An Idea born at Zoo Outreach Organisation

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Conservation practitioners are usually foolish and hungry people who don't care much for niceties. Their life's work is caring for the less privileged things, animals and people not necessarily in that order. Twenty five years ago, I moonlighted with a nascent Zoo Outreach Organization, Coimbatore. The boss lady knew that I was a horse vet was waiting to go abroad to study equine biomechanics before hiring me at Z.O.O. That idea never worked out and I kicked myself for not hanging in there and changing my career path to wildlife veterinary medicine

Then the wheels of fortune pitch forked me to some great appointments in best of stud farms in India. Horses are wild and whacky animals to handle. And I practiced wildlife medicine in my own way for 10 long years before I got burnt out. Nobody wants a jobless going through a mid-life crisis. Except an old friend who gave me a break – a job to manage the affairs of some wildlife rescue facilities in Northeast India. Have you ever had a friend as your supervisor at work? It is a totally unsustainable relationship unless; you are Steve Jobs and Oz, who founded APPLE. So, I lost yet another job and possibly the friend.

But ambition is made of sterner stuff. I got into a doctoral program in Wildlife & Fisheries Biology program at Clemson University, SC, 8 months ago and recently secured a dream grant from USFWS to develop and test a prototype called ELECEL on wild elephants in Assam.

The recent emergence of satellite telemetry has resulted in a paradigm shift in our approach to wildlife damage management problems, some of it singular and innovative. However, current systems are far from providing cost effective, off-the-shelf and sustainable technology that field biologists can deploy. We propose design and development of ELECEL on the basic understanding of how animals satisfy their need for space and how humans respond to this need. This requires long-term monitoring of many environmental factors and established, planned observatories (LTER, NEON) which fill this niche.

ELECEL represents an innovative merger of GPS and cellular technologies which may significantly reduce human-elephant conflict in agricultural areas. A radio collar attached to wild elephants sends signals via satellite to a GIS server in Clemson. These signals will be transmitted as text messages to cell phones owned by villagers in Assam when the elephants approach their rice fields. When an alarm is received, farmers may concentrate deterrent efforts such as sirens and pyrotechnics in the areas where they are most needed.

The end-to-end system will be first tested as part of the Clemson Earth Observatory Repository Research on 5 horses at Clemson University Equine Center, Clemson, South Carolina. The size and weight of this compact, low-power wireless device makes it suitable for implantation as neck collars on 5 wild elephants in high HEC areas through the USFWS project to alert wildlife managers and villagers when elephants move close to human settlements. An alert signal is sent to cellular phones and sirens distributed through affected communities. Existing tools developed at Clemson University support automatic archiving of telemetry data in near real-time. When data is archived, it becomes available for visualization and modeling through a range of existing tools, including ArcGIS Desktop and other means. Moreover we propose to offer an online storage and data analysis service in which domain scientists will upload, analyze, and share the data collected by ELECEL collars.

It is still early days for a project that could lead to a potential tool for real-time tracking of other wildlife species implicated in conflicts with humans as well. But it all started when an Indian vet dreamed at Z.O.O years ago and got a break at a university in North America to work for wildlife conservation in India. What a round about way to do conservation!

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