



FOOD SECURITY

A Step Towards Self Reliant India



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AMCHAM INDIA & YES BANK

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TITLE	Food Security: A Step Towards Self Reliant India	
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Foreword

With more than half of the Indian population engaged in Agriculture & contributing around 15% to the GDP, it continues to be one of the most critical sectors of the Indian economy.

Under the leadership of Prime Minister Narendra Modi, the government has launched a series of reforms aimed at promoting digital transactions, ease of doing business, reducing red-tape and implementation of the GST, among others. These measures have a direct positive impact on the food sector as well but the sector is still highly vulnerable to vagaries of weather, inadequate irrigation facilities, non-systemized mandi operations and lack of access to modern infrastructure and technology. With the ongoing global crisis, it is imperative to focus more on this crucial sector to ensure availability of food to everyone.

India's Food Processing sector will play a catalytic role in defining Resurgent India and is expected to be a game changer. At present, India is processing less than 10 % of its total agricultural output, which provides immense opportunities for increasing processing levels and attracting investments in this sector. With 100% FDI permitted through automatic route for food processing, FME scheme, Mega Food Parks, Nivesh Bandhu Portal, Kisan SAMPADA Yojana, Investor Facilitation Desk, etc, the Government is at the forefront to promote this sector.

The American agriculture & food processing companies operating in India have always played a pivotal role in shaping the sector. They have been a part in the entire value chain - pre-harvest, harvest and post-harvest. They have demonstrated their commitment by joining and promoting initiatives like - Skill India, Make in India, Doubling Farmer's Income & Reducing wastage. During these testing times also, the companies have shown great resilience and risen above the challenges to not only maintain a steady supply of essentials but also contributed immensely to the society.

AMCHAM is committed to the government's twin objectives of doubling farmer's income and reducing food wastage which will surely help in reaching the \$5-trillion mark by 2025.

AMCHAM is thankful to YES BANK for their efforts in making this report and I am sure the readers will find it equally enjoyable to read.

Mrs. Ranjana Khanna

Director General CEO





Foreword

Over the years, the Indian Agriculture sector has undergone structural changes in production, productivity, post-harvest management and marketing systems, which has enabled India to become self-reliant on many fronts. This has been led of late by increased investment through the enterprise approach to supply chain development, duly enabled by a facilitative policy environment.

The recent Covid crisis has brought about unprecedented short term & long term challenges for the entire agribusiness fraternity. India has fought well against the global catastrophe and its robust and rapid response has been applauded worldwide. The announcements of relief packages were steps taken in the right direction to revive the stressed sectors of the economy, including Agriculture. The Atmanirbhar package (including PM Matsya SAMPADA Yojana, TOP to TOTAL, Animal Husbandry Infrastructure Development Fund & Agri Infrastructure Fund) along with policy reforms on essentials commodities act and agricultural marketing shall definitely be transformative and shall pave the way forward for India's self reliance in the agriculture sector for now and beyond the Covid crisis as well.

A lot of opportunities within adversity have been created during these challenging times as well. The role of Start Ups is particularly noteworthy in this regard. Concomitant with the role of traditional marketing, processing, logistics & supply chain legs of the sector, a whole range of innovative hard & soft infrastructure being created by these Start Ups will go a long way in

making the path of self-reliance more robust & resilient. The role of the food processing industry in particular, and the focus on farmer collectives, MSMEs & digitalisation is pertinent in the overall development of the farm economy of the country.

This Knowledge Report "Food Security: A Step Towards Self-Reliant India", jointly authored by YES BANK and AMCHAM provides a brief overview of the short term impact of Covid on the key value chains across sub sectors in India along with the key steps that shall help India become self-reliant going forward in the long term. A host of industry & government responses to the situation have also well enabled us to progress fast towards greater self-reliance. The report also aptly highlights the contribution of the government as well as the private sector in enhancing livelihood opportunities for millions of our farmers and their contribution in the pre & as well post Covid period.

I am confident that the content of this report shall provide relevant insights to all key stakeholders in the food and agri sector in India.

We are thankful to AMCHAM for providing us an opportunity to partner for this event as well as for this report.

Nitin Puri

Group President - II and Global Head
Food and Agri Strategic Advisory and Research
(FASAR)



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Abbreviations

AMCU	Automatic Milk Collection Unit
AHIDF	The Animal Husbandry Infrastructure Development Fund
APMC	Agricultural Produce Market Committee
Bn	Billion
CIPHET	Central Institute of Post- Harvest Engineering and Technology
DPIIT	Department for Promotion of Industry and Internal Trade
EODB	Ease of Doing Business
F&V	Fruits and Vegetables
FaaS	Farming as a Service
FDI	Foreign Direct Investment
FIFP	Foreign Investment Facilitation Portal
FME	Scheme for Formalization of Micro Food Processing Enterprises
FPC	Farmer Producer Company
FPO	Farmer Producer Organization
FSSAI	The Food safety & Standards Authority of India
GDP	Gross Domestic Product
GHI	Global Hunger Index
GOI	Government of India
HoReCa	Hotel Restaurants and Café
INR	Indian Rupee
ITDP	Integrated Tribal Development Projects
JLG	Joint Liability Groups
Mn	Million
MoFPI	Ministry of Food Processing Industries
MSME	The Micro, Small and Medium Enterprises
MT	Metric Tonne
NBCs	Nucleus Breeding Centers
NE	North East
NFDB	National Fisheries Development Board
PACS	Primary Agricultural Credit Societies
PIB	Press Information Bureau
PMMSY	Pradhan Mantri Matsya Sampada Yojana
RODTEP	Remission of Duties or Taxes on Export Product
SAMPADA	Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters
SEZ	Special Economic Zone
SHG	Self Help Group
SMP	Skimmed Milk Powder
TIES	Trade Infrastructure for Export Scheme
TOP	Tomato, Onion, Potato
USD	US Dollar
VADP	Value Added Dairy Products



01

Food Security: The Indian Context

01

Food Security: The Indian Context

1.1 Introduction

The green revolution during the 1960s was a turning point for the Indian Agriculture sector which led to massive transformation and adoption of technologies that helped India overcome its productivity stagnation and become self-sufficient in food grain production. The Green Revolution was followed by the White Revolution (Operation Flood) during the 1970s and 1980s. This national initiative revolutionized milk production and marketing in India, making it the largest producer of milk. Despite the success gained by the two largest revolutions, and subsequent efforts put in by the Indian Government to achieve food security, India continues to battle hunger, malnourishment and food insecurity. India ranked 102 out of 117 countries in the Global Hunger Index (GHI) 2019 placing it much below to its neighboring countries - Nepal and Bangladesh. The report pointed out that "India is suffering from a serious hunger problem".

Primary source of livelihood for about

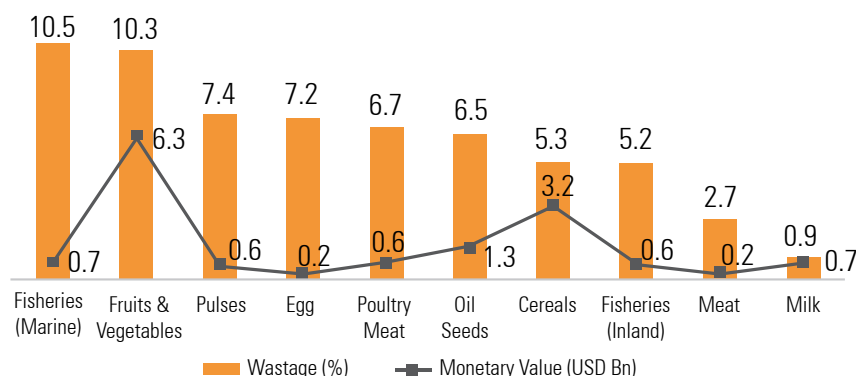
70%
Population

16.5%

Contribution to GVA

India, today produces more than 750 Mn MT of food crops (including foodgrains, fruits, vegetables, milk, meat and fish). While productivity stagnation and obsolete farm practices continue to remain a challenge; the greater challenge lies in post-harvest handling and last mile delivery of food. A study undertaken by the Central Institute of Post-Harvest Engineering and Technology estimated annual value of harvest and postharvest losses of major agricultural produce at the national level to the order of INR 92,651 crores (~USD 12 Bn). The study also highlighted the underlying cause of post-harvest loss in the country as lack of infrastructure for short-term storage, particularly at the farm level, as well as the lack of intermediate processing in the production catchments.

Exhibit 1: Average wastage level across key categories in India



Sources: Central Institute of Post-harvest Engineering and Technology (CIPHET), Press Information Bureau, YES BANK Analysis

While making food available to all is important, it is equally essential to ensure that all food is safe for consumption and remains untainted at all times. Food safety is of paramount importance for the health, safety and well-being of consumer. Food Safety and Quality aptly remains a high priority area for India of Government. Efforts are being put in at each level to reduce the risks related to food. With the emergence of new safety challenges and complexities, stakeholders are trying to establish and upgrade mechanisms to comply with the requisite norms. On the other hand, consumers are increasingly taking interest in the way their food is produced, processed and marketed, and are looking out for safer and hygienic food.

1.2 Role of Post Harvest Management and Food Processing in Achieving Food Security

The role of post-harvest management and food processing industry cannot be undermined for extension of food security in the country. Despite being amongst the largest producers of food grains, fruits & vegetables and milk, the country strives hard to meet the food and nutritional requirements of its own people. The challenge lies in post-harvest management of food and the last mile delivery. Inadequate and improper storage facilities (warehouses and cold chain); logistics issues, lack of farm gate infrastructure (including for processing) and archaic mandi infrastructure are some of the key barriers that the current agri ecosystem faces. This is topped up by multiple layers of middlemen between the farmer and the end consumer, who augment prices without any significant value addition and reduce bargaining power and price transparency for the farmers. These factors severely impact the food security biome of the country.

Food processing and its allied ecosystem including cold chain is a critical game changer on this front. Food processing serves as a vital link between agriculture and manufacturing and is therefore critical to a country's socio-economic development.

In India, the food processing industry accounts for 8.8% of manufacturing Gross Domestic Product (GDP) and is the largest employer in the country providing livelihood for nearly 6.9 million. The past decade saw India move from a commodity player to the ingredients segment in

terms of trade as well as processing, however the next decade shall put forth India as a global food

The Food Processing Sector in India

Abundant supply of raw material. Ranks first globally in production of

- | | |
|---|---|
|  Milk |  Guavas |
|  Pulses |  Papayas |
|  Ginger |  Mangoes |
|  Bananas |  Spices |

Food processing sector has been growing at an Average Annual Growth Rate (AAGR) of **8.41%** as compared to **3.45%** in Agriculture (at 2011-12 Prices) during the last 5 years (ending 2017-18)

1.8 million persons engaged in registered food processing sector

Unregistered food processing sector supports employment of **5.1** million workers

The value of processed food exports (2018-19) was **USD 35.30 Bn** accounting for about **10.7%** of India's total exports

processing hub. On the processing front, India holds the potential to not just feed its billion plus population but to also transform itself into the world's food factory. The food processing industry not only holds the key to reduce food wastage, it is a significant contributor to nutritional security as well. Fortification of food ensures the right nutrients reaching the people through their regular diets.

The cold chain industry in India is still at a nascent stage and despite large production of perishables, the cold chain potential still remains untapped due to high initial investment, lack of enabling infrastructure like power & roads, lack of awareness for handling perishable produce and lapse of service either by the storage provider or the transporter, leading to poor quality produce.

Cold Chain is a highly fragmented industry and the unorganized sector accounts for an estimated 80-85% share of the total capacity.

Wholesalers and organized retailers are the key user segments of cold chain services with a share of 70-75% and 10-15% respectively.



1.3 Atmanirbhar Bharat

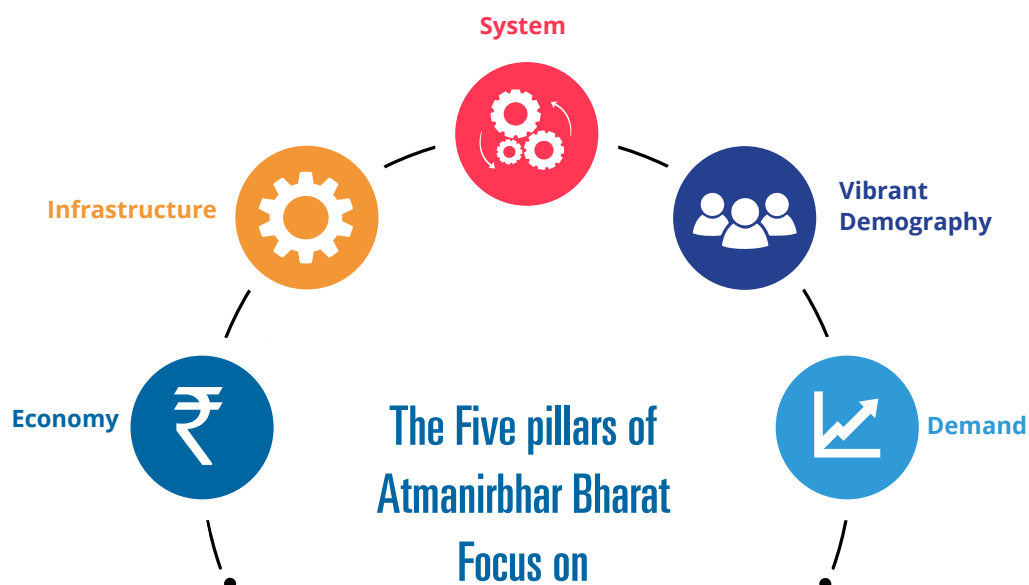
India's robust and rapid response to Covid-19 pandemic has been applauded worldwide. The decision on lockdown and simultaneous announcements of relief packages were steps taken in the right direction to contain the pandemic and revive the stressed sectors of the economy.

The government announced a host of incentives for the agricultural sector, which covered not only monetary incentives, but also policy reforms, which were long pending, and much required during these exceptional circumstances.

A total of INR 20 lakh crore (USD 266 Bn) Covid stimulus package was announced for India, of

which 1 lakh crores (USD 13 Bn) was specifically dedicated to the food and agriculture sector. The Government also announced Distribution of food rations and cooked meals to millions of migrant labourers, urban wage earners, poor and various additional vulnerable groups.

Besides this, reforms like 'One Nation, One Card', relaxing the agriculture marketing rules, amendment to the Essential Commodities Act and introduction of Agriculture Produce Price and Quality Assurance have been introduced, which shall definitely go a long way in reviving the agriculture sector now, and beyond the Covid crisis.



Aatmanirbhar Bharat Overall Stimulus Package (in INR Crores)

Part-1	5,94,550	Part-3	1,50,000
Emergency W/C Facility for Businesses, including MSMEs	3,00,000	Food Micro Enterprises	10,000
Subordinate Debt for Stressed MSMEs	20,000	Pradhan Mantri Matsya Sampada Yojna	20,000
Fund of Funds for MSME	50,000	TOP to TOTAL: Operation Greens	500
EPF Support for Business & Workers	2,800	Agri Infrastructure Fund	100,000
Reduction in EPF rates	6,750	Animal Husbandry Infrastructure Development Fund	15,000
Special liquidity Scheme for NBFCs/ MFIs	45,000	Promotion of Herbal Cultivation	4,000
Liquidity Injection for DISCOMs	90,000	Beekeeping Initiative	500
Reduction in TDS/TCS rates	50,000		
Part-2	3,10,000	Part-4 & 5	48,100
Free Food grain Supply to Migrant Workers for 2 months	3,500	Viability Gap Funding	8,100
Interest Subvention for MUDRA Shishu Loans	1,500	Additional MGNREGS allocation	40,000
Special Credit Facility to Street Vendors	5,0000		
Housing CLSS-MIG	70,000	Total (Parts 1+2+3+4+5)	11,02,650
Additional Emergency Working Capital through NABARD	30,000	Earlier Measures	1,92,800
Additional credit through KCC	200,000	RBI Measures (Actual)	8,01,603
		Grand Total	20,97,053



02

Implications of Covid-19 on Food and Agri Supply Chains

02

Implications of Covid-19 on Food and Agri Supply Chains

The Covid-19 pandemic and subsequent lockdowns and restrictions have put massive strain on the supply chain systems across food categories. The perishables supply chains like milk, poultry, fruits and vegetables witnessed a larger dent in terms of demand supply mismatch and price volatility. While, logistics constraints, labor migration and shortage of inputs impacted the production side; closure of HoReCa segment and lesser grocery spending impacted the demand side of the supply chains.

The supply chain disruptions primarily began post the lockdown in March 2020, however have partially recovered since then. Technology and Digital platforms have proved to be saviors during these unprecedented times and have managed to effectively aggregate demand and integrate the producers into their supply chains.

Food security and livelihoods of millions of people have been impacted and compromised due to Covid-19

The International Labor Organization has estimated that the Covid-19 crisis has the potential to push around

400 million informal sector workers in India deeper into poverty

This section of the report highlights the implications of Covid-19 on the key sectors of the agri ecosystem and the changes that are here to stay.

— Changes that are here to stay —

Increased Online Orders

Producers linking directly to consumers or online aggregators through digital platforms

Wider marketing avenues for farmers

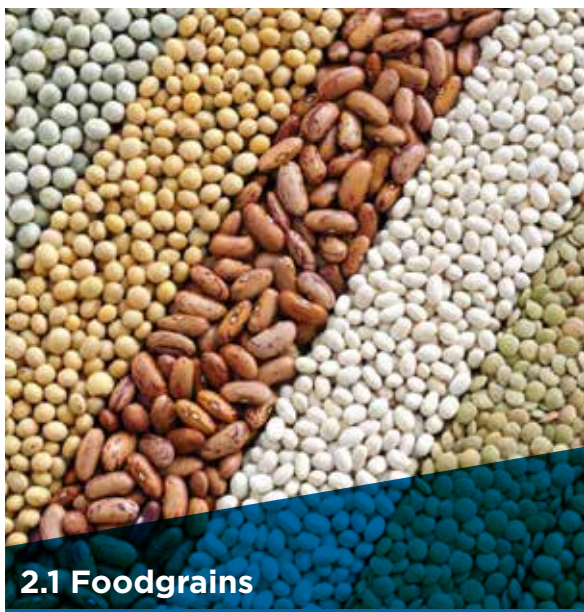
Efficient procurement systems with only necessary intermediation

Minimal manual handling practices

Increased usage of digital platforms for payments

Shift to healthy food variants

Shift towards more hygienic, packaged food items (especially animal products)



India is amongst the largest producers of food grains globally. The country produced a record production of 292 Mn MT (estimates) in FY 20 and the targets for FY21 have already been set higher than the estimated output of FY 20. The outlook for the upcoming kharif season is also positive, based on expected normal monsoon.

The impact of Covid on foodgrains has been far less stressful as compared to other commodities specially perishables. The lockdown in India was initiated in March, very close to the harvesting time for rabi crops. The migration of labor and shortage of equipment impacted the harvesting operations especially in the states of Punjab and Haryana, wherein majority of farm laborers were migrants. This led to delay in harvesting operations. On the marketing front, logistics challenges and closure of mandis interrupted the supply of foodgrains to the wholesale markets. On the demand front, panic buying amongst consumers to hoard rice, flour, pulses and oil during the initial few days led to random price spikes. Gradually, with restrictions easing out and more clarity on essential commodities, the prices of these commodities stabilized.

On a positive note, as a part of the Atmanirbhar package, commodities like cereals, pulses and oilseeds have been removed from the list of regulated commodities under the essential commodities act, which was brought into

place during times when India did not produce adequate foodgrains to feed its population. Now, the Act stands in way of free trade movement of the stated commodities with limited participation of the private sector. The amendment is expected to remove fear of excessive regulatory interference in business operations, thus, attracting more private investment in the value chain of these commodities.

Moreover, The Farming Produce Trade and Commerce (Promotion and Facilitation) Ordinance, 2020 will promote barrier-free inter-state and intra-state trade and commerce outside the physical premises of markets notified under State Agricultural Produce Marketing legislations, providing wider marketing avenues to the farmers.

These reforms have been long awaited and are timely in light of the challenges posed by Covid-19 in the country.



With an annual production of 285 Mn MT, India ranks second in fruit & vegetables (F&V) production globally. Roughly one third of this production comes from TOP (Tomato, Onion and Potato) category, one third from fruits and other one third from remaining vegetables.

The F&V sector in India has been impacted pre-eminently by the Covid-19 pandemic and the subsequent lockdown bringing in disruptions

in the F&V supply chain across the country. F&V farmers faced issues due to poor access to mandis and non-availability of transport during the lockdown period, leading to distress sale to the nearest available/accessible market place or middlemen. This severely impacted price realization for the farmers. The closure of HoReCa segment led to demand cut, plummeting the prices severely.

Issues pertaining to procurement of raw material from farm/mandis was a critical challenge for many processors. Limited availability of labor due to reverse migration and social distancing norms also put forth challenge for them.

Exports of F&V were gravely hit as many importing countries had their own restrictions including requirement of Covid-19 free certificates. Moreover, there was delay in release of consignments and payment suspensions.

On a brighter side Covid-19 has also brought in opportunities in adversity:

- The Covid-19 crisis might have hit the F&V sector hard, disrupting the overall supply chain, but the silver lining is that farmers have begun to look beyond conventional markets by connecting directly with consumers or through online aggregators, leaving behind unnecessary intermediation, which has since long, dented our value chains.
- The Govt. announced much awaited amendments to Essential Commodities Act (ECA) 1955 (which will de-regulate commodities like onion and potato) and Agriculture Produce Marketing Act (APMC Act). Post the amendment, there will be mandis and APMC Act but farmers will be free to trade outside, giving them wider marketing avenues. The amendment in APMC Act will provide more choices to farmers to sell at better prices, free inter-state trade, one nation-one market-one tax and an efficient e-trading framework.
- In addition, the Cabinet also approved 'The Farming Produce Trade and Commerce (Promotion and Facilitation) Ordinance,

2020' and 'The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Ordinance, 2020' to empower farmers to engage with processors, aggregators, wholesalers, retailers and exporters.



Indian dairy market is amongst the largest and fastest growing markets in the world. With a production of 187.7 Mn MT, India contributed to around 22% of total world's milk production during 2018-19. Around 40% of marketable surplus (55-60% of milk production) is being routed through the organized channel.

The Indian dairy industry has proved to be more resilient during lockdown as compared to other food and agri based sectors. Most milk processing units remained operational during the lockdown, however, the sector faced demand crunch due to non-functioning of the HoReCa segment (which formerly made up for 25% of the market). Demand for frozen value added dairy products (VADP) like Ice creams and frozen yogurts has also been severely impacted (even though summers being the peak sale season for these products) due to fear of consumption of cold items during the ongoing Covid pandemic.

There has been no major impact on milk pouring by farmers associated with milk cooperatives/ large private players; however in few cases/

states, where large cooperatives/private players are not present (or not as strong), farmers had to discard their milk. The decline in consumption, however, resulted in an INR 5-7 per litre (~25%) decline in the realization for dairy farmers.

The oversupply of milk vis-à-vis demand, has led to processors converting excess milk to Skimmed Milk Powder (SMP) and ghee, leading to superfluous inventory and blocking of working capital. Moreover, the consumption of SMP by the Ice cream industry (due to reduced demand) is also minimal, leading to further stress on SMP prices.

India's share in overall dairy products exports is less than 1%. Global crisis due to Covid has further impacted dairy exports from India. SMP prices in domestic market crashed to INR 230/kg in Mar'20 from INR 340/kg in Jan-Feb'20. Manufacturers are diverting excess milk to powder and ghee leading to excess stock buildup and blocking of working capital. Dairy export scenario is likely to remain bleak in the coming months.

On a positive note, the supply chain disruption due to Covid-19 have led companies to innovate and adopt digital interventions for demand aggregation, direct marketing as well as payments.



2.4 Poultry

India is the fourth largest producer of poultry globally, and is one of the fastest growing

countries in terms of volumes. India produced ~4 Mn MT of poultry meat (50% of the total meat production) and ~103 Bn numbers of eggs in the year 2018-19. Of the total volume produced, ~94% goes into wet market, while remaining is sold in processed and packaged form. Indian Poultry industry is driven by the domestic market with very few players focusing on exports.

Poultry was perhaps one of the worst hit segments during Covid and the industry started to witness the impact even before India came to the lockdown phase. Although there are no reports/studies to substantiate the link between poultry product consumption and Corona virus, the rumors on social media platforms and the fear/panic to visit the wet markets for purchase, caused a highly negative impact. Within the poultry industry, the Layer Industry witnessed minimal impact, while the broiler industry was impacted the most.

Of all the stakeholders involved in the supply chain, the Broiler Integration Companies/ Farmers were impacted the maximum as meat consumption reduced by almost 50% during the initial months of lockdown. The farm gate prices reduced by 75-85%. Farm gate prices crashed to INR 10-20/ kg in the month of March 2020 compared to average price of INR 75-80/ kg during pre Covid months. Some of these companies/ farmers had to bury the birds as there were no takers for them. The live bird rates have regained normalcy now and range between INR 85-120/kg.

On a positive note, the domestic consumption has picked up in the wake of campaigns and media coverage by different players/ Government to bust the myth surrounding corona and poultry consumption.

The industry is also witnessing a shift in the demand for cleaner, hygienic and well packaged meat products.



2.5 Fisheries

The Fisheries sector in India, provides livelihood to around 16 million people and is a significant contributor to India's food and nutritional security. Being an exports driven sector, it is also a major forex earner for the country. In FY19, seafood exports were valued at ~ USD 6.7 Bn. ~70% of the seafood exports from India comprises of shrimp. For FY20 the exports are likely to have fallen by 5-10%, in light of Covid.

The initial lockdown for 21 days wherein fisheries activities were disallowed and subsequent partial opening up of fishing activities, impacted the farmers/fishermen considerably. The fishermen could not land their catch due to labor unavailability, while those who could, had to

settle in for very low prices due to limited buyers. The lack of sufficient storage infrastructure also led to very low price realization to the fishermen. Many fishers have resorted to drying of fish, which can be sold off when demand normalizes.

The impact of Covid pandemic on shrimp farmers initiated much earlier than the lockdown phase in India, when other countries (importers) were battling the pandemic. The farm gate prices for shrimp were down by around 30-40%. However, after May, due to shortage of feed and delayed sowing, the cultivation area reduced, leading to an all-time high farm gate prices. With the new crop now coming in, the prices are expected to stabilize.

Seafood exports from India were significantly impacted during the initial phase of lockdown due to demand contraction globally (primarily due to closure of HoReCa segment), congestion at ports and disruption in importing country's internal logistics. Regulatory requirements like EIC/Health certificates were also getting delayed on account of lock down. Currently, the demand from international markets remains strong and if exports see a drop this year, it will largely be due to labour and raw material shortage.

On the positive side, Covid has transformed consumer preferences towards more safe and hygienic animal products, leading to growth of processed products and organized fish market.



03

Steps towards Self Reliant India

03

Steps towards Self Reliant India

3.1 Agtech

The Indian agriculture sector continues to be marred with challenges like small and fragmented land holding, overuse of fertilizers, water scarcity, climate change, middlemen dominated value chains, lack of price transparency and limited marketing avenues amongst others.

The scale and complication of food production is increasing alongside natural resource constrictions. This amplifies the opportunities for system-wide disruptions and technological interventions across each leg of the value chain.

The ability to bring in transformation in the agri sector, making it more efficient, resilient and sustainable lies with Agtech. Technology plays an enabling role in driving efficiencies across all aspects of the supply chain, including, production, aggregation, processing/storage and marketing. A wide range of innovative hard and soft infrastructure is being created by the Agtech StartUps in India and these are sure to go a long way in making the path of self-reliance more robust & resilient. Some of these include:

E-commerce Input platform

Agri-input and allied farm advisory services sector through marketplace and inventory based models

FaaS Mechanization

Innovative concept including Farm Management Solutions, Production Assistance and Access to Markets

Farm Data Analytics

ICT, IOT, Block-chain and Traceability, Drone technology in farming, Artificial Intelligence, Satellite Imagery, Machine Learning and Precision Farming

E-Commerce Output platform

Creation of direct farm to fork linkages i.e. procurement/supply chain/ farm fresh retailing and organic produce

Farm level Cold Chain

Firms working on last mile storage and transportation for perishables. Also storage solution operating on renewable energies/ biomass waste

Food Tech

Innovative Food Technology solutions including food processing, safety, quality, packaging etc.

Agri Finance & Crop Insurance

Targeted finance to stakeholders in the agriculture value chain including smallholder farmers

3.2 Integrated Supply Chains

Driven by technology and innovations, the emerging supply chains in India are efficient and resilient. Some of the positive outcomes that one can see emerging from Covid pandemic is integration of supply chains; wherein more number of farmers are now a fundamental part of the supply chains and the unwanted, nonvalue adding intermediation are being done away with. Many FPO/FPCs and informal farmer groups have come together to supply directly to consumers, ensuring a much better price realization to them.

Disruptions across the supply chain – input purchase, production practices, post-harvest management, processing, transportation, storage, distribution, marketing, delivery and after sales services are commonly being witnessed. Buying and selling patterns have moved from offline to online mode, more efficient practices are in place with limited labor, minimal manual handling, direct marketing and burgeoning digital platforms

These rapidly changing farm and food dynamics have presented ample opportunities across the supply chain ranging from introduction of innovative products, innovative processes, novel packaging ideas, access to convenience food, pioneering technology, Research and Development (R&D), cold chain infrastructure development, marketing platforms and unique distribution and marketing tie-ups.

3.3 Developing Food Processing Sector

Increasing incomes, higher expenditure on food and dietary shift towards animal proteins, healthy, organic food and high value discretionary food products requires investments in processing. The food processing sector has increasingly been viewed as a panacea for agricultural woes in India. A significant percentage of food losses throughout the value chain can be curtailed

by investing in primary, secondary or tertiary processing of agricultural and allied produce. Value addition, in all its forms, can contribute significantly to food security and single handedly boost farmer income, provide income stability, as well as generate better returns for all downstream and upstream stakeholders. The food processing sector, however, is still largely informal and unorganized. India ranks fairly low in the global food processing value chains with overall processing levels at <10%. and losses mounting to USD 12 Bn.

Building a self-reliant India requires a comprehensive strategy to prevent post-harvest losses, to promote preservation, ensuring quality and increasing availability of food for its populace throughout the year. Diversification in agriculture towards livestock, horticulture and fisheries further necessitates increasing need to boost food processing. Investing in Food Processing also allows for food fortification which is a stated policy initiative being implemented across population segments in India. India must utilize its cheaper labour force and wide availability of raw material to setup a large food processing base to cater to the world markets.

Despite increasing production across sectors, and high wastage (F&V 4-16%, marine 10.5%, poultry 7% & meat 3%), India's food processing levels are very low at ~10%.

Policymakers have identified food processing as a key sector to encourage labour movement from agriculture to manufacturing. The Ministry of Food Processing Industries (MoFPI) spearheads several initiatives to boost the food processing sector and its allied ecosystem including cold chain. One of these initiatives is its flagship SAMPADA scheme (Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters). SAMPADA comprises of multiple schemes which provide grants in aid of up to INR 30 crores to companies establishing infrastructure for food processing, for backward linkages at the farm level, for forward linkages including retail

outlets, for setting up an integrated cold chain amongst other components. The assistance varies from 35%-50% of the eligible project cost, with higher assistance provided to project being set up in North East States, Himalayan States, ITDP Areas & Islands. The schemes are particularly of great help to perishable produce such as dairy, horticulture and spices. Dairy cooperatives and milk processing companies are able to upgrade infrastructure or setup fresh projects including establishing bulk milk chillers and AMCUs at the farm level, reefer trucks to transport the milk as well as setting up state of the art processing units for value addition. Similarly, juice or ready to eat processing units have been setup along with collection and aggregation infrastructure at the farm level with suitable cold chain facilities to create integrated projects fulfilling farmer and processor needs.

3.4 Boosting India's Export Competitiveness

India exported USD 35.6 Bn worth of agricultural products in 2018-19, marginally lower than USD 35.78 Bn exported in 2017-18.

India is a leading exporter and supplier of rice (specialty Basmati and non-Basmati), buffalo meat, spices, guar, cotton, medicinal plant extracts, groundnuts and marine produce.

Currently, majority of India's exports consist of little to no value addition which benefits importing destinations such as Vietnam who re-export Indian produce such as shrimps, meat, cashew & groundnuts after value addition. Boosting export of value-added products will be critical to exponentially boost India's export earnings.

Food and Agricultural exports are often touted as a much needed, alternate market for fetching stability and better prices for Indian farmers and processors. However, there are multiple issues impacting agricultural trade including at the farm level, research and development, infrastructure, logistics, protocol, market access and reciprocation, marketing and ease of doing

business (EODB). Value chain competitiveness is a prerequisite for global agricultural trade. Farm level competitiveness in terms of quality and cost of production plays a critical role in boosting trade. Indian yields lag behind their global counterparts for many current and potential export products. Poor infrastructure support, inefficiencies in certification, testing and documentation and increasingly expensive logistics further aggravated the lack of competitiveness at the farm level.

The Government of India through its various agencies under the Ministry of Commerce and Industry and Ministry of Agriculture and Farmers' Welfare are constantly working to identify and resolve strategic and operational challenges across the value chain.

The Government of India approved and released the country's first Agri Export Policy in the year 2018. Establishing a stable, predictable and transparent agricultural trade policy - to positively signal India's reliability to the global market - while weaning domestic farmers from the low-growth and low-value cereal-dominated agricultural ecosystem is a critical element of the policy.

It aims to double India's exports from USD 30 Bn to USD 60 Bn in 2022 by creating an institutional framework enabling infrastructure reforms; boosting high value and value added agricultural exports and promoting novel indigenous, ethnic traditional and non-traditional categories such as ethnic snacks, medicinal plants and other forest produce. Currently under implementation, great efforts are being made by central and state governments to identify commodity wise, export oriented farm clusters for 10 commodities where targeted interventions can be made and later replicated across the country.

With the objective of fundamentally enhancing export competitiveness by bridging gaps in infrastructure, the Trade Infrastructure for Export Scheme (TIES) scheme led by Ministry

of Commerce and Industries was launched. It is meant for PPP projects as well as government entities for creating export oriented processing projects, Quality testing and certification labs; Trade promotion/convention centres; Export warehousing and infrastructure in SEZs and ports/airports; First and last mile connectivity for export logistics projects. Grants upto 50% of equity being put by Implementing Agency and going upto 80% for NE & Himalayan states are provided to Central Government Agencies such as Export Promotion Councils, Commodity Boards, SEZs, Apex Trade Bodies, State Government owned agencies and to Joint Ventures of above with private players.

3.5 Developing the MSME Segment

The Micro, Small and Medium Enterprises (MSME) segment is the backbone of the Indian economy. This holds true for India's food and agriculture sector as well. Undoubtedly, the reach of MSME businesses at the ground level on farms and at intermediate points in the value chain is immense.

The food processing sector in India is heavily dominated by MSMEs who cater to both global and local supply chains

Promoting MSMEs is critical to generate rural and semi urban employment throughout value chain. Majority of the sector is unorganized and has a strong foothold in traditional areas including items such as pickles, squashes and sauces. It therefore becomes an imperative to focus on developing MSMEs engaged in food, agriculture and allied sectors. Assisting MSME units in establishing backward and forward linkages is a critical component for any strategy to ensure a self-reliant India in terms of the food processing sector. These micro and small industries need to be nurtured with Government support including

financial assistance for term loans, working capital, machinery and technology upgradation, quality and efficiency improvement, Intellectual Property Rights registration and credit rating.

The key initiative necessary to boost MSME segment in the food domain include:

- Formalization of micro enterprises which have hitherto been unorganized, unincorporated and denied institutional credit
- Ensuring quality credit flow to businesses including regulatory enablement of private capital and equity funds to invest in small and medium businesses.
- Creation of an MSME facilitation cell in FSSAI to ensure quality, testing and certification norms are well understood and met by these units.
- Incentivizing exports by offering special marketing support as well as a higher percentage of credit scrips or tax reimbursements under RODTEP.
- Incentivizing greenfield or brownfield investments by MSMEs through special schemes under MoFPI and MSME ministry.
- Enabling FPO and FPC creation and linking them to MSME to ease farm aggregation and quality woes.
- Enabling FPOs and FPCs to create direct forward linkages as well as move into formal processing
- Enabling digitalization of MSMEs in terms of goods & process flow and cash flows
- Traditional ethnic products which MSMEs specialize in need to be identified and promoted. These include paapad, specialty pickles, chutneys, Ayurveda based food and dietary ingredients and products from regional cuisines.



04

Government Priorities on Agriculture & Food Processing

04

Government Priorities on Agriculture & Food Processing

Given the importance of Agriculture and its allied sectors, the central government has introduced several incentives as well as reforms for boosting the growth and development of the sector. During the current challenging times also, a host of incentives and reforms have been announced to mitigate the impact of the pandemic on this critical sector of the economy.

Some of the key initiatives are highlighted in the segment below:

4.1 Financial Assistance

4.1.1 Pradhan Mantri Kisan SAMPADA Yojana

The Ministry of Food Processing Industries (MoFPI) has accorded highest priority towards promoting investments into the food processing sector which also envisages to become a major contributor to doubling the farmers' income and aid 'Make in India' initiative of the Government.

The flagship scheme of the Ministry - Pradhan Mantri Kisan SAMPADA Yojana (PMKSY) (corpus fund of INR 6,000 crores (~USD 1 Bn) is a comprehensive package which aims to create modern infrastructure with efficient supply chain management from farm gate to retail outlet.

It aims to provide a big boost to the growth of food processing sector in the country coupled with better returns to farmers, creating huge

The new policy environment is "farmer centric" and provides all ingredients of sustainable growth and holistic development of the sector.

employment opportunities especially in the rural areas, reducing wastage of agricultural produce, increasing the processing level and enhancing the export of the processed foods. The PM Kisan SAMPADA Yojana is expected to leverage investment of INR 31,400 crore for handling of 334 lakh MT agro-produce valued at INR 1,04,125 crore, benefiting 20 lakh farmers and generating 5,30,500 direct/indirect employment.

4.1.2 Pradhan Mantri Matsya SAMPADA Yojana

The Pradhan Mantri Matsya Smapada Yojana (PMMSY) has been launched as a part of the Atmanirbhar Bharat program. PMMSY envisages a total investment of INR 20,050 crores (USD 2.6 Bn) of which 47% will be Central Government's contribution, 24% State Government's contribution and the remaining 29% will be contributed by the beneficiaries.

The scheme aims to address critical gaps in fish production, productivity, quality, technology, post-harvest infrastructure, supply chain traceability and fishermen welfare.

The scheme shall focus on Genetic improvement programs and Nucleus Breeding Centres (NBCs), Innovative Projects, Training, Awareness,

Exposure and Capacity Building, Aquatic Quarantine Facilities, Modernization of Fishing Harbors, Support of NFDB, Fisheries Institutions and Regulatory Authorities of Department of Fisheries, GOI and need based assistance to State Fisheries Development Boards, Support for survey and training vessels, Disease Monitoring and Surveillance Network, Fish data collection, fishers survey and strengthening of fisheries database, certification, Accreditation, Traceability and Labeling etc.

4.1.3 Animal Husbandry Infrastructure Development Fund

The Animal Husbandry Infrastructure Development Fund (AHIDF) worth INR 15000 crores (USD 2 Bn) has been established with the holistic objective of

- Increasing milk and meat processing capacity and product diversification thereby providing greater access for unorganized rural milk and meat producers to organized milk and meat market.
- Increasing price realization for the producer.
- Making available quality milk and meat products for the domestic consumer.
- Fulfilling the objective of protein enriched quality food requirement of the growing population of the country and prevent malnutrition in one of the highest malnourished children population in the world.
- Developing entrepreneurship and generating employment
- Promoting exports and increasing the export contribution in the milk and meat sector
- Making available quality concentrated animals feed to the cattle, buffalo, sheep, goat, pig and poultry to provide balanced ration at affordable prices.

Such investments in processing and value addition infrastructure by eligible beneficiaries would also promote export of these processed and value added commodities.

AHIDF and the interest subvention scheme for private investors aims to ensure availability of capital to meet upfront investment required for projects and also help enhance overall returns/ pay back for investors.

4.1.4 Agri Infrastructure Fund

The Agri Infrastructure Fund aims to provide medium - long term debt financing facility for investment in viable projects for post-harvest management Infrastructure and community farming assets.

The funds will be provided for setting up of cold stores and chains, warehousing, silos, assaying, grading and packaging units, e-marketing points linked to e-trading platforms and ripening chambers, besides PPP projects for crop aggregation sponsored by central/state/local bodies.

Under the scheme, INR 1 Lakh Crore (USD 13 Bn) will be provided by banks and financial institutions as loans to Primary Agricultural Credit Societies (PACS), Marketing Cooperative Societies, Farmer Producers Organizations (FPOs), Self Help Group (SHG), Farmers, Joint Liability Groups (JLG), Multipurpose Cooperative Societies, Agri-entrepreneurs, Startups, Aggregation Infrastructure Providers and Central/State agency or Local Body sponsored Public Private Partnership Project

Besides these, the central Government offers a number of central sector and centrally sponsored schemes to provide adequate support to the

agriculture and allied sector- for production as well as post-harvest activities. Some of these include:

National Mission For Sustainable Agriculture (NMSA)

Enhancing agricultural productivity especially in rainfed areas focusing on integrated farming, water use efficiency, soil health management and synergizing resource conservation.

Pradhan Mantri Krishi Sinchai Yojana (PMKSY)

Extending the coverage of irrigation 'Har Khet ko pani' and improving water use efficiency 'More crop per drop' in a focused manner

Pradhan Mantri Fasal Bima Yojana (PMFBY)

Provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests & diseases

Capital Investment Subsidy for Construction / Modernization Expansion of Cold Storage and Storage's for Horticulture Produce

Credit linked projects relating to Cold Storages including Controlled Atmosphere (CA) and Modified Atmosphere Stores, pre-cooling units, other Storages etc and their modernization

Stand Up India

Promoting entrepreneurship among women and SC/ ST

Paramparagat Krishi Vikas Yojana

Support and improve the organic farming practices prevalent in India

4.2 Investment Facilitation

4.2.1 Foreign Direct Investment

- 100% FDI in food processing sector in India is permitted under the automatic route.
- 100% FDI in food processing is allowed through government approval route for trading, including through e-commerce in respect of food products manufactured or produced in India.
- As per the Department for Promotion of Industry and Internal Trade (DPIIT), the Indian food processing industry has cumulatively attracted Foreign Direct Investment (FDI) equity inflow of about USD 9.9 Bn between April 2000 and March 2020

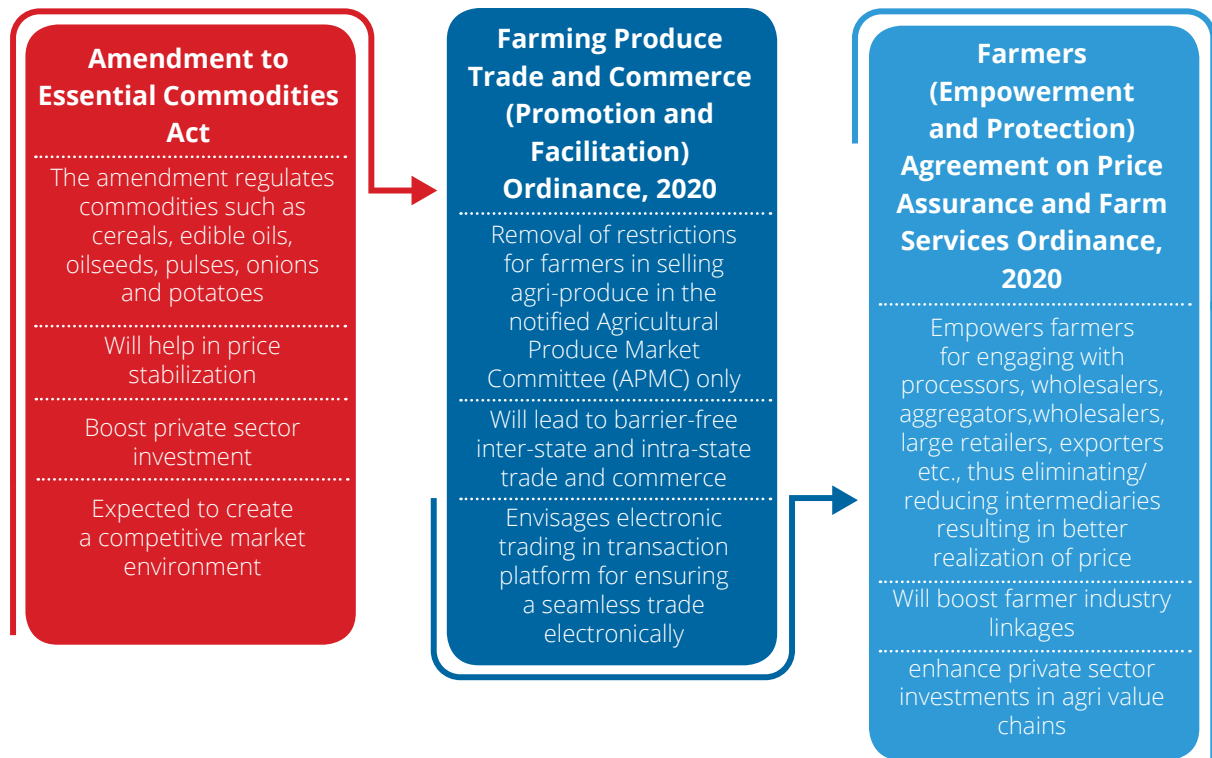
- This accounts for 2.12% of total FDI equity inflows

4.2.2 Foreign Investment Facilitation Portal

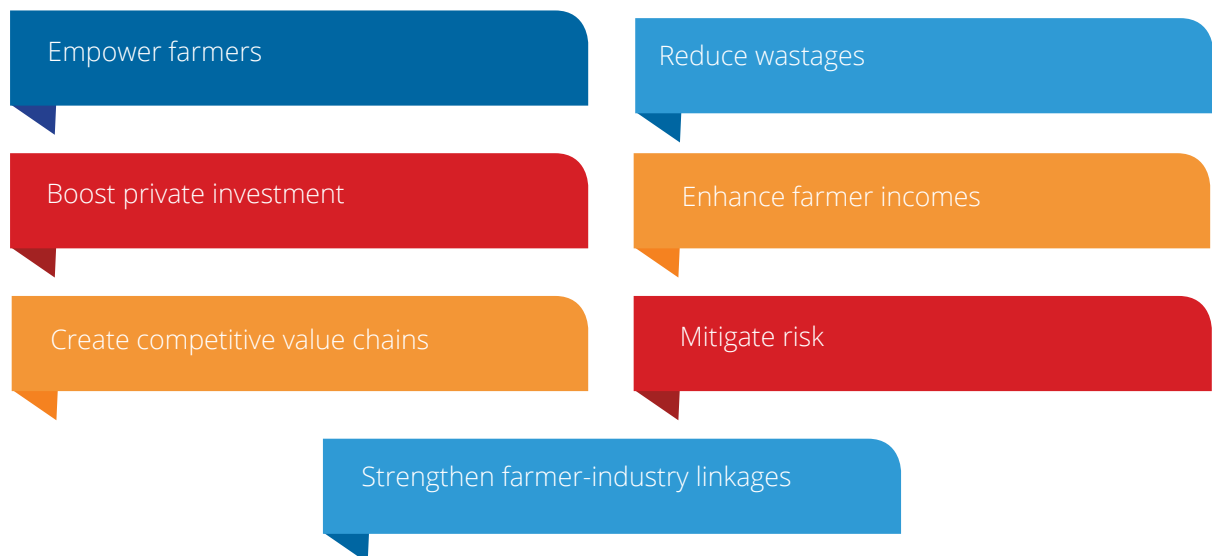
The Foreign Investment Facilitation Portal (FIFP) is the new online single point interface of the Government of India for investors to facilitate Foreign Direct Investment. This portal is being administered by the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry. This portal aims to continue to facilitate the single window clearance of applications which are through approval route. The additional features such as: e-communication, quicker processing, reduced paperwork, SMS/email alert and many more continue to exist.

India has made substantial gains in the World Bank's Doing Business rankings from 142 in 2014 to 63 in 2019. It has progressed on 7 out of the 10 parameters. The Goods and Service Tax (GST) and the Insolvency and Bankruptcy Code (IBC) top the list of reforms that have propelled India's rise in rankings.

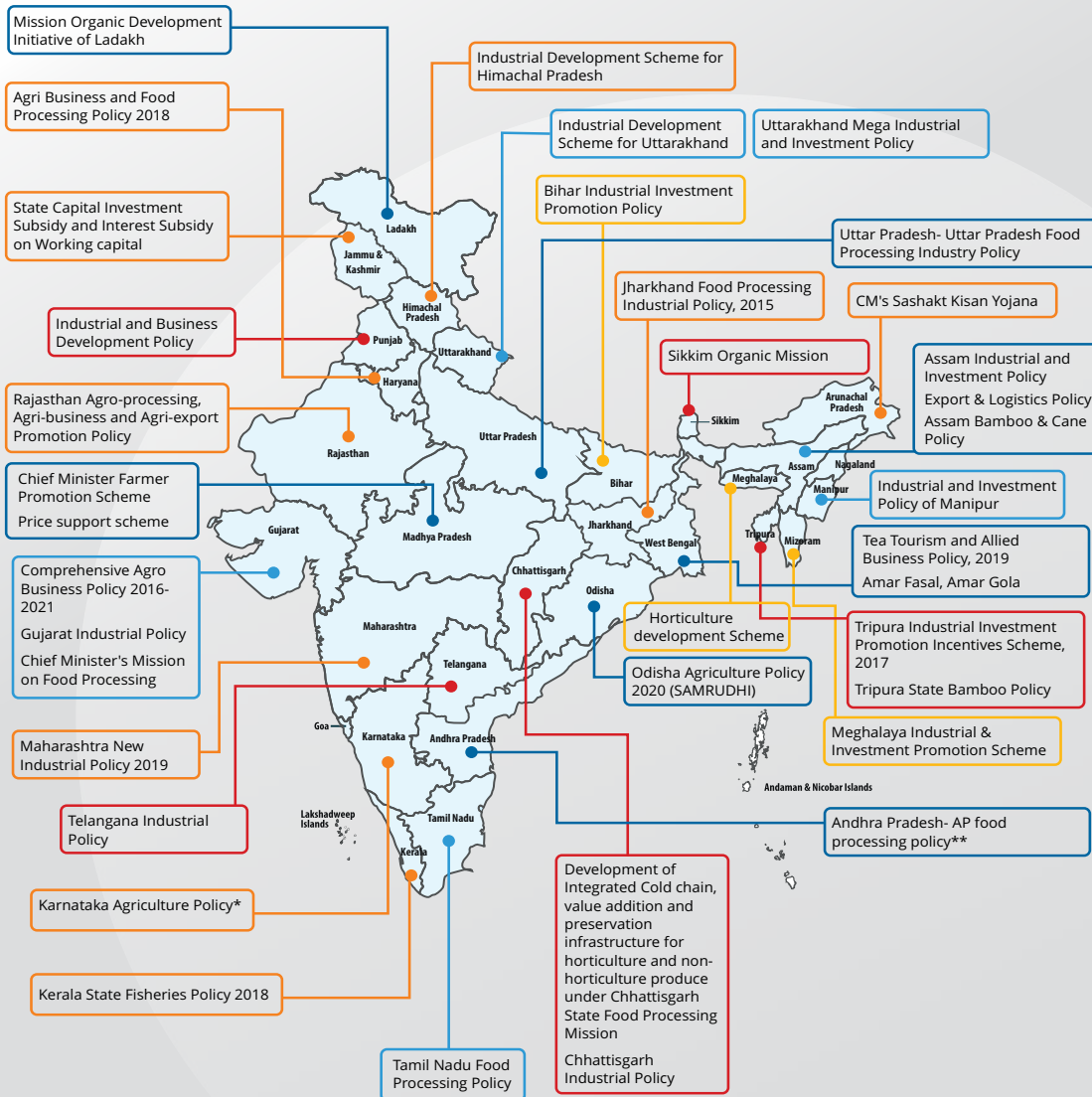
4.3 Recent Policy Reforms



— These reforms shall —



POLICIES/ SCHEMES



The policies mentioned are only indicative and not comprehensive

Source: State government Websites, YES BANK Analysis

*Announced during budget 2020-21

** till 2020



05

**Role of US companies
in making India Self-
Reliant**

05

Role of US companies in making India Self-Reliant

The US Companies have established themselves as strategic partners and contributors to the Indian Agri sector. Companies across agricultural segments- including seed, fertilizers, farm machinery, processing, packaged food and beverages have identified India as a key production center and a strategic marketplace and have investment impressively in building state of the art infrastructure as well as on the human resource, skilling them to best of their abilities and utilizing their services to create a win-win situation for both. Many of these companies have made a significant contribution at the grass root level trying to bring in efficiencies in the value chain, enhancing farmer incomes and bringing in new technologies wherever required. The thrust from these companies continues as India battles the Corona virus, with many of these companies contributing to feed as many people as possible. Select case studies are captured in the segment below:

5.1 Cargill

In India, Cargill's operations started in 1987. It has businesses in refined oils, food ingredients, grain and oilseeds, sugar, cotton, animal nutrition and trade and capital markets. Cargill India, markets leading consumer brands of edible oils such as Nature Fresh, Gemini, Sweekar, Leonardo Olive Oil, Rath and Sunflower brand of hydrogenated fats. It also markets wheat flour under the Nature Fresh brand name. The Animal Nutrition business of Cargill provides animal feed and premix and nutrition for aqua, dairy and poultry. The Grains and Oilseed business originates up to 1 million metric tons of grains & oilseeds per year with 200 storage locations across India.

The company has been at the forefront in engaging with farmers, farmer groups and farmer

PROJECT SAATHI

Cargill along with its partner has trained around **5000**

smallholder farming households (reaching over 25000 individuals) on agri-diversification and productivity enhancement. It also helped form one Farmer Producer Company (FPC) in Davangere with **1000+**

farmer members trading in input and output product categories. The FPC generated revenue over INR 27 Mn in FY 19-20

producer companies and has reached out to more than 125,000 farmers till date through their animal nutrition business.

The company works directly with 2000+ dairy farms and guides them on farm economics, how to produce more milk through better dairy farm management practices, provide knowhow on the right quality and type of forage to be used for cows at different life stages.

In the poultry sector, Cargill reaches out to thousands of farmers including integrators per month and guides them on farm management, productivity improvement & solutions related to health.

Their team of qualified fish and shrimp nutritionists conduct frequent training and technical sessions which are open to all farmers. Apart from general technical guidelines, customized feedback and solutions are also suggested. Cargill also provides testing services through Cargill's aqua lab for farmers in Andhra Pradesh.

Through the agri supply chain, the company procures about 1mn+ tonnes across 13 commodities for their customers as well as for internal consumption thereby reaching out to over 3,00,000 farmers. Through this Cargill provides the farmers increased market access by linking them to demand from large food companies in India and International markets.

HATCHING HOPE

Cargill is working with 30,000 women farmers in Odisha to improve income and nutrition through production, consumption and promotion of poultry.

In next two years, the company tends to expand its outreach (directly & indirectly)

to **1.7+** million individuals across the state.

Cargill has also been a pioneer in fortification of edible oils with vitamins A & D to fight malnutrition in India. They have worked closely with different stakeholders including FSSAI, NGOs, industry peers to not only help develop the regulation but also build consumer awareness and encourage industry adoption.

5.1.1 Contribution to Food security during Covid

As Covid-19 continues to spread, there is a growing need to feed the most vulnerable communities in our society. In line with its purpose of nourishing the world, Cargill has pledged 16 Mn meals to feed families through dry ration kits and cooked meals. The relief efforts will impact 150,000 families across 16 cities in India.

To implement this, Cargill is working with three NGO partners; namely, Akshaya Patra Foundation, Zomato Feeding India and India Food Banking Network (IFBN), reaching out to communities pan India. The dry ration kits include food items like pulses, rice, oil, wheat flour, spices etc. depending on local requirements. And cooked meals are also being served daily across these states.

Cargill is also leveraging its own distribution network and working with local state authorities to meet hyper-local needs with in-kind donations across the country.

Given the critical nature of the Company's business, Cargill is cognizant of its role in the relief and recovery efforts. The company is putting in efforts on all fronts to ensure supply of essential food and feed products continues.

5.2 Coca Cola

Coca-Cola India offers a range of healthy, safe, high quality, refreshing beverage options including juices, flavored milk, carbonated fruit drinks, aerated beverages, packaged water, tea and coffee. The company along with its 14 bottling partners, spread across 57 manufacturing locations, and a strong network of over 7,000 distributors across 30 Lacs retail outlets, touches the lives of millions of consumers. The company provides direct employment to 25,000 people and indirect employment to over 1.5 Lacs people.

The Ministry of Food Processing Industries, Government of India and Coca-Cola India, have signed a Memorandum of Understanding towards investing in the Agri-ecosystem of the country. Under this enabling agreement, The Coca-Cola Company, its bottling partners and its suppliers and processors in India, will contribute USD 1.7 Bn (≈INR 11,000 Crores) in the agri ecosystem of the country over five years, beginning 2017 through a unique concept called the Fruit Circular Economy. Close to USD 800 Mn will fund procurement of processed fruit pulp and fruit concentrate for Coca-Cola India's growing portfolio of juice and juice drinks and sparkling drinks with juice ingredients.

Project Unnati, part of Fruit Circular Economy initiatives by Coca-Cola India Pvt. Ltd. (CC IPL), is aimed at upliftment of livelihood of farmers by providing and educating them with improved and advanced agricultural techniques.

Committed investments of **USD 1.7 billion** to India's agri-ecosystem along with partners and target to benefit **2,00,000+** fruit farmers by 2022

MEETHA SONA UNNATI

Coca-Cola India, in partnership with DCM Shriram Limited (DSCL–Sugar), Solidaridad and International Finance Corporation, introduced the initiative 'Meetha Sona Unnati' with a primary focus on sustainable sugarcane development. This initiative is addressing the challenges of soil health, promoting water efficient practices, increasing cost of cultivation and poor yields faced by sugarcane farmers in the state of Uttar Pradesh for higher productivity and lesser waste across the value chain.

Till 2018, 1,25,000+
farmers had been benefited with a 22% increase in productivity.

Coca-Cola India along with partners like Jain Irrigation, Indo-Dutch Horticulture technologies, PayAgri and others are working with farmers in Tamil Nadu, Andhra Pradesh, Karnataka, Maharashtra, Uttarakhand to bring them the practices for Ultra-High Density Plantation (UHDP) for fruits like mangoes, oranges, apples and grapes, which are branded under Unnati Projects.

By using UHDP, farmers get benefitted as the fruit yield increases (2X to 5X) and the Unnati varieties also shorten the non-fruit bearing period significantly from traditional 5 to 8 years to 2 to 4 years. The company has launched Unnati Litchi as well.

Within mango, the joint efforts of Coca-Cola and Jain Irrigation resulted in establishing 200 demonstration farms, training and support to more than 18,000 farmers. In the pilot phase of Project Unnati Mango, across 100 acres of land belonging to 62 farmers, mango saplings were planted using the UHDP technique while also utilising the benefits of drip irrigation to minimise quantity of water used per kilo of mango produce.

Project Unnati has moved into phase 2, with a focus on engaging farmers at a larger scale and aim of delivering close to 300,000 tons of mangoes by 2022. With the help of Bottling Investments Group India, the project team is reaching out to about 25,000 farmers, who collectively cultivate mango tree on approximately 50,000 acres of land.

5.2.1 Contribution during Covid

As the country battles the ongoing tough times, Coca Cola had joined hands with communities and their partners to provide services to reach out and help over 10 lakh people across the country. The Coca-Cola system in India is pledging a contribution of INR 100 crores to tide over the impact of Covid-19 outbreak in India, assisting healthcare infrastructure enhancement, provision of personal protective equipment (PPE), providing food and hygiene essentials, and beverage distribution.

The relief program has been rolled out in eight critically affected states- Maharashtra (Mumbai, Pune), Delhi, Tamil Nadu (Chennai), Karnataka (Bengaluru), Telangana (Hyderabad), Gujarat, Punjab and Haryana. To provide immediate support and enhancement of health infrastructure, public hospitals are being provided with Personal Protective Equipment (PPE) comprising N95 masks, 3-ply disposable masks, surgical caps, surgical goggles, waterproof gowns, shoe covers, and gloves for the safety of healthcare workers. The support package also includes sanitizer dispensers, additional ICU beds, and non-contact thermometers for medical preparedness in dealing with the crisis. Working alongside the government bodies and local institutions to support and ensure safety and protection of our frontline healthcare personnel and communities.

Additionally, to equip public service personnel - police staff, sanitation workers, community and social workers working on frontlines and hotspot zones with protective gears, masks and gloves, sanitizers etc. To benefit about 50,000 sanitation workers, 11,000+ police personnel and 6,000 community health workers across India.

5.3 PepsiCo India

PepsiCo entered India in 1989 and over the last 30 years has grown into one of the largest convenient food and beverage companies in the country. The PepsiCo ecosystem in India, directly and indirectly employs over 163,000 people. The company is on track to invest USD 2.1 Bn in India by 2022, including over USD 70 Mn for a greenfield food manufacturing plant in Uttar Pradesh.

PepsiCo's operations both in India and around the world is guided by its vision to "Be the Global Leader in Convenient Foods and Beverages by Winning with Purpose". The stated business philosophy reflects PepsiCo's ambition to win sustainably in the marketplace. As part of this vision, PepsiCo has been actively working towards building a more sustainable food system by intensifying its efforts on four critical initiatives: next generation agriculture, achieving a positive water balance and creating a circular future for plastic.

Over the last three decades, PepsiCo in India has also developed a strong backend link with approximately 24,000 farmers in 13 states in the country. The company's agri teams along with over 100+ agronomists work closely with the farmers on providing better inputs, improved package of practices, better irrigation facilities etc., building trust & relationship with the farmers. It is a win-win proposition, extremely beneficial for the company as well as the farmers providing them access to production services and credit as well as knowledge of new skills and technology. The farmers associated in a collaborative model are more aware, progressive & quick adopters of technologies.

To meet its demand for processed potatoes, PepsiCo performs collaborative farming in the states of West Bengal, Maharashtra, Punjab, Gujarat, UP, Karnataka, Bihar, Haryana & Chhattisgarh (nine states), pioneering a deeply ingrained model of partnership with over 24,000 farmers, more than 45 percent of who are small and marginal farmers. PepsiCo with its experience in end-to-end value chain transformation

launched 360 degree farmer connect programs for potato focussing on strong backward & forward linkages, to improve livelihoods of small & marginal farmers.

PepsiCo is also helping farmers in water-scarce areas in Maharashtra, Madhya Pradesh and Gujarat by promoting micro irrigation in over

6400 acres. It is estimated that this methodology helps reduce water consumption in potato cultivation by 20%.

Relationship with farmers is for long term and more than 90% farmers are repeat farmers. The PepsiCo contract farming model differs slightly from state to state, but the basic model of operation is "Partners in Progress Model" where efforts are made to provide a win-win market linked self-sustaining opportunities. In the "Partners in Progress Model", PepsiCo establishes cooperatives or locally evolved farmers/ aggregators to be affiliated directly. Suitable farmers who can produce quantity and quality as per requirement which is pre agreed are identified by these cooperatives or farmers organisations. The PepsiCo Company procures the production as per the price, quantity and quality which are pre agreed. Pay for Performance system is followed by PepsiCo where farmers get incentives on their production meeting high quality standards, this is carried on by PepsiCo company to drive quality and a continuous generous supply. Supply of high quality planting material, including its proprietary advanced seed varieties to the farmers, is an important part of

PepsiCo India is leading a pioneering initiative to replace transplanting of paddy with direct seeding technology, which has helped reduce water consumption in paddy cultivation by

30% and has also cut down greenhouse gas emissions by **75%**

the backward integration, coupled with Agro inputs, weather based insurance, providing tie ups with Indian banks, access to low cost farm machinery.

PepsiCo also drives training and capacity building for farmers to use resources optimally and sustainably with a long-term perspective. They work with farmers on promoting micro irrigation practices like drip & sprinklers, by providing a premium/ financial incentives for water savings.

5.3.1 Contribution during Covid

PepsiCo India, along with its parent company's philanthropic arm PepsiCo Foundation, has provided 25,000 Covid-19 testing kits and over 5 million meals to support families impacted by the coronavirus outbreak in India.

The company has partnered with Akshaya Patra Foundation for distribution of cooked meals, and with Smile Foundation for providing dry food ration to support meals for over 8,000 vulnerable families impacted by the coronavirus pandemic. This initiative is part of parent company PepsiCo's global programme called 'Give Meals, Give Hope'. Further, PepsiCo India has partnered with non-profit organisation Foundation of Innovative New Diagnostics (FIND) for providing 25,000 Covid-19 testing kits. FIND is the World Health Organization's (WHO) collaborating centre for laboratory strengthening and diagnostic technology evaluation. It works closely with the Indian government.

These testing kits will be deployed across public and private healthcare laboratories identified by the Indian government to scale up access to Covid-19 testing.

5.4 Hershey India

Hershey India Private Ltd. is a 100% Subsidiary of The Hershey Company, a 125+ year old company based out of Hershey, PA, in the United States. It is the largest producer of quality chocolates in North America and a Global leader known for bringing happiness to the world through its chocolates, sweets, mints and other great-tasting snacks. The company has more than 80 brands around the world including iconic brands like

HERSHEY'S, REESE'S, HERSHEY'S KISSES, JOLLY RANCHER, ICE BREAKERS and HERSHEY'S EXOTIC DARK.

Hershey India is present across multiple food and beverage categories with its iconic brands. The HERSHEY'S brand brings happiness with its delicious products ranging from HERSHEY'S SYRUP, HERSHEY'S MILK BOOSTER, HERSHEY'S SPREADS, HERSHEY'S MILK SHAKE and HERSHEY'S COCOA POWDER. SOFIT, a market leader in the Soy beverage category, is packed with Soy Proteins, Vitamins and Omega 3. For over a decade, it has been synonymous with a healthy and active lifestyle. Brookside Chocolates now known as Hershey's Exotic Dark, the first Hershey India chocolate brand, launched in 2016, is a unique combination of dark cocoa rich chocolate and exotic fruit flavors. JOLLY RANCHER lollipops and candies have a unique sweet and tart taste and comes in bold fruity flavors. NUTRINE confectionery and JUMPIN ready to drink beverage are iconic and evoke nostalgic memories for our consumers.

Hershey India brands are available across outlets in leading cities. The organization's core business activities include manufacturing, marketing, importing & export of packaged food products and co-manufacturing for other food business operators.

5.4.1 Contribution during Covid

Hershey India associated with India Food Banking Network (IFBN) of the Food Security Foundation India to distribute 120,000 fortified beverages and cookies across 20 cities pan India to express their gratitude and support towards the medical staff, police, sanitation workers, migrant laborers and underprivileged children. The organization has also distributed our products to the medical staff in All India Institute of Medical Sciences (AIIMS) Bhopal and Sion Hospital in Mumbai. 1,200 packs of Hershey's milk shake were distributed to police and municipal administrative department on Covid-19 duty in Mandideep Industrial belt. All of this was done to bring some comfort and goodness to the frontline heroes who are battling the pandemic for India.

References

1. Agricultural and Processed Food Products Export Development Authority
2. Central Institute of Post- Harvest Engineering and Technology
3. Economic Survey of India
4. Food and Agriculture Organization
5. Indian Council of Agricultural Research
6. Industry sources
7. International Labor Organization
8. Ministry of Agriculture and Farmers Welfare
9. Ministry of Food Processing Industries
10. National Horticulture Board
11. Press Information Bureau
12. Various State government Portals
13. Global Hunger Index report published by Welthungerhilfe

