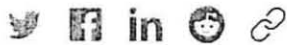




News • Food & Agriculture

## Got milk? Indian camel herders cash in with solar-powered coolers

Instant milk chillers are helping pastoralists in India's Thar Desert to keep their dairy fresh as temperatures rise.



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The sun used to be a source of trouble for Indian camel herder Bhanwar Raika - but these days it is boosting his income, even as climate change brings ever hotter temperatures.

The pastoralist makes a living selling his herd's milk but temperatures as high as 52 degrees Celsius (126 degrees Fahrenheit) regularly used to spoil it before he could sell it to the local dairy, about 80km from his home in western India's Thar Desert.

But the 55-year-old's fortunes changed last February when a solar-powered refrigeration system - called an instant milk chiller - was installed 2km away from Raika's Nokh village in Rajasthan state.

They were widely sold as draught animals until the state in 2014 declared the camel its official animal, introducing measures to protect them and preventing their sale to other states in India - which hit local communities economically.

Herders then started to sell camel milk, which is considered healthier than cow's milk and used to treat various diseases such as tuberculosis, said Ruparam Raika, an elder from Grandhi village in Bikaner.

This shift has created new jobs, with the solar chillers for instance often maintained and managed by young people.

Each morning, groups of youths take milk-filled steel cans from households to the collection centres, where others - who have received training - test the milk for purity and quality before storing it in the solar-powered chilling units.

"I can tell within minutes if the milk is pure and fresh," said 22-year-old Prem Raika, who is Bhanwar Raika's son.

He is one of many young people in Nokh who, despite being educated, have decided to stay at home and work in camel milk production instead of seeking opportunities elsewhere in India.

Besides operating the chillers and collections systems, they also have found work selling products made from camel's milk - from cheese and butter to biscuits - at shops and online.

On average, young people like Raika earn about 15,000 (\$184) rupees monthly, according to Kumawat of Urmul.

Bhanwari Devi Sunthar, village head for Grandhi in Bikaner, said installing instant milk chillers had helped raise the average household incomes to between 40,000-45,000 rupees (\$491-\$552), up from 10,000-12,000 rupees (\$123-147).

"I am happy to see more children go to school and even to college from our households today," she said, adding that the increased earnings meant some families had been able to buy additional camels and ultimately sell even more milk.

### **Scaling up**

Kumawat of Urmul said the NGO plans to double the number of milk chillers - from four to eight - covering more villages in Bikaner, Jodhpur and Jaisalmer districts over the next few months, if funding allows.

"We want to reach out to more camel herders in their remote villages and empower them to make a living out of their traditional knowledge without increasing carbon footprints," said Kumawat.

He said finding funding to buy more units was the main obstacle to scaling up the project.

For-profit companies also seeking to create more sustainable milk supply chains in India - one of the world's top producers at more than 200 million tonnes a year, according to data portal Statista - say the chillers are not without their challenges.

The two firms that sold the chillers to Urmul - Inficold and Prompt Dairy Tech - said installation and servicing could be difficult in remote areas, with high temperatures, frequent sandstorms and a lack of trained manpower among the obstacles.

However, Nitin Goel, founder and CEO of cold chain company Inficold, said its systems had been customised to operate in challenging weather conditions and that the firm had trained local young people to clean the solar panels and units.

In Nokh village, camel herder Bhanwar Raika said he could not be happier - and not only because of his higher earnings.

“There was a time when we had lost hope on maintaining our camels - but today they are uniting our families and holding back our youths from migrating out,” he said.

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