

UNDERSTANDING COMMUNITY AWARENESS OF ELECTRIC FENCING IN AREAS PRONE TO ELEPHANT ELECTROCUTIONS IN SRI LANKA

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Electrocution has emerged as a major cause of mortality in Sri Lankan elephants (*Elephas maximus maximus*) in recent years. Electric fences established by the Department of Wildlife Conservation (DWC) and other commercially available deterrent systems help keep elephants away. However, unregulated private electric fences often cause elephant fatalities due to the use of lethal voltage and amperage for the power source. This study aimed to assess knowledge gaps and maintenance issues related to private electric fences in high-risk areas for electrocution-induced elephant deaths in Sri Lanka. Welikanda, Polpithigama, and Thanamalvila regions were identified as electrocution risk zones using primary data from the DWC. The Welikanda area recorded the highest number of electrocutions between 2010 and 2024, while the Polpithigama area recorded the highest number in 2024, and the Thanamalvila area recorded the highest number in the South-Eastern region. Semi-structured interviews were conducted with a random sample of 165 villagers in those three areas. Survey findings revealed three major issues: poor maintenance of private electric fences, limited awareness of government regulations, and a lack of proper voltage management in private electric fences. Knowledge of the recommended voltage was relatively high in Polpithigama (78%), Welikanda (68%), and Thanamalvila (60%). Yet, the percentage of respondents with knowledge regarding policies and regulations was less than 50% in all three areas. Among participants with private electric fences (92% of respondents), only 22% used solar energy, while 70% relied on the national grid as the power source, which has detrimental consequences for both wildlife and humans. The study highlights the need for community-based fence maintenance, community awareness campaigns on safe energiser use, voltage regulation, and stronger government monitoring of illegal or poorly planned fencing. These measurements are essential to reduce electrocution-related elephant mortality in Sri Lanka.

Keywords: Community awareness, Electrocution risk zones, Elephant mortality, Private electric fences