

# How recent understanding of elephant behaviour can help solve the man-animal conflict

*Nearly 1800 persons and 373 elephants have been killed in India in the last three years alone as a result of the human-elephant conflicts.*

*An article by Abhilash Pavuluri*



On a muggy Friday morning, Jaggaiah\*, a farm hand, walked along the five-acre mango plantation that we'd chosen as a potential field site. "They'd come right up to our house, just the previous night. They're getting braver every day." As he walked, he kept motioning to the signs of "them" everywhere: Plants uprooted, choice mangoes picked (and then discarded on second thought), and the unmistakable log-sized prints of an elephant. The mango orchard was, for the fourth consecutive night that week, visited by two of the pachyderms.

For the last few years, this has been the story of one farmer and his family, along with the rest of a small community village that neighbours a reserve forest range near the borders of Tamil Nadu and Karnataka. It has also been the story of dozens of other villages in south India that are located on the fringes of such reserve forests. The districts of Hassan, Coorg, Krishnagiri, Hosur, Anekhal and more are usually the most impacted. According to estimates from the Ministry of

Environment and Forests (MoEF), nearly 1800 humans and 373 elephants have been killed in the country in the past three years alone, as a result of human-elephant conflicts.

It's a difficult situation from every angle. The farmers, who mainly grow crops like paddy, ragi, fruits such as mangoes – all on the list of favourites for the elephants that reside next door – have to face a harrowing schedule throughout the year. With each villager owning approximately 5 to 10 acres of land, clearing the fields, sowing and harvesting crops is a risky affair with that sort of proximity to the forests. And every night, the villagers stand guard sans protection, sans communications, in a crude machan (a wooden platform) that overlooks their fields. But it is to little avail when the elephants decide to "raid" a field; all the villagers can do is hurl choice insults at the animals from a safe distance, and maybe throw a few rocks if they're daring enough. Unfortunately, neither have ever deterred the elephants. When that doesn't work, a few more well-to-do villagers resort to firecrackers to try and scare them off, but it isn't long before the elephants get used to the noises. And if a villager decides to take matters into their own hands by directly engaging with the elephant on the ground, the situation ends up becoming increasingly strained.

### **When fear turns into hate**

The situation is also dire in another village in Tamil Nadu some distance away from the famed Male Mahadeshwara Hills. This area sits adjacent to the reserve forest on one side and is completely enclosed by it on another. Here too, the primary crops grown are ragi and peanuts (the terrain does not allow for much else to flourish well). And while some villages maintain good road connectivity and receive adequate rainfall, this one has neither. The crop for this season was planted nearly a month late thanks to a delayed monsoon.

And as is often the case, agriculture is the sole source of income for such families. Younger families that did move out of their homes to find work elsewhere have since never returned, leaving the older (and more stubborn) generations to fend for themselves. "No one will give us work if we go look elsewhere, agriculture is all we know," said Mallappa, one of the more elderly villagers who had only a two-acre plot for himself to look after. He had to rely on the help of the other villagers and the two cows that he had, to be able to get his small field ready in time.



*Signs of pachyderm visiting the previous night at a field.*

There were more concentrated efforts in some villages to keep the elephants away entirely by placing electrified fences between the villages (or at least their fields) and the forests. But not even a fence could do much here; one kick and they collapsed. Some elephants even raided the fields by gingerly stepping over the fences (and in a few extreme cases, through them).

Firecrackers, stones, flood lights; all have proven ineffective against the nightly raids. Eventually, things escalate. The villagers turn their fear into hatred, and the war continues with casualties on both sides.

### **An age-old problem**

The human-elephant conflict situation in south India has likely been present since the early 19th century. There is a report from the 1870s (Gazetteer of Coorg) that talks about farmers in Coorg (now Kodagu) approaching the king for help: "In 1822, the ryots (farmers) complained to the then Rajah about the great destruction of their crop fields and houses caused by numerous herds of elephants. The Rajah took a decision to resolve this problem by destroying elephants. There were 233 elephants killed with his own hand within 38 days, whereas his soldiers caught 181 alive."

It's by no means an easy life for the elephants either. As time has gone by, we've been learning more about why the animals are doing what they do, but there are still many more questions that are going unanswered.

## Lessons from the conflict

For instance, what happens when there's an unanticipated change in the overall landscape, along paths that elephants may have been using for generations? During the 2017 Rohingya crisis, 13 migrants were killed by elephants in and around the Kutupalong Refugee camp in Bangladesh (which was right in the middle of a migratory route) during the mayhem. Neither the animals nor the refugees have had any experience in dealing with each other in a time of crisis. It was only after awareness efforts from the International Union for Conservation of Nature (IUCN), Bangladesh, that the deaths came to an end. But the bigger question is this; what will the elephants eventually resort to now that a possible migratory route has been cut off from them?



*A rudimentary alarm system set up by villagers to warn of elephants at night.*

Similar stories are happening in south India. In the past 20 years, nearly 25-30% of elephant habitat has been lost to human use, according to a Karnataka Elephant Task Force report. While the damage was not as catalytic, it has still led to changes in their behaviour. We know now thanks to more recent studies that elephants in south India are, one way or another, learning to adapt to these gradual changes.

In his latest paper published in Nature, titled "[All-Male Groups in Asian Elephants: A Novel, Adaptive Social Strategy in Increasingly Anthropogenic Landscapes of Southern India](#)", researcher Nishant Srinivasaiah talks about how young male elephants that usually join mixed-sex groups are now forming entirely-male groups, where the older bull elephants are teaching the younger ones about surviving in human-use landscapes that are high risk, but also high in resources. And over time, he found that they do adapt. A group that used to run away at the sound of a firecracker, for instance, now might remain oblivious to the same. Individual elephants that were scared of getting electrocuted now found themselves taking the risk (which



has often proved fatal, as nearly 490 elephants have been electrocuted by fences or by power lines since 2009, according to the MoEF). But eventually, they find a weak point or adapt to the pattern. And each elephant's response is never the same.

"The individual idiosyncrasies of these elephants haven't been accounted for so far when it comes to conflict cases," Nishant told TNM. "We don't look at them as beings with personalities, we look at them as elephants. Once you start looking at the individuals, you notice the variations in each one of them." A good example of this observation is that elephants that live much deeper in some jungles do not have to adapt the same way as the ones living on the fringes.



*A farmer's watch dog stands guard over their ragi field during sowing season.*

A slightly older [2012 study](#) conducted by Nishant and the Foundation for Ecological Research, Advocacy and Learning shows that elephants tend to move both in groups and individually, among human use landscapes, where resources (such as farmland) are abundant and make for easy foraging. At the same time, they get affected by human disturbances: It was observed that smaller groups (of 7-10 elephants as opposed to 20-30 jumbos) were more abundant than larger groups. What this implied is individual elephants reduced social interactions among themselves, and that they frequently used to move away from areas with a high disturbance but scarce resources. The purported reasoning? Larger groups might be easier to detect by humans, or give rise to competition among elephants for food during scarcities. The result of these visits is that around 900 cases of crop damage are reported every year in the Bannerghatta region alone.

There is, of course, a silver lining to this situation. Researchers and state forest departments have been able to learn more in the past 10 years than in the years prior to that. Villagers, for instance, have been increasingly adopting non-lethal means of retaliation, foregoing electric fences with

higher voltages to ones with a non-lethal voltage. Through methods like camera trapping, identifying and monitoring individuals, recording the elephants' responses to sudden changes, there may yet be a time where India's villagers are at peace with their jumbo neighbours.

\*Name changed on request.

This article was first published by The News Minute on November 13, 2019.

Link to the original article - <http://bit.ly/2TAYpQ>