



PLANT-BASED PROCESSED FOOD BUSINESS OPPORTUNITIES IN INDIA

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India's rapidly evolving agriculture product based market is opening a wide spectrum of plant based business opportunities. This market is constituted of many categories which include food items, nutraceuticals, personal care products, textiles, packaging products and bio-based materials. Among all these products the plant based processed food items segment is showing a higher rate of market growth. The demand is being shaped by urbanization, health consciousness, climate and sustainability goals. This article studies the high-potential segments, market trends and drivers, along with opportunities and challenges for founders and investors in this area of plant based processed foods.

Keywords: India, Millets, Plant-based foods, Plant based dairy, Plant based protein, Plant based food market, vegan.

Introduction

India is uniquely positioned for plant-based growth: a large vegetarian base, deep culinary traditions in legumes and millets, and strong agri value chains. Despite ongoing global challenges in the alternative meat category, particularly regarding price and taste gaps, resilient sub-segments such as tofu, tempeh, plant protein ingredients, baked goods, and protein powders demonstrate sustained growth, while Indian consumers are exhibiting increasing awareness of plant-based processed foods. This has resulted in a growing trend in plant-based foods and proteins. Together, these create a differentiated opportunity set rather than a single monolithic vegan bet. Plant-based business opportunities in India range from creating plant-based dairy alternatives (like soy milk, almond milk, and vegan cheese), meat and seafood substitutes (such as vegan chicken nuggets and kebabs), and plant-based snacks, to establishing organic food farms and processing businesses for spices, fruits, and vegetables. Other ventures include plant-based beverage production, ready-to-eat (RTE) plant-based meals, and the

development of innovative products like plant-based protein powders, plant-based yogurts, and other plant-based alternatives.

Here are some key plant-based food business opportunities in India:

- Plant-Based Dairy: products like oat, soy, almond, coconut, and cashew-based milks, yogurts, cheeses, and butter.
- Plant-Based Meat & Seafood: vegan alternatives to meat and seafood using ingredients like soy, pea protein, and mushrooms to make sausages, burgers, kebabs, and more.
- Plant-Based Protein¹: plant-based protein powders, bars, and snacks.
- Plant-Based Snacks & Desserts: vegan cookies, cakes, and other desserts.
- Fruit & Vegetable Processing: processing fruits and vegetables into pulps, powders, and dehydrated products.
- Spice Processing: Process spices into powders and other forms for the growing domestic and global market.
- Ready-to-Eat (RTE) Meals: Develop ready-to-eat meals and frozen foods using plant-based ingredients.

- Plant-Based Ghee and Spreads: vegan ghee and other plant-based spreads.
- Whole-Food Plant-Based (WFPB) Products: minimally processed, whole-food vegan products to cater to the rising health-conscious consumer segment.

Market Drivers and Demand Signals

Plant based processed food sector in India till recent was traditional in nature with a limited variety of food products. But presently this sector has diversified immensely. Now we see the presence of mock meat which taste like regular meat and plant based dairy alternatives which have good taste. An increasing number of consumers are adopting plant-based and vegan diets due to health benefits, environmental awareness, and ethical concerns. Consumers find plant based processed foods more sustainable, healthier, cruelty free and closely associated with Indian cultural values. The sector is seeing significant innovation, with advancements in creating products that mimic the taste and texture of conventional meat and dairy. There is a growth in infrastructure in this sector along with faster dissemination of knowledge and technologies. Moreover, various government and other organisations are tracking and promoting growth in this sector, identifying it as an important area for investment.

Some of the key factors fuelling this demand are:

- Protein awareness: The mainstreaming of protein awareness, facilitated by media representation, quick-service restaurant offerings, and sports endorsements, is contributing to a growing demand for accessible and affordable protein formats, thereby creating opportunities for dals, millets, tofu, tempeh, seitan, and protein-enriched staple foods.
- Category Nuance: At the global level, certain plant-based meat stock-keeping units (SKUs) have encountered growth constraints due to persistent challenges related to taste and price². In contrast, other

product categories—such as protein powders, tofu, tempeh, and plant-based baked goods—have demonstrated more consistent growth trajectories. These trends indicate that, within the Indian context, greater emphasis should be placed on affordability, culinary compatibility, and functional attributes, rather than relying exclusively on imitation-based meat alternatives.

- India-Specific Momentum: Within India, the momentum surrounding plant-based processed foods is being accelerated by consumer and trade organizations, industry associations, and targeted promotional events. Recent market research suggests that the Indian plant-based foods sector, though currently emerging from a relatively small base, is already valued in tens of crores and is exhibiting strong growth potential. This points to an early-stage yet expanding opportunity in the domestic market.
- Consumer Motivations: Several factors underpin consumer interest in plant-based processed foods in India. These include alignment with traditional cultural and dietary values, the increasing adoption of veganism, health-related concerns such as food allergies, as well as environmental sustainability considerations³. In addition, taste and sensory experiences play a pivotal role in shaping consumer acceptance and repeat purchase behaviour .

Opportunity Map

The Indian government has implemented several schemes to support the food processing sector, which included plant-based products, through funding for infrastructure, technology, and marketing.

The Ministry of Food Processing Industries (MoFPI) ran several central sector schemes in the 11th Five-Year Plan. These included:

- Scheme for Technology Up-gradation/Establishment/Modernization of Food Processing Industries: This program offers financial assistance for capital

investment to modernize and upgrade food processing facilities.

- Scheme for Mega Food Parks: This initiative focuses on creating large, integrated food processing facilities with modern infrastructure.
- Scheme for Cold Chain, Value Addition, and Preservation Infrastructure: This scheme provides support for establishing integrated cold chains.
- Scheme for Quality Assurance, Codex Standards, R&D, and Promotional Activities: This program aims to improve food safety standards and promote the sector through research and development.

The government has taken an important initiative in form of the National Mission on Food Processing (NMFP) (launched in 2012), which consolidated and decentralized existing schemes. The NMFP is the primary program targeting the food processing sector. It is a centrally sponsored scheme implemented by the states and union territories to give them more flexibility in addressing local needs.

Key components of the NMFP that supported plant-based processed foods:

- Establishment and modernization of food processing units: The scheme provides credit-linked financial assistance as a grant-in-aid to entrepreneurs to establish new units or upgrade existing ones.
- Creation of primary processing canners: Grants are provided for creating processing and collection canners in rural areas, enabling farmers to process their produce closer to the source⁴.
- Infrastructure development: The scheme promotes infrastructure for agro-processing clusters and cold chains. This includes cold storage facilities and reefer vehicles for non-horticultural products, which help in reducing wastage of perishable agricultural produce.
- Human resource development: Financial assistance is provided for Food Processing Training Centers (FPTCs) and Entrepreneurship Development Programs (EDPs) to build capacity and skill.

Support for Micro, Small, and Medium Enterprises (MSMEs): While not exclusive to the food sector, several general MSME-support schemes are also available like: .

- Prime Minister's Employment Generation Programme (PMEGP): This scheme provided financial assistance for setting up new micro-enterprises.
- Credit Guarantee Trust Fund for Micro and Small Enterprises (CGTMSE): This trust provided collateral-free credit for MSME projects.

Challenges for stakeholders

The primary challenges for India's plant-based food processing industry include high production costs, leading to higher prices that deter consumers⁵. Inadequate cold chain logistics and an absence of infrastructure for temperature-controlled transportation hinder expansion and scalability. Mimicking the taste and texture of animal-based foods remains difficult, as does ensuring food safety by preventing cross-contamination and controlling contaminants like pesticides. Furthermore, the sector faces a lack of consumer trust and adequate funding, while also grappling with the need for better supply chain linkages and regulatory frameworks.

Some of these challenges are discussed here:

Cost and Affordability

- Price Sensitivity: Indian consumers are price-sensitive, making the high cost of many plant-based products a major obstacle to widespread adoption.
- Lack of Capital: Insufficient funding for the underfunded sector prevents companies from reaching price parity with conventional products.
- Cold Chain Deficiency: The absence of robust cold chain logistics, including temperature-controlled transportation and storage, limits the distribution and scalability of temperature-sensitive plant-based products.

- **Supply Chain Gaps:** There are significant gaps in the supply chain, from inadequate primary processing and storage facilities to a poor linkage between raw material production and processing.
Product Quality & Safety
- **Taste and Texture:** Developing plant-based products with a taste and texture comparable to meat and dairy products remains a significant challenge for the industry⁶.
- **Food Safety Risks:** Plant-based foods are susceptible to food safety issues, such as the presence of contaminants (heavy metals, pesticides, hexane) and cross-contamination from animal-derived ingredients during processing⁷.
- **Off-Flavors:** Plant materials can naturally have off-flavors, like grassy or beany notes, which need to be formulated out or masked during processing.
Consumer Trust & Acceptance
- **Taste Expectations:** Consumers prioritize taste, and if plant-based products don't deliver satisfying flavors, they may forgo them, even if they offer nutritional benefits.
- **Misconceptions:** There is a need for consumer education regarding the safety and benefits of plant-based foods, as misconceptions can act as barriers to acceptance.
- **Slow approval for novel ingredients:** For genuinely novel ingredients or those not specified under existing regulations, the approval process can be lengthy and challenging, which hinders innovation and speed to market.
- **Lack of harmonization:** India's food processing regulations as a whole are complex and inconsistent. Aligning Indian standards with international ones remains a hurdle for companies looking to export or expand globally.

Research gaps and future directions

The plant-based processed food sector has witnessed significant growth in recent years, driven by consumer demand for healthier, sustainable, and ethical food options. However, several research gaps and future directions remain to optimize business opportunities in this evolving market. Despite advancements, plant-based products often fall short in replicating the taste, texture, and mouthfeel of their animal-based counterparts. Addressing these sensory attributes is crucial for broader consumer acceptance. While plant-based foods are generally considered healthier, some processed alternatives may lack essential nutrients like iron and vitamin B12. Research is needed to enhance the nutritional profile of these products without compromising taste or texture⁸. Adoption of plant-based diets faces challenges due to social, cultural, religious, and economic factors. Understanding these barriers is essential for developing strategies to promote plant-based foods across diverse populations. While plant-based foods are generally more sustainable than animal products, the environmental impact varies across different production methods⁹. Comprehensive studies are needed to assess and minimize the ecological footprint of plant-based food production. Research into harmonizing labelling standards can facilitate consumer understanding and industry expansion.

Regulatory and Policy Hurdles

Plant-based food businesses must navigate regulations, such as ensuring integrity and complying with labelling requirements, which can be complex, undefined standards, and manufacturing complexities.

Some of the hurdles associated with unspecified food standards include:

- **Proprietary food classification:** In India, plant-based products are often categorized as "proprietary foods" because they use standardized ingredients but in innovative formats. However, this is a broad classification, and the absence of specific standards creates ambiguity for manufacturers regarding safety and quality.

Conclusion

India's plant-based processed food sector encompasses a diverse range of enterprises engaged in the development of dairy alternatives—such as soy, almond, and oat-based milks, vegan cheese, and butter—as well as meat and seafood substitutes, including plant-based nuggets, kebabs, and burgers. The sector further extends to the production of snacks, desserts, and ready-to-eat (RTE) meals, alongside the establishment of organic farms and processing units for spices, fruits, and vegetables. In addition, emerging ventures focus on beverages, protein powders, plant-based yogurts, and whole-food alternatives

that align with consumer demand for health and sustainability. Beyond food, plant-based innovations are also evident in adjacent domains such as wellness, packaging, and bio-based materials. To ensure long-term competitiveness, successful business strategies in this sector emphasize localization of taste and affordability, alignment with regulatory and policy frameworks, adherence to credible certification standards, and the integration of export-oriented quality practices from the outset. Collectively, these approaches position the sector to create durable economic and social value over the coming decade.

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