

# Pulses cultivation needs a boost

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Apart from being an affordable source of protein and a soil health enhancer, it can help secure growers' income



India is a formidable force in the global pulses marketplace. The country has the world's largest area under pulses — 27-29 million hectares in two seasons — and is the world's largest producer — 22-24 million tonnes. However, at about 800 kg per hectare, yields are low

by world standards.

In India, pulses cultivation faces several challenges, including farming on marginal lands, dependence on monsoon, lack of irrigation, low input usage and, importantly, no breakthrough in seed technology. We are currently in what can be described as a 'low level equilibrium trap'. To advance food and nutrition security, there is a dire need to break out of this trap through increases in both area and yield.

## Production

It is critical that pulses cultivation is encouraged and incentivised in grain mono-cropping regions of Punjab, Haryana and Uttar Pradesh. The rice-wheat-rice cycle needs to be broken for the ecological disaster it has brought about — deterioration in soil health and an alarming fall in the water table.

Systematic crop rotation by cultivating pulses will deliver multiple benefits, including improvement in soil health through nitrogen fixing. It is also necessary to ensure ready marketability of the crop through assured procurement mechanism. Importantly, for a quantum jump in pulses output, multiple technologies need to be adopted, covering information technology, biotech, satellite tech, nanotechnology, and so on. Using Artificial Intelligence for finding end-to-end solutions is the way forward.

Most critical is breakthrough in seed technology. Initial work on insect resistance was done during 2011-2014 with remarkable results. Trials of both Bt.Chickpea and Bt.Pigeonpea to fight Pod Borer (*Helicoverpa*) showed a sharp reduction in crop losses which translated to effective higher yields.

But lack of regulatory clearances stymied further research efforts. While there is proof of concept, supportive government policies are necessary for commercialising the seeds.

## Consumption

There is a feeling among policymakers that India is self-sufficient in pulses. My emphatic response is, 'No, we are not; not yet'. Unfortunately, the current low prices (often below minimum support price) lull us into believing we have become self-sufficient.

Our per capita availability of dal (milled pulse fit for human consumption) is only 14 kg whereas nutritionists recommended at least 20 kg consumption. To reach self-sufficiency at current population level, India needs to harvest 30 million tonnes (mt) of raw pulses, whereas our current output is only 22-24 mt.

Again, per capita availability is a misleading number. Often, policymakers overlook the skew in consumption. There is a wide gap between the consumption of the top 30 per cent and bottom 30 per cent of the population given the stark difference in purchasing power.

This skew needs to be corrected. Protein deficiency in our country is pervasive, inflicting enormous hidden cost on the country. Pulses/legumes are the most affordable vegetable protein. My own research suggests vegetable protein from pulses (as also soybean and groundnut) is far more economical than animal protein (milk, eggs, meat).

To advance nutrition security, there is a strong case for distributing pulses through welfare programs such as TDPS (Targeted Public Distribution System), NFSA (National Food Security Act), MDM (Mid-Day Meal), and ICDS (Integrated Child Development Services). Along with rice and wheat, at least 2 kg of dal should be distributed to the financially needy who are actually in dire need of protein. Supplying pulses through government welfare programmes will not only result in a significant rise in consumption but also deliver health benefits. India is the only country in the world where a quantum jump in both production and consumption of pulses can happen simultaneously.

Consumption growth will help improve crop marketability and lift domestic prices to levels that will keep pulses growers adequately motivated. It will advance growers' income security and consumers' nutrition security — a 'win-win' for all.

Unless productivity increases, Indian pulses will not be globally competitive. It is possible to increase yields with policy, research and investment support.

We must recognise that Indian agriculture in general and pulses crop in particular are fragile and vulnerable. We may be only one bad monsoon away from a farm disaster. So, we need to stay in the global value chain with appropriate checks and balances. New Delhi must demonstrate political will to bring about creative disruption. 'Business as usual' attitude may prove to be risky.

The writer is a policy commentator and agribusiness specialist. The article is excerpted from speeches delivered at the recently held World Pulse Day seminar and at The Pulse Conclave 2020)

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