

**Climate crisis in forests: Wild fruits, sacred groves in Sharavathi valley bear the brunt**

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On the road from Kumta to Siddapur in Uttara Kannada district of Karnataka in May 2023, *Down To Earth (DTE)* met 40-year-old Vasudev Venkateshwar Nayak. He was hauled up on a *Kokum (Garcinia indica)* tree plucking the fruits, hoping to make a living out of them.

Nayak who belongs to the nearby Hodke Shiroor village of Honnavar Taluk has been doing fruit plucking during the spring season for the past 25 years. "There are a lot more fruits this year than last year," he told *DTE*.



He plucks fruits from two trees in a day which amount to around 10-12 kg. He gets anywhere between Rs 60 to Rs 90 for a kg of *Kokum* in the market. "The rate was higher in March at 90 and it has reduced now." The production of fruits on these trees goes up and down every year.

Travelling along the Western Ghats on the fringes of the Sharavathi Valley Wildlife Sanctuary in the spring and early summer season, one can see a lot of such fruit laden wild trees.

The people living nearby have been collecting these fruits and other non-timber forest produce (NTFP) for their consumption and also livelihoods for centuries. The production and hence the collection of fruits goes up and down according to changes in the weather.

But other fruits have not shared the fate of *Kokum* in the past few years and their collection is going down continuously.

For instance, “the production and collection of wild *amla or nellikai* (gooseberry) has gone down completely in the past two years,” Laxminarayan Shetty from Talaguppa village in Sagara Taluk, told *DTE*. Shetty has the tender to trade in 36 different varieties of NTFP in the entire forested area around the village up to Jog Falls. The nellikai is mainly used for medicinal purposes.

“In the same time period *kasarakaya (Strychnos nux-vomica)* has also reduced considerably. This is happening mainly because of weather changes in the area,” said Shetty. The *kasarakaya* is also a medicinal fruit but with poisonous qualities because of the presence of the compound strychnine.

For good fruiting to happen on these wild trees some rainfall is required during January and February months and there should not be much warming as well, according to Shetty. But this has changed in recent years. There has been less moderate rainfall during the late winter and early spring seasons and the temperatures have generally increased.

The intensity of fruiting on many of these trees happens over a three year period, where, the first year it is high, then a bit lower and the lowest in the third year. But now there are more years with third year kind of fruiting and the cycle has been disturbed, said Shetty.

Along with climatic changes, the local people, especially the younger generation, are taking up other jobs which has decreased the collection, according to Shetty.

In the remote Hosgod village of Honnavar Taluka, *DTE* met Ratnakar Naik in the late evening after he was done with his daily collection of forest produce including fruits. “Even *kokum* collection has decreased in 2023 because of the decreased rainfall and hot temperatures,” he told *DTE*.

“I have collected around 30 per cent less *kokum* fruits this year. *Upagi* collection also decreases in the years when there is heavy rainfall before the monsoon,” said Naik. He also pointed out that there was almost no production of monkey jacks this year and that in recent years the collection of honey has also decreased in the area by almost 90 per cent. Naik earns around Rs 5,000 from these collections every season.

Naik collects and sells the forest produce to Prashant Bhatt in Honavar town who trades in NTFP produce. Bhatt informs that “produce like wild nutmeg, malabar tamarind and *lal surang* (in hindi) have been heavily impacted in the past few years.”

For instance the collection of Malabar tamarind has come down from around 200 metric tonnes five years ago to around 60-70 metric tonnes in 2022.

Climatic changes are hitting at something much more fundamental in Siddapur taluk of Uttara Kannada district. The area is famous for its sacred groves which have conserved ancient forests almost intact.

“Pollination in flowers in the forested areas is not happening,” MB Nayak, who collects seeds from forest and conserves them in Siddapur town, told *DTE*. This has affected germination and seed production as well as the general growth of forests in the area. While pollination is crucial for reproduction in plants, germination is important for the growth of new plants and trees from the seeds.

Nayak has also worked as field assistant for field investigations of Indian Institute of Science’s (IISc) research station in Kumta, Uttara Kannada. He runs a nursery for forest plants and trees near his home where he manages 10,000 seedlings across 150 species. Nayak can identify around 2,500 species of plants and trees from the forest.

He also pointed out other major changes in the ecology of the area such as the number of birds and insects has gone down. “There is a water shortage because of acacia plantations. Climate change has affected evergreen forests and they are increasingly deciduous, which has also led to a water shortage,” he added.

“The nature of these forests has changed overtime because of human interventions such as deforestation, fragmentation, development activities and now changes in rainfall patterns and rising temperatures,” said MD Subash Chandran, professor and field scientist at IISc.

“But I have also observed that in some of the patches which have been left alone by most human interventions the evergreen nature of the forests is coming back. These are only a few as of now but it gives hope,” said Chandran.

If humans degrade these forests only the early evergreen trees will come back and not the climax species, as exist inside sacred groves like Kathalekan. The climax species, which showcase the peak of evolution, are much more resilient to high temperatures and changes in rainfall and can shelter other species around them as well, according to Chandran.

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