Euromonitor Consulting

Kingdom of the Netherlands

QUEST FOR PLANT PROTEIN INDIA 2020

A presentation compiled by Euromonitor International for **Embassy of Kingdom of Netherlands in India**

15th October 2020

- Study Context and methodology
- How is the Indian plant protein market shaping up?
- How is the business environment in the sector?
- What kind of technology evolution and innovation is the sector experiencing?
- Opportunities and learnings from the plant protein market in India

Research Methodology

Internal Ideation Sessions to define the categories

Trade Interviews

25 In-depth discussions with key players and scientific institutes working in the sector

Data Synthesis

In-depth analysis of information collected from all sources

Final Reporting

A foundation based on secondary research from **Ministry of Agriculture ICRISAT, ICAR, NIN, Company's press releases, etc**

In –house Passport data

Secondary Research & Industry Screening

Interviews conducted with seasoned experts, like plant protein innovators, researchers, and govt. representatives

Industry Experts

Estimate the market potential and identify opportunities for collaboration with Dutch companies

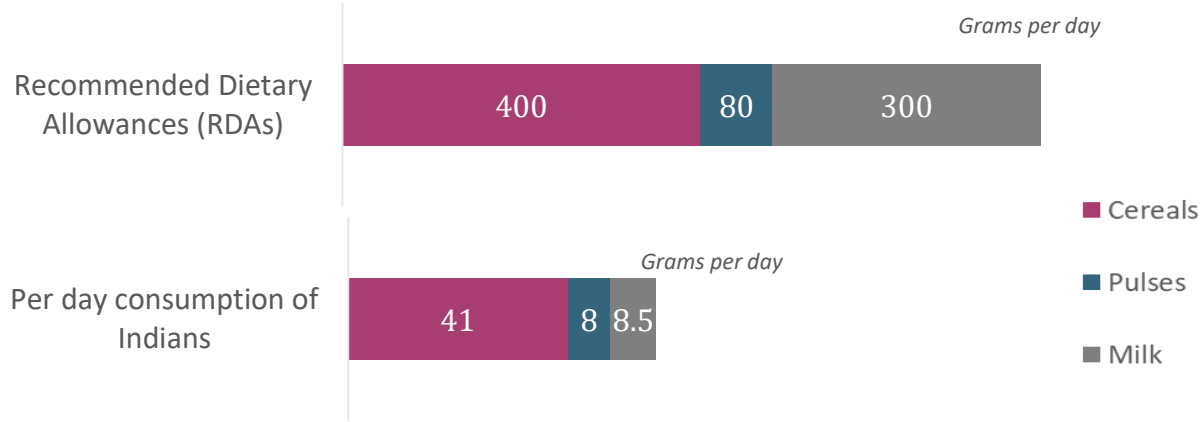
Interpretation & Assessment

How is the Indian plant protein market shaping up?

Protein Consumption: An Indian perspective

As per the Indian Dietetic Association, people consuming **vegetarian diets are claimed to be 84% protein-deficient, mainly due to lack of awareness about right quantity, quality**

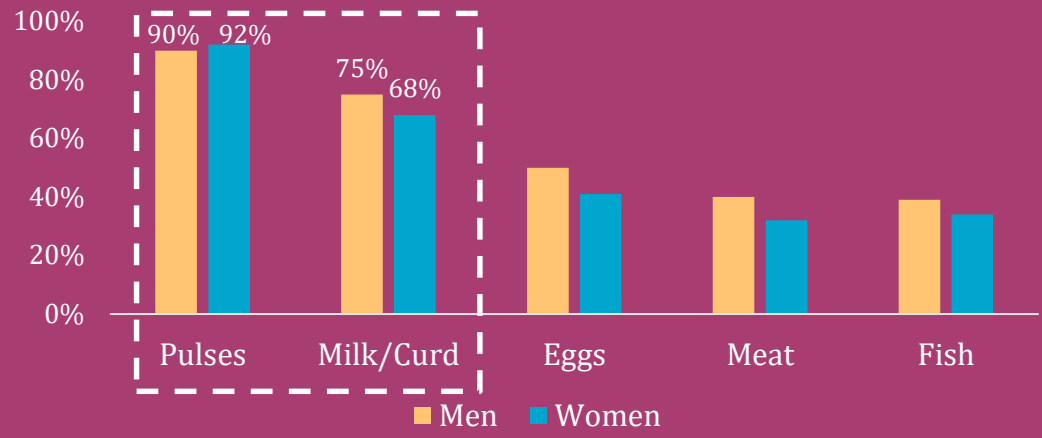
About **65% of Indian non-vegetarian diets are also deficient in protein**



About **93% are unaware of the ideal protein** requirement

Source: RDA -2010 for moderately active person

Top protein contributors in Indian diet, 2019



Consumption in at least a week

75% Indians are Lacto-vegetarians and around 25% vegetarians are lacto-ovo-vegetarians i.e they consume eggs and dairy products but no meat.

Plant Protein in India

USD 427 million

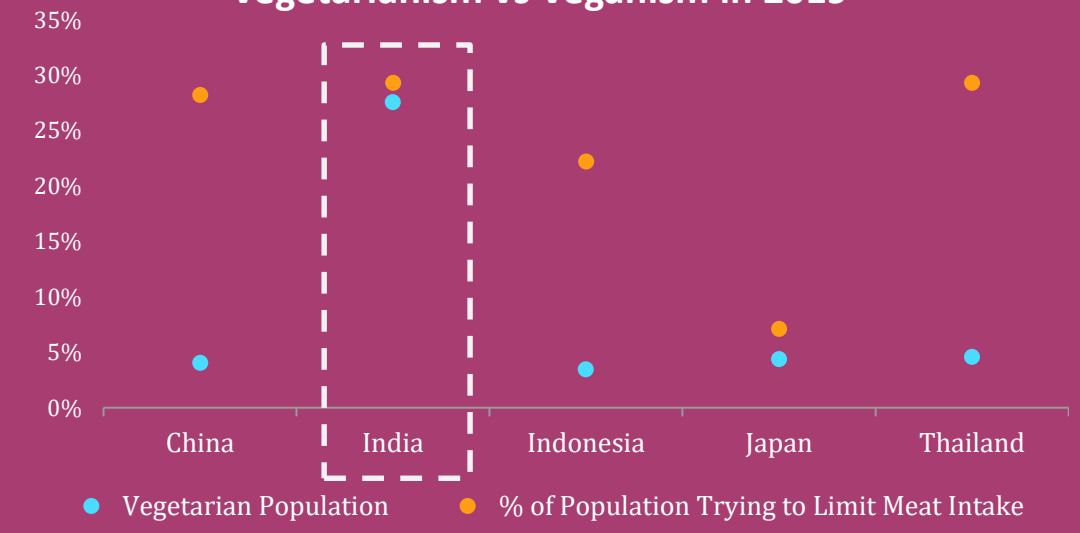
India's Plant Protein Market Size, 2019

14.5%

CAGR 2019-2024

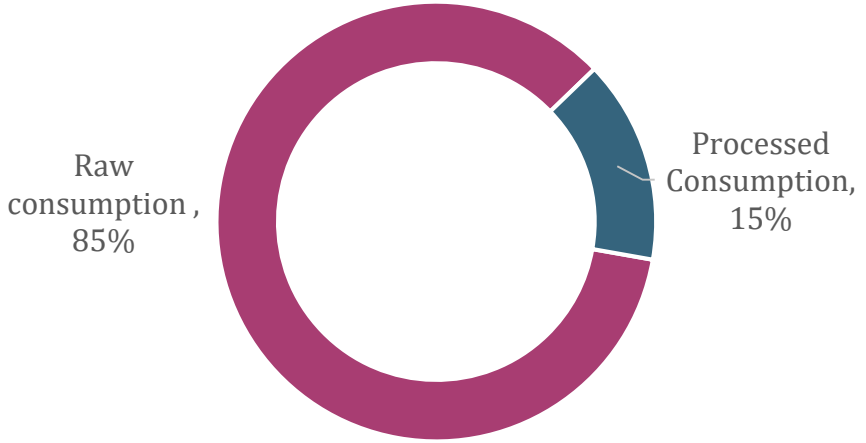
Captures around 10% of the Asia-Pacific plant protein market

Vegetarianism vs Veganism in 2019

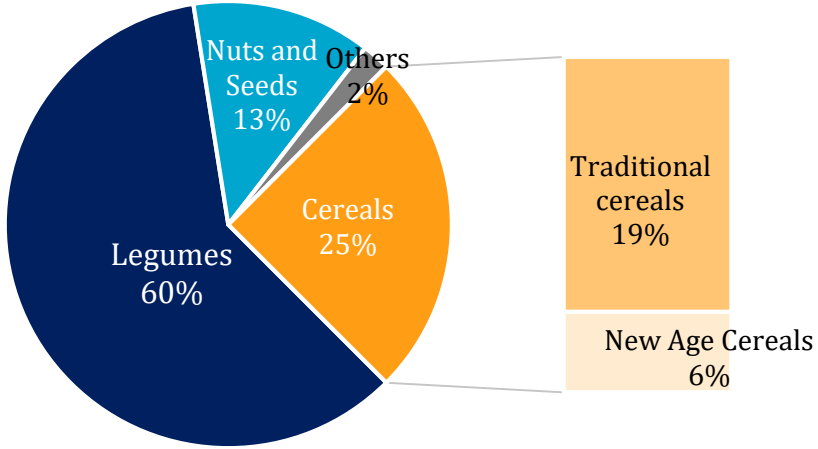


Source: Euromonitor International

Raw plant protein consumption dominates the Indian market



However, India's food processing sector is one of the largest in the world and ***its output is expected to reach USD 535Bn by 2025-26 with CAGR of 11.7%.***



Soy production dominates the Indian plant protein market

Source: Euromonitor Research

Future growth could be enabled by India's protein-rich crop heritage, greater awareness about fitness and greater public and private stakeholder pro-activeness in addressing imminent health challenges

Drivers

Growing population, especially middle-income group

By 2027, India is expected to be the world's most populous country, surpassing China. Experts believe that an increasing number of population is expected to take into account environmental aspects of their protein consumption

Agricultural biodiversity

India has a wealth of plants that are low-maintenance, form part of traditional diets, and are nutritious, such as millets and pulses.

Onset of COVID-19

The ongoing coronavirus pandemic has additionally exposed the health, safety, and supply chain vulnerabilities of animal meat. ***Companies selling vegan products are seeing a 40-60% jump in demand since the onset of Covid.***

Greater awareness about fitness and nutrition

Growing youngsters and middle-aged population who frequent gyms and fitness clubs are driving health consciousness among this growing consumer group

The sports nutrition market is expected to grow at 23% by 2023

Challenges

Low awareness of processed plant protein products

While Indian are massive consumers of raw plant product like lentils and pulses, processed products awareness and acceptance is prominent among urban consumers only. It is slowly picking up in smaller cities with the support of government campaigns

Infrastructure challenges

India's cold chain storage and transportation capacity is still ill-equipped to handle its fresh produce volumes, despite recent government efforts, making intra-state transportation challenging and costly

Constrained R&D Ecosystem

India's overall R&D spending as a percentage of GDP is lowest even among BRICS nations. Government institutions are restrained by funding challenges.This makes them ill-suited to the pilot-scale R&D required by start-up firms.

Role of government in development of the sector

In 2020, Government introduced new farm laws to remove the compulsion of farmers to sell to government-licensed marketplaces and agents, allowing private buyers to enter the market and allowing more storage capability; **open opportunities for contract farming with global players**

The central government allows **100% foreign direct investment (FDI) in the food processing sector**, to encourage development of manufacturing and cold chain facilities.

Special emphasis on creation of cold chain infrastructure at farm level**;**
Grant-in-aid of maximum of USD 100 million for plant & machinery, with different thresholds for storage infrastructure, value addition/processing infrastructure and irradiation facilities;

Trade Results with government support

India **exports agricultural products and processed foods to more than 100 countries/regions** with major exports to the Middle East, Southeast Asia, SAARC countries, the European Union (EU) and the US.

During 2018-19, India's exported agricultural and processed food products worth USD 38.49 Bn, **out of which USD 7.8 Bn was pulses and lentils**

India protein Day
27th February, 2020

A nationally celebrated Protein Day to encourage Indian citizens at large to learn and know more about different types of available sources of plant protein

The Indian government, in a first, has released a poster endorsing the benefits of a plant-based diet.

Ministry of Health and Family Welfare (MoHFW), along with FSSAI, is promoting inclusion of protein-rich, plant-based food to consumer diets, to build a strong body and good immunity during COVID-19

How is the business environment in the sector?

Snapshot of Business landscape

Emerging Companies in Plant-protein products

60-70% companies in protein market are looking for international collaboration for further development

Institutes working towards development

90% of these institutes and researchers are actively looking for opportunities to learn from International markets to explore protein opportunities

Products have moved beyond the fitness niche (powders/mixes) and entered mainstream kitchens through dairy substitutes and ready-to-cook options

- *Contains soy protein isolate and flour from soy, quinoa, oat and rice, along with pea protein*
- *Claims to be rich in proteins, fortified with micronutrients*

- *Contains sesame oil and fortified with vitamin A*
- *Closer to butter compared to other non-dairy spreads*

- *Claimed to be high in protein and rich in dietary fibre*
- *Contains jack-fruit , pea protein isolate and coconut*
- *Ready-to-cook format with texture and visibility similar to chicken*

- *Contains gram flour, bajra millet, rice flour and tapioca flour, in addition to pea protein and chia seeds*
- *Protein-rich and fibre and claimed to be free of added sugar, preservatives and free from gluten*

Even plant-based/Vegan themed restaurants are making their space in India

Mumbai

Carrots, Bangalore

Varanasi

The Real Green KITCHEN

YOUR OWN VEGAN CLOUD KITCHE

Hyderabad

Potential consumer groups in India

40%

Vegetarians and Flexitarians

Largely vegetarian population by culture and those who are moving towards it amid religious believes

25%

Millennials and Middle class

A significant fraction of the fast-growing Indian middle is moving towards vegan diet

10%

"Guilty" meat eaters

A part of 70% non-vegetarian population who wouldn't eat at home but will eat out, for various reasons. They can take (plant-based meat) home and cook it.

45%

Health conscious consumer

People seeking healthier option and non vegetarians who want to cut down on meat to avoid cholesterol and trans fat

83%

Protein Deficient

Beyond more affluent Indians purchasing new proteins, accessible and affordable new protein sources pose significant benefits to public health

5%

Ethical Consumers

These are the consumers who still wish to consume meat and dairy but wants to reduce the quantity on ethical, environmental and/or health grounds

X% *Estimated potential consumer base for plant-based protein products*

What kind of technology evolution and innovation is the sector experiencing?

Emerging product applications in processed plant protein products

Protein supplements (powders/shakes/bars)

Like dairy, **soy-based supplements** were the early popular products and recent innovations include proteins sourced from **pea, rice, quinoa,** and **almond**.

65%

Plant-based dairy

After milk, applications have come up in formats such **as ice-cream, yoghurt, butter-like bread-spreads, mayonnaise and cheese.**

15%

Plant-based meats

Recent emergence in India, the prominent **product formats being kebabs, minced meats (keema), biryani (rice dishes) and nuggets.**

6%

Plant-based Eggs

Egg-like products are being created from lentils, but this is at a very nascent stage in India.

2%

Plant-based Seafood

Plant-based seafoods have seen recent innovations, with products such as **fillets** and **slices**.

2%

X% *Estimated share in the processed plant protein market*

Plant Protein in India : State of play (1/2)

Tapping into new protein crops

- Protein innovators are exploring thousands of new crops that can be consumed and have varied applications
- Eg: pea protein, multipurpose moringa tree, bambara groundnut, millets, etc.

High

Diversification and varied applications of protein

- Pea protein to create dairy products
- Millets usage in burgers and pizzas
- Using chickpea and almond in baking products to make it “gluten-free”

Medium

Innovation in plant protein processing

- Precision breeding or gene editing for crop optimization
- Extrusion usage in producing cereals, puffed snacks, bars, pastas, etc.
- Adaption of upstream approach to manufacture raw plant protein ingredients

Medium

Plant Protein in India : State of play (2/2)

Execution of knowledge to improve protein alternatives

- Texturization of plant-based proteins
- Retention technologies for maintaining high moisture
- Isolation process for protein crops like mung bean, pea protein, chickpea

Low

Growing Business environment

- Support from government to SMEs
- Strong presence of start-up ecosystem and supporting research institutes

Medium

Demand and Supply Side

- Large production and exports hub of pulse and lentils
- Consumers portraits strong demand

Medium

Consumer acceptance of plant-protein products

Medium

Where is the need gap for further development?

1. **Boost taste, texture and nutritional profile through R&D investment**

   Currently, dry texturization of soy-based meats is being extensively done, but this process falls short when trying to achieve meat-like texture while developing products such as steaks and burger patties.

2. **Offer better protein quality leveraging Soy protein, which accounts for 60% production**

   India needs investments in protein purification so that isolates can be better extracted which will help in developing newer products.

3. **Reduce production cost to bring affordability, leading to greater impact to target mass protein deficient consumers**

   Adoption of modern intrusion techniques will help new product development, e.g. pulse analogues, processing of millets, almonds, newer seeds (pumpkin, hemp, chia), etc.

Opportunities and learnings from Indian plant protein market

Opportunity Considerations in technology

Research focused — **Technology focused**

Support for additives such as thickeners and gums *(currently imported)*

Research panel to bring affordability for pulse concentrates

Knowledge on Protein Purification techniques

Creating Daal (pulses) analogues using extrusion techniques

Texturization knowledge and techniques

Processed protein products in meat and dairy alternative market

Infrastructure, equipment, and lab facilities to foster R&D activities

Plant protein food labs in universities

Millets processing and by-products

Address processing challenges in almonds, pumpkin seed, and hemp seed proteins

As per the industry players innovation plans, the companies are looking for investing in processing techniques to retain the quality of produce

Opportunities to leverage on

1. **Investing in Millets and Sorghum processing** to create high-quality end products that can be further expanded with exporting opportunities

2. **Knowledge sharing on extraction techniques of legumes** seems like an attractive opportunity, as emerging mung bean and chickpea are being explored for different applications like eggs, meat, flours, etc

3. **Research driven collaboration to grow processed product market** recipes like burgers, ready-to-cook formats to accommodate Indian tastes and texture which compliment Indian taste buds

4. **Collaboration and technology support to emerging dine-in restaurants and QSR** which is gaining traction in the metro and tourist cities among urban young Indians

Mega Food Parks to consider while collaboration

Challenges to be aware of….

1. **India’s duties on imports of protein supplements (concentrates and textured substances) and food processing machineries are extremely high at 66.4% and 26.8. %.** Hence, manufacturers are compelled to increase prices in India to protect margins.

2. **India’s cold chain infrastructure, with a capacity of ~30 million tonnes enough to store barely 11% of the country’s fresh produce.** Hence, importers are faced with burgeoning costs of operations

3. Even after there is 100% approved FDI in the food processing sector, **companies may need to seek approvals from different departments like FSSAI which is time consuming, complex and need assistance from domestic entities**

4. **Slow adoption and gap in awareness among Indian consumers should be considered** while stepping into processed plant protein market. Commitment to long-term investments in raising awareness of the pitfalls of a protein-deficient diet, and encouraging adoption plant protein sources

Emerging Plant Protein : An Indian perspective

The Beginning

Vegetarians and Vegans

Last year, ***at least 21% of Indian consumers tried a vegan diet.***

The Now

Enthusiasts and Flexitarians

3 in 10 *Indian consumers say they will like to try food products that contain plant proteins.*

The Future

Everyone?

Defining future of plant protein in India with International collaboration

Knowledge sharing to match global standard like **protein purification methods, texturization techniques, extraction of indigenous crops other than Soy**

Innovation support in **new product development to further develop alt-protein market like meat, dairy, eggs**

Collaboration with new-age companies working in the plant protein sector to scale up their business and expand to other promising markets/regions like SEA, Europe, etc

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If you have any questions or are interested in learning more about this study, kindly feel free to reach out to the stakeholders mentioned below -

Quest for Plant Protein India 2020

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