

- *While in the United States and Europe, most pollinating bee colonies are managed by humans, India's prime pollinator, *Apis dorsata* (the rock bee), is a wild insect.*
- *The total area of bee-dependent crops in India is around 50 million hectares.*
- *With climate change and pesticide abuse threatening bee population across the world, the Nilgiri tribal people show the way ahead by reverting to their traditions to further bee conservation.*

Even as modern science grapples with

the rapidly declining bee population, we could look back and take a lesson on sustainability from the ancient culture of the adivasis (the first people) of the Nilgiris.

Covering over three states of Kerala, Tamil Nadu and Karnataka, the Nilgiri Biosphere Reserve is home to over eighteen ethnic groups. Of them, Kattunaickens, Kurumbas, Sholigas and Irulas are known to be the primary honey hunter tribes. Traditionally, these tribes hunt for honey on the cliffs of the Nilgiris, atop high trees, inside tree cavities and also in underground hives (*puthu thaen* or burrow honey). In recent times, with reduced forest cover, climate change and government restrictions, it has become increasingly difficult for these tribes to collect wild honey.

Even as we begin the honey trail for our story, early rains play spoilsport and the locals were worried that it would drive off the bees. Such unpredictable rains are a recent phenomenon in the Nilgiris, which has had a direct impact on honey availability and hence the honey bees and the honey hunters. After months of follow-up, we finally meet up with Masanan, an Irula tribal from Masinagudi in Nilgiris district, who belongs to a family of honey gatherers.

Conversation 1 Comm



*Masanan, an Irula tribal member from Nilgiris.
Photo by Balasubramaniam N.*

He said, "When I used to go with my father for gathering honey, there would be 15 combs in a cliff. Now there are hardly six."

He tells us that their community treats the bees as sacred beings and they hold prayers before they leave for harvesting the honey. Even as we walked miles across the outskirts of the forest, Masanan knew the location of the bee hives, be it atop the trees, or in cavities or cliffs, like the back of his hand. He points to how the bees always prefer a place near a water source and also about how the flowering season impacts the quality of honey.

"We always wait till April to harvest honey, as it gives a better survival rate for the larvae and mature honey (with less water content) for us.

Traditionally, we do not use destructive methods like crushing the hives or burning them. Our elders use the herbs in the forest to create smoke that drives away the bees. We then harvest only what is necessary for us, leaving enough for the bees to sustain. For instance, if there are few hives in the cliff, we leave 60 percent untouched for the bees, they come back to the same place every year," added Masanan.

Sasi, a Kattunaicker tribal member from the neighbouring Coonoor agrees that this practice is common amongst their honey gatherers too. Masanan smiled, "We live and let live."



Beehives on a cliff. Photo by Ramya Reddy.

Keeping the buzz alive

We stood there watching in amazement as hundreds of bees buzzed around him and he did not swat even one, "Normally, one or two bees will sting us, but if he hit them, hundreds will swarm us recognizing the smell of the dead bee. So, while you watch, make sure you do not kill even a single bee," he warns, taking out the honey, undeterred by the (literal) buzz around him.

But not every tradition has survived time. Masanan, for instance, uses his *beedi* (native cigar) to smoke out the beehive we found. He was able to save the brood of the hive in the tree cavity, but in the tree branches, it sometimes becomes impossible to cut the honey without striking the brood. "Unlike *petti then* (box honey) apiculture, we cannot always tap just the honey," he said.



Harvesting honey without cutting the brood.

Justin Raj, a beekeeping expert with conservation NGO Keystone Foundation, tells us that most tribes in Nilgiris traditionally follow a sustainable method of honey harvesting. "Our job is to ensure that they stick to these sustainable and clean practices through training workshops," he said. "First, we request them not to touch or attack the queen cell. And as is their traditional practice, if there find seven combs, we ask them to harvest only three. We also request them to take out just the honey part (wherever possible) and leave the brood with the larvae intact. Lastly, we ask them to wait for over six months to gather mature honey with less water content and less damage to the bees."

Be it apiculture or wild honey harvesting, Keystone Foundation insists that the honey gatherers they work with follow sustainable honey harvesting practices and their products are given a better market price for following sustainable methods.



Justin Raj, a beekeeping expert with Keystone Foundation, training the community members to continue their sustainable methods of harvesting honey. Photo by Ramya Reddy.

Bharath Kumar Merugu, Project Lead, Just Change works with over 175 Kattunayakar honey gatherers through a tribal union called 'Thenkootam' (*then* – honey, *kootam* – crowd) under the umbrella of Adivasi Munetra Sangam. "We think it is important to

support sustainable non-timber produce like honey and coffee. This will ensure that our tribal people turn protectors of the forest even while guaranteeing them a reliable livelihood option. The price of the honey is fixed by the tribal union themselves, we merely help them reach a better market."

Ecologist Godwin Vasanth Bosco agrees that it is crucial to include the indigenous tribes instead of keeping them out of the forests and even perhaps use their traditional expertise to conserve the wild bees in the Nilgiris. He opines that it is equally important to educate farmers in the biosphere to stay off harmful pesticides that could directly impact the bee population. Several villagers of the Athakarai Village in Nilgiris district we spoke to also confirmed that swarms of bees die after visiting pesticide-ridden jasmine farms in the region.

In India, conservation has primarily focused on introducing the European species *Apis mellifera*, renowned studies show that this has had an adverse impact (https://www.researchgate.net/publication/336140563_INDIGENOUS_AND_INTRODUCED_HONEYBEES) the native rock (*A. dorsata*) and hive bees (*A. cerana indica*) as they compete for food. This loss of bee div pollination.



A honeycomb on a tree branch. Photo by Balasubramaniam N.

Hariprasad, Professor – Agri-entomology, Annamalai University informs us that the European bee, which is the most domesticated in the world is also easily disease-prone. He says, "Of the five prominent bee species in India, the rock bees or *A. dorsata* species are the major honey yielders. But they cannot be

domesticated. The Dammer bee (*Melipona irridipennis*) on the other hand is good for cross-pollination even though the honey yield is less." It is therefore important to find the middle ground between sustainability and utility.

Hariprasad suggests that improving the local food source by making it pesticide-free could play a major role in conserving bees and biodiversity of the region. He also suggests that initiatives like providing mountaineering kits for personal safety and training on sustainable production of value-added products from beeswax and pollen could help the tribals gain more profit and enable them to become part of the solution. Mudhan, an Irula tribe member from Masinagudi suggests it will be good if traditional honey gatherers like them are given training in apiculture, where they could breed indigenous bees throughout the year.

He added, "Irrespective of the jobs we do, in the summer, we would always want to go back to the cliffs. Our lives and culture are always intertwined with these bees."



(L to R) Mudhan, Maasi, Selvan, members of the Irula tribal community from Masinagudi. Photo by Balasubramaniam N.

Related: Urbanisation and climate change sting bees. What can cities do for them?

(<https://india.mongabay.com/2020/02/urbanisation-and-climate-change-sting-bees-what-can-cities-do-for-them/>)

Banner image: Members of the Irula tribe harvest honey from a cliff in Nilgiris. Photo by Ramya Reddy.