

# 'We have more hardy, nutritious grains than GM can offer'

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Debal Deb has conserved 1,200 climate resilient rice varieties. He speaks on the need to conserve traditional seeds and why we don't need genetically modified ones. At his farm in Odisha, Deb conserves 1,200 traditional varieties of rice. Farming can't be sustainable without the seeds which are best suited to the location, water availability, soil type and weather. According to records, there were 1.10 lakh varieties of rice in India till 1965. After that, the Green Revolution happened, which pushed for hybrid varieties. Today, according to the Indian Council of Agricultural Research, we have less than 7,000 traditional rice varieties. We talk about dwindling numbers of tigers and rhinos and spend a lot of money on their conservation, but lakhs of rice varieties have gone extinct, and nobody pays attention. This is not just about India. Many other countries face a similar crisis. Mexico had 22,000 corn varieties till 1965. Now the eight countries of South America have only 400 traditional corn varieties. Likewise, the continent had 12,000 varieties of potato which have now come down to only 120. Our ancestors developed these crops through trial and error over thousands of years. In the 12,000-year-long tradition of farming, they worked with wild varieties to prepare the 200 types of crops we consume today. In the last 3000 years, however, we haven't developed any new crop. We have only worked on the existing varieties despite such advancement in science. We don't give credit to the farmers who developed these seeds. We only worship the "neo-scientists" who work in labs and come up with hybrid varieties or genetically-modified crops. Today, the organic farming being done in Punjab or elsewhere involves no use of pesticides or fertilisers but the seeds are again the hybrid varieties. You can't have sustainable farming with the seeds which have been developed in labs and thus don't know how to compete with weeds, brave pests and adapt to the environment. They would need the support of agrochemicals to flourish. This is why many people leave organic farming after a few years blaming low yield, not knowing that seeds were the main issue. Compare this with traditional seeds which survived against all odds and hence respond well to non-chemical settings. Farming can face adverse times like drought and floods only when you have traditional seeds. On my farm in Odisha, we have 1,200 traditional rice varieties, sourced from farmers across India, which can grow in such conditions. After 70 years of development of hybrid varieties of rice, scientists haven't come up with any seed that can grow in deep water. We have traditional varieties that can grow in 11 feet water and reach a height of 14 feet. These seeds have been developed in flood-prone regions of Bengal. There are 16 varieties from the same region which can grow in saline sea water. In fact, they will perform their best only in saline water. These seeds were developed in response to the ingression of seawater in Sunderbans. I challenge any agriculture scientist to develop a variety which can stand for even three months in three feet water. We also have 22 traditional rice varieties that don't need any irrigation and can manage a month with just one rainfall. In 2012, International Rice Research Institute and Monsanto spent two billion dollars to develop iron-fortified rice to help deal with the problem of anaemia in India and Bangladesh. This genetically-modified rice (GM) has 11-13 mg of iron per kg of rice grain. In comparison, we found 78 traditional seeds which had a good amount of iron ranging from 130 mg to 34 mg in a kg of rice. These are what farmers developed over the years without big investments. This means we don't need GM food. Similarly, there are rice varieties with antioxidant properties that can prevent cancer, another one that is good for epilepsy patients. Yet another variety has silver that helps in dysentery and other stomach infections. We have a three-grained rice as well but sadly, the farmer who gave it to me is no more and his son is more interested in growing hybrid varieties. This underscores the role of the education system in making us worship technology and abandon traditional wisdom. Seed companies have been offering Rs 10,000 for just a handful of this seed, but I would rather share it with farmers. Debal Deb is a Fulbright scholar who founded Virhi, India's largest nongovernmental folk rice gene bank that conserves traditional rice varieties in Odisha. This is an excerpt from the speech he gave at a Seeds Workshop organised by Kheti Virasat Mission in Punjab on January 26, 2017. **First published on *India Water Portal* Also read 'It's our god, our mother': For Odisha's tribes, preserving forests is key to a sustainable future**