

✓ Small innovations can change the lives of people. Whether a simple medical device or improved teaching methods, these, mostly local and contextual to Indian impact. *Business Standard* profiles a few of these innovations and the people behind these, identified as part of the India Innovates programme of Marico

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n needs, have a lasting

You can use and eat this innovative cutlery

India throws away 300 mn items daily of plastic spoons and plates; Hyderabad entrepreneur sees success in making these com

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In April, Narayana Peesapaty received enquiries to supply disposable cutlery made of food-grain to refugee camps in France and Germany. An indication the edible cutlery he'd been marketing for nearly a decade was an idea whose time had come.

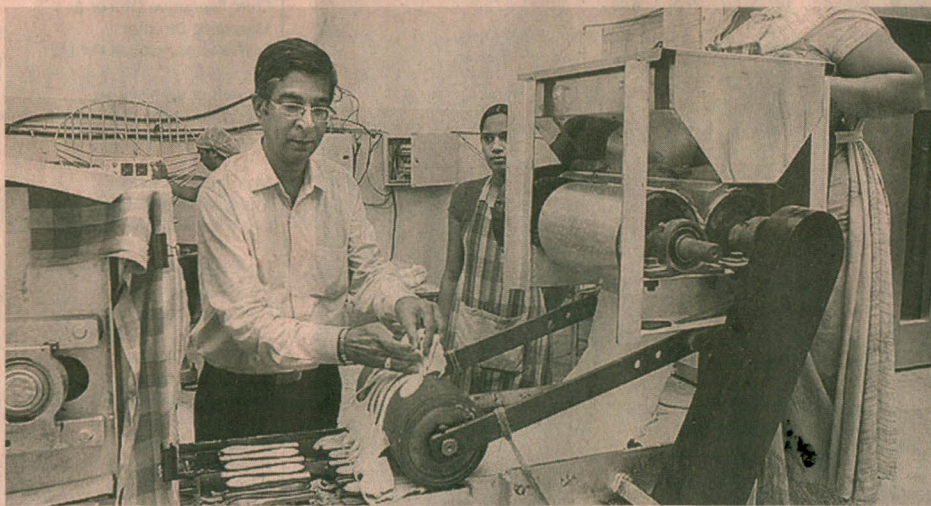
For now, the European orders can wait. His company, Bakeys, has orders to supply 25 million spoons and other bits of cutlery from within and outside India. This month, the company achieved full automation at the edible cutlery production line, raising output five-fold to 50,000 units a day.

Peesapaty claims he was the first person in the world to have produced edible cutlery in a commercial scale. It also took time to make this simple-yet-

disruptive innovation on a humble eating tool acceptable to thousands of people.

"At Rs 2.75 apiece, my edible cutlery is cheaper than the disposable cutlery made of food-grade plastic, bio-degradable plastic and wooden cutlery. The remaining two categories, cheap plastic and coated plastic (which look like silver spoons), are still cheaper. If I can bring down my price to Re 1, edible cutlery becomes cheaper than coated plastic," he told Business Standard as he gets a step closer to this goal through automation.

His innovation — disposable edible cutlery using a combination of sorghum, rice and wheat flour — has a larger objective that can be achieved only if the economics is fully aligned with market dynamics, he says. "Who decides what type of dis-



Narayana Peesapaty (pictured), managing director at Bakeys Foods, is a former researcher. He came up with the idea of making edible cutlery in his search for ways to counter the use of plastic cutlery in 2007

posable cutlery we should use in eating? It is the food vendor. For him, cost is the prime consideration. So, that is where we have to compete."

A former researcher with the Hyderabad-based International Crops Research Institute for the Semi-Arid Tropics, he came up

with the idea in his search for ways to counter the use of plastic cutlery, in 2007. The effort to develop consistency in the product, so that it did not break on use, took time. He founded Bakeys Foods Pvt Ltd in 2010, after achieving reasonable perfection, he says.

Being bio-degradable is only one contrasting aspect of his edible cutlery. These can be also devoured with food, coming in different flavours — from spicy to sugary — and have nutritional value. He has turned edible cutlery into a culinary preparation by adding ingredients like

sugar, ginger and black pepper, among others, to give a distinct taste for different products.

The products are dried and hardened by baking at high temperature and are sturdy enough to be used to stir hot soups and beverages for at least 20 minutes. "About 120 billion pieces of plas-

SUCCESS STORY

- Bakeys manufactures edible cutlery using combination of sorghum, rice and wheat flour
- Narayana Peesapaty, founder of Bakeys, came with the idea to replace plastic cutlery
- A 10-year research stint has now made the product a commercial success
- Bakeys products are used by Cafe Coffee Day
- Bakeys uses fully automated machines for its products



**INNOVATE FOR
SOCIETY-III
Bakeys**

e commercially viable, gets global inquiries

tic cutlery are being thrown away in India every year, according to one estimate. Imagine what could be the quantity world over! While the invention of plastic has had great benefits for mankind, its abuse and misuse have been causing problems to environment and human health," says Peesapaty.

He also designed a production line to the stage of full automation and got it fabricated at Cherlapally, in Hyderabad. Now, his employees only need to put dough into the machine and collect baked edible cutlery at the other end. For further efficiency, he is planning to add the packaging part to the automation. He has got energy-efficient heaters from Brazil and China for use in baking, while thinking of ways to achieve economies of scale, to bring down costs to match those of plastic cutlery.

A video of a presentation he gave at the Vellore Institute of Technology, put on the internet this March, gives a full glimpse of what Peesapaty wants to achieve from his edible spoon.

At the back-end, he wants to increase the demand for millets (he is working on making edible cutlery made of only sorghum), thereby arresting the growth of paddy acreage that brings enormous stress on groundwater.

One thing is for sure. He need not struggle to market his product at a level where consumer awareness plays a role. Cafe Coffee Day serves biryani to its customers on Bakeys' edible cutlery. People in the business of making eco-friendly food containers with palm leaves or betel nut leaves now want to add Bakeys cutlery to their offering. These are a couple of examples among what he narrated to explain the growing acceptability of his products.

Among his current tasks, Peesapaty is targeting the tiny plastic spoons that come with food sold in trains. His other goal is to establish Bakeys as a food chain, competing with KFC and McDonald's.

Next: Aum