# Keeping hungry jumbos at bay

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Until now electric fences and trenches have proved to be the most effective way of protecting farms and villages from night time raids by hungry elephants. But researchers think they may have come up with another solution - the recorded sound of angry predators.

The research carried out in southern India by Dr Vivek Thuppil at The University of Nottingham Malaysia Campus and Dr Richard G Coss from the University of California, Davis has been published in Oryx - The International Journal of Conservation.

Using an infrared sensor playback system elephants triggered the sound of growling tigers, leopards and angry shouts of villagers as they approached farmers' fields. In 41 attempted raids, tiger sounds stopped 90 per cent, the sound of leopards deterred 73 per cent and human shouts prevented 57 per cent. Watch the video to see how it works.

Dr Thuppil said: "This technique was tested using static devices. Although the elephants shied away from the specific area they would eventually find another way into the field. So static recordings like this would work in locations where there is a narrow path of entry to farmland.

"Now I am interested in investigating how an elephant would respond to threatening sounds if they were not emanating from a stationary source. To accomplish this, there would be a network of speakers and an intruding elephant's location would be tracked continuously with only the speaker nearest the elephant being activated. This would simulate persistent tracking of an elephant by a predator."

Elephants live off roots, grasses, fruit and bark and the Earth's largest land mammal needs to consume over 130 kilograms of food in a single day to satisfy its huge appetite. As the Asian elephant's natural habitat is squeezed to make way for agriculture, new roads and development, conflict between elephants and humans is an increasing problem.

The researchers tested two infrared systems, one that was more complex and realistic, and one that was simple enough for farmers to set up around their fields. Both were effective in deterring elephants. But it seems an elephant never does forget, and those that encountered the noises more than once were less likely to be fooled.

Dr Thuppil's research interests are in evolutionary psychology. His PhD at University of California, Davis was in the field of animal behaviour and he moved to the School of Psychology at UNMC last September. He is particularly interested in how basic research can promote applied causes such as wildlife conservation or sustainability.

Dr Thuppil will be collaborating with MEME (the Management and Ecology of the Malaysian Elephant) - a research project led by Dr

Ahimsa Campos-Arceiz at UNMC.

MEME, together with Perhilitan, Malaysia's Department of Wildlife and National Parks, are fitting wild elephants with specially designed collars packed with satellite and cell phone technology. The aim is to learn more about the Asian elephant, and crucially how to mitigate the growing problem of human-elephant conflict.

Provided by University of Nottingham

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