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# Sun-dried in a cabinet

**SOLAR TECHNOLOGY** New device traps sun's rays to dry food items in a more hygienic and faster manner

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**MUMBAI:** Since childhood, fisherman Ramkrishna Tandel cringed at seeing fresh prawns and Bombay Ducks being dried in the sun in unhygienic conditions along the shore.

In 2008, when Professor Bhaskar N. Thorat of the Institute of Chemical Technology, Matunga, introduced Tandel to a compact solar cabinet dryer, he agreed to test it for drying fish as an alternative to the usual bacteria-infested surroundings.

"Today, 20 fishermen from Tarapur and nearby areas use the cabinet dryer to dry their catch, which is then packed and sold," said Tandel, 46, secretary of the Maharashtra Machimaar Kruti Samiti.

It has reduced the six-day period required to dry 1,000 Bombay Ducks to 11 hours.

In 2006, growing urbanisation and demand for ready-to-

## ABOUT SOLAR CABINET



PHOTOS: INSTITUTE OF CHEMICAL TECHNOLOGY

### WHY IS THE TECHNOLOGY IMPORTANT?

The solar cabinet dryer is significant to Maharashtra because the western and Konkan regions are rich in agriculture and marine products but food preservation has not been practiced in a big way. The technology can be made available to the farmers either by contract farming or setting up cooperative societies.

### USES

- **Grapes:** Raisins
- **Chickoo:** Powder used in ice creams
- **Tomatoes:** Sun-dried tomatoes for pizzas
- **Turmeric:** It helps retain curcumin, a natural antioxidant
- **Palak:** Powder can be used to make soup

### FUNDING

The Rajiv Gandhi Commission for Science and Technology, Maharashtra government, has given Rs 2 crore for the project. The WFCFD trademark has also been registered.

- The solar cabinet dryer (top left) operates on sun rays. It consists of panels that collect solar rays before converting them into hot air. It includes a drying cabinet and a blower for circulating hot air in the system. (Extreme left) Bombay Duck and turmeric in solar cabinet dryers.

eat food spurred Thorat to develop the solar cabinet dryer to dehydrate and preserve agri-

culture and marine products. By the end of 2008, two semi-commercial pilot plants for dry-

ing both vegetables/fruits and fish were set up in Nashik and Tarapur respectively. By this

year-end, large-scale commercial plants for turmeric and fish will be set up at Satara and

Tarapur respectively. "Drying technology is very important for the food chain," said Thorat, president of the World Forum for Crystallisation Filtration and Drying. "The demand for ready-to-eat food will grow with urbanisation as the urban population has the capacity to buy processed food even if it is expensive."

Thorat said that draining 90 per cent of a vegetable or fruit's water content, increases its shelf life. For instance, dehydrated *palak* can be rehydrated for consumption by soaking it in water.

Last year, grape farmer Ashok Pingle tested the solar dryer for raisins. The dryer has ruled out the requirement of treating grapes with sulphur to retain colour before sun drying them. "If the government offers a subsidy, there will be many takers for the technology," said Pingle. "It's hygienic. Consumers are more aware and choosy about how they want



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BHASKAR THORAT,  
professor, ICT

their food."

Thorat sees great potential. "Until 1970, countries such as Holland and China imported dried Bombay Duck worth Rs 150 crore. But that stopped due to lack of quality in the sun-dried products. We can regain our position."

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