

The Magic of Millet in a Drought-prone Country

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August.16 : At a time when the dreaded spectre of drought is hovering over roughly one-third of the total cultivated area in India, the time is opportune to emphasise the need for cultivating millets. These are crops that consume little water and need no irrigation, are adaptable to a wide range of ecological conditions and are pest-free. Simply put, whereas wheat and rice provide only food security, the magical millet provides security of nutrition, livelihood and fodder and promotes environmentally-sustainable agriculture.

Over two-thirds of the total net sown area in the country of nearly 137 million hectares is not irrigated or, in other words, rain-fed. Such arid or semi-arid areas have traditionally contributed around 40 per cent of the total production of all categories of foodgrains, provide a livelihood to nearly half the agricultural workforce and fodder to 60 per cent of the total cattle population. Importantly, dry or non-irrigated areas in India produce three-fourths of the total production of pulses (whose prices have soared in recent months) and over 90 per cent of the output of sorghum (or jowar), millet and groundnut.

As the Millet Network of India (MINI) points out in a recent document, for thousands of years, millet farms in India have been growing a wide range of millets. Whereas jowar, bajra (pearl millet) and ragi (finger millet) are most commonly cultivated in different parts of the country, other kinds of millet (foxtail, little, kodo, proso and barnyard) are grown alongside pulses (such as red gram, cowpea, dolichos, green gram, black gram and lentils) as well as oilseeds (sesame, niger, amaranth, safflower and mustard). MINI contends that millets "produce an extraordinary food system that can secure India's food and farming future".

Millets require relatively little water to grow. The rainfall needed for jowar, bajra and ragi is less than a quarter of the precipitation needed for sugarcane and banana. Whereas 4,000 litres of water are required to grow one kg of rice, less than a third of this quantity is required to cultivate one kg of millet without any irrigation. Millets, unlike most other crops, are able to withstand drought conditions and can be cultivated over tracts that receive between 200-500 mm of annual rainfall. The world over and in India, millet is grown in soil that is low in fertility. Certain kinds of millets grow in acidic, saline and sandy soils — for instance, in Rajasthan and in Andhra Pradesh. In fact, millets are grown to reclaim soils that have become infertile.

Millets are storehouses of nutrition in comparison to rice and wheat. Every kind of millet has at least twice the amount of calcium than rice; finger millet has 30 times more calcium than rice. In terms of protein, fibre, iron and other minerals, millets are way ahead of cereals like rice and wheat. The well-off in India pop beta carotene pills for micronutrients which are present in millets but absent in rice.

There are many more advantages of millets over other crops. Millets grow better in the absence of chemical fertilisers and are totally free of pests. Even when millets are stored, they do not have to be fumigated. Certain millets, such as foxtail millet, are used to keep pests away when "delicate" pulses such as green gram are stored. What is more, most millet fields are bio-diverse areas where between six and 20 different types of crops can be grown in and around the same spaces — they offer holistic farming systems in different agro-climatic conditions that extend from the Himalayas to the Deccan.

Most kinds of millets have edible stalks that are consumed by cattle and certain kinds of millet (sorghum and pearl millet) are used as fodder. The legume crops, companions to millets, are prolific leaf shredders that become natural manure to maintain and enhance soil fertility.

Despite such obvious advantages, there has been a systematic fall in the output of millets in India. In the four decades between 1966 and 2006, while the total production of rice more than doubled (125 per cent), from 38 million tonnes to nearly 86 million tonnes, and the output of wheat jumped threefold (285 per cent), from just over 18 million tonnes to 70 million tonnes, the total production of all kinds of millets has actually come down by 2.4 per cent — from almost 18.5 million tonnes to below 18 million tonnes.

This decline in the production of millets can be largely attributed to the fall in the cultivated area, from over 36 million hectares half-a-century ago to just over 21 million hectares at present. Over the last 40 years, over 40 per cent of the areas that were under millet cultivation is now being used to grow other crops.

P.V. Satheesh, director, Deccan Development Society, is of the view that there is an “urgent and immediate need to put millets into the public distribution system” and that the government must “provide space for millet-based foods” in the Integrated Child Development Scheme and the mid-day meals programme for school children. This, according to Mr Satheesh, will enhance “nutritional security” for undernourished children so that India’s track record in this regard can at least become better than that of sub-Saharan Africa. Institutional finance, crop insurance and research initiatives by agricultural colleges need to be extended to millet cultivators and not confined largely to those who grow rice and wheat.

Instead of praying to Lord Indra or lamenting about global warming, those in positions of power and authority need to eradicate the caste system that is currently prevailing in agriculture.