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Building a Viable Cultivated Meat Ecosystem in India

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Sneha Singh, Managing Director, Good Food Institute (GFI) India

Cultivated meat is emerging as a promising avenue for diversifying protein sources, addressing sustainability concerns and advancing food innovation. In India, consumer interest appears encouraging, with 94 per cent of respondents in a recent Good Food Institute (GFI) India study expressing an intent to try cultivated meat, despite limited familiarity with the category. However, translating this initial curiosity into sustained adoption will depend on several factors, including affordability, taste, accessibility, nutritional value and consumer trust. In this interview with NUFFOODS Spectrum, Sneha Singh, Managing Director, Good Food Institute (GFI) India, discusses the evolving consumer landscape for cultivated meat, the technological and cost challenges facing the sector, India's regulatory readiness and the opportunities for building a robust domestic cultivated meat ecosystem. She also highlights the importance of industry collaboration, research partnerships and investment in accelerating the commercialisation of cultivated meat in India.

Your study found that 94 per cent of consumers intend to try cultivated meat, despite limited familiarity with the category. What do you think is driving this interest, and how accurately does trial intent reflect the potential for sustained consumer adoption in India?

GFI India's study finds that younger, urban, and affluent consumers are already open to experimentation with their food choices, with 72 per cent proactively trying new categories. So, when the concept of cultivated meat is explained clearly, they are able to understand and endorse the technology behind the production process, despite a lack of deep familiarity. Most importantly, cultivated meat addresses many of their long-standing perceived concerns around conventional meat—including quality, freshness, contamination, and antibiotic use in industrial animal farming. Sustainability benefits, such as fewer emissions and less resource use, also enhance cultivated meat's appeal.

While these findings indicate strong potential among early adopters, sustained adoption will ultimately hinge upon the cultivated meat products available in the Indian market, and whether they are affordable, tasty, and accessible—and have the requisite regulatory certifications. Clear and transparent communications that ensure consumers understand what cultivated meat is and how it is made will also be critical, as that is the main driving force in converting initial curiosity into trial and purchase intent.

Taste, affordability, and accessibility emerged as key factors influencing adoption. What technological and production challenges must cultivated meat companies overcome to match conventional meat in taste, texture, nutritional value, and price?

Globally, industry players are coalescing around the need to optimise production by reducing costs and improving process efficiencies that clear the way for commercialisation. Technological innovation, new R&D and scaling partnerships, and the use of artificial intelligence and machine learning are among the key levers that can accelerate that course. Improvements are already underway; for instance, some companies report cell culture media that used to account for 50 per cent of production costs at $0.20 per litre or less in 2025, a reduction of over 99 per cent in just a few years.

Some challenges remain in developing and accessing affordable food-grade media, cell lines, and fit-for-purpose bioreactors locally. Further process innovation, open-source media formulations and cell lines, and shared infrastructure will be critical to reducing capital and operational costs.

To address this, the Department of Biotechnology is making targeted investments into biomanufacturing R&D and infrastructure via the BioE3 policy, which will help scale domestic production of cultivated meat. The launch of the National Biofoundry Network signals clear intent to expand shared infrastructure for smart proteins, while India's first animal stem cell biobank, established in 2025, is primed to improve access to high-quality cell lines for cultivated meat development.

The study indicates that consumers expect cultivated meat to be priced close to conventional meat, with a willingness to pay a premium of only 15–20%. What will it take to achieve cost competitiveness, and how soon could cultivated meat become commercially accessible to Indian consumers?

There is still a way to go before cultivated meat is widely available in India at competitive prices. A near-term end-product strategy is likely to centre on hybrid formats containing 1–15 percent cultivated cells, blended with plant-based ingredients.

Currently, India has an immediate economic opportunity to supply inputs such as food-grade culture media and scaffolding technologies to the global cultivated meat value chain, with domestic startups, fermentation companies, and CDMOs already making inroads.

In the long run, however, India's biomanufacturing prowess positions it to cost-effectively and efficiently scale cultivated meat production. Enabling regulatory frameworks, increased capital allocation, and shared infrastructure through government-funded incubators can accelerate the path to market. For instance, a recent partnership between Clear Meat and the National Institute of Food Technology Entrepreneurship and Management, Kundli (NIFTEM-K) is advancing R&D and creating access to pilot-scale infrastructure.

Trust is a major enabler of consumer acceptance, with safety certifications and regulatory approvals playing a critical role. What regulatory, food safety, and labelling frameworks does India need to establish to support the responsible commercialisation of cultivated meat?

Trust emerges as the single most critical enabler for potential cultivated meat trial and purchase, particularly validation through regulatory approvals (14 per cent cite FSSAI approvals as key), alongside transparent communication of the production process (~11 per cent).

The category falls under the Food Safety and Standards (Approval for Non-Specified Food and Food Ingredients) Regulations, 2017, as a 'novel' food. The regulations provide a broad framework for safety and risk assessment for all novel foods, and the applications are considered on a case-by-case basis.

The current regulatory framework is sufficient for commercialisation of any novel food, including cultivated meat and ensuring safe food reaches Indian consumers. However, we have noticed from international examples that cultivated meat approvals and commercialisation can benefit greatly from upfront guidance from the regulator in terms of safety assessment data that is required, as well as guidance on acceptable terminologies and labelling requirements for marketing. Greater collaboration between the regulator, industry, and academia could help streamline safety data assessment processes. Globally, cultivated meat approvals in Singapore, the US, Israel, and Australia/New Zealand, which have picked up pace between 2025 and 2026, offer some useful precedents.

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Prior to wide-scale commercialisation, India requires clear guidance from the regulator for assessing the safety of cultivated food products and production processes, as well as guidance on acceptable terminologies and labelling requirements for marketing. Greater collaboration between the regulator, industry, and academia could help streamline these processes. Globally, cultivated meat approvals in Singapore, the US, Israel, and Australia/New Zealand, which have picked up pace between 2025 and 2026, offer some useful precedents.

More than 51 per cent of respondents perceive cultivated meat as a good source of protein, while 46 per cent consider it healthier than conventional meat. What scientific evidence is needed to substantiate these nutritional and health claims, and how can manufacturers communicate these benefits without creating unrealistic expectations?

Cultivated meat could be formulated to offer a nutritional profile comparable to conventional meat, without antibiotics, hormones, or contaminants in the end product as is commonplace in industrialised animal agriculture. An FDA-approved study found no detectable bacteria in cultivated chicken samples, compared to conventional raw chicken that contained bacteria.

While these early findings are promising, manufacturers and independent third parties need to generate robust nutritional and food safety data for individual products, particularly as research in this area remains limited in India. Proper labelling, storage, and cooking guidance will also play an important role in ensuring food safety at the consumer level.

Looking ahead, which product categories (e.g., cultivated chicken, mutton, or seafood) hold the greatest potential in India? Additionally, what role could food manufacturers, ingredient suppliers, research institutions, and investors play in building a viable cultivated meat ecosystem over the next five years?

Cultivated chicken emerges as the clear and unanimous first choice for trial, driven by familiarity, versatility in cooking, and concerns over antibiotic use and animal welfare in conventional poultry farming. This is unsurprising, as chicken and eggs are among the fastest-growing protein sources for India, and diversifying this supply with cultivated meat delivers benefits for public health, climate, and animal welfare.

In May, GFI India convened India’s cultivated meat ecosystem at CSIR Innovation Complex, Mumbai, with the Bezos Centre for Sustainable Protein. Discussions by multi-sector stakeholders converged on the need for a consortium-based approach for scaling the sector over the next five years. No single company can address every bottleneck across cell lines, media, scaffolding, and final product development. Instead, different value chain players must collaborate towards shared, end-product-oriented goals.

Blended/public-private financing can help address the sector's high capital requirements, while greater data sharing and a potential industrial sandbox—where stakeholders surface and address problems together—can accelerate innovation and avoid repetitive R&D efforts. Additionally, dedicated academic programmes and hands-on skilling will also be essential to developing the specialised talent needed for cultivated meat commercialisation.