

# The deshi cow milk jinx

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Our wealth of indigenous cattle breeds have failed to benefit those who are conserving them – the poor farmers, herders and nomadic pastoralists who produce 70 per cent of the milk that finds its way to the market “The milk from my cows is thicker and sweeter, and good for children’s growth,” says Vidyabai Awathale, a traditional herder from the Gawli community, who conserves the rare Gaolao breed of cattle from Wardha district in Maharashtra, “It makes very tasty khova and the ghee has richer fragrance and taste.” Awathale, however, despairs of being able to sustain her herd of around 50 cows in the future, as getting a sustainable income from them is a challenge. “Our milk is much better than the milk of Jersey and Holstein cows,” says she, “Those animals yield more milk, but it is thinner, and not very tasty. But in the market, no one bothers. We get the same Rs 18-21 that Jersey milk fetches,” she rues, “It is a loss for us, you know, because the milk yield of our cows is about a third of what those cows yield.” Awathale and the Gaolao breed are no exception – the story of Indian breeds of cattle is the same everywhere, be it Gujarat’s Gir, Karnataka’s Hallikar or Andhra’s Ongole. Even while the demand for milk from zebu (humped) cattle rises phenomenally in the developed world, Indian cattle rearers continue to get a raw deal. Scientific evidence suggests that milk from zebu (humped) cattle has several advantages over the milk of exotic European varieties of cattle like Holstein, which were introduced in India as a measure to enhance milk production through cross breeding. The key difference between the two types of milk is the crucial A2 variety of beta casein protein, which is found in the milk of the zebu cows, camel, goat, donkey, buffalo, yak, sheep and even jersey cows. Indian cattle, scientifically known as *Bos Indicus*, fall in the zebu category. Milk from the European *Bos Taurus* breeds like Holstein, which spread across the developed world due to their high milk yield, contain the A1 variant of beta casein protein, which has been related to allergies and serious health conditions. Traditional knowledge in India agrees with science here. Farmers and cattle rearers across the spectrum vouch for milk from indigenous cows and its higher suitability for children’s growth, both physical and mental, than milk from high-yielding exotic varieties. They, however, exclude the Jersey cow, which science says produces A2 milk, from their list of good milk. In Australia, in the 1970s, when Holstein cows were introduced in a big way, dairy herdsmen noticed a change in their health status, and started retaining a few Jerseys for domestic consumption. In India, a similar process in which farmers retained a few deshi cows for the children while turning to Jersey and Holstein cows for commercial benefit, has largely gone unnoticed, because for decades, fat content was the only standard for milk quality. One is reminded of Shyam Benegal’s classic *Manthan*, about the beginnings of Operation Flood. In recent years, however, the quality and structure of milk itself has come under the scanner in a big way. The process started in New Zealand, where the process for identification of A1 and A2 proteins was developed, and in 1994, a patent was registered by the NZ Child Health Research Foundation for ‘A Method of Selecting Non-Diabetogenic Milk or Milk Products’. The patent document first identified A1 protein as a trigger for diabetogenic activity based on a study on mice. Earlier, a similar hypothesis had been given by R B Elliot based on the observation that children in Polynesian islands like Samoa had low incidence of Type 1 diabetes than Polynesian children in Auckland. In recent years, evidence has started piling up linking A1 protein with higher risks of type-1 diabetes, coronary heart disease, allergies, irritable bowel syndrome, arteriosclerosis, sudden infant death syndrome, autism, schizophrenia etc. A 2014 study led by Dr Andrew J Clarke, published in the *International Journal of Food Sciences and Nutrition*, reported that aspects of digestive function like transit time and inflammatory status in mice were impacted by the protein type, with rats fed with A1 milk showing rise in problems like irritable bowel syndrome and constipation, with side effects like bloating and diarrhea. One of the few Indian studies on the subject, led by Dr Monica Sodhi of National Bureau of Animal Genetic Resources, and published in the *Indian Journal of Endocrinology* in 2012, says that incidences of type-1 diabetes and cardiovascular diseases is low in populations with high consumption of the A2 variant of Beta Casein. Incidences of autism and schizophrenia, it says, have been shown to reduce with reduction in consumption of A1 Beta Casein. Popular testimonies show that a switch from A1 to A2 milk leads to significant improvement in a host of health issues. The Food Intolerance Network, a network of more than 10,000 families, mainly from Australia and New Zealand but also from the US, UK and Canada, has collected a number of testimonies that report that a host of ailments ranging from digestive issues to allergies to ear infections to behavior issues in children were cured completely after switching to A2 milk. With rising awareness, the demand for A2 milk has gone up phenomenally in countries like Australia, UK and NZ. A2, a corporation which sells milk with A2 protein, is the largest growing milk brand in Australia. And where is India in all this? Nowhere. Our wealth of indigenous cattle breeds have failed to benefit those who are conserving them – the poor farmers, herders and nomadic pastoralists who produce 70 per cent of the milk that finds its way to the market – in the absence of scientific information on the benefits of deshi cow milk. With the environmental and social support systems crucial for the survival of these breeds degrading fast, and the resultant poverty, more and more indigenous cattle are finding their way to the slaughter-houses, and once-proud breeders are giving up in despair. Traditional knowledge around deshi cow milk is complex, and it is not clear how much of it has already been lost. There is a crying need for research on the properties of milk from indigenous cattle breeds, says Sajal Kulkarni, researcher associated with non-profit BAIF Development Research Foundation (BAIF), “Taking the example of the Gaolao breed, there is a lot of traditional knowledge surrounding the milk quality of and its connection with the various kinds of wild grasses consumed by Gaolao, which has traditionally been an open grazing breed.” One of these grasses, known locally as paonya, says he, is said to impart greater taste and nutrition to milk and ghee. “Ghee from cows fed on paonya grass, known as paonya chya toop, is regarded as the best quality ghee in these areas.” Kulkarni and a few others like him around the country are working to document this knowledge. A few non-profits are working to set up farmers groups for marketing deshi cow milk. A few scientists are trying to start fledgling conservation programs. A few Swadeshi groups are making an emotional appeal based largely on vague claims of colossal health benefits. But largely, this healthy and delicious milk, which Indian has in abundance, is being procured at exploitative rates by private dairies. The only answer to this dismal situation is awareness, which could create a willingness among consumers to pay a fair price for this milk and so make the conservation efforts pay for the small farmers and herders. Is the scientific community listening? More important, are policy-makers listening?

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