

NOTICE FOR ENGAGEMENT & TERMS OF ENGAGEMENT
OF
RESEARCH SCHOLAR
FOR THE PROJECT TITLED “STUDIES ON POPULATION AND BEHAVIOURAL
ECOLOGY OF RED PANDA IN NEORA VALLEY NATIONAL PARK, WEST
BENGAL”

A. Background

Padmaja Naidu Himalayan Zoological Park is a medium sized, high altitude zoo that specializes in the conservation breeding of endangered Eastern Himalayan fauna species, including the red panda. The Conservation Breeding program for red panda was initiated in the early nineties. In 2003, the zoo was able to restock two female red pandas back to the wild as a conservation initiative in Singalila National park. Out of the two females, one female mated with a red panda in the wild and gave birth to a cub in 2004 in Gairibans (SNP, Darjeeling). The Park has a 5 hectare off display conservation breeding centre for red panda and snow leopard in Topkeydara within the Senchal Wildlife Sanctuary, Darjeeling.

Over the years the global status of red panda in the IUCN red list has changed several times. In 1996, the red panda was designated as vulnerable, the status was again changed to endangered in 2008. The status of the red panda was again designated to vulnerable because the population although less than 10,000 had a predictive decline of around 10% over 30 years. In 2014 and 2015 the status of the red panda was designated as endangered (Yonzon and Hunter, 1991; Glatston, 1994; Choudhury,2001; Pradhan et al.,2001).

Primary among the causes for the decline in the population of red panda is habitat loss to expansion of human habitations and to expanding agricultural practices (Yonzon and Hunter, 1991; Choudhury, 2001; Pradhan et al., 2001). The species also relies on the availability of bamboo in the wild therefore threats like flowering of bamboo and excessive removal of bamboo along with habitat fragmentation, poaching, tourism, grazing, predation by dogs, vulnerability to diseases like canine distemper have all contributed to the decline in population of the species.

In West Bengal the red panda habitats are in Singalila National park and Neora Valley national park. Neora Valley is one of the oldest reserve forests in India, established in 1881 and under

strict protection (free from commercial exploitation) since. Its upper range is recognised as the last virgin wilderness in West Bengal (UNESCO World Heritage Centre 2009). A red panda census was conducted in two phases in 2012 in Singalila National Park and Neora Valley National Park by the Forest Department and Padmaja Naidu Himalayan Zoological Park. According to the results of the census, 4 nos of red panda in NVNP and 27 nos of red panda in SNP were identified by direct sighting and 32 and 38 nos of red panda in NVNP and SNP respectively were identified by genetic analysis of wild scat samples. In March 2018 and March 2019, another red panda census was conducted by the forest department in SNP and NVNP respectively; however, those census figures are yet to be released. Few researches have been taken up to understand the status and ecology of red panda in these areas. Bahuguna et al, 1998; Pradhan et al, Shrivastava and Dutta, 2010; Mallick. J, 2010 have carried out studies in these regions, out of these only Mallick. J, 2010 focuses on the red panda in Neora Valley National park. In the study by Mallick 2010 it is stated that the combined Red Panda habitat in Neora Valley NP and these adjoining blocks of Kalimpong Division is about 103 km² and no data is available on the seasonal migration of the species within the habitat.

Taking into consideration the lack of information regarding the status of the red panda and red panda habitat in Neora Valley National Park and the threats faced by the species in this area, a detailed study is required to draw up management measures for the conservation of red panda in the national park. Therefore more information needs to be known on the pattern of distribution, preferred habitat, habitat quality, population dynamics, home range and threats in order to identify conservation measures for red panda in Neora Valley National park.

B. Objective:

1. To conduct extensive survey on distribution, population status, habitat structure and conservation issues of red panda in Neora Valley National Park.
2. To identify the potential and vulnerable habitats of red panda for conservation.
3. Determination of Relative abundance indices (RAIs) by deployment of Camera Traps. Investigate habitat use patterns, determination of behaviour, species interaction and community structure. Effectively trapped area can be computed in a GIS.
4. To manage the identified areas by assessing the habitat quality and regeneration status of most preferred plant species by the red panda
5. Identify conservation problems and pressures at Neora valley national park including habitat destruction, tourism, poaching etc.

C. Place of Work-

Neora Valley National Park

Neora Valley National Park enjoys the distinction of being situated over one of the oldest Reserve Forest in India established in 1881 with a total area of 8800 ha (88 km²). The compact tract of forest is mostly virgin in nature because of its unique topography comprising of the hills which rise up abruptly from the piedmonts increasing northwards and having a mosaic of micro topographic units. This complex physical environment is a result of different geomorphic processes, each of which has developed into the characteristic assemblage of landforms. The northern boundary of this National Park is contiguous with the forests of Sikkim and Bhutan and harbors a number of endemic species of flora and fauna. The southern boundaries of the park are adjoining to Jalpaiguri district. Neora Valley National Park lies in the civil district of Kalimpong, West Bengal, and is situated between the 26°58' 15.30" and 27°42' 00" North latitude and 88° 40' 01.36" to 88°48'49.69" East longitudes. The altitude varies from 183 m to 3200 m, the highest point being near Sikkim border in the North.

Neora Valley NP has three altitudinal zones of vegetation: lower hill, middle hill and upper hill forests. Tropical lower hill forest, mostly deciduous and semi-evergreen trees, extends up to about 750m. Sub-tropical middle hill forest is found over 750-1,700m, with abundant evergreen trees, dense canopy and undergrowth. Temperate upper hill forests (1700-3,200m) are also distinguished by the predominance of Lauraceae, *Quercus lamellosa*, *Q. lineata*, *Q. spicata*, *Elaeocarpus lanceaefolius* and *Acer campbelli* (Buk-Oak mixed vegetation) and *Lithocarpus* (High-level Oak) forests. The lower limit of upper hill forest i.e. Lauraceous (*Machilus-Michelia*) forest occurs between 1,650 m and 2,100m. (Mallik, 2010).

Neora Valley National Park has only one human inhabitation in Sakam (enchroached land). However, Nepalese, Bhutias, Lepchas, Sherpas, Limbus, Rais, Gurungs, Tamangs, Yolmo, Bhujels, Dukpas and Tibetians are there in the fringe areas. There are 28 villages and 9 Tea Gardens in the fringe areas outside the National Park. A large number of cattle are present in these villages/Tea Gardens. The villagers are largely dependent on the forest for grazing there cattle's. Following compartment are affected: E.Nar-14a,14b, 15, 17, 20, W.Nar-2,3,4,5, Mou 1,2,3,4,9, Pankhasari 1,2,5,6,7, Ambiok 1,2,3,4, Lava 7,8, Kolbung 3, Rhenock 1,2,3,4.

Grazing of domestic livestock is not very common within the park. This is found in some fringe areas. The Forest compartments of Lava, Kolbong, Dalingkot, Sakam, East Nar, West Nar, Paren and Khumani blocks of Kalimpong Division adjoining Neora valley National Park are not covered by any wildlife management plan. Illicit extraction of timber, entry of people, unregulated grazing of cattle, and collection of Non Timber Forest Products (NTFP) is often reported. Further, the presence of feral dogs in these regions is also known.

Temperate forests, above 2,100 m asl, in the upper Neora Valley National Park have a dense canopy and thick undergrowth of *Abies*, *Acer*, *Juniperus*, *Lithocarpus*, *Magnolia*, *Quercus*, *Rhododendron*, *Yushania* and *Arundinaria*, which form prime habitat of Red Panda *Ailurus fulgens* (Mallick,2010). In 2009, a study was conducted to identify and evaluate Red Panda habitat in this short-listed World Heritage Site, involving literature review, questionnaire and ground surveys. Out of twenty-five forest compartments surveyed, Red Panda was sighted eleven times in five compartments (20%) within 2,350–3,170 m asl (Mallick,2010).

D. Scope of work for the Research Scholar

- You will review the available literature by referring articles from journals, books and conference proceedings, census data, other records available with Gorumara Wildlife Division and other forest offices and prepare a summary on the distribution, population status, habitat structure and conservation issues and Behavioural Ecology of Red Panda in Neora Valley National Park.
- You will prepare a framework and timeline for the project according to the objectives of the project
- You will conduct behavioural and population studies of red pandas in Neora Valley National Park and the same will be supported by audio-visual evidences.
- Preparation of vegetative composition of the study area or information on habitat and food habit of the animal with direct observations and using secondary data from different sources.
- Preparation of herbarium of the plants used by the animal for food and shelter.
- Monitoring of Red Panda by camera traps as per grid pattern decided and as per time period decided.
- Documentation of the habitat use and food habits through videos and photographs.

- Focus group and household interviews with the locals and the government officials to help determine the amount and selectivity of hunting pressure, utilization of NTFPs and timber, and the extent of land clearing. All such interviews to be video recorded and differ PRA tools to be used for the same.
- Data analysis and publication in peer reviewed journals and popular articles with approval of the Director PNHZ Park.
- Prepare scientific reports, briefs, and presentations with approval of the Director PNHZ Park.
- Maintaining all related files, registers and other related documents as guided by the research PI & with approval of the Director PNHZ Park.
- Involve and guide the Field Assistant in the above-mentioned work and take necessary assistance from the Field assistant
- Any other duties as assigned by the Director, PNHZ Park.

E. Other details

1. **Duration:** The employment/ contract is for a period maximum up to fifteen (15) months. The appointee will be engaged on probation for one (1) month, engagement may be extended for a further period. The Park may not extend the engagement after probation period of one (1) month, the park need not assign any reason in such case. The engagement may be periodically renewed maximum up to fifteen (15) months after the probation period, in case the Park & West Bengal Zoo Authority decide to continue with the engagement.
2. **Working hours:** The candidate will be expected to be on duty when in the field (Neora Valley National Park) at all hours. When working from PNHZ Park office, the working hours are from 10:00 am to 5:30 pm with half an hour break for lunch for 6 days a week. The candidate may be required on off days and beyond duty hours on the discretion of The Director, PNHZ Park.
3. Working in the field (Neora Valley National Park) will be required including periodic visit to other zoos/institutes and field in regard to the project. The candidate should be ready to stay in the field, which is a forest area (Neora Valley National Park) for almost all the period of the project and work from any offices/places within India in the interest of the project.

4. The Research Scholar will be required to travel a lot of distance daily in the forest (a high altitude area) for observation and data recording purposes. It requires him/her to be physically very fit.
5. **Remuneration: Rs 18,000/- p.m.** Remuneration is all inclusive of House Rent Allowance and other benefits. Expenses for travel, and lodging will be paid by Padmaja Naidu Himalayan Zoological Park as per the discretion of the Director for the project related travels.
6. The Park is under no obligation to continue the engagement and may discontinue the engagement with one (1) month notice without assigning any reason for discontinuation.
7. The Research Scholar will not use any data related to and collected for the study for commercial purposes. All scientific papers and reports will be owned by Padmaja Naidu Himalayan Zoological Park. No outside publication in any short of online/offline platform is allowed unless specially approved by the Director, PNHZ Park.
8. The Research scholar will not disclose any data related to and collected for the programme for commercial purposes. All scientific papers and reports will be owned by Padmaja Naidu Himalayan Zoological Park and the park should be acknowledged in any publications/ presentation/ research articles made regarding the study. All materials produced or acquired under the terms of engagement- written, digital, pictures, films, graphics or other forms, shall remain the property of PNHZ Park, West Bengal. The appointee shall not have any right to use such knowledge outside the engagement, without prior written permission of the Director, PNHZ Park. No such data should be copied by appointee without authorisation.
9. Any data in any form recorded in personal mobile phone/ camera should be immediately and as soon as possible transferred to a hard disk or computer of PNHZ Park and no data related to the Park and the project should be kept in personal mobile phones and cameras.
10. The Research Scholar will not disclose any information related to the Park and the research project to outside personnel. All knowledge and information not within the public domain which may be acquired during the project, shall be, for all time and for all purpose, regarded as strictly confidential and held in confidence, and shall not be directly or indirectly disclosed to any person whatsoever, except with the written permission of the Director, PNHZ Park.

11. The engagement is subject to the conditions specified in the agreement to be signed by the selected candidate.

F. Eligibility

1. **Educational Qualification:** The applicant must have MPhil/MSc in Life Sciences/ Zoology/ Wildlife Science with minimum 60% marks or equivalent CGPA from a recognized University/ (attach a copy of the scorecard).
2. **Experience:** Candidates having exposure to wildlife research are encouraged to apply. Freshers may also apply.
3. Be proficient in English communication skills for report writing, presentations etc.
4. Be proficient in computer skills like Microsoft Office, use of GPS, camera trap, camera, and relate software.

G. Selection

The selection of the applicant will be based on the qualification, academic performance, experience, exposure and merit of the applicant. The shortlisted candidates will be interviewed on the above criteria and the best suited candidate will be engaged.

H. General Instructions:

1. Interested candidates may send their CV as per attached format with a passport size photograph along with signed photocopies of candidate's professional certificates to the following email address latest by **10.01.2021 (5 p.m)**
Email: pnhzp@yahoo.com
2. Only shortlisted candidates will be communicated to appear in the interview and no other communications in this regard will be entertained.
3. No TA/DA will be paid for appearing in the interview.