

## Project Update: May 2023

I completed field surveys in various community forests in Panauti Municipality. I have covered approximately 1795 ha of community forests encompassing 90km of transect. A total of 56 600x600m grids were surveyed out of which cameras were placed in 25 grids for a minimum of 10 days in each grid. At least sixteen individual Chinese pangolins were captured, and were observed engaging in activities like sniffing, gathering plant materials, and digging between the hours of 1800 and 0100. Apart from pangolins, other species such as Common Leopard *Panthera pardus* (VU), Barking Deer *Muntiacus muntjac* (LC), Large Indian Civet *Viverra zibetha* (LC), Masked Palm Civet *Paguma larvata* (LC), Yellow Throated Marten *Martes flavigula* (LC), Porcupine *Hystrix spp.* (LC), Kalij Pheasant *Lophura leucomelanos* (LC), Red-billed blue magpie *Urocissa erythroryncha* (LC), Rhesus Monkey *Macaca mulatta* (LC) were also recorded.



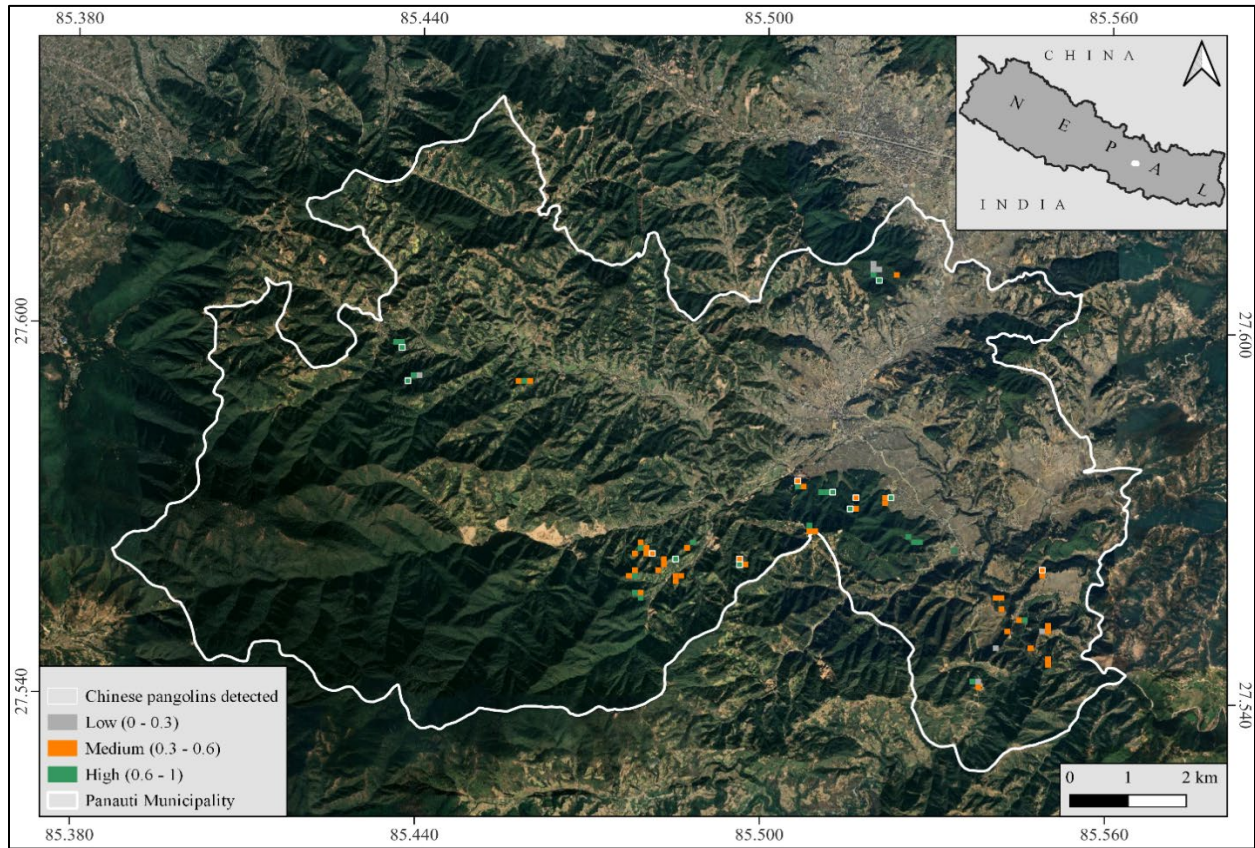
**Figure:** Chinese pangolins captured in the camera traps. a) Chinese pangolin in quadrupedal motion entering the burrow. b) Chinese pangolin in bipedal movement coming out of the burrow. c) Chinese pangolin gathering and dragging plant materials inside the burrow. d) Chinese pangolin engaged in digging and excavating the soil from the burrow.



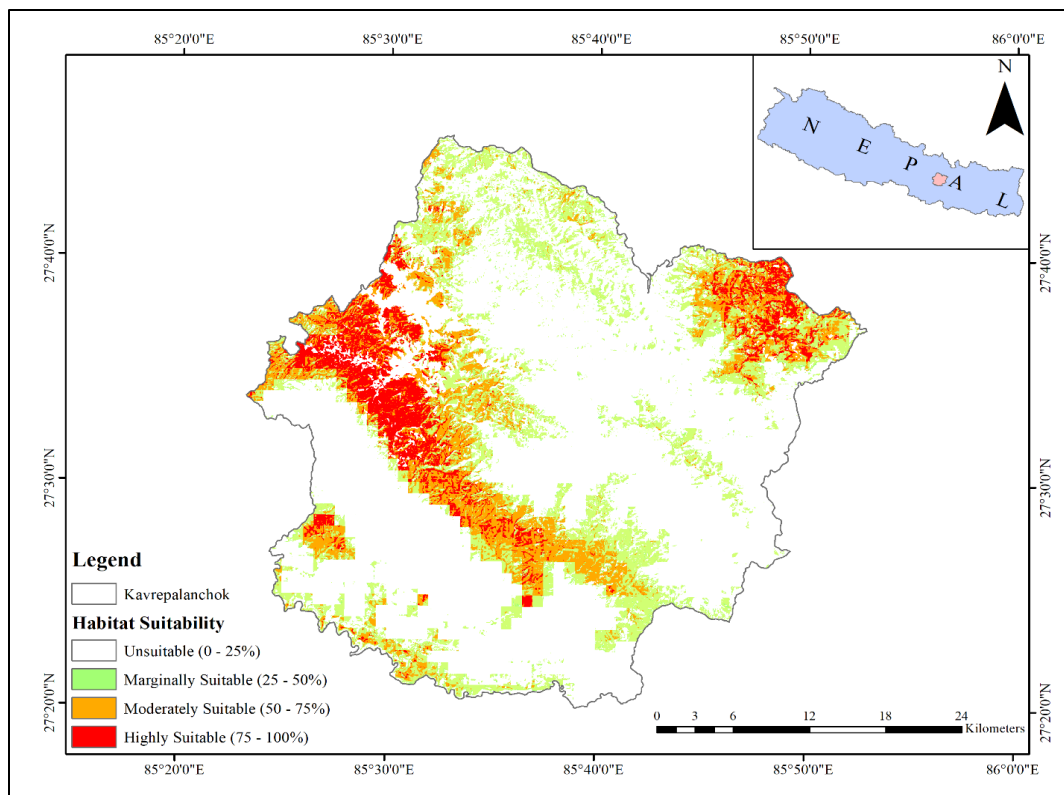
**Figure:** Photographic evidence of various mammalian species recorded within various forests across Panauti Municipality. a) common leopard, b) jungle cat, c) large Indian civet, d) masked palm civet, e) porcupine, f) Yellow-throated marten, g) barking deer, h) wild boar and i) rhesus macaque.

Occupancy models were employed in PRESENCE to estimate the occupancy of Chinese pangolins across forest patches in Panauti municipality and to investigate what site covariates influenced the occurrence of Chinese pangolin in the study area. The model-averaged site use probability was estimated to be  $0.5377 \pm 0.1771$ , which is a 32% increase from the naïve occupancy (0.173). The presence of termite mounds/ant colonies, slope, and distance to the nearest road positively influenced their occurrence, whereas canopy cover had a negative influence. The average site-level detectability of Chinese pangolins was estimated to be  $0.0553 \pm 0.0213$  and was significantly determined by the canopy cover and distance to the nearest road network. The suitable habitat executed in MaxEnt for Chinese pangolins in Kavrepalanchok was limited to only  $252.7 \text{ km}^2$ , with only  $96.47 \text{ km}^2$  being highly favourable. A decline in the highly suitable habitat was observed, with an area of only  $54.43 \text{ km}^2$  and  $51.87 \text{ km}^2$  predicted for 2021 to 2040 under SSP2–4.5 and SSP5–8.5 scenarios, respectively. This robust approach can be applied in other regions to enhance the understanding of occupancy, habitat requirements and

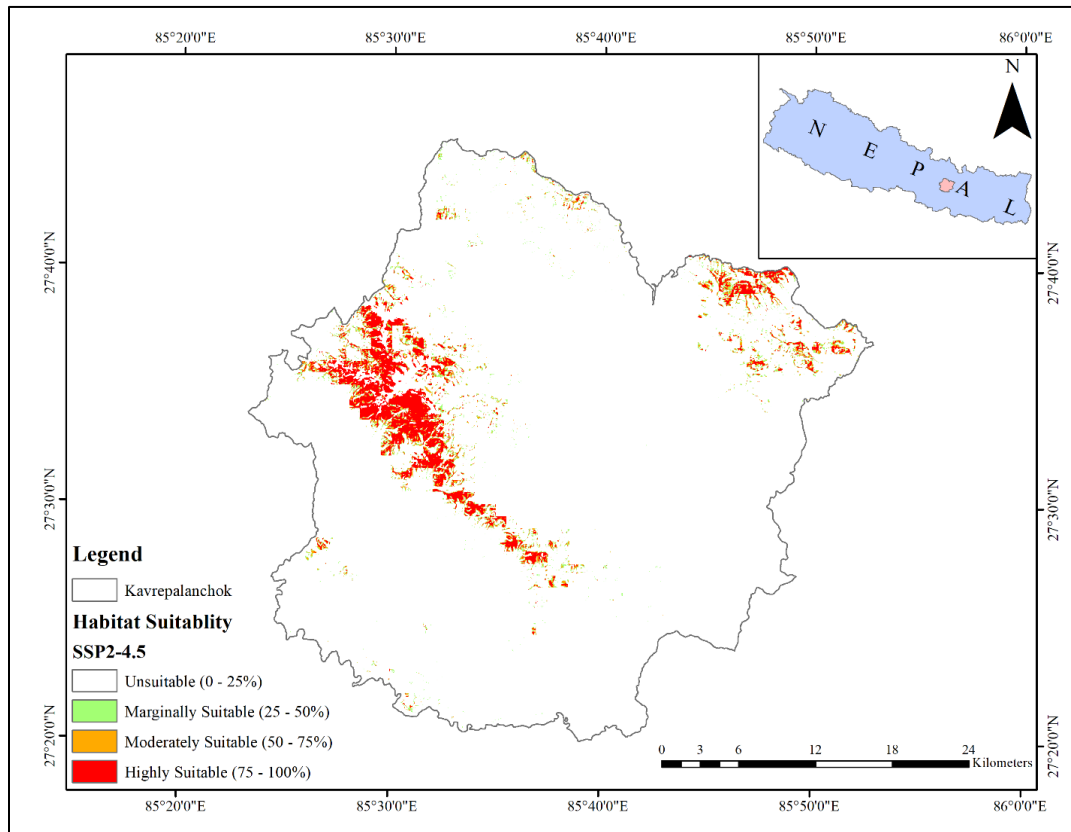
distribution of Chinese pangolins, ultimately improving conservation efforts for this critically endangered species.



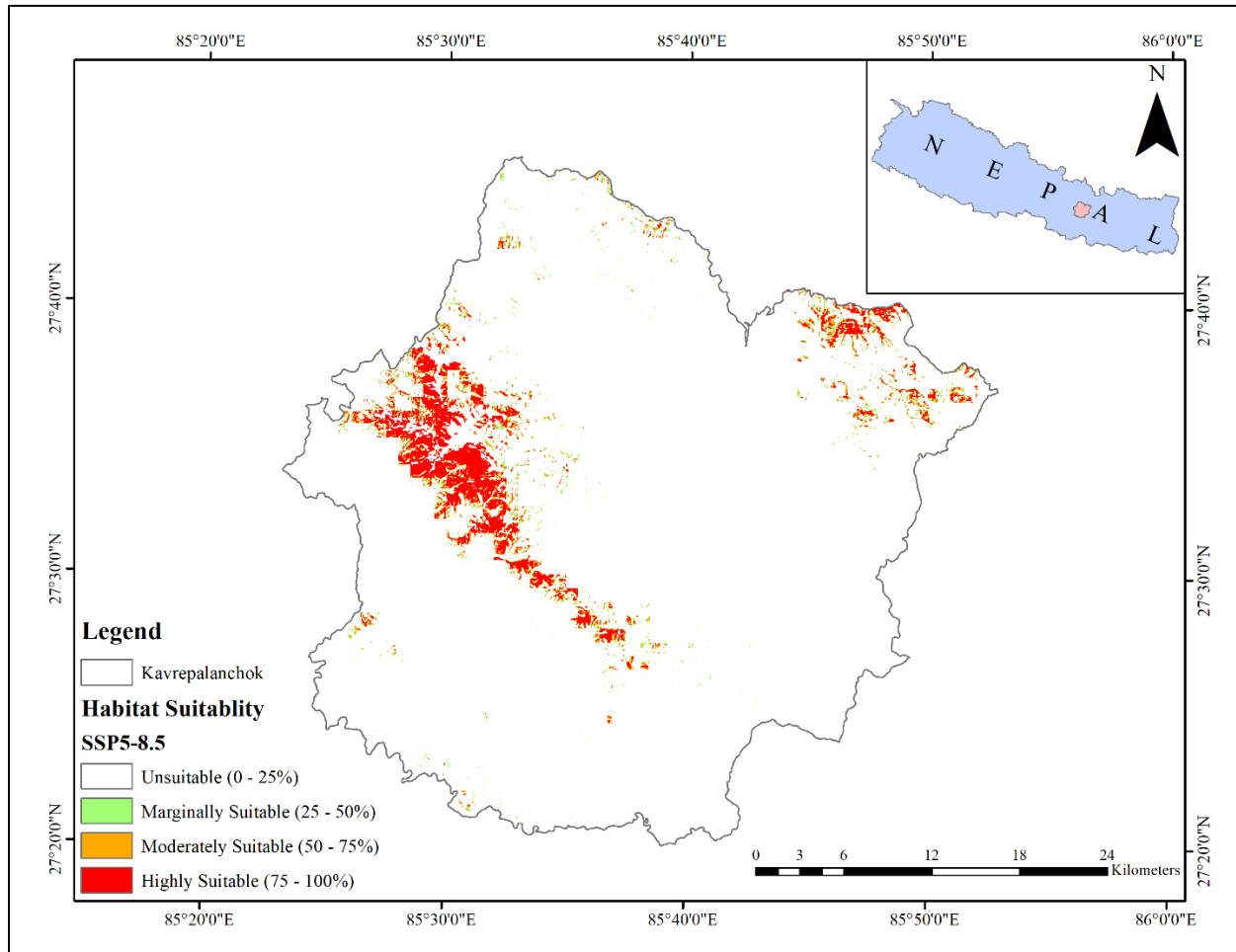
**Figure:** Map demonstrating the probability of sites occupancy of Chinese pangolins within the sampling plots in Panauti Municipality.



**Figure:** Chinese pangolin potential suitable habitat in Kavrepalanchok after reducing settlement and water from land use.



**Figure:** Chinese pangolin potential suitable habitat in Kavrepalanchok under SSP2–4.5 for 2021–2040.



**Figure1:** Chinese pangolin potential suitable habitat in Kavrepalanchok under SSP5–8.5 for 2021–2040.

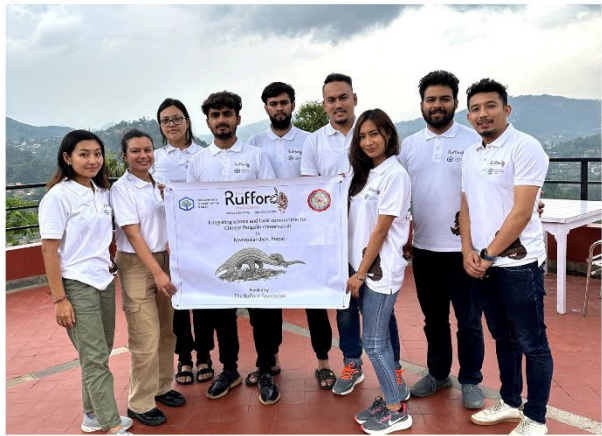
Through the project, over 30 local communities and 10 university students were trained and equipped with skills in pangolin research and biodiversity conservation. This outcome addresses the issue of limited skilled manpower in the field and ensures that there are individuals capable of contributing to pangolin conservation efforts and biodiversity management in Nepal. Following the workshop, university students actively participated in conducting awareness campaigns focused on Chinese pangolins. Equipped with the knowledge and skills gained from the workshop, these students took the initiative to raise awareness among local communities and stakeholders. Through various activities such as presentations, community engagement programs, and outreach events, they disseminated information about the ecological importance of Chinese pangolins, their conservation status, and the urgent need for their protection. By actively engaging with the community, these university students played a pivotal role in spreading awareness and inspiring local involvement in the conservation of Chinese pangolins. Their efforts were instrumental in fostering a sense of stewardship and encouraging individuals to take action for the conservation of this vulnerable species.



**Figure:** Reports along with recommendation in native language handed over to the mayor of Panauti Municipality along with other respective ward chairpersons and community forest user group presidents.



**Figure:** Stakeholders meeting conducted in various regions of the study area.



**Figure:** Capacity building workshop provided to university students where they learned about using camera traps and their data analysis. They were also involved in group work to prepare and conduct school and community awareness programs.









**Figure:** Some pictures from the school awareness programs.