

India's Protein Punch: It's All In The Dal

Sep 21, 2026, 03.31 AM IST



India is entering a generational shift in its food system. Average protein consumption is projected to more than triple, from 9.5kg per person in 2025 to 30kg by 2070. If that demand is met largely through today's production models, pressure will intensify on animal feed, agricultural resources, and millions of producers, and produce emissions exceeding over 44 gigatonnes of CO₂ equivalent (GtCO₂e) over the same period.

The challenge is not whether India can produce more protein. The challenge is whether the country can build a food economy capable of meeting demand, without multiplying the pressures that come with it.

Rising protein consumption should be welcomed. It reflects higher incomes, changing diets, and better nutrition delivery. But the sheer scale of India's future demand requires decisions to be made now about agriculture, food manufacturing, finance, and procurement, because the consequences of those decisions will last decades.

A new joint report by Asia Research & Engagement (ARE) and FICCI, Charting India's Protein Transition, finds that under a business-as-usual pathway, annual emissions associated with protein production could, by 2070, become almost eight times estimated climate-safe threshold – (1.9 GtCO₂e from 0.25 GtCO₂e).

Production improvements (addressing methane, feed, manure, deforestation, energy, and food loss & waste

emissions) aren't enough. To close that gap, India needs to diversify its protein sources. What can work is a combination of production improvements and greater protein diversification.

This isn't about replacing dairy, poultry, fisheries or other protein industries, all of which remain important to the nutritional and agricultural economy. Opportunity lies in building a broader national protein portfolio that can absorb enormous future demand, without placing additional pressures on existing systems.

India's advantage lies in its embedded food culture – pulses. Protein consumption derived from pulses is projected to rise from 3.5mn tonnes in 2025, to 9.3mn tonnes by 2070. This will make pulses India's second-largest protein category, after dairy.

Currently, India imports almost 90% of its processed plant-protein isolates – highly concentrated forms of protein-rich extract. While the country has a substantial domestic plant-protein base, much of the potential for higher-value processing remains uncaptured.

Investment in protein extraction, ingredients, processing tech, and food manufacturing could enable India to retain more value domestically, while creating new markets for agricultural production. For businesses and investors, protein diversification should therefore be seen not only through a sustainability lens, but as a channel for value creation through manufacturing and innovation.

India must also confront a less visible vulnerability: feed. The country already faces estimated shortfalls of almost 36% in green fodder, 11% in dry fodder and 44% in concentrate feed ingredients. If animal protein demand grows as fast as predicted, while these shortfalls remain unresolved, pressure on availability and production costs can only intensify. Climate volatility adds further risk.

Feed security and protein security are, therefore, inseparable. So, food businesses need to take greater cognisance of potential supply constraints. Banks and investors that finance agricultural expansion need to

consider whether the feed and resource base can support the inevitable growth. If investments in productivity, infra, and supply-chain resilience don't keep pace with demand, there is a risk of shortages and disruptions.

The other reality that cannot be overlooked is that much of India's protein production depends on smaller producers. Smallholders account for about 72% of milk production, while poultry and fisheries rely extensively on contract growers, fragmented producers, and smaller businesses.

Changing protein production practices requires capital, tech, and technical support. Pace and scale of that change will be severely limited, if the multitude of small producers are expected to absorb those costs alone.

At the very outset, banks can develop appropriate financing, food companies can strengthen procurement incentives and technical assistance, and investors can support infra, processing, and tech improvements that boost productivity, resilience. It is for govts to create an enabling investment and innovation environment.

Naturally, it is critical that producers are given a share in the economic value created during this process. A more efficient food system that transfers additional costs upstream, while concentrating value creation downstream, would miss a fundamental part of the opportunity.

India and Southeast Asia are projected to account for 31% of additional global agricultural and fisheries consumption by 2033. India will, therefore, play an increasingly important role in shaping how food is produced and supplied over the coming decades.

Its strengths are many: vast domestic market, established agricultural supply chains, deep culture of pulse consumption, expanding food-processing capabilities, and millions of experienced producers.

India's protein consumption will not triple overnight, so there is time to prepare but it needs to be done early, and

done right. The country does not need three times more of today's protein system; it needs a more productive, diversified and resilient one capable of meeting growing nutritional demand while creating greater value for farmers, Indian businesses, and the wider economy.

The protein surge is coming. The economic opportunity lies in preparing for it before it arrives.

The writer is director, Protein Transition/Sustainable Food Systems (India), ARE