

Tapping neera: From keeping monkeys away to making value-added products

'Neera' a sweet nutrient-rich sap derived from coconut spathe, using the Coco-sap Chiller has raised the hopes of farmers in earning income from coconut trees

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Monkeys raiding farms is a burning issue being faced by lakhs of coconut growers in Karnataka. Loss caused by the primates has forced many farmers, especially in the coastal and Malnad belts, either to face the brunt with no feasible solution or shift from farming altogether.

Tapping 'neera', a sweet nutrient-rich sap derived from coconut spathe, using the Coco-sap Chiller developed by the Indian Council of Agricultural Research (ICAR)-Central Plantation Crops Research Institute (CPCRI), Kasaragod, Kerala, has raised the hopes of farmers in earning income from coconut trees, even while keeping monkeys at bay.

"That is our experience so far," K. Sathyanarayana Udupa, President-cum-Managing Director, Udupi Kalparasa Coconut and All Spices Producer Company Ltd., told *The Hindu*. This FPC (Farmer Producer Company) has been into 'neera' tapping in the Udupi district by purchasing the Coco-sap Chiller technology from CPCRI since the past over two-and-half years.

Portable device

The Coco-sap Chiller is a portable device which is installed atop the tree and connected to the spathe to tap 'neera'. It has a container comprising a plastic pouch surrounded by ice cubes for chilling the sap when it starts trickling in. The device prevents contamination due to the falling of insects, pollen and dust particles.

Udupa said that three Coco-sap Chillers can be installed per a coconut tree. "Monkeys probably think that they (chillers) are traps for them. Hence they do not touch them," he said, talking about the added benefit of the contraption that was not anticipated.

Calling 'neera' as 'kalpa rasa' Udupa added, "No monkey has damaged the chillers in the villages where the FPC is tapping the sweet sap." Otherwise, monkeys pluck tender coconut without allowing it to grow. Monkeys alone destroyed about 40% to 50% of coconut crop in Udupi district, he said.

In such places where monkey menace is severe, farmers can neither harvest tender coconut or matured coconut leaving them without any income. "Going for 'neera' tapping in such places is ideal for farmers to earn income," Udupa, who is also an advocate, said.

Lasting chilling effect

K. Balachandra Hebbbar, Director, ICAR-CPCRI who developed the Coco-sap Chiller, told *The Hindu*, "The device ensures that the chilling effect lasts 12 to 14 hours."

It not only prevents fermentation of *neera*, but also maintains its hygiene during the long process of tapping. Otherwise, Neera has a short shelf-life as it is highly susceptible to fermentation, transforming into toddy within an hour of extraction, Hebbbar said.

"Coconut sap collected by Coco-sap Chiller has neutral to slightly alkaline pH (pH 7 to 8) which is rare to get under natural condition," he said. It is considered as one of the most pH balanced juices. It is rich in vitamins, phenols, flavonoids and antioxidants. It has a high content of potassium, besides high amount of anti-bacterial and anti-oxidant properties. It is relatively low in glycemic index (GI) also, Hebbbar added.

Using kalpa rasa

The FPC is making value added products using 'kalpa rasa' and sells them in its two outlets (at Kundapur and Japti in Udupi district) and at eight franchises in Udupi and Dakshina Kannada districts showing coconut growers a way.

The FPC will open two more franchises one at Shivamogga and another at Byndoor next month, Udupa said. Referring to the economics of tapping 'kalpa rasa', Muralidhara Ullura, a Chartered Accountant and an advisor to the FPC,



A tapper tapping 'neera' from a coconut tree using a Coco-sap Chiller developed by the CPCRI. SPECIAL ARRANGEMENT



The 'kalpa rasa' or 'neera' and three value-added products made by it - sugar, jaggery, liquid jaggery - by Udupi Kalparasa Coconut and All Spices Producer Company Ltd. RAVIPRASAD KAMILA

said that a grower can earn a minimum income of about rupees one lakh per annum from tapping 'neera' from eight coconut trees. "About 600 litres to 800 litres of 'neera' can be tapped from a tree per year and a farmer can get a minimum of ₹20 per a litre," Udupa said.

According to Udupa, the FPC has 1,028 share holders in 73 coconut producer societies spread over 73 villages in Udupi district. Presently 'kalpa rasa' is being tapped in Japti, Avarse and Shiriyara villages from about 200 trees. "Presently we have government's permission to tap 'neera' from 512 trees," he said. "In the case of 'kalpa rasa' the cold chain will have to be maintained from tapping to the selling point," Udupa pointed out. It is to prevent fermentation.

Making other products

In addition to selling 'kalpa rasa', the FPC presently makes four value products from 'neera' alone. They are sugar, jaggery, liquid jaggery or jaggery syrup and vinegar.



K. Sathyanarayana Udupa, President-cum-Managing Director, Udupi Kalparasa Coconut and All Spices Producer Company Ltd (right) and Muralidhara Ullura, a Chartered Accountant and an advisor to the FPC (left) with the Coco-sap Chiller developed by the CPCRI for tapping 'neera' and some value-added products of 'neera' made by the FPC.



'Kalpa Bliz', a flavoured ready-to-drink beverage of coconut launched by the CPCRI, Kasaragod, Kerala in 2024. SPECIAL ARRANGEMENT

Stating that 40 value-added products can be made using coconut and 'neera' Udupa said that the FPC will launch 'one product per one village' from 2025. Accordingly, coconut chips will be launched in Kunda Barandadi village and coconut milk and wood pressed coconut oil will be launched in Japti village by setting up manufacturing units. The FPC's small 'kalpa rasa' processing unit at Japti is now being modernised and expanded at a cost of ₹1.50 crore. When completed, it will have a food testing laboratory, a barcoding machine, a packing machine, 10,000

litre capacity cooler to store 'kalpa rasa' and a machine (dryer) to convert 300 litres of 'kalpa rasa' into sugar at a time, among other facilities.

The 'kalpa rasa' can be tapped in rainy season too. It can be tapped up to 60 days from a spathe. A tree will usually have two to three spathes. Using Coco-sap Chiller, the 'neera' can be retained atop a tree till 24 hours without fermentation, he maintained.

Tapping 'kalpa rasa' creates rural employment for tappers in addition to doubling the income of growers, he said.

Sugar exhibited in G-20 summit

The 'neera' sugar made by the FPC was exhibited at G-20 Summit in Delhi in 2023. Its jaggery was among the products purchased by the Union Finance Ministry in 2022 for presenting as a Deepavali gift. "The ministry purchased about 500 bottles of 'neera' jaggery. It was among the products included in the gift box of sweets presented to the high dignitaries," Udupa said.

The FPC obtained licence from the government for tapping 'neera' in June, 2022. "All our initiatives are aimed at making tapping 'kalpa rasa' and making its value-added products and value addition to coconut a success story. It is not mere a venture for making farmers to earn only profit," Udupa said.