

## Project Update: February 2017

### 1) Field data collection: August to December 2016

Field data collection (social survey, diet study, evaluate threats etc.): field data collection for the presence or absence of the Himalayan black bear and social survey for the four block in the study area has been successfully completed with the help of the park staffs and local communities.

Frequent field visits, mapping of habitat of the Himalayan black bear, and farmer's interview was being carried out.

### 2) Advance data compilation and entry: December 2016 to January 2017.

Field data collected from the field were punched using the MS excel and in SPSS for further data analysis.

3) The study area was divided into 4 x 4 km<sup>2</sup> grid inside the four blocks with highest household to carry out more detailed survey of bear distribution and investigate human-bear conflicts. Finally with all the data analysis part bear distribution map will be produced using the Arc GIS software soon.

And in grid of the study area the following activities were being carried out

#### a) Preliminary reconnaissance survey

Preliminary presence-absence of Himalayan black bear survey was conducted among the Park Rangers and the villagers of the study areas (Appendix I) to further ease the data collection in the field.

#### b) Assess the Himalayan black bear distribution

Each grid of the study area was surveyed for the presence or absence of the Himalayan black bear through sign survey such as scats, tracks, trails, scratch marks and information from the local community which were being noted down on the field survey format. The location was recorded when the sign of presence of bear was encountered using a Global Positioning System (GPS). (Attached field format)

#### c) Investigate the human-bear conflicts

<b>Stratum(Geogs)</b>	<b>Total H/H No.</b>	<b>Sample H/H No.</b>	<b>Sampling Intensity</b>
Ura	208	78	32
Chumey	32	18	7
Jarey	195	74	30
Metsho	200	76	31
<b>Total</b>	<b>635</b>	<b>246</b>	<b>100</b>

Using a set of pretested questionnaire the history of bear-human encounter was

recorded with date and time of encounter, kind of habitat, the activity of humans and bears at the time of encounters, number of bears and people involved, the kind of injuries, and the circumstances that led to the encounters. (Enclosed the questionnaire).

Interviews of local villagers to know their perception towards the presence of bear in the study area.

246 households were selected based on Yamane formula from the four blocks was interviewed to get their views and perception towards the presence of Bear and the human-bear conflicts. (Enclosed questionnaire)

Social survey mainly included the collection of the following information:

- Demography: name, age, education level and occupation of respondents.
- For farmers, land holding and crops cultivated by the respondents.
- Livestock holdings and livestock lost to bear.
- Crops Cultivated and lost to bear.
- House raiding by bear.
- Bear-human attack, direct experience and perceptions of victims.
- Information about the Himalayan black bear was asked through time of bear seen/attack, season, approximate distance between bear and respondent, number of bears, encounter of bear attacks.
- Further more questions about the awareness of compensation scheme, compensation claimed (if any), and weapon used to ward of attack and how long it took to recover etc.
- Best mitigation to avoid human-bear conflict was thoroughly asked from the respondents.
- People Perceptions on individual's liking and tolerance level towards bear was also assessed.

4) Still ongoing works are being carried out in the study area with the help of the park officials, local stakeholders, CNR graduates and the local communities:

a) Poster printing and distribution to all stakeholders on Himalayan black bear conservation for database information and reference: February to March 2016.

b) In addition, an awareness program on the importance and benefits of conserving the Himalayan black bear conducted for the two blocks with two blocks soon to be conducted for the resident communities in collaboration with the Park officials between January and March 2017. (Enclosed the Presentation copy).

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Part 1: Rearing of bees for honey by the local communities sighted in one of the study area which is one major reason for human-bear conflict.



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Part 2 ; Social survey interview using set of pretested questionnaire in the study area.

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Part 3 : Field data collection inside the study area

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Part 4. Community awareness campaign, educational programs and activities inside the study area



Part 5 ; Electric fencing sighted in the study area which is used for mitigating human-wildlife conflict

**APPENDIX I:** Survey format for preliminary assessment of the presence of Himalayan Black Bear in Phrumshingla National Park

**Name of Respondent:**

**Name of Park Range Office:**

Name of Village	Name of Geog	Name of Dzongkhag	Presence of Himalayan Black Bear*	Evidence of presence**

**NOTES:**

**\* Presence or absence:**

P = Present                                  A = Absent

**\*\* Evidences of presence:**

S = Sighting                                  LD = Livestock damage/depredation

TR = Track/foot print                          SC = Scat/faeces

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**Appendix II:** Format for recording of Himalayan black bear evidences during trail transect survey

**Name of Park Range:** \_\_\_\_\_ **Name of place/village of observation:** \_\_\_\_\_

**Name of observer/surveyor:** \_\_\_\_\_ **Geog:** \_\_\_\_\_ **Dzongkhag:** \_\_\_\_\_

**Date of survey** \_\_\_\_\_

Characteristics of evidences				Site characteristics of evidence observation						Prey availability				
Evidence type (1)	metrics (in cm) (2)		Freshness of evidence (3)	No. of evidences in a group (4)	GPS location of evidence (5)		Elevation (m)	Aspect (6)	Slope (deg.)	Veg. type (7)	Substrate (8)	Presence of prey (9)	Abundance of prey sign (10)	Human disturb. (11)
	Length	Width			Northing	Easting								

**Any other observations? Record here:** \_\_\_\_\_ *Look at the back page for codes and notes*

(Record also presence of any human disturbances to wild dog, including developmental activities, firewood collection, NTFP collection, timber collection, hunting, etc)

(Record also presence of prey within the transect but not near the evidence)

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**Annexure 1: Questionnaires for Human-Bear conflict survey**

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Name of the Range :  Geog :   
Village name:  Approx. Dist. from Forest:   
Interviewer :  Date :

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**PART 1: DEMOGRAPHY (GENERAL INFORMATION)**

1. Name

2. Sex of Respondent:  Male  Female

3. Age of Respondent (Years): \_\_\_\_\_

4. Total members in the Household (HH): \_\_\_\_\_ Numbers

5. Are you the Head of HH? Yes  No.

6. Occupation of Respondent (Tick)

Farmer  Govt. Servant Private/Corporation  Monk  Student  Business

Armed forces  Others (Pl. specify)

7. Qualification of Respondent: ..... ..

**PART 2: WILDLIFE INFORMATION**

1. What kind of wild predators do you see in your locality? *Tick* (Answer could be more than one)

Tiger  Bear  Wild dogs  Leopard  Snow Leopard  Others

2. Among the predators, which one do you think is most destructive in your area? Rank them 1-5, 1 being the least destructive and 5 being the most.

	1	2	3	4	5
a) Tiger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Bear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Wild dogs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Leopards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Snow Leopard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Others .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Do you collect NWFPs from the forest? Yes  No  which one do you collect the most?

Mushroom  Fern  Cane  Bamboo  Damroo

4. Do you collect wild fruits and berries from the forest? Yes  No  If yes, how often

Daily  weekly  monthly  yearly

**PART 3: PRESENCE/ABSENCE OF HIMALAYAN BLACK BEAR**

1. Is Himalayan Black Bear present in the area? Yes  No  Not sure

2. How often do you see Himalayan black bear in your locality?

Never  Rare  Common  Frequently  Most frequently

3. If YES:

(a) What type of sign indicated the bear presence?

Direct Sighting  Sound  Scats  Paw marks

4. At what time of the day do you see bear most?

Before dawn  before dark  day time  Early in the morning  others

(a) Most recent date (year) a) \_\_\_\_\_ b) \_\_\_\_\_ c) \_\_\_\_\_

(b) Cubs present? Yes  No  How many? \_\_\_\_\_

5. During an encounter, outcome usually was (can tick more than one)

Bear avoided       Bear attacked       People avoided       People attacked

6. What do you think about the population status of the Himalayan Black Bear over the last 5 years?

Increasing       Decreasing       Same       No idea

Reasons if increasing or decreasing:-----  
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7. Do you have any traditional belief/local tale about the bear?      Yes       No

If yes, please mention. 1. ....

8. Where was the Himalayan Black bear sign spotted?

Note: Spot the Bear presence signs in the map (Use the map attached).

**PART 4: HUMAN-BEAR CONFLICT**

1. Did you have conflicts with bear for last three years?    Yes     No

2. What types of conflicts did you have? Rank the following by giving 1-5 points against each, 1 being the least and 5 being the most.

	1	2	3	4	5
i) Livestock killings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) House raiding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Crop raiding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Human attack	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v) Others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. What do you think are the main causes of human-bear conflicts in your village? List.

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4. Did you report the damage (crop damage, mauling human, house raiding, harming livestock) to the government agencies?  Yes  No If yes, where?

Gup office  Dzongkhag  Park office  Agriculture office  Others (specify)

5. How would you rate the agency's response to your report?

Poor  fair  Good  Excellent

**PART 5: HIMALAYAN BLACK BEAR KILLED**

1. Have bears been killed in this area? Yes  No  Not sure

2. If YES, why killed?

Self-defense  Body parts  Accidental  Other (specify)

Details (note grid cell numbers if known) \_\_\_\_\_

3. Body parts collected:

None  Meat  Bones  Bile  Teeth  Claws  Other (specify)

Use of body part:

**PART 6: LIVESTOCK KILLED BY HIMALYAN BLACK BEAR**

1. Have you seen bear killing livestock during the last three years? Yes  No

Year	Livestock killed	Condition of the livestock	No.	Age (yrs)	Estimated costs (Nu)	Time of the day	Locations

**Note:** \*Age = Juvenile (1-3yrs) = Ju \*Adult (3-8 yrs) = Ad \* Old (More than 8 yrs) = OL \* Conditions of the livestock = Weak, Strong, Milking (If female). \*Time of of the day = Day, night, Morning, evening etc \*Locations = forest/settlement

2. How was that particular animal being killed/attacked by the bear?

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**PART 7: HIMALAYAN BLACK BEAR ATTACK ON HUMANS**

1. Is there any report of bear attacking or mauling human in your locality for the last three years?

Yes  No

Year/month	Name of victim	Time of the day (Same as above)	Locations (Same as above)	Remarks

2. Nature of attack by bear on human?

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 .....  
 .....

3. Cubs present or not? Yes  No  if yes how many?.....

**PART 8: CROP DAMAGE BY HIMALAYAN BLACK BEAR**

1. Are any crops destroyed by the bear in your locality? Yes  No

Types of crops	Qty (kg)	Estimated costs (Nu)	Month & year	Time of the day	Stages of crops

*Note: Stages of crops: A= Planting, B= Flowering, C= Mature stage*

**PART 9: HOUSE RAID BY HIMALAYAN BLACK BEAR**

1. House raiding during the last three years. Yes  No

Year & Month	Estimated costs (Nu)	Time of raid (Day, Night etc)	Type of settlement (Please refer below notes)

*Note: Type of settlement= Clustered settlement, dispersed settlement, Temporary cattle herds, abandoned houses, others (specify)*

**PART 10 : PREVENTIVE MEASURES/STRATEGIES AGAINST HUMAN-BEAR CONFLICT**

1. Are you aware about the compensation for the damage (crop damage, mauling human, house raiding, harming livestock) caused by the bear? Yes  No

2. Did you receive any compensation from the government? Yes  No

3. Do you guard your property (crops, animals, houses, human life) from the bear attack?

Yes  No  when do you usually guard them?

Day  Night  Day and Night

How do you guard them?

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4. Which of the following preventive measures is mostly used to guard your properties effectively from the bear attack?

Fencing (ordinary)  Solar fencing  Bonfire  Walk around the field   
Clearing bushes  Drumming tins  Scarecrow

**PART 11: PEOPLE'S PERCEPTIONS ABOUT HIMALAYAN BLACK BEAR CONSERVATION**

1. Himalayan Black bear is a threat to Human

Agree  Disagree  Not sure

2. Have you ever heard of being fined people for killing bear in your village? Yes  No

If yes, when (Mention the year of latest incidence)

3. Why do you think people kill bear? (Tick)

Monetary values  Frustrations  Pleasure  No. idea  customary practice

4. If there is no restriction of killing bear, would you kill Bear? Yes  No

Underscore your statement. ....

5. Are you aware that Himalayan black bear is protected by the Forest and Nature Conservation Act 1995 and Rules 2006? Yes  No

6. What is your opinion on the current policy on conservation of bear in the country (Tick)

Good  Very good  Bad  Very bad  No idea

Why so? .....

7. Will you be able to support bear conservation program in your area in future? (Tick)

Yes  No  If so, why? Please state your opinion

8. What is your personal liking about bear?

Like  Dislike  strongly like  strongly dislike  Neutral

Give your reasons?

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9. What do you think of the bear problem in your locality as of now? Resistance level (Tick)

Severe  Moderate  No idea  Negligible  No problem

Give one reason: .....

10. If you think the bear problem is severe in your village, what would be the solutions for minimizing the problem?

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11. Any additional remarks?

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**Part 2: Indicator of conservation threats to Himalayan black bear (For park staff only)**

Name of Range office:.....

1. Did you have Himalayan black bear poaching cases? Yes  No  , if yes

2. Number of case apprehended for last 5 years in your Range (Mention no. of cases)

2016 .....Cases, 2015.....cases, 2014.....cases, 2013.....cases, 2012.....cases

3. What are the main types of cases reported mostly from? (Give ranking, 1 for most and 4 for least)

Crop depredation  livestock depredation  purposefully hunting  others (Specify)

4. What are the mostly used methods by the poachers to kill the Himalayan black bear? (Give ranking, 1 for most and 4 for least methods)

Setting trap  poisoning carcasses  using poison arrow  others (specify)

5. Have you apprehended any illegal traders of Himalayan black bear parts in your Range for last 5 years? Yes /No , if yes

Farmer's  local shopkeepers  people from outside geog  Govt Servant

6. Which parts of the Himalayan black bear are commonly traded? (Give ranking, 1 being most and 4 for least)

Bile skin  paws  meat  others (specify)

7. What are the approaches of apprehending the illegal traders of bear parts in your jurisdiction?

Information  patrolling  forest check post  others (specify)

8. Any other recommendations/measures toward having a better Human-Bear Co-existence?

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