

## Commentary

# Scaling up Food Processing in India by Tapping Houesholds' Potential

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Despite being one of the world's largest producers of fresh food and a dedicated ministry, the processing level is low in India. While 70% of employment remains in informal, unregistered enterprises, government schemes encourage only formal enterprises. Informal enterprises remain because of the stringent registration procedures. We cite the example of the US Cottage License to suggest the need for a liberal household food processing regime in India. We call for the industry to come forward to modernize the household sector so that it receives the benefits of finance, technology, and the market. We outline the benefits of this move for the consumer (fresh and palatable content, wholesome character preserving micro nutrients, tolerable levels of fat, sugars, and salt, and the possibility of useful microorganisms that can act as probiotics), for women (self-employment at home where they can continue to attend to children), and for the environment (lower carbon footprint).

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## 1. Importance of Food Processing (FP)

The agricultural production in India has been consistently growing and diversifying. Globally, India ranks first in pulses, spices, and milk production, followed by vegetables, fruits, wheat, and rice, and third in egg production. Food processing bridges the primary sector with the secondary sectors of the economy and adds value to both agriculture (11% of Gross Value Added, GVA) and manufacturing (10% of GVA in 2020-21). The food processing sector in the country has been growing at twice the rate of agriculture over the last five years (4% vs. 8%).<sup>[1]</sup> Changing lifestyles and food habits, rising disposable income, and urbanization have created a growing market for food processing in India<sup>[2]</sup>. The FP sector is expected to grow at a compounded rate of 12% for the remainder of the decade.<sup>[3]</sup>

An even more formidable contribution of the FP sector is the generation of employment, especially for women. Compared to the entire manufacturing sector, women comprise 21% of the employees in the FP sector, compared to 13.6% in manufacturing. An estimated 15 lakh women are engaged in the sector out of a total of 71 lakh workers.<sup>[1]</sup>

While a favorable agro-climate enables India to produce in abundance, its perishable nature, seasonality of production creating a glut, a tropical climate causing rapid deterioration, limited storage capacity close to production centers, and its high cost, largely due to its energy dependence and high cost of electricity, are challenges facing the sector. Thus, while globally around 30% of agricultural produce is processed<sup>[4]</sup>, in India the processing levels are still low at 2.7% for vegetables, 4.5% for fruits, 15.4% for fisheries, 21.1% for milk, and 34.2% for meat in 2020-21 (Deloitte study,<sup>[2][5]</sup>). This offers a huge potential, with consequent benefits to farmers, in generating employment, and giving choices to consumers.

## 2. Promotion of FP sector in India

Several incentives have been offered by the ministry to large and medium industries. However, the sector is dominated by informal, unregistered enterprises that operate at the household or commercial level and face issues, technical, financial, and business. Gauging by employment, unorganized and unregistered enterprises comprise 70% of the FP sector in the country. (Table-1)) A scheme to encourage the formalization of the Micro Food Processing Enterprises (PMFME) by upgrading two lakh micro food processing enterprises was launched in 2020.

Employment in Food Processing Industry			
Sector	Food Processing* Industry	Overall Industry	(%) Share of FP sector
Registered#(2021-22)	20.68 lakh	172.15 lakh	12.01
Un-incorporated (2015-16)**	51.11 lakh	360.41 lakh	14.18

\*: Includes food products and beverages segments;  
#: Source: Annual Survey of Industries 2021-22;  
\*\*Source: NSSO Report No.582 (73/2.34/2) on Economic Characteristics of Unincorporated Non-Agricultural Enterprises (Excluding Construction)in India; NSS 73rd Round (July 2015 - June 2016)

### 3. Health issues with ultra-processed food, carbon footprint of centralized production systems

Ultra-processed food and foods rich in high fat, sugars, and salt (HFSS) are harmful to human health. Recently released ICMR-NIN guidelines state, "Lack of fiber and poor micronutrients makes them unhealthy. In addition, UPFs contribute to high calorie (energy) intake as they are often high in fat. UPFs are consumed in larger quantities by a large population because they have a unique taste, high palatability, low cost, and are easily available even in remote areas. UPF consumption is associated with overweight/obesity and higher risks of coronary heart disease (heart attack), cerebrovascular diseases (stroke), and diabetes. UPFs also hasten the aging process."<sup>[6]</sup>

Mass, industrially produced food is often high in preservatives, colors, and additives to enhance its appeal to taste and smell. Food processing often involves nutrient loss.<sup>[7]</sup> Such food is invariably sterile, with naturally occurring beneficial microorganisms missing. This limits their absorption and bioavailability.

In addition, mass and centralized food processing involves the movement of raw, bulky agri produce and packaged foods over large distances involving huge energy consumption, and a heavy carbon footprint.<sup>[8]</sup> As the planet becomes warmer, such high-energy practices will be questioned, and local alternatives will become more efficient and attractive.

### 4. Opportunity for household-level processing

India has a rich tradition of processing food with pickles, jams, cheese, dosa, bread and idali. Halwai, Samosa wala, jams and jellies, dosa stalls, halwai sweet shops, and roadside food providers are common sight and Indian delights.

Through a face-to-face, direct interface with the producers in the community, whose production process is open to viewing and product available for tasting, an informal accountability of quality is built to the customers. The strengths of household food processing are obvious fresh and palatable content, wholesome character preserving its micro-nutrients, tolerable levels of fat, sugars, and salt, as well as the uniqueness of culinary tastes peculiar to each chef. Owing to the limited use of industrial preservatives, homemade processed food often relies on moderate amounts of salt, spices, and microbiome in a palatable mix. Wholesome, homemade foods are likely to be rich in micro-nutrients, representing the

characteristics of their natural ingredients. The latter is known to promote health by encouraging gut flora. They act as pro-biotics. Kombucha, pickles, kefir and bread are examples of homemade food.

Food consumers are increasingly becoming interested in food transparency. They want to know where their food is sourced, under what conditions it is produced, and often the impact on the environment. While certification schemes have arisen over the past few decades in an effort to address this trend<sup>[9]</sup>, local production of food from locally sourced raw materials is likely to be traceable, environmentally sustainable, and have a light carbon footprint.

Thus, there is considerable scope for the growth and development of household food processing in India by recognizing, encouraging, and technologically supporting it.

## **5. Economic Empowerment of Women, Maternal Participation in the Labor Force**

Women's labor force participation rates in India are far lower than in most countries at the same income level, while gender disparity in labor force participation is high<sup>[10]</sup>. Though household income is positively related to child health, a mother's employment is associated with poorer child health status due to trade-offs between time and income<sup>[11]</sup>. Hence a strategy of promoting home based employment of women will achieve the goal of making mothers time available for child care, while supplementing family income. The economic empowerment of women is known to have a significant impact on the reduction of income poverty and multidimensional poverty in society<sup>[12]</sup>. Many women are unable to leave their homes. Empowering women to open and run food processing enterprises in their kitchens would benefit them and their families in a very broad way.

## **6. Regulatory constraint**

While efforts to formalize the informal sector are welcome, the regulatory hurdle in registering household FP units is the key constraint that these enterprises experience. Food laws require the registration of all enterprises,

irrespective of their size. A request for registration necessarily requires operation from commercial/business premises recognized as such by the local municipality/panchayat whose NOC is also a requirement, as well as an NOC from the local health department<sup>[13]</sup>. In contrast, most micro-enterprises operate either from homes or locations that do not fall into the commercial zoning

classification of urban authorities. Besides, as per FSSAI regulations, every registered establishment requires the presence of a "technically qualified person in charge of operations as required under regulations.". The technically qualified person to be employed by each food business operator to supervise the production process is expected to possess at least a degree in science with chemistry/bio chemistry/food and nutrition/microbiology or a degree or diploma in food technology/dairy technology/dairy microbiology/dairy chemistry/dairy engineering/oil technology/veterinary science/hotel management and catering technology or any degree or diploma in any other discipline related to the specific requirements of the business from a recognized university, institute or equivalent<sup>[14]</sup>. In view of the stringent requirements for obtaining a license, much of the informal food processing sector remains unregistered, thus depriving it of the benefits of credit, technology, and business advice.

The regulatory barriers to the entry of household enterprises as commercial entities are not captured in the Ease of Doing Business rankings released by the World Bank<sup>[15]</sup>. Hence, although India has improved its rank significantly, the cardinal issue of the entry of households as business entities has been left unaddressed.

## **7. Cottage Food Permit in the US**

In countries like the US, liberal cottage food laws governs processing at home as a separate category, with permission to make food that is not potentially hazardous, such as baked goods, candies, jams, jellies, preserves, fruit butters, dry spice blends, or dry tea blends in their primary residential kitchen. Foods produced using a cottage permit can only be sold directly to consumers and not in wholesale<sup>[16]</sup>. A review of farm-focused cottage food laws in the state of Oregon, US, has shown high societal benefits and little risk with such practices<sup>[17]</sup>. Such a regulatory inclusive regime encourages the growth and expansion of household food processing. Farmer markets with homemade cakes, Mexican food, shakes, etc., are a common sight across farmers markets in US cities.

## **8. Balancing good nutrition with scale: decentralization is the key, as shown by the Amul model**

The Amul model was a success because of the establishment of a direct linkage between milk producers and consumers by eliminating middlemen and professional management<sup>[18]</sup>. A similar approach in food

processing, led by households through local procurement, supported by a favorable regulatory regime of liberal cottage licenses and local sales, can spur a decentralized, diverse, and rich spurt in food processing activities in the country. Established players in the business can come forward to guide and support household enterprises through technology, training, packaging, and local marketing. Such an approach has the potential to spawn thousands of globally valued brands, patronized by the Indian diaspora.

## 9. Way forward

The government needs to recognize the need for a facilitatory food processing regime centered on the kitchen. The industry should see this as an opportunity to forge direct collaborations with millions of households, guiding and training them to produce the best homemade food using modern technology and practices. Indian consumers would welcome this new category of food, which gives them the best of homemade yet hygienic gourmet delights.

## Statements and Declarations

### *Conflicts of interest*

Nothing to declare.

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### *Ethical statement*

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## Declarations

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