

Project Update: May 2019

Background:

Hispid hare is one of the globally critically endangered lagomorph species and one of the world's rarest mammals (Chapagain and Dhakal, 2001). In present situation, it is restricted to few grassland patches of northern India and southern Nepal. Its population has decreased to only a few hundred due to habitat degradation and illegal hunting (Maheshwaran, 2002; Hoffman. et al. 2005). Although the species is supposed to occur in fragments and remnant habitats of different protected areas of Nepal and Chitwan National Park (CNP) is one among them (Khadka et al. 2017). Yet, the accurate population assessment and conservation implementation is not explored by any sectors in CNP. Activities like fodder collection, human pressure in the park and unplanned grassland burning is pushing the species toward extinction. This is the first specified study on the Hispid Hare which will be the basement for the national and global actions toward the conservation of this species. It is global concern to have study of those species whose specified brief surveys have not been conducted.

Study area:

Chitwan National Park (27°21'45" and 27°52' 30" N latitude and 83°54'45" and 84°48'15" E longitude)

Updates about recent activities:

1. Project permission process:

After receiving the grant from the Rufford Foundation, the procedures for the ethical approval was carried out. Application for the research permission along with the research proposal was submitted to Department of National Parks and Wildlife Conservation (DNPWC), Babarmahal, Kathmandu, Nepal. Permission was approved after several discussions and meetings from DNPWC on 26th December 2018 with reference no. 1406/2018/19. Similarly, Chitwan National Park approved the project activities on 14 January, 2019 with reference no. 1666/2018/19.

2. Preliminary Survey: This survey was done by visiting previously recorded area and by carrying out Participatory Rural Appraisal (PRA) with local conservationists, citizen scientists, field guides, field technicians and concerned authorities. PRA with stakeholders such as Government agencies, Park authorities, NGOs (e.g.: Nepal Tiger Trust, NTT), Mothers group (e.g.: Meghauri Ama Samuha), Youth clubs (e.g.: Sanghati Yuba Club), forest staffs and local communities dependent in the park resources were conducted in the project area to delineate the transects for the monitoring of the species and habitat assessment.



Photo plate 1: Group discussion with park authorities and field technicians

3. Preparation of Field visit:

Semi-structured questionnaires were prepared after the consultation with the experts for the analysis of dependency, willingness and threats. Equipment required in the field such as binoculars, GPS, compass, measuring tapes, camera, topographical maps, camera traps, batteries water bottles, vials, gloves, preservatives, first aid medicines were collected. Stationary materials for drawing and essay competition were also bought. Datasheets for the assessment of species and its habitat were also printed. Moreover, pamphlets, t-shirts, and flex containing ample messages about Hispid Hare and the importance of its conservation were printed.



Photo plate 2: Collection of field materials

4. Field survey:

Our first field survey started from 15th January, 2019. The reported locations from PRA were visited for field observation. During the field visit, the pocket areas of the Hispid Hare were visited and pellet count, habitat survey and camera traps survey were carried out.



Photo plate 3: Researchers being ready to cross Rapti River for field survey

Pellet survey:

The survey for indirect evidences (pellets) of Hispid Hare was conducted in systematic strip transects having transect length of 100 m and strip width of 2 m in the grasslands within the study. The pellets of Hispid Hare were found only in few restricted areas after extensive survey in the transects. We have collected those pellets and have noted the GPS locations of those areas. Parameters such as pellet group size, number of pellets within each pile and nature of pellet (old/fresh) have been noted. We have also recorded the pellets of Indian Hare (*Lepus nigricolis*) in some areas.



Photo plate 4: Pellets of Hispid Hare recorded during field survey



Photo plate 5: Pellets of Indian Hare (*Lepus nigricolis*)



Photo plate 6: Collection and preservation of pellets

Quadrat sampling:

Along with the pellet survey, habitat survey was also carried out. Quadrates were laid only in the areas where pellets of Hispid Hare were found. Randomly laid quadrates of 20x20 m were used for the assessment of habitat use. Habitat parameters such as

general habitat, grass species composition, ground cover, and presence of water bodies, fire and other disturbances if present were noted.



Photo plate 7: Researchers recording the habitat parameters; Grassland habitat of CNP

Camera trapping:

Altogether twenty camera traps were installed along the transects. Camera traps were installed randomly on the potential habitats identified after PRA and pellet survey. Our main target was to capture the photograph of the Hispid Hare, so we focussed the potential Habitats only. We placed our camera traps in the field for one month. We visited the field frequently for the checking and maintenance of those traps. Our camera traps were able to capture the photographs of wild animals like Royal Bengal Tiger (*Panthera tigris*), Swamp der (*Cervus duvauceli*), Gaur Bison (*Bos gaurus*), One-horned Rhinoceros (*Rhinoceros unicornis*), Wild boar (*Sus scrofa*), Rhesus Monkey (*Macaca mulata*), etc. Photographs of Indian Hare has also been captured by our traps but unfortunately we could not capture the photograph of Hispid Hare.



Photo plate 8: Field technicians setting the camera trap



Photo plate 9: Camera trap in the potential site of Hispid Hare



Photo plate 10: Photographs of Indian Hare captured by Camera traps

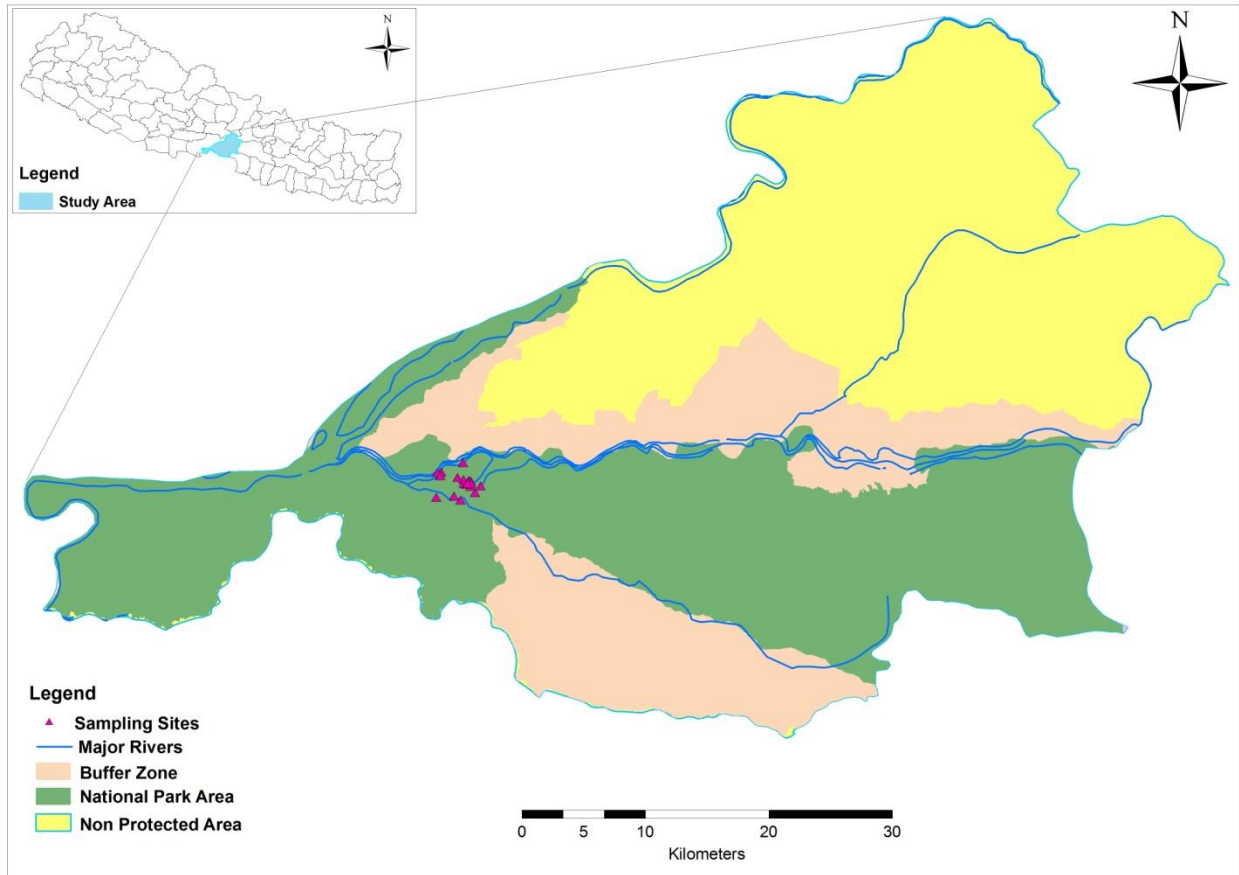


Photo plate 11: Location of camera trap sampling sites in CNP

5. Conservation outreach programmes:

Questionnaire Survey and Interview:

Pre-awareness questionnaire survey was carried out after the field survey. Local people, citizen scientist, teachers, park staffs and key informants were interviewed to document the dependency and willingness of locals on grassland as well as threats to the species in the study area. Most of the informants (more than 85%) were not aware about the presence of any such rabbit species like Hispid Hare in Nepal. When we asked respondents to identify the photograph of Hispid Hare, most of them recognized it as a rodent species. People belonging to Tharu community eat the meat of large mouse or Bandicoots as delicacies and they also called it as "Thulo musa" or "Udhar musa" when we asked them about the photograph of Hispid Hare. Few of them, after detail observation could recognize it as a rabbit species due to some identifying characters such as erect ear and teeth. Most of them were not aware about the conservation status and conservation importance of the target species.



Photo plate 12: Researchers interviewing the local people of nearby buffer zone area

Workshop and talk programmes among local influential people:

Talk program on the Hispid Hare and its habitat conservation, group discussion and visual displays (poster display, video display and PowerPoint presentation) were conducted among the local leaders and influential people (teachers, local people, members of Mother Group and members of Local Clubs) who can convince their community towards conservation.



Photo plate 13: Members of Mothers Group participating in awareness workshops

School based initiatives:

Drawing and essay competition

First of all one round of lectures and PowerPoint presentation related to Hispid Hare and its conservation importance were delivered in the schools nearby the study site. Permission for the competition was taken from school administration. Pamphlets, t-shirts and posters with message of Hispid Hare conservation were distributed. Drawing and essay competition related to Hispid Hare were organized in various schools. Students from primary levels (class 2-5) participated in drawing competition and students from class 8 and 9 participated in essay competition. Winners were awarded with certificates and gift hampers as well as medals.





Photo plate 14: School awareness programmes; lectures, PowerPoint presentation, video display, essay competition, drawing competition



Photo plate 15: Principal researcher delivering the presentation on Hispid Hare and its conservation



Photo plate 16: Distribution of prize to the winners of drawing and essay writing competition



Photo plate 18: One- horned Rhino (*Rhinoceros unicornis*) at the bank of Rheu river

Further activities of the project:	
<ul style="list-style-type: none"> • Pellet survey 	<ul style="list-style-type: none"> • Habitat survey
<ul style="list-style-type: none"> • Questionnaire survey 	<ul style="list-style-type: none"> • Awareness workshops
<ul style="list-style-type: none"> • School programmes 	<ul style="list-style-type: none"> • Radio programmes
<ul style="list-style-type: none"> • Hoarding board installation 	