



## Deliberate Fire Set by Illegal Loggers and Poachers: An Often-Ignored but Widespread Threat to the Critically Endangered Elongated Tortoise, *Indotestudo elongata* (Blyth 1854)

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The Elongated Tortoise (*Indotestudo elongata*) is distributed east to west of the Terai and the lower Siwalik Region in Nepal (Mitchell and Rhodin 1996; Schleich and Kästle 2002; Kästle et al. 2013). Despite their extraordinary resilience (Rai 2021), *I. elongata* is listed as Critically Endangered on the IUCN Red List of Threatened Species (Rahman et al. 2019) and is in Appendix II of CITES (CITES 2024). The species is threatened due to habitat degradation, fragmentation and destruction, the pet trade, forest fires, and exploitation for food and traditional medicine (Mitchell and Rhodin 1996; Schleich and Kästle 2002; Kästle et al. 2013; Ihlow et al. 2016; Khan et al. 2020). Limited first-hand records document *I. elongata*

being killed by deliberately set fires (Thirakhupt and van Dijk 1995; Ihlow et al. 2016), although many local people within its range claim that such incidents rarely occur.

At 0854 h on 13 April 2023, a live *I. elongata* (Fig. 1) was encountered by forest ranger Balram Sapkota in freshly burned forest of Nawalpur Saraswati (Basamadi) Community Forest in Hetauda Sub-Metropolitan City, Ward No. 11 of Makwanpur District, Nepal (27.453196, 84.995356; elev. 673 m asl). Community Forest User Group (CFUG) personnel clarified that they do not set prescribed fires and their investigation ascertained that illegal loggers and poachers deliberately set the fire. The term prescribed fire, also known as prescribed burn or



**Figure 1.** A live Elongated Tortoise (*Indotestudo elongata*) in freshly burned forest in the Nawalpur Saraswati (Basamadi) Community Forest, Hetauda. Photograph by Balram Sapkota.



**Figure 2.** A shell of an Elongated Tortoise (*Indotestudo elongata*) burned by deliberate fire was encountered by a forest ranger during a routine patrol in the Nawalpur Saraswati (Basamadi) Community Forest, Hetauda. Photograph by Balram Sapkota.

controlled burn, refers to deliberate fires that range from people starting fires with specific intentions and open confinement plans depending on natural barriers to extremely well-planned, intricate operations with copious paperwork and exact containment goals (Hiers et al. 2020). In contrast, intentional fire, with or without the necessary preparation and with either good or bad intentions, is known as deliberate fire.

Also, on a routine patrol of the forest at 0843 h on 27 May 2023, forest ranger Balram Sapkota found a burned shell of an *I. elongata* (Fig. 2) southeast of the previous record (27.451111, 85.000194; elev. 550 m asl). Apart from *I. elongata*, Nawalpur Saraswati (Basamadi) Community Forest is also the habitat of the Endangered Tricarinate Hill Turtle, *Melanocheilus tricarinatus* and the Near Threatened Assam Leaf Turtle, *Cyclemys gemeli* (pers. obs.).

A study of forest fires in seven districts in the Terai Arc Landscape (TAL) of Nepal, excluding Makwanpur (Kunwar and Khaling 2006) revealed that 58.06% of forest fires were deliberate, followed by negligent (22%) and accidental (20%). The TAL of Nepal encompasses 14 Terai Districts, including Rautahat, Bara, Parsa, Makwanpur, Chitwan, Nawalparasi, Rupandehi, Palpa, Kapilvastu, Dang, Banke, Bardia, Kailali, and Kanchanpur, and extends over 23,199 km<sup>2</sup> (Pant and Nepal 2006). Khan et al. (2020) mapped fire hotspots in the known range of *I. elongata* in India, Nepal, Bhutan, and Bangladesh using the Getis-Ord Gi\* statistic in ArcGIS 10.3. They identified Makwanpur District in central Nepal as a fire hotspot with 99% confidence.

Prescribed fires are utilized in forest and grassland management to reduce hazardous fuels, remove logging debris, prepare areas for planting or seeding, enhance habitat for wildlife, manage competing vegetation, regulate pest insects and disease, optimize grazing forage, improve access and appearance, and sustain fire-dependent species and communities (Waldrop and Goodrick 2012). Because of its benefits, prescribed fire is commonly practiced in protected areas by forest officials and in community forests by CFUGs of the Terai region in Nepal (Mitchell and Rhodin 1996; Kunwar and Khaling 2006; pers. obs.), the primary habitat of *I. elongata*.

This first-hand account of *I. elongata* being killed by deliberate fire calls on authorities to take appropriate measures against illegal loggers and poachers. Additionally, this case suggests that forest officials and CFUGs should consider the well-being of tortoises and other vulnerable wildlife when planning prescribed fires in managed areas.

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