

Project Update: June 2012

Activities taken so far:

1. Collection and data management of free available GIS and environmental layers (Public OPEN ACCESS data)

Table 1. List and sources of GIS and environmental layers

Data	Source	Remark
Rivers, water body, settlement, contour	Department of Survey, Government of Nepal	1:25,000 scale, in vector .shpfile
DEM	USGS (http://gdex.cr.usgs.gov/gdex/)	ASTER Global Digital Elevation Model Version 2 30m resolution
Slope, Aspect	Derived from DEM	

Table 2. Bioclimatic Layers as ArcGIS grid layers obtained from WorldClim (<http://www.worldclim.org/>)

S.N.	Environmental layers	Type
Bio1	Annual Mean Temperature	Continuous
Bio2	Mean Diurnal Range (Mean of monthly (max temp - min temp))	Continuous
Bio3	Isothermality (BIO2/BIO7) (* 100)	Continuous
Bio4	Temperature Seasonality (standard deviation *100)	Continuous
Bio5	Max Temperature of Warmest Month	Continuous
Bio6	Min Temperature of Coldest Month	Continuous
Bio7	Temperature Annual Range (BIO5-BIO6)	Continuous
Bio8	Mean Temperature of Wettest Quarter	Continuous
Bio9	Mean Temperature of Driest Quarter	Continuous
Bio10	Mean Temperature of Warmest Quarter	Continuous
Bio11	Mean Temperature of Coldest Quarter	Continuous
Bio12	Annual Precipitation	Continuous
Bio13	Precipitation of Wettest Month	Continuous
Bio14	Precipitation of Driest Month	Continuous
Bio15	Precipitation Seasonality (Coefficient of Variation)	Continuous
Bio16	Precipitation of Wettest Quarter	Continuous
Bio17	Precipitation of Driest Quarter	Continuous
Bio18	Precipitation of Warmest Quarter	Continuous
Bio19	Precipitation of Coldest Quarter	Continuous

2. Sampling design

a) Since the primates are found below 3100 m asl and there is also no major farming above 3100 m asl, 3100 m contour was used to find the area below 3100 m asl for whole Nepal using ArcGIS 10 (See figure 1 below). Though some troops of Himalayan langurs (*Semnopithecus schistaceus*) have been recorded rarely above this elevation, we completely avoid these area for our sampling purpose because there have been no major farming and complain of crop-raiding by primates in Nepal.

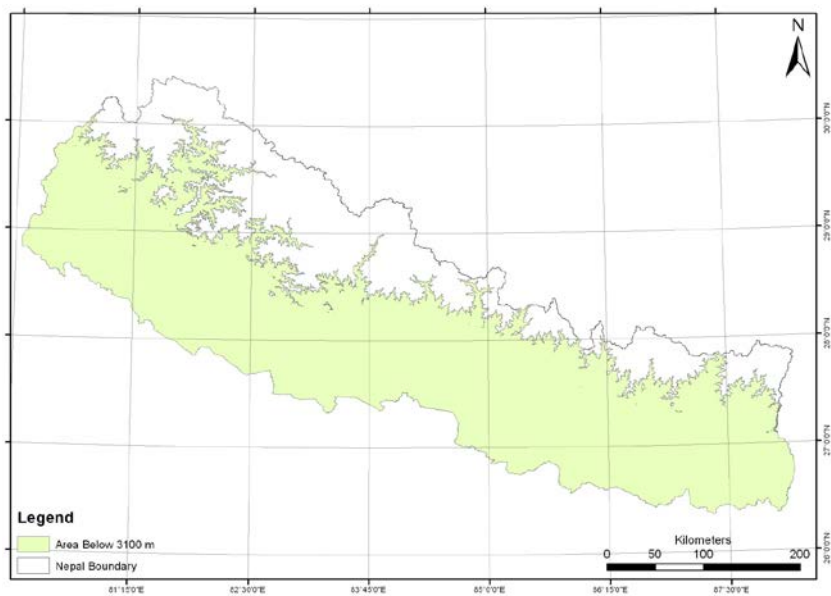


Figure 1. The map of Nepal showing the area of the country below 3100 m asl

b) Then 10 x 10 km² grids were prepared below 3100 m area for whole Nepal using Fishnet tool in ArcGIS 10 (See figure 2 below). A total of 1345 grids of 10 x 10 km² were made below 3100 m asl for whole Nepal.

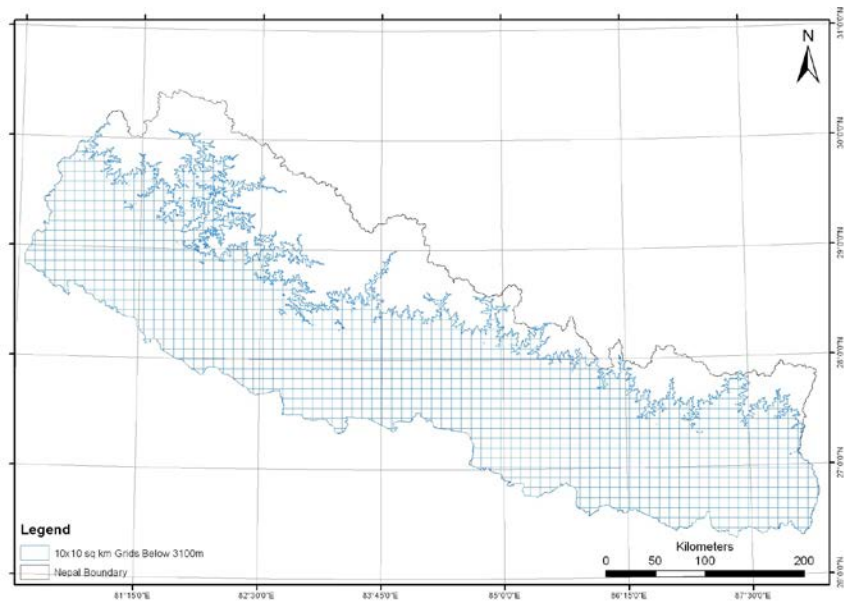


Figure 2. The map of Nepal showing 10 x 10 km² grids below 3100 m asl for whole Nepal.

c) Out of 1345 grids, 186 grids (~14%) were randomly selected for sampling purposes using R software (See figure 3 below). These final plots are used to assess the farmers' perceptions on crop-raiding monkeys as well as primate surveys and community outreach programs.

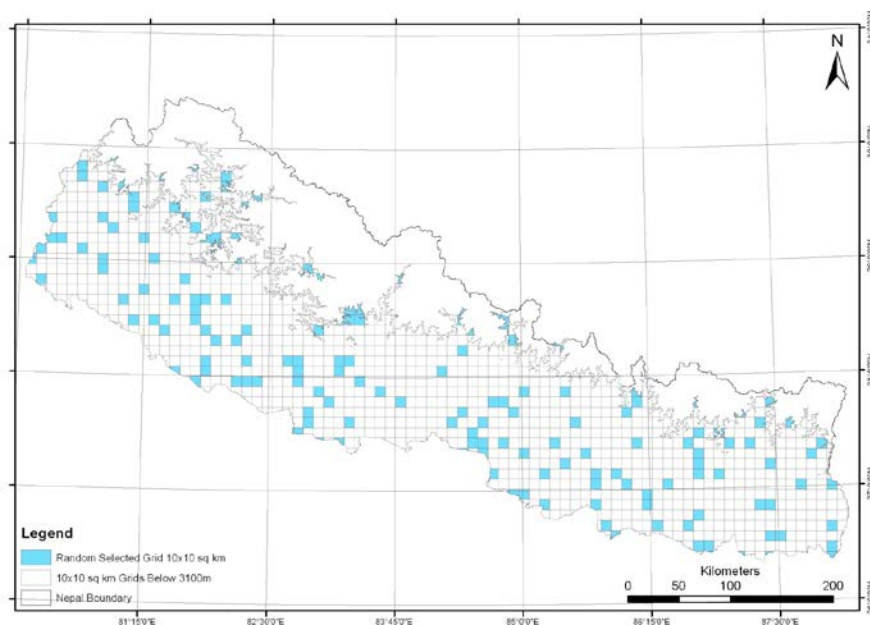


Figure 3. The map of Nepal showing the randomly selected 10 x 10 Km² grids for whole Nepal

3. Selection of field biologists and volunteers

The following field biologists and volunteers were selected for data collection and other field activities:

Field Biologists:

- i) Mr Dikpal Krishna Karmacharya, MSc (Zoology)
- ii) Mr Shiv Hari Adhikari, MA (Rural Development)
- iii) Mr Purna Bahadur Ale, MSc (Zoology)
- iv) Mr Sonam Tashi Lama, BSc (Forestry)

Volunteers:

- i) MS. Simran Tumbahangphe
Undergraduate 2nd year student
University of Southampton, UK
- ii) Mr Ram Krishna Adhikari*
MSc (Zoology) final year student
Tribhuvan University, Nepal
- iii) Mr Ram Chandra Poudel
- iv) Mr Kul Bahadur Khamdak
- v) Mr Bikas Giri
- vi) Mr Bala Ram Giri
- vii) Mr Mohan Prasad Sharma
- viii) Mr Ram Chandra Subedi
- ix) Mr Narendra Kumar Upadhaya
- x) Mr Jit Bahadur Bhandari

*Mr Ram Krishna Adhikari, an MSc Zoology final year student from Central Department of Zoology of Tribhuvan University has been supported by both technically and financially for his MSc thesis related to Assamese macaque (*Macaca assamensis*) ecology, behavior and human-Assamese monkey conflict in Annapurna Conservation Area, Nepal.

4. Collection of secondary information from forest authorities, park officials and published and unpublished literatures

The biologists and volunteers have been collecting the historic records and secondary information about primate crop-raiding incidents, and the retaliatory killings of monkeys by local farmers, from different sources (viz. Department of National Parks and Wildlife Conservation, protected areas offices, local NGOs, CBOs and community forest user groups) and also through published and unpublished literatures.

5. Field survey

The field biologists and volunteers have been collecting the primate crop-raiding presence/absence data throughout Nepal following this rainy season which is the peak period of harvesting conflict between farmers and monkeys in Nepal.