

17 DAYS WILDLIFE TRAINING

Organizer: Nepal Youth Council

Partners: WWF Nepal, Katie Adamson Conservation Fund and
Greenhood Nepal

Program-Coordinator: Ms. Ritika Prasai

ACKNOWLEDGEMENT

17 Days Wildlife Training would not have been possible without the help and support from all the associated people, organizations & participants. Nepal Youth Council would like to express sincere gratitude to all the helping hands to have supported in such an amazing way. Thanks to Katie Adamson Conservation Fund, WWF Nepal and Green hood Nepal for the continuous support throughout the training period. Special thanks to Langtang National Park and its officials for providing permission to conduct the field training in the periphery & sharing valuable information about the place. Sincere thanks to WWF Nepal's Langtang officials, our trainers Mr. Sanjan Thapa, Mr. Kumar Paudel and Mr. Regan Sapkota for wonderful cooperation. Thanks to our all guest speakers Mr. Narendra Pradhan (Former CEO, BCN), Mr. Ugan Manandhar (WWF, Nepal), Jeewan Thapa (Himalayan Nature) & Mr. Hari Basnet (IUCN). We cannot remain without thanking all the hardworking participants who donated appreciative interest during the training period. We would also like to extend our heartfelt thanks to Namaste Gosaikunda, Dhunche Hotel and Yak and Nak, Chandanbari Hotel for offering great hospitality during our stay.

Lastly but not the least thanks to everyone who supported us to make the training a success one. We look forward to receiving such overwhelming support in days to come too

Thank you!

Ritika Prasai

Program-Coordinator

Nepal Youth Council-Environment Department

SUMMARY OF THE TRAINING:

17 Days Wildlife Training was organized from 20th February- 8th March, 2018 by Nepal Youth Council in association with WWF Nepal, Katie Adamson Conservation Fund (KACF) and Green hood Nepal as the technical supporter. 10 participants were selected from different academic background through the goggle form survey out of 114 applicants. There were 4 female participants and 6 males who were trained 17 days to build their capacity in undertaking a complete research on their own.

NAME LIST OF SELECTED PARTICIPANTS:

<u>S.N.</u>	<u>Name of participant s</u>	<u>Sex</u>	<u>Institution</u>	<u>Educational status</u>
<u>1.</u>	Sabina Pokharel	<u>Female</u>	Agriculture and Forestry University (AFU), Faculty Veterinary Science Rampur, Nepal	BSc 4 th Year
<u>2.</u>	Sagar Bashyal	<u>Male</u>	Institute of Forestry (IOF), Pokhara Campus, Pokhara, Nepal	BSc 3 rd Year
<u>3.</u>	Kritagya Gyawali	<u>Male</u>	Institute of Forestry (IOF), Pokhara Campus, Pokhara, Nepal	BSc 3 rd Year
<u>4.</u>	Milan Aryal	<u>Male</u>	Institute of Forestry (IOF), Pokhara Campus, Pokhara, Nepal	BSc 3 rd Year
<u>5.</u>	Rashmi Itani	<u>Female</u>	Institute of Forestry (IOF), Pokhara Campus, Pokhara, Nepal	BSc 3 rd Year
<u>6.</u>	Sakar Jha	<u>Male</u>	Institute of Forestry (IOF), Pokhara Campus, Pokhara, Nepal	BSc 2 nd Year
<u>7.</u>	Shilpa Adhikari	<u>Female</u>	Agriculture and Forestry University , Faculty of Forestry, Hetauda	BSc 4 th Year
<u>8.</u>	Sumit Sharma	<u>Male</u>	Agriculture and Forestry University (AFU), Faculty Veterinary Science Rampur, Nepal	BSc 4 th Year

<u>9.</u>	Bini Dahal	<u>Female</u>	Agriculture and Forestry University , Faculty of Forestry, Hetauda	BSc 4 th Year
<u>10</u>	Anoj Subedi	<u>Male</u>	Institute of Forestry (IOF), Pokhara Campus, Pokhara, Nepal	BSc 3 rd Year

DIVISION OF PARTICIPANTS:

Participants were divided into four groups according to the designed research topics and trained accordingly. They were guided to prepare concept note, proposal write up, literature review skills, data sheet preparation ,social survey techniques, camera trap installation and GPS handling in the field, mistnetting for bats and using bat detectors, field survey for musk deer and red panda abundance and density study, data entry and analysis during the training. Hence the training was focused on training each participant to have knowledge on undertaking a complete research. 17 Days wildlife training completed with some important findings on four research topics.

TRAINING VENUE:

The theory session of the training was conducted in Sungabha Foodland, Baluwatar Kathmandu whereas the field visit was done in Dhunche and Chandanbari. The training comprised of one day trekking from Dhunche to Chandanbari and field visit to Polangpati for the red panda abundance survey. Sungabha Foodland had the facility of wifi, projector and a hall suitable for the ten selected participants according to the requirement of our training. Participants were taken in Dhunche and Chandanbari for the social survey and direct wildlife sighting. Langtang National Park was selected for the field visit based on our training motto.

TRAINING FORMAT :

Training schedule was divided into three phases : First theory session in Kathmandu (5 days), Field visit (6 days) to Dhuche and Chandanbari of Langtang National Park and Data analysis phase (6 days) in Kathmandu. Our training was focused on exploring the four major big possibilities and issues in Langtang National Park and we conducted the training accordingly. Four major research area of our training were:

1. Estimating the pellet density in Chandanbari to Polangpati trail and observing the major threats of musk deer in Langtang National Park
2. Potentials and challenges of ecotourism in Langtang National Park
3. Observing the trend of illegal wildlife trade in Langtang National Park
4. Observing the abundance of red panda in Polangpati of Langtang National Park

- **First theory session in Kathmandu (5 days)**

Participants learnt concept note preparation, proposal writing, literature reviewing skills during the theory session along with GPS, mistnetting, bats detector handling techniques, Camera trap demonstration, and research ethics. Theory session also focused on training the participants to prepare data sheet required for the field survey.

- **Field visit (6 days)**

Total six days were spent in the field. Social survey and direct field sighting was done both in Dhunche and Chandanbari. There was orientation session with WWF officials and Langtang National Park officials before moving to Chandanbari and after coming from Chandanbari which was done for the as key informant survey. Camera trap to capture possible animal species, mistnetting, for bats morphology study, Bats detector to observe the bats abundance, distance sampling for musk deer abundance study and point sampling for red panda study was conducted in Chandanbari and in the Polanpati line transect from Chandanbari and in Polangpati as well. All the information collected were recorded using GPS and notes book.

- **Data analysis in Kathmandu (6 days)**

Participants were taught about data management and analysis techniques during this period. Recorded information was analyzed through descriptive measures in Excel. Map of the study area was prepared using Arc GIS software. Presentation preparing skills were taught and there was two hours session with NTB regarding our findings after the field visit where team leaders from each four group presented the findings of their study. There was certificate distribution on March 8, 2018.

METHODS AND METHODOLOGY :

- **Study area :**

Langtang National Park (LNP) is situated in north central Nepal covering an area of 1710 km², which extends to the parts of Rasuwa, Nuwakot and Sindhupalchowk districts. LNP

Represents some of the best examples of graded climatic conditions in the Central Himalaya ranging from 1000m to 7,245m.

Our study area included Dhunche (1950m), headquarter of Rasuwa district and Chandanbari (3300m) area which is route to popular touristic lake Gosaikunda of Langtang region.

- **Data collection Techniques**

- **Primary Data Collection**

- **Q-Survey (Household survey):**

The pre-tested interview schedule was administered to the respondent to collect the primary data. In-depth information regarding the various aspects of Red panda & musk deer



awareness, abundance and threats ,& illegal wildlife trade and ecotourism possibilities and awareness and threats were collected through face to face interview. Four different questionnaire models were prepared for four thematic areas.

- **Key Informants Survey(KIS)**

The major key informants were LNP Conservation Specialists, Government Officials CBAPO officials and Tourist Guide/Hotel Owners. KEY interview was conducted with Langtang officials at Dhunche twice. We talked to Langtang officials before starting the field survey to take preliminary information and after completing the field visit to add extra information to the information we collected from field visit.

- **Direct field observation :**

Direct observation was used to observe pellets of musk deer and scats of red panda in the field. Point plot survey was used for the red panda scat survey in Polangpati region and distance sampling was done for the musk deer abundance study in Chandanbari to Polangpati transects.

- **Secondary data collection**

Secondary data were gathered from relevant records, articles, literatures, websites, etc. and additional information was collected from WWF project office, Langtang national Park administration.

- **DATA ANALYSIS AND INTERPRETATION :**

The data obtained from both primary and secondary sources were analyzed both qualitatively and quantitatively. Quantitative data were analyzed using appropriate statistical tools such as mean, percentage, pie- chart, bar graph, trend line etc using MS- Excel software and qualitative data was analyzed in descriptive manner. The analyzed data were interpreted through charts, figures, texts and tables.

- **RESULTS AND FINDINGS :**

- **Respondent demography**

Out of total population surveyed (90) ,respondent belonged to age group 39.29 % belonged to 21-30 (39.29%), 53.57% of responded belonged to 31-40 and minimum to age group 41-50 (7.14%) . 2/3rd (64%) population have educational background under SLC and remaining 36% have passed SLC.

- **Results obtained from Musk deer team : (Prepared by Anoj Subedi and Milan Aryal)**

In case of Musk deer social survey (total 17 people) , 18% of the respondent were unknown about this endangered mammal. The familiar people have seen the deer around their surroundings and suggested that they have very few imposed threats like poaching and trade. 64% of the respondent believed that the Musk deer has medium role in ecosystem whereas few (22%) thought they have low importance. They argued that Polangpati is the suitable habitat for musk deer where they can be easily sighted.

- **Density and abundance**

The total length of the route we surveyed was 750m and a total of 20 latrines sites and pellet groups of musk deer were found. Here, 0.000666 pellet groups per m² of the total area was found through the following formula (**Buckland et al., 1993**)

- **Density** = $n/(2LW)$

Where n = number of latrine sites
observed L = Length of transect (m)
W = Effective width (m)

$$= 20/(2*750*20)$$

$$= 0.000666/m^2$$

Hence density of Musk deer from the calculation was found as 0.000666 /m²

- **Abundance**

The abundance of Musk Deer was calculated as (**Buckland et al., 1993**)

Total length of the transect = 1000 m

Width of the transect = 20 m

Abundance = Area * Density

$$= 1000 * 20 * 0.000666$$

$$= 13.32$$

This shows that Musk deer has good density of population at Cholangpati area of LNP with good abundances. The Musk deer was found to prefer grassy vegetation covered under dominant trees for latrine rather than rocky areas. It was also found that Musk deer preferred low range shrubby areas for deposition.

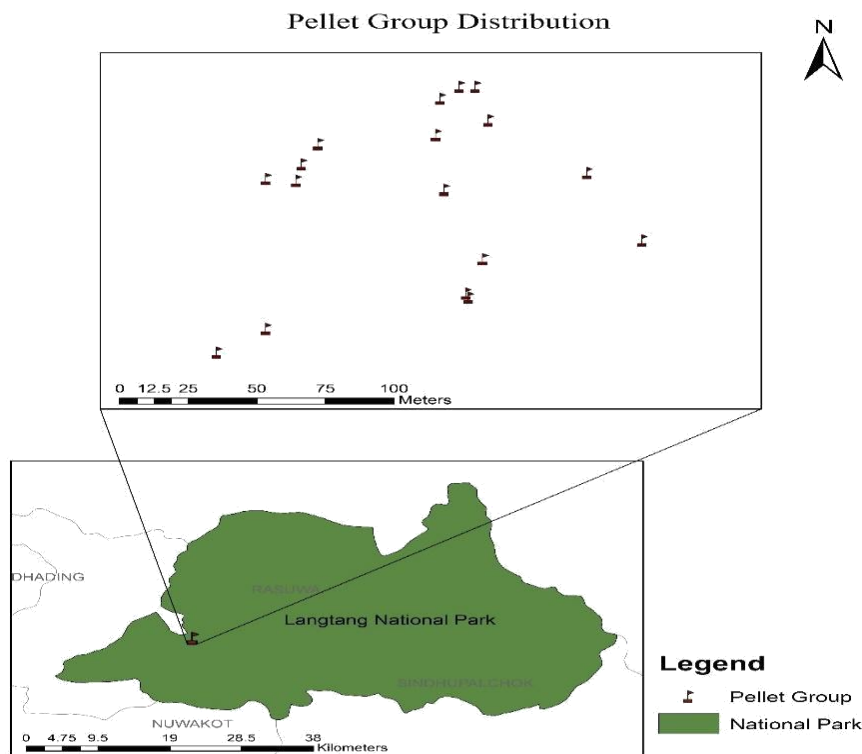


Figure 1: Pellet group distribution of Musk deer

- **Results obtained from Red panda team : (Prepared by Rashmi Itani, Sumit Sharma and Sabina Pokharel)**

Assessing the local knowledge about red panda shows that approximately 90% (total people surveyed = 22) of the people surveyed had either seen or heard about red panda in Langtang National Park while they still don't have enough knowledge about its morphology, habitat, abundance, threats and national status. Around 1/3rd population had the direct sighting of red panda. Frequency of sightings were highest in winters, followed by pre-monsoon, post-monsoon and summer. Similarly they were mostly seen in Chandanbari and Polangpati region. This finding signifies their small number in LNP as well as their distribution above altitude of 3000 metres and their elusive behaviour too.

Out of the total population surveyed, (22), 86.6% presence of feral dogs was estimated to be the potential threat for red panda. Especially after earthquake abandonment of settlement in the Langtang region left the owned dogs to be feral which stayed, reproduced and increased their number in the forest. The killing of red panda and transmission of canine disease by these dogs has also come over as a potential threat for decreasing number of red panda population.

Most of the people surveyed (45.45%) knew that those who are involved in poaching and illegal trade of red panda are penalized by the government but still they didn't know the exact legal policies and provisions and other initiatives executed by the national park as well as government for red panda conservation. While 36.36% of the people knew about most of the legal provisions and were categorized as well known. But still a small population, 18.18% people were completely unknown

about the legal provision which shows a lack of local awareness inside LNP inhabitants and for the density, the general formula used was (Buckland et al. 1993)

$$\hat{D} = \frac{n}{2\pi\hat{w}^2}$$

Where \hat{D} = estimated density; n = number of signs observed and \hat{w} = estimated effective search radius.

We found distinct 5 signs of red panda of which 4 were the scats and one prominent scratch mark, which were confirmed by the trainer (Mr. Sanjan Thapa) travelling with us during the period of study.

No of signs of Red Panda (n)= 5 (4 scats+ 1 scratch mark)

Estimated Effective Search radius (by averaging each radius of the signs from the initial point) (\hat{w})

=217.39 m

So, $\hat{D} = n / (2\pi (\hat{w})^2) = 5 / (2 * 22/7 * (217.39)^2) = 1.68372 * 10^{-5}$

For Abundance,

Maximum radius reached for scat (distance from the initial point to maximum radius with Red panda signs)= $r=402$ m

Abundance= $\hat{D} * \text{Area Reached} (= \pi r^2) = (1.68372 * 10^{-5}) * (\pi * (402)^2) = 8.548$

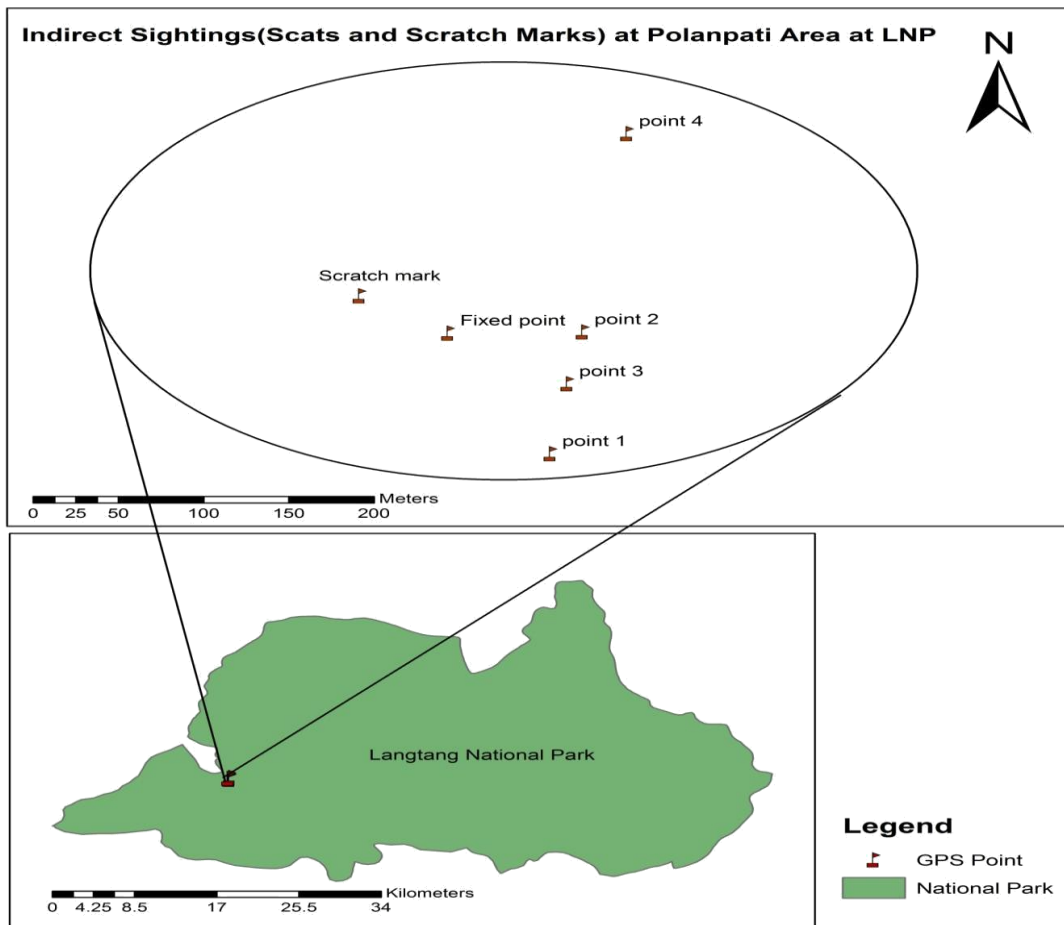


Figure 2: Scat distribution of Red panda

- Results obtained from Ecotourism team :(Prepared by Bini Dahal and Shilpa Adhikari)

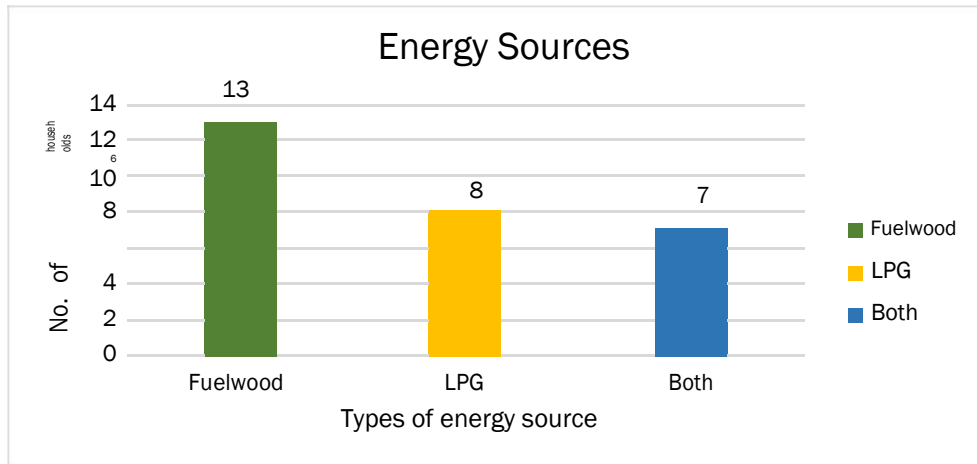
From this study, according to respondents the average flow of tourist was found to be about 179 per month.

- Major tourism attractions and potential destinations

Lakes followed by wildlife, mountains and landscapes are the major tourism attractions of the region and Parbatikunda followed by Tamang heritage museum, Polang and Cholangpati and hakubesi are potential destinations for tourist. This study shows that, 57% of population responded infrastructure development and 43% population responded advertisement and promotion is needed to develop potential destinations as major tourist destinations.

- **Sources of Energy**

Fig. 6 shows that 46.43% households uses fuelwood, 28.57% uses LPG and 25% uses both LPG and fuelwood as a major sources of energy. The average fuelwood consumption per household per month was found to be 279.5 kg (Source: Annual report LNP 2073/2074) which indicated that there is high dependency in national park for fuelwood collection.



Source: LNP annual report, year 2073/2074

Figure 3: Types of energy sources used by households

- **Best season and preferred local things**

From this study, according to respondents the average flow of tourist was found to be about 179 per month. Out of total, 64% of respondent thinks that spring season is best to visit and the 36% thinks that autumn season is best to visit the area because of good weather and clear view (Fig.7). Fig. 8 shows that both handicraft and food is most preferred local things by tourist i.e 47%, followed by only food i.e 32% and only handicraft i.e 21%.

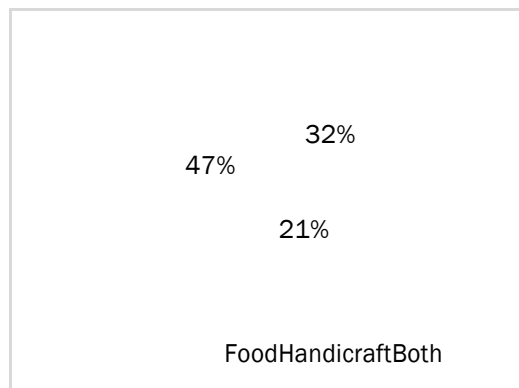
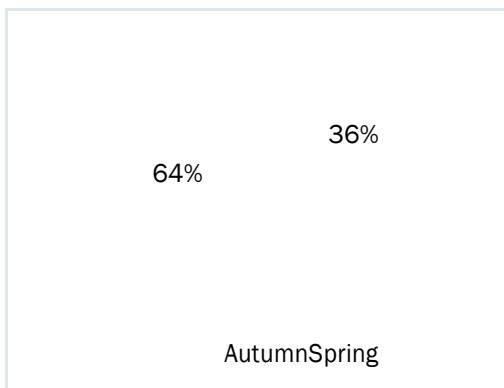




Figure 4: Best season to visit Langtang region



Figure 5: Most preferred local things by tourist

- Impact of earthquake on tourism and its trend

The trend of tourism before earthquake was found to be flourishing with average of about 15,000 international tourists visiting LNP per year. However, after earthquake 2015 the flow

of tourist dropped to 4,292 in fiscal year 2072-2073 and is reviving with tourist flow increasing to 8,254 in fiscal year 2073-2074 (Fig. 9)

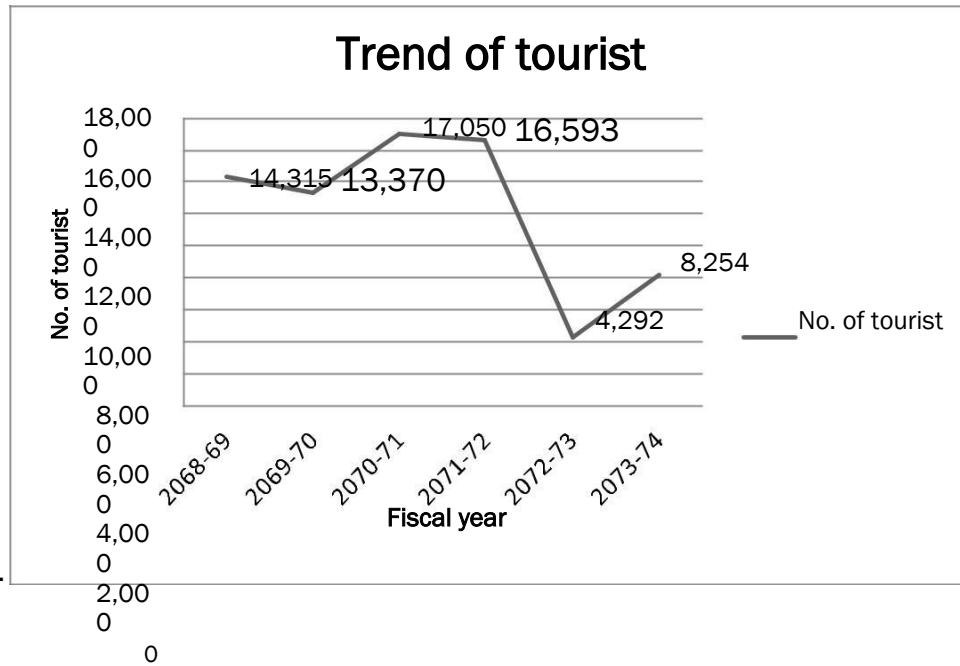


Figure 6: Trend of tourist flow before and after earthquake

Fig. 10 shows that the impact of earthquake on tourism was maximum in decreased no. of tourist visiting Langtang followed by accommodation problem and destruction of trails.

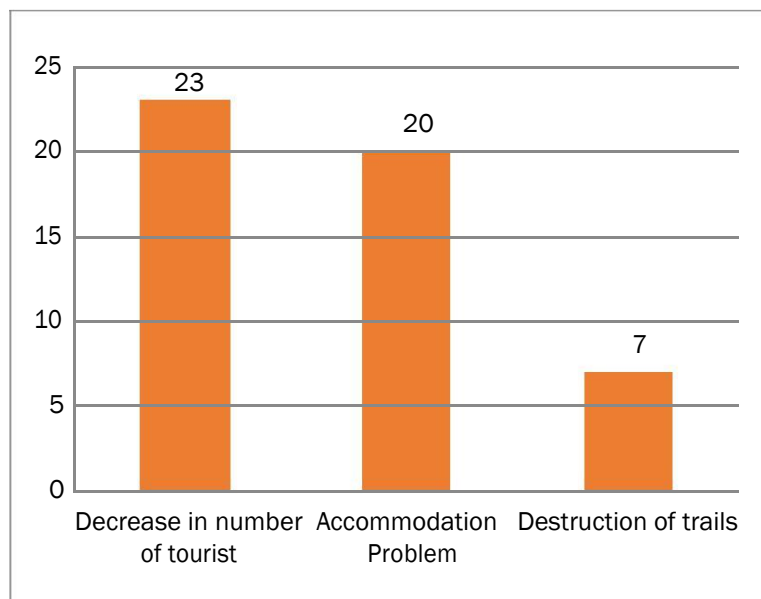


Figure 7: Impact of earthquake on tourism

- **Opportunities and challenges of ecotourism**

Fig. 11 shows that local people are benefited from ecotourism with 64% of income source followed by 20% of pride and cultural exchange and 16% of development of the area. This study shows that 93% respondent think that there is no disadvantage of tourism while 7% thinks tourism results in pollution. From key informant survey, it was found that threats of pollution, insufficient infrastructures, hotel quality, cost issues and accommodation problem are the challenges of ecotourism in Langtang region.

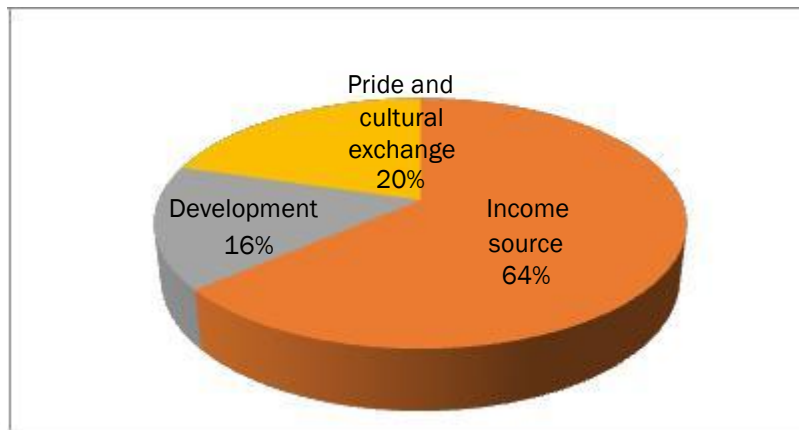


Figure 8: Benefits of tourism

- **Major tourism activities**

From this study, it was found trekking followed by wildlife viewing, bird watching, photography and mountain flight were major tourism activities in the region.

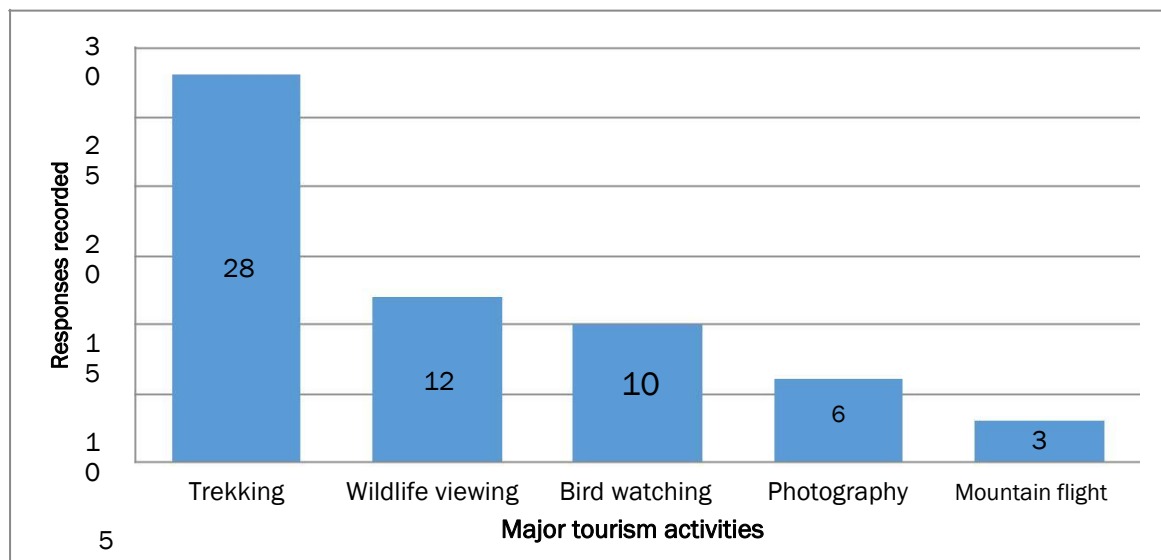


Figure 9: Major tourism activities in the region

- Results obtained from Illegal Wildlife Trade team (Prepared by Kritagya Gyawali, Sakar Jha and Sagar Bashyal)

90% (total people surveyed = 23) of the respondents were aware about illegal wildlife trade and all of them said that Red panda was the most traded wild animal species. Only 10% of the respondent was not aware about illegal wildlife trade. 80% of the respondents told us that there was no hunting done inside the village but people from other village hunt animals. They said that hunt ing used to be practiced a long time ago but not now.

▪ No. of Total Arrests:

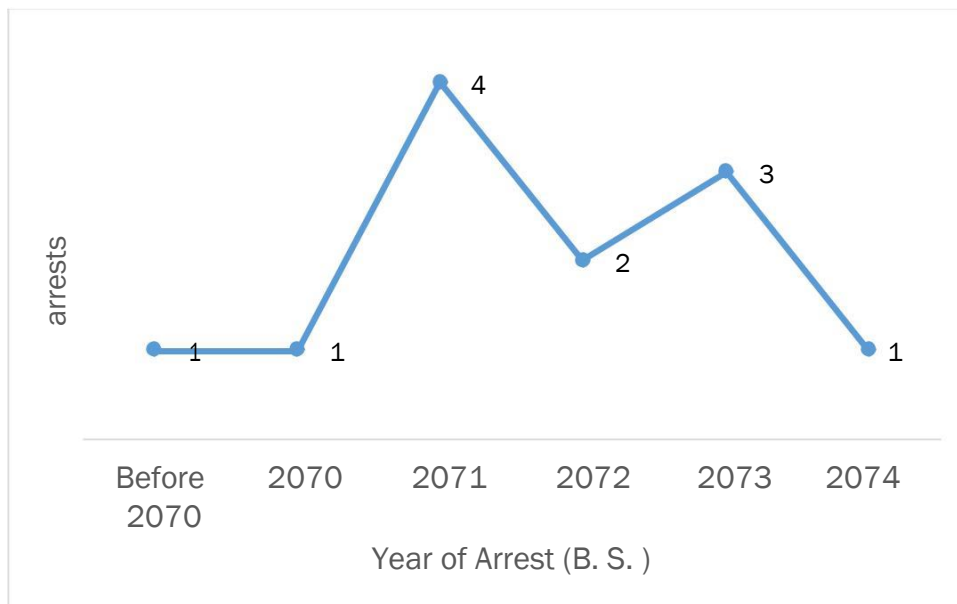


Figure 10: Arrest made over years

According to National parks records, the trend of arrests have increased after 2070. Before that, only one arrest was confirmed. In year 2071, the number of arrests increased drastically. It decreased in the year 2072. We can see the number of arrests slightly increased in the year 2073. However, in the year 2074, the number of arrests has decreased positively.

- **Type of Seized product:**

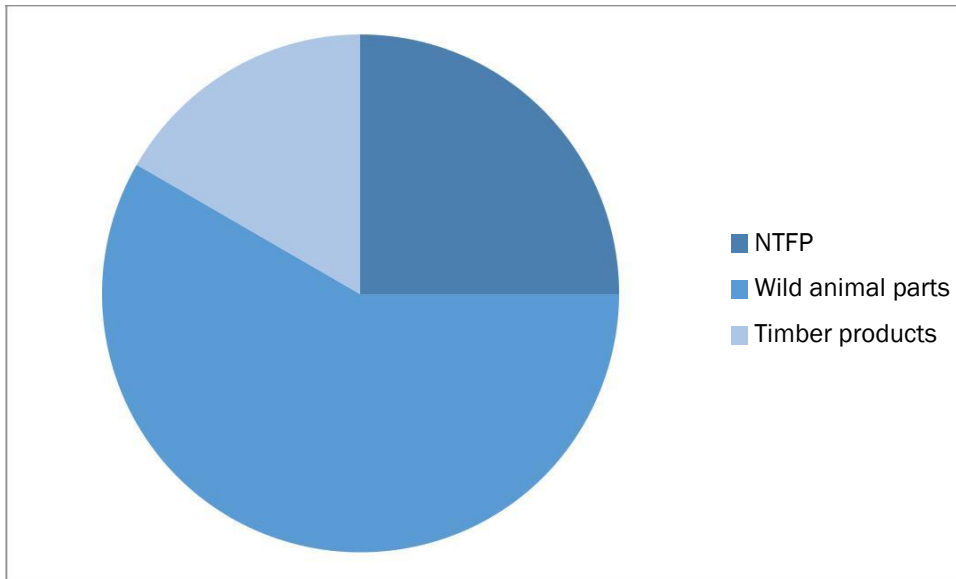
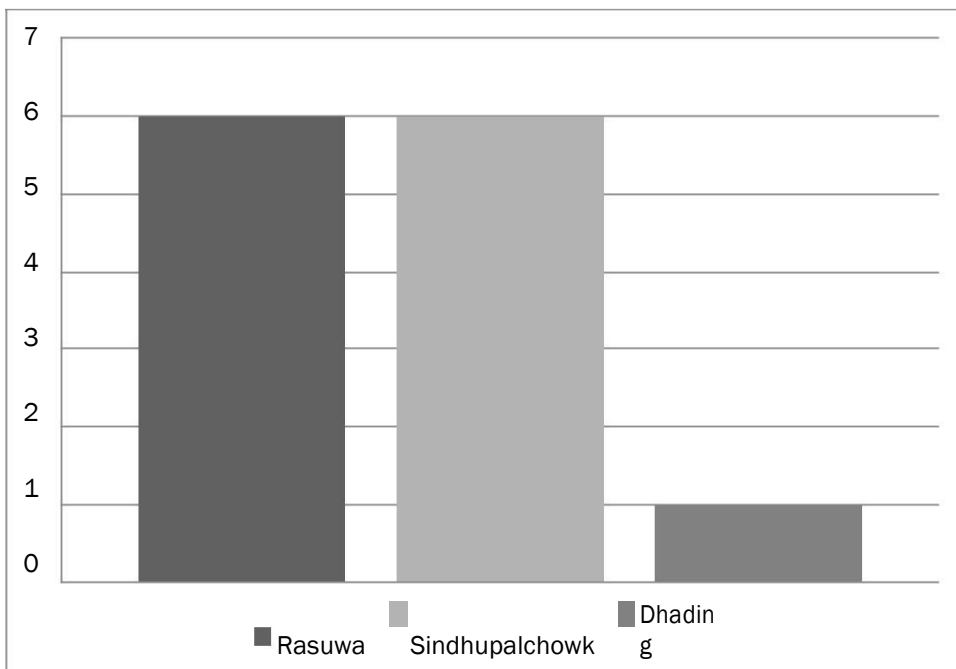


Figure 11: Type of Seized product

Usually seized product in the region was wild animal parts. About 58% of wild animal parts like red panda skin, musk of musk deer and body of pheasants and rest NTFP products like **Raktachandan** and other medicinal herbs was found mostly traded in the region.

- **Permanent District of Arrestee:**



Source : Annual book LNP 2073/2074

Figure 12: Permanent Residency of Arrestees

➤ **RECOMMENDATION:**

- Extensive research works should be conducted in LNP to identify the abundance, distribution, and suitable habitat of Musk deer & Red Panda and to increase awareness on Illegal Wildlife Trade & Ecotourism .
- Red Panda Conservation Plan should be effectively implemented
- Feral Dogs and Livestock Grazing should be managed and mitigated
- Regular patrolling of Red Panda & Musk Deer in their prime habitat & regular campaigns on illegal Wildlife Trade & Ecotourism should be carried out.
- Local resources should be utilized well to attract the tourist along with the proper development of required infrastructure
- Hoarding board installation in trekking area showing the places name and proper garbage disposal pits should be made.
- Regular interaction programs on conservation with the local groups will increase concern of people towards wildlife conservation.

➤ ANNEXES

Annex-1 Household questionnaire format for Musk deer

Date:2018-

Feb-

Respondent no:..... Area.....

Age:

Sex M F

Do you Know about Musk deer?

Yes No

What do you know about Musk deer?

.....
.....
.....

When/Where did you see a Musk deer last time?

.....
.....

Which season/month of the year do you mostly see Musk deer?

.....
.....
.....
.....

Do you know about the any role of Musk deer in the ecosystem/environment?

High Medium Low

.....
.....

Have you ever heard about trading of Musk deer or their pods in this region? Yes No

.....
.....

Are there any other threats imposed to Musk deer in this region?

.....
.....
.....

Anne x-2 Key Informants questionnaire format for Musk Deer

Date:2018-

Feb-

Respondent no:.....

Which is the major habitat of Musk deer in the Langtang region?

.....
.....
.....

In which season/month, frequent sightings of Musk deer have been recorded??

.....
.....
.....
.....

Are there any data on population of Musk deer in LNP??

.....
.....
.....
.....

What are the major threats and challenges for conservation of Musk deer??

.....
.....
.....

What kind of conservation activities have been initiated from the officials??

Anne x-3 Household Questionnaire format for Red panda

Respondent

no:.....

Date:.....

Address:.....

Ethnics group :.....

Occupation:.....

Age: Sex:M F 1.Do you Know about Red Educational Background:.....

panda? Yes ()

No ()

2. Have you seen Red Panda?

Yes ()

No ()

3.Which season and month do you see red panda the most?

Summer ()

Pre-monsoon ()

Post Monsoon ()

Winter ()

4.How often do you go to forest,what is the the reason ?

.....
.....
.....

Firewood ()

Forage()

Others()

5.Do you have livestock of your own ?

Yes() No()

6.How often do you take your livestock in forest for grazing?

Often()

Regular ()

Never ()

7.What is the status of free roaming feral dogs in the village?

.....
.....
.....

Present()

Absent ()

Not Known ()

8.Is there any poaching of red panda in this region or in past ?

.....
.....

Yes () No () Not Known ()

10. Do you know about legal provision about poaching from government?

.....
.....
.....

11. Why do you think red panda should be preserved ?

.....
.....

Anne x-4 Key informant survey format for red panda

Respondent no:.....

Address:.....

Date:.....

Occupation:.....

Institution:.....

Age:.....

Sex: M F

Educational Background:.....

1. What is the status of red panda in Langtang National park?

.....
.....
.....

2. What are the potential threats for red panda?

.....
.....

3. What is the situation/scenario of Red Panda Poaching near or around this place/LNP ?

.....
.....

4. What is the awareness level of local people in red panda conservation?

.....
.....
.....

5. What are the local and government initiatives and action plan for red panda conservation in LNP?

.....
.....
.....

6. What are the major natural disasters affecting habitat in Langtang region?

.....
.....

7. What are the possible ways to link the problem and threats in front of National and International Agencies promoting Red panda Conservation ?

.....
.....

8. What kind of conservation activities initiated by your authority ?

.....
....

9. What are the problems faced by your authority during conduction of conservation activities?

.....
.....

Annex -5 Household Questionnaire format for Illegal Wildlife Trade

Address:

Age:

Family size:

Education:

Caste:

Sex:

Religion:

Occupation:

1. What are the common wildlife in this area?

.....
.....

2. Do you know that killing and trade of wildlife is illegal?

Yes ()

No ()

3. What are the species that are usually being killed in this region?

.....

4. Do people harvest and trade wildlife in your village? If yes, then what do you think why people do it?

5. What are the most harvested/traded species in your village and how much do they cost?

.....

6. Is it good to have wildlife in your nearby forest/area? Why it is or why it is not?

7. If you think it's good to have wildlife, then how you and your community can help to conserve them?

8. How frequent park rangers visits your village and are they friendly?

.....

9. How national park, conservation agencies can help communities to control poaching and trade of wildlife?

.....
.....

Annexes: 6 : Key informant survey format for Illegal Wildlife Trade

Annex 1: Key-informant Questionnaire Form:

1. What are the usually seized species of wildlife?

.....
.....

2. What are the immediate actions that are carried in case of a seizure?

.....
.....

3. What do you do to the wildlife parts after seizure?

.....
.....

4. What are the major challenges that you have faced while conducting operation/ arrests or IWT monitoring activities?

.....
.....
.....

5. What do you think why people do IWT?

.....
.....

6. What are the IWT routes across LNP?

.....

7. What are the current efforts to curb IWT and what should be done in future?

.....
.....

Anne x-7 : Questionnaire for Community Survey in Chandanbari, LNP

Respondent no:

Address:

Age:

Sex:

Occupation:

Education:

1. What are the major tourist attractions in and around this village?
2. How many tourists visit your village monthly?
4. Which season is best to visit this trail and why?
6. What are the existing tourism activities in this route?
7. What are the most preferred local things by tourist?
8. What are the major sources of energy in your household?
9. If you use fuel wood, how much (Kg)?
10. What are the impacts of earthquake 2015 on tourism of your village?
11. What are the advantage and disadvantage of tourism?
12. What are the unexplored but potential destinations for tourists in your area?



“युवा परिवर्तनका सम्बाहक हुन्”

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13. How can the unexplored areas be developed as the tourist destinations?

14. What are the supports provided by government for the promotion of tourism?





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नेपाल युवा परिषद्

Annex-8 : Key informant survey format for Ecotoursim

1. Instead of having high potential, why has Langtang not been able to develop as a major tourist destination?
2. What kind of activities should be implemented for the promotion of eco-tourism in Langtang region?
3. What kind of changes has been seen in the flow of tourists before and after the occurrence of earthquake 2015?
4. What kind of action has been taken by the organization/ government/ local body to recover from the effects of earthquake?
5. How are the local people of this region being benefitted from tourism?

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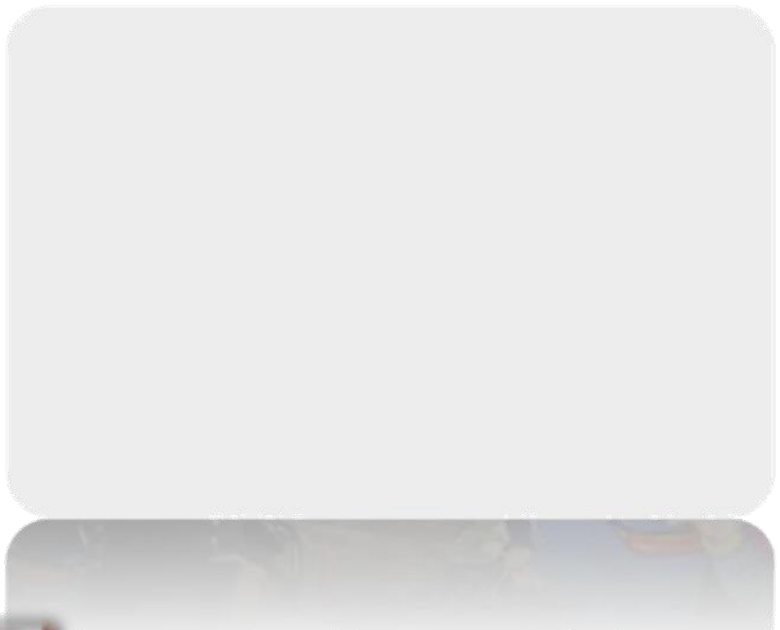


“युवा परिषद”
NEPAL YOUTH COUNCIL
नेपाल

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SOME PHOTO PLATES



“युवा परिवर्तनका सम्बाहक हुन्”
NEPAL YOUTH COUNCIL
नेपाल युवा परिषद्



