

Important Wildlife Areas

Deukhuri valley: a wildlife haven in the Shiwalik hills, Nepal

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The prioritization of research and conservation inside and outside the Protected Areas (PAs) in Nepal is generally biased. This is highly concerning as many areas outside PAs are rich in biodiversity and act as important habitats and ecological corridors, but they have been receiving minimal focus. Deukhuri valley, a haven for wildlife in Mid-Western Nepal is one such area which has been highly neglected in terms of research and conservation.

Deukhuri valley lies in the lower region of Dang district in mid-Western Nepal, nearly 400 km south-west from the capital Kathmandu. It is surrounded by forested hills of the Shiwalik range that connects Bardiya and Banke with Chitwan National Park via the Dovan bottleneck. The forests are connected with Banke National Park in the west and Sohelwa Wildlife Sanctuary in the south (Khanal 2015, Khanal et al. 2017).

years, few studies have been conducted on wild fauna in the valley using camera traps and sign surveys.



PHOTO 1: A south view of Deukhuri valley.

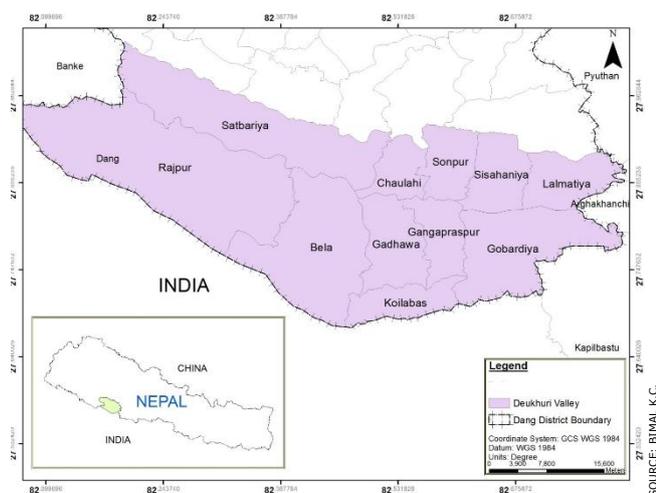


FIG. 1: Map of Deukhuri valley.

The area of the valley is 1,243 km² and the elevation ranges from 200 m to 1,000 m. The valley acts as a catchment area where small rivers like Rihar, Dolai, and Arjun river, flow downhill along the slopes and join the Rapti river which flows across the valley. The land is very fertile and has four major human settlements, i.e. one municipality (Lamahi), and three rural municipalities (Rajpur, Gadawa, and Rapti). Few small communities also reside in the surrounding hills.

In 2005, Deukhuri valley was identified as one of Nepal's Important Bird and Biodiversity Areas (IBAs) by BirdLife International (Baral and Inskipp 2005). The area has *sal* and *sisoo-khair* dominated forest, with patches of degraded forest (Khanal et al. 2017a). During the past five

A study in 2015/16 identified important areas for striped hyaena *Hyaena hyaena* including den locations and breeding records. They were found to be using forest patches in northern areas of the valley, however its occupancy seemed low towards the southern areas (ibid.).



PHOTO 2: Striped hyaena, female adult feeding her cubs.

Common leopard *Panthera pardus*, one of the topmost predators, has been recorded from the area along with smaller felids like leopard cat *Prionailurus bengalensis* and jungle cat *Felis chaus*. The existence of sloth bear *Melursus ursinus* has been confirmed and golden jackal *Canis aureus* is the only canid recorded till date. Small carnivores found in the area include yellow-throated marten *Martes flavigula*, Indian grey mongoose *Herpestes edwardsii*, honey badger *Mellivora capensis*, small Indian civet *Viverricula indica*, large Indian civet *Viverra zibetha*, and common palm civet *Paradoxurus hermaphroditus*.

Asiatic elephant *Elephas maximus* has been observed in the valley, migrating from Banke National Park upto Bhaluwang. Ungulate species such as barking deer *Muntiacus muntjac*, spotted deer *Axis axis*, and wild boar *Sus scorfa* are common in the area. Globally threatened four-horned antelope *Tetracerus quadricornis* has been recently confirmed which is also the first record of this species outside PAs in Nepal (Khanal et al. 2017b).



PHOTO 3: Four-horned antelope captured in camera trap.

Primate species confirmed to occur in the area include rhesus macaque *Macaca mulatta* and Terai grey langur *Semnopithecus hector*. The forest also harbors other small mammals such as flying squirrel *Petaurista petaurista*, five-striped palm squirrel *Funambulus pennantii*, Indian hare *Lepus nigricollis*, and Indian crested porcupine *Hystrix indica*. Till date, three colonies of Indian flying fox *Pteropus giganteus* have been recorded but the status of other bat species is unknown.

Ornithological surveys carried out between October 2008 and June 2009 recorded a total of 246 bird species in the valley. Recent ornithological surveys have added to the list bringing the total number of bird species found in Deukhuri valley to around 260 species. The list includes many globally threatened species like Egyptian vulture *Neophron percnopterus*, white-rumped vulture *Gyps bengalensis*, slender-billed vulture *Gyps tenuirostris*, red-headed vulture *Sacrogyaps calvus*, greater-spotted eagle *Aquila clanga*, cinereous vulture *Aegypius monachus*, and grey-headed fish eagle *Ichthyophaga ichthyaetus* (Thakuri 2009). Interestingly though, bird species very common in other areas of Nepal like black kite *Milvus migrans*, common myna *Acridotheres tristis*, cattle egret *Bubulcus ibis*, Indian pond heron *Ardeola grayii*, house sparrow *Passer domesticus*, Eurasian tree sparrow *Passer montanus*, etc. are recorded with low frequency of observation and population in the valley (ibid.).

There has been several records of direct sightings and rescue/release operations of many snake species in the area. So far, 15 species of snakes have been recorded, which includes – spectacled cobra *Naja naja*, king cobra *Ophiophagus hannah*, monocled cobra *Naja kaouthia*, common krait *Bungarus caeruleus*, banded krait *Bungarus*

fasciatus, John's sand boa *Eryx johnii*, common sand boa *Gongylophis conicus*, Burmese rock python *Python bivittatus*, Asiatic rat snake *Ptyas mucosa*, common blind snake *Rhamphotyphlops braminus*, Russell's viper *Daboia russelii*, buff-striped keelback *Amphiesma stolatum*, common wolf snake *Lycodon aulicus*, common bronzeback tree snake *Dendrelaphis tristis* and banded kukri snake *Oligodon arnensis*. Bengal monitor *Varanus bengalensis* lizard is commonly found, while golden monitor lizard *Varanus flavescens* has only been recorded a couple of times. Mugger crocodile *Crocodylus palustris* inhabits the Rapti and Rihar river valley (Khanal 2017). Gharial *Gavialis gangeticus* was also found in Rapti river upto two decades ago, but they are now believed to have gone extinct from the region. Elongated tortoise *Indotestudo elongate* can be seen in the forest but information on other tortoise species is non-existent. Very little information is available about frogs, lizards, butterflies and other invertebrates.

Poaching and habitat loss due to deforestation and encroachment are the major threats to the wildlife in the area. Forests and grasslands are being degraded by overgrazing, excessive burning, and removal of undergrowth to provide fodder for livestock. Hunting and trapping of wildlife are common in the valley, indicated by encounters with poachers and frequent sounds of gunshots in the forest.



PHOTO 4: Hiding place made of stones by hunters near a waterhole.

A significant portion of poached animals ends up at the local markets as bushmeat. Killing of snakes is higher during summer and monsoon when they are more active, triggered by fear of snakebites. Villagers also believe that snake bones are venomous. So, throwing dead snakes in the highway to be run over and smashed by vehicles is a common practice.

Deukhuri valley is a prime example of biodiversity-rich landscape in Nepal lying outside the PA system. Most of the forested areas in the valley are under the jurisdiction of the District Forest Office (DFO) but they have not been able to curb the problem of poaching and illegal trade. This is compounded by the low level of conservation awareness among people who are

dependent on these forests for their livelihood. The DFO needs to take urgent action and prioritize wildlife conservation as one of their main agendas. For this, a separate wildlife section needs to be established to focus exclusively on issues concerning wildlife conservation, wildlife crime control, awareness among locals, etc. Failure to take timely action regarding this issue will only increase the risk of the problem escalating and getting worse. It is important to address these threats properly in order to conserve the area and its legacy for years to come.

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Biosketch

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