canum*
441	*Labiatae*	*Melissa flava*
442	*Labiatae*	*Micromeria nepalensis (es)*
443	*Labiatae*	*Nepeta lamiopsis*
444	*Labiatae*	*Perilla frutescens*
445	*Labiatae*	*Phlomis tibetica*
446	*Labiatae*	*Phlomis setigera*
447	*Labiatae*	*Prunella vulgaris*
448	*Labiatae*	*Salvia nubicola*
449	*Labiatae*	*Scutellaria scandens*
450	*Lardizabalaceae*	*Holboellia latifolia*
451	*Lauraceae*	*Dodocadenia grandiflora*
452	*Lauraceae*	*Lindera pulcherrima*
453	*Lauraceae*	*Neolitsea umbrosa (Nees) Gamble*
454	*Lauraceae*	*Neolitsea cuipala =Litsea lanuginosa*

SN	Family	Botanical Name
455	*Lauraceae*	*Persea duthiei =Machilus duthiei*
456	*Leguminosae*	*Amphicarpaea bracteata*
457	*Leguminosae*	*Astragalus concretus*
458	*Leguminosae*	*Astragalus donianus = A. pycnorhizus*
459	*Leguminosae*	*Astragalus himalayanus*
460	*Leguminosae*	*Bauhinia purpurea*
461	*Leguminosae*	*Butea buteiformis = B. minor*
462	*Leguminosae*	*Campylotropis speciosa*
463	*Leguminosae*	*Caragana sukiensis = C. nepalensis*
464	*Leguminosae*	*Cassia mimosoides*
465	*Leguminosae*	*Chesneya nubigena =Astragalus larkyaensis*
466	*Leguminosae*	*Colutea nepalensis*
467	*Leguminosae*	*Crotalaria juncea*
468	*Leguminosae*	*Crotalaria kanaii (es)*
469	*Leguminosae*	*Dalbergia sericea*
470	*Leguminosae*	*Desmodium concinnum*
471	*Leguminosae*	*Desmodium elegans = D. tiliaefolium*
472	*Leguminosae*	*Desmodium microphyllum*
473	*Leguminosae*	*Desmodium multiflorum = D. floribundum*
474	*Leguminosae*	*Desmodium sequax*
475	*Leguminosae*	*Desmodium elegans DC. subsp. elegans var. elegans*
476	*Leguminosae*	*Erythrina arborescens*
477	*Leguminosae*	*Flemingia macrophylla = Moghania macrophylla*
478	*Leguminosae*	*Flemingia strobilifera = Hedysarum strobiliferum*
479	*Leguminosae*	*Gueldenstaedtia himalaica*
480	*Leguminosae*	*Hedysarum campylocarpon*
481	*Leguminosae*	*Indigofera constricta*
482	*Leguminosae*	*Indigofera cylindracea*
483	*Leguminosae*	*Indigofera dosua*
484	*Leguminosae*	*Indigofera pulchella*
485	*Leguminosae*	*Lespedeza gerardiana*
486	*Leguminosae*	*Lotus corniculatus*
487	*Leguminosae*	*Medicago falcate*
488	*Leguminosae*	*Parochetus communis*
489	*Leguminosae*	*Peuraria peduncularis*
490	*Leguminosae*	*Piptanthus nepalensis*
491	*Leguminosae*	*Thermopsis barbata*
492	*Leguminosae*	*Trigonella emodi*
493	*Leguminosae*	*Trigonella pubescens =Medicago edgeworthii*
494	*Leguminosae*	*Uraria lagopus*
495	*Lemnaceae*	*Lemna perpusilla*
496	*Lentibulariaceae*	*Utricularia multicaulis*

SN	Family	Botanical Name
497	*Lentibulariaceae*	*Utricularia bifida*
498	*Lentibulariaceae*	*Utricularia scandens*
499	*Lentibulariaceae*	*Utricularia striatula*
500	*Linaceae*	*Anisadenia saxatilis = A. khasyana*
501	*Loranthaceae*	*Scurrula elata*
502	*Loranthaceae*	*Viscum articulatum*
503	*Lythraceae*	*Lagerstroemia parviflora*
504	*Magnoliaceae*	*Michelia kisopa*
505	*Malvaceae*	*Malva verticillata*
506	*Melastomaceae*	*Melastoma malabathricum*
507	*Melastomaceae*	*Osbeckia nutans*
508	*Melastomaceae*	*Oxyspora paniculata*
509	*Melastomaceae*	*Sarcopyramis napalensis*
510	*Melastomaceae*	*Sonerila stricta*
511	*Meliaceae*	*Cipadessa baccifera = C. fruticosa*
512	*Meliaceae*	*Melia azedarach*
513	*Meliaceae*	*Toona ciliata = Cedrela toona*
514	*Meliaceae*	*Trichilia connaroides = Walsura trijuga*
515	*Menispermaceae*	*Cissampelos pareira*
516	*Menispermaceae*	*Stephania elegans*
517	*Menispermaceae*	*Stephania glandulifera*
518	*Moraceae*	*Ficus hispida*
519	*Moraceae*	*Ficus lacor*
520	*Moraceae*	*Ficus sarmentosa = F. foveolata*
521	*Moraceae*	*Ficus semicordata = F. cunia*
522	*Myricaceae*	*Myrica esculenta*
523	*Myrsinaceae*	*Maesa chisia*
524	*Myrsinaceae*	*Maesa macrophylla*
525	*Myrtaceae*	*Syzygium cumini*
526	*Oleaceae*	*Fraxinus floribunda*
527	*Oleaceae*	*Jasminum dispermum*
528	*Oleaceae*	*Jasminum humile*
529	*Oleaceae*	*Jasminum nepalense*
530	*Oleaceae*	*Jasminum officinale*
531	*Oleaceae*	*Osmanthus fragrans*
532	*Onagraceae*	*Circaea alpine*
533	*Onagraceae*	*Circaea repens*
534	*Onagraceae*	*Epilobium conspersum = Chamaernerion reticulatum*
535	*Onagraceae*	*Epilobium cylindricum*
536	*Onagraceae*	*Epilobium royleanum*
537	*Onagraceae*	*Epilobium sikkimense*
538	*Onagraceae*	*Epilobium wallichianum*

SN	Family	Botanical Name
539	*Orobanchaceae*	*Boschniakia himalaica*
540	*Oxalidaceae*	*Oxalis corniculata*
541	*Oxalidaceae*	*Oxalis latifolia*
542	*Papavaraceae*	*Corydalis casimiriana*
543	*Papavaraceae*	*Corydalis chaerophylla var geraniifolia*
544	*Papavaraceae*	*Corydalis cornuta*
545	*Papavaraceae*	*Corydalis elegans*
546	*Papavaraceae*	*Corydalis flaccida*
547	*Papavaraceae*	*Corydalis juncea*
548	*Papavaraceae*	*Corydalis longipes*
549	*Papavaraceae*	*Corydalis meifolia*
550	*Papavaraceae*	*Corydalis vaginans = C. ramosa*
551	*Papavaraceae*	*Dicentra scandens*
552	*Papavaraceae*	*Meconopsis bella*
553	*Papavaraceae*	*Meconopsis dhwojii (es)*
554	*Papavaraceae*	*Meconopsis discigera*
555	*Papavaraceae*	*Meconopsis gracilipes*
556	*Papavaraceae*	*Meconopsis horridula*
557	*Papavaraceae*	*Meconopsis lyrata*
558	*Papaveraceae*	*Meconopsis napaulensis*
559	*Papaveraceae*	*Meconopsis paniculata = M. longipetiolata*
560	*Papaveraceae*	*Meconopsis regia (es)*
561	*Papaveraceae*	*Meconopsis sinuate*
562	*Parnassiaceae*	*Parnassia nubicola*
563	*Parnassiaceae*	*Parnassia pusilla*
564	*Passifloraceae*	*Passiflora napalensis*
565	*Phytolaccaceae*	*Phytolacca acinosa*
566	*Piperaceae*	*Peperomia heyneana*
567	*Piperaceae*	*Peperomia tetraphylla*
568	*Piperaceae*	*Piper mullesua*
569	*Plantaginaceae*	*Plantago major*
570	*Polygalaceae*	*Polygala arillata*
571	*Polygalaceae*	*Polygala crotalarioides*
572	*Polygalaceae*	*Polygala furcata =P. triphylla*
573	*Polygalaceae*	*Polygala sibirica*
574	*Polygonaceae*	*Aconogonum campanulatum*
575	*Polygonaceae*	*Aconogonum molle*
576	*Polygonaceae*	*Bistorta affinis = Polygonum affine*
577	*Polygonaceae*	*Bistorta amplexicaulis = Polygonum amplexicaule*
578	*Polygonaceae*	*Bistorta emodi*
579	*Polygonaceae*	*Bistorta macrophylla = Polygonum macrophyllum*
580	*Polygonaceae*	*Bistorta milletii*

SN	Family	Botanical Name
581	*Polygonaceae*	*Bistorta vaccinifolia = Polygonum vaccinifolium*
582	*Polygonaceae*	*Bistorta vivipara = Polygonum viviparum*
583	*Polygonaceae*	*Eskemukerjea megacarpum (es)*
584	*Polygonaceae*	*Fagopyrum dibotrys*
585	*Polygonaceae*	*Koenigia delicatula*
586	*Polygonaceae*	*Koenigia islandica*
587	*Polygonaceae*	*Koenigia nepalensis*
588	*Polygonaceae*	*Oxyria digyna*
589	*Polygonaceae*	*Persicaria capitata*
590	*Polygonaceae*	*Persicaria chinensis*
591	*Polygonaceae*	*Persicaria hydropiper*
592	*Polygonaceae*	*Persicaria microcephala*
593	*Polygonaceae*	*Persicaria nepalensis*
594	*Polygonaceae*	*Persicaria polystachya =Polygonum polystachyum*
595	*Polygonaceae*	*Persicaria runcinata*
596	*Polygonaceae*	*Rheum australe = R. emodi*
597	*Polygonaceae*	*Rheum moorcroftianum*
598	*Polygonaceae*	*Rheum webbianum*
599	*Polygonaceae*	*Rumex nepalensis*
600	*Primulaceae*	*Androsace geraniifolia*
601	*Primulaceae*	*Androsace lehmannii*
602	*Primulaceae*	*Androsace muscoidea*
603	*Primulaceae*	*Androsace sarmentosa*
604	*Primulaceae*	*Lysimachia ferruginea*
605	*Primulaceae*	*Lysimachia prolifera*
606	*Primulaceae*	*Lysimachia pyramidalis*
607	*Primulaceae*	*Primula atrodentata*
608	*Primulaceae*	*Primula aureata (es)*
609	*Primulaceae*	*Primula buryana*
610	*Primulaceae*	*Primula calderiana Balf.f. & Cooper subsp. strumosa (Balf.f. & Cooper) A.J.Richards*
611	*Primulaceae*	*Primula capitata*
612	*Primulaceae*	*Primula denticulate*
613	*Primulaceae*	*Primula deuteronana*
614	*Primulaceae*	*Primula glomerata*
615	*Primulaceae*	*Primula gracilipes*
616	*Primulaceae*	*Primula involucrate*
617	*Primulaceae*	*Primula macrophylla = P. stuartii var. purpurea*
618	*Primulaceae*	*Primula oblique*
619	*Primulaceae*	*Primula primulina = P. pusilla*
620	*Primulaceae*	*Primula reticulate*
621	*Primulaceae*	*Primula rotundifolia*

SN	Family	Botanical Name
622	*Primulaceae*	*Primula sikkimensis*
623	*Primulaceae*	*Primula stirtoniana*
624	*Primulaceae*	*Primula stuartii*
625	*Primulaceae*	*Primula wollastonii*
626	*Ranunculaceae*	*Aconitum bisma*
627	*Ranunculaceae*	*Aconitum gammiei = A. wallichianum*
628	*Ranunculaceae*	*Aconitum spicatum*
629	*Ranunculaceae*	*Anemone demissa*
630	*Ranunculaceae*	*Anemone elongate*
631	*Ranunculaceae*	*Anemone obtusiloba*
632	*Ranunculaceae*	*Anemone rivularis*
633	*Ranunculaceae*	*Anemone vitifolia*
634	*Ranunculaceae*	*Caltha palustris*
635	*Ranunculaceae*	*Cimicifuga foetida*
636	*Ranunculaceae*	*Clematis acuminata = C. acuminata var. wallichii*
637	*Ranunculaceae*	*Clematis alternate*
638	*Ranunculaceae*	*Clematis buchananiana*
639	*Ranunculaceae*	*Clematis Montana*
640	*Ranunculaceae*	*Clematis napaulensis*
641	*Ranunculaceae*	*Delphinium altissimum*
642	*Ranunculaceae*	*Delphinium brunonianum*
643	*Ranunculaceae*	*Delphinium denudatum*
644	*Ranunculaceae*	*Delphinium grandiflorum*
645	*Ranunculaceae*	*Delphinium kamaonense*
646	*Ranunculaceae*	*Delphinium vestitum*
647	*Ranunculaceae*	*Delphinium williamsii (es)*
648	*Ranunculaceae*	*Oxygraphis polypetala*
649	*Ranunculaceae*	*Ranunculus adoxifolius*
650	*Ranunculaceae*	*Ranunculus brotherusii*
651	*Ranunculaceae*	*Ranunculus diffuses*
652	*Ranunculaceae*	*Ranunculus ficariifolius = R. microphyllus*
653	*Ranunculaceae*	*Ranunculus hirtellus*
654	*Ranunculaceae*	*Ranunculus pulchellus*
655	*Ranunculaceae*	*Thalictrum chelidonii*
656	*Ranunculaceae*	*Thalictrum cultratum*
657	*Ranunculaceae*	*Thalictrum elegans*
658	*Ranunculaceae*	*Thalictrum foliolosum*
659	*Ranunculaceae*	*Thalictrum javanicum*
660	*Ranunculaceae*	*Thalictrum platycarpum*
661	*Ranunculaceae*	*Thalictrum punduanum*
662	*Ranunculaceae*	*Thalictrum reniforme*
663	*Ranunculaceae*	*Thalictrum rostellatum*

SN	Family	Botanical Name
664	*Ranunculaceae*	*Thalictrum rotundifolium*
665	*Ranunculaceae*	*Thalictrum saniculiforme*
666	*Ranunculaceae*	*Thalictrum virgatum*
667	*Rhamnaceae*	*Berchemia floribunda*
668	*Rhamnaceae*	*Rhamnus napalensis*
669	*Rhamnaceae*	*Rhamnus virgatus*
670	*Rosaceae*	*Agrimonia pilosa var.nepalensis*
671	*Rosaceae*	*Aruncus dioicus*
672	*Rosaceae*	*Cotoneaster acuminatus*
673	*Rosaceae*	*Cotoneaster affinis*
674	*Rosaceae*	*Cotoneaster congestus*
675	*Rosaceae*	*Cotoneaster frigidus*
676	*Rosaceae*	*Cotoneaster rotundifolius*
677	*Rosaceae*	*Duchesnea indica =Fragaria indica*
678	*Rosaceae*	*Fragaria daltoniana*
679	*Rosaceae*	*Fragaria nubicola = F. vesca*
680	*Rosaceae*	*Geum elatum =Acomastylis elata*
681	*Rosaceae*	*Neillia thrysiflora*
682	*Rosaceae*	*Photinia integrifolia*
683	*Rosaceae*	*Potentilla argyrophylla =P. nivea var. himalaica*
684	*Rosaceae*	*Potentilla coriandrifolia*
685	*Rosaceae*	*Potentilla cuneata = P. ambigua*
686	*Rosaceae*	*Potentilla eriocarpa*
687	*Rosaceae*	*Potentilla fructicosa*
688	*Rosaceae*	*Potentilla fulgens*
689	*Rosaceae*	*Potentilla griffithii*
690	*Rosaceae*	*Potentilla kleiniana*
691	*Rosaceae*	*Potentilla leschenaultiana*
692	*Rosaceae*	*Potentilla leuconota*
693	*Rosaceae*	*Potentilla lineata*
694	*Rosaceae*	*Potentilla microphylla*
695	*Rosaceae*	*Potentilla peduncularis*
696	*Rosaceae*	*Potentilla polyphylla = P. mooniana*
697	*Rosaceae*	*Potentilla saundersiana = P. argentea*
698	*Rosaceae*	*Prinsepia utilis*
699	*Rosaceae*	*Prunus cerasoides*
700	*Rosaceae*	*Prunus napaulensis*
701	*Rosaceae*	*Prunus rufa*
702	*Rosaceae*	*Pyrus pashia*
703	*Rosaceae*	*Rosa brunonii*
704	*Rosaceae*	*Rosa macrophylla*
705	*Rosaceae*	*Rosa sericea*

SN	Family	Botanical Name
706	*Rosaceae*	*Rubus ellipticus*
707	*Rosaceae*	*Rubus fockeanus*
708	*Rosaceae*	*Rubus foliolosus*
709	*Rosaceae*	*Rubus fragarioides*
710	*Rosaceae*	*Rubus hypargyrus*
711	*Rosaceae*	*Rubus macilentus*
712	*Rosaceae*	*Rubus mesogaeus*
713	*Rosaceae*	*Rubus nepalensis*
714	*Rosaceae*	*Rubus niveus*
715	*Rosaceae*	*Rubus paniculatus*
716	*Rosaceae*	*Rubus pentagonus*
717	*Rosaceae*	*Rubus reticulatus*
718	*Rosaceae*	*Sanguisorba diandra =Poterium diandrum*
719	*Rosaceae*	*Sibbaldia cuneata*
720	*Rosaceae*	*Sibbaldia micropetala*
721	*Rosaceae*	*Sorbus cuspidate*
722	*Rosaceae*	*Sorbus hedlundii*
723	*Rosaceae*	*Sorbus lanata*
724	*Rosaceae*	*Sorbus microphylla*
725	*Rosaceae*	*Sorbus ursine*
726	*Rosaceae*	*Spiraea arcuata*
727	*Rosaceae*	*Spiraea bella*
728	*Rosaceae*	*Spiraea micrantha*
729	*Rosaceae*	*Stranvaesia nussia = S. glaucescens*
730	*Rubiaceae*	*Argostemma verticillatum*
731	*Rubiaceae*	*Galium aparine*
732	*Rubiaceae*	*Galium asperuloides*
733	*Rubiaceae*	*Galium asperifolium*
734	*Rubiaceae*	*Galium elegans = G. rotundifolium*
735	*Rubiaceae*	*Galium hirtiflorum*
736	*Rubiaceae*	*Hymenopogon parasiticus*
737	*Rubiaceae*	*Leptodermis lanceolata*
738	*Rubiaceae*	*Luculia gratissima*
739	*Rubiaceae*	*Pavetta tomentosa*
740	*Rubiaceae*	*Randia tetrasperma*
741	*Rubiaceae*	*Rubia manjith*
742	*Rubiaceae*	*Wendlandia appendiculata (es)*
743	*Rubiaceae*	*Wendlandia puberula*
744	*Rutaceae*	*Boenninghausenia albiflora*
745	*Rutaceae*	*Murraya paniculata = M. exotica*
746	*Rutaceae*	*Ruta cordata (es)*
747	*Rutaceae*	*Zanthoxylum acanthopodium*

SN	Family	Botanical Name
748	*Rutaceae*	*Zanthoxylum armatum*
749	*Rutaceae*	*Zanthoxylum nepalense*
750	*Rutaceae*	*Zanthoxylum oxyphyllum*
751	*Sabiaceae*	*Meliosma dilleniifolia*
752	*Salicaceae*	*Salix calyculata*
753	*Salicaceae*	*Salix daltoniana*
754	*Salicaceae*	*Salix denticulata = S. elegans*
755	*Salicaceae*	*Salix hylematica*
756	*Salicaceae*	*Salix lindleyana*
757	*Sambucaceae*	*Sambucus adnata*
758	*Sambucaceae*	*Viburnum cotinifolium*
759	*Sambucaceae*	*Viburnum cylindricum =V.coriaceum*
760	*Sambucaceae*	*Viburnum erubescens*
761	*Sambucaceae*	*Viburnum grandiflorum*
762	*Sambucaceae*	*Viburnum mullaha*
763	*Santalaceae*	*Osyris wightiana*
764	*Santalaceae*	*Pyrularia edulis*
765	*Santalaceae*	*Thesium himalense*
766	*Saurauiaceae*	*Saurauia napaulensis*
767	*Saururaceae*	*Houttuynia cordata*
768	*Saxifragaceae*	*Astilbe rivularis*
769	*Saxifragaceae*	*Bergenia ciliata = B. ligulata*
770	*Saxifragaceae*	*Chrysosplenium carnosum*
771	*Saxifragaceae*	*Saxifraga aristulata*
772	*Saxifragaceae*	*Saxifraga brachypoda*
773	*Saxifragaceae*	*Saxifraga brunonis = S. brunoniana*
774	*Saxifragaceae*	*Saxifraga caveana = S. diapensia*
775	*Saxifragaceae*	*Saxifraga diversifolia*
776	*Saxifragaceae*	*Saxifraga engleriana*
777	*Saxifragaceae*	*Saxifraga filicaulis*
778	*Saxifragaceae*	*Saxifraga granulifera*
779	*Saxifragaceae*	*Saxifraga hirculoides*
780	*Saxifragaceae*	*Saxifraga hispidula*
781	*Saxifragaceae*	*Saxifraga kingiana*
782	*Saxifragaceae*	*Saxifraga pallida*
783	*Saxifragaceae*	*Saxifraga parnassifolia*
784	*Saxifragaceae*	*Saxifraga saginoides*
785	*Saxifragaceae*	*Saxifraga sphaeradena subsp. Dhwojii*
786	*Saxifragaceae*	*Saxifraga strigosa*
787	*Saxifragaceae*	*Tiarella polyphylla*
788	*Schisandraceae*	*Schisandra grandiflora*
789	*Schisandraceae*	*Schisandra propinqua*

SN	Family	Botanical Name
790	*Scrophulariaceae*	*Adenosma indianum*
791	*Scrophulariaceae*	*Ellisiophyllum pinnatum*
792	*Scrophulariaceae*	*Euphrasia himalayica*
793	*Scrophulariaceae*	*Hemiphragma heterophyllum*
794	*Scrophulariaceae*	*Mazus surculosus*
795	*Scrophulariaceae*	*Mimulus tenellus var. nepalensis = M. nepalensis*
796	*Scrophulariaceae*	*Neopicrorhiza scrophulariifolia = Picrorhiza scrophulariifolia*
797	*Scrophulariaceae*	*Pedicularis albiflora*
798	*Scrophulariaceae*	*Pedicularis bifida*
799	*Scrophulariaceae*	*Pedicularis brevifolia*
800	*Scrophulariaceae*	*Pedicularis elwesii*
801	*Scrophulariaceae*	*Pedicularis furfuracea*
802	*Scrophulariaceae*	*Pedicularis globifera*
803	*Scrophulariaceae*	*Pedicularis gracilis*
804	*Scrophulariaceae*	*Pedicularis longiflora var.tubiformis*
805	*Scrophulariaceae*	*Pedicularis megalantha*
806	*Scrophulariaceae*	*Pedicularis mollis*
807	*Scrophulariaceae*	*Pedicularis nepalensis*
808	*Scrophulariaceae*	*Pedicularis oederi*
809	*Scrophulariaceae*	*Pedicularis oxyrhyncha (es)*
810	*Scrophulariaceae*	*Pedicularis pennelliana*
811	*Scrophulariaceae*	*Pedicularis porrecta*
812	*Scrophulariaceae*	*Pedicularis pseudoregeliana (es)*
813	*Scrophulariaceae*	*Pedicularis roylei*
814	*Scrophulariaceae*	*Pedicularis scullyana*
815	*Scrophulariaceae*	*Pedicularis siphonantha*
816	*Scrophulariaceae*	*Pedicularis trichoglossa*
817	*Scrophulariaceae*	*Pedicularis wallichii = P. aspleniifolia P. wallichoides*
818	*Scrophulariaceae*	*Scrophularia urticifolia*
819	*Scrophulariaceae*	*Sopubia trifida*
820	*Scrophulariaceae*	*Striga asiatica = S. lutea*
821	*Scrophulariaceae*	*Torenia asiatica =T. cordata*
822	*Scrophulariaceae*	*Torenia diffusa*
823	*Scrophulariaceae*	*Verbascum Thapsus*
824	*Scrophulariaceae*	*Veronica cana*
825	*Scrophulariaceae*	*Veronica himalensis*
826	*Scrophulariaceae*	*Wulfenia amherstiana*
827	*Solanaceae*	*Datura stramonium*
828	*Solanaceae*	*Nicandra physalodes*
829	*Solanaceae*	*Nicotiana tabacum*
830	*Solanaceae*	*Physalis peruviana*
831	*Solanaceae*	*Scopolia stramonifolia (Wall.) Shrestha = Anisodus luridus Link & Otto*

SN	Family	Botanical Name
832	*Solanaceae*	*Solanum aculeatissimum*
833	*Solanaceae*	*Solanum nigrum*
834	*Sterculiaceae*	*Melochia corchorifolia*
835	*Symplocaceae*	*Symplocos lucida = S. theifolia*
836	*Symplocaceae*	*Symplocos paniculata = S. crataegoide*
837	*Symplocaceae*	*Symplocos pyrifolia*
838	*Symplocaceae*	*Symplocos ramosissima*
839	*Tamaricaceae*	*Myricaria rosea = M. germanica*
840	*Theaceae*	*Camellia kissi*
841	*Theaceae*	*Eurya acuminate*
842	*Theaceae*	*Eurya cerasifolia*
843	*Theaceae*	*Schima wallichii*
844	*Thymelaeaceae*	*Daphne bholua var. glacialis*
845	*Thymelaeaceae*	*Edgeworthia gardneri*
846	*Thymelaeaceae*	*Wikstroemia canescens = Diplomorpha canescens*
847	*Tiliaceae*	*Triumfetta annua*
848	*Toricelliaceae*	*Toricellia tillifolia*
849	*Umbelliferae*	*Acronema tenerum*
850	*Umbelliferae*	*Bupleurum falcatum*
851	*Umbelliferae*	*Bupleurum hamiltonii = B. tenue*
852	*Umbelliferae*	*Chaerophyllum villosum*
853	*Umbelliferae*	*Cortia depressa*
854	*Umbelliferae*	*Cortiella hookeri =Cortia hookeri*
855	*Umbelliferae*	*Heracleum nepalense*
856	*Umbelliferae*	*Heracleum wallichii*
857	*Umbelliferae*	*Meeboldia achilleifolia =Pimpinella achilleifolia*
858	*Umbelliferae*	*Oenanthe thomsonii*
859	*Umbelliferae*	*Pimpinella diversifolia*
860	*Umbelliferae*	*Pleurospermum apiolens*
861	*Umbelliferae*	*Pleurospermum benthamii*
862	*Umbelliferae*	*Pleurospermum dentatum*
863	*Umbelliferae*	*Pleurospermum hookeri*
864	*Umbelliferae*	*Sanicula elata*
865	*Umbelliferae*	*Selinum wallichianum =S. tenuifolium*
866	*Urticaceae*	*Boehmeria platyphylla*
867	*Urticaceae*	*Boehmeria polystachya*
868	*Urticaceae*	*Boehmeria rugulosa*
869	*Urticaceae*	*Elatostema monandrum = E. surculosum*
870	*Urticaceae*	*Girardinia diversifolia =Girardinia palmata*
871	*Urticaceae*	*Lecanthus peduncularis*
872	*Urticaceae*	*Maoutia puya*
873	*Urticaceae*	*Oreochnide frutescens*

SN	Family	Botanical Name
874	*Urticaceae*	*Parietaria micarantha = P. debilis*
875	*Urticaceae*	*Pilea racemosa = P. subalpina*
876	*Urticaceae*	*Pilea symmeria = P. wightii*
877	*Urticaceae*	*Pilea umbrosa*
878	*Urticaceae*	*Pouzolzia sanguinea = P. viminea*
879	*Urticaceae*	*Urtica dioica*
880	*Valerianaceae*	*Nardostachys grandiflora = N. jatamansi*
881	*Valerianaceae*	*Valeriana hardwickii*
882	*Valerianaceae*	*Valeriana jatamansii = V. wallichii*
883	*Verbenaceae*	*Caryopteris bicolor = C. odorata*
884	*Verbenaceae*	*Clerodendrum japonicum*
885	*Verbenaceae*	*Clerodendrum serratum*
886	*Verbenaceae*	*Premna barbata*
887	*Verbenaceae*	*Premna interrupta*
888	*Verbenaceae*	*Vitex negundo*
889	*Violaceae*	*Viola biflora*
890	*Violaceae*	*Viola hamiltoniana = V. arcuata*
891	*Violaceae*	*Viola hookeri*
892	*Violaceae*	*Viola pilosa = V. serpens*
893	*Vitaceae*	*Parthenocissus semicordata*
894	*Vitaceae*	*Tetrastigma serrulatum*
895	*Vitaceae*	*Vitis lanata*
Monocots		
896	*Alliaceae*	*Allium prattii = A. victorialis*
897	*Alliaceae*	*Allium wallichii*
898	*Araceae*	*Ariopsis peltata*
899	*Araceae*	*Arisaema concinnum*
900	*Araceae*	*Arisaema erubescens*
901	*Araceae*	*Arisaema jacquemontii*
902	*Araceae*	*Arisaema nepenthoides*
903	*Araceae*	*Arisaema speciosum*
904	*Araceae*	*Arisaema tortuosum*
905	*Araceae*	*Typhonium diversifolium*
906	*Asparagaceae*	*Asparagus racemosus*
907	*Convallariaceae*	*Maianthemum fuscum = Smilacina fusca*
908	*Convallariaceae*	*Maianthemum purpureum = Smilacina purpurea*
909	*Convallariaceae*	*Ophiopogon intermedius*
910	*Convallariaceae*	*Polygonatum cirrhifolium*
911	*Convallariaceae*	*Polygonatum hookeri*
912	*Convallariaceae*	*Polygonatum punctatum*
913	*Convallariaceae*	*Polygonatum verticillatum*
914	*Convallariaceae*	*Theropogon pallidus*

SN	Family	Botanical Name
915	*Cyperaceae*	*Carex atrata = C. duthiei*
916	*Cyperaceae*	*Carex atrofusca*
917	*Cyperaceae*	*Carex cardiolepis*
918	*Cyperaceae*	*Carex cruciate*
919	*Cyperaceae*	*Carex filicina*
920	*Cyperaceae*	*Carex himalaica (es)*
921	*Cyperaceae*	*Carex laeta*
922	*Cyperaceae*	*Carex longipes*
923	*Cyperaceae*	*Carex myosurus*
924	*Cyperaceae*	*Carex nubigena*
925	*Cyperaceae*	*Carex setigera*
926	*Cyperaceae*	*Cyperus niveus*
927	*Cyperaceae*	*Eleocharis palustris*
928	*Cyperaceae*	*Kobresia esenbeckii* (Kunth) Noltie
929	*Cyperaceae*	*Kobresia fissiglumis (es)*
930	*Cyperaceae*	*Kobresia pygmaea*
931	*Diocoreaceae*	*Dioscorea bulbifera*
932	*Diocoreaceae*	*Dioscorea deltoidea*
933	*Gramineae*	*Agrostis hookeriana*
934	*Gramineae*	*Agrostis nervosa*
935	*Gramineae*	*Agrostis pilosula*
936	*Gramineae*	*Andropogon munroi = A. tristis*
937	*Gramineae*	*Apluda mutica*
983	*Iridaceae*	*Iris decora*
984	*Iridaceae*	*Iris kemaonensis*
985	*Juncaceae*	*Juncus himalensis*
986	*Juncaceae*	*Juncus leucanthus*
987	*Juncaceae*	*Juncus membranaceus*
988	*Juncaceae*	*Juncus sikkimensis*
989	*Liliaceae*	*Fritillaria cirrhosa*
990	*Liliaceae*	*Lilium nanum*
991	*Liliaceae*	*Lilium nepalense*
992	*Liliaceae*	*Lilium wallichianum*
993	*Liliaceae*	*Lloydia serotina*
994	*Liliaceae*	*Notholirion macrophyllum*
995	*Nartheciaceae*	*Aletris pauciflora*
996	*Orchidaceae*	*Anthogonium gracile*
997	*Orchidaceae*	*Arundina graminifolia*
998	*Orchidaceae*	*Brachycorythis obcordata = Habenaria galeandra*
999	*Orchidaceae*	*Calanthe puberula*
1000	*Orchidaceae*	*Calanthe tricarinata*
1001	*Orchidaceae*	*Cephalanthera longifolia*

SN	Family	Botanical Name
1002	*Orchidaceae*	*Coelogyne corymbosa*
1003	*Orchidaceae*	*Coelogyne cristata*
1004	*Orchidaceae*	*Cypripediium himalaicum*
1005	*Orchidaceae*	*Dactylorhiza hatagirea*
1006	*Orchidaceae*	*Dendrobium aphyllum*
1007	*Orchidaceae*	*Dendrobium eriiflorum*
1008	*Orchidaceae*	*Eria muscicola*
1009	*Orchidaceae*	*Goodyera fusca*
1010	*Orchidaceae*	*Gymnadenia orchidis*
1011	*Orchidaceae*	*Habenaria furcifera*
1012	*Orchidaceae*	*Habenaria intermedia*
1013	*Orchidaceae*	*Habenaria pectinata*
1014	*Orchidaceae*	*Herminium duthiei*
1015	*Orchidaceae*	*Herminium lanceum*
1016	*Orchidaceae*	*Liparis glossula*
1017	*Orchidaceae*	*Malaxis muscifera*
1018	*Orchidaceae*	*Neottianthe secundiflora*
1019	*Orchidaceae*	*Otochilus albus*
1020	*Orchidaceae*	*Panisea uniflora*
1021	*Orchidaceae*	*Pecteilis susannae*
1022	*Orchidaceae*	*Peristylus elisabethae*
1023	*Orchidaceae*	*Peristylus goodyeroides*
1024	*Orchidaceae*	*Pholidota articulate*
1025	*Orchidaceae*	*Platanthera clavigera*
1026	*Orchidaceae*	*Platanthera latilabris*
1027	*Orchidaceae*	*Platanthera stenantha*
1028	*Orchidaceae*	*Pleione hookeriana*
1029	*Orchidaceae*	*Ponerorchis chusua*
1030	*Orchidaceae*	*Satyrium nepalense*
1031	*Orchidaceae*	*Spathoglottis ixioides*
1032	*Orchidaceae*	*Spiranthes sinensis*
1033	*Smilacaceae*	*Smilax menispermoidea*
1034	*Trillidaceae*	*Paris polyphylla*
1035	*Trillidaceae*	*Trillidium govanianum*
1036	*Urticaceae*	*Girardinia diversifolia*
1037	*Uvulariaceae*	*Clintonia udensis*
1038	*Uvulariaceae*	*Disporum cantoniense*
1039	*Zingiberaceae*	*Cautleya gracilis = C. lutea, Roscoea gracilis*
1040	*Zingiberaceae*	*Cautleya spicata = Roscoea spicata*
1041	*Zingiberaceae*	*Curcuma angustifolia*
1042	*Zingiberaceae*	*Roscoea alpine*
1043	*Zingiberaceae*	*Roscoea purpurea*

Sources: Department of Medicinal Plants (1976), DNPWC (1977) & Regmi (2006)

Annex II: Endemic Plants of LNP

SN	Scientific name	Altitude (m)	Location	Remarks
1.	*Baliospermum nepalensis*	1500-1600		
2.	*Begonia flagellaris*	2000-2900	Lingu, Tiblung	Need confirmation
3.	*Carum carvi*		Langtang Valley	
4.	*Clematis alternata*	1470-3000		
5.	*Cremanthodium nepalense*	2800-4000	Helambu	
6.	*Delphinium walliamsii Munz.*	1500-2600	Before Langtang	
7.	*Elaeagnus tricholepsis*		Chilime, Langtang Valley	
8.	*Heracleum lallii*	3000-4400	Lauribinayak	
9.	*Homalium napaulensis*	700-4500	Syaphru, Dhunche, Gosaikunda	
10.	*Impatiense scullyi*	1800-2630	Lingui, Tibling	Need confirmation
11.	*Meconopsis dhwojii*	3600-4570	Lauri Binayak, Langtang	
12.	*M.regia*	2700-4600	Sindhupalchowk	
13.	*M.taylorii*	3600-4570	Gosaikunda, Langtang	
14.	*Micromeria nepalensis*	1900-3600	Cheme, Rasuwa	Need confirmation
15.	*Pedicularis wallichii*			
16.	*Primula aureata*	4500	Gosaikunda	
17.	*P.sharmae*	2500-5300	Chandanbari	
18.	*Rhododendron cowanianum*			
19.	*R.lowndesii= R. lepidotum*		Source: Yonzon 1989	
20.	*Wendlandia appendiculata*	1000-1800	Dhunche, Syaphrubesi	
21.	*Zanthoxylum nepalense*	2000-2850	Dhunche-Chandanbari	

Annex III: Checklist of Mammals in Langtang National Park

SN	Order	Family	Genus/species	Local name	Status				
					GoN	CITES	IUCN	NRDB	IWA
1	Insectivora	Soricidae	*Soriculus caudaatus*	Brown toothed shrew					
2			*S.nigrescens*	Himalayan shrew					
3			*S.baileyi*	Bailey's shrew					
4			*S.gruberi*	Gruber's shrew					
5			*S.leucops*	Indian long tailed shrew					
6			*S.murinus*	House shrew					
7			*S.etruscus*	Common dwarf shrew					
8	Primates	Ceropithecidae	*Macaca assamensis*	Assamese monkey	P	II	-	S	
9			*M.mulatta*	Rhesus macaque					
10			*Semnopithecus entellus*	Hanuman langur	-	I	-	S	
11	Carnivora	Canidae	*Canis lupus*	Grey wolf	P	I	V	V	
12			*C.aureus*	Golden jackal					
13			*Vulpes vulpes*	Red fox	-	-	-	S	
14			*Cuon alpines*	Asiatic wild dog	-	II	V	V	
15		Ursidae	*Selenarctos thibetanus*	Asiatic black Bear	-	I	V	V	
16		Ailuridae	*Ailurus fulgens*	Red panda	P	II	V	E	
17		Mustelidae	*Mustela sibirica*	Siberian weasel					
18			*M.altaica*	Mountain or pale weasel					
19			*Martes foina*	Stone or beech marten					
20			*M.flavigula*	Yellow throated marten					
21		Herpestidae	*Herpestes javanicus var. H.auropunctatus*	Small asian mongoose					
22			*H.edwardsii*	Indian gray mongoose					
23		Felidae	*Felis bengalensis*	Leopard Cat	P	II	-	V	+
24			*Pardofelis nebulosa*	Clouded leopard	P	I	V	V	+
25			*Panthera pardus*	Spotted leopard	-	I	-	S	+
26			*P.uncia*	Snow leopard	P	I	E	E	+

SN	Order	Family	Genus/species	Local name	Status				
					GoN	CITES	IUCN	NRDB	IWA
27	Artiodactyla Rodentia Lagomorpha,	Suidae	*Sus scrofa*	Wild boar					
28		Moschidae	*Moschus chrysogaster*	Himalayan musk deer	P	I	E	E	
29		Cervidae	*Muntiacus muntjak*	Barking deer					
30			*Nemorhaedus goral*	Himalayan goral	-	I	-	S	
31			*N.sumatrensis*	Mainland serow	-	I	I	S	+
32			*Hemitragus jemlahicus*	Himalayan Tahr	-	-	K	S	+
33			*Ovis ammon*	Argali or great tibetan sheep	P	I	I	C	+
34	Rodentia	Sciuridae	*Dremomys lokriah*	Orange bellied himlayan squirrel					
35		Pteromyidae	*Petaurista petaurista*	Red flying squirrel					
36			*P.caniceps*	Gray headed flying squirrel					
37		Muridae	*Mus musculus*	House rat					
38			*Rattus rattus*	Common house rat					
39			*Niviventer niviventer*	white bellied rat					
40			*N.eha*	Smoke bellied rat					
41			*N.fulvescens*	Chestnut rat					
42			*Alticola roylei*	Royle's vole					
43			*Pitymys sikimensis*	Sikkim vole					
44		Hystricidae	*Hystrix brachyura*	Malayan porcupine					
45	Lagomorpha	Ochotonidae	*Ochotona roylei*	Himalayan mouse hare					
46			*O.macrotis*	Long eared pika					
47	Pholidota	Manidae	Manis pentadactyla	Pangolin	*P*	I	CR	C	

Source: BPP (1995 NO. 14) & Regml, B. (2006)

+ = Presence, HMG= His Majesty's GoN,

CITES= Convention on International Trade on Endangered fauna and flora, IUCN= World Conservation Union,
NRDB =National Red Data Book, IWA

Annex IV: List of birds

S.N.	Order	Family	Common name	Scientific name	Nepali name
1	GALLIFORMES	Phasianidae	Snow Partridge	*Lerwa lerwa*	लरवान
2			Hill Partridge	*Arborophila torqueola*	पिउरा
3			Tibetan Partridge	*Perdix hodgsoniae*	हिमाली पिउरा
4			Common Quail	*Coturnix coturnix*	बट्टाई
5			Himalayan Snowcock	*Tetraogallus himalayensis*	हिमाली हिउँ कुखुरा
6			Tibetan Snowcock	*Tetraogallus tibetanus*	कोइमा हिउँ कुखुरा
7			Chukar	*Alectoris chukar*	चुकर
8			Black Francolin	*Francolinus francolinus*	कालो तित्रा
9			Himalayan Monal	*Lophophorus impejanus*	डाँफे
10			Satyr Tragopan	*Tragopan satyra*	मुनाल
11			Blood Pheasant	*Ithaginis cruentus*	चिलिमे
12			Kalij Pheasant	*Lophura leucomelanos*	कालिज
13	ANSERIFORMES	Anatidae	Bar-headed Goose	*Anser indicus*	खोयाहाँस
14			Goosander	*Mergus merganser*	मणितुण्डक हाँस
15			Ruddy Shelduck	*Tadorna ferruginea*	चखेवाचखेवी
16			Tufted Duck	*Aythya fuligula*	कालीजुरे हाँस
17			Northern Pintail	*Anas acuta*	सुईरोपुच्छ्रे हाँस
18			Common Teal	*Anas crecca*	विजुलागैरी हाँस
19	CICONIIFORMES	Columbidae	Rock Dove	*Columba livia*	मलेवा
20			Snow Pigeon	*Columba leuconota*	हिमाली मलेवा
21			Speckled Woodpigeon	*Columba hodgsonii*	छिरबिरे वनपरेवा
22			Ashy Woodpigeon	*Columba pulchricollis*	फुम्रो वनपरेवा
23			Oriental Turtle-dove	*Streptopelia orientalis*	तामे ढुकुर
24			Eurasian Collared-dove	*Streptopelia decaocto*	कण्ठे ढुकुर
25			Western Spotted Dove	*Spilopelia suratensis*	कुले ढुकुर
26			Barred Cuckoo-dove	*Macropygia unchall*	धर्के ढुकुर
27			Wedge-tailed Green-pigeon	*Treron sphenurus*	पहाडी हलेसो
28	CAPRIMULGIFORMES	Caprimulgidae	Grey Nightjar	*Caprimulgus jotaka*	फुम्रो चैतेचरा
29		Apodidae	White-throated Needletail	*Hirundapus caudacutus*	सेतोकण्ठे गौँथली
30			Silver-backed Needletail	*Hirundapus cochinchinensis*	चाँदीढाडे गौँथली
31			Himalayan Swiftlet	*Aerodramus brevirostris*	चीँचिका गौँथली
32			Alpine Swift	*Tachymarptis melba*	बतासी गौँथली
33			Pacific Swift	*Apus pacificus*	पुच्छ्रकापे गौँथली
34			House Swift	*Apus nipalensis*	फिरफिरे घरगौँथली
35			Common Swift	*Apus apus*	खैरो गौँथली
36	CUCULIFORMES	Cuculidae	Western Koel	*Eudynamys scolopaceus*	कोइली
37			Grey-bellied Cuckoo	*Cacomantis passerinus*	फुम्रो सानो कोइली
38			Fork-tailed Drongo-cuckoo	*Surniculus dicruroides*	चिबे कोइली
39			Large Hawk-cuckoo	*Hierococcyx sparverioides*	पहाडी बीउ कुहियो
40			Whistling Hawk-cuckoo	*Hierococcyx nisicolor*	पपीहा कोइली
41			Indian Cuckoo	*Cuculus micropterus*	काफल पाक्यो

42			Common Cuckoo	*Cuculus canorus*	कुक्कु कोइली
43			Oriental Cuckoo	*Cuculus saturatus*	पूर्वीय कोइली
44			Lesser Cuckoo	*Cuculus poliocephalus*	सानो कोइली
45	**GRUIFORMES**	**Rallidae**	White-breasted Waterhen	*Amaurornis phoenicurus*	सिमकुखुरा
46		**Gruidae**	Black-necked Crane	*Grus nigricollis*	कालीकण्ठ सारस
47	**PELECANIFORMES**	**Ardeidae**	Cattle Egret	*Bubulcus ibis*	वस्तु बकुल्ला
48	**SULIFORMES**	**Phalacrocoracidae**	Great Cormorant	*Phalacrocorax carbo*	जलेवा
49	**CHARADRIIFORMES**	**Ibidorhynchidae**	Ibisbill	*Ibidorhyncha struthersii*	तिलहरी चरा
50		**Scolopacidae**	Eurasian Curlew	*Numenius arquata*	आँसीठूँडे
51			Curlew Sandpiper	*Calidris ferruginea*	आँसीठूँडे जलरङ्ग
52			Eurasian Woodcock	*Scolopax rusticola*	ठूलो चाहा
53			Solitary Snipe	*Gallinago solitaria*	भार्का चाहा
54			Wood Snipe	*Gallinago nemoricola*	वन चाहा
55			Common Sandpiper	*Actitis hypoleucos*	चञ्चले सुडसुडिया
56			Green Sandpiper	*Tringa ochropus*	रुख सुड्सुडिया
57			Common Redshank	*Tringa totanus*	लालखुट्टे टिमटिमा
58			Wood Sandpiper	*Tringa glareola*	वन सुडसुडिया
59	**STRIGIFORMES**	**Strigidae**	Collared Owlet	*Glaucidium brodiei*	सानो डुन्डुल
60			Asian Barred Owlet	*Glaucidium cuculoides*	ठूलो डुन्डुल
61			Spotted Owlet	*Athene brama*	कोचलगाँडे लाटो कोसेरो
62			Little Owl	*Athene noctua*	हिमाली कोचलगाँडे
63			Mountain Scops-owl	*Otus spilocephalus*	लेकाली उलूक
64			Short-eared Owl	*Asio flammeus*	लघुकर्ण लाटोकोसेरो
65			Brown Wood-owl	*Strix leptogrammica*	चश्मे उलूक
66			Himalayan Owl	*Strix nivicolum*	कैलो पहाडी उलूक
67			Rock Eagle-owl	*Bubo bengalensis*	हिमाली हाप्सिलो
68	**ACCIPITRIFORMES**	**Accipitridae**	Oriental Honey-buzzard	*Pernis ptilorhynchus*	मधुहा
69			Short-toed Snake-eagle	*Circaetus gallicus*	सर्पहारी चील
70			Crested Serpent-eagle	*Spilornis cheela*	काकाकुल
71			Bearded Vulture	*Gypaetus barbatus*	हाडफोर
72			Egyptian Vulture	*Neophron percnopterus*	सेतो गिद्ध
73			Himalayan Griffon	*Gyps himalayensis*	हिमाली गिद्ध
74			Red-headed Vulture	*Sarcogyps calvus*	सुन गिद्ध
75			Griffon Vulture	*Gyps fulvus*	खैरो गिद्ध
76			Cinereous Vulture	*Aegypius monachus*	राजगिद्ध
77			Mountain Hawk-eagle	*Nisaetus nipalensis*	पहाडी शदलचील
78			Black Eagle	*Ictinaetus malaiensis*	द्रोणक चील
79			Greater Spotted Eagle	*Clanga clanga*	जीवाहार महाचील
80			Tawny Eagle	*Aquila rapax*	राग महाचील
81			Steppe Eagle	*Aquila nipalensis*	गोमायु महाचील
82			Eastern Imperial Eagle	*Aquila heliaca*	रणमत्त महाचील
83			Golden Eagle	*Aquila chrysaetos*	सुपर्ण महाचील
84			Bonelli's Eagle	*Aquila fasciata*	मोरङ्गी चील

85			Booted Eagle	*Hieraaetus pennatus*	काँधचन्द्र चील
86			Hen Harrier	*Circus cyaneus*	चल्लाचोर भुइँचील
87			Pallid Harrier	*Circus macrourus*	श्वेत भुइँचील
88			Crested Goshawk	*Accipiter trivirgatus*	कल्की बसेरा
89			Shikra	*Accipiter badius*	शिक्रा
90			Besra	*Accipiter virgatus*	बेसरा
91			Eurasian Sparrowhawk	*Accipiter nisus*	ज्नबाज
92			Northern Goshawk	*Accipiter gentilis*	बलाकांक्ष वनबाज
93			Black Kite	*Milvus migrans*	कालो चील
94			Himalayan Buzzard	*Buteo refectus*	श्येनबाज
95			Long-legged Buzzard	*Buteo rufinus*	लामखुट्टे श्येनबाज
96			Upland Buzzard	*Buteo hemilasius*	पहाडी श्येनबाज
97	**TROGONIFORMES**	**Upupidae**	Common Hoopoe	*Upupa epops*	फाप्रे चरा
98	**CORACIIFORMES**	**Meropidae**	Chestnut-headed Bee- eater	*Merops leschenaulti*	कटुसटाउके मुरलीचरा
99		**Alcedinidae**	Crested Kingfisher	*Megaceryle lugubris*	ठूलो छिरबिरे माटीकोरे
100	**PICIFORMES**	**Megalaimidae**	Great Barbet	*Psilopogon virens*	न्याउली
101			Golden-throated Barbet	*Psilopogon franklinii*	कुक्लुङ्ग
102			Blue-throated Barbet	*Psilopogon asiaticus*	कुथुर्के
103		**Indicatoridae**	Yellow-rumped Honeyguide	*Indicator xanthonotus*	चाकासूचक
104		**Picidae**	Eurasian Wryneck	*Jynx torquilla*	खरलाहाँचे
105			Speckled Piculet	*Picumnus innominatus*	थोप्ले ससिया
106			Bay Woodpecker	*Blythipicus pyrrhotis*	तामे लाहाँचे
107			Black-naped Woodpecker	*Picus guerini*	कालोगर्दने काठफोर
108			Scaly-bellied Woodpecker	*Picus squamatus*	ठूलोकत्ले काठफोर
109			Brown-fronted Woodpecker	*Leiopicus auriceps*	खैरोटाउके काष्ठकूट
110			Scarlet-breasted Woodpecker	*Dryobates cathpharius*	रातोछाती काष्ठकूट
111			Rufous-bellied Woodpecker	*Dendrocopos hyperythrus*	कैलोछाती काष्ठकूट
112			Fulvous-breasted Woodpecker	*Dendrocopos macei*	काष्ठकूट
113			Darjeeling Woodpecker	*Dendrocopos darjellensis*	दार्जलिङ्ग काष्ठकूट
114	**CARIAMIFORMES**	**Falconidae**	Collared Falconet	*Microhierax caerulescens*	पौरी बाज
115			Common Kestrel	*Falco tinnunculus*	बौंडाइ
116			Amur Falcon	*Falco amurensis*	अमुर बाज
117			Eurasian Hobby	*Falco subbuteo*	जुंगे चिरान्तक बाज
118			Oriental Hobby	*Falco severus*	चिरान्तक बाज
119			Saker Falcon	*Falco cherrug*	तोप बाज
120			Peregrine Falcon	*Falco peregrinus*	शाही बाज
121	**PSITTACIFORMES**	**Psittacidae**	Slaty-headed Parakeet	*Psittacula himalayana*	कर्रा सुगा
122	**PSITTACIFORMES**	**Oriolidae**	Maroon Oriole	*Oriolus traillii*	घनरक्त सुनचरी
123			Indian Golden Oriole	*Oriolus kundoo*	गाजले सुनचरी

124		**Vireonidae**	Black-headed Shrike-babbler	*Pteruthius rufiventer*	कालोटाउके भद्राईभ्याकुर
125			White-browed Shrike-babbler	*Pteruthius aeralatus*	लालपंखे भद्राईभ्याकुर
126			Green Shrike-babbler	*Pteruthius xanthochlorus*	हरित भद्राईभ्याकुर
127			Black-eared Shrike- babbler	*Pteruthius melanotis*	गाजले भद्राईभ्याकुर
128			White-bellied Erpornis	*Erpornis zantholeuca*	सेतोपेटे जुरेचरा
129		**Campephagidae**	Short-billed Minivet	*Pericrocotus brevirostris*	लघुठूँडे रानीचरी
130			Long-tailed Minivet	*Pericrocotus ethologus*	लामपुछ्रे रानीचरी
131			Scarlet Minivet	*Pericrocotus flammeus*	रानीचरी
132			Indian Cuckooshrike	*Coracina macei*	लटुशक विरहीचरी
133			Black-winged Cuckooshrike	*Lalage melaschistos*	कालो विरहीचरी
134		**Rhipiduridae**	White-browed Fantail	*Rhipidura aureola*	कुमथोप्ले मारुनीचरी
135			White-throated Fantail	*Rhipidura albicollis*	नक्कले मारुनीचरी
136		**Dicruridae**	Black Drongo	*Dicrurus macrocercus*	कालो चिबे
137			Ashy Drongo	*Dicrurus leucophaeus*	ध्वाँसे चिबे
138			Bronzed Drongo	*Dicrurus aeneus*	सानो चिबे
139			Lesser Racquet-tailed Drongo	*Dicrurus remifer*	भृङ्गराज चिबे
140			Hair-crested Drongo	*Dicrurus hottentottus*	केशराज चिबे
141		**Laniidae**	Bay-backed Shrike	*Lanius vittatus*	चित्रक भद्राई
142			Long-tailed Shrike	*Lanius schach*	भद्राई
143			Grey-backed Shrike	*Lanius tephronotus*	हिमाली भद्राई
144		**Corvidae**	Grey Treepie	*Dendrocitta formosae*	पहाडी कोकले
145			Red-billed Chough	*Pyrrhocorax pyrrhocorax*	टुङ्ना
146			Yellow-billed Chough	*Pyrrhocorax graculus*	टेमु
147			Yellow-billed Blue Magpie	*Urocissa flavirostris*	सुनठूँडे लामपुच्छ्रे
148			Red-billed Blue Magpie	*Urocissa erythroryncha*	स्यालपोथरी लामपुच्छ्रे
149			Plain-crowned Jay	*Garrulus bispecularis*	कैले वनकाग
150			Black-headed Jay	*Garrulus lanceolatus*	कालोटाउके वनकाग
151			Southern Nutcracker	*Nucifraga hemispila*	वनसर्रा
152			Common Raven	*Corvus corax*	राजा काग
153			House Crow	*Corvus splendens*	घर काग
154			Large-billed Crow	*Corvus macrorhynchos*	कालो काग
155		**Stenostiridae**	Grey-headed Canary-flycatcher	*Culicicapa ceylonensis*	चञ्चले अर्जुनक
156		**Paridae**	Fire-capped Tit	*Cephalopyrus flammiceps*	रक्तशिर चिचिल्कोटे
157			Yellow-browed Tit	*Sylviparus modestus*	चँदुवा चिचिल्कोटे
158			Coal Tit	*Periparus ater*	सानो फुम्रे चिचिल्कोटे
159			Rufous-vented Tit	*Periparus rubidiventris*	सेतोगर्दने चिचिल्कोटे
160			Grey-crested Tit	*Lophophanes dichrous*	फुम्रोजुरे चिचिल्कोटे
161			Green-backed Tit	*Parus monticolus*	हरियो चिचिल्कोटे
162			Great Tit	*Parus major*	चिचिल्कोटे

163			Black-lored Tit	*Machlolophus xanthogenys*	पाण्डु चिचिल्कोटे
164		**Alaudidae**	Hume's Lark	*Calandrella acutirostris*	पहेलोदूँडे भारद्धाज
165			Eastern Short-toed Lark	*Calandrella dukhunensis*	वर्तिका भारद्धाज
166			Oriental Skylark	*Alauda gulgula*	ब्रह्मीचटी
167		**Cisticolidae**	Striated Prinia	*Prinia crinigera*	सुया घाँसेफिस्टो
168			Black-throated Prinia	*Prinia atrogularis*	कालीकण्ठे घाँसे फिस्टो
169			Common Tailorbird	*Orthotomus sutorius*	पातसिउने फिस्टो
170		**Acrocephalidae**	Thick-billed Warbler	*Arundinax aedon*	मोटोदूँडे ट्याकट्याके
171		**Pnoepygidae**	Nepal Cupwing	*Pnoepyga immaculata*	नेपाल डिकुरेभ्याकुर
172			Pygmy Cupwing	*Pnoepyga pusilla*	मुरालिँडे डिकुरेभ्याकुर
173			Scaly-breasted Cupwing	*Pnoepyga albiventer*	कत्ले डिकुरेभ्याकुर
174		**Hirundinidae**	Asian House Martin	*Delichon dasypus*	एशियाली भीरगौँथली
175			Nepal House Martin	*Delichon nipalense*	नेपाल भीरगौँथली
176			Northern House Martin	*Delichon urbicum*	भीरगौँथली
177			Barn Swallow	*Hirundo rustica*	घर गौँथली
178			Red-rumped Swallow	*Cecropis daurica*	गेरुकटी गौँथली
179			Eurasian Crag Martin	*Ptyonoprogne rupestris*	नहिकुटी गौँथली
180		**Pycnonotidae**	Mountain Bulbul	*Ixos mcclellandii*	कैलोपेटे जुरेली
181			Black Bulbul	*Hypsipetes leucocephalus*	बाख्रे जुरेली
182			Striated Bulbul	*Pycnonotus striatus*	धर्के जुरेली
183			Himalayan Bulbul	*Pycnonotus leucogenys*	जुल्फे जुरेली
184			Red-vented Bulbul	*Pycnonotus cafer*	जुरेली
185		**Phylloscopidae**	Yellow-browed Warbler	*Phylloscopus inornatus*	हरित फिस्टो
186			Hume's Leaf-warbler	*Phylloscopus humei*	चञ्चले फिस्टो
187			Lemon-rumped Leaf- warbler	*Phylloscopus chloronotus*	पीतकटी फिस्टो
188			Buff-barred Warbler	*Phylloscopus pulcher*	सुन्तलेरेखी फिस्टो
189			Ashy-throated Warbler	*Phylloscopus maculipennis*	फुम्रोकण्ठे फिस्टो
190			Dusky Warbler	*Phylloscopus fuscatus*	गोधूलि फिस्टो
191			Smoky Warbler	*Phylloscopus fuligiventer*	ध्वाँसे फिस्टो
192			Tickell's Leaf-warbler	*Phylloscopus affinis*	पीतोदर फिस्टो
193			Green-crowned Warbler	*Phylloscopus burkii*	सुनचश्मे फिस्टो
194			Whistler's Warbler	*Phylloscopus whistleri*	सुसेली फिस्टो
195			Greenish Warbler	*Phylloscopus trochiloides*	जीवल फिस्टो
196			Large-billed Leaf-warbler	*Phylloscopus magnirostris*	ठूलोदूँडे फिस्टो
197			Blyth's Leaf-warbler	*Phylloscopus reguloides*	तालुधर्के फिस्टो
198			Western Crowned Leaf-warbler	*Phylloscopus occipitalis*	ठूलो तालुधर्क फिस्टो
199			Grey-hooded Warbler	*Phylloscopus xanthoschistos*	तुमुलकारी फिस्टो
200			Grey-bellied Tesia	*Tesia cyaniventer*	फुम्रोपेटे टिसिया
201			Chestnut-headed Tesia	*Cettia castaneocoronata*	रातोटाउके टिसिया

202			Chestnut-crowned Bush-warbler	*Cettia major*	ठूलो रातोटाउके झाडीफिस्टो
203			Grey-sided Bush-warbler	*Cettia brunnifrons*	रातोटाउके झाडीफिस्टो
204			Black-faced Warbler	*Abroscopus schisticeps*	गाजले फिस्टो
205			Brownish-flanked Bush-warbler	*Horornis fortipes*	खैरोकोखे झाडीफिस्टो
206			Hume's Bush-warbler	*Horornis brunnescens*	पीतेदर झाडीफिस्टो
207			Aberrant Bush-warbler	*Horornis flavolivaceus*	पीतहरित झाडीफिस्टो
208		**Aegithalidae**	Red-headed Tit	*Aegithalos iredalei*	कालीकण्ठे राजचिचिल्कोटे
209			White-throated Tit	*Aegithalos niveogularis*	सेतोकण्ठे राजचिचिल्कोटे
210			Rufous-fronted Tit	*Aegithalos iouschistos*	कैलोपेटे राजचिचिल्कोटे
211		**Sylviidae**	Fire-tailed Myzornis	*Myzornis pyrrhoura*	हरित हिमसुधा
212			White-browed Fulvetta	*Fulvetta vinipectus*	पीतनयन फूलबुट्टा
213			Great Parrotbill	*Conostoma aemodium*	चाँदे बाँदरचरी
214			Fulvous Parrotbill	*Suthora fulvifrons*	निगाले बाँदरीचरी
215			Black-throated Parrotbill	*Suthora nipalensis*	नेपाल बाँदरचरी
216		**Zosteropidae**	Stripe-throated Yuhina	*Yuhina gularis*	थुपलकल्की जुरेचरा
217			Whiskered Yuhina	*Yuhina flavicollis*	जुंगे जुरेचरा
218			Rufous-vented Yuhina	*Yuhina occipitalis*	खैरो जुरेचरा
219			Oriental White-eye	*Zosterops palpebrosus*	कांकीर
220		**Timaliidae**	Slender-billed Scimitar-babbler	*Pomatorhinus superciliaris*	लामोठूँडे पाल्कोटे
221			Streak-breastedScimitar-babbler	*Pomatorhinus ruficollis*	छातीधर्से पाल्कोटे
222			Rusty-cheeked Scimitar-babbler	*Erythrogenys erythrogenys*	पाल्कोटे
223			Black-chinned Babbler	*Cyanoderma pyrrhops*	कालोचिउँडे वनभ्याकुर
224		**Pellorneidae**	Rufous-winged Fulvetta	*Schoeniparus castaneceps*	कटुसटाउके फूलबुट्टा
225		**Leiotrichidae**	Nepal Fulvetta	*Alcippe nipalensis*	नेपाल फूलबुट्टा
226			Spiny Babbler	*Acanthoptila nipalensis*	काँडे भ्याकुर
227			Striated Laughingthrush	*Grammatoptila striata*	कल्की तोरीगाँडा
228			Spotted Laughingthrush	*Garrulax ocellatus*	मुँदाले तोरीगाँडा
229			Rufous-chinned Laughingthrush	*Garrulax rufogularis*	कैलोकण्ठे तोरीगाँडा
230			White-throated Laughingthrush	*Garrulax albogularis*	सोइरने तोरीगाँडा
231			Scaly Laughingthrush	*Trochalopteron subunicolor*	कत्ले तोरीगाँडा
232			Streaked Laughingthrush	*Trochalopteron lineatum*	छिर्के तोरीगाँडा
233			Variegated Laughingthrush	*Trochalopteron variegatum*	टिकीयुरी तोरीगाँडा
234			Black-faced Laughingthrush	*Trochalopteron affine*	कानटाटे तोरीगाँडा

235			Chestnut-crowned Laughingthrush	*Trochalopteron erythrocephalum*	कटुसटाउके तोरीगाँडा
236			Rufous Sibia	*Heterophasia capistrata*	सिबिया
237			Red-billed Leiothrix	*Leiothrix lutea*	रोचिष्णु मिसिया
238			Hoary-throated Barwing	*Sibia nipalensis*	वनचाहर
239			Blue-winged Minla	*Siva cyanouroptera*	नीलपंख मिन्ला
240			Bar-throated Minla	*Chrysominla strigula*	शिव मिन्ला
241		**Certhiidae**	Rusty-flanked Treecreeper	*Certhia nipalensis*	कैलोकोखे छेपारेचरी
242			Sikkim Treecreeper	*Certhia discolor*	खैरो छेपारेचरी
243			Hodgson's Treecreeper	*Certhia hodgsoni*	सेतोपेटे छेपारेचरी
244		**Sittidae**	Chestnut-bellied Nuthatch	*Sitta cinnamoventris*	कटुसे मट्टा
245			White-tailed Nuthatch	*Sitta himalayensis*	पहाडी मट्टा
246			Wallcreeper	*Tichodroma muraria*	मुरारी पुतलीचरा
247		**Troglodytidae**	Northern Wren	*Troglodytes troglodytes*	चित्री
248		**Cinclidae**	White-throated Dipper	*Cinclus cinclus*	सेतोकण्ठे वञ्जूल
249			Brown Dipper	*Cinclus pallasii*	खैरो वञ्जूल
250		**Sturnidae**	Brahminy Starling	*Sturnia pagodarum*	जुरे सारौं
251			Chestnut-tailed Starling	*Sturnia malabarica*	रक्तनयनी सारौं
252			Common Myna	*Acridotheres tristis*	डाङ्ग्रे रुपी
253			Spot-winged Starling	*Saroglossa spilopterus*	कटुसकण्ठे सारौं
254		**Turdidae**	Grandala	*Grandala coelicolor*	हिमाली ग्राण्डला
255			Long-tailed Thrush	*Zoothera dixoni*	लामपुच्छ्रे चाँचर
256			Alpine Thrush	*Zoothera mollissima*	सादाढाडे चाँचर
257			Long-billed Thrush	*Zoothera monticola*	लामोठूँडे चाँचर
258			Scaly Thrush	*Zoothera dauma*	गोब्रे चाँचर
259			Pied Thrush	*Geokichla wardii*	कस्तूरा चाँचर
260			Orange-headed Thrush	*Geokichla citrina*	सुन्तले चाँचर
261			Grey-winged Blackbird	*Turdus boulboul*	मदना चाँचर
262			Tickell's Thrush	*Turdus unicolor*	फुब्रे चाँचर
263			Tibetan Blackbird	*Turdus maximus*	कालो चाँचर
264			White-collared Blackbird	*Turdus albocinctus*	कण्ठे चाँचर
265			Chestnut Thrush	*Turdus rubrocanus*	कैले चाँचर
266			Black-throated Thrush	*Turdus atrogularis*	कालोकण्ठे चाँचर
267			Rufous-throated Thrush	*Turdus ruficollis*	कैलोकण्ठे चाँचर
268			Eyebrowed Thrush	*Turdus obscurus*	फुब्रोटाउके चाँचर
269		**Muscicapidae**	White-backed Thrush	*Turdus kessleri*	कालोटाउके चाँचर
270			Oriental Magpie-robin	*Copsychus saularis*	धोबिनी चरा
271			Dark-sided Flycatcher	*Muscicapa sibirica*	ध्वाँसे अर्जुनक
272			Asian Brown Flycatcher	*Muscicapa dauurica*	धूसर अर्जुनक
273			Ferruginous Flycatcher	*Muscicapa ferruginea*	कैलो अर्जुनक
274			Rufous-bellied Niltava	*Niltava sundara*	सुन्दर नीलतभा
275			Small Niltava	*Niltava macgrigoriae*	सानो नीलतभा
276			Large Niltava	*Niltava grandis*	ठूलो नीलतभा
277			Verditer Flycatcher	*Eumyias thalassinus*	नीलतुथो अर्जुनक

278			Blue-throated Blue-flycatcher	*Cyornis rubeculoides*	नीलकण्ठे अर्जुनक
279			Gould's Shortwing	*Heteroxenicus stellatus*	थोप्ले लघुपंख
280			Himalayan Shortwing	*Brachypteryx cruralis*	नीलो लघुपंख
281			Indian Blue Robin	*Larvivora brunnea*	नीलो रबिन
282			White-bellied Redstart	*Hodgsonius phaenicuroides*	सेतोपेटे खञ्जरी
283			Himalayan Rubythroat	*Calliope pectoralis*	हिमाली रातोकण्ठ
284			White-tailed Blue Robin	*Myiomela leucura*	सेतोपुच्छ्रे रबिन
285			Rufous-breasted Bush- robin	*Tarsiger hyperythrus*	कैलेछाती रबिन
286			Himalayan Bush-robin	*Tarsiger rufilatus*	सुन्तलाकोखे रबिन
287			Golden Bush-robin	*Tarsiger chrysaeus*	सुनौलो रबिन
288			Little Forktail	*Enicurus scouleri*	गंगा खोलेधोबिनी
289			Spotted Forktail	*Enicurus maculatus*	थोप्ले खोलेधोबिनी
290			Blue Whistling-thrush	*Myophonus caeruleus*	कल्चौडे
291			Slaty-blue Flycatcher	*Ficedula tricolor*	टिकटिके अर्जुनक
292			Snowy-browed Flycatcher	*Ficedula hyperythra*	सेतोआँखीभौं अर्जुनक
293			Pygmy Blue-flycatcher	*Ficedula hodgsoni*	लघु अर्जुनक
294			Rufous-gorgeted Flycatcher	*Ficedula strophiata*	सेतोटिके अर्जुनक
295			Ultramarine Flycatcher	*Ficedula superciliaris*	नीलश्वेत अर्जुनक
296			Little Pied Flycatcher	*Ficedula westermanni*	श्यामश्वेत अर्जुनक
297			Rusty-tailed Flycatcher	*Ficedula ruficauda*	कैलोपुच्छ्रे अर्जुनक
298			Red-throated Flycatcher	*Ficedula albicilla*	लालकण्ठे अर्जुनक
299			Blue-fronted Redstart	*Phoenicurus frontalis*	नीलटाउके खञ्जरी
300			Blue-capped Redstart	*Phoenicurus coeruleocephala*	धोबिनी खञ्जरी
301			White-throated Redstart	*Phoenicurus schisticeps*	सेतोकण्ठे खञ्जरी
302			White-capped Water-redstart	*Phoenicurus leucocephalus*	सेतोटाउके जलखञ्जर
303			Plumbeous Water-redstart	*Phoenicurus fuliginosus*	नीलाम्बर जलखञ्जरी
304			Black Redstart	*Phoenicurus ochruros*	ध्याप्ची खञ्जरी
305			White-winged Redstart	*Phoenicurus erythrogastrus*	सेतोपंखे खञ्जरी
306			Hodgson's Redstart	*Phoenicurus hodgsoni*	तनकम्प खञ्जरी
307			Blue-capped Rock-thrush	*Monticola cinclorhyncha*	सानो हजारा चाँचर
308			Chestnut-bellied Rock-thrush	*Monticola rufiventris*	हजारा चाँचर
309		**Regulidae**	Blue Rock-thrush	*Monticola solitarius*	उमा चाँचर
310			Grey Bushchat	*Saxicola ferreus*	हिमाली झ्याप्सी
311			Pied Bushchat	*Saxicola caprata*	काले झ्याप्सी
312			Common Stonechat	*Saxicola torquatus*	झेकझेक झ्याप्सी
313			Pied Wheatear	*Oenanthe pleschanka*	श्यामश्वेत भुइँरबिन
314			Desert Wheatear	*Oenanthe deserti*	कालोकण्ठे भुइँरबिन
315			Goldcrest	*Regulus regulus*	स्वर्णचूल फिस्टो
316		**Bombycillidae**	Bohemian Waxwing	*Bombycilla garrulus*	हिमाली मूकचरी

317		**Chloropseidae**	Orange-bellied Leafbird	*Chloropsis hardwickii*	स्वर्णोदर हरितचरी
318		**Dicaeidae**	Yellow-bellied Flowerpecker	*Dicaeum melanozanthum*	पीतोदर पुष्पकोकिल
319			Thick-billed Flowerpecker	*Dicaeum agile*	मोटोठूँडे पुष्पकोकिल
320			Fire-breasted Flowerpecker	*Dicaeum ignipectus*	अग्निवक्ष पुष्पकोकिल
321		**Nectariniidae**	Purple Sunbird	*Cinnyris asiaticus*	कालोबुङ्गेचरा
322			Fire-tailed Sunbird	*Aethopyga ignicauda*	लामपुच्छे बुङ्गेचरा
323			Black-throated Sunbird	*Aethopyga saturata*	कालीकण्ठ् बुङ्गेचरा
324			Green-tailed Sunbird	*Aethopyga nipalensis*	नेपाल बेुङ्गेचरा
325			Gould's Sunbird	*Aethopyga gouldiae*	कान्ति बेुङ्गेचरा
326			Crimson Sunbird	*Aethopyga siparaja*	सिपराजा बुङ्गेचरा
327		**Prunellidae**	Altai Accentor	*Prunella himalayana*	अल्ताई लेकचरी
328			Alpine Accentor	*Prunella collaris*	हिमाली लेकचरी
329			Maroon-backed Accentor	*Prunella immaculata*	पाण्डुनयनी लेकचरी
330			Robin Accentor	*Prunella rubeculoides*	रबिन लेकचरी
331			Rufous-breasted Accentor	*Prunella strophiata*	मुसे लेकचरी
332			Brown Accentor	*Prunella fulvescens*	गाजले लेकचरी
333		**Estrildidae**	White-rumped Munia	*Lonchura striata*	सेतोढाडे मुनियाँ
334		**Passeridae**	House Sparrow	*Passer domesticus*	घर भँगेरा
335			Eurasian Tree Sparrow	*Passer montanus*	रुख भँगेरा
336			Black-winged Snowfinch	*Montifringilla adamsi*	चाँदीपंखे हिउँचरी
337		**Motacillidae**	White-rumped Snowfinch	*Onychostruthus taczanowskii*	सेतोढाडे हिउँचरी
338			Olive-backed Pipit	*Anthus hodgsoni*	रुख चुइयाँ
339			Red-throated Pipit	*Anthus cervinus*	लालकण्ठे चुइयाँ
340			Rosy Pipit	*Anthus roseatus*	गुलाफीकण्ठे चुइयाँ
341			Water Pipit	*Anthus spinoletta*	जल चुइयाँ
342			Upland Pipit	*Anthus sylvanus*	पहाडी चुइयाँ
343			Blyth's Pipit	*Anthus godlewskii*	छोटोठूँडे चुइयाँ
344			Western Yellow Wagtail	*Motacilla flava*	पहेलो टिकटिके
345			Grey Wagtail	*Motacilla cinerea*	फुम्रो टिकटिके
346			White-browed Wagtail	*Motacilla maderaspatensis*	खोले टिकटिके
347			White Wagtail	*Motacilla alba*	फुम्रो टिकटिके
348		**Fringillidae**	Common Chaffinch	*Fringilla coelebs*	चित्रकचरी
349			Brambling	*Fringilla montifringilla*	कालोटाउके चित्रकचरी
350			Collared Grosbeak	*Mycerobas affinis*	सुन्तलेगदैन महाँठूँड
351			Spot-winged Grosbeak	*Mycerobas melanozanthos*	पंखथोप्ले महाँठूँड
352			White-winged Grosbeak	*Mycerobas carnipes*	धूपी महाँठूँड
353			Scarlet Finch	*Carpodacus sipahi*	सिपाही तितु
354			Beautiful Rosefinch	*Carpodacus pulcherrimus*	झिबी तितु
355			Dark-rumped Rosefinch	*Carpodacus edwardsii*	कुमधर्के तितु
356			Pink-browed Rosefinch	*Carpodacus rodochroa*	रातो झिबी तितु

357			Spot-winged Rosefinch	*Carpodacus rodopeplus*	पंखथोप्ले तितु
358			Vinaceous Rosefinch	*Carpodacus vinaceus*	लालवदन तितु
359			Great Rosefinch	*Carpodacus rubicilla*	राजतितु
360			Red-fronted Rosefinch	*Carpodacus puniceus*	रक्तशीर्ष राजतितु
361			Crimson-browed Finch	*Carpodacus subhimachalus*	सिम्रिक राजतितु
362			Himalayan White-browed Rosefinch	*Carpodacus thura*	पंखथोप्ले ढूलोतितु
363			Brown Bullfinch	*Pyrrhula nipalensis*	खैरो टिउँटिउँ
364			Red-headed Bullfinch	*Pyrrhula erythrocephala*	रातोटोउके टिउँटिउँ
365			Blanford's Rosefinch	*Agraphospiza rubescens*	सानो सिम्रिक तितु
366			Gold-naped Finch	*Pyrrhoplectes epauletta*	सुन्तलेटाउके कालो तितु
367			Dark-breasted Rosefinch	*Procarduelis nipalensis*	नेपाल तितु
368			Plain Mountain-finch	*Leucosticte nemoricola*	तितुभँगेरा
369			Brandt's Mountain-finch	*Leucosticte brandti*	ध्वाँसे टाउके तितुभँगेरा
370			Yellow-breasted Greenfinch	*Chloris spinoides*	गाजले पीतचरी
371			Twite	*Linaria flavirostris*	सानेठूँडे लिनेट
372			Red Crossbill	*Loxia curvirostra*	कैंचीठूँडे
373			Eastern Goldfinch	*Carduelis caniceps*	रक्तमुहार पीतचरी
374			Red-fronted Serin	*Serinus pusillus*	लालमाथा सिरिन
375			Tibetan Siskin	*Spinus thibetanus*	भोट सिस्कीन
376		**Emberizidae**	Crested Bunting	*Emberiza lathami*	जुरे बगेडी
377			Chestnut-eared Bunting	*Emberiza fucata*	कानकैले बगेडी
378			Rock Bunting	*Emberiza cia*	शिला बगेडी
379			Yellow-breasted Bunting	*Emberiza aureola*	बगाले बगेडी
380			Little Bunting	*Emberiza pusilla*	लघु बगेडी

Annex V: Checklist of Reptiles and Amphibians in LNP

SN	Order/Family/ LocalNames	Scientific Names	GoN	CITES	IUCN	NRDB	Region	SN
	Order: Anura							
	Family – Bufonidae							
1	Himalayan Toad	Bufo himalayanus			LC v3.1		MH	3
	Family – *Pelobatidae*							
2	Khaptad pelobatid toad	Scutiger nepalensis			V U v3.1	S(es)	MH	4
	Order: Sauria							
	Family – Agamidae							
3	Three-keeled forest agama	Oriotiaris tricarinatus					MH CP	2
	Family-*Viperidae*							
4	Stejneger'sPitViper	*Trimeresurusstejnegeri*					TSCP	1

Source: BPP (1995No.14)

Annex VI: Boundary of LNP and BZ

नेपाल राजपत्र

भाग ३

श्री ५ को सरकारद्वारा प्रकाशित

काठमाडौं, चैत ९ गते २०३२ साल

श्री ५ को सरकार
वन मन्त्रालयको
सूचना

राष्ट्रिय निकुन्ज तथा वन्यजन्तु संरक्षण ऐन, २०२९ को दफा ३ को उप–दफा (१) ले दिएको अधिकार प्रयोग गरी, श्री ५ को सरकारले वाग्मती अञ्चल, रसुवा, नुवाकोट र सिन्धुपाल्चोक जिल्लामा पर्ने देहायबमोजिम चारकिल्लाभित्रको क्षेत्रलाई "लामटाङ राष्ट्रिय निकुन्ज" घोषित गरेको छः–

पूर्वः–नेपाल–चीन सिमानाको भाग, पूर्विछयाचु, नोसेमखोला ।

पश्चिमः– रसुवागडीदेखि बगेको भोटेकोशीको तिरैतिर भई राम्चेगाउँको सीधा पश्चिम पर्ने त्रिशूली नदीको वगरसम्म ।

उत्तरः– नेपाल–चीन सिमाना ।

दक्षिणः– ढोकसरखोला, चामेविरखोला, केरलेखोला हुँदै राम्चेसम्म ।

उपर्युक्त सिमाना (किल्ला) को विस्तृत विवरण निम्न बमोजिम छः–

पश्चिमः– रसुवागडीदेखि दक्षिण बगेको भोटेकोशीको तिरैतिर भई त्रिशूलीको दोभानसम्म र त्रिशूलीको दोभानदेखि राम्चेगाउँको सीधा पश्चिम पर्ने त्रिशूली नदीको वगरसम्म । तर, घट्टेखोला, टिम्बुरे, त्रिदिम, छ्यासिङ, खाङजिम, स्याब्रुबेसी, स्याब्रुगाउँ, भँज्याङ गाउँ, मुगा, स्यानोमार्गु, ठूलोमार्गु, धुन्चे, बाकेकुण्ड, ढाडे, ग्राङ, राम्चे गाउँहरू र त्यसले चर्चेका आवादीलाई राष्ट्रिय निकुन्ज बाहिर पारिएको छ ।

(३३)

दक्षिण:— राम्चेगाउँबाट शुरू भई सीधा पूर्व डोगलाङ गाउँ बाहिर पार्दै केरलेखोला हुँदै पाङ्गुसम्म। त्यहाँबाट उत्तरतर्फ पाङ्गु, सिरिपु गाउँहरू बाहिर पार्दै चांटाङ खोला हुँदै दक्षिणतर्फ पाङ्गुडाँडासम्म। त्यहाँबाट उत्तर पूर्वतर्फ भेरेडाँडा हुँदै मेलम्चे गाउँसम्म। त्यहाँबाट मेलम्चे गाउँ बाहिर पार्दै चामविखोला पछ्याउँदै ठीक पूर्वपट्टि गङ्गाकोसम्म। गङ्गाकोबाट उत्तर-पूर्व हुँदै गएपछि फेरि दक्षिणतर्फ याङ्ग्रीगाउँ बाहिर पार्दै नार्केखोलासम्म। नार्केखोलाबाट ठीक पूर्व तेर्सो हुँदै चाङ्गसम्पूर्ण भई ढुवसोलखोला पछ्याउँदै उत्तरतर्फ सागालोङ गाउँसम्म। त्यहाँबाट उत्तरतर्फ सागालोङगाउँ बाहिर पार्दै गहयानगाउँसम्म। त्यहाँबाट दक्षिणतर्फ महयान, टेम्पायाङ गाउँ बाहिर पार्दै सिमालागु हुँदै नोसेमखोलासम्म।

पूर्व:— उत्तरतिर नोसेमखोलाको सिरानतर्फ खोलैखोला गएपछि पूर्विछ्याङ्गसम्म। पूर्वि-छ्याङ्गुदेखि ठीक उत्तर नेपाल—चीन सिमानासम्म।

उत्तर:— नेपाल—चीन सिमाना हुँदै पश्चिमपट्टि रसुवागढीसम्म।

द्रष्टव्य:— (क) उपरोक्त चारकिल्लाभित्र पर्ने लामटाङ गाउँ र सेर्पा गाउँहरूले पर्ने का आवादी जग्गाहरू बाहेक राष्ट्रिय निकुन्ज कायम गरिएको छ।

(ख) निकास बाटोको सुविधा यथावत् बमोजिम कायम रहनेछ।

आज्ञाले—
श्रीरबहादुर रायमाझी
श्री ५ को सरकारको सचिव

श्री ५ को सरकार
वन मन्त्रालयको
सूचना

जग्गा प्राप्ति ऐन, २०१८ को दफा ७ को उप-दफा (१) ले दिएको अधिकार प्रयोग गरी श्री ५ को सरकारले श्री ५ को सरकारको [redacted] विस्तार गर्ने कार्यको लागि वाग्मती अञ्चल, ललितपुर नगर पञ्चायत वडा नं. ४ (क) मा पर्ने निम्नलिखित जग्गा प्राप्त गर्ने निर्णय गरेकोले सम्बन्धित जग्गाधनीले जग्गाको मूल्य र अन्य नोक्सानी बापत पाउने ऐन र जग्गा प्राप्ति नियमहरू, २०२६ बमोजिम ललितपुर [redacted] पाउने हुँदा यो सूचना प्रकाशित गरिएको छ।

पूर्व चिडियाखानाको पर्खाल, पश्चिम सडक, उत्तर चिडियाखानाको पर्खाल, दक्षिण बाटो यति चारकिल्लाभित्रको कि.नं. ७० को पूरा २—४—०, कि.नं. ७१ को पूरा ०—१५—२, कि. नं. ७२ को पूरा ०—५—०, कि. नं. २१३ को पूरा १—०—०, कि. नं. २१४ को पूरा १—४—० समेत जम्मा मालपोत रू. २२।६६ (बाईस रुपैयाँ छैसट्ठी पैसा) लाग्ने जम्मा जग्गा रोपनी ५—१२—२ (पाँच रोपनी बाह्र आना दुई पैसा) को थियो।

आज्ञाले—
श्रीरबहादुर रायमाझी
श्री ५ को सरकारको सचिव

North	Nepal-China international border
East:	Mere danda, Melamchi village, Chamebir khola, Gangkharkha, Larke khola, Dhukso khola, Chansmarphu
South:	Several ridge lines and rivers starting from Trishuli Ganga at Ramche, Kerle Khola, Chotang Khola, highest point of Pangu Danda
West:	Bhotekoshi and Trishuli river

The northern east boundary of the park follows the Nepal-China international border. The western boundary follows Bhotekoshi and Trishuli river. The southern boundary follows several ridge lines and rivers. It starts from Trishuli river at Ramche following Kerle Khola eastwards, but excluding Pangsu and Sisipu villages and following the Chotang Khola up to the highest point of Pangu Dada in the south. Thereafter, northeasterly along the Mere Dada to Melamche village. Then, keeping Melamchi Village outside the park boundary follows Chamebir Khola up to Gang kharka on the north east. From Gang kharka boundary veers northeasterly and then southerly direction to Larke Khola, excluding Yangri Village. From Larke Khola to Dhukso Khola, through Changsmarphu, it follows the Dhukso Khola northwards up to Sagalong village then northwards to Mahathan village, but putting Sagalong village outside the boundary line. Thence southwards up to Nosem Khola through Nimalamu, but excluding Mahathan and Tempathan villages.

The eastern boundary of the bufferzone runs along the Nosem Khola towards Balephi Khola up to Phalame Sangu. The western boundary starts from confluence of Dhoksar Chahare and Trishuli River and runs southwards along Trishuli River down to confluence of Trishuli and Betrawati River.

The Southern boundary starts from confluence of Trishuli and Betrawati river eastwards up to Lachayang Danda up to Dorkhu Khola encompassing area of Lachayang VDC partially towards 51 no pillar of Raluka Gumba, VDC building of Raluka VDC (55 no pillar) towards Chilauni Village, Dang Kharka Village up to Tandi Khola. The BZ Boundary runs along Tandi Khola in North east up to Syandomla Khola, along the Syandomla Khola up Gumlung Danda of Rahut Bensi VDC, Chulibari of Gahun Kharka VDC, Mandi danda towards Manechaur of Ichowk VDC of Sindupalchowk District. The park boundary extends further east from Manechaur to Melamchi Khola along main trail leading Timbu, towards Thado Khola up to Tarbota Danda of Kiul VDC along the Larke Khola. The BZ Boundary further extends along the western boundary wall of Helambu Horticulture farm, along the trail leading to Yangri up to Thaldanda of Baruwa VDC, towards Thaldanda, Bisahuni up to Piju Khola. The boundary further runs eastwards along Piju Khola, then towards the confluence of Yangri and Indrabati Khola, along the Indrawati Khola up to Haweli Pati of Patal Danda towards Kuna Bisahuni of Bhotang VDC, Nagi Kharka of Kota VDC, Chumbir Pakha, Mahadev Chet of Ghunsa VDC, Nalkot Danda, Okhreni Danda of Chapa VDC, Sanu Gauda, Maidan Danda of Syahuli VDC up to trail leading to Golche. The boundary runs along the trail towards Sundarche, Pokhari Danda up to Dupche Danda, along the Kolche Khola up to confluence of Balephi Khola.

A small portion of Syaphru VDC is also declared as BZ that includes the area encompassed by the western boundary that starts from Pillar no 19 of ward no 9 of same VDC along the ridge of southern hill towards ridge of Siya village. The northern boundary starts from the confluence of Bhotekoshi Khola and Goljung Khola (Pillar no 1) towards west along ridge line of the hill towards the Trishuli Somdang Road, crossing the road towards Komin Danda, along the ridge of Komin Danda up to Pillar no 19. Eastern boundary runs long the Bhotekoshi River and southern boundary from Bhotekoshi towards ridge of southern hills of Siya Village.

Nepal Gazette published in 2055/1/14 further notifies that the enclave private settlements within park boundary including Ramche, Dhunche, Briddim, Timure and Langtang VDCs are included under BZ area.

नेपाल राजपत्र

श्री ५ को सरकारद्वारा प्रकाशित

खण्ड ४८) काठमाडौं, वैशाख १४ गते २०५५ साल (संख्या २

भाग ३

श्री ५ को सरकार

वन तथा भू-संरक्षण मन्त्रालयको सूचना

राष्ट्रिय निकुन्ज तथा वन्यजन्तु संरक्षण ऐन, २०२९ को दफा ३ क को उपदफा (१) ले दिएको अधिकार प्रयोग गरी श्री ५ को सरकारले लाङटाङ राष्ट्रिय निकुन्ज क्षेत्र वरिपरिको देहायको चार किल्लाभित्रको क्षेत्रलाई "लाङटाङ राष्ट्रिय निकुन्ज मध्यवर्ती क्षेत्र" तोकेको छ ।

लाङटाङ राष्ट्रिय निकुन्जको दक्षिणतर्फको मध्यवर्ती क्षेत्रको चार किल्ला:

पूर्व: नोसेम खोलाको मध्य भागको तिरैतिर भई बलेफी खोलाको फलामे साँघु-सम्म ।

पश्चिम: राम्चे गाउँको बाँदरेस्थित ढोकसार छडरे त्रिशुली खोलाको दोभानबाट त्रिशुली खोलाको तिरैतिर भई त्रिशुली खोला र वेत्रावती नदीको दोभान-सम्म ।

दक्षिण: त्रिशुली खोला र वेत्रावती नदीको दोभानबाट पूर्व खोलाको उत्तर खोले-खोला हुँदै लच्याङ डाँडाको बीचबाट पार गर्दै लच्याङ गा.वि.स. को केही भाग भित्र पार्दै दोर्खु खोलासम्म । त्यहाँबाट रालुका गुम्बालाई ५१ नम्बरको पिलरबाट र रालुका गा. वि.स. को भवनलाई ५५ नम्बरको पिलरबाट भित्र पार्दै चिलाउने गाउँ र दाङखर्क गाउँ हुँदै तादी खोलासम्म । त्यसपछि तादी खोलाबाट उत्तर पूर्व हुँदै स्याम्दोम्ला खोल्सासम्म र त्यहाँबाट राउत बेसी गा.वि.स. को गुम्लुङ डाँडा हुँदै गाउँखर्क गा.वि.स. को चुलीवारि,

मानी डाँडा हुँदै सिन्धुपाल्चोक जिल्ला इचोक गा.वि.स. को माले चौर सम्म । त्यहाँबाट तिम्बु जाने मूल बाटो हुँदै तिम्बु मेलम्ची खोलासम्म र तिम्बु दोभानको ठाडो खोलाबाट लार्टो खोलै खोला हुँदै क्यूल (किउल) गा.वि. स. को तारवोटा डाँडासम्म । त्यसपछि हेलम्बु वागवानी फार्मको पश्चिमी पर्खालको बाहिर याङ्ग्री जाने मूलबाटो हुँदै बरुवा गा.वि.स.को थाल डाँडा, बिसाउनी, पिजु खोल्सासम्म र त्यसपछि पिजु खोलैखोला हुँदै याङ्ग्री-इन्द्रावती दोभानसम्म । त्यसपछि इन्द्रावती दोभानबाट इन्द्रावती खोलाको तिरैतिर (खोलैखोला) हुँदै पातल डाँडा हवेली पाटीसम्म र हवेली पाटीबाट भोताङ गा.वि.स.को कुना बिसाउने, कोट गा.वि.स.को नागी खर्क, छुम्वीर पाखा, गुन्सा गा.वि.स.को महादेव चेट, नलकोट डाँडा, ढाप गा.वि.स.को थाम डाँडा (ढुंगा खानी), लांगार्चे गा.वि.स. को ओखरनी डाँडासम्म । त्यहाँबाट स्याउले गा.वि.स. को सानो गौंडा, मैदान डाँडा हुँदै गोल्चे जाने मूलबाटो र सो मूलबाटो हुँदै गोल्चे गा.वि.स. को सुन्दर्चे, पोखरी डाँडा, दुप्चे डाँडा। त्यसपछि गोल्चे खोलैखोला हुँदै बलेफी खोलाको दोभानसम्म ।

उत्तरः सांविक निकुन्जको दक्षिणी सिमाना ।

लाङटाङ राष्ट्रिय निकुन्जको पश्चिमतर्फको मध्यवर्ती क्षेत्रको चार किल्लाः

पूर्वः भोटेकोशी नदी (निकुन्जको सांविक पश्चिमी सिमाना)

पश्चिमः स्याफ्रु गा.वि.स. वडा नं. ६ को पिलर नं. १६ बाट दक्षिणी डाँडाको शिरैशिर (धुरी) हुँदै सिया गाउँको दक्षिणी डाँडाको धुरीसम्म ।

उत्तरः भोटेकोशी र गोलजुङ खोलाको दोभानमा रहेको पिलर नं. १ बाट शुरु भै डाँडाको शिरैशिर (धुरी) हुँदै त्रिशुली सोमदाङ जाने सडकसम्म र त्यहाँबाट सडकलाई पार गर्दै कोमिन डाँडाको शिरैशिर (धुरी) हुँदै पिलर नं. १६ सम्म ।

दक्षिणः सिया गाउँको दक्षिणी डाँडाको शिरैशिर (धुरी) हुँदै भोटेकोशी नदीसम्म ।

द्रष्टव्यः खण्ड २५, संख्या ४६, मिति २०३२ साल चैत्र ६ गतेको नेपाल राजपत्र भाग ३ मा प्रकाशित यस मन्त्रालयको लाङटाङ राष्ट्रिय निकुन्ज घोषित गर्ने सम्बन्धी सूचनाले उक्त निकुन्जको चार किल्लाबाट बाहिर पारिएका राम्चे धुन्चे, स्याफ्रु, वृद्धिम, टिमुरे र लाङटाङ गा.वि.स. का सम्पूर्ण गाउँहरू-लाई राष्ट्रिय निकुन्जको मध्यवर्तीक्षेत्र भित्र समावेश गरिएको छ ।

आज्ञाले,
नारायणराज तिवारी
श्री ५ को सरकारको सचिव

(२)

नेपाल सरकार
वन तथा वातावरण मन्त्रालय
राष्ट्रिय निकुञ्ज तथा वन्यजन्तु संरक्षण विभाग
(व्यवस्थापन शाखा)
बबरमहल, काठमाडौं

फोन नः ४२२०८५०
४२२०९१२
४२२७९२६
फ्याक्स नः ४२२७६७५

पो.ब.नं - ८६०
बबरमहल, काठमाडौं
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http//: www.dnpwc.gov.np

संकेत नः
पत्र संख्याः २०७९/०८०/ व्य.२३२
चलानी नः ३२४९

मितिः २०८०/०२/०१६

श्री लामटाङ राष्ट्रिय निकुञ्ज कार्यालय
धुन्चे, रसुवा ।

प्रस्तुत विषयमा लामटाङ राष्ट्रिय निकुञ्ज तथा यसको मध्यवर्ती क्षेत्रको व्यवस्थापन योजना आ.व. २०७७/०७८ देखि २०८१/०८२) र सोको प्रारम्भिक वातावरणीय परिक्षण (IEE) प्रतिवेदन विभागको मिति २०७७/५/२८ को विभागीय निर्णयानुसार स्वीकृत भई विभागको च.नं. ३१/३७७ मिति २०७७/५/२८ को पत्रबाट कार्यान्वयनको लागि लेखी पठाएकोमा व्यवस्थापन संशोधन सम्बन्धमा कार्यसूची संलग्न राखी तहाँ कार्यालयको पत्र संख्या २०७९/०८० च.न. ७३७ मिति २०८०/१/२६ को पत्र प्राप्त भई व्यहोरा अवगत भयो । सो सम्बन्धमा राष्ट्रिय निकुञ्ज तथा वन्यजन्तु संरक्षण नियमावलीको नियम ३क. (५) तथा संरक्षित क्षेत्रको व्यवस्थापन योजना तयारी कार्यविधि, २०७३ को दफा ५.५ मा स्वीकृत व्यवस्थापन योजना संशोधन सम्बन्धी व्यवस्था रहेको र सोही विषयमा राष्ट्रिय निकुरञ्ज तथा वन्यजन्तु संरक्षण विभागका महानिर्देशकज्यूको अध्यक्षतामा मिति २०८०/०२/०८ मा बसेको बैठकबाट देहायको निर्णय भएकोले सोही अनुसार हुन निर्णयानुसार अनुरोध छ ।

१. लामटाङ राष्ट्रिय निकुञ्ज र यसको मध्यवर्ती क्षेत्रको व्यवस्थापन योजना (आ.ब. २०७७/०७८ देखि २०८१/०८२) संसोधन सम्बन्धमा लामटाङ राष्ट्रिय निकुञ्ज कार्यालयका प्रमूखको प्रस्तुतिकरण पश्चात छलफलमा उठेका महत्वपूर्ण राय सुझावलाई समावेस गरी नियमानुसार व्यवस्थापन योजना परिमार्जन/संसोधन प्रस्ताव तयार गरी विभागमा पेश गर्नका लागि विभागिय सहमति दिने ।
२. लामटाङ राष्ट्रिय निकुञ्जको वास्तविक नाम लाङटाङ हुनुपर्ने भनी स्थानिय स्तरबाट जनगुनासो आईरहेकोले आ.व २०७७/७८ देखि २०८०/८१ को लामटाङ राष्ट्रिय निकुञ्ज र यसको मध्यवर्ती क्षेत्रको व्यवस्थापन योजना (संसोधन) मा सो निकुञ्जको नाममा रहेको लामटाङ शब्दलाई परिमार्जन गरी अब उप्रान्त लाङटाङ कायम गर्ने र क्रमशः सबै साईन बोर्डहरु तथा दस्तावेजहरुमा संसोधन गर्दै जाने ।

(ऋषि राम ढकाल)
सहायक व्यवस्थापन अधिकृत

Annex VII: Detail activities and budget of Management Plan

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	**Park Protection**									
1.1	Construction of Chief Conservation Officer Quarter at HQ	No.	1	7500000	7500000					7500000
1.2	Construction of Assistant Conservation Officers Quarter at HQ	No.	1	12500000		13125000				13125000
1.3	Construction/Renovation of Quarter for Rangers, Administrative staffs at HQ	No.	1	5000000			5500000			5500000
1.4	Construction/Renovation of Quarter for Game Scouts at HQs	No.	1	7500000				8625000		8625000
1.5	Construction of 5 Posts (Briddim, Kynajin, Bhotang, Lengsi, Talukeshari)	No.	5	5000000	15000000	5250000	5500000			25750000
1.6	Construction of 5 buildings for security unit (Mailung, Lengshi, Bhotang, Cholangpati, Tempathan)	No.	5	5000000	10000000	10500000	5500000			26000000
1.7	Maintenance and repair buildings of head office, sector office, Range post, post and buildings of security offices.	No.	15	250000	750000	787500	825000	862500	900000	4125000
1.8	Maintenance, repair and improvement of kitchen and toilets	No.	15	75000	225000	236250	247500	258750	270000	1237500
1.9	Electrification at sectors and post through national grid or solar PV	No.	10	250000	500000	525000	550000	575000	600000	2750000
1.10	Construction of reservoir and drinking water facility in posts	Place	3	500000	500000	525000	550000			1575000
1.11	Provide clean and safe drinking water facility in 10 posts	No.	10	200000	400000	420000	440000	460000	480000	2200000
1.12	Construct, maintenance and repair of 15 wooden bridges	No.	15	500000	1500000	1575000	1650000	1725000	1800000	8250000
1.13	Installation, repair and maintenance of CCTV cameras in Dhunche, Timure, Kalikasthan, Salle, Syaphubesi;	Place	15	75000	225000	236250	247500	258750	270000	1237500

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
1.14	Install BTS tower coordinating and with the support of telecom companies	No.	3							
1.15	Procure 3 metal detectors to identify iron set leg traps probably used by poachers to trap wildlife (especially for musk deer and bear);	No.	3	350000	350000		385000		420000	1155000
1.16	Orient army staff for anti- poaching, create a flying squad including army staff at Park Headquarter	No.	5	125000	125000	131250	137500	143750	150000	687500
1.17	Support to informers in purchasing information of mendacious persons operating inside and periphery of the Park and BZ	No.	5	2520000	2520000	2646000	2772000	2898000	3024000	13860000
1.18	Provide support to Community Based Anti-poaching unit	Times	5	400000	400000	420000	440000	460000	480000	2200000
1.19	Delineate traditional use zone with the support of Park	Times	1	750000	750000					750000
1.20	Undertake study to discover anti-poaching trail and camp sites through regular visit in camping operation	Times	5	400000	400000	420000	440000	460000	480000	2200000
1.21	Undertake sweeping and camping operation	No.	15	350000	1050000	1102500	1155000	1207500	1260000	5775000
1.22	Use of smart technology in park patrolling and protection.	Times	1	1000000		1050000				1050000
1.23	Procure field gears for patrolling in the high altitude	No.	96	15000	288000	302400	316800	331200	345600	1584000
1.24	Organize coordination meetings with stakeholders	Times	10	50000	100000	105000	110000	115000	120000	550000
1.25	Participate in trans boundary meeting	Times	5	50000	50000	52500	55000	57500	60000	275000
1.26	Conduct meetings and interaction programs for youths and school students regarding importance of Snow leopard conservation,	Times	5	250000	250000	262500	275000	287500	300000	1375000
1.27	Procure binoculars	No.	10	30000	60000	63000	66000	69000	72000	330000
1.28	Procure digital camera	No.	10	50000	100000	105000	110000	115000	120000	550000
1.29	Procure GPS	No.	10	30000	60000	63000	66000	69000	72000	330000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
1.30	Procure 5 motorbikes	No.	5	250000	250000	262500	275000	287500	300000	1375000
1.31	Procure 2 four wheel drive vehicle	No.	2	5000000			5500000		6000000	11500000
	Sub Total				**43353000**	**40165650**	**33113300**	**19265950**	**17523600**	**153421500**
2	**Habitat management**									
2.1	Undertake spatial mapping of rangelands in both the Park and BZ;	Times	2	500000	500000			600000		1100000
2.2	Carry out spatial mapping of wetlands in both the Park and BZ;	Times	2	500000		550000			600000	1150000
2.3	Conduct habitat mapping of important (critical) wildlife habitat and areas of high conservation significance	Times	1	500000	500000					500000
2.4	Conduct long-term research on invasive species and rangeland dynamics,	Times	1	400000	400000					400000
2.5	Assess water quality of wetlands in regular intervals;	Years	5	125000	125000	137500	143750	150000	150000	706250
2.6	Clean wetlands and water hole on regular basis	Years	5	300000	300000	330000	345000	360000	360000	1695000
2.7	Support researchers on studies to control invasive alien species	Times	2	450000		472500		517500		990000
2.8	Undertake interventions to control alien invasive species		5	400000	400000	2200000	2300000	2400000	480000	7780000
2.9	Carry out control burning activities in fire prone areas before pilgrimage season, along the road and trail	Times	5	600000	600000	630000	660000	690000	720000	3300000
2.10	Reclaim degraded range land to increase range land productivity	Times	5	500000	500000	525000	550000	575000	600000	2750000
2.11	Provide support to strengthen Rangeland Management Committee (RMC)	Years	5	250000	250000	262500	275000	287500	300000	1375000
2.12	Prepare land use plans for critical habitats of Red panda outside PA's and manage them on the basis of land use plans	Times	1	500000		525000				525000
2.13	Construct self-guided Red panda habitat eco-trail outside the core zone	Times	1	750000	750000					750000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
2.14	Construct physical barriers to prevent intrusion of cattle from outside Red panda core area	Times	1	100000			110000			110000
2.15	Provide support to improve range land infrastructures like chauri trail, bridge, water hole etc at Chedang, Dhokachet, Dangdung Kharka to reduce grazing pressure in Polangpati area	Times	5	500000	500000	525000	550000	575000	600000	2750000
2.16	Provide support to extend satellite red panda conservation zone in Panchpokhari and Maginigoth	Times	1	300000	300000					300000
2.17	Construct infrastructures to protect the confluence of Kerung and Lende khola	Times	1	400000				460000		460000
2.18	Control landslide and support to soil conservation measures	Times	5	1000000	1000000	1050000	1100000	1150000	1200000	5500000
2.19	Connect various Red panda habitat through biological corridor	Times	2	300000		315000			360000	675000
2.20	Undertake habitat suitability study for Snow leopard at Kyanjin and Ghodtabela	Times	1	400000			440000			440000
2.21	Carry out study to identify priority habitat, critical corridors and climate refugia for snow leopards in the face of climate change	Times	1	500000				575000		575000
2.22	Assess possibility of conservation zone at Panchpokhari and Dudhkunda as a Snow leopard habitat,	Times	1	300000			330000			330000
2.23	Undertake study of status of Chojang Valley as it is important for trans boundary conservation of Snow leopard,	Times	1	500000				575000		575000
2.24	Carry out mapping of climate variability and vulnerability of snow leopard habitats in order to manage its habitat by addressing the potential impacts of climate change;	Times	1	500000	500000					500000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
2.25	Prepare rangeland development plan for Upper Langtang Valley to reduce the grazing pressure in core areas like Larix conservation area and Kanjin musk deer conservation area	Times	1	300000			330000			330000
2.26	Carry out study to identify key habitat for Musk deer followed by protection and management of its habitat	Times	1	400000		420000				420000
2.27	Manage key areas for regular supply of forage for Musk deer	Years	5	250000	250000	262500	275000	287500	300000	1375000
2.28	Undertake study to identify critical pangolin habitat and map the priority sites	Times	1	500000			550000			550000
2.29	Undertake study regarding development and other construction works in the prime/ designated pangolin habitats to implement mitigation measures	Times	1	350000				402500		402500
2.30	Identify indicator species to assess habitat condition,	Times	1	500000	500000					500000
2.31	Repair and maintain micro- hydroelectricity project of Kyanjin to reduce pressure of fuel wood	Years	5	500000	500000	525000	550000	575000	600000	2750000
2.32	Maintenance of biological corridor connecting to other PAs	Years	5	250000	1250000	1312500	1375000	1437500	1500000	6875000
2.33	Distribute grass seed to create grassland in private and public land	No.	10000	25	50000	52500	55000	57500	60000	275000
2.34	Promote fodder tree plantation in public and private land	No.	10000	25	50000	52500	55000	57500	60000	275000
2.35	Support to operate nursery	Years	5	150000	150000	157500	165000	172500	180000	825000
	Sub Total				**9375000**	**10305000**	**10158750**	**11905000**	**8070000**	**49813750**
3	**Species Conservation**									
3.1	Conduct research activites to estimate of population of Red Panda	No.	1	4,000,000				4,000,000		4,000,000
3.2	Conduct research activites to estimate of population of Snow Leopard	No.	1	4,000,000					4,000,000	4,000,000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
3.3	Conduct research activites to estimate of population of Musk Deer	No.	1	2,500,000					2,500,000	2,500,000
3.4	Conduct research activites to estimate of population of Pangolin.	No.	1	1,500,000				1,500,000		1,500,000
3.5	Conduct research activites to estimate of population of Assemes Monkey	No.	2	1,500,000					1,500,000	1,500,000
3.6	Identify the Potential threat and map critical pangolin habitat;	No.	1	1,500,000					1,500,000	1,500,000
3.7	Conduct research activites to assess of population of Assamese Monkey.	No.	1	1,500,000					1,500,000	1500000
3.8	Identify the Potential threat and map critical Assamese Monkey habitat	No.	1	1,500,000					1,500,000	1500000
3.9	Conduct awareness campaigns on Assamese Monkey conservation;	No.	1	1,000,000					1,000,000	1,000,000
3.7	Update Flora and Fauna of LNP	Times	1	300000					360000	360000
3.8	Undertake study on status of snow leopard, Red panda and Musk deer	Times	2	500000		525000			600000	1125000
3.9	Update scientific information on Red panda ecology	Times	1	400000		420000				420000
3.10	Study ecological impact of tourism with special reference to Red panda conservation;	Times	1	300000		315000				315000
3.11	Random fecal sample of red panda in Ghodtabela/ Maginigoth and Polangpati and test it in lab	Times	3	75000	75000		82500		90000	247500
3.12	Carry out feasibility study about population estimation, grazing and other anthropogenic impact assessment in Panchpokhari and Maginigoth area	Times	1	500000			550000			550000
3.13	Carry out long-term study on ecology and behavior of snow leopards and their prey in LNP through the use of cutting-edge technologies;	Times	1	600000		600000				600000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
3.14	Conduct snow leopard monitoring on regular basis using standardized Snow Leopard Information Management System (SLIMS) technique to update the status and distribution of snow leopards and their prey;	Times	5	35000	35000	36750	38500	40250	42000	192500
3.15	Piloting of camera trap for snow leopard	Times	1	1500000	300000	315000	330000	345000	360000	1650000
3.16	Provide support to manage regular supply of forage to musk deer;	Times	5	300000	300000	315000	330000	345000	360000	1650000
3.17	Control feral dogs to protect Musk deer from being killed or injured	Year	5	150000	150000	157500	165000	172500	180000	825000
3.18	Assess local knowledge, traditions, attitude and perceptions on pangolin conservation.	Times	1	300000	300000					300000
3.19	Provide basic postmortem and sample collection instruments in Shermathan, Ghodtabela and Dhunche	Times	2	275000	275000			316250		591250
3.20	Undertake postmortem of all dead wild animals with the support of veterinary officer of LSO and maintain records	Years	5	350000	350000	367500	385000	402500	420000	1925000
3.21	Collect random fecal materials of all ranges of herbivores including red panda and test it in lab	Times	5	75000	75000	78750	82500	86250	90000	412500
3.22	Vaccinate domestic animal in collaboration with LSO to reduce communicable diseases	No.	2500	500	250000	262500	275000	287500	300000	1375000
3.23	Produce information, education and communication materials regarding Red panda, Snow leopard, Musk deer and Pangolin conservation,	No.	1000	1000	200000	210000	220000	230000	240000	1100000
	Sub Total				**2310000**	**3603000**	**2458500**	**7725250**	**16542000**	**32638750**
4	**Fire control**									
4.1	Prepare and implement fire control and management plan	No.	1	500000				575000		575000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
4.2	Conduct study to identify fire prone areas by using satellite imagery analysis or web-based fire mapper;	Times	1	500000			550000			550000
4.3	Clear fire line or undertake control burning in the fire lines before the onset of fire season,	Ha.	100	20000	400000	420000	440000	460000	480000	2200000
4.4	Early burning of grasslands on the basis of burning regime and creation of firebreaks annually;	Ha.	100	10000	200000	210000	220000	230000	240000	1100000
4.5	Provide firefighting equipment to Park post and BCFs;	Times	2	50000		50000	50000			100000
4.6	Establish rapid action squad for firefighting in park headquarter, sector office and other fire prone areas including local people, park staff and security personnel	Times	1	250000	250000					250000
4.7	Carry out fire prevention education and awareness activities through interaction	Times	5	100000	100000	105000	110000	115000	120000	550000
4.8	Prepare fire occurrence reporting and statistical databases	Times	5	50000	50000	52500	55000	57500	60000	275000
4.9	Mobilize rapid action squad for firefighting	No.	2	1000000				1000000	1000000	2000000
	Sub Total				**1000000**	**837500**	**1425000**	**2437500**	**1900000**	**7600000**
5	**Wildlife health management**									
5.1	Coordinate Livestock Service Office and conservation partner to provide vaccine to livestock against potential diseases that can be transferred to wildlife	Times	5	275000	275000	288750	302500	316250	330000	1512500
5.2	Support to establish a community based veterinary center with materials required in medical emergencies,	No.	1	500000				575000		575000
5.3	Collect random fecal materials of all ranges of herbivores including Red panda and test it in lab	Years	5	30000	30000	31500	33000	34500	36000	165000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
5.4	Report and document mortality of wild animals immediately after it comes to notice of any staff as part of disease surveillance strategy,	No.	5	150000	150000	157500	165000	172500	180000	825000
5.5	Provide basic postmortem and sample collection instruments in Shermathan, Ghodtabela and Dhunche,	Times	1	300000			330000			330000
5.6	Coordinate with livestock office to undertake post-mortem of deceased endangered wild animals.	Times	5	50000	50000	52500	55000	57500	60000	275000
	Sub Total				**505000**	**530250**	**885500**	**1155750**	**606000**	**3682500**
6	**Encroachment control**									
6.1	Undertake spatial mapping of encroached areas and potential areas where it can expand	Times	5	100000	100000	105000	110000	115000	120000	550000
6.2	Update encroachment records in both Park and BZ;	Times	5	325000	325000	341250	357500	373750	390000	1787500
6.3	Demarcate boundary of Park and settlement area to discourage encroachment;	Times	5	500000	500000	525000	550000	575000	600000	2750000
6.4	Carry out fencing, plantation and restoration of evacuated and vulnerable areas	Times	5	300000	300000	315000	330000	345000	360000	1650000
6.5	Issue notice to evacuate the encroached area on a regular basis	Times	5	125000	125000	131250	137500	143750	150000	687500
6.6	Organize coordination meeting with DAO to resolve the encroachment problem,	Times	5	75000	75000	78750	82500	86250	90000	412500
6.7	Form committee to address the issues of illegal settlers as unregistered land and encroachers,	No.	1	50000	50000					50000
					1475000	**1496250**	**1567500**	**1638750**	**1710000**	**7887500**
7	**Study and Research**									
	Habitat management									

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
7.1	Study of effect of invasive species to wildlife habitat	Times	1	300000				345000		345000
7.2	Study of vegetation dynamics and its impact on wildlife habitat;	Times	1	500000	500000					500000
7.3	Study land cover change using geo information and earth observation science,	Times	2	500000		525000		575000		1100000
	Species Conservation									0
7.4	Carry out study of population status of rare and endangered species Red panda, Snow leopard, Musk deer, Clouded leopard, Leopard cat and Himalayan black bear	Times	1	500000				575000		575000
7.5	Conduct feasibility study to translocate blue sheep in suitable habitats of LNP to supplement prey for snow leopards;	Times	1	1000000		1000000				1000000
7.6	Conduct regular snail survey specially in monsoon to detect liver-fluke, cytosomiasis,	Times	2	400000		420000		460000		880000
7.7	Study occurrence/population status of grey wolf and wild dogs	Year	5	1000000	1000000	1050000	1100000	1150000	1200000	5500000
7.8	Study the status, ecology and Guild structure of birds, reptiles and amphibians	Times	1	350000				402500		402500
7.9	Update digital database using latest topo sheets and satellite imageries	Times	2	500000		525000			600000	1125000
7.10	Study ecological processes that affect in maintaining healthy wildlife population,	Times	2	250000			275000		300000	575000
	Climate Change									0
7.11	Conduct study of climate change indicators and impact on biodiversity conservation along with identification of adaptation activities,	Times	2	400000		420000			480000	900000
7.12	Climate change impacts and indicators on biodiversity conservation along with adaptation strategies;	Times	2	500000			550000		600000	1150000
7.13	Study impacts of changes in precipitation and temperatures to vegetation and grassland,	Times	2	300000	300000				360000	660000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
7.14	Potential impacts of climate change on ecology of wildlife	Times	2	300000	300000				360000	660000
Buffer Zone										
7.15	Undertake assessment of socio- economic condition of local people in the areas where human-wildlife conflict is high,	Times	2	300000		315000			360000	675000
7.16	Carry out study to identify use of corridors and other habitat features to reduce conflict	Times	1	300000		315000				315000
7.17	Conduct study to assess impact of BZ programme on conservation and sustainable livelihoods of local communities;	Times	1	600000	600000					600000
7.18	Conduct studies towards the conservation of biodiversity through various Government prioritized projects;	Times	1	1000000	200000	210000	220000	230000	240000	1100000
Tourism										
7.19	Carry out study towards impact of tourism on ecological aspects to determine Limit of Acceptable Change which will help in devising site-specific method for regulating tourism;	Times	1	300000			330000			330000
Institutional										
7.20	Prepare bibliography of the literatures for which studies were conducted in LNP,	Times	1	500000		525000				525000
7.2	Celebration of conservation days	Times	20	150000	600000	630000	660000	750000	870000	3510000
7.21	Organize World Wildlife Week	Times	5	100000	100000	105000	110000	115000	120000	550000
7.22	Establish reporting, recording, database and feedback mechanism on the biodiversity of the park	No.	5	300000	300000	315000	330000	345000	360000	1650000
7.23	Annual progress report publication	years	5	125000	125000	131250	137500	143750	150000	687500
7.24	Website creation and hosting	Times	5	25000	25000	26250	27500	28750	30000	137500

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
7.25	Organize/participate in trans boundary meeting	Times	5	75000	75000	78750	82500	86250	90000	412500
7.26	Strengthen District Level Wildlife Crime Control Bureau (trimester meeting)	years	5	75000	75000	78750	82500	86250	90000	412500
7.27	Trimester level staff meeting	Times	15	150000	450000	472500	495000	517500	540000	2475000
7.28	Undertake Mid-term review of the management plan;	Times	1	750000				862500		862500
7.29	Undertake evaluation of management plan in the fourth year of implementation,	Times	1	2000000					2400000	2400000
7.30	Conduct management effectiveness of LNP.	Times	1	1000000				1150000		1150000
7.31	Document success stories and best practices in the areas of community based biodiversity conservation	Times	1	500000					600000	600000
Sub Total					**4650000**	**7142500**	**4400000**	**7822500**	**9750000**	**33765000**
Monitoring										
7.32	Conduct regular monitoring of water quality of different wetlands	Times	5	75000	75000	78750	82500	86250	90000	412500
7.33	Monitoring of prey base species	Times	5	200000	200000	210000	220000	230000	240000	1100000
7.34	Monitoring of small mammals	Times	5	200000	200000	210000	220000	230000	240000	1100000
7.35	Undertake Bird Survey on periodic basis	Times	5	300000	300000	315000	330000	345000	360000	1650000
7.36	Monitoring of indicator species to assess habitat condition	Times	5	225000	225000	236250	247500	258750	270000	1237500
7.37	Carry out tourism impact monitoring to local culture	Times	5	400000	400000	420000	440000	460000	480000	2200000
7.38	Monitor habitat quality using different formats for ground verification, data validation and management implications,	Times	5	250000	250000	262500	275000	287500	300000	1375000
	Sub Total				**1650000**	**1732500**	**1815000**	**1897500**	**1980000**	**9075000**
Training										

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
	Frontline Staff and Security Units									
7.39	Orientation training to security units	Times	5	25000	25000	26250	27500	28750	30000	137500
7.40	Orientation training to Game Scouts on legal issues	Times	3	150000	150000		165000		180000	495000
7.41	Basic training on field equipment like GPS, Range Finder, Compass, etc	Times	3	250000	250000		275000		300000	825000
7.42	Train staff to collect sample of blood, fecal matter, urine or vital organs	Times	5	100000	100000	105000	110000	115000	120000	550000
7.43	Field techniques, including signs and indirect evidences of wildlife	Times	5	300000	300000	315000	330000	345000	360000	1650000
7.44	Training on anti-poaching operation	Times	2	300000		315000		600000		915000
7.45	Orientation training on social mobilization and participatory planning	Times	1	400000	400000					400000
7.46	Wildlife management and handling training	Times	2	200000	200000			200000		400000
7.47	Basic training on vegetation quantification for recording data in monitoring plots	2	250000	500000	262500		287500		550000	1100000
7.48	Training to park staff in wildlife habitat monitoring	Times	3	200000		210000		230000	240000	680000
For Rangers										
7.49	Training on social mobilization	Times	2	500000		525000		575000		1100000
7.50	General and specialized Training of Trainers (ToTs)	Times	1	300000		315000				315000
7.51	Database management Training to Rangers	Times	5	50000	50000	52500	55000	57500	60000	275000
For ACO and CCO										
7.52	Training on People-wildlife amity	Times	3	200000	200000		220000		240000	660000
7.53	Training on appreciative enquiry	Times	3	150000	150000		150000		180000	480000
7.54	Human rights training to handle the convicted people	Times	5	250000	250000	262500	250000	287500	300000	1350000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
7.55	Training on GIS application for natural resource management focusing on wildlife	Times	3	300000		315000		345000	360000	1020000
7.56	Training of Trainers (general and specialized)	Times	2	500000		525000		575000		1100000
7.57	Public administration and management training	Times	2	400000				460000	480000	940000
7.58	Training on organization development and management	Times	2	500000	500000				600000	1100000
7.59	Planning, monitoring and evaluation training	Times	5	200000	200000	210000	200000	230000	240000	1080000
7.51	CITES training	Times	2	50000	50000		55000			105000
Others										
7.52	Forest Fire Management Training to park staff and security personnel and BCF members	Times	3	200000		210000		230000	240000	680000
7.53	Training for community based anti-poaching units	Times	3	400000		420000	440000	460000		1320000
7.54	Provide trainings to nature guides to enhance their capacity in nature interpretation specifically on wildlife, birds, plants	Times	3	250000	250000			287500	300000	837500
7.55	Build capacity of poor and disadvantaged local people in the areas of hospitality, housekeeping, cooking and hygiene to initiate tourism enterprises	Times	3	400000		420000		460000	480000	1360000
7.56	Training on nature interpretation and display management	Times	2	200000				230000	240000	470000
7.57	Conduct refresher trainings to nature guides to update their knowledge and skills in nature interpretation	Times	3	300000	300000		330000		360000	990000
Institutional and Infrastructures Development for Conservation Support										
7.58	Extension of electricity in Ghodatabela and Cholanpati post. In the prospective of biodiversity conservation, extension of electricity works should be underground or insulated wire .	No.	1	500000				Coordination with NEA	500000	500000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
7.59	Extension of telecommunication facilities for Cholanpati Post and Gosaikunda Area; a telecommunication tower is needed in Buddha mandir Area.	No.	1	500000				Coordination with Nepal Telecome	100000	100000
760	Upgrading of Range Post and Post structure in Ghodatabela Range Post, Kutumsang Range Post, Bondro Post, Langbu post and Syaprubesi Post.	No.	5	1000000				1,000,000.00	4000000	5000000
761	For the area coverage range post/arm post building construction in Bhotang, Tembathan, and Bridim	No.	3	7000000				6,000,000.00	14,000,000.00	20,000,000.00
762	Installation of spy camera for real time survillence in the national Park	No.	2	1000000				1000000	1000000	2000000
	Sub Total				**3637500**	**4226250**	**2895000**	**13716250**	**25460000**	**49935000**
8	**Tourism development**									
8.1	Construct 3 multipurpose VIC at Dhunche, Helambu and Kutumsang that includes ticket counter, display centre, museum, souvenir shop and rest room	No.	3	2500000	7500000					7500000
8.2	Support BZUCs to construct culture museum in three districts	No.	3	500000	500000	525000	550000			1575000
8.3	Provide support to renovate Rasuwagadhi fort	No.	2	2500000	2500000				3000000	5500000
8.4	Provide support to renovate Dupcheshwori temple	No.	1	500000				575000		575000
8.5	Provide support to renovate monasteries	No.	10	500000	1000000	1050000	1100000	1150000	1200000	5500000
8.6	Repair and maintain culturally, religiously and historically important Trishuldhara and Amar Singh Cave	Times	1	500000		525000				525000
8.7	Support to renovate religious/cultural antiquities	Times	1	200000			210000			210000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
8.8	Reconstruct the earthquake damaged infrastructures i.e. Cholangpati, Lauribinayak and Resting place near Gosaikunda	No.	3	500000	500000	525000	550000			1575000
8.9	Repair and refurbish the earthquake destroyed Buddha temple	No.	1	1000000			1100000			1100000
8.10	Develop comprehensive tourism plan of LNP	Times	1	500000	500000					500000
8.11	Construct new trekking trails in proposed new routes	Meter	150000	100	3000000	3150000	3300000	3450000	3600000	16500000
8.12	Repair and maintain trekking trail (Cholangpati to Gosaikunda)	Times	5	150000	150000	157500	165000	172500	180000	825000
8.13	Repair and maintain trekking trail (Suryakunda to Thadepati)	Times	5	150000	150000	157500	165000	172500	180000	825000
8.14	Repair and maintain trekking trail (Maginigoth to Kutumsang)	Times	5	150000	150000	157500	165000	172500	180000	825000
8.15	Repair and maintain trekking trail (Thadepati to Shermathan)	Times	5	150000	150000	157500	165000	172500	180000	825000
8.16	Repair and maintain the trekking trail (Dhunche to Goasikunda)	km	5	150000	150000	157500				307500
8.17	Construct resting place and toilets for visitors at strategic places	No.	10	300000	600000	630000	660000	690000	720000	3300000
8.18	Provide support to open tea shops or hotels in newly opened trekking areas	No.	25	50000	250000	262500	275000	287500	300000	1375000
8.19	Erect hoarding boards informing Do's and Don'ts in the Park and BZ for the visitors	No.	50	15000	150000	157500	165000	172500	180000	825000
8.20	Place signage at appropriate location in the Park to show direction to the visitors	No.	100	3500	70000	73500	77000	80500	84000	385000
8.21	Undertake GPS mapping of all the tourism products in the Park and BZ	No.	2	500000	500000				600000	1100000
8.22	Carry out high altitude sickness camp in in between Kyanjin, Ganjala and Yangri pass	Years	5	300000	300000	315000	330000	345000	360000	1650000
8.23	Provide support to rock climbing association to carry out rock climbing at Kyanjin,	Times	1	50000	50000					50000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
8.24	Provide support to develop and implement visitor tracking system using smartcard to locate their movement and support in rescue operation	No.	1	1000000	1000000					1000000
8.25	Provide support to relocate hotels and lodges near Gosaikunda to 500 m away from Gosaikunda area	Times	1	75000		78750				78750
8.26	Prepare a sanitation guideline for hotel, lodge	No.	1	300000		315000				315000
8.27	Provide support to develop linkage of tourism economy to off-trail communities through agriculture, livestock and small scale cottage industries and village tourism	Times	5	250000	250000	262500	275000	287500	300000	1375000
8.28	Develop new tourism package including special interest tourism for diversification of tourism experience and shun out tourism activities from traditional areas	Times	1	200000	200000					200000
8.29	Support and strengthen trekking route management committee	Times	1	50000	50000					50000
8.30	Provide support to strengthen Gosaikunda Chetra Bikas Samiti	Times	5	150000	150000	157500	165000	172500	180000	825000
8.31	Organize Clean up campaign to manage waste in the route (waste collection and disposal)	Times	5	300000	300000	352000	369600	387200	404800	1813600
8.32	Solid waste management training to hotel operators	Times	5	75000	75000	78750	82500	86625	90000	412875
8.33	Conduct nature guide trainings to local and interested individuals giving priority to back ward community and youths;	Times	2	250000		262500		287500		550000
8.34	Organize small business development and management training	Times	2	75000			82500		82500	165000
8.35	Provide basic English language training to tourism operator in newly opened trekking areas	Times	2	75000			82500		90000	172500
8.36	Conduct cook training;	Times	2	150000		157500		157500		315000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
8.37	Conduct house-keeping trainings	Times	2	75000		78750		78750		157500
8.38	Conduct survey regarding tourist satisfactory on a yearly basis;	Times	5	150000	150000	157500	165000	172500	180000	825000
8.39	Prepare Video Spot to aware local people travelling in a bus about solid waste management;	Times	1	300000	300000					300000
8.40	Provide technical support to tourism operators to carry out study of cable car Dhunche to Gosaikunda, from Ghyangfedi – Gosaikunda and Nau kunda Yarsa/ – Gosaikunda;	Times	3	150000		472500				472500
8.41	Provide support to journalists to visit LNP and publish article;	Years	5	200000	200000	210000	220000	230000	240000	1100000
8.42	Publish news and article in newspaper; and	Years	5	150000	150000	157500	165000	172500	180000	825000
8.43	Production of video documentary	Times	1	500000					600000	600000
	Eco-tourism promotion activities for proposed new trekking routes									
8.44	Installation of information sign boards and dustbins	No.	20	30000				150000	300000	450000
8.45	Maintainace of trekking routes	No.	4	2,500,000				5000000	5000000	10000000
8.46	Construction of resting places with toilet	No.	8	500000				1000000	3000000	4000000
8.47	Hospitality and Cook Training for hotels.	NO.	2	300000				300000	300000	600000
8.49	Promotion of home stay in near by village around the proposed trekking route.	No.	4	2000000				2000000	6000000	8000000
	Sub total				**20995000**	**10741750**	**10584100**	**17923075**	**27711300**	**87955225**
9	**Climate Change and Solid Waste Management**									
	Climate change adaptation									
9.1	Undertake vulnerability assessment with respect to climate change;	Times	1	300000				345000		345000
9.2	Detailed mapping of flood vulnerable communities and infrastructures in LNP and BZ;	Times	1	400000		420000				420000
9.3	Prepare local Disaster and Climate Resilience Plan for all the municipalities and rural municipalities in BZ;	No.	10	300000	600000	630000	660000	690000	720000	3300000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
9.4	Support the implementation of disaster risk reduction and adaptation priorities of BCF	Times	5	250000	250000	262500	275000	287500	300000	1375000
9.5	Form Flood Risk Management Committee and support to institutionalize it.	No.	1	100000	100000					100000
9.6	Undertake plantation to maintain the balance between fuel wood demand and supply for the house hold of local people,	Ha	25	50000	250000	262500	275000	287500	300000	1375000
9.7	Introduce biomass energy technologies to reduce fuel wood consumption	Times	5	400000	400000	420000	440000	460000	480000	2200000
9.8	Support BCFs to link with market towards carbon financing	Times	5	250000	250000	262500	288750	332063	398475	1531788
	Solid waste management									
9.9	Provide support to demonstrate proper techniques of garbage disposal and recycling techniques;	Times	2	250000		262500		287500		550000
9.10	Provide support to manage garbage with special focus on reducing production, recycling, and destruction by prohibiting the use of polluting items such as plastic bags;	Times	2	400000		420000		460000		880000
9.11	Construct waste disposal pits or put waste collection pots near entry point, ticket counter:	No.	50	5000	50000	52500	57750	66413	79695	306358
9.12	Prepare a common sanitation guideline to make hotel, lodge, homestay and restaurant adopt minimum sanitation standards	Times	1	300000		315000				315000
9.13	Provide water supply, toilet, drainage, collection and recycling centre to schools, public buildings with the support from conservation partners;	Times	5	500000	500000	525000	577500	664125	796950	3063575
9.14	Support eco-clubs to organize clean-up campaign regularly.	Years	5	250000	250000	262500	288750	332063	398475	1531788
9.15	Procure equipment that is required to establish GIS-based Disaster Information Management System (DIMS) at head quarter;	Times	1	500000	500000					500000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
9.16	Prepare hazard-specific Standard Operating Procedures (SOPs) for specific disaster risk reduction;	Times	1	300000		315000				315000
9.17	Carry out study to identify the disaster risk in the pertinent sectors;	Times	1	400000			440000			440000
9.18	Pilot early warning system at Timbu (flood prone area);	No.	1	2500000				2875000		2875000
9.19	Prepare manual of disaster risk reduction training to different stakeholders;	Times	1	300000	300000					300000
9.20	Provide training to Park staffs, security personnel, BZ communities and key stakeholders towards managing disaster risk especially during emergency period as well as post disaster period;	Times	2	250000	250000	262500				512500
9.21	Assess the impact of earthquake in species, ecosystem as well as ecological function and processes in the Park;	Times	1	350000			385000			385000
9.22	Provide support to reconstruct community infrastructures damaged by earthquake;	Years	5	500000	100000	105000	115500	132825	159390	612715
	Sub Total				**3800000**	**4777500**	**3803250**	**7219989**	**3632985**	**23233724**
10	**Buffer Zone**									
10.1	Support BCFs to renew their OPs	No.	25	30000	150000	157500	165000	172500	180000	825000
10.2	Handover additional BCFs to fulfill the demand of fuel, fodder and timber,	No.	10	15000	30000	31500	33000	34500	36000	165000
10.3	Organize BCF management trainings	No.	5	75000	75000	78750	82500	86250	90000	412500
10.4	Restore degraded forests in the BZ/national forests and CFs outside PAs by artificial or natural regeneration	Ha.	50	25000	250000	262500	275000	287500	300000	1375000
10.5	Manage grasslands in the BZ so as to provide additional habitat for wildlife	Ha.	100	25000	500000	525000	550000	575000	600000	2750000
10.6	Restore wetlands in the corridors of BZ	No.	10	150000	300000	315000	330000	345000	360000	1650000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
10.7	Support local community to plant trees in the roadside, river banks, public and private land	Ha.	50	25000	250000	262500	275000	287500	300000	1375000
10.8	Enrichment plantation in facility zone below 2500 m altitude	Times	5	150000	150000	157500	165000	172500	180000	825000
10.9	Prepare livelihood improvement strategy and plan	No.	1	500000	500000					500000
10.10	Promote wildlife damage resistance cash crop verities in interspersed agriculture and forest patches	Times	5	100000	100000	105000	110000	115000	120000	550000
10.11	High value agriculture crops (not preferred by wildlife) farming training	Times	2	75000	75000		82500			157500
10.12	Introduce improved animal breed to reduce number of unproductive animal	No.	20	25000	100000	105000	110000	115000	120000	550000
10.13	Pilot integrated settlement in one ward of BZ with the support of local bodies	No.	1	250000					250000	250000
10.14	Restoring traditional cultural and ethnographical tourism	Times	1	150000				150000		150000
10.15	Provide leadership training to Presidents and Vice Presidents of BZUG and BZUC	Times	22	175000	770000	808500	847000	885500	924000	4235000
10.16	Provide account keeping training to Secretary or Treasurer	Times	22	175000	770000	808500	847000	885500	924000	4235000
10.17	Provide support to organize cooperative management training	Times	5	150000	150000	157500	165000	172500	180000	825000
10.18	Participatory monitoring training	No.	5	150000	150000	157500	165000	172500	180000	825000
10.19	Regulation of relief fund for victims of human wildlife conflict	Year	5	500000	500000	525000	550000	575000	600000	2750000
10.20	Learning Visit of LNP staffs and BZUC members	Times	5	500000	500000	525000	550000	575000	600000	2750000
10.21	Implement ToT for the teachers of schools of BZ on biodiversity conservation,	Year	5	250000	250000	262500	275000	287500	300000	1375000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
10.22	Conduct conservation awareness campaign at school and villages of BZ with conservation focused cultural show, street drama, concert, documentary show, etc.	Year	5	150000	150000	157500	165000	172500	180000	825000
10.23	Orientation training regarding conservation legislation to BZ communities	Times	5	25000	25000		27500		30000	82500
10.24	Celebrate various conservation days	years	5	100000	100000	105000	110000	115000	120000	550000
10.25	Produce Information Education and Communication (IEC) material	Times	1	300000			300000			300000
10.26	Produce monthly radio documentary of BZ programme	No.	60	15000	180000	189000	198000	207000	216000	990000
10.27	Produce video documentary focusing BZ programme	No.	1	500000					600000	600000
10.28	Organize BZMC meetings	Times	25	75000	375000	393750	412500	431250	450000	2062500
10.29	Advertisement on newspapers	Times	10	10000	20000	21000	22000	23000	24000	110000
10.30	Support to 21 BZUCs	Years	5		84196200	68910985	62975037	58245753	54890288	329218263
	Sub Total				**90616200**	**75021985**	**69787037**	**65088753**	**62754288**	**363268263**
11	**Extraction of River-Bed Construction Materials**									
11.1	Hoarding Board installation in different sites to aware on river bed material collection and legal provision.	No.	9	10000				50000	40000	90000
	Sub total			**10000**				**50000**	**40000**	**90000**
12	**None-timber forest product**									
12.1	NTFPs seedling production and distribution to encourage local people in private land.	No.	2	2,000,000				2,000,000	2,000,000	4,000,000
12.2	Providing training on processing and marketing of NTFPs product.	No.	2	300,000				300,000	300,000	600,000
12.3	Amendment of Operational Plan of BZ community forest of LNP.	No.	40	50,000				1,000,000	1,000,000	2,000,000

SN	Activities	Unit	No.	Rate	Year 1	Year 2	Year 3	Year 4	Year 5	Total
12.4	Detail inventory of NTFPs to estimate quanity and quality in BZ CFs	No.	20	100,000				1,000,000	1,000,000	2,000,000
12.5	Regular monitoring of NTFPs and ensure sustainable harvesting	No.	20	25,000				250,000	250,000	500,000
12.6	Training on sustaianble harvesting and legal procedure for yarsagumba collection	No.	2	300,000				300,000	300,000	600,000
12.7	Regulation, monitoring and facilitation for yarsagumba collection	no.	2	300,000				300,000	300,000	600,000
	Sub-total			**2475000**				**5150000**	**5150000**	**10300000**
13	**Office Management**									
13.1	Salary, dress, ration	Years	5	39994500	39994500	41994225	43993950	45993675	47993400	219969750
13.2	Procure computer	No.	5	80000	80000	84000	88000	92000	96000	440000
13.3	Procure computer printer	No.	3	50000		50000	55000	57500		162500
13.4	Procure multimedia projector	No.	1	90000		94500				94500
13.5	Maintenance of vehicle, motorbikes	Years	5	500000	500000	525000	550000	575000	600000	2750000
13.6	Fuel for vehicle	Litre	10000	110	220000	231000	242000	253000	264000	1210000
13.7	Procure furniture	Years	5	200000	200000	210000	220000	230000	240000	1100000
13.8	Management of office equipment	Years	5	50000	50000	52500	55000	57500	60000	275000
13.9	Stationeries	Years	5	250000	250000	262500	275000	287500	300000	1375000
13.10	Payment of electricity, telephone, Internet	Years	5	350000	350000	367500	385000	402500	420000	1925000
	Sub Total				**41644500**	**43871225**	**45863950**	**47948675**	**49973400**	**229301750**
	Grand Total				**225011200**	**204451360**	**188756887**	**210944942**	**232,803,573**	**1061967962**

Annex VIII: Five year plans of BZUCs

Bhorle BZUC

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Plantation	Ha.	25	15000	375000	75000	78750	82500	86250	90000	412500	
2	Landslide control	Cubic meter	3000	3000	9000000							9000000
3	Water source conservation	Ha	9	50000	450000	90000	94500	99000	103500	108000	495000	
4	Irrigation	Km	4	100000	400000	100000	105000	110000	115000		430000	
5	Forest guard	Years	5	120000	600000	120000	126000	132000	138000	144000	660000	
6	Fireline cleaning	Km	5	5000	25000	5000	5250	5500	5750	6000	27500	
7	Plantation fencing	Km	5	100000	500000	100000	105000	110000	115000	120000	550000	
8	Improved fireplace for cooking	No.	1000	5000	5000000							5000000
9	Nursery management/ establishment	No.	1	100000	100000	100000					100000	
10	Metal pole (Lingo) distribution	No.	250	3500	875000	175000	183750	192500	201250	210000	962500	
	Sub total	Times				**765000**	**698250**	**731500**	**764750**	**678000**	**3637500**	**14000000**
	Community Development											
1	User group building construction	No.	5	150000	750000	150000	157500	165000	172500	180000		825000
2	Temple and monastery repair	No.	10	50000	500000	100000	20000	4000	800	160		124960
3	Walking trail repair	Km	9	50000	450000							
4	Construction of Kiriyaputri house	No.	9	100000	900000							
5	Bio gas installation	No. of People	300	15000	4500000	900000	180000	36000	7200	1440		1124640
6	Support for school	No.	5	100000	500000	100000	20000	4000	800	160		124960
7	Waste management	No.	9	100000	900000	180000	36000	7200	1440	288		224928
	Sub total					**1430000**	**413500**	**216200**	**182740**	**182048**		**2424488**

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
C	**Income Generation and Skill Development Programme**											
1	Sewing	No. of People	50	5000	250000	50000	52500	55000	57500	60000	275000	
2	Leadership and account management training	No. of People	26	1000	26000		26000				26000	
3	Plumber training	No. of People	20	5000	100000	300000					300000	
4	House wiring training	No. of People	20	5000	100000		300000				300000	
5	Agriculture farming training	No. of People	45	2000	90000	90000					90000	
6	Mushroom farming training	No. of People	20	2000	40000			100000			100000	
7	Goat farming training	No. of People	50	2000	100000	20000	21000	22000	23000	24000	110000	
8	Finance management training	No.	50	1500	75000	37500	39375				76875	
9	Plastic tunnel	No.	150	3000	450000	90000	94500	99000	103500	108000	495000	
10	Farm improvement	No.	150	5000	750000							750000
11	Fruit farm	No. of People	18	5000	90000	90000					90000	
12	Computer training	No. of People	45	5000	225000	45000	47250	49500	51750	54000	247500	
	Sub total					**722500**	**580625**	**325500**	**235750**	**246000**	**2110375**	
	Conservation Education											
1	Eco club mobilization	Place	5	50000	250000	50000	52500	55000	57500	60000	275000	
2	Conservation library	No.	1	1000000	1000000							1000000
3	Informative program/ discussion/training	No.	50	1500	75000	15000	15750	16500	17250	18000	82500	
4	Educational tour	No. of People	55	5000	275000	137500	144375				281875	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
5	Radio programme about conservation	No.	60	5000	300000	60000	63000	66000	69000	72000	330000	
6	Hoarding board	No.	15	15000	225000	195000					195000	
7	Celebration day	No.	10	25000	250000	50000	52500	55000	57500	60000	275000	
8	Organize orientation on conservation legislations	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
9	Support Eco club to organize school level programme	Years	5	30000	150000	30000	31500	33000	34500	36000	165000	
	Sub total					**587500**	**412125**	**280500**	**293250**	**306000**	**1879375**	**1000000**
E	**Administrative Costs**											
1	Camera	No.	1	35000	35000	35000					35000	
2	Stationery	No.	5	100000	500000	100000	105000	110000	115000	120000	550000	
3	Communication	Years	5	10000	50000	10000	10500	11000	11500	12000	55000	
4	Conservation related expenses	Years	5	5000	25000	5000	5250	5500	5750	6000	27500	
5	Office helper	No. of People	1	36000	36000	7200	7560	7920	8280	8640	39600	
6	Renewal of operational plan	Times	13	25000	325000	65000	68250	71500	74750	78000	357500	
7	Reformation of user and committee	Times	1	20000	20000	4000	4200	4400	4600	4800	22000	
8	Furniture	Set	2	20000	40000	40000					40000	
9	Computer	No.	1	25000	25000	25000					25000	
	Sub total					**291200**	**200760**	**210320**	**219880**	**229440**	**1151600**	
	Grand Total (A+B+C+D+E)					**3796200**	**2305260**	**1764020**	**1696370**	**1641488**	**11203338**	**16350000**

Pangbochethan BZUC

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	CF renewal	No.	9	30000	270000			30000			30000	
2	Plantation	Ha	18	20000	360000	72000	75600	79200	82800	86400	396000	
3	Nursery establishment	No.	1	300000	300000	300000					300000	
4	Water source conservation	No.	5	15000	75000	15000	15750	16500	17250	18000	82500	
5	Provide support to metal pole (llingo)	No.	100	4000	400000	80000	84000	88000	92000	96000	440000	
6	Stone wall or barbed wire fencing	Meter	150	3000	450000	90000	94500	99000	103500	108000	495000	495000
7	Forest Guard	Years	5	130000	650000	130000	136500	143000	149500	156000	715000	
8	Provide support to install metallic stove	No.	75	4000	300000	60000	63000	66000	69000	72000	330000	330000
9	Pond for wildlife	No.	15	10000	150000	30000	31500	33000	34500	36000	165000	
10	Installation of biogas	No.	50	15000	750000	150000	157500	165000	172500	180000	825000	825000
11	Community based anti-poaching unit patrolling	Times	15	25000	375000	75000	78750	82500	86250	90000	412500	
	Sub total					**1002000**	**737100**	**802200**	**807300**	**842400**	**4191000**	**1650000**
B.	**Community Development**											
1	Dumping site for waste management bin	No.	3	750000	2250000							2250000
2	Dustbin distribution for waste management	No.	10	2000	20000	4000	4200	4400	4600	4800	22000	22000
3	Cemetery construction	No.	5	100000	500000	100000	105000	110000	115000	120000	550000	550000
4	Maintenance of trekking route	Km	5	100000	500000	100000	105000	110000	115000	120000	550000	550000
5	Community building construction	No.	5	300000	1500000							1500000
6	Maintenance and repair of monasteries reconstruction	No.	6	300000	1800000							1800000

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
7	Chorten construction	No.	5	100000	500000	100000	105000	110000	115000	120000	550000	550000
8	Irrigation canal repair	Km	5	125000	625000	125000	131250	137500	143750	150000	687500	
9	Community cultural home	No.	1	700000	700000							700000
10	Drinking water maintenance and repair	LS	1	500000	500000	100000	105000	110000	115000	120000	550000	
11	Public toilet construction	No	1	500000	500000							500000
12	Construction of watch towers	No	1	500000	500000	500000					500000	
13	Road maintenance	Km	5	50000	250000	50000	52500	55000	57500	60000	275000	
14	Hume pipe	No.	15	15000	225000	45000	47250	49500	51750	54000	247500	
15	Culvert	No	3	175000	525000	105000	110250	115500	120750	126000	577500	577500
16	Signage at various places	No.	25	3000	75000	15000	15750	16500	17250	18000	82500	
	Sub total					**1244000**	**781200**	**818400**	**855600**	**892800**	**4592000**	**8999500**
C	**Income Generation and Skill Development Programme**											
1	Organic farming training	Pax	50	1500	75000		37500		18750		56250	
2	Waste recycling to make different products training	Pax	50	1500	75000	37500		41250			78750	
3	Training to make carpet from old clothes	Pax	50	1500	75000		37500				37500	
4	Sewing knitting training	Pax	50	1500	75000	315000				378000	693000	
5	Shama (patuka) making training	Pax	50	1500	75000		37500				37500	
6	Hotel management training (cook+hospitality)	Pax	50	1500	75000		315000		86250		401250	
7	Home stay training	Pax	25	1500	37500			41250			41250	
8	Organic coffee farming training	Pax	50	1500	75000				86250		86250	
9	Chiraito farming training	Pax	25	1500	37500			41250			41250	
10	Tea farming training	Pax	22	1500	33000					39600	39600	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
11	Carpentry training	Pax	25	1500	37500				43125		43125	
12	Plumber training	Pax	50	1500	75000	37500		41250			78750	
13	Electric training	Pax	50	1500	75000				315000		315000	
14	TV/Mobile training	Pax	25	1500	37500					45000	45000	
15	Livestock farming training	Pax	50	1500	75000	37500			43125		80625	
16	Chicken farming training	Pax	50	1500	75000	42000					42000	
17	Pig faming training	Pax	50	1500	75000		37500			45000	82500	
18	Hybrid goat	No	15	10000	150000	30000	31500	33000	34500	36000	165000	
19	Hybrid buffalo	No	15	22000	330000	66000	69300	72600	75900	79200	363000	
20	Marketing of Medicinal Aromatic Plants	Times	1	300000	300000					300000	300000	
21	IPM training	Pax	25	5000	125000			137500			137500	
22	Bee farming training	Pax	25	5000	125000				210000		210000	
23	Mushroom farming training	Pax	22	1500	33000			36300			36300	
24	Alaichi farming training	Pax	25	2000	50000	42000					42000	
25	Off season vegetable farming training	Pax	25	2000	50000	42000					42000	
26	Bio briquette making training	Pax	50	1500	75000	75000					75000	
27	Oil extraction fro nuts training and equipment	No	1	250000	250000			275000			275000	
28	Kiwi farming training	No.	21	2000	42000			42000			42000	
	Sub Total					**724500**	**565800**	**761400**	**912900**	**922800**	**3887400**	
E	**Conservation Education**											
1	Orientation on conservation rules, regulation	No	100	1500	150000	30000	31500	33000	34500	36000	165000	
2	Learning observation tour	Times	1	50000	50000			500000			500000	
3	Eco club member observation tour	Times	2	25000	50000	25000			28750		53750	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
4	Media fellowship about helambu eco trek	Times	3	50000	150000	50000		500000		60000	610000	
5	Produce documentary about community conservation	Times	1	300000	300000					360000	360000	
6	Eco club mobilization	No.	5	15000	75000	15000	15750	16500	17250	18000	82500	
7	School level conservation related competition	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
8	Celebration of conservation day	Times	5	25000	125000	25000	26250	27500	28750	30000	137500	
9	Erection of Hoarding board	No.	5	15000	75000	25000	26250	27500	28750	30000	137500	
	Sub Total					**220000**	**152250**	**1159500**	**195500**	**594000**	**2321250**	
1	Furniture	Times	1	100000	100000	100000					100000	
2	Stationery	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
3	Communication	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
4	Conservation interaction expenses	Years	5	75000	375000	75000	78750	82500	86250	90000	412500	
5	Office Assistant	Years	5	130000	650000	130000	136500	143000	149500	156000	715000	
6	Computer, printer	Times	1	75000	75000	75000					75000	
7	Multimedia projector	No	1	50000	50000			50000			50000	
8	Group, committee reformation	Times	1	100000	100000	100000					100000	
9	5 years management plan preparation	Times	1	50000	50000			50000			50000	
10	Miscellaneous	Years	5	25000	125000	25000	26250	27500	28750	30000	137500	
	Sub Total					**605000**	**346500**	**463000**	**379500**	**396000**	**2190000**	
	Grant Total (A+B+C+D)					**3795500**	**2582850**	**4004500**	**3150800**	**3648000**	**17181650**	**10649500**

Bachhala BZUC

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	CF renewal	No.	7	30000	210000	42000	44100	46200	48300	50400	231000	
2	Nursery establishment	No	1	500000	500000	125000	131250	137500	143750		537500	
3	Improved fireplace for cooking	No.	150	4000	600000	300000	315000				615000	615000
4	Fencing for controlling human wildlife conflict	Km	3	250000	750000	150000	157500	165000	172500	180000	825000	825000
5	Community forest guard	Place	7	48000	336000	67200	70560	73920	77280	80640	369600	
6	Patrolling for theft control	Meter	60	3000	180000	36000	37800	39600	41400	43200	198000	
7	Metal pole (Lingo)	No.	150	3500	525000	105000	110250	115500	120750	126000	577500	577500
8	Fire line cleaning	Km	5	75000	375000	75000	78750	82500	86250	90000	412500	412500
9	Check dam construction for Landslide control	Cubic meter	100	5000	500000	100000	105000	110000	115000	120000	550000	550000
10	Water source conservation for wildlife	No.	7	75000	525000	300000	315000				615000	
11	Cemented dustbin for waste management	No.	10	10000	100000	300000	315000				615000	
12	Walking road construction/ repair	Times	7	100000	700000	300000	315000				615000	
	Sub total					**1900200**	**1995210**	**770220**	**805230**	**690240**	**6161100**	**2980000**
B.	**Community Development**											
1	Agriculture road	Km	15	40000	600000	120000	126000	132000	138000	144000	660000	660000
2	Water source conservation	No.	20	30000	600000	120000	126000	132000	138000	144000	660000	
3	Temple/Monastery repair	Pax	8	100000	800000	160000	168000	176000	184000	192000	880000	
4	Construction of committee building	No.	1	750000	750000	150000	157500	165000	172500	180000	825000	825000
5	Water source repair for irrigation	No.	9	50000	450000	90000	94500	99000	103500	108000	495000	
6	Resting place construction	No.	3	300000	900000							900000

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
7	Drinking water project	No.	3	150000	450000	90000	94500	99000	103500	108000	495000	
8	Hyum pipe	No.	12	15000	180000	36000	37800	39600	41400	43200	198000	
9	Suspension bridge repair	No.	5	300000	1500000							1500000
10	School building repair	No.	7	100000	700000	140000	147000	154000	161000	168000	770000	
11	Irrigation canal repair	Meter	200	2500	500000	100000	105000	110000	115000	120000	550000	550000
						1006000	**1056300**	**1106600**	**1156900**	**1207200**	**5533000**	**4435000**
C	**Income Generation and Skill Development Programme**											
1	Alaichi farming	Pax	27	2000	54000	54000					54000	
2	Chiraito farming	Pax	27	2000	54000		54000				54000	
3	Fish farming	Pax	27	2000	54000		54000				54000	
4	Tunnel agriculture production	Pax	45	2000	90000	90000					90000	
5	Mushroom farm	Pax	27	2000	54000	54000					54000	
6	House wiring training	Pax	3	15000	45000	45000					45000	
7	Mobile repair training	Pax	3	15000	45000		45000				45000	
8	Animal farm training	Pax	2	2000	4000			4000			4000	
9	Leadership development training	Pax	50	2000	100000	50000			55000		105000	
10	Bee farm training	Pax	18	2000	36000				36000		36000	
11	Account training	Pax	18	2000	36000	2000					2000	
12	Organizational management training	Pax	18	2000	36000		2000				2000	
13	Plumbing training	Pax	18	15000	270000					270000	270000	
14	Furniture/Laborer training	Pax	18	15000	270000				270000		270000	
15	Sewing/knitting training	Pax	18	15000	270000	135000		141750			276750	
16	Cook training	Pax	27	2000	54000		54000				54000	
17	Trekking guide training	No.	27	2000	54000	54000					54000	
18	Leadership training for women	Pax	26	1000	26000	26000					26000	
	Sub total					**510000**	**209000**	**145750**	**361000**	**270000**	**1495750**	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
D	**Conservation Education**											
1	Presentation and discussion on rules, policy, legislation about conservation	Times	10	10000	100000	20000	21000	22000	23000	24000	110000	
2	Hoarding board	No.	5	5000	25000	25000					25000	
3	Celebration day	Times	10	50000	500000	100000	105000	110000	115000	120000	550000	
4	Eco club initiation	No.	1	25000	25000	25000					25000	
5	School level quiz, elocution contest by eco club	Times	5	30000	150000	30000	31500	33000	34500	36000	165000	
6	Learning observation tour	Pax	50	5000	250000	500000					500000	
7	Discussion for theft control	Times	2	25000	50000	25000		26250			51250	
8	Radio programme on conservation	Times	60	5000	300000	60000	63000	66000	69000	72000	330000	
	Sub total					**785000**	**220500**	**257250**	**241500**	**252000**	**1756250**	
E	**Administrative Costs**											
1	Furniture	Set	1	10000	10000	10000					10000	
2	Stationery	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
3	Communication	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
4	Office Assistant	Years	5	135000	675000	135000	141750	148500	155250	162000	742500	
5	Computer, printer	Times	1	80000	80000	80000					80000	
6	Conservation related expenses	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
7	User, committee reformation	Times	1	100000	100000			100000			100000	
8	5 years plan	Times	1	50000	50000		50000				50000	
	Sub total					**375000**	**349250**	**413500**	**327750**	**342000**	**1807500**	
	Grand Total (A+B+C+D+E)					**4576200**	**3830260**	**2693320**	**2892380**	**2761440**	**16753600**	**7415000**

Briddim BZUC

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Plantation (including grass) Support Forest Guard to patrol	Ha	25	15000	375000	75000	78750	82500	86250	90000	412500	
2	forest	Year	5	120000	600000	120000	126000	132000	138000	144000	660000	
3	Metal pole (lingo)	No.	150	3500	525000	105000	110250	115500	120750	126000	577500	
4	Metal fireplace	No.	50	10000	500000	100000	105000	110000	115000	120000	550000	
5	Construct pond for wildlife	No.	5	25000	125000	25000	26250	27500	28750	30000	137500	
6	Barbed wire fencing	Meter	500	500	250000	50000	52500	55000	57500	60000	275000	
	Sub total					475000	498750	522500	546250	570000	**2612500**	
B.	**Community Development**											
1	Walking trail construction	Meter	2500	150	375000	75000	78750	82500	86250	90000	412500	
2	Monastery reconstruction	No.	2	500000	1000000							1000000
3	Monastery repair	No.	2	500000	1000000	200000	210000	220000	230000	240000	1100000	
4	Community building	No.	1	500000	500000	250000					250000	250000
5	School building constructionsupport	Times	2	500000	1000000	250000			287500		537500	268750
6	Drainage construction	Meter	2000	500	1000000	200000	210000	220000	230000	240000	1100000	
7	Resting place construction	No.	2	100000	200000	40000		44000			84000	
	Sub total					**1015000**	**498750**	**566500**	**833750**	**570000**	**3484000**	**1518750**
C	**Income Generation and Skill Development Programme**											
1	Support for construction of green house	No.	250	3500	875000	175000	183750	192500	201250	210000	962500	
2	House wiring training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	
3	Sewing and knitting training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	
4	Plumbing training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	
5	Hotel training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	
6	Trekking guide training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
7	Electrician training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	
8	Furniture/Laborer training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	
9	Leadership development training	Pax	27	2000	54000	10800	11340	11880	12420	12960	59400	
10	Agriculture farming training, Goad farm training	Pax	50	2000	100000	20000	21000	22000	23000	24000	110000	
11	Farm improvement program	Pax	50	50000	2500000				2500000	0	2500000	2500000
12	Herbs farming training	Pax	50	3000	150000	30000	31500	33000	34500	36000	165000	
	Disaster reduction pre alert											
13	training	Pax	27	3000	81000	16200	17010	17820	18630	19440	89100	
	Sub total					**322000**	**338100**	**354200**	**2870300**	**386400**	**4271000**	**2500000**
D	**Conservation Education**											
1	Hoarding board	No.	50	10000	500000	100000	105000	110000	115000	120000	550000	
2	Wall painting	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	
3	Celebration day	No.	10	10000	100000	20000	21000	22000	23000	24000	110000	
4	Broadcasting of conservation programme	No.	60	5000	300000	60000	63000	66000	69000	72000	330000	
5	Presentation training on policy and rules	Times	5	30000	150000	50000	52500	55000			157500	
6	Conservation observation tour	Times	1	105000	105000			105000			105000	
	Sub total					280000	294000	413000	264500	276000	1527500	0
	Administrative Costs											
1	Office helper	Pax	1	130000	130000	26000	27300	28600	29900	31200	143000	
2	Stationery	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
3	Communication	Years	5	25000	125000	25000	26250	27500	28750	30000	137500	
	Laptop, Photocopy machine,											
4	Camera	Times	1	200000	200000	40000	42000	44000	46000	48000	220000	
5	Furniture	Times	1	200000	200000	66667	70000	73333			210000	
	Sub total					**207667**	**218050**	**228433**	**162150**	**169200**	**985500**	**0**
	Grand Total (A+B+C+D+E)					**2299667**	**1847650**	**2084633**	**4676950**	**1971600**	**12880500**	**4018750**

Dhaibung BZUC

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Plantation	Ha	50	15000	750000	150000	157500	165000	172500	180000	825000	
2	Landslide control	Cubic meter	300	1500	450000	90000	94500	99000	103500	108000	495000	
3	Water source conservation	Ha	10	25000	250000	50000	52500	55000	57500	60000	275000	
4	Nursery management	No	1	300000	300000	60000					60000	
5	Metal pole (Lingo)	No.	100	3500	350000	87500	91875	96250	100625		376250	
6	Fencing to control monkey	Meter	400	1500	600000	120000	126000	132000	138000	144000	660000	
8	Forest guard	Years	5	120000	600000	120000	126000	132000	138000	144000	660000	
9	Patrolling for control of theft	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	
10	Fire line	No.	6	60000	360000	72000	75600	79200	82800	86400	396000	
11	Bio gas	No.	25	20000	500000	100000	105000	110000	115000	120000	550000	
12	Waste management (dust bin)	No.	50	5000	250000	50000	52500	55000	57500	60000	275000	
	Support improved fire place for											
13	cooking	No.	50	10000	500000	100000	105000	110000	115000	120000	550000	
	Sub total					**1049500**	**1038975**	**1088450**	**1137925**	**1082400**	**5397250**	
B.	**Community Development**											
1	Community building construction	No.	5	250000	1250000	250000	262500	275000	287500	300000	1375000	
2	Temple, monastery	No.	6	50000	300000	60000	63000	66000	69000	72000	330000	
3	Road construction with the support of local bodies	Meter	3000	25000	7500000							75000000
4	Kiriyaputri house construction	No.	1	500000	500000		500000				500000	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
5	Improve Goth support	No.	50	15000	750000	150000	157500	165000	172500	180000	825000	
6	Green house tunnel	No.	75	5000	375000	75000	78750	82500	86250	90000	412500	
8	Resting place	No.	5	75000	375000	75000	78750	82500	86250	90000	412500	
9	Construct vegetable collection centre	No.	1	250000	250000	50000	52500	55000	57500	60000	275000	
10	Public toilet	No.	2	300000	600000	120000	126000	132000	138000	144000	660000	
	Sub total					**780000**	**1319000**	**858000**	**897000**	**936000**	**4790000**	**75000000**
C	**Conservation Education**											
1	Basket production (including machine)	Pax	25	1500	37500	7500	7875	8250	8625	9000	41250	
2	Sewing knitting training	Pax	25	5000	125000	25000	26250	27500	28750	30000	137500	
3	House wiring training	Pax	27	2500	67500	13500	14175	14850	15525	16200	74250	
4	Agarbatti making training	Pax	27	1000	27000	5400	5670	5940	6210	6480	29700	
5	Mobile repairing training	Pax	20	2500	50000	10000	10500	11000	11500	12000	55000	
6	Mini tiller repair	Pax	9	5000	45000	9000	9450	9900	10350	10800	49500	
8	Goat, cow, chicken farming training	Pax	27	1500	40500	8100	8505	8910	9315	9720	44550	
9	Herb production training	Pax	9	5000	45000	9000	9450	9900	10350	10800	49500	
10	Mushroom farming training	Pax	27	1500	40500	8100	8505	8910	9315	9720	44550	
11	Agriculture farming training	Pax	27	1500	40500	8100	8505	8910	9315	9720	44550	
12	Organizational management training	Pax	27	1500	40500	8100	8505	8910	9315	9720	44550	
13	Account management training	Pax	27	1500	40500	8100	8505	8910	9315	9720	44550	
14	Finance management training	Pax	27	1500	40500	8100	8505	8910	9315	9720	44550	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
15	Bamboo product making training	Pax	27	1500	40500	8100	8505	8910	9315	9720	44550	
16	Motorcycle repair training	Pax	9	15000	135000	27000	28350	29700	31050	32400	148500	
17	Gender violence training and programme	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
18	Metal wielding training	Pax	27	2500	67500	13500	14175	14850	15525	16200	74250	
19	Tomato sauce making training	Pax	27	2500	67500	13500	14175	14850	15525	16200	74250	
20	Mini tiller operation training	Pax	27	2500	67500	13500	14175	14850	15525	16200	74250	
21	Office management training	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
22	Agriculture equipment repair	Pax	27	2500	67500	13500	14175	14850	15525	16200	74250	
	Sub total					**247100**	**259455**	**271810**	**284165**	**296520**	**1359050**	**0**
D	**Conservation Education**											
1	Eco club initiation	No.	3	75000	225000	45000	47250	49500	51750	54000	247500	
2	Learning observation tour about conservation	Pax	135	5000	675000	135000	141750	148500	155250	162000	742500	
3	Support Eco club to organize school level programme	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	
4	Celebration day	No.	5	30000	150000	30000	31500	33000	34500	36000	165000	
5	**Organize conservation** awareness activities	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	
6	Hoarding board	No.	3	15000	45000	45000					45000	
7	Organize orientation programme to raise awareness on conservation legislations	Times	5	75000	375000	75000	78750	82500	86250	90000	412500	
8	Radio program on conservation	Times	60	5000	300000	60000	63000	66000	69000	72000	330000	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
9	Teej song contest	Years	5	100000	500000	100000	105000	110000	115000	120000	550000	
	Conservation programme on											
10	Lhosar	Years	5	100000	500000	100000	105000	110000	115000	120000	550000	
11	Cleaning programme	Times	60	10000	600000	120000	126000	132000	138000	144000	660000	
	Sub total					**810000**	**803250**	**841500**	**879750**	**918000**	**4252500**	**0**
E												
1	**Administrative Costs**	Times	9	25000	225000	45000	47250	49500	51750	54000	247500	
2	User group reformation	Times	1	200000	200000	200000					200000	
3	Furniture	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
4	Stationery	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
5	Communication	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
6	Conservation related expenses	Set	1	75000	75000	75000					75000	
7	Computer, Printer, Camera	Years	1	100000	100000	20000	21000	22000	23000	24000	110000	
8	Office helper	Years	5	50000	250000			50000			50000	
9	Management plan preparation	Times	1	50000	50000					50000	50000	
	Sub total					**490000**	**225750**	**286500**	**247250**	**308000**	**1557500**	
	Grand Total (A+B+C+D+E)					**3376600**	**3646430**	**3346260**	**3446090**	**3540920**	**17356300**	**75000000**

Dupcheshwori BZUC

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	CF renewal	No.	1	30000	30000			30000			30000	
2	Nursery establishment	No.	1	300000	300000	300000					300000	
3	Plantation	Ha	10	30000	300000	60000	63000	66000	69000	72000	330000	
4	Landslide control	No.	5	150000	750000	150000	157500	165000	172500	180000	825000	825000
5	Metal pole (llingo)	No.	150	4000	600000	120000	126000	132000	138000	144000	660000	660000
6	Stone wall or barbed wire fencing	Meter	5	100000	500000	100000	105000	110000	115000	120000	550000	550000
7	Water source conservation	No.	6	10000	60000	12000	12600	13200	13800	14400	66000	
8	Forest guard	No.	5	130000	650000	130000	136500	143000	149500	156000	715000	
9	Fire control (equipment purchase)	Times	1	300000	300000	100000	105000	110000			315000	
10	Waste management (dumping site)	No.	3	150000	450000	90000	94500	99000	103500	108000	495000	
11	Metal fireplace	No.	90	4000	360000	72000	75600	79200	82800	86400	396000	
	Sub total	Times				**1134000**	**875700**	**947400**	**844100**	**880800**	**4682000**	**2035000**
B.	**Community Development**											
1	Dustbin distribution for waste management	No.	90	1200	108000	108000					108000	
2	Support to maintain and repairtrekking trail	Km	10	50000	500000	100000	105000	110000	115000	120000	550000	
3	Community building construction	No.	7	100000	700000							700000
4	Support to construct Kiriyaputri house	No.	2	500000	1000000							1000000

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
5	Construct or renovate temple and monastery including maintenance	No.	5	300000	1500000							1500000
6	Construct chorten	No.	1	500000	500000	500000					500000	
7	Women group building construction	No.	3	200000	600000	200000		210000		220000	630000	
8	CBAPU building construction	No.	1	200000	200000	200000					200000	
9	Irrigation canal repair	Km	5	125000	625000	125000	131250	137500	143750	150000	687500	687500
10	Support for ambulance	Times	1	500000	500000							500000
11	Flood and landslide control	No	5	100000	500000	100000	105000	110000	115000	120000	550000	550000
12	Tamang community cultural home	No.	2	100000	200000	100000	105000				205000	
13	School building repair	No.	3	150000	450000	150000		157500		165000	472500	
14	Drinking water pipe and tank construction	No.	20	10000	200000	40000	42000	44000	46000	48000	220000	
10	Park area entry gate (bandara river)	No.	1	100000	100000	100000					100000	
	Sub total					**1723000**	**488250**	**769000**	**419750**	**823000**	**4223000**	**4937500**
C	**Income Generation and Skill Development Programme**											
1	Driving training	Pax	21	10000	210000		315000				315000	
2	Plumber training	Pax	28	10000	280000	420000					420000	
3	Sewing knitting training	Pax	21	10000	210000	315000					315000	
6	Beautician training	Pax	21	5000	105000	42000					42000	
7	Hotel management training	Pax	21	1500	31500		315000				315000	
8	Furniture and Laborer training	Pax	21	5000	105000			315000			315000	
9	Electric training	Pax	21	10000	210000				315000		315000	

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
10	Fish farming training	Pax	50	2000	100000	42000					42000	
11	Goat farming training	Pax	50	1500	75000	42000					42000	
12	Chicken farming training	Pax	50	1500	75000	42000					42000	
13	Pig farming training	Pax	50	1500	75000		42000				42000	
14	Buffalo farming training	Pax	50	1500	75000		42000				42000	
15	Alaichi farming training	Pax	50	1500	75000	42000					42000	
16	Coffee farming training	Pax	50	1500	75000		42000				42000	
17	Kiwi farming training	Pax	50	1500	75000			42000			42000	
18	Amriso farming training	Pax	50	1500	75000	42000					42000	
19	Agriculture farming training	Pax	50	1500	75000	42000					42000	
20	Bee keeping training	Pax	50	5000	250000				210000		210000	
21	Herb chiraito farming training	Pax	50	2000	100000	42000					42000	
25	Equipment for bio brigade industry	No.	1	125000	125000	125000					125000	
26	Thasinggare oil beating machine	No.	1	150000	150000				150000		150000	
27	Seedling distribution for jayatun farming	Pax	500	500	250000					250000	250000	
	Sub total					**1196000**	**756000**	**357000**	**675000**	**250000**	**3234000**	
E	**Conservation Education**											
1	Orientation of conservation rules, regulation	Times	10	25000	250000	50000	52500	55000	57500	60000	275000	
2	Learning observation tour	Times	1	300000	300000			300000			300000	
22	Old aged tour	Pax	35	10000	350000		350000				350000	
23	Women conservation tour	Pax	35	10000	350000	350000					350000	
24	Forest committee conservation tour	Pax	35	10000	350000			350000			350000	

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
3	Eco club mobilization	Years	5	25000	125000	25000	26250	27500	28750	30000	137500	
4	School level competition	Times	10	50000	500000	100000	105000	110000	115000	120000	550000	
5	Celebration day	Times	10	15000	150000	30000	31500	33000	34500	36000	165000	
6	Hoarding board	Years	5	5000	25000	25000					25000	
	Sub total					**580000**	**565250**	**875500**	**235750**	**246000**	**2502500**	
E	**Administrative Costs**											
1	Furniture	Times	1	100000	100000	100000					100000	
2	Stationery	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
3	Communication	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
4	Conservation related expenses	Years	5	75000	375000	75000	78750	82500	86250	90000	412500	
5	Office helper	Years	5	130000	650000	130000	136500	143000	149500	156000	715000	
6	Computer, printer	Times	1	75000	75000	75000					75000	
7	Group, committee reformation	Times	1	100000	100000	100000					100000	
8	5 years management plan preparation	Times	1	50000	50000			50000			50000	
	Sub total					**580000**	**320250**	**385500**	**350750**	**366000**	**2002500**	
	Grand Total (A+B+C+D+E)					**5213000**	**3005450**	**3334400**	**2525350**	**2565800**	**16644000**	**6972500**

Indreni BZUC

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Plantation	No.	5	40000	200000	40000	42000	44000	46000	48000	220000	
2	Red panda conservation patrolling	Times	15	15000	225000	45000	47250	49500	51750	54000	247500	
3	Nursery establishment	No.	1	300000	300000	300000					300000	
4	CF formation	No.	2	50000	100000	50000		52500			102500	
5	Landslide control	Place	10	150000	150000 0							1500000
6	Water source conservation (tank construction)	Meter	2	100000 0	200000 0							2000000
7	Tourist trail construction	Km	4	100000	400000	80000	84000	88000	92000	96000	440000	440000
8	Metal pole (lingo)	No.	200	4000	800000	160000	168000	176000	184000	192000	880000	880000
9	Improved fire place	No.	200	4000	800000	160000	168000	176000	184000	192000	880000	880000
10	Fencing to reduce Human wildlife conflict	Km	2	150000	300000	150000	157500				307500	
11	View tower (tourism)	No.	1	500000	500000	250000	262500				512500	
12	Kharka management	Times	3	84000	252000	50400	52920	55440	57960	60480	277200	
13	Forest guard	Pax	3	84000	252000	50400	52920	55440	57960	60480	277200	
	Sub total					1335800	1035090	696880	673670	702960	4444400	5700000
B.	**Community Development**											
1	Suspension bridge construction including maintenance	No.	5	300000	150000 0							1500000
2	Tamang cultural house	Pax	1	750000	750000	375000	393750				768750	768750
3	Support for School	No.	10	50000	500000	100000	105000	110000	115000	120000	550000	550000
4	Temple, Monastery reconstruc tion	Set	7	500000	350000 0							3500000

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
5	Resting place construction	No.	5	150000	750000	150000	157500	165000	172500	180000	825000	
6	Kiriyaputri house construction	No.	9	200000	180000 0	360000	378000	396000	414000	432000	1980000	1980000
7	Irrigation	Place	7	100000	700000	140000	147000	154000	161000	168000	770000	770000
	Sub total					1125000	1181250	825000	862500	900000	4893750	9068750
C	**Income Generation and Skill Development Programme**											
1	Leadership development training	Pax	50	1500	75000	75000					75000	
2	Account training	Pax	18	2000	36000	36000					36000	
3	Agriculture training	Pax	50	1500	75000	75000					75000	
4	Off season vegetable farming training	Pax	50	1500	75000		20000				20000	
5	Fish farming training	Pax	25	10000	250000				250000		250000	
6	Bee keeping training	Pax	25	1500	37500			20000			20000	
7	Home stay training	Pax	25	2500	62500					62500	62500	
8	Sewing knitting training	Pax	25	10000	250000	250000					250000	
9	House wiring training	Pax	10	15000	150000					150000	150000	
10	Plumbing training	Pax	10	15000	150000			150000			150000	
11	Mobile repair training	Pax	10	5000	50000	50000					50000	
12	Furniture making training	No.	10	1500	15000				15000		15000	
13	Farm improvement training	Pax	25	10000	250000	50000				50000	100000	
14	Medicinal and aromatic plant farming training	Pax	19	1500	28500			28500			28500	
15	Hotel management training	Pax	10	1500	15000		15000				15000	
16	Cook training	Pax	10	5000	50000		50000				50000	
17	Seed distribution	Pax	20	1500	30000	30000					30000	

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
18	Hybrid goad	No.	19	20000	380000	380000					380000	
	Sub total					946000	85000	198500	265000	262500	1757000	
D	**Conservation Education**											
1	Road play on conservation	Years	5	100000	500000	100000	105000	110000	115000	120000	550000	
2	Conservation programme on radio	Times	20	5000	100000	20000	21000	22000	23000	24000	110000	
3	Hoarding board	No.	8	7000	56000	56000					56000	
4	School level competition	Times	5	25000	125000	25000	26250	27500	28750	30000	137500	
5	Celebration day	Times	10	100000	100000 0	200000	210000	220000	230000	240000	1100000	
6	Ecoclub formation	No.	4	10000	40000	20000	21000				41000	
7	Brochure	Times	10	15000	150000	30000	31500	33000	34500	36000	165000	
8	Wall writing	Place	10	10000	100000	100000					100000	
9	Learning observation	Times	1	500000	500000	100000	105000	110000	115000	120000	550000	
	Subtotal					651000	519750	522500	546250	570000	2809500	
E	**Administrative Costs**											
1	Furniture	Set	3	10000	30000	30000					30000	
2	Office helper	Pax	1	120000	120000	24000	25200	26400	27600	28800	132000	
3	Satationery	Years	5	10000	50000	10000	10500	11000	11500	12000	55000	
4	Communication	Years	5	5000	25000	5000	5250	5500	5750	6000	27500	
5	Conservation related expenses	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
	Sub total	Years				119000	93450	97900	102350	106800	519500	
	Grand Total (A+B+C+D+E)					4176800	2914540	2340780	2449770	2542260	14424150	15000000.00

Kalpeshwori BZUC

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A	**Conservation Programme**											
1	CF renewal	No.	6	30000	180000	36000	37800	39600	41400	43200	198000	
3	Nursery establishment	Ha	1	300000	300000	300000					300000	
2	Plantation	Ha.	5	20000	100000	20000	21000	22000	23000	24000	110000	
4	Plantation fencing	Km	5	100000	500000	100000	105000	110000	115000	120000	550000	
5	Barbed wire fencing	Meter	750	1000	750000	150000	157500	165000	172500	180000	825000	825000
6	Metal pole (lingo)	No.	100	3500	350000	70000	73500	77000	80500	84000	385000	385000
7	Metal fireplace for cooking	No.	100	4000	400000	80000	84000	88000	92000	96000	440000	440000
8	Support to CBAPU	Times	15	10000	150000	30000	31500	33000	34500	36000	165000	
9	Water source conservation	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	
11	Fire line construction	Km	2	100000	200000	100000	105000				205000	
12	Fire line cleaning	Times	5	10000	50000	10000	10500	11000	11500	12000	55000	
	Sub total					946000	678300	600600	627900	655200	3508000	1650000
B.	**Community Development**											
1	Road repair	Km	5	30000	150000	30000	31500	33000	34500	36000	165000	
10	Waste management (small dumping site)	No.	3	200000	600000	200000	210000	220000			630000	
12	Drinking water tank construction (1000 liter)	No.	10	200000	2000000						0	2000000
2	Drinking water tap construction	No.	10	35000	350000	70000	73500	77000	80500	84000	385000	385000
3	Temple and monastery repair	No.	5	100000	500000	100000	105000	110000	115000	120000	550000	550000
4	CF building repair	Pax	2	300000	600000	200000	210000	220000			630000	
5	Irrigation canal repair	Km	5	40000	200000	40000	42000	44000	46000	48000	220000	
6	School building repair	No.	3	150000	450000	225000	236250				461250	
7	Committee building construction	No.	1	150000	150000	150000					150000	
8	Resting place construction	No.	3	150000	450000	150000	157500	165000			472500	
9	Hyum pipe installation	No.	15	30000	450000	90000	94500	99000	103500	108000	495000	

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
10	Culvert construction	No.	3	150000	450000	90000	94500	99000	103500	108000	495000	
11	Suspension bridge	No.	1	150000 0	1500000						0	1500000
	Sub total					1345000	1254750	1067000	483000	504000	4653750	4435000
C	**Income Generation and Skill Development Programme**											
1	House wiring training	Pax	18	10000	180000	180000					180000	
2	Plumbing training	Pax	18	10000	180000		180000				180000	
3	Furniture making training	Pax	36	10000	360000				414000		414000	
4	Mobile repair training	Pax	18	10000	180000	180000					180000	
5	Motor cycle repair training	Pax	18	10000	180000	180000					180000	
12	Sewing knitting training	Pax	15	15000	225000		225000				225000	
15	Radio television repair training	Pax	10	10000	100000		100000				100000	
6	Cook training	Pax	15	2000	30000	30000					30000	
7	Hotel management training	Pax	15	2000	30000		30000				30000	
8	Trekking guide training	Pax	15	1500	22500	150000					150000	
9	Agriculture farming training	Pax	45	2000	90000		90000				90000	
18	IPM training	Pax	27	2000	54000	54000					54000	
10	Mushroom farming training	Pax	27	2000	54000			54000			54000	
11	Medicinal herb cultivation training	Pax	27	2000	54000	54000					54000	
19	Poultry farming training	No.	27	2000	54000					64800	64800	
13	Goat farming training	Pax	45	2000	90000			90000			90000	
14	Bee keeping training	Pax	27	2000	54000	54000					54000	
16	Hybrid goat distribution	No.	5	15000	75000			125000			125000	
17	Hybrid buffalo distribution	No.	3	40000	120000		210000				210000	
20	Leadership development training	Pax	36	2000	72000				72000		72000	
21	Account keeping training	Pax	36	2000	72000					72000	72000	

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
22	Organization management training	Pax	36	2000	72000	72000					72000	
	Sub total					954000	835000	269000	486000	136800	2680800	
D	**Conservation Education**											
1	Orientation on conservation rules, regulation	Times	10	25000	250000	50000	52500	55000	57500	60000	275000	
2	Learning observation tour	Times	2	300000	600000	300000			315000		615000	
3	Hoarding board	No.	3	15000	45000	15000	15750	16500			47250	
4	Celebration day	Times	10	35000	350000	70000	73500	77000	80500	84000	385000	
5	Eco club school level quiz, elocution competition	Times	10	50000	500000	100000	105000	110000	115000	120000	550000	
6	Eco club initiation	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
7	Interaction on consequences of poaching	Times	10	20000	200000	40000	42000	44000	46000	48000	220000	
8	CBAPU mobilization	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
	Sub total					675000	393750	412500	729000	432000	2642250	
E	**Administrative Costs**											
1	Furniture	Times	1	100000	100000	100000					100000	
2	Stationery	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
3	Communication	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
4	Conservation related expenses	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
5	Computer, Printer purchase	Times	1	75000	75000	75000					75000	
6	Office helper	Years	5	130000	650000	130000	136500	143000	149500	156000	715000	
7	Group, committee reformation	Times	1	75000	75000		75000				75000	
8	5 years operational plan preparation	Times	1	50000	50000			50000			50000	
	Sub total					455000	369000	358000	322000	336000	1840000	
	Grand Total (A+B+C+D+E)					4375000	3530800	2707100	2647900	2064000	15324800	6085000

Laharepauwa BZUC

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A	**Conservation Programme**											
1	Renewal of CF operational plan	No.	11	15000	165000	33000	34650	36300	37950	39600	181500	
2	Plantation in CF	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	
3	Water source conservation	Cubic meter	18	30000	540000	108000	113400	118800	124200	129600	594000	
4	Nursery establishment	No.	2	60000	120000	24000	25200	26400	27600	28800	132000	
5	Landslide control (including bio engineering)	Km	5	150000	750000							750000
6	Metal pole (lingo) distribution	Place	150	3000	450000	90000	94500	99000	103500	108000	495000	
7	Bio gas installation	No.	50	15000	750000	150000	157500	165000	172500	180000	825000	
8	Fire line construction	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	
9	Pond construction for wildlife	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	
10	Forest guard	Years	5	120000	600000	120000	126000	132000	138000	144000	660000	
11	Waste management (dumping pit including)	No.	9	50000	450000	90000	94500	99000	103500	108000	495000	
12	Forest management, cutting, weed cleaning	No.	11	50000	550000	110000	115500	121000	126500	132000	605000	
13	CF fencing	No.	15	50000	750000	150000	157500	165000	172500	180000	825000	
14	Improved fire place for cooking	No.	75	10000	750000	150000	157500	165000	172500	180000	825000	
	Sub total					**1175000**	**1233750**	**1292500**	**1351250**	**1410000**	**6462500**	**750000**
B.	**Community Development**											
1	CF community building construction and repair	No.	5	150000	750000	150000	157500	165000	172500	180000	825000	
2	Temple, monastery management , construction and repair	No.	9	150000	1350000	270000					270000	1350000

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
3	Historical and cultural place conservation	No.	4	150000	600000	120000	126000	132000	138000	144000	660000	
4	Road repair, eco trail	Km	5	50000	250000	50000	52500	55000	57500	60000	275000	
5	Drinking water	No.	9	50000	450000	90000	94500	99000	103500	108000	495000	
6	Irrigation canal support	No.	9	50000	450000	90000	94500	99000	103500	108000	495000	
7	Kiriyaputri house construction	No.	9	50000	450000	90000	94500	99000	103500	108000	495000	
8	Resting place construction	No.	4	50000	200000	40000	42000	44000	46000	48000	220000	
9	Aran house construction	No.	3	50000	150000	30000	31500	33000	34500	36000	165000	
10	School support	No.	11	10000	110000	22000	23100	24200	25300	26400	121000	
	Sub total					**952000**	**716100**	**750200**	**784300**	**818400**	**4021000**	**1350000**
C	**Income Generation and Skill Development Programme**											
1	Bamboo production training	Pax	3	1500	4500	900	945	990	1035	1080	4950	
2	Furniture/ Labour training	Pax	5	5000	25000	5000	5250	5500	5750	6000	27500	
3	Farm improvement training	Pax	50	2500	125000	25000	26250	27500	28750	30000	137500	
4	Agriculture farming training	Pax	25	3500	87500	17500	18375	19250	20125	21000	96250	
5	Fruit and herbs production training	Pax	25	2500	62500	12500	13125	13750	14375	15000	68750	
6	Garden management training	Pax	25	2500	62500	12500	13125	13750	14375	15000	68750	
7	Goat farming training	Pax	50	2500	125000	25000	26250	27500	28750	30000	137500	
8	Poultry farming training	Pax	50	2500	125000	25000	26250	27500	28750	30000	137500	
9	Bee keeping training	Pax	50	2500	125000	25000	26250	27500	28750	30000	137500	
10	Sauce making training	Pax	5	2000	10000	2000	2100	2200	2300	2400	11000	
11	Candle making training	Pax	5	2000	10000	2000	2100	2200	2300	2400	11000	
12	Agarbatti making training	Pax	10	2500	25000	5000	5250	5500	5750	6000	27500	
13	Soap training	Pax	25	2500	62500	12500	13125	13750	14375	15000	68750	

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
14	Basket making training	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
15	House wiring training	Pax	21	3000	63000	12600	13230	13860	14490	15120	69300	
16	Parlour training	Pax	21	3500	73500	14700	15435	16170	16905	17640	80850	
17	Computer training	Pax	20	2000	40000	8000	8400	8800	9200	9600	44000	
18	Sewing knitting training	Pax	20	5000	100000	20000	21000	22000	23000	24000	110000	
19	Art training	Pax	5	5000	25000	5000	5250	5500	5750	6000	27500	
20	Cook training	Pax	25	2500	62500	12500	13125	13750	14375	15000	68750	
21	Plastic tunnel	Pax	50	2500	125000	25000	26250	27500	28750	30000	137500	
22	Leadership development training	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
23	Account keeping	Pax	15	1500	22500	4500	4725	4950	5175	5400	24750	
24	Office management, proposal writing, administrative work training	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
25	CF management training	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
26	Gender equity training	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
27	Organizational development	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
	Sub total					362200	380310	398420	416530	434640	1992100	0
	Conservation Education											
1	Celebration day	No.	1	60000	60000	12000	12600	13200	13800	14400	66000	
2	Organize education and observation tour	No.	2	250000	500000	100000			115000		215000	
3	Hoarding board erection	No.	11	15000	165000	33000	34650	36300	37950	39600	181500	
4	Eco club mobilization and support in implementing activities	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
5	Conservation programme in school	Years	11	50000	550000	110000	115500	121000	126500	132000	605000	

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
6	Publication of bulletin, calendar	No.	100 0	500	500000	500000					500000	
7	Produce promotional materials like bag, t-shirt, cap	No.	500	750	375000	75000	78750	82500	86250	90000	412500	
8	Broadcastingof conservation programme through FM	Episode	60	5000	300000	60000	63000	66000	69000	72000	330000	
9	Produce documentary	No.	1	300000	300000					360000	360000	
10	Carry out orientation on conservation legislation	No.	15	25000	375000	75000	78750	82500	86250	90000	412500	
11	Organize conservation related folk song competing during Lhosar	No.	5	5000	25000	5000	5250	5500	5750	6000	27500	
12	Organize cleanup campaign	No.	5	30000	150000	30000	31500	33000	34500	36000	165000	
	Sub total					1050000	472500	495000	632500	900000	3550000	
E	**Administrative Costs**											
1	Stationery	Years	5	10000	50000	10000	10500	11000	11500	12000	55000	
2	Communication	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
3	Transportation	Years	5	25000	125000	25000	26250	27500	28750	30000	137500	
4	Furniture	Set	1	50000	50000	50000					50000	
5	UC reformation	Times	1	50000	50000			25000			25000	
6	Meeting expenses	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
7	Procure computer, printer, photocopy and digital camera	Times	1	150000	150000	150000					150000	
8	Refreshment for guests	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
9	Prepare five years management plan	Times	1	30000	30000			33000			33000	
	Sub total					385000	194250	261500	212750	222000	1275500	
	Grand Total (A+B+C+D+E)					**3924200**	**2996910**	**3197620**	**3397330**	**3785040**	17301100	**2100000**

Naukunda BZUC

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Plantation programme	Ha	10	15000	150000	30000	31500	33000	34500	36000	165000	
2	Support of Forestguard	Years	5	120000	600000	120000	126000	132000	138000	144000	660000	
3	Fencing on plantation area	Meter	1000	500	500000	50000	52500	55000	57500	60000	275000	275000
4	Metal pole (lingo) distribution	No.	150	3500	525000	52500	55125	57750	60375	63000	288750	288750
5	Improved fireplace for cooking	No.	250	5000	1250000						0	1250000
6	Support Solar PV	No.	200	5000	1000000						0	1000000
7	Kharka management (grass sowing and Goth construction)	No.	50	30000	1500000	150000	157500	165000	172500	180000	825000	825000
8	Nursery establishment	Place	1	300000	300000					360000	360000	
9	Dumping site construction	Place	3	200000	600000						0	600000
10	Check dam construction for land slide control	Place	5	300000	1500000	150000	157500	165000	172500	180000	825000	825000
11	Support Gas cylinder for poor and disabled	No.	250	3500	875000	87500	91875	96250	100625	105000	481250	481250
12	Fencing to maintain human wildlife amity	Meter	2000	500	1000000	100000	105000	110000	115000	120000	550000	550000
	Sub total					740000	777000	814000	851000	1248000	4430000	6095000
B.	**Community Development**											
1	Monastery construction and repair	No.	5	300000	1500000							1500000
2	Walking trail construction and repair	Meter	1500	150	225000	45000	47250	49500	51750	54000	247500	
3	Irrigation construction and repair	Meter	2500	750	1875000							1875000
4	School building construction and repair	Place	5	300000	1500000	150000	157500	165000	172500	180000	825000	825000

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
5	Drinking water construction and repair	Place	9	300000	2700000							2700000
6	Community building construction	Place	2	120000	240000	240000	252000				492000	
7	Farm improvement programme	Pax	200	15000	3000000							3000000
8	Agri-road construction and repair	Meter	1000 0	750	7500000							7500000
9	Resting place construction	Place	5	150000	750000	75000	78750	82500	86250	90000	412500	412500
10	View tower construction and repair	Place	3	150000	450000	75000	78750	82500			236250	236250
11	Water mill construction and repair	Place	4	50000	200000	50000	52500	55000	57500		215000	
12	Health post construction and repair	Place	1	150000 0	1500000							1500000
	Sub total					635000	666750	434500	368000	324000	2428250	19548750
	Income Generation and Skill Development Programme											
1	Leadership development training	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
2	Account training	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
3	House wiring training	Pax	30	5000	150000	30000	31500	33000	34500	36000	165000	
4	Plumbing training	Pax	30	5000	150000	30000	31500	33000	34500	36000	165000	
5	Furniture, labour training	Pax	40	5000	200000	40000	42000	44000	46000	48000	220000	
6	Sewing, knitting training	Pax	30	5000	150000	30000	31500	33000	34500	36000	165000	
7	Off season vegetable farming	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
8	Herbs farming training	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
9	Seed distribution	Pax	50	2500	125000	25000	26250	27500	28750	30000	137500	
10	Cook training	Pax	50	2500	125000	25000	26250	27500	28750	30000	137500	
11	Farm improvement training	Pax	100	1000	100000	20000	21000	22000	23000	24000	110000	
12	Support of plastic tunnel for green house vegetable farming	Pax	200	3500	700000	70000	73500	77000	80500	84000	385000	385000

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
	Sub total					330000	346500	363000	379500	396000	1815000	**385000**
D	**Conservation Education**											
1	Celebration day	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
2	Conservation programme broadcasting on radio	Times	60	3000	180000	36000	37800	39600	41400	43200	198000	
3	Eco club initiation	Place	3	120000	360000	72000	75600	79200	82800	86400	396000	
4	Orientation on conservation legislation	Times	12	30000	360000	72000	75600	79200	82800	86400	396000	
5	Hoarding board	Place	9	10000	90000	18000	18900	19800	20700	21600	99000	
6	Conservation discussion	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
7	School level competition related to conservation	Times	15	30000	450000	90000	94500	99000	103500	108000	495000	
8	Learning observation tour	Years	2	300000	600000	300000				360000	660000	
9	Disaster reduction training	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
10	Road play on conservation	Years	5	30000	150000	30000	31500	33000	34500	36000	165000	
	Sub total					768000	491400	514800	538200	921600	3234000	
E	**Administrative Costs**											
1	Information station building construction	Place	2	500000	1000000	200000	210000	220000	230000	240000	1100000	
2	Furniture Purchase	Set	50	700	35000	35000					35000	
3	Stationery	Years	5	40000	200000	40000	42000	44000	46000	48000	220000	
4	Office helper	Years	5	180000	900000	180000	189000	198000	207000	216000	990000	
5	Communication and transportation expenses	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
6	Conservation related expenses	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
7	Refreshment for visitors	Years	5	20000	100000	20000	21000	22000	23000	24000	110000	
8	Office account monitor	Years	5	15000	75000	15000	15750	16500	17250	18000	82500	
10	Programme monitoring expenses	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
	Sub total					650000	645750	676500	707250	738000	3417500	
	Grand Total (A+B+C+D+E)					3123000	2927400	2802800	2843950	3627600	15324750	26028750

Ramche BZUC

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Plantation (including grass)	Ha.	50	15000	750000	150000	157500	165000	172500	180000	825000	
2	Landslide control	Cubic meter	7	7000	49000	9800	10290	10780	11270	11760	53900	
3	Metal pole (lingo)	No.	150	3000	450000	90000	94500	99000	103500	108000	495000	495000
4	Alternative energy (improved fireplace, rice cooker, electric kettle, gas)	No.	200	3000	600000	120000	126000	132000	138000	144000	660000	660000
5	Barbed wire fencing	Meter	750	1000	750000	150000	157500	165000	172500	180000	825000	825000
6	Wall construction	Meter	50	10000	500000	100000	105000	110000	115000	120000	550000	550000
7	Drinking water source conservation	No.	7	100000	700000	140000	147000	154000	161000	168000	770000	770000
	Kharka management	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	275000
8	Dupche conservation	No.	7	50000	350000	70000	73500	77000	80500	84000	385000	385000
	Sub total	Time s				879800	923790	967780	1011770	1055760	4838900	3960000
B.	**Community Development**											
1	Drinking water repair	No.	15	50000	750000	150000	157500	165000	172500	180000	825000	825000
2	Monastery, temple repair	No.	2	250000	500000	100000	105000	110000	115000	120000	550000	550000
3	Walking road construction/ repair	No.	5	100000	500000	100000	105000	110000	115000	120000	550000	550000
4	Resting place construction	No.	3	150000	450000	90000	94500	99000	103500	108000	495000	
5	Firm bridge	Pax	10	50000	500000	100000	105000	110000	115000	120000	550000	
6	Culvert construction	No.	5	250000	1250000	250000	262500	275000	287500	300000	1375000	1375000
7	Dumping site construction	No.	5	300000	1500000	300000	315000	330000	345000	360000	1650000	1650000
8	**Sub total**					790000	829500	869000	908500	948000	4345000	3300000
C	**Income Generation and Skill Development Programme**											
1	Green house construction support	No.	200	3000	600000	120000	126000	132000	138000	144000	660000	660000
2	House wiring training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	
3	Sewing knitting training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	
4	Plumbing training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
5	Hotel operation training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	
6	Trekking guide training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	
7	Electrician training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	
8	Furniture, Labour training	Pax	50	1000	50000	10000	10500	11000	11500	12000	55000	
9	Leadership development training	Pax	27	2000	54000	10800	11340	11880	12420	12960	59400	
10	Agriculture farming and goad farming training	Pax	50	2000	100000	20000	21000	22000	23000	24000	110000	
	Farm improvement programme	Pax	150	5000	750000	150000	157500	165000	172500	180000	825000	825000
	Herbs farming training	Pax	150	3000	450000	90000	94500	99000	103500	108000	495000	
	Disaster reduction training	Pax	27	3000	81000	16200	17010	17820	18630	19440	89100	
	Sub total					477000	500850	524700	548550	572400	2623500	1485000
D	**Conservation Education**											
	Hoarding board, sign board formation	No.	15	15000	225000	45000	47250	49500	51750	54000	247500	
	Wall painting	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	
	Celebration day	No.	10	10000	100000	20000	21000	22000	23000	24000	110000	
	Conservation education programme broadcasting	No.	60	5000	300000	60000	63000	66000	69000	72000	330000	
	Orientation on conservation legislations	Time s	5	30000	150000	50000	52500	55000			157500	
	Conservation observation tour	Time s	1	300000	300000			330000			330000	
	Sub total					225000	236250	577500	201250	210000	1450000	
E	**Administrative Costs**											
	Office helper	Pax	1	130000	130000	26000	27300	28600	29900	31200	143000	
	Stationery	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
	Communication	Years	5	25000	125000	25000	26250	27500	28750	30000	137500	
	Laptop, photocopy machine, camera	Time s	1	200000	200000	40000	42000	44000	46000	48000	220000	
	Furniture	Set	1	200000	200000	200000					200000	
	Sub total					341000	148050	155100	162150	169200	975500	
	Grand Total (A+B+C+D+E)					2712800	2638440	3094080	2832220	2955360	14232900	8745000

Saramthali BZUC

S.N.	Activities	Unit	Quant ity	Rate	Total Amoun t	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Fence settlement and forest to reduce conflict	Meter	1000	1000	100000 0	200000	210000	220000	230000	240000	1100000	1100000
2	Metal pole (lingo)	No	150	3500	525000	105000	110250	115500	120750	126000	577500	577500
3	Bio gas	No	50	15000	750000	150000	157500	165000	172500	180000	825000	825000
4	Nursery establishment	Km	1	350000	350000	70000	73500	77000	80500	84000	385000	
5	Plantation	Ha	10	20000	200000	40000	42000	44000	46000	48000	220000	
6	Metal fireplace for cooking	No.	150	4000	600000	120000	126000	132000	138000	144000	660000	660000
7	CF formation	No.	2	50000	100000	100000					100000	
8	CF renewal	No.	6	30000	180000	36000	37800	39600	41400	43200	198000	
9	Fire control program (cleaning)	Km	14	10000	140000	28000	29400	30800	32200	33600	154000	
10	Check dam for Landslide control	M3	500	5000	250000 0						0	2500000
11	Water source conservation	No.	10	50000	500000	100000	105000	110000	115000	120000	550000	550000
	Sub total	Times				949000	891450	933900	976350	1018800	4769500	6212500
B.	**Community Development**											
1	Women group building	No.	2	250000	500000	250000		262500			512500	512500
2	Agri-road construction	Km	5	200000	100000 0							1000000
3	Community drinking water construction	No.	1									
4	Intake tank construction	No.	1	1000000	100000 0							1000000
5	Pipe installation (75mm)	Pax	3000	250	750000		750000				750000	
6	Pipe installation (63mm)	Meter	6000	200	120000 0		1200000				1200000	
3.4	Pipe installation (40mm)	Meter	4000	150	600000			600000			600000	
3.5	Water tank construction (reservoir)	No.	1	1500000	150000 0							1500000
3.6	Pipe installation (25mm)	Meter	1000	125	125000				125000		125000	

S.N.	Activities	Unit	Quant ity	Rate	Total Amoun t	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
3.7	G.I, Pipe	Meter	500	1200	600000				600000		600000	
3.8	Tap equipment	No.	30	5000	150000				150000		150000	
3.9	Material for tank	No.	1	30000	30000	30000					30000	
4	Laborer expenses	Pax	500	1000	500000	125000	131250	137500	143750		537500	
4.1	Transportation	Times	30	15000	450000	112500	118125	123750	129375		483750	
4	Walking trail repair	Km	5	25000	125000	25000	26250	27500	28750	30000	137500	
5	Irrigation canal	Km	3	50000	150000	30000	31500	33000	34500	36000	165000	
6	Support for school repair and maintenance	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	
	Sub total					622500	2309625	1239250	1268875	126000	5566250	4012500
C	**Income Generation and Skill Development Programme**											
1	Leadership development training	Pax	18	2000	36000	36000					36000	
2	Account training	Pax	18	2000	36000	36000					36000	
3	Organization management training	Pax	25	2000	50000	50000					50000	
4	Finance management training	Pax	28	2000	56000		56000				56000	
5	Office management training	Pax	27	1500	40500	405000					405000	
6	Sewing, knitting training	Pax	18	15000	270000		270000				270000	
7	Beauty parlour training	Pax	45	2000	90000	90000					90000	
8	Animal farming training	Pax	36	2000	72000	72000					72000	
9	Mushroom farming training	Pax	500	50	25000			25000			25000	
10	Plastic distribution for green house	Meter	45	2000	90000		90000				90000	
11	Farm improvement training	Pax	18	10000	180000	180000					180000	
12	Mobile repair training	Pax	18	10000	180000		180000				180000	
13	Trekking guide training	Pax	27	2000	54000	54000					54000	
14	House wiring training	Pax	18	10000	180000			180000			180000	
15	Bee farming training	Pax	45	2000	90000				90000		90000	

S.N.	Activities	Unit	Quant ity	Rate	Total Amoun t	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
16	Plumber training	Pax	18	10000	180000					180000	180000	
	Sub total					923000	596000	205000	90000	180000	1994000	
D	**Conservation Education**											
1	Orientation on Conservation rules, regulation	Times	15	35000	525000	105000	110250	115500	120750	126000	577500	
2	Celebration day	Times	10	25000	250000	50000	52500	55000	57500	60000	275000	
3	Eco club mobilization	Times	5	5000	25000	5000	5250	5500	5750	6000	27500	
4	School level competition	Times	10	30000	300000	60000	63000	66000	69000	72000	330000	
5	Hoarding board	No.	3	15000	45000	45000					45000	
6	Conservation poster development and publish	No.	500	100	50000	10000	10500	11000	11500	12000	55000	
8	Community anti poaching mobilization	Set	15	20000	300000	60000	63000	66000	69000	72000	330000	
10	Learning observation tour	Pax	36	6000	216000	216000					216000	
	Sub total					551000	304500	319000	333500	348000	1856000	
E	**Administrative Costs**											
1	Furniture	Times	1	100000	100000	100000					100000	
2	Computer, printer, camera	Years	1	75000	75000	75000					75000	
3	Stationery	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
4	Communication	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
5	Conservation related expenses	Years	5	75000	375000	75000	78750	82500	86250	90000	412500	
6	Group Committee reformation	Times	1	150000	150000			150000			150000	
7	5 years management plan	Times	1	50000	50000			50000			50000	
8	Office assistant	Years	5	130000	650000	130000	136500	143000	149500	156000	715000	
9	Forest guard	Years	5	130000	650000	130000	136500	143000	149500	156000	715000	
	Sub total					610000	456750	678500	500250	522000	2767500	
	Grand Total (A+B+C+D+E)					3655500	4558325	3375650	3168975	2194800	16953250	10225000

Suryakunda BZUC

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Plantation	Ha	50	15000	750000	150000	157500	165000	172500	180000	825000	
2	Barbed wire fencing	Mete r	1500	500	750000	150000	157500	165000	172500	180000	825000	
3	Water source conservation	No	10	50000	500000	100000	105000	110000	115000	120000	550000	
4	Landslide control	Km	10	40000	400000	80000	84000	88000	92000	96000	440000	
5	Community based anti poaching operation	Time s	15	10000	150000	30000	31500	33000	34500	36000	165000	
6	Iron pole (lingo-G.I. pipe)	Mete r	200	4500	900000	180000	189000	198000	207000	216000	990000	
7	Waste management dumping site	No.	3	200000	600000	120000		132000		144000	396000	
8	Pond conservation	No.	25	25000	625000	125000	131250	137500	143750	150000	687500	
	Sub total					935000	855750	1028500	937250	1122000	4878500	
B.	**Community Development**											
1	Monastery, temple repair	No.	5	200000	1000000	200000	210000	220000	230000	240000	1100000	
2	School repair	Time s	3	150000	450000	150000		157500		165000	472500	
3	Tourist trail repair	Mete	2500	150	375000	75000	78750	82500	86250	90000	412500	
6	Community building construction	Place	2	120000	240000	240000	252000				492000	
7	Farm improvement programme	Pax	200	15000	3000000							3000000
8	Agri-road construction and repair	Meter	1000 0	750	7500000							7500000
9	Resting place construction	Place	5	150000	750000	75000	78750	82500	86250	90000	412500	412500
10	View tower construction and repair	Place	3	150000	450000	75000	78750	82500			236250	236250
11	Water mill construction and repair	Place	4	50000	200000	50000	52500	55000	57500		215000	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
12	Health post construction and repair	Place	1	150000 0	1500000							1500000
	Sub total					635000	666750	434500	368000	324000	2428250	19548750
	Income Generation and Skill Development Programme											
1	Leadership development training	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
2	Account training	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
3	House wiring training	Pax	30	5000	150000	30000	31500	33000	34500	36000	165000	
4	Plumbing training	Pax	30	5000	150000	30000	31500	33000	34500	36000	165000	
5	Furniture, labour training	Pax	40	5000	200000	40000	42000	44000	46000	48000	220000	
6	Sewing, knitting training	Pax	30	5000	150000	30000	31500	33000	34500	36000	165000	
7	Off season vegetable farming	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
8	Herbs farming training	Pax	50	1500	75000	15000	15750	16500	17250	18000	82500	
9	Seed distribution	Pax	50	2500	125000	25000	26250	27500	28750	30000	137500	
10	Cook training	Pax	50	2500	125000	25000	26250	27500	28750	30000	137500	
11	Farm improvement training	Pax	100	1000	100000	20000	21000	22000	23000	24000	110000	
12	Support of plastic tunnel for green house vegetable farming	Pax	200	3500	700000	70000	73500	77000	80500	84000	385000	385000
	Sub total					330000	346500	363000	379500	396000	1815000	385000
D	**Conservation Education**											
1	Celebration day	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
2	Conservation programme broadcasting on radio	Times	60	3000	180000	36000	37800	39600	41400	43200	198000	
3	Eco club initiation	Place	3	120000	360000	72000	75600	79200	82800	86400	396000	
4	Orientation on conservation legislation	Times	12	30000	360000	72000	75600	79200	82800	86400	396000	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
5	Hoarding board	Place	9	10000	90000	18000	18900	19800	20700	21600	99000	
6	Conservation discussion	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
7	School level competition related to conservation	Times	15	30000	450000	90000	94500	99000	103500	108000	495000	
8	Learning observation tour	Years	2	300000	600000	300000				360000	660000	
9	Disaster reduction training	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
10	Road play on conservation	Years	5	30000	150000	30000	31500	33000	34500	36000	165000	
	Sub total					768000	491400	514800	538200	921600	3234000	
E	**Administrative Costs**											
1	Information station building construction	Place	2	500000	1000000	200000	210000	220000	230000	240000	1100000	
2	Furniture Purchase	Set	50	700	35000	35000					35000	
3	Stationery	Years	5	40000	200000	40000	42000	44000	46000	48000	220000	
4	Office helper	Years	5	180000	900000	180000	189000	198000	207000	216000	990000	
5	Communication and transportation expenses	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
6	Conservation related expenses	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
7	Refreshment for visitors	Years	5	20000	100000	20000	21000	22000	23000	24000	110000	
8	Office account monitor	Years	5	15000	75000	15000	15750	16500	17250	18000	82500	
10	Programme monitoring expenses	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
	Sub total					650000	645750	676500	707250	738000	3417500	
	Grand Total (A+B+C+D+E)					3123000	2927400	2802800	2843950	3627600	15324750	26028750

Timure BZUC

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Plantation	Ha	10	20000	200000	40000	42000	44000	46000	48000	220000	
2	Landslide control	Cubi c meter	5	100000	500000	100000	105000	110000	115000	120000	550000	550000
3	Fencing	Mete r	500	1500	750000	150000	157500	165000	172500	180000	825000	825000
4	Improved fireplace	No.	125	6000	750000	150000	157500	165000	172500	180000	825000	
5	Waste management	Place	5	100000	500000	100000	105000	110000	115000	120000	550000	
6	Water source conservation	No.	5	150000	750000	150000	157500	165000	172500	180000	825000	
7	Metallic stove	No.	75	5000	375000		375000				375000	375000
	Sub total					690000	1099500	759000	793500	828000	4170000	1750000
B.	**Community Development**											
1	Tourist walking trail construction	Km	15	50000	750000	150000	157500	165000	172500	180000	825000	825000
2	Drinking water construction repair	No.	5	100000	500000	100000	105000	110000	115000	120000	550000	550000
3	Committee building construction	No.	1	1000000	1000000	1000000					1000000	1000000
4	Community building, monastery, temple construction and repair	No.	7	150000	1050000	210000	220500	231000	241500	252000	1155000	1155000
5	School support program	No.	1	500000	500000	100000	105000	110000	115000	120000	550000	550000
6	Small irrigation canal	No.	1	750000	750000	250000	262500	275000			787500	787500
7	Electric mill construction	No.	3	250000	750000	750000					750000	750000
8	Home stay support	No.	30	20000	600000	300000	315000				615000	
9	Agri-road construction	Km	10	200000	2000000							2000000
	Sub total					2860000	1165500	891000	644000	672000	6232500	7617500
C	**Income Generation and Skill Development Programme**											
1	Herb farming training	Pax	25	1000	25000	5000	5250	5500	5750	6000	27500	
2	Leadership development training	Pax	15	1000	15000	3000	3150	3300	3450	3600	16500	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
3	Animal farming training (hybrid species animal purchase i.e. yak)	No.	3	65000	195000	65000	68250	71500			204750	
4	Women training for finance	Pax	50	1000	50000	16667	17500	18333			52500	
5	Chicken farming	No.	325	5000	1625000	541667	568750		595833		1706250	
6	Animal farming for farmers and solar distribution	Pax	50	25000	1250000			625000	656250		1281250	
	Sub total					631333	662900	723633	1261283	9600	3288750	
D	**Conservation Education**											
1	School discussion training on conservation education	No.	3	25000	75000	15000	15750	16500	17250	18000	82500	
2	Rules and legislation information training on conservation	Years	5	25000	125000	25000	26250	27500	28750	30000	137500	
3	Hoarding board construction	No.	5	15000	75000	15000	15750	16500	17250	18000	82500	
4	Eco club initiation	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
5	Celebration day	No.	5	2000	10000	2000	2100	2200	2300	2400	11000	
6	Informative programme on theft	Years	5	25000	125000	25000	26250	27500	28750	30000	137500	
7	Fire control training	No.	3	50000	150000	30000	31500	33000	34500	36000	165000	
	Sub total					162000	170100	178200	186300	194400	891000	
E	**Administrative Costs**											
1	Office helper	Years	5	130000	650000	130000	136500	143000	149500	156000	715000	
2	Computer and printer	No.	1	75000	75000	75000					75000	
3	Stationery	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
4	Communication	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
5	Furniture	Set	1	50000	50000	50000					50000	
6	Camera	No.	1	15000	15000	15000					15000	
7	Committee reformation	Time s	1	50000	50000			50000			50000	
8	Conservation related expenses	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
	Sub total					420000	294000	358000	322000	336000	1730000	
	Grand Total (A+B+C+D+E)					4763333	3392000	2909833	3207083	2040000	16312250	9367500

Yarsa BZUC

S.N .	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Plantation (including grass)	Ha.	25	20000	500000	100000	105000	110000	115000	120000	550000	
2	Landslide control	Cubic meter	5	40000	200000	40000	42000	44000	46000	48000	220000	
3	Barbed wire fencing	Meter	500	1000	500000	100000	105000	110000	115000	120000	550000	550000
4	Metal pole (lingo)	No.	100	3500	350000	70000	73500	77000	80500	84000	385000	385000
5	Improved fireplace	Place	75	4000	300000	60000	63000	66000	69000	72000	330000	330000
6	Small hydropower repair	Meter	1	500000	500000	100000	105000	110000	115000	120000	550000	
7	Waste management	No.	5	150000	750000	150000	157500	165000	172500	180000	825000	825000
8	Anti-poaching group initiation	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
10	Kharka management	Years	10	150000	1500000	300000					300000	
	Sub total					970000	703500	737000	770500	804000	3985000	2090000
B.	**Community Development**											
10	Agri road gravelling and repair	Km	2	200000	400000		200000	210000			410000	410000
5	Monastery construction	No.	1	750000	750000	150000	157500	165000	172500	180000	825000	825000
1	Monastery repair	No.	4	150000	600000	150000	157500	165000	172500		645000	645000
2	Drinking water construction	No.	1	300000	300000	60000	63000	66000	69000	72000	330000	
6	Drinking water repair	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	
3	Walking trail construction and repair	Meter	3000	100	300000	60000	63000	66000	69000	72000	330000	
4	School building repair	No.	5	150000	750000	150000	157500	165000	172500	180000	825000	825000
7	Resting place construction	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	
8	Water mill repair and improvement	No.	3	150000	450000	150000	157500	165000			472500	

S.N .	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
9	Committee building construction	No.	1	1000000	1000000	1000000					1000000	
	Sub total					1820000	1061000	1112000	770500	624000	5387500	2705000
C	**Income Generation and Skill Development Programme**											
1	Leadership training for chairperson of group	Pax	50	1000	50000	50000					50000	
2	Account training for group's secretary	Pax	50	1000	50000	50000					50000	
3	House wiring training	Pax	18	10000	180000		180000				180000	
4	Plumbing training	Pax	18	10000	180000			180000			180000	
5	Furniture, Labor training	Pax	18	15000	270000				270000		270000	
6	Sewing knitting training	Pax	18	15000	270000					270000	270000	
7	Unseasonal vegetable farming	Pax	36	1000	36000	36000					36000	
8	Tunnel construction (green house for vegetable)	Pax	36	10000	360000		360000				360000	
9	Seed distribution	Pax	36	1000	36000		36000				36000	
10	Alaichi farming training	Pax	36	1000	36000					36000	36000	
11	Herb farming training	Pax	36	1000	36000		36000				36000	
12	Trekking guide training	Pax	27	15000	405000	405000					405000	
13	Farm improvement training	No.	27	1000	27000	27000					27000	
14	Yak distribution	Pax	2	65000	130000			130000			130000	
	Sub total					568000	612000	310000	270000	306000	2066000	
D	**Conservation Education**											
1	Celebration day	Times	48	25000	1200000	240000	252000	264000	276000	288000	1320000	

S.N .	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
2	Presentation of conservation rules, regulation and legislation	Times	10	25000	250000	50000	52500	55000	57500	60000	275000	
3	Radio programme broadcasting about conservation	Times	60	10000	600000	120000	126000	132000	138000	144000	660000	
4	Eco club initiation	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
5	Hoarding board	No.	9	6000	54000	54000					54000	
6	School level competition on conservation	Years	5	20000	100000	20000	21000	22000	23000	24000	110000	
7	Meeting on conservation	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
8	Road play on conservation	Years	5	30000	150000	30000	31500	33000	34500	36000	165000	
9	Disaster reduction training	Years	5	25000	125000	25000	26250	27500	28750	30000	137500	
10	Educational tour	Times	1	120000	120000	24000	25200	26400	27600	28800	132000	
	Sub total					663000	639450	669900	700350	730800	3403500	
E	**Administrative Costs**											
1	Furniture	Times	2	10000	20000	20000					20000	
2	Stationery		5	40000	200000	40000	42000	44000	46000	48000	220000	
3	Office helper	Set	5	84000	420000	84000	88200	92400	96600	100800	462000	
4	Computer and printer	No.	1	50000	50000	50000					50000	
5	Communication	No.	5	25000	125000	25000	26250	27500	28750	30000	137500	
6	Conservation related expenses	Set	5	50000	250000	50000	52500	55000	57500	60000	275000	
	Sub total					269000	208950	218900	228850	238800	1164500	
	Grand Total (A+B+C+D+E)					4290000	3224900	3047800	2740200	2703600	16006500	4795000

Lingsing BZUC

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Renewal of BCF	No.	5	30000	150000	50000	52500	55000			157500	
2	Plantation	Ha	25	15000	375000	75000	78750	82500	86250	90000	412500	
3	Fencing plantation	Meter	1000	750	750000	150000	157500	165000	172500	180000	825000	825000
4	Landslide control	M3	700	1000	700000	140000	147000	154000	161000	168000	770000	770000
5	Forest guard	No.	5	130000	650000	130000	136500	143000	149500	156000	715000	
6	**Sub total**					545000	572250	599500	569250	594000	2880000	1595000
B.	**Community Development**											
1	Agri road repair	Km	3	150000	450000	150000	157500	165000			472500	
2	Walking trail construction	Km	5	100000	500000	100000	105000	110000	115000	120000	550000	
3	Intake tank construction	No.	2	250000	500000	250000	262500				512500	512500
4	Pipe installation	Meter	1000	500	500000	100000	105000	110000	115000	120000	550000	550000
5	Pipe (6 inch) on the water source	Meter	300	1500	450000	225000	236250				461250	
6	Water tap purchase and installation	No.	20	25000	500000	250000	262500				512500	
7	Drinking water pipe on health post	Meter	900	500	450000	90000	94500	99000	103500	108000	495000	
8	Irrigation tank purchase	No.	3	20000	60000	60000					60000	
9	Irrigation canal construction	Meter	100	5000	500000	250000	262500				512500	512500
10	Monastery reconstruction	No.	1	250000	250000	250000					250000	250000
11	Community building	No.	1	500000	500000	500000					500000	500000
12	Dumping site construction	Place	1	100000	100000		100000				100000	
13	Resting place expansion (panch pokhari)	No.	1	400000	400000	400000					400000	
14	Public toilet	No.	1	700000	700000	700000					700000	
15	Resting place reconstruction	No.	1	200000	200000	200000					200000	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
16	Suspension bridge construction and repair (Chyamshik and Ramsing)	No.	1	500000	500000	500000					500000	500000
	Sub total					4025000	1585750	484000	333500	348000	6776250	**2825000**
C	**Income Generation and Skill Development Programme**											
1	Agriculture training	Pax	50	1500	75000	50000					50000	
2	Vegetable farming training	Pax	50	1500	75000	50000					50000	
3	Fish farming training	Pax	25	5000	125000		100000				100000	
4	Trout fish distribution (Bhura distribution)	Pax	4000	50	200000		200000				200000	
5	Mobile repair training	Pax	10	5000	50000	25000					25000	
6	Sewing and knitting training	Pax	30	10000	300000	300000					300000	
7	Small industry training	Pax	45	1500	67500			225000			225000	
8	Livestock farming training	Pax	50	2000	100000	20000					20000	
9	Veterinary training	Pax	5	10000	50000				50000		50000	
10	Motorcycle repair training	Pax	15	10000	150000	50000					50000	
11	Parlour training	Pax	10	10000	100000		100000				100000	
12	Furniture and laborer training	Pax	25	5000	125000			125000			125000	
13	House wiring training	Pax	10	5000	50000					25000	25000	
14	Chicken farming training	Pax	50	2000	100000				50000		50000	
15	Leadership development training	Pax	50	2000	100000	50000					50000	
16	Account training	Pax	50	2000	100000	50000					50000	
	Sub total					595000	400000	350000	100000	25000	1470000	
D	**Conservation Education**											
1	Quiz contest program in school	Years	5	100000	500000	100000	105000	110000	115000	120000	550000	
2	Play on school and road as well	No.	10	50000	500000	100000	105000	110000	115000	120000	550000	
3	Hoarding board	No.	5	25000	125000	125000					125000	

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
4	Radio programme on conservation broadcasting	No.	60	5000	300000	60000	63000	66000	69000	72000	330000	
5	Brochure	Times	10	40000	400000	80000	84000	88000	92000	96000	440000	
6	Newspaper ads on conservation	Times	20	5000	100000	20000	21000	22000	23000	24000	110000	
7	Eco club formation	No.	6	5000	30000	6000	6300	6600	6900	7200	33000	
8	Eco club educational tour	Pax	50	10000	500000	500000					500000	
9	Observation tour for Committee members	Pax	35	14285.7 1	500000		500000				500000	
10	Celebration day	No.	10	50000	500000	100000	105000	110000	115000	120000	550000	
11	Rewarding best person for conservation work	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
	Sub total					1141000	1041800	567600	593400	619200	3963000	
E	**Administrative Costs**											
1	Furniture	Set	3	50000	150000	150000					150000	
2	Computer	No.	1	30000	30000	30000					30000	
3	Field gear	Times	1	25000	25000	25000					25000	
4	Office helper	Pax	1	120000	120000	24000	25200	26400	27600	28800	132000	
5	Stationery	Years	5	10000	50000	10000	10500	11000	11500	12000	55000	
6	Conservation related expenses	Years	5	10000	50000	10000	10500	11000	11500	12000	55000	
7	Unidentified expenses	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
8	Communication	Years	5	100000	500000	100000	105000	110000	115000	120000	550000	
9	Group and Committee reformation	Times	1	20000	20000			20000			20000	
10	Carpet purchase	Times	1	20000	20000	20000					20000	
	Sub total					429000	214200	244400	234600	244800	1367000	
	Grand Total (A+B+C+D+E)					6735000	3814000	2245500	1830750	1831000	16456250	4420000

Dorje Lakpa BZUC

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Pond construction	No.	2	200000	400000	200000	210000				410000	
2	Grassland development	Ha.	10	20000	200000	100000	105000				205000	
3	Metal Pole (lingo)	No.	100	4000	400000	80000	84000	88000	92000	96000	440000	440000
4	Improved fireplace for cooking	No.	100	4500	450000	150000	157500	165000			472500	472500
5	Barbed wire fencing	Meter	750	1000	750000	150000	157500	165000	172500	180000	825000	825000
6	View tower	No.	1	500000	500000	250000	262500				512500	
7	Landslide control	Cubic meter	500	2000	1000000	200000	210000	220000	230000	240000	1100000	1100000
8	Plantation fencing	Ha.	10	20000	200000	200000					200000	
	Sub total					**1330000**	**1186500**	**638000**	**494500**	**516000**	**4165000**	**2837500**
B.	**Community Development**											
1	Compound on community building	Meter	100	1000	100000	100000					100000	
2	Temple and Monastery repair	No.	5	150000	750000	150000	157500	165000	172500	180000	825000	
3	Temple reconstruction	No.	1	250000	250000	250000					250000	250000
4	Walking trail repair and improvement	Km	5	150000	750000	150000	157500	165000	172500	180000	825000	825000
5	Maintenance and repair of Mother's group building	No.	1	150000	150000	150000					150000	
6	Dumping site construction	No.	1	200000	200000		200000				200000	
7	Waste management (dustbin)	No.	5	40000	200000	200000					200000	
8	Drinking water source conservation (fencing, Intake)	No.	5	100000	500000	250000	262500				512500	
9	Eco garden construction	No.	2	100000	200000	100000	105000				205000	
10	Playground management	No.	1	200000	200000	200000					200000	

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
	Sub total					**1550000**	**882500**	**330000**	**345000**	**360000**	**3467500**	**1075000**
C	**Income generation and Skill development programme**											
1	Leadership development training	Pax	50	1500	75000	75000					75000	
2	Account training	Pax	25	1500	37500		50000				50000	
3	Agriculture training	Pax	20	1500	30000	80000					80000	
4	Fish farming training	Pax	10	1500	15000	40000					40000	
5	Livestock farming training	Pax	30	1500	45000	120000					120000	
6	Sewing and knitting training	Pax	10	15000	150000	75000	78750				153750	
7	Parlour training	Pax	10	10000	100000		200000				200000	
8	Motorcycle repair training	Pax	5	10000	50000		100000				100000	
9	Mobile repair training	Pax	5	10000	50000		100000				100000	
10	Electrician training	Pax	5	15000	75000			100000			100000	
11	Plumber training	Pax	5	15000	75000				100000		100000	
12	Home stay training	Pax	15	3000	45000	45000					45000	
13	Hotel management training	Pax	20	3000	60000	30000	31500				61500	
15	Green house tunnel (Plastic distribution)	Pax	50	5000	250000	50000	52500	55000	57500	60000	275000	
16	Veterinary training	Pax	5	25000	300000		300000				300000	
	Sub total					**515000**	**912750**	**155000**	**157500**	**60000**	**1800250**	
D	**Conservation Education**											
8	Sport competition organized by eco club	Times	5	100000	500000	100000	105000	110000	115000	120000	550000	
1	Scholarship programme	Years	5	50000	250000	50000	52500	55000	57500	60000	275000	
2	Hoarding board	No.	10	9000	90000	90000					90000	

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
2	Radio programme on conservation	Times	60	3000	180000	36000	37800	39600	41400	43200	198000	
3	Orientation on conservation rules, regulation	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
4	Eco club mobilization	No.	5	10000	50000	10000	10500	11000	11500	12000	55000	
5	Celebration day	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
6	Anti poaching mobilization	Times	60	15000	900000	180000	189000	198000	207000	216000	990000	
7	Brochure distribution	Times	5	20000	100000	20000	21000	22000	23000	24000	110000	
9	Wall painting	Place	10	5000	50000	50000					50000	
	Sub total					**636000**	**520800**	**545600**	**570400**	**595200**	**2868000**	
E	**Administrative Costs**											
9	Payment for waste collection tractor	Years	5	180000	900000	180000	189000	198000	207000	216000	990000	
1	Furniture	Set	2	150000	300000	20000					20000	
2	Stationery	Years	5	10000	50000	10000	10500	11000	11500	12000	55000	
3	Conservation related expenses	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
4	Communication	Years	5	5000	25000	5000	5250	5500	5750	6000	27500	
5	Office helper	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
6	Unidentified expenses	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
7	Computer and Photocopy printer	Times	1	75000	75000	75000					75000	
	Sub total					**470000**	**393750**	**412500**	**431250**	**450000**	**2157500**	
	Grand Total (A+B+C+D+E)					4501000	3896300	2081100	1998650	1981200	14458250	3912500

Redpanda BZUC

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Form new CFUG	No.	2	200000	400000	200000	210000				410000	
2	Fencing with barbed wire to control wild boar	Meter	750	1000	750000	150000	157500	165000	172500	180000	825000	825000
3	Metal Pole (lingo)	No.	100	4000	400000	80000	84000	88000	92000	96000	440000	
4	Improved metal cook stove	No.	150	5000	750000	250000	262500	275000			787500	787500
5	Landslide control	m3	500	4000	2000000							2000000
6	Plantation	Ha.	15	20000	300000	60000	63000	66000	69000	72000	330000	
7	Kharaka management	No.	1	50000	50000		50000				50000	
8	Water source protection	No.	5	50000	250000	50000	52500	55000	57500	60000	275000	
9	Fire line construction	Meter	1000	750	750000	150000	157500	165000	172500	180000	825000	825000
10	Water holder in BZ forest	No	8	60000	50000	10000	10500	11000	11500	12000	55000	
	Sub total					950000	1047500	825000	575000	600000	3997500	4437500
B.	**Community Development**											
1	Stone shoaling of walking trail	Meter	500	600	300000	300000	315000	330000	345000	360000	1650000	1650000
2	Monastery repair and maintenance	No.	6	150000	900000	450000	472500				922500	922500
3	Drinking water tap construction	No.	2	20000	40000	20000	21000				41000	
4	Playground establishment	No.	1	200000	200000	200000					200000	
5	Dumping site establishment	No.	1	150000	150000	150000					150000	
6	Provide dustbin maintenance and repair	No.	4	10000	40000	10000	10500	11000	11500		43000	
7	Construct view tower	No.	1	250000	250000			275000			275000	
8	Drainage construction	Meter	2000	1000	2000000						0	2000000
9	Pilot Integrated settlement	No.	1	700000	700000						0	700000
10	Resting place for people	No.	3	300000	900000	300000	315000	330000			945000	

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
11	Pilot Rain water harvesting, construction of plastic pond for drip irrigation (15000 liter capacity pond)	No.	10	75000	750000	750000					750000	
12	Small irrigation pipe	Meter	1000	1000	1000000							1000000
13	Place sign board	No.	10	7500	75000	15000	15750	16500	17250	18000	82500	
14	Shade construction for bus waiting	No.	1	350000	350000	350000					350000	
15	Toilet construction for school including water supply	No.	2	500000	1000000						0	1000000
16	Library support for school	No.	2	250000	500000		250000	275000			525000	
17	Public toilet for tourist	No.	1	500000	500000	100000					100000	
18	Hume pipe	Place	4	15000	60000	60000					60000	
19	Support to construct cultural museum	No.	1	500000	500000			550000			550000	550000
	Sub total					2705000	1399750	1787500	373750	378000	6644000	7822500
C	**Income generation and Skill development programme**											
1	One house one green house for organic farming training	Pax	50	4000	200000	100000		110000			210000	
2	Fish farming training	Pax	10	4000	40000		42000				42000	
3	Livestock farming training	Pax	60	4000	240000		120000		138000		258000	
4	Leadership development training	Pax	50	1500	75000	37500			43125		80625	
5	Account keeping training	Pax	25	2000	50000		50000				50000	
6	Sewing and knitting training	Pax	10	20000	200000	100000	105000				205000	
7	Parlour training	Pax	10	20000	200000		200000				200000	
8	Motorcycle repair training	Pax	5	20000	100000		100000				100000	
9	Mobile repair training	Pax	5	20000	100000		100000				100000	
10	House wiring training	Pax	5	20000	100000			100000			100000	
11	Plumber training	Pax	5	20000	100000				100000		100000	
12	Home stay training	Pax	15	3000	45000	45000					45000	

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
13	Hotel management training	Pax	20	3000	60000	30000	31500				61500	
14	Green house tunnel (Plastic distribution)	No.	20	20000	400000	80000	84000	88000	92000	96000	440000	
15	Veterinary training (skill based)	Pax	5	60000	300000		300000				300000	
	Sub total					392500	1132500	298000	373125	96000	2292125	
D	**Conservation Education**											
1	Hoarding board	No.	10	9000	90000	90000					90000	
2	Radio programme on conservation	Times	60	5000	300000	60000	63000	66000	69000	72000	330000	
3	Conservation rules, regulation Orientation	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
4	Eco club formation	No.	3	50000	150000	50000	100000				150000	
5	Celebration day	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
6	Anti-theft group initiation	Times	60	16000	960000	192000	201600	211200	220800	230400	1056000	
7	Brochure distribution	Times	5	20000	100000	20000	21000	22000	23000	24000	110000	
8	Sport competition organized by eco club	Times	5	100000	500000	100000	105000	110000	115000	120000	550000	
9	Wall painting of school	Place	5	5000	25000	25000					25000	
	Sub total					**637000**	**595600**	**519200**	**542800**	**566400**	**2861000**	
E	**Administrative Costs**											
1	Furniture	Set	1	50000	50000	50000					50000	
2	Stationery	Years	5	10000	50000	10000	10500	11000	11500	12000	55000	
3	Conservation interaction expenses	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
4	Communication	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
5	Office helper	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
6	Unidentified expenses	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
7	Computer and Photocopy printer	Times	1	75000	75000	75000					75000	
	Sub total					**375000**	**262500**	**275000**	**287500**	**300000**	**1500000**	
	Grand Total (A+B+C+D+E)					5059500	4437850	3704700	2152175	1940400	17294625	12000000

Ama Yangri BZUC

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Renewal of CFUG	No.	3	20000	60000	20000	20000	20000			60000	
6	Plantation	Ha.	10	50000	500000	100000	105000	110000	115000	120000	550000	
3	Metal Pole (lingo)	No.	50	4000	200000	40000	42000	44000	46000	48000	220000	
2	Barbed wire fencing to control wild boar	Meter	1000	750	750000	150000	157500	165000	172500	180000	825000	825000
5	Landslide control	M3	400	2000	800000	160000	168000	176000	184000	192000	880000	880000
7	Water source protection in Kharaka	No.	3	50000	150000	50000	52500	55000			157500	
9	Cleaning of bush to control Forest Fire	No.	15	25000	375000	75000	78750	82500	86250	90000	412500	
	Sub total					595000	623750	652500	603750	630000	3105000	1705000
B.	**Community Development**											
1	Improvement of walking trail	Meter	1500	500	750000	150000	157500	165000	172500	180000	825000	825000
2	Chorten repair and maintenance	No.	10	50000	500000	100000	105000	110000	115000	120000	550000	
3	Monastery repair and maintenance	No.	5	300000	1500000	300000	315000	330000	345000	360000	1650000	1650000
4	Drinking water Reservoir construction	No.	5	200000	1000000	200000	210000	220000	230000	240000	1100000	1100000
5	Distribution of drinking water pipe	Meter	1500	500	750000	150000	157500	165000	172500	180000	825000	825000
6	Dumping site establishment	No.	1	250000	250000					275000	275000	
7	Provide dustbin maintenance and repair	No.	17	25000	425000	85000	89250	93500	97750	102000	467500	
8	Drainage construction	Meter	500	1000	500000	100000	105000	110000	115000	120000	550000	550000
9	Pilot Integrated settlement	No.	1	500000	500000		500000				500000	
10	Small irrigation pipe irrigation	Meter	1000	750	750000	150000	157500	165000	172500	180000	825000	825000

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
11	Repair and maintain cultural museum	No.	1	500000	500000		500000				500000	
12	Maintenance and repair of suspension bridge Dhuring	No	1	500000	500000			500000			500000	
	Sub total					1235000	229675 0	1858500	1420250	1757000	8567500	5775000
C	**Income generation and Skill development programme**											
1	Dakarmi training	Pax	10	15000	150000	150000					150000	
2	Carpentry training	Pax	10	15000	150000		150000				150000	
3	House wiring training	Pax	10	15000	150000			150000			150000	
4	Plumber training	Pax	10	15000	150000				150000		150000	
5	Mobile repair training	Pax	3	20000	60000	60000					60000	
6	Motorcycle repair training	Pax	3	20000	60000		60000				60000	
7	Carpet weaving training	Pax	25	5000	125000		125000				125000	
8	Handicraft making training	Pax	25	5000	125000			125000			125000	
9	Thanka painting training	Pax	5	25000	125000				125000		125000	
10	Livestock farming training	Pax	30	4000	120000	120000				120000	240000	
11	Leadership development training	Pax	50	1500	75000	75000					75000	
12	Sewing and knitting training	Pax	10	15000	150000	75000	78750				153750	
13	Cook training	Pax	50	2000	100000			100000			100000	
14	Hotel management training	Pax	20	2000	40000	20000	21000				41000	
15	Account training	Pax	25	2000	50000		50000				50000	
16	Porter guide training	Pax	25	2000	50000			75000			75000	
17	Green house tunnel (Plastic distribution)	Pax	100	4000	400000	80000	84000	88000	92000	96000	440000	
18	Veterinary training	Pax	50	2000	100000		300000				300000	
19	Enterprise development training	Pax	50	2000	100000					100000	100000	

S. N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
20	Cooperative management training	Pax	25	1500	37500				37500		37500	
	Sub total					580000	868750	538000	404500	316000	2707250	
D	**Conservation Education**											
1	Hoarding board	No.	5	15000	75000	75000					75000	
2	Exchange visit to Dhunche	Pax	50	6000	300000	300000					300000	
3	Orient conservation rules, regulation	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
4	Eco club mobilization	No.	2	50000	100000	20000	21000	22000	23000	24000	110000	
5	Celebration day	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
6	Mobilize community based anti poaching	No.	1	60000	60000	12000	12600	13200	13800	14400	66000	
7	Sport competition organized by eco club	Times	5	100000	500000	100000	105000	110000	115000	120000	550000	
	Sub total					607000	243600	255200	266800	278400	1651000	
E	**Administrative Costs**											
1	Repair and Maintenance of Table chair	LS	1	10000	10000	20000	21000	22000	23000	24000	110000	
2	Stationery	Years	5	10000	50000	10000	10500	11000	11500	12000	55000	
3	Conservation related expenses	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
4	Communication	Years	5	5000	25000	5000	5250	5500	5750	6000	27500	
5	Repair and Maintenance of photo copy	LS	1	15000	15000	15000					15000	
6	Unidentified expenses	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
7	Computer and printer	No	1	75000	75000	75000	75000				150000	
8	Maintenance and repair of UC building	Years	5	10000	50000	50000	52500	55000	57500	60000	275000	
	Sub total					295000	290250	225500	235750	246000	1292500	
	Grand Total (A+B+C+D+E)					3312000	432310 0	3529700	2931050	3227400	17323250	7480000

Homacho BZUC

S. N.	Activities	Unit	Quantity	Rate		Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount
A.	**Conservation Programme**											
1	Renewal of CFUG	No.	3	200000		75000	25000	25000	25000			75000
6	Plantation	Ha.	10	15000		150000	30000	31500	33000	34500	36000	165000
3	Metal Pole (lingo)	No.	50	4000		200000	40000	42000	44000	46000	48000	220000
2	RCC foundation barbed wire fencing for wild boar	Mete r	1500	1000		1500000	300000	315000	330000	345000	360000	1650000
5	Landslide control	M3	500	2500		1250000	250000	262500	275000	287500	300000	1375000
7	Water source protection in Kharaka	No.	3	50000		150000	50000	52500	55000			157500
9	Cleaning of bush to control Forest Fire	No.	15	25000		375000	75000	78750	82500	86250	90000	412500
	Sub total						770000	807250	844500	799250	834000	4055000
B.	**Community Development**											
1	Improvement of walking trail	Mete r	1500		500	750000	750000					750000
2	Chorten repair and maintenance	No.	10	50000		500000	100000	105000	110000	115000	120000	550000
3	Monastery repair and maintenance	No.	5	250000		1250000	250000	262500	275000	287500	300000	1375000
4	Drinking water Reservoir construction	No.	1	1250000		1250000	625000	625000				1250000
5	Distribution of drinking water pipe	Mete r	1500	500	750000	150000	165000	172500	180000	180000	847500	847500
6	Dumping site establishment	No.	1	250000	250000					275000	275000	
7	Drainage construction	Mete r	500	1000	500000	100000	105000	110000	115000	120000	550000	550000
8	Pilot Integrated settlement	No.	1	500000	500000		500000				500000	
9	Pipe irrigation	Mete r	1000	800	800000	160000	168000	176000	184000	192000	880000	880000

S. N.	Activities	Unit	Quantity	Rate		Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount
10	Maintenance and repair of suspension bridge	No	1	500000	500000			500000			500000	
	Sub total					2135000	1930500	1343500	881500	1187000	7477500	5652500
C	**Income generation and Skill development programme**											
1	Dakarmi training	Pax	10	15000	150000	150000					150000	
2	Carpentry training	Pax	10	15000	150000		150000				150000	
3	House wiring training	Pax	10	15000	150000			150000			150000	
4	Plumber training	Pax	10	15000	150000				150000		150000	
5	Mobile repair training	Pax	3	20000	60000	60000					60000	
6	Motorcycle repair training	Pax	3	20000	60000		60000				60000	
7	Carpet weaving training	Pax	25	5000	125000		125000				125000	
8	Handicraft making training	Pax	25	5000	125000			125000			125000	
9	Thanka painting training	Pax	5	25000	125000				125000		125000	
10	Livestock farming training	Pax	30	4000	120000	120000				120000	240000	
11	Leadership development training	Pax	50	1500	75000	75000					75000	
12	Sewing and knitting training	Pax	10	20000	200000	100000	105000				205000	
13	Cook training	Pax	25	5000	125000			125000			125000	
14	Hotel management training	Pax	20	3000	60000	30000	31500				61500	
15	Account training	Pax	25	2000	50000		50000				50000	
16	Porter guide training	Pax	25	2500	62500			75000			75000	
17	Green house tunnel (Plastic distribution)	Pax	20	20000	400000	80000	84000	88000	92000	96000	440000	
18	Veterinary training	Pax	25	5000	125000		300000				300000	
19	Enterprise development training	Pax	25	2500	62500					62500	62500	

S. N.	Activities	Unit	Quantity	Rate		Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount
20	Cooperative management training	Pax	25	2500	62500				62500		62500	
	Sub total					615000	905500	563000	429500	278500	2791500	
D	**Conservation Education**											
1	Hoarding board	No.	5	9000	45000	45000					45000	
2	Exchange visit to Dhunche	Pax	50	3000	150000	150000					150000	
3	Conservation rules, regulation presentation	Time s	5	50000	250000	50000	52500	55000	57500	60000	275000	
4	Eco club mobilization	No.	2	50000	100000	20000	21000	22000	23000	24000	110000	
5	Celebration day	Time s	5	50000	250000	50000	52500	55000	57500	60000	275000	
6	Mobilize community based anti poaching	No.	1	60000	60000	12000	12600	13200	13800	14400	66000	
7	Sport competition organized by eco club	Time s	5	100000	500000	100000	105000	110000	115000	120000	550000	
	Sub total					427000	243600	255200	266800	278400	1471000	
E	**Administrative Costs**											
1	Repair and Maintenance of Table chair	LS	1	10000	10000	20000	21000	22000	23000	24000	110000	
2	Stationery	Years	5	10000	50000	10000	10500	11000	11500	12000	55000	
3	Conservation related expenses	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
4	Communication	Years	5	5000	25000	5000	5250	5500	5750	6000	27500	
5	Repair and Maintenance of photo copy	LS	1	15000	15000	15000					15000	
6	Unidentified expenses	Years	5	60000	300000	60000	63000	66000	69000	72000	330000	
7	Computer and printer	No	1	75000	75000	75000	75000				150000	
8	Maintenance and repair of UC building	Years	5	10000	50000	50000	52500	55000	57500	60000	275000	
	SSub total					295000	290250	225500	235750	246000	1292500	
	Grand Total (A+B+C+D+E)					4242000	4177100	3231700	2612800	2823900	17087500	8677500

Langtang BZUC

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
A.	**Conservation Programme**											
1	Soil Conservation and Landslide control	M3	500	1000	500000	100000	105000	515000	115000	120000	955000	955000
2	Pilot back boiler in the metallic	No.	25	12000	300000	60000	63000	309000	69000	72000	573000	
3	Kharaka management	No.	5	50000	250000	50000	52500	257500	57500	60000	477500	
4	Support solar water heater	No.	15	30000	450000	90000	94500	463500	103500	108000	859500	859500
5	Pilot solar cooker	No.	20	15000	300000	100000	105000	315000	115000	120000	755000	
	Sub total					400000	420000	1860000	460000	480000	3620000	1814500
B.	**Community Development**											
1	Stone sholing of walking trail	Meter	500	1000	500000	100000	105000	515000	115000	120000	955000	955000
2	Monastery repair and maintenance	No.	2	150000	300000	150000	157500				307500	
3	Building construction to cover the drinking water facility	No.	2	300000	600000	300000	315000				615000	615000
4	Dumping site establishment	No.	4	100000	400000	100000	105000	415000	115000		735000	735000
5	Provide dustbin	No.	10	2500	25000	5000	5250	25750	5750	6000	47750	
6	Small irrigation canal	Meter	750	800	600000			200000	200000	200000	600000	600000
7	Place sign board	No.	15	4000	60000	12000	12600	61800	13800	14400	114600	
8	Construction of compound wall for school	No.	2	300000	600000		300000	300000			600000	600000
9	Library support for school	No.	2	250000	500000				250000	250000	500000	

S.N.	Activities	Unit	Quant ity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
10	Public toilet for tourist	No.	2	250000	500000	250000				300000	550000	550000
11	Support to construct information centre and cultural museum	No.	1	500000	500000			500000			500000	500000
	Sub total					**917000**	**1000350**	**2017550**	**699550**	**890400**	**5524850**	**4555000**
C	**Income generation and Skill development programme**											
1	Green house tunnel (Plastic distribution)	No.	60	20000	1200000	240000	252000	264000	276000	288000	1320000	
2	Livestock farming training	Pax	60	4000	240000	120000			138000		258000	
3	Electrician training	Pax	5	20000	100000			100000			100000	
4	Plumber training	Pax	5	20000	100000				100000		100000	
5	Leadership development training	Pax	50	1500	75000	75000					75000	
6	Account training	Pax	50	2000	100000		50000				50000	
7	Hotel management training	Pax	60	3000	180000	90000	94500				184500	
8	English speaking training	Pax	40	1500	60000	30000	30000				60000	
9	Cook training	Pax	60	2000	120000	40000		34000		48000	122000	
10	Trekking Guide training	Pax	20	1500	30000		30000				30000	
11	Enterprise development training	Pax	50	1500	75000			37500	37500		75000	
12	Training cultural group	Pax	15	2500	37500				37500		37500	
	Sub total					**595000**	**456500**	**435500**	**589000**	**336000**	**2412000**	**0**
D	**Conservation Education**											

S.N.	Activities	Unit	Quantity	Rate	Total Amount	Year I	Year II	Year III	Year IV	Year V	Total Amount	Remarks
1	Observation tour Sagarmatha National park/ACAP	Pax	35	3500	122500	*122500*					122500	
2	Hoarding board	No.	8	10000	80000	80000						
3	Orientation on conservation legislations	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
4	Eco club formation	No.	1	50000	50000	50000					50000	
5	Celebration day	Times	5	50000	250000	50000	52500	55000	57500	60000	275000	
8	Quiz contest, debate and essay wiring competition in school organized by eco club	Times	5	100000	500000	100000	105000	110000	115000	120000	550000	
	Sub total					**452500**	**210000**	**220000**	**230000**	**240000**	**1352500**	**0**
E	**Administrative Costs**											
	Chairs, Almira and tables	LS	1	150000	150000	30000	31500	33000	34500	36000	165000	
	Stationery	Years	5	10000	50000	10000	10500	11000	11500	12000	55000	
	Conservation related expenses	Years	5	75000	375000	75000	78750	82500	86250	90000	412500	
	Communication	Years	5	5000	25000	5000	5250	5500	5750	6000	27500	
	Laptop computer and multipurpose printer	Times	1	150000	150000	150000					150000	
	Sub total					**270000**	**126000**	**132000**	**138000**	**144000**	**810000**	**0**
	Grand Total (A+B+C+D+E)					2634500	2212850	4665050	2116550	2090400	13719350	6369500

Annex IX: Organizational structure of LNP

S.N.	Post	Class	Approved Position	Status of Fulfillment		
				Fulfilled	Vacant	Contractual
1	Chief Conservation Officer	Gazetted class II	1	1		
2	Assistant Conservation Officer	Gazetted class III	3	3		
3	Park Ranger	Non gazetted class I (Technical)	9	8		
4	Nayab Subba	Non gazetted class I (Administrative)	1	1		
5	Accountant	Non gazetted class I (Account)	1		1	
6	Assistant Accountant	Non gazetted class II (Account)	1			1
7	Computer Operator	Non gazetted class I	1		1	
8	Kharidar	Non gazetted class II (Administrative)	4	3		
9	Senior Game Scout	Non gazetted class II (technical)	18	3	15	
10	Game Scout		54	54		
11	Driver	On contract	2	2		
12	Office helper	On contract	1			1
Total			96	75	17	2

Annex X: Park and Security Posts of LNP

S.N.	HQ / Sector / Range Post / Guard Post / Security Post /	Place	No. of Post			Remarks
			Park	NA	Both	
1	NP Headquarter	Dhunche, Rasuwa			1	Entrance gate
2	Timure Sector	Timure, Rasuwa			1	
3	Ghodtabela range post	Ghodtabela, Rasuwa	1			Entrance gate
4	Briddim post	Briddim, Rasuwa	1			
5	Syaphrubesi post	Syaphrubesi, Rasuwa			1	
6	Thulo Syaphru post	Thulo Syaphru, Rasuwa			1	
7	Chandanbari security post	Chandanbari, Rasuwa		1		
8	Langtang security post			1		
9	Kalikasthan range post	Kalikasthan, Rasuwa			1	
10	Mailung post	Mailung, Ramche, Rasuwa			1	Entrance gate
11	Ramche post	Ramche, Rasuwa	1			
12	Baandare post	Bandare, Rasuwa	1			
13	Lokil post	Lokil, Rasuwa	1			
14	Bondro post	Bondro, Rasuwa			1	
15	Shikharbesi range post	Shikharbesi, Nuwakot	1			Entrance gate
16	Urleni security post	Urleni, Nuwakot		1		
17	Helambu sector	Timbu, Sindhupalchowk	1			
18	Tempathan	Tempathan, Sindhupalchowk			1	Entrance gate
19	Kutumsang range post	Kutumsang, Sindhupalchowk			1	Entrance gate
20	Shermathan post	Shermathan, Sindhupalchowk			1	Entrance gate

Annex XI: Participates of the meetings

आज मिति २०८० साल ...जेठ... महिना ..२३.. गतेका दिन ..बागमती... प्रदेश ...रसुवा... जिल्ला गोसाईकुण्ड गा.पा./न.पा वडा नं. ..६..को ...धुन्चे...मा लामटाङ राष्ट्रिय निकुञ्जको व्यवस्थापन योजना परिमार्जन तथा परिमार्जित योजनाको प्रारम्भिक वातावरणीय परीक्षण कार्य सम्वन्धी अध्ययन कार्यमा निम्न उपस्थित महानुभावहरूसँग छलफल गरी निम्न रायसुझावहरू संकलन गरियो ।

उपस्थितिहरू

क्र.स.	नाम थर	पद/पेशा	संस्था/ठेगाना	सम्पर्क नं.	हस्ताक्षर
१	मिलन सापकोटा	स.सं.अ.	लाङटाङ रा.नि.	984508599[illegible]	[illegible]
२	छिवाङ तामाङ	म.उ.स.	सूर्य कुण्ड	9843508280	[illegible]
३	अमीर तामाङ	प्र.उ.स	ब्रिदिम	9861187882	[illegible]
४	निमा वाङ्जु तमाङ	अध्यक्ष	गोसाईकुण्ड म.उ.स. धुन्चे	9843508414	[illegible]
५	विनोद तमाङ	[illegible]	[illegible]	98299[illegible]	[illegible]
६	पासाङ छिरिङ [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
७	विष्णु खनाल	खरिदार	ला.रा.नी.	9840929496	[illegible]
८	श्याम कुमार थापा	गेमस्काउट	ल.रा.नी	9863[illegible]	[illegible]
९	दीपक रावल	,,	,,	9843938339	[illegible]
१०	जित बहादुर तामाङ	[illegible]	ला.रा.नि	9860056683	[illegible]
११	नरेन्द्र मल्ल	गेमस्काउट	ला.रा.नि	9865291830	[illegible]
१२	रमेश कुमार गौड	ना.सु.	ला.रा.नि.	9867494445	[illegible]
१३	प्रिज्मा पौडेल	इन्टर्न	ला.रा.नि.	9818327973	[illegible]
१४	तीर्थराज [illegible]	सि.गो.	ला.रा.नि	98493577[illegible]21	[illegible]
१५	रामकुमार घले	[illegible]		[illegible]	[illegible]
१६	दिलिप सिंह	सि.गो.	ला.रा.नि	9861639420	[illegible]
१७	सुनिल राउत	[illegible]	ला.रा.नि.	9841897422	[illegible]
१८					

आज मिति २०८० साल जेठ...... महिना २५.... गतेका दिन बागमती.... प्रदेश ३ नं.............
जिल्ला कालिका... गा.पा./न.पा वडा नं. ..२...को कालिकास्थान...मा लामटाङ राष्ट्रिय निकुञ्जको व्यवस्थापन योजना परिमार्जन तथा परिमार्जित योजनाको प्रारम्भिक वातावरणीय परीक्षण कार्य सम्बन्धी अध्ययन कार्यमा निम्न उपस्थित महानुभावहरूसँग छलफल गरी निम्न रायसुझावहरू संकलन गरियो ।

उपस्थितिहरू

क्र.स.	नाम थर	पद/पेशा	संस्था/ठेगाना	सम्पर्क नं.	हस्ताक्षर
१	उमेश बहादुर न्यौपाने	वडा अध्यक्ष	कालिका गा.पा वडा नं. २	9851315130	
२	सुलक्षणा श्रेष्ठ	रेञ्जर	कालिका बफरजोन २ पो.	9802030074	
३	पूर्ण बहादुर कटवाल	उ.प्र.ह.	कालिकास्थान वफर क्षेत्र	9842499994	
४	खुम प्रसाद भट्ट	अध्यक्ष	कालिका मध्या. व.उ.स.	9856288508	
५	शिव ब. न्यौपाने	सदस्य	,,		
६	सावित्री के.सी.	सदस्य	महिला समूह		सावित्री
७	गोमा न्यौपाने	सदस्य	,,		गोमा
८	प्र.व.नालि कमल चौलागाईं	प्र.व.नालि	कालिकास्थान		
९	काल्छु कार्की	सदस्य	पिप्चङ साङ ग्रामोत्थान उ.स.		
१०	राम प्रसाद न्यौपाने	कोषाध्यक्ष	कालिका-२	9849039026	
११	सुभद्रा देवी न्यौपाने	सदस्य	कालिका - २	9843384576	सुभद्रा
१२	रुद्र मणी भण्डारी	,,	,,	9749046103	
१३	इन्द्रसिंह लामा	,,	,,	9851248528	
१४	रेणु प्रसाद आचार्य	म.सं.प्र.	कालिकास्थान उ.प्रा.	9848382218	
१५	विष्णु भट्ट	ओभरसियर	,,	9863464842	
१६	विजय महर्जन	विज्ञ	CENS	9843063778	

आज मिति २०८० साल ...चैत्र... महिना १८ गतेका दिन ...आइतबार... प्रदेश ...बागमती...
जिल्ला ...सिन्धुपाल्चोक... न.पा/ गा.पा. वडा नं ...९... को ...तिम्बु... मा लामटाङ राष्ट्रिय निकुञ्जको व्यवस्थापन योजना परिमार्जन तथा परिमार्जित योजनाको प्रारम्भिक वातावरणीय परिक्षण अध्ययन कार्य सम्बन्धी अध्ययन कार्यमा निम्न उपस्थित महानुभावहरुको उपस्थितीमा छलफल/परामर्श गरी रायसुझाव संकलन गरियो ।

उपस्थिती

क्र.सं	नाम थर	पद/ पेशा	संस्था/ ठेगाना	सम्पर्क नम्बर	हस्ताक्षर
१.	खर्पेर लामा	रेञ्जर	ला.रा.नि. हेलम्बु सेक्टर तिम्बु सि.पा.	९८४८२० ४६०९	
२.	टिका लिटौलर	उप-रेञ्जर	श्री विष्णुदल गण हेलम्बु का गुल्म	[illegible]	
३.	आयुष्मा के.०पहाडी	सि. गे.०	ला.रा.नि. हेलम्बु सेक्टर तिम्बु, सिपा.	९८६५२०० ८४६	
४.	छेसाङ लामा	अध्यक्ष	रेड पाण्डा उ.	९८२३८३९० ९७	
५.	सेताले लामाङ	अध्यक्ष	ह्योमद्यो	९८४६[illegible]	
६	राजेन्द्र तिमल्सेना	गेमस्काउट	ला.रा.नि. तिम्बु	९८६८२२९ २१३	
७	ओमन नगरकोटी	प्युठ	श्री विष्णुदल	९८८५६[illegible]	
८	केसाङ लामा	अध्यक्ष	ह्योल्मो आमा समूह	९८६९३५४२०४	
९	फुर्पु लामा	स्थानीय	,,	,,	
१०.	ओल्मा लामा	,,	,,	,,	Polma

आज मिति २०८० साल ...जेठ... महिना १६ गतेका दिन .... प्रदेश ...१...
जिल्ला ...[illegible]... न.पा/ गा.पा. वडा नं ...१... को ...[illegible]... मा लामटाङ राष्ट्रिय निकुञ्जको व्यवस्थापन योजना परिमार्जन तथा परिमार्जित योजनाको प्रारम्भिक वातावरणीय परिक्षण अध्ययन कार्य सम्बन्धी अध्ययन कार्यमा निम्न उपस्थित महानुभावहरुको उपस्थितीमा छलफल/परामर्श गरी रायसुझाव सकलन गरियो ।

उपस्थिती

क्र.सं	नाम थर	पद/ पेशा	संस्था/ ठेगाना	सम्पर्क नम्बर	हस्ताक्षर
१	किशोर लामा	ला.रा.नि.म.क्षे. उपभोक्ता समिति अध्यक्ष	[illegible] गोसाईकुण्ड गा.पा. वडा नं १	९८४९९०२४६४	[signature]
२	[illegible] लामा		गोसाईकुण्ड गा.पा. वडा नं १		[signature]
३	[illegible] तामाङ		[illegible] गोसाईकुण्ड गा.पा. वडा नं १	९८४६२८-७९९६	[signature]
४	दावा [illegible] शेर्पा		[illegible] गोसाईकुण्ड गा.पा. वडा नं १		[signature]
५	[illegible] शेर्पा		,, ,,	9840732049.	[signature]
६	तेन्जी शेर्पा		,,		[signature]
७	लाक्पा गुरुङ		,,		[signature]
८	पसाङ शेर्पा	.	[illegible]	9861157806	[signature]
९	तुलसी आचार्य	सि.ग.	लाङटाङ राष्ट्रिय निकुञ्ज	9861395179	[signature]

आज मिति २०८० साल ..... महिना ..... गतेका दिन ..... प्रदेश .....
जिल्ला ..... न.पा/ गा.पा. वडा नं ..... को ..... मा [illegible] राष्ट्रिय निकुञ्जको व्यवस्थापन योजना परिमार्जन तथा परिमार्जित योजनाको प्रारम्भिक वातावरणीय परिक्षण अध्ययन कार्य सम्बन्धी अध्ययन कार्यमा निम्न उपस्थित महानुभावहरुको उपस्थितीमा छलफल/परामर्श गरी रायसुझाव सकलन गरियो ।

उपस्थिती

क.सं	नाम थर	पद/ पेशा	संस्था/ ठेगाना	सम्पर्क नम्बर	हस्ताक्षर
१.	[illegible]	[illegible]	[illegible]	9841008869	
२)	[illegible]	[illegible]	[illegible]	9866548142	
३	[illegible]	[illegible]	[illegible]	9845808365	
४)	[illegible]	[illegible]	[illegible]	[illegible]	
५	[illegible]	[illegible]	[illegible]	[illegible]	
६	[illegible]	[illegible]	[illegible]	[illegible]	
७.	[illegible]	[illegible]	Sindupalchok Helambu RM – 7	9823676631	
८	[illegible]		[illegible]	9846517756	
९	[illegible]		[illegible]	9828057900	

Annex XII: Tourist entered in LNP from 2035/36 to 2078/79

S.N.	Fiscal year	No. of tourists	S.N.	Fiscal year	No. of tourists
1	2035/036	883	23	2057/58	13,166
2	2036/037	1,377	24	2058/59	8,880
3	2037/038	1,398	25	2059/060	6,660
4	2038/039	2,376	26	2060/061	6,219
5	2039/040	1,865	27	2061/062	4,122
6	2040/041	2,107	28	2062/063	4,230
7	2041/042	2,448	29	2063/064	6,614
8	2042/043	3,161	30	2064/065	9,219
9	2043/044	3,796	31	2065/066	9,946
10	2044/045	5,089	32	2066/067	11,184
11	2045/046	6,162	33	2067/068	11,173
12	2046/047	6,138	34	2068/069	14,315
13	2047/048	7,180	35	2069/070	13,370
14	2048/049	8,674	36	2070/071	17,050
15	2049/050	8,677	37	2071/072	16,593
16	2050/051	6,342	38	2072/073	4,292
17	2051/052	8,637	39	2073/074	11,068
18	2052/053	7,934	40	2074/075	13,759
19	2053/054	7,066	41	2075/076	17,391
20	2054/055	8,808	42	2076/077	20,159
21	2055/056	10,889	43	2077/078	4,649
22	2056/057	12,496	44	2078/079	17,688

Annex XIII: Affiliation of BZUCs in the current federal structure

S.N.	Name of BZUCs	Name of previous Local bodies	Current Local bodies in federal structure
1	Langtang	Langtang VDC-7, Rasuwa	Gosaikunda Rural Municipality-4, Rasuwa
2	Briddim	Briddim VDC-8, Rasuwa	Gosaikunda Rural Municipality-3, Rasuwa
3	Timure	Timure VDC-4, Rasuwa	Gosaikunda Rural Municipality-2, Rasuwa
4	Suryakunda	Syaphu VDC-9, Rasuwa	Gosaikunda Rural Municipality-5, Rasuwa
5	Naukunda	Dhunche VDC-5, Rasuwa	Gosaikunda Rural Municipality-6, Rasuwa
6	Ramche	Ramche VDC-9, Rasuwa	Kalika Rural Municipality-1, Rasuwa
7	Laharepauwa	Laharepauwa VDC-3, Rasuwa	Uttargaya Rural Municipality-5, Rasuwa
8	Dhaibung	Dhaibung VDC-5, Rasuwa	Kalika Rural Municipality-2, Rasuwa
9	Bhorle	Bhorle VDC-7, Rasuwa	Naukunda Rural Municipality-5, Rasuwa
10	Yarsa	Yarsa VDC-7, Rasuwa	Naukunda Rural Municipality-1, Rasuwa
11	Saramthali	Saramthali VDC-6, Rasuwa	Naukunda Rural Municipality-3, Rasuwa
12	Pangbochethan	Gaonkharka VDC-9, Nuwakot	Dupcheshowr Rural Municipality-2, Nuwakot
13	Indreni	Ghyangphedi VDC-4 Nuwakot	Dupcheshowr Rural Municipality-1, Nuwakot

14	Bachaladevi	Shikharbesi VDC-6 Nuwakot	Dupcheshowr Rural Municipality-7, Nuwakot
15	Dupcheshwori	Samundratar VDC-7, Nuwakot	Dupcheshowr Rural Municipality-6, Nuwakot
16	Kalpeshwori	Urleni VDC-6, Nuwakot	Tadi Rural Municipality-1, Nuwakot
17	Hyolmo Ama Yangri	Helambu VDC-7, Sindhupalchowk	Helambu Rural Municipality-1, Sindhupalchowk
18	Homacho	Helambu VDC-3, Sindhupalchowk	Panchpokhari Thankpal-2, Sindhupalchowk
19	Redpanda	Kiul VDC-8, Sindhupalchowk	Helambu Rural Municipality- 2,Sindhupalchowk
20	Dorje Lakpa	SelangVDC-, Sindhupalchowk	Jugal Rural Municipality, Sindhupalchowk
21	Lengsi	Golche VDC-2 Sindhupalchowk	Jugal Rural Municipality-2, Sindhupalchowk

Annex XIV: Methodology for the assessment of river bed construction materials

Methods

Field Visit

The area from where the river bed construction materials can be potentially be extracted were identified during discussion with park authorities and buffer zone communities and local stakeholders. The rivers identified from where river deposits can be extracted are as follows.

1. Melamchi River
2. Bhotekoshi River
3. Dhobi Khola
4. Kuntun Khola
5. Langtang Khola
6. Phalakhu Khola
7. Tandi Khola
8. Trishuli River (Buffer Zone)

The area and river identified are also shown in the map below.

Consultation with local stakeholders

The buffer zone communities, local park offices and local stakeholders were consulted to identify the potential sites for the river bed material extraction. These areas were visited by the consultant team and field verifications were made. The consultant team discussed on various aspects of collection of river bed materials. Flooding and its effects on river bed deposits and several other aspects.

Collector / Contractors who have previously collected sand and stone were consultated to identify the amount of deposits in river beds in buffer zone areas. These contractors informed the study team about the quantity and depth of deposits in river bed.

Field Verifications

Information so collected form collector / contractors were verified through field exercise. During the field study, study team conducted field assessment like estimating area, depth and type of material and river bed compostion. The pit made for sampling was circular of diameter of 2 m. Sample pit study was conducted in minimum three sites for each river. The depth of river bed material deposited were estimated. Beside that study team also visited those sites where river bed construction materials were being collected.

Based on these exercieses and information collection the amount of river bed materials that could be extracted were roughly estimated. It is to be suggested that for actual extraction of river bed construction materials, quantity assessment / survey is necessary.

S.N.	River	Types of Construction materials	Major Sites	Easting	Northing	Depth (m)	Area (m2)	Deposit Volume (m3)	Estimated Volume (m3)	Remarks
1	Melamchi	Sand, Stone and Boulder	Ribal and Dana,	85.53160	27.98682	1	600	600	5000	Buffer zone: Stone and boulder deposits due to massive flood in 2078 in the area, which requires separate detail IEE/EIA study for extraction.
			Sarkathali,	85.53561	27.98172	1	510	510		
			Dorin and Ribarma	85.53221	27.96878	1	503	503		
			Ambathan,	85.53819	27.96084	0.9	2500	2250		
			Timbu,	85.54421	27.95518	1	779	779		
			Thuldhunga,	85.54387	27.95012	1	358	358		
2	Dhobi Khola	Stone and Boulder	Jibjibe	85.21530	27.99290	0.3	259	78	252	Buffer zone
		Stone and Boulder	Bumbadanda	85.21809	28.00292	0.3	582	175		
3	Kuntun Khola	Sand, Stone and Boulder	Tilake	85.40512	27.98413	0.3	1063	319	319	Buffer zone
4	Phalakhu Khola/ Paha Khola	Sand, Stone and Boulder	Okhledanda, haderidanda	85.23130	27.97459	1	42199	42199	43038	Buffer zone
		Sand, Stone and Boulder	Larchyan	85.27733	28.02022	0.3	2797	839		
5	Tandi Khola	Sand, Stone and Boulder	Negi 1	85.42284	27.96464	0.5	14534	7267	7733	Buffer zone
		Sand, Stone and Boulder	Negi 2	85.41669	27.96357	0.4	1165	466		
6	Trisuli River (Buffer Zone)	Sand, Stone and Boulder	Bandare 1	85.19365	28.03301	1	2084	2084	12059	Buffer zone
		Sand, Stone and Boulder	Bandare 2	85.19469	28.03278	1	3701	3701		
		Sand, Stone and Boulder	Bandare 3	85.19415	28.03062	1	3299	3299		
		Sand, Stone and Boulder	Bandare 4	85.19420	28.03749	1	2975	2975		
	Total								**68401**	

Annex XV. Management Plan (Amendment) Preparation Team

S.N	Name	Designation	Office
1	Pramod Bhattrai	Chief Conservation Officer	LNP
2	Annapurna Nand Das	Team Leader	LENS
3	Bijay Maharjan	GIS Expert	LENS
4	Bijaya Mishra	Program Coordinator	LENS
5	Sarita Lawaju	Program Officer	LENS
6	Renuka Baidhya	Program Officer	LENS

Annex XVI: Field Study Photographs

Interview with Chairperson, Kancha Tamang

Stalkholder meeting in Kalikasthan

Stakeholder meeting in Dunche

Interview with Chairperson, Kancha Tamang

Measurement of amount of sand and boulders deposited at Melamchi river

Field Measurement of river bed extraction site in Bandare, Trishuli river.

Measurement of amount of sand and boulders deposited at Melamchi river

Habitat mapping at Fusrey range post

Habitat meeting at Kutumsang Range post

Consultation Meeting at Kutumsang Range post

Concultation with ranger, army and BZUC members in Sector Office Timbu

Habitat mapping in Sector Office Timbu

Presentation of Draft Management Plan with Key Stakeholder of LNP

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