

## Understanding the Dynamics of Human-Snake Negative Interactions: A Study of Indigenous Perceptions in Tamil Nadu, Southern India

**Authors :** Ramesh Chinnasamy, Srishti Semalty, Vishnu S. Nair, Thirumurugan Vedagiri, Mahesh Ganeshan, Gautam Talukdar, Karthy Sivapushanam, Abhijit Das

**Abstract :** Snakes form an integral component of ecological systems. Human population explosion and associated acceleration of habitat destruction and degradation, has led to a rapid increase in human-snake encounters. The study aims at understanding the level of awareness, knowledge, and attitude of the people towards human-snake negative interaction and role of awareness programmes in the Moyar river valley, Tamil Nadu. The study area is part of the Mudumalai and the Sathyamangalam Tiger Reserves, which are significant wildlife corridors between the Western Ghats and the Eastern Ghats in the Nilgiri Biosphere Reserve. The data was collected using questionnaire covering 644 respondents spread across 18 villages between 2018 and 2019. The study revealed that 86.5% of respondents had strong negative perceptions towards snakes which were propelled by fear, superstitions, and threat of snakebite which was common and did not vary among different villages ( $F=4.48$ ;  $p < 0.05$ ) and age groups ( $X^2 = 1.946$ ;  $p = 0.962$ ). Cobra 27.8% ( $n = 294$ ) and rat snake 21.3% ( $n = 225$ ) were the most sighted species and most snake encounter occurred during the monsoon season i.e., July 35.6 ( $n = 218$ ), June 19.1% ( $n = 117$ ) and August 18.4% ( $n = 113$ ). At least 1 out of 5 respondents was reportedly bitten by snakes during their lifetime. The most common species of snakes that were the cause of snakebite were Saw scaled viper (32.6%,  $n = 42$ ) followed by Cobra 17.1% ( $n = 22$ ). About 21.3% ( $n = 137$ ) people reported livestock loss due to pythons and other snakes 21.3% ( $n = 137$ ). Most people, preferred medical treatment for snakebite (87.3%), whereas 12.7%, still believed in traditional methods. The majority (82.3%) used precautionary measure by keeping traditional items such as garlic, kerosene, and snake plant to avoid snakes. About 30% of the respondents expressed need for technical and monetary support from the forest department that could aid in reducing the human-snake conflict. It is concluded that the general perception in the study area is driven by fear and negative attitude towards snakes. Though snakes such as Cobra were widely worshiped in the region, there are still widespread myths and misconceptions that have led to the irrational killing of snakes. Awareness and innovative education programs rooted in the local context and language should be integrated at the village level, to minimize risk and the associated threat of snakebite among the people. Results from this study shall help policy makers to devise appropriate conservation measures to reduce human-snake conflicts in India.

**Keywords :** Envenomation, Health-Education, Human-Wildlife Conflict, Neglected Tropical Disease, Snakebite Mitigation, Traditional Practitioners

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