



Prosperity



Food Processing



Actionable Area

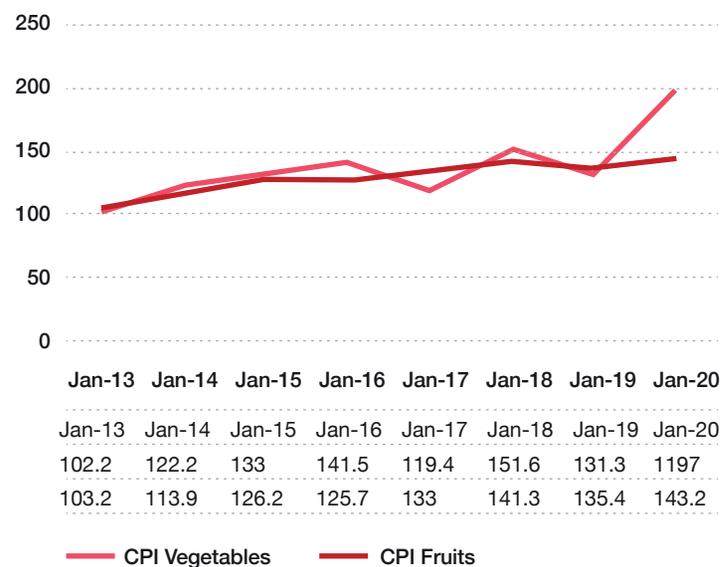
Improving access to nutrition through processed foods for combating malnutrition, micronutrient deficiencies, and reduced consumption of nutrients of concern.

Issue

- Despite being the world's largest producer of milk & pulses and the second-largest producer of rice, wheat, sugarcane, groundnut, vegetables, fruits, and cotton, the level of food processing in India is still low and limited to low value processed products.
- Meanwhile, 14% of India's population is undernourished. 'The State of Food Security and Nutrition in the World, 2020' report states that 189.2 million people are undernourished in India, and 34.7% of the children aged under five in India are stunted. In addition to all this, as per Global Hunger Index (GHI) 2019, India has been ranked 102 out of the qualifying 117 countries that were assessed.
- Between 1993 and 2011, the proportion of household expenditure on total food items decreased in rural and urban households. However, the proportion of income spent on fruits and vegetables has not changed much over time. On average, the Indian diet pattern is skewed towards cereals, and fruits and vegetables account for only 9% of the total calorie intake.

The consumption of fruits and vegetables is further impacted by the price volatility of these products.

Price Fluctuation of Fruits and Vegetables



Source: Ministry of statistics and Program Implementation (MOSPI)



- Currently, the country's consumption and food processing baskets are skewed towards cereals. This is primarily due to more conducive policy support for cereal production through assured procurement systems. These policies were indeed the need of the era prior to the mid-1960s when India was heavily dependent on imports and food aid to meet domestic requirements. But with the changing scenario now with India being a food surplus, there is a need to focus on more nutritious food such as fruits, vegetables, dairy, meat, etc.
- A well-developed food processing sector with a higher level of processing will help in the reduction of wastage, improve value addition, promote crop diversification, ensure better return to the farmers, and also address critical issues of food security, food inflation, and providing wholesome, nutritious food to the masses.

Status

- India currently processes less than 10% of its agriculture output (only around 2% of fruits and vegetables, 6% of poultry, 21% of meat, 23% of marine, and 35% of milk). Most of the processing done in India can be classified as primary processing – done through rice, sugar, edible oil, and flour mills, etc. However, primary processing offers lower value-addition compared to secondary processing that includes processing of high-value items viz fruits and vegetables, dairy, bakery, chocolates, etc.
- The high production levels and low current processing rates provide a huge opportunity for the sector's growth. Besides being a large sourcing hub for agricultural produce, India has the advantage of a large and growing market. Changing consumption patterns due to urbanisation, changes in the gender composition of workforce, and growing consumption rates have contributed to the increase in the size of the processed food market. The output of India's food processing sector is expected to reach USD 535 billion by 2025-26.
- However, to fully benefit from this growth potential, the need of the hour is to move up the value chain in processed food products by establishing efficient backward linkages to contribute to the nation's food security and providing healthy processed foods towards mitigating the country's malnutrition rates.
- The areas witnessing double-digit growth within the processed food segment include breakfast cereals, bakery products, processed fruits and vegetables, processed meat and seafood, pasta/noodles, ready-to-eat meals, sauces, and dressings. Growing consumer awareness is also leading to a demand for healthier product options. This has led to new and innovative products such as ready-to-eat meals, cold-pressed juices, etc., gaining popularity.
- Meanwhile, towards combatting malnutrition, staple food fortification is gaining prominence. The government has initiated several steps towards enhancing the consumption of fortified food for children and the more vulnerable segments of the population. The FSSAI has also initiated the process for setting regulations for mandatory



fortification of edible oil and packaged milk and, more recently, standards for processed foods such as breakfast cereals, buns, rusk, pasta, noodles, processed foods, etc.

- While a typical Indian diet focused on cereals may meet the calorie requirements, a key challenge is in meeting high-quality protein and fat intakes. It is pertinent to note that India's nutrition challenges span several fronts. On the one hand, a large portion of the lower-income classes is undernourished. On the other hand, the more well-off income classes are seeing an increasing rate of lifestyle diseases, such as diabetes, hypertension, and coronary heart disease.
- It is essential to control nutrients of concern (fat, salt, sugar) in processed foods to mitigate the latter. The government initiated the 'Eat Right India' campaign to bring about dietary modifications to reduce diet-related non-communicable diseases like diabetes, hypertension, heart diseases, etc. In line with this, several food manufacturers have begun reformulating their products to reduce the levels of salt, sugar, and saturated fats and increase positive elements of dietary fibres. Additionally, regulations are also under discussion on Front-of-Pack labelling to provide information on these nutrients and enable consumers to make judicious choices.

Government Initiatives

- To strengthen the food processing sector, the government has launched several initiatives to attract investments, incentivising primary processing infrastructure towards ensuring lower wastage, better shelf life, and nutritious values; enabling higher levels of processing through enabling the framework of mega food parks; and building consumer awareness regarding nutrition.
- 100% FDI is permitted under the automatic route in food processing industries.
- 100% FDI is permitted in the manufacture of food products and trading (including through e-commerce) for food products manufactured and processed in India.
- The whole idea is to increase FDI in the food processing industry, which in turn offers a huge opportunity for the sector by way of enhanced scope for technology transfer, backend integration, and expansion of the food processing industry as well as increased employment by way of setting up of more food processing units.
- Production Linked Incentive Scheme for Food Processing Industry (PLISFPI): The scheme has been launched to support the creation of global food manufacturing champions; promote Indian brands of food products; increase employment opportunities for off-farm jobs, ensure remunerative prices of farm produce and higher income to farmers. The critical components of the scheme include
 - a. Incentivising manufacturing of four major food product segments viz. Ready to Cook/ Ready to Eat (RTC/ RTE) including millet-based foods, processed fruits & vegetables, marine products, and Mozzarella cheese.
 - b. Incentivising innovative/ organic products of SMEs across all the above four food product segments, including free-range- eggs, poultry meat, and egg products.
 - c. Support for branding and marketing abroad to incentivise the emergence of strong Indian brands.
- **Operation Greens:** Under the scheme, the Ministry of Food Processing Industries (MoFPI) provides financial support on transportation of eligible crops (horticulture) from surplus production cluster to consumption centre; and/or hiring of appropriate storage facilities for eligible crops.

- **Agri Infrastructure Fund:** The scheme provides a medium to long-term debt financing facility for investment in viable projects for post-harvest management infrastructure and community farming assets through interest subvention and financial support.
- **Mega Food Parks:** The Mega Food Park Scheme is based on a “cluster” approach. It envisages creating state-of-the-art support infrastructure in a well-defined agri/horticultural zone for setting up modern food processing units in the industrial plots provided in the park with a well-established supply chain. Mega Food Park typically consists of supply chain infrastructure including collection centers, primary processing centers, central processing centers, cold chain, and around 25-30 fully developed plots for entrepreneurs to set up food processing units. Currently, 41 Mega Food Parks have been approved under the scheme, of which 22 are operational.
- **Regulation support:** FSSAI established standards for fortifying rice, wheat flour, edible oil, double fortified salt (DFS), and milk in 2016. The momentum for fortification accelerated with the 2018 regulations being put in place. With fortified staples, problems of iron deficiency anemia, neural tube defects, iodine deficiency disorders, and deficiencies related to vitamin A, D, and B12 can be addressed effectively. For instance, wheat flour (with Iron, folic acid, and B12), oil (with vitamin A & D), salt (with Iron and iodine).
- Additionally, MoFPI provides financial assistance to the food industry for capital equipment and its installation for fortification, value addition, and demand creation.

- The government has made it mandatory to use fortified oil, fortified wheat flour, and double fortified salt in Mid-day Meal and Integrated Child Development Services (ICDS) programmes to strengthen child nutrition. Further, the government plans to distribute fortified rice through the ICDS and Mid-Day Meal Schemes across the country from the year 2021.
- The Government has also undertaken several campaigns to promote consumer awareness, such as Right to Protein, a nationwide public health initiative. It was announced in 2019 to educate people about the importance of proteins for their general health, fitness, and wellbeing. Also, the ‘Eat Right India’ movement was launched by FSSAI to improve the nutritional profile of processed food products in India.

Private Sector Initiatives

- The food processing companies in India have already shifted their focus to enabling access to nutrition with more prominence on lowering nutrients of concern, improving micronutrient access through fortification, enabling protein intake through innovative products, etc.
- In line with the government’s ‘Eat Right Campaign,’ around 20 key food companies pledged to reformulate their products towards lower values of salt, sugar, and saturated fats. This focus has led to the launch of several new products such as ‘zero sugar’ product versions, amla-based drinks, lower salt content through the use of micronized salt, products with positive nutrients such as

high dietary fibers, etc. Given the high demand for foods such as noodles and pasta, companies are launching healthier variants replacing wheat with maize, ragi, millets, etc. The changing mindset of the urban consumer and a growing focus on nutrition awareness has led to companies constantly researching reformulating their products in a step-wise manner.

- Presently, 157 brands of five fortified staples are available in the open market with a pan India and regional presence. There has been tremendous traction in the oil and milk industry, with 47% of the top ten packaged refined edible oil industry players and 36.6% of the organised milk industry fortifying as per FSSAI standards. A prominent change has been seen in the uptake of plant-based proteins, including chickpeas, lentils, barley, almonds, etc. Plant-based proteins have already picked up in India, especially given the country's large vegetarian population. In India, the alternative protein sector can also help fight malnutrition sustainably.
- Growing awareness on nutrition, preventive healthcare, and rising cases of lifestyle diseases such as obesity, blood pressure, diabetes, etc., has shifted focus to the health supplements sector in India. As a result, the Indian Dietary Supplement Market was valued at USD 3924.44 million in FY2020 and is predicted to grow at a CAGR of 17.28% until FY2026, to reach USD 10,198.57 Million.

Vision 2030

- **Increase consumption of fruits and vegetables towards increasing calorie intake from 9% to 20% by 2030**
- **Leverage food processing towards reducing malnutrition rates in line with the NITI Aayog's SDG India Index and Dashboard Report -Reduce anaemia in children (6 – 59 months) from 40.5% to 14% by 2030**
 - a. Reduce stunted growth in children (<5 years) from 34.7% to 2.5 % by 2030
 - b. Reduce prevalence rate of underweight among children (<5 years) from 33.4 % to 0.9% by 2030.

Pathways

POLICY



Promote value addition of fruits, vegetables, and Nutri-cereals such as millets by enabling producers better access to technology, product knowledge, best practices, etc.

To offset India's protein deficiency, affordability is crucial; thus, bioavailable protein sources such as soyabean should be leveraged. Such products should be included in mid-day meals and other schemes.

Snacks and breakfast should be focused on as key means to deliver nutrition to children. Nutritious snacks and breakfast should be provided through mid-day meals.

IMPLEMENTATION



Organise learning missions to the countries like Thailand, Indonesia, etc., which have created a niche market for value-added nutritious products produced through simple primary processing such as dried/dehydrated vegetables, poached/pickled fruits as Indian farmers are unaware of such products.

Promote the market for natural, nutritious food products leveraging ingredients like Guava, Jamun, Algae, Seaweeds, etc., which have high amounts of micronutrients.

Incentivise and encourage innovative product development, such as high micro-nutrient fruits into dairy products, to enhance digestibility and increase absorption of nutrients.

Undertake mass awareness campaigns on nutrition and fortification like the initiatives undertaken for iodine in salt.

Propagate the benefits of Plant-based meat products for better consumer awareness.

Create awareness on the reformulation of products to reduce nutrients of concerns (fat, sugar & salt)

Pathways

KNOWLEDGE & RESEARCH



Fortification of products should be done, keeping in mind the nature of Indian cooking practices. For example, typically, in India, rice is cooked by draining off the starch water. Thus if the micronutrients fortified are water-soluble, there will be leaching off. Therefore, the mechanism of fortification is critical, and the industry should be trained in the same.

Focused Research should be undertaken in collaboration with industry and academia on sugar and salt alternatives, technologies to maintain product stability with reduced sodium levels, natural flavour enhancers, etc., for companies to reformulate healthier product options.

Focus on educating consumers on the value of the cold chain towards maintaining produce quality and nutritious value. There are common misconceptions of cold storage produce being 'less fresh' and processed foods being 'unhealthy'.

Run educational, consumer marketing campaigns to build awareness of nutrient-rich foods' concept and benefits leveraging social media, influencers, and other mass media tools.

Separate nutrition profiles should be created and promoted for children, women, the geriatric population, etc. Targeted awareness around the nutrient requirement and the concept of a 'balanced diet' around each group is needed.