

How Ancient Grains and a Seed Bank Turned Life Around for Rural Women

Author - Chhavi Sachdev, Published on - 27.8.2018

Gujarat chooses to grow maize and wheat, despite being drought-prone, which leaves these crops failing and farmers hungry. But one woman's secret mission to plant hardy millet has turned fortunes around. *Farmers Kashi Pagi from Nava Melan village and Rukhi Pagi from Juna Melan village attend a seed exchange with Bavato and Bunty seeds to share.* **Chhavi Sachdev**

PANCHIYASAAL, GUJARAT – When Navali Nayak sowed her millet in 2007, she did it in secret. She held the seeds in a fold of cloth at the waist of her saree and dropped them intermittently into the furrows her husband, Magan, was ploughing, just a few feet ahead of her. He believed she was planting only maize, as they had done for the past 15 years.

Her secret didn't last long; when it grew, the millet looked quite different from the rest of their crop. At first Magan was angry, and shouted a lot, but there wasn't much he could do.

Nobody could have foreseen the results of that millet harvest. Within a short time, word spread and 34-year-old Nayak was being hailed as a paragon among women agriculturalists in the region. Not only was her millet crop doing exceptionally well, she had grown two strains that were thought to be extinct. Now she is the keeper of a seed bank, with the revived millets – Bavato and Bunty – as its stars.

Navali Nayak shows off two of the bins that make up her seed bank. In these, she stores precious seeds for distribution to other women farmers. (Chhavi Sachdev)

Her efforts were partly the result of common sense, and partly thanks to her involvement with ANANDI, a nongovernmental organization that advocates for women's land rights and encourages sustainable farming, which gave her the seeds.

No Country for New Grains

Most of Gujarat state is arid scrubland. It rains little and the groundwater level has been severely depleted over the past five decades. It's not good land for most types of farming, but it's an environment in which millet can thrive. Nayak remembers that, when she was growing up, her parents grew only millet for grain on their farm. "Millets are drought-tolerant, climate-resilient, hardy crops," says Kuldeep Sharma, the principal scientist with the Indian Institute of Millets Research, a government-funded center. Since millet is adaptable to poor soil fertility and limited rainfall, he says, it is "mainly grown in semi-arid regions where other cereals like wheat and maize are difficult to cultivate." It made little sense that in the drought-prone state of Gujarat, farmers began to cultivate maize and wheat, but that's what happened after a change to national food policy in the 1960s, says Ashwini Chhatre, a climate change and sustainability scientist at the Indian School of Business. As part of the policy, which got another push in the 1980s, the government began heavily incentivizing the cheaper staples of wheat and rice to the exclusion of other cereals. Meanwhile, a growing livestock and poultry industry raised demand for maize. Farmers switched because they found a guaranteed demand from private and government investors. Making Men Eat Millet Nayak says that before she started planting millet, her farm faced years of drought where the maize crop would falter or just fail. The family would run out of grain and they were reduced to rationing the maize, boiling down a few grains at a time, and drinking the resulting stock as soup. Traditional cereals such as millet yield more harvests in a year and are also more nutritious. Millet is richer in vitamins, minerals and iron than wheat and rice, with a lower glycemic index. According to the

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, more than half of India's women have anemia – a medical condition linked to low iron levels. But it's hard to convince people to grow millet by emphasizing the benefits to nutrition or the environment. Most people just don't want to eat it any more. Bijli Nonna Nayak, a leader from the village of Sevaniya, says a big factor is taste. As the village men started to leave their farms for better-paying jobs as daily-wage laborers in towns, they developed a taste for breads made from the more ubiquitous wheat, she says. "Our men don't want to eat the chapati bread we make from this flour," says Nayak. "Our parents eat it and we eat it. But our sons and husbands just refuse." Meanwhile, women find that wheat and maize are easier to grind into flour, and the chapatis the flour yields are softer and fluffier than those made from millet. Nayak and her husband still grow maize, she says, but when that fails, they can at least count on having some grain in their meal. Selling her extra produce has allowed her to put aside 10 rupees (\$0.15) every month. She has since bought four goats and a buffalo – not only signs of wealth, but also sources of income themselves from sales of their milk and compost. In the past few years, they have managed to build a brick house to replace their mud hut, partly thanks to growing millet, and partly from switching to organic compost. **A Friend in Seed Is a Friend Indeed** In her first year of planting millet, Nayak had three harvests. She used homemade vermicompost and the plants were sweeter, the ground easier to plough. To help out the women in the village whose harvests were failing because of drought, she distributed small amounts of her extra grain so they could grow a season of millet to feed themselves.

Legumes available to trade at the seed exchange. (Chhavi Sachdev) Women from nearby villages started coming for seeds, so Nayak set up a dedicated seed bank to cater to the demand. The rules are simple: Repay the seed loan not with money, but with one-and-a-half times the quantity of seeds initially given. Nayak always has enough for her family's consumption plus some left over for the bank, but if there's an additional surplus, she also sells to grain merchants. Every three months, ANANDI organizes its own formal seed exchanges for women agriculturalists across the state. They realized a few years ago that though a few women had saved some seeds and were still growing local millet, most had sold them when they hit a cash crunch. So they set up a beej utsav, or seed fair, where different crops could be traded on a larger scale. One pre-monsoon gathering was recently hosted in Khojalwasa village. Sixty-two women from villages as far as 9 miles (14km) away walked or took buses to get there. It was a festive occasion – the gathered women needed little prompting to sing songs about sowing and reaping. There were pep talks on organic farming and a wholesome lunch was provided, featuring chapatis of millet and a local variety of rice, served on compostable banana leaves. Eventually, the women got down to the business of seed trading. Yashoda Barot, attending for the first time, was excited to receive her portion of millet. She's also learned that there is such a thing as sowing too many seeds, something she'll change when she gets to her field. Kashi Pagi from Nava Melan village brought 22lb (10kg) of Bavato to barter – it's her contribution including interest, having borrowed from the bank last year. She's preserved 11lb for her family's consumption and the same amount for sowing in the next season. Since she is already growing Bavato, she took only Bunty, runner beans and chickpeas from the seeds on offer. Still, finding a market for the crops can be challenging. Everyone agrees that the government could do more to drive sales. But Sharma says the government is already working hard to promote the traditional grains. "In order to revive millets' demand, the government of India has been promoting them as future climate-, energy- and health-security crops," he says, pointing out that the government has also insured millet producers against crop failure. "It's up to us," says Chhatre, "to ask for these indigenous cereals and drive demand and set the trend. There's always a trickle-down effect of the eating habits of the higher rungs of society. Either way, it's absolutely crucial from an environmental point of view that India shifts its crops and eating patterns back to traditional ones." First published by

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