

Understanding the Rising Threat to Sri Lankan Leopards in Central Hills; A Causation Analysis

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Abstract

The Sri Lankan Leopard (*Panthera pardus kotiya*) is the only big cat species found in Sri Lanka which is an endemic subspecies to the island. Due to rapid population decline and habitat loss, the IUCN has categorized the species as Vulnerable (VU). Over the past two decades, these apex predators have faced severe threats from anthropogenic activities, particularly in the central highlands' tea cultivation landscapes. Despite being a protected species in Sri Lanka, the leopard death toll in the central highlands continues to rise at an alarming rate. To understand the existing threats and the demographics of leopard deaths, data on leopard mortality in the central hills from September 2018 to September 2024 were gathered from records maintained by the respective regional offices of the Department of Wildlife Conservation (DWC) and other related institutions. Additionally, semi-structured interviews were conducted at the ground level with various stakeholders, including officers of law enforcement institutions and community members, to verify causation. The spatial distribution of death records was analyzed using ArcGIS Pro 3.0 software package. A total of 54 leopard deaths were recorded in the central highlands during the study period. According to the records 30 were male and 18 were female, including one pregnant female while gender was not recorded in 6 instances. Regarding the causes of death, 66.7% of the animals were killed by humans, while 20.4% of the deaths were of unknown cause. Only 12.9% of the deaths were attributed to natural causes. Among human-caused deaths, 29 (80.6%) were due to snare traps, one was poisoned, and three each were caused by shooting and vehicle accidents. In five cases, individuals were found in possession of poached leopard skins and body parts. Although most leopard deaths were due to anthropogenic causes, most were accidental killings, where locals had set snares targeting other animals for bushmeat. However, the possession of leopard body parts by certain individuals suggests the existence of a black market for body parts of leopards, likely driven by poverty and local myths. These findings highlight the urgent need for an effective leopard conservation program in the central hills. Such programs must include strategies to communicate and educate the local community about the species and its ecological importance, initiatives to reduce poverty-driven bushmeat dependency, well-trained and equipped wildlife rescue teams, and robust law enforcement systems to combat illegal hunting and illegal trade.

Keywords: *Sri Lankan leopards, Central hills, Threats, Deaths, Black market*