

## TESTING THE EFFICACY OF A CHILI – BASED REPELLENT TO DETER CROP DAMAGE BY ASIAN ELEPHANTS (*ELEPHAS MAXIMUS*) IN INDIA

Chelliah, Karpagam, KANNAN GOVINDARAJ, Annadana Satyanarayana Iyer Madhusudan, Nair Abhilash, Nagaraja Baskaran, Raman Sukumar

Chili-based repellents, using various delivery systems, to control elephant depredation of agricultural crops have been in vogue over the past decade in Africa. We experimented with the efficacy of this repellent at three locations (Buxa, Wyanad and Hosur in India) representing a gradient of high to low rainfall. Chili and tobacco powder mixed with used engine oil was applied to ropes encircling agricultural fields of 1.7-5.5 km perimeter, and elephant approaches monitored for 2-3 months during the main cultivation season in late 2006. Unlike in some African experiments, Asian elephants did cross the rope on several occasions. The chili rope was more effective (c.80% reduction in intrusion) in the low rainfall region as compared to medium-high rainfall sites (c.50%). Female-led herds were far more deterred (95-100% reduction) than were solitary males (c.50%). Chili fences have the potential to reduce intrusions by elephants but have to be used judiciously to obtain the best results. To prevent elephants from being habituated the fence could be put up when the maximum raids occur, just after the rains have ceased when the cereal crop is usually in flowering or grain stage. More rigorous testing of this repellent is needed to draw conclusive results.

