PORK & CHICKEN MEAT MARKET IN INDIA

A Report by IGEP Consult Pvt Ltd

2023

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Abbreviations

AI	Avian Influenza
AQCS	Animal Quarantine and Certification Service
ASF	African Swine Fever
B2B	Business to Business
B2C	Business to Customer
BPH	Birds Per Hour
BRICS	Brazil, Russia, India, China, and South Africa.
CAGR	Compounded Annual Growth Rate
CPI	Consumer Price Index
CSR	Corporate Social Responsibility
D2C	Direct to Customer
DAHD	Department of Animal Husbandry and Dairying
DGFT	Directorate General of Foreign Trade
DOC	Day Old Chick
EC	Environmental Controlled
ELISA	Enzyme-Linked Immunoassay
EXIM	Export-Import
FCR	Feed Conversion Ratio
FDR	Fine Dining Restaurant
FMCG	Fast-Moving Consumer Goods
FSSAI	Food Safety and Standards Authority of India
GDP	Gross Domestic Product
GM	Genetically Modified
GST	Goods & Services Tax
HACCP	Hazard Analysis, Critical Control Points
HORECA	Hotels, Restaurants and Cafés
HS	Harmonized System
ICAR	Indian Council of Agricultural Research
IGST	Integrated Goods and Services Tax
IMF	International Monetary Fund
IQF	Individual Quick Freezing
ISHRAE	Indian Society of Heating, Refrigerating, and Air Conditioning Engineers
ISO	International Organization for Standardization
IT	Information Technology
KFC	Kentucky Fried Chicken
Kg	Kilogram
NCR	National Capital Region
NPCI	National Payments Corporation of India
OECD	Organization for Economic Co-operation and Development
OIE	Organization for Animal Health
PBCL	Pub, Bar, Club, and Lounge
PPE	Personal Protective Equipment
PPP	Purchasing Price Parity
PPP	Public Private Partnership
QSR	Quick Service Restaurants
RTC	Ready to Cook
RTE	Ready to Eat
RT-PCR	Reverse Transcription Polymerase Chain Reaction
SIP	Sanitary Import Permit
UPI	United Payment Interface
VRB	Venkateshwara Research and Breeding

Definition of Some Words, Terms & Symbols used in the Report

Word	Meaning
Kirana Store	The term "kirana" is used to describe the small mom & pop shops in India.
Organized sector	Formal sector
Unorganized sector	Informal sector
GST (Goods & Services Tax)	GST is a single indirect tax system introduced in India in 2017. It is like VAT (Value Added Tax) in other countries.
Biryani	'Biryani' is a mixed rice dish made with Indian spices, rice, vegetables, and with or without meat.
Desi	Local
Kabab	Meat patty mixed with spices
Sheekh Kabab	Spiced, minced, or ground meat, usually goat, lamb, or chicken formed into cylinders on skewers and grilled
Dhaba	A dhaba is a roadside restaurant in India
Shawarma	Shawarma is a popular Middle Eastern meal that is made from marinated meat, such as lamb, beef, and chicken

Other Terms and Symbols Used in the Report

$	This is to denote a United States Dollar. For this report, a rate of 1 $ = Rs. 81 is used to calculate the conversion rate
Rs	Denotes Indian Rupees
Crore	Indian Term for 10 Million. 1 Crore = 10 Million
Lakh	Indian Term for One Hundred Thousand. 1 Lakh = 100000
Financial Year	Financial Year in India begins on 1st April and ends on 31st March
Omnichannel	A term used to refer to a multichannel approach to selling through owned online stores, physical stores, other B2C online channels, and social media sites. The terms 'Omnichannel' and D2C are used interchangeably
Chicken/Poultry	'Chicken' and 'Poultry' are used interchangeably in some sections of this report
Piggery/Pork	'Piggery' and 'Pork' are used interchangeably in some sections of this report

1. Introduction

1.1 Background

This study has been commissioned by the Trade & Investment Section, Embassy of Brazil in New Delhi. IGEP Consult Pvt Limited, based in Gurugram, India, has been appointed to undertake the study.

1.2 Objective

This study aims to identify potential business opportunities for Brazilian companies and organizations in the Indian poultry and piggery sectors. Additionally, the study provides information on the following topics:

- Analysis of the export and import data in the sectors
- Production and consumption statistics
- Characteristics of the sectors
- Information on logistics and distribution channels
- Regulatory and other barriers
- Trends in the market
- Competition and macro environment
- Key factors and challenges in the market

The results of the study would enable the users to take strategic decisions:

- Evaluation of specific business opportunities for Brazilian companies and organizations in the Indian market
- Selection of appropriate products, market segments, and channels
- Selection of an appropriate business and marketing strategy for introducing their products in India

1.3 Coverage and Methodology

The coverage of this study follows the terms of reference provided by the Embassy of Brazil, covering the following aspects:

- Executive Summary
- General Data on the country's trade flow in the sector analyzed
- Information on production and consumption
- Characteristics of the sector
- Information on logistics, distribution, pricing, and retail chains
- Marketing analysis: demand, competition, and macro environment
- Rules and regulations
- Breakdown of opportunities by product type made from the tables provided by the Embassy of Brazil, New Delhi

The study is based on a mixture of secondary and primary research. Government websites, company websites, and other specific sources including meetings and interviews with experts in their relevant domains have been used to compile information and data.

1.3.1 Secondary Research

While compiling secondary data, due care has been given to collect the data only from authentic sources.

The main sources for secondary data collection have been:

- Govt. of India websites regarding relevant regulations and policies
- Company websites and annual reports
- Industry and sector-specific reports available in the public domain (Print media, internet, etc.)
- Updated Imports and export statistics from the Dept. of Commerce, Govt. of India

1.3.2 Primary Research

Primary research involved personal meetings, interviews, and consultations with key persons, in the government, academic, industry, and trade bodies. The consultations also involved validating specific information available to us.

Approximately 250 telephone calls were also made to various companies and organizations to receive specific information about the sectors studied.

A list of names of the persons contacted is enclosed in Annexure I at the end of this report (Page – 108).

2. Executive Summary

India-Brazil bilateral trade has increased substantially in the last two decades. Several cooperative agreements have been signed between the two countries in various sectors. There is ample scope and potential for further expansion of mutually beneficial cooperation between the two countries. The agriculture and food processing sectors are two promising sectors for Brazil and India to work together. Brazil is a major agricultural and processed meat exporter. India has over the past few years, made significant strides to develop its agri-export potential. Total agriculture and food processing exports crossed the $ 50 billion mark for the first time in 2021-22. Animal products (buffalo beef, sheep/goat meat, poultry, and misc. products) contributed approx. $ 4.1 billion.

The Indian poultry meat and piggery (pork) industry, which are the topics of study of this report, offers a contrasting picture. While the poultry sector is gradually transforming itself to a more organized level, the piggery sector continues to be beset with immense challenges. Brazil has a lot to offer India in terms of technology and expertise to help these sectors overcome their inherent challenges. The development of both these sectors can be beneficial to India in one crucial respect. It can play a positive role to help boost the protein intake of the Indian population and reduce the incidence of malnutrition in the country.

The whole world is going through economic and geopolitical challenges caused by the Covid-19 epidemic and the Russian-Ukraine war. While India had its share of difficulties, its economy recovered resoundingly by posting a growth rate of 8.7 % in 2021-22. **Chapter 3 – 'India – Political and Economic Summary'** of this report gives a glimpse of India's stable political and economic landscape. It also provides data about the growing trade relations between India and Brazil.

India's Exim trade in poultry meat and pork is quite low. **Chapter 4 – 'Import and Export of Pork and Chicken Meat Products'** covers the statistics of India's imports and exports of poultry meat and pork. India imports negligible quantities of chicken meat. Processed pork products are imported for the high-end consumption of 5 Star hotels and gourmet establishments. Some exports are made to a few countries but primarily to neighbouring countries such as Nepal and Bhutan. There are some indications of the export potential of a few product segments from Brazil.

There are high tariff barriers for the export of chicken meat and pork to India. **Chapter 5 – 'Prevailing Custom Duties in India for Chicken, Pork, and Sausage Products'** summarized the prevailing import duty structure in India. The basic customs duty can range from 30 % to 100 % for some product categories. After additional duties, the final duty rate can be more than 200 % for some categories. Are there chances for the lowering of these high tariffs? **Section 5.1** of this Chapter answers this question.

India's per capita consumption of chicken meat and pork are 2.58 Kg and 0.165 Kg respectively which is very low in comparison to other countries. A comparative analysis with other countries and the factors affecting these sectors are covered under **Chapter 6 - 'Consumption and Production'**.

The yield per animal for the poultry and piggery sectors is low at 1.35 Kg and 35 Kg respectively. The factors responsible for this are covered comprehensively in **Chapter 7 – 'Characteristics of the Indian Poultry and Pork Sectors**'. Both the poultry and piggery segments are also badly impacted by diseases. **Section 7.4 – 'The Impact of Diseases on the Indian Poultry & Piggery Sectors'** gives details of these diseases and the measures taken by the authorities to contain them.

The main characteristics of logistics, retail, and distribution in India are covered in **Chapter 8 – 'Logistics, Retail Chains & Distribution'**.

The gradual evolution of the Indian poultry sector from an unorganized to an organized sector, its detailed supply chain structure, and the new emerging marketing trends such as 'Omnichannel Marketing' are covered under **Chapter 9 – 'Structure of the Indian Poultry Sector'**.

Unlike the poultry sector, the Indian piggery sector is largely unorganized and underdeveloped. The African Swine Fever (ASF) has hit the sector badly. **Chapter 10 – 'Structure of the Indian Piggery Sector'** covers the various challenges faced by this sector, the current supply chain, the skewed distribution of pigs in the country, and the consumption of pork, as well as the dynamics shaping the future of this sector.

Chapter 11 – 'Drivers of Growth' covers the various growth drivers propelling the consumption of chicken meat and pork in India. Rapid urbanization, a large millennial consumption-oriented population, expansion of the chain QSR segment, India's advanced digital infrastructure, Covid-19-induced consumption behavior, the development of the omnichannel distribution network, and the role of social media influencers are all covered in this section.

What is the India-specific consumption trends which an organization has to study for a better understanding of the Indian market is covered under **Chapter 12 – 'Trends and Future Scenario'.**

The rules and regulations covering the import of chicken and pork products as well as live animals are covered under **Chapter 13 – 'Regulatory Framework'**. This section includes information regarding product labeling requirements as required by FSSAI. A list of important government agencies pertaining to the sectors is also included.

The major companies in the poultry and piggery sector are covered comprehensively in **Chapter 14 - Major Companies in India in the Chicken Meat and Pork Sector'.**

What are the opportunities for Brazilian companies and organizations in the poultry and pork sector in India? **Chapter 15 – 'Opportunities for Brazilian Companies and Organizations'** lists some of the important opportunities in both sectors.

3. India – Political and Economic Summary

3.1 Political Summary

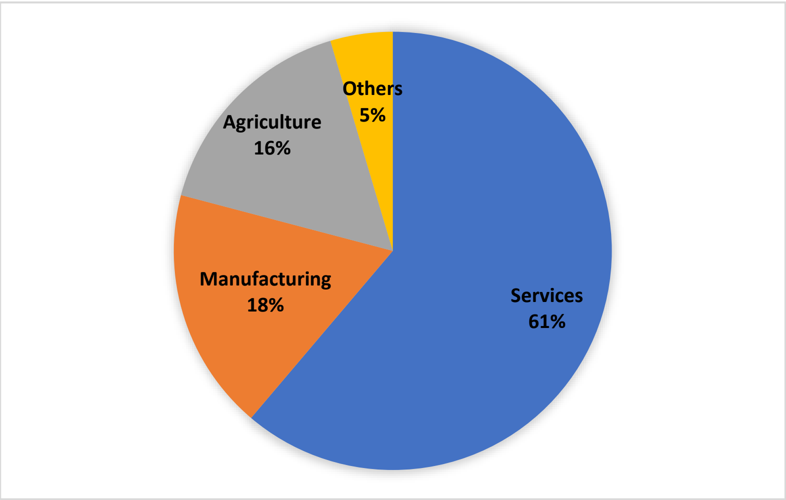
Federal States	28
Union Territories[1]	9
Geographical Area	3,287,263 Square Km (7th Largest)
Population	1.37 billion (estimated 2022)
Government	Federal Republic
Capital City	New Delhi
Languages Spoken	English, Hindi & 21 other Officially Recognized Languages

Source – National Portal of India

3.2 Economic Summary

GDP (Nominal) 2022	$ 3.46 Trillion (5th largest)
GDP (PPP) 2022	$ 11.66 Trillion
Per Capita Income (Nominal) 2022	$ 2466
Per Capita Income (PPP) 2022	$ 8293
Currency / Exchange Rate	1 Rupee (Rs.) = 100 Paise 1 US $ = Rs.82.85 (Dec 23, 2022)
Exports (2021-22)	$ 422.00 Bill.
Imports (2021-22)	$ 613.05 Bill.
Reserves	$ 561.20 Bill. (Dec 7, 2022)
Inflation (CPI)	5.88 % (Nov 2022)
World Bank "Ease of Doing Business" Index Rank	63
Public Debt	84 % of GDP (2022)

GDP by Sector



Sources – World Economic Outlook/IMF/Dept of Commerce, Govt of India/RBI

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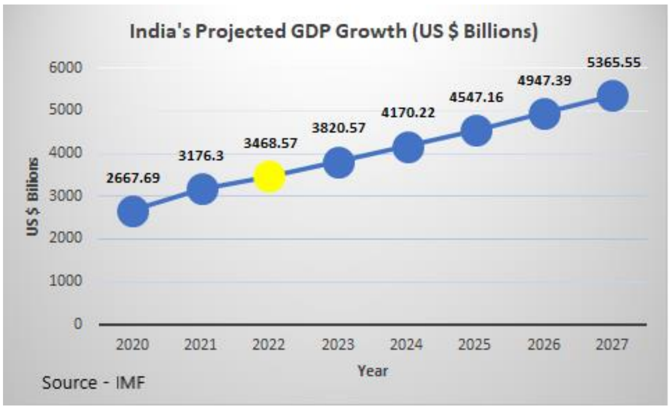
[1] Union Territories are those regions that are directly ruled by the Central Government in New Delhi

3.3 India Economic Outlook

Like all the other major economies in the world, the Indian economy was negatively impacted in 2020 due to the Covid-19 pandemic. The economy contracted by – 7.3 % in 2020-21. However, it rebounded strongly in 2021-22, posting a growth rate of 8.7 %. Recently, India overtook the United Kingdom to become the 5th largest economy in the world.



India's economic outlook for the next few years is very positive. According to experts, India is projected to be the fastest-growing economy in the current financial year (2022-23)[2]. The GDP growth rate in the first quarter of the financial year 2022-23 (April-June 2022) was an impressive 13.5 %. Most international credit agencies expect the Indian economy to grow by 6.5 % or more in the current financial year.

If the present growth rate is maintained, India is likely to surpass Germany in 2027 and then Japan by 2029 to become the 3rd largest economy in the world. At the present rate of growth, India is expected to become a $ 5 trillion economy by 2027.

In comparison to many other developing and developed countries, the Indian economy is firm and stable in terms of various economic fundamentals. Since the steady decline in Covid, there has been a rebound in services activity. Government capital expenditure and manufacturing capacity utilization have also improved considerably, putting the economy on a strong growth path.

A report by Morgan Stanley indicates that India's working-age population is still growing. Today, India's median age (28.4) is 10 years younger than China's (38.4). This implies that India will enjoy a longer economic growth momentum.

[2] India's financial year is from 1st April to 31st March

3.4 India-Brazil Trade Relations

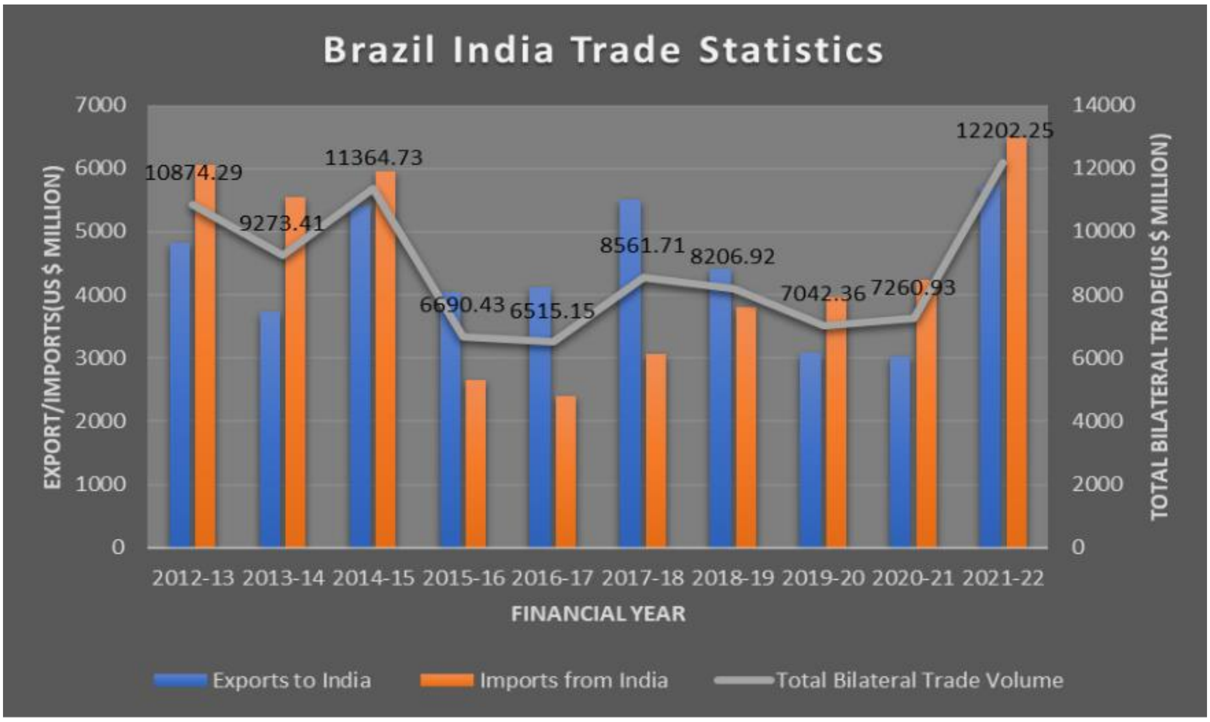
India became the 5th largest trading partner of Brazil in 2021[3]. The total trade volume between the two countries stood at $ 12.2 billion in the financial year 2021-22. **This was a phenomenal 68 % increase over the previous financial year 2020-21.**

Brazil's main exports to India include vegetable oil, crude oil, gold, sugar, and bulk mineral and ores. Main imports from India include pharmaceuticals, agrochemicals, auto components, synthetic yarns, and petroleum products.

Brazil Exports & Imports to India (US $ Mill.)			
Year	**Exports**	**Imports**	**Total Bilateral Trade Volume**
2012-13	4825.76	6048.53	10874.29
2013-14	3720.94	5552.47	9273.41
2014-15	5400.91	5963.82	11364.73
2015-16	4040.09	2650.34	6690.43
2016-17	4114.69	2400.46	6515.15
2017-18	5498.22	3063.49	8561.71
2018-19	4406.43	3800.49	8206.92
2019-20	3074.97	3967.39	7042.36
2020-21	3015.99	4244.94	7260.93
2021-22	5713.28	6488.97	12202.25

Source - Dept. of Commerce, Govt of India

There is significant scope to enhance bilateral trade between the two countries, especially in the agriculture sector. Due to close interactions in international forums such as the G-20 and BRICS[4], bilateral relations between Brazil and India have gained more relevance. There is strong political interest for both nations to come closer together.



Source - Dept. of Commerce, Govt. of India

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[3] Source - Ministério da Economia (Brazil)

[4] BRICS - BRICS is an acronym for five leading emerging economies: Brazil, Russia, India, China, and South Africa.

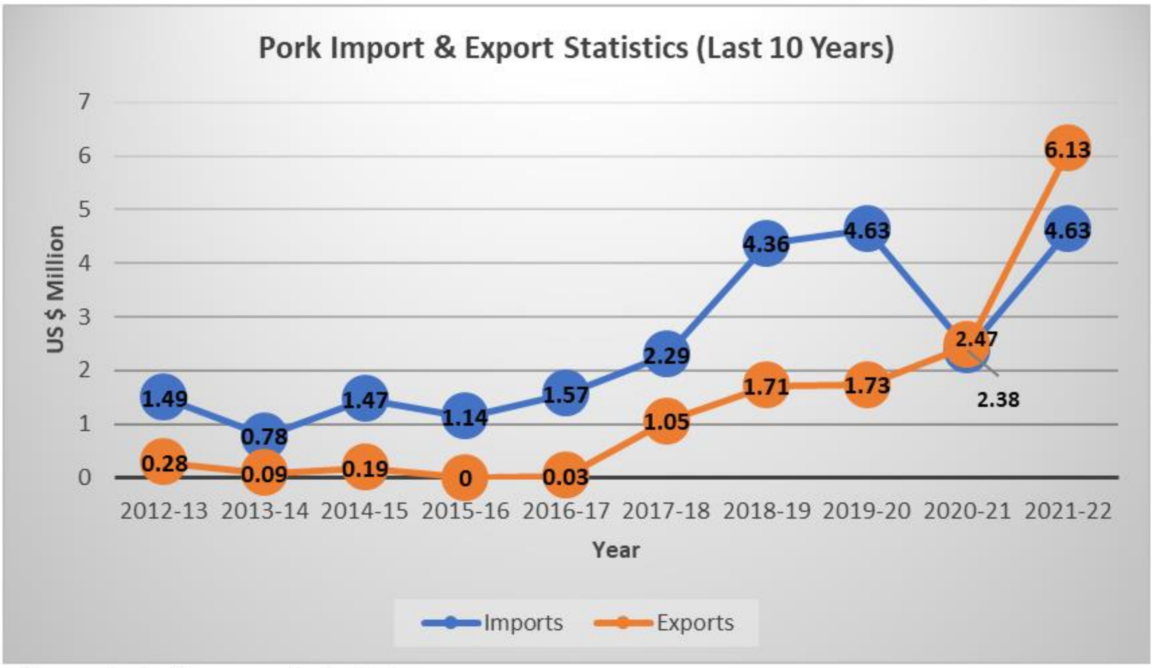
4. Import and Export of Pork and Chicken Meat Products

India's pork and chicken meat sector mainly cater to domestic demand. Import volumes are low but growing. Exports of both products from India are increasing especially, to neighboring countries.

4.1 Trade Data of Pork (Last 10 Years)

Trade Data on Pork Products US $ Million			Main Exporting and Importing Partner Countries	
Year	**Imports**	**Exports**		
2012-13	1.49	0.28	**Exports**	**Bhutan and Nepal**
2013-14	0.78	0.09		
2014-15	1.47	0.19		
2015-16	1.14	0		
2016-17	1.57	0.03	**Imports**	**Belgium, Italy, Spain, Thailand, the UK, Sri Lanka, Korea**
2017-18	2.29	1.05		
2018-19	4.36	1.71		
2019-20	4.63	1.73		
2020-21	2.38	2.47		
2021-22	4.63	6.13		

Source - Dept. of Commerce, Govt of India



Source - Dept. of Commerce, Govt. of India

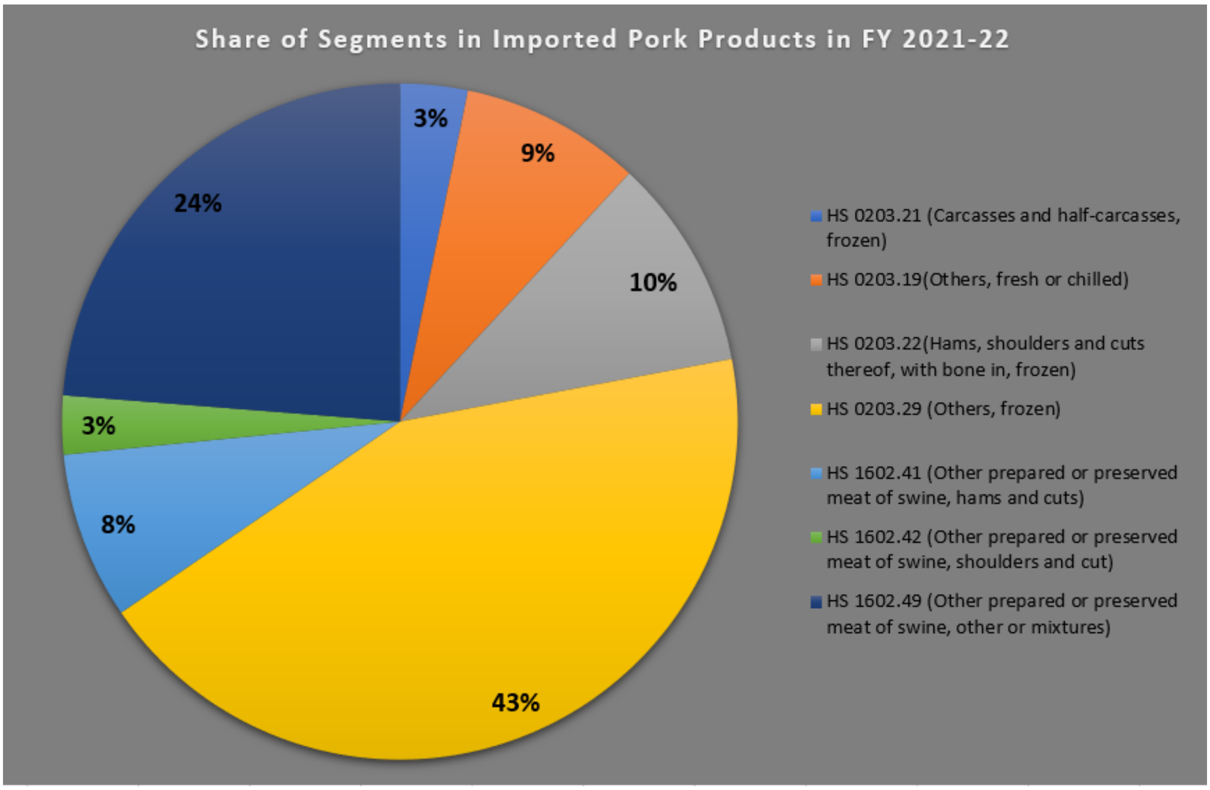
Annual exports of fresh and frozen pork to India have seen an upward trajectory from 2015-16. Total exports to India stood at $ 4.63 million in 2021-22. Belgium, Italy, and Spain were the major exporters to India.

4.2 Import and Export Statistics of Pork Sub-Segments (Last 4 Yrs)

Product	HS Code	Product Description	2021-22		2020-21		2019-20		2018-19	
Pork	**203**	**Meat of swine, fresh, chilled, or frozen**	**Import**	**Export**	**Import**	**Export**	**Import**	**Export**	**Import**	**Export**
Carcass	0203.11	Carcasses and half-carcasses, fresh or chilled		0.93		1.47		0.13		0.01
	0203.21	Carcasses and half-carcasses, frozen	0.15	5.04	0.2	0.95	0.2	1.51	0.11	1.64
Cuts	0203.12	Hams, shoulders, and cuts thereof, with bone in, fresh or chilled		0.05		0.03		0.02		0.02
	0203.19	Others, fresh or chilled	0.4		0.22		0.3		0.26	0.01
	0203.22	Hams, shoulders, and cuts thereof, with bone in, frozen	0.47	0.05	0.37	0.01	0.24		0.25	
	0203.29	Others, frozen	2.01		0.72	0.01	2.13	0.02	1.77	0.02
Processed	1602.41	Other prepared or preserved meat: Of swine, Hams and cuts thereof	0.37		0.22		0.35	0.04	0.51	
	1602.42	Other prepared or preserved meat: Of swine, Shoulders and cuts thereof	0.13		0.04		0.08		0.06	
	1602.49	Other prepared or preserved meat: Of swine, Other, including mixtures:	1.1	0.03	0.61		1.33	0.01	1.4	0.01
		Total (US $ Million) ➔	**4.63**	**6.13**	**2.38**	**2.47**	**4.63**	**1.73**	**4.36**	**1.71**

Source – Dept. of Commerce, Govt of India

4.3 Percentage Share of Imported Pork Product Segments for the Year 2021-22



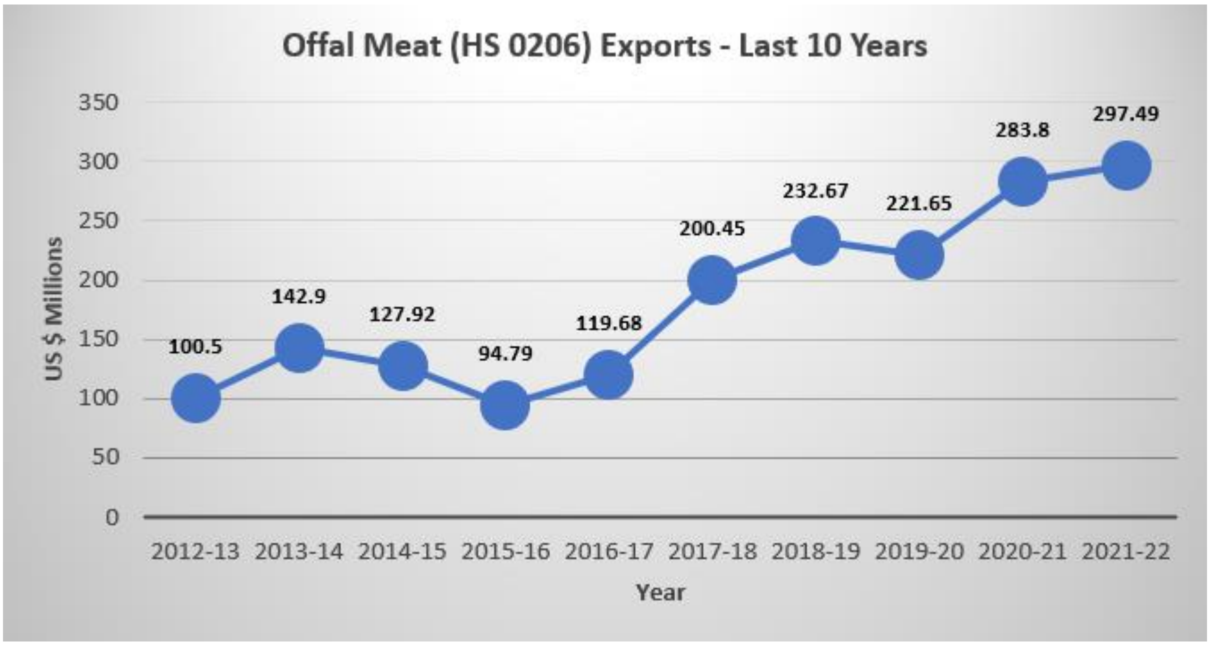
Source – Dept. of Commerce, Govt of India

4.4 Trade Statistics of Offal Meat (HS 0206 - Edible Offal of Bovine Animals (Swine, Sheet, Goat, Horse, Mule, Fresh/Chilled/Frozen)

India exports offal meat to more than 40 countries. No data is available for offal meat sub-categories HS 0206.30, 0206.41, and 0206.49. There is also no data for offal meat imports.

Offal (HS 0206)		Export Destinations
Year	Value (US $ Million)	
2012-13	100.5	Major Export Destinations – Vietnam, Malaysia, Hong Kong, Egypt and Bangladesh. Others – Afghanistan, Angola, Bahrain, Cambodia, Cameroon, Comoros, Congo, Eq. Guinea, Gabon, Gambia, Georgia, Ghana, Guinea, Iran, Iraq, Cote D' Ivoire, Jordan, Kuwait, Korea, Lebanon, Liberia, Maldives, Myanmar, Mozambique, Namibia, Oman, Pakistan, Qatar, Senegal, Sierra Leone, Singapore, South Africa, Thailand, UAE, USA, Uzbekistan.
2013-14	142.9	
2014-15	127.92	
2015-16	94.79	
2016-17	119.68	
2017-18	200.45	
2018-19	232.67	
2019-20	221.65	
2020-21	283.8	
2021-22	297.49	

Source – Dept. of Commerce, Govt of India

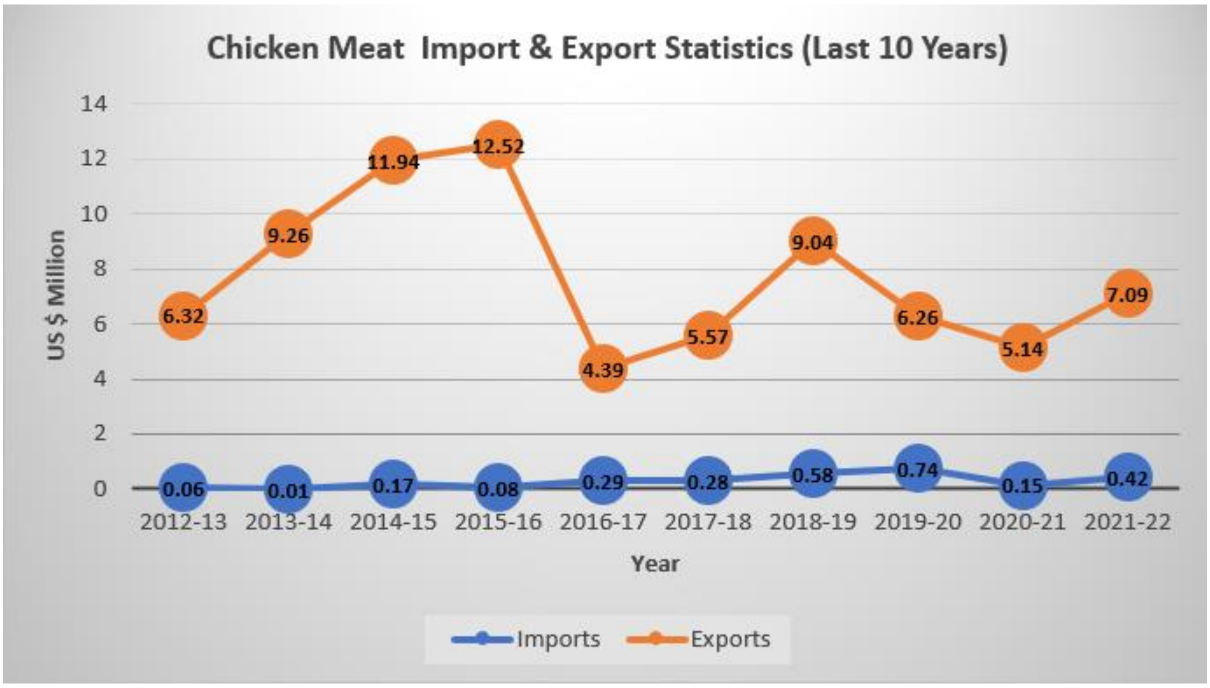


Source – Dept. of Commerce, Govt of India

4.5 Trade Data of Chicken Meat (Last 10 Years)

Trade Data on Chicken Meat US $ Million			Main Exporting and Importing Partner Countries	
Year	**Imports**	**Exports**		
2012-13	0.06	6.32	**Exports**	**Bhutan, Bahrain, Maldives, Thailand, Oman, Vietnam, Malaysia, USA, Tajikistan**
2013-14	0.01	9.26		
2014-15	0.17	11.94		
2015-16	0.08	12.52		
2016-17	0.29	4.39	**Imports**	**Brazil, Thailand, USA, Malaysia, Singapore**
2017-18	0.28	5.57		
2018-19	0.58	9.04		
2019-20	0.74	6.26		
2020-21	0.15	5.14		
2021-22	0.42	7.09		

Source – Dept. of Commerce, Govt of India



Source – Dept. of Commerce, Govt of India

The Indian market for imported chicken meat products is quite small so far. Imports have not crossed US $ 1 million during the past 10 years.

However, there has been an incremental and steady raise in chicken meat exports from Brazil to India during the past three financial years. The Brazilian company Seara (a subsidiary of JBS) became the first Brazilian company to be authorized to export chicken products to India in 2019. The first shipment consisted of chicken thighs and leg quarters. Exports from Brazil constituted 21.42 % of the imported chicken meat market in India in 2021-22.

Year	Total Imports (US $ Mill.)	Imports from Brazil (US $ Mill.)	Share of Brazil (%)
2019-20	0.74	0.02	2.70
2020-21	0.15	0.06	40.00
2021-22	0.42	0.09	21.42

Source - Dept. of Commerce, Govt of India

4.6 Import and Export Statistics of Chicken Sub-Segments (Last 4 Years)

Product	HS Code	Product Description	2021-22		2020-21		2019-20		2018-19	
Chicken	**0207**	**Meat and edible offal, of the poultry of heading 0105, fresh, chilled or frozen: of chickens**	**Import**	**Export**	**Import**	**Export**	**Import**	**Export**	**Import**	**Export**
Whole	0207.11	Not cut in pieces, fresh or chilled								
	0207.12	Not cut in pieces, frozen	0.09		0.06				0.01	
Cuts	0207.13	Cuts and offal, fresh or chilled								
	0207.14	Cuts and offal, frozen								
		Total (0207 Categories) →	0.42	6.59	0.15	4.95	0.74	6.09	0.58	8.71
Processed	1602.32	Other prepared or preserved meat: Of chickens		0.37		0.09		0.1		0.27
Salted	0210.99	Meat and edible meat offal, salted, in brine, dried or smoked; edible flours and meals of meat or meat offal: other		0.13		0.1		0.07		0.06
		Total (all categories) →	0.42	7.09	0.15	5.14	0.74	6.26	0.58	9.04

Source – Dept. of Commerce, Govt of India

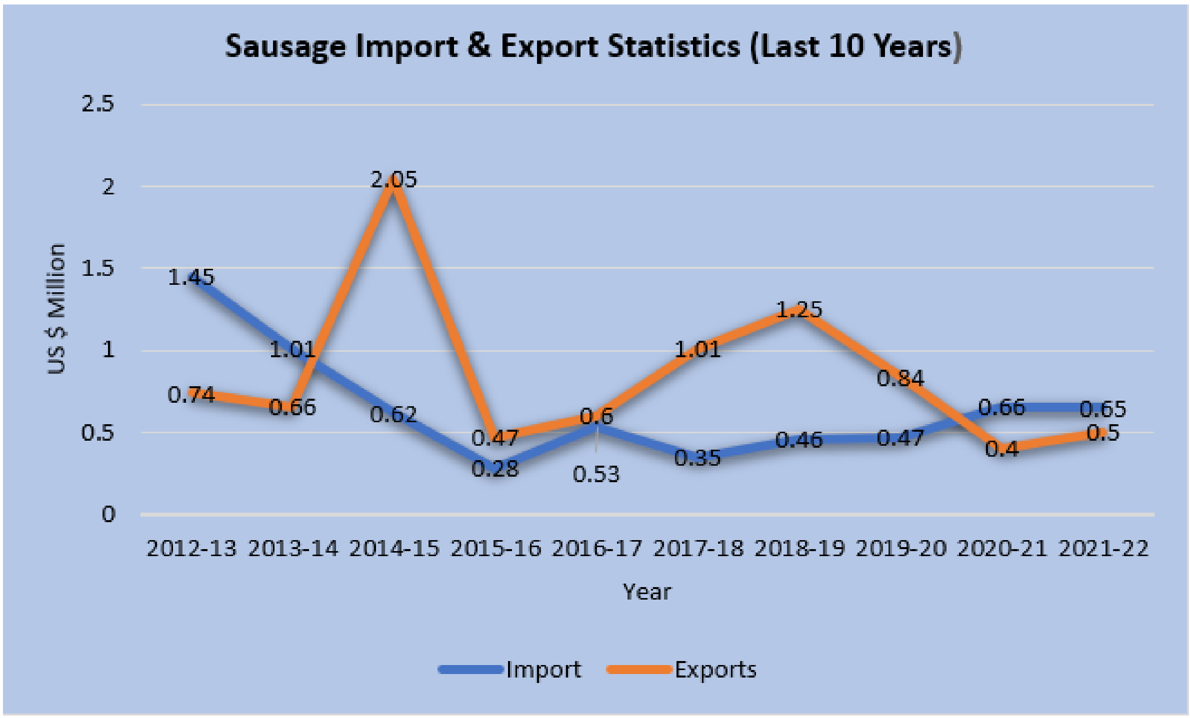
Note:

1. No break-up of data HS 0207 Category is available from the Dept. of Commerce, Govt of India site except for import figures of HS 0207.12 for the years 2021-22, 2020-21, and 2081-19. Only the total sum of HS 0207 is available.
2. No import figures are available for Processed (HS 1602.32) and Salted (HS 0210.99)

4.7 Trade Data of Sausages & Similar Products (HS Code 160100) for Last 10 Years

Trade Data of Sausages (HS 160100) US $ Million			Main Exporting and Importing Partner Countries	
Year	**Imports**	**Exports**		
2012-13	1.45	0.74	**Exports**	**Bhutan, Nepal, Oman, Qatar, Saudi Arabia, UK, UAE, Hong Kong, Singapore, Bangladesh**
2013-14	1.01	0.66		
2014-15	0.62	2.05		
2015-16	0.28	0.47		
2016-17	0.53	0.6	**Imports**	**Denmark, Germany, Sri Lanka, Austria**
2017-18	0.35	1.01		
2018-19	0.46	1.25		
2019-20	0.47	0.84		
2020-21	0.66	0.4		
2021-22	0.65	0.5		

Source – Dept. of Commerce, Govt of India



Source – Dept. of Commerce, Govt of India

5. Prevailing Custom Duties in India for Chicken, Pork, and Sausage Products

Product		HS	Description	Basic Customs Duty(BCD)	Customs AIDC	Custom Health CESS (CHCESS)	CESS	Excise AIDC (EAIDC)	Social Welfare Surcharge (SWC)	IGST Levy	Compensation Cess (CC)	Total Duty
Chicken	0207		**Meat and edible offal, of the poultry of heading 0105, fresh, chilled or frozen: of chickens**									
	Whole	0207.11	Not cut in pieces, fresh or chilled	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
		0207.12	Not cut in pieces, frozen	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
	Cuts	0207.13	Cuts and offal, fresh or chilled	100.000%	100.000%	0.000%	0.100%	0.000%	20.010%	16.006%	0.000%	236.116%
		0207.14	Cuts and offal, frozen	100.000%	100.000%	0.000%	0.100%	0.000%	20.010%	16.006%	0.000%	236.116%
	Processed	1602.32	Other prepared or preserved meat: Of chickens	100.000%	100.000%	0.000%	0.000%	0.000%	20.000%	38.400%	0.000%	258.400%
	Salted	0210.99	Meat and edible meat offal, salted, in brine, dried or smoked; edible flours and meals of meat or meat offal: other	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
Pork	0203		**Meat of swine, fresh, chilled, or frozen:**									
	Carcass	0203.11	Carcasses and half-carcasses, fresh or chilled	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
		0203.21	Carcasses and half-carcasses, frozen	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
	Cuts	0203.12	Hams, shoulders and cuts thereof, with bone in, fresh or chilled	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
		0203.19	Others, fresh or chilled	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
		0203.22	Hams, shoulders and cuts thereof, with bone in, frozen	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
		0203.29	Others, frozen	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
	Offal	0206.30	Edible offal of swine, fresh or chilled	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
		0206.41	Edible offal of swine, frozen: livers	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
		0206.49	Edible offal of swine, frozen: others	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
	Processed	1602.41	Other prepared or preserved meat: Of swine, Hams and cuts thereof	30.000%	9.000%	0.000%	0.000%	0.000%	3.900%	17.148%	0.000%	60.048%
		1602.42	Other prepared or preserved meat: Of swine, Shoulders and cuts thereof	30.000%	9.000%	0.000%	0.000%	0.000%	3.900%	17.148%	0.000%	60.048%
		1602.49	Other prepared or preserved meat: Of swine, Other, including mixtures:	30.000%	9.000%	0.000%	0.000%	0.000%	3.900%	17.148%	0.000%	60.048%
	0210		**Meat and edible meat offal, salted, in brine, dried or smoked; edible flours and meals of meat or meat offal: Meat of swine:**									
	Salted	0210.11	Hams, shoulders and cuts thereof, with bone in	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
		0210.12	Bellies and cuts thereof	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
		0210.19	Others	30.000%	9.000%	0.000%	0.065%	0.000%	3.906%	7.149%	0.000%	50.120%
Sausages	Sausage and similar products	1601.00	**Sausages and similar products, of meat, meat offal, blood or insects; food preparations based on these products**	100.000%	100.000%	0.000%	0.000%	0.000%	20.000%	38.400%	0.000%	258.400%

Source – Central Board of Excise & Customs, Govt. of India / IceGate Portal assessed on 5th Nov 2022

5.1 Scope for Import Tariff Cuts by India in the Chicken Meat & Pork Segment

In terms of import flexibility, the year 2022 can be termed promising for meat and agriculture commodities exporters to India.

- In January 2022, India agreed to allow imports of U.S. pork products[5].
- India and Australia signed an Economic Cooperation and Trade Agreement (ECTA)[6] on 18th Feb 2022. Under the ECTA, a free trade agreement, India has effectively eliminated the import tariff for Australian sheep meat (HS Code 0204) from 29 Dec 2022.
- In May 2022, India announced an additional 550,000 metric tons (MT) of GM (Genetically Modified) soybean meal. This import quota was the remaining amount pertaining to an earlier import of 1.2 million metric tons (MMT) imports in Aug 2021. This move was made as a response to high soybean meal prices prevailing in India due to growing demand from India's poultry industry.

How realistic is the possibility of tariff reductions for chicken and pork products by the Govt of India in the near future?

For Chicken Meat Sector - LOW

Some of the key issues are:

1. As far as the poultry industry is concerned the chances for any duty cuts are low. This is because India is currently more or less self-sufficient in producing chicken. It is one of the largest producers of chicken meat in the world. Production in India is able to meet the demand despite various challenges as described in this report. The average processing plant in the organized sector has an average of about 2500 BPH capacity. If demand increases, as it is predicted to be going by the growth rate of 30 % in 2022 indicated in this report, it is possible that bigger plants of over 5000 – 6000 BHP may be set up. Many Indian poultry companies have the financial capacity to undertake projects of this scale.
2. The Poultry Federation in India enjoys strong lobbying power with the government. As they have the support of contract farmers, the Indian government is always sympathetic to their cause. One of the policies of the present Indian government is to double farmers' income. Therefore, any duty cuts on chicken product imports will imply going against this policy.

For Piggery Sector – MODERATE

Some of the Key issues are:

[5] Source - https://www.reuters.com/business/india-allow-imports-us-pork-products-us-officials-say-2022-01-10/

[6] India – Australia ECTA - https://www.dfat.gov.au/sites/default/files/aiecta-benefits-for-australian-goods-exporters.pdf

1. India requires significant investment to develop its piggery sector. India lacks an established, modern commercial pork production industry, to meet the growing demand for pork. Due to the supply chain disruptions caused by the Covid-19 and ASF epidemics combined, there is today, more than an estimated 50 % shortfall of pork meat available in the 7 states of Northeast India. This region consumes the highest proportion of pork produced in India.

2. The piggery sector, unlike the poultry sector does not have a strong lobbying group to deal with the Indian government and put forward its demands. While it is understood by policymakers in the Government, that pork offers one of the cheapest sources of protein for a protein-deficient population, the sector has not received the required impetus and stimulus. There is a need for farmer groups and piggery associations to put up a strong united front (especially from the Northeastern region) and pressure the Indian government to lower the duty rates. This can help alleviate the pork shortage until the local industry is revived and scaled up.

3. If the condition of the piggery sector deteriorates further, there is a moderate scope that one of the measures taken by the Indian government will be to reduce the tariff rates for pork products.

Current External Macroeconomic Situation

Widening Current Account Deficit

According to the Reserve Bank of India, due to high international commodity prices, India's current account deficit (CAD) surged to an all-time high of $ 36.4 billion in the July-September Quarter of the current financial year 2022-23. This figure was double the $ 18.2 billion posted in the April-June Quarter. For the previous financial year 2021-22 as a whole, the CAD was $ 38.77 billion. This is a cause for concern for Indian policymakers despite the fact that India maintains healthy foreign exchange reserves of over $ 500 billion.

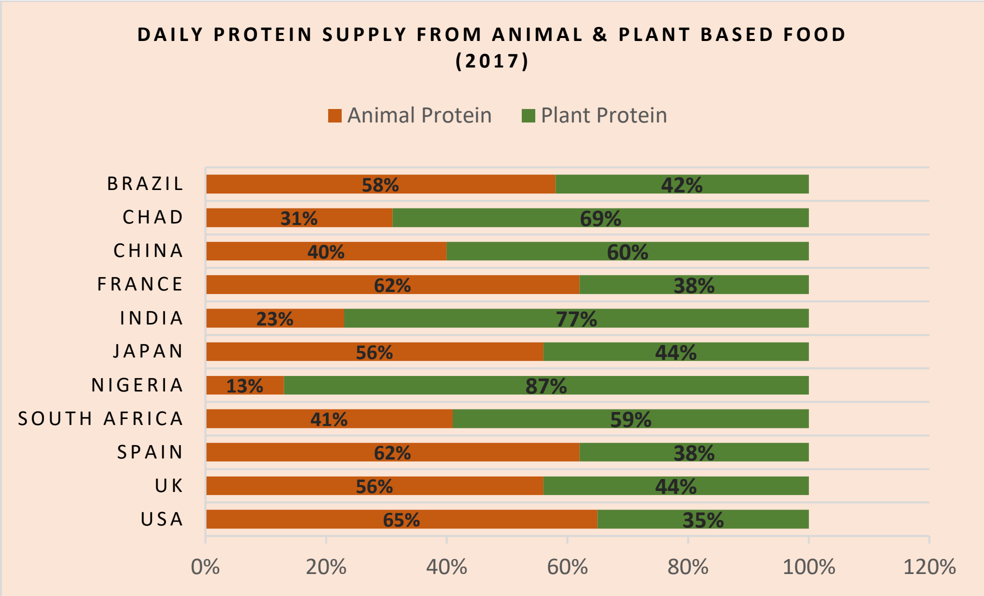
Depreciation of the Indian Rupees vs US $

The Indian Rupee finished the year 2022 at Rs. 82.72 to the U.S. $, down from 74.33 at the end of 2021. The Indian rupee was the worst-performing Asian currency with a fall of 10.14% against the US $. It was the Rupee’s biggest annual decline since 2013. The US $ is appreciating in strength as the U.S. Federal Reserve is increasing interest rates to bring down inflation.

There is pressure on the Indian economy to plug foreign exchange outgo, due to the above two factors. As a result, there is less chances for the Indian government to soften import duty rates due to the current prevailing macroeconomic conditions.

6. Consumption & Production

According to the Pew Research Centre, about 60 % of Indians eat meat. An FAO[7] study in 2017 indicates that 77 % of protein intake by Indians is plant-based and only 23 % is meat-based. A comparison with other countries is shown in the Figure below.



Source - FAO

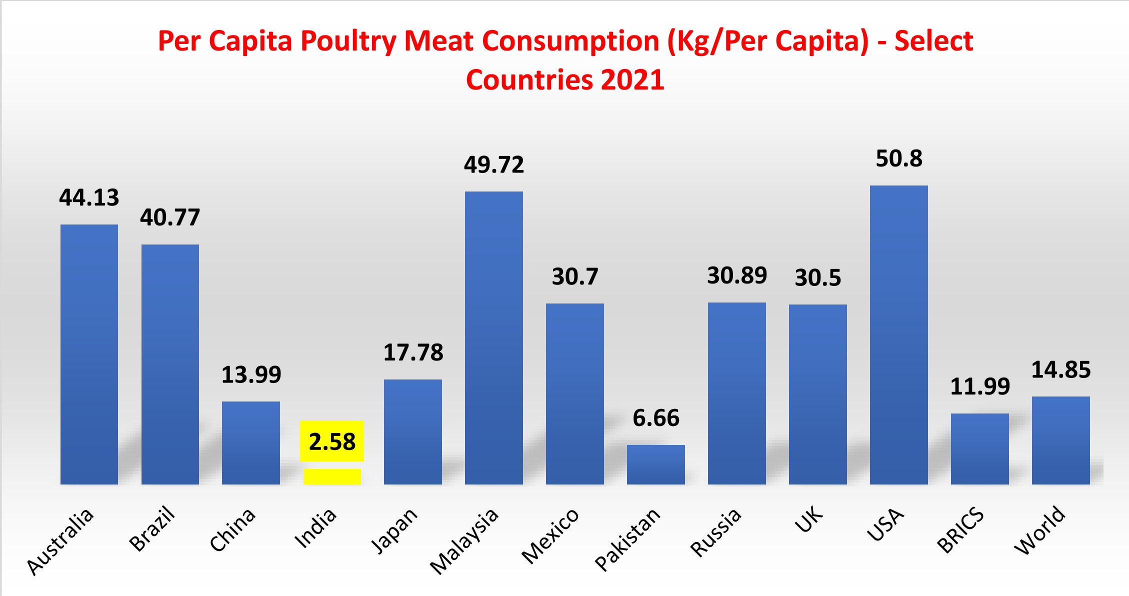
6.1 Per Capita Consumption

The per capita consumption of chicken meat and pork in India is one of the lowest in the world. As per OECD[8] statistics, the per capita consumption of chicken meat in India is 2.58 Kg/Per Capita while for pork it is 0.165 Kg/Per Capita in 2021.

Chicken meat consumption (Kg/Per Capita) 2021	
Country	**Kg/Per Capita**
Australia	44.13
Brazil	40.77
China	13.99
India	**2.58**
Japan	17.78
Malaysia	49.72
Mexico	30.70
Pakistan	6.66
Russia	30.89
UK	30.50
USA	50.80
BRICS	11.99
World	14.85

Source – OECD/FAO Agricultural Outlook 2021

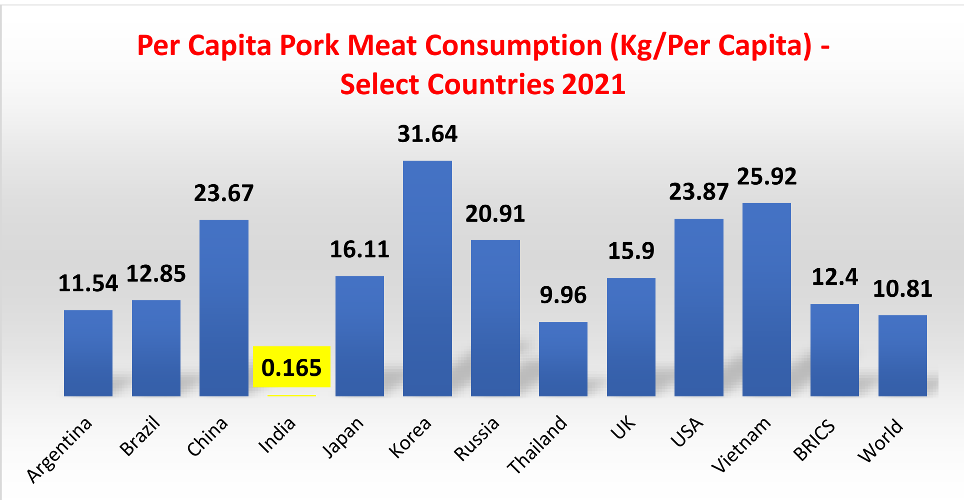
[7] FAO – Food and Agriculture Organization
[8] OECD - Organisation for Economic Co-operation and Development



Source – OECD/FAO Agricultural Outlook 2021

Pork meat consumption (Kg/Per Capita) 2021	
Country	**Kg/Per Capita**
Argentina	11.54
Brazil	12.85
China	23.67
India	**0.165**
Japan	16.11
Korea	31.64
Russia	20.91
Thailand	9.96
UK	15.90
USA	23.87
Vietnam	25.92
BRICS	12.40
World	10.81

Source – OECD/FAO Agricultural Outlook 2021

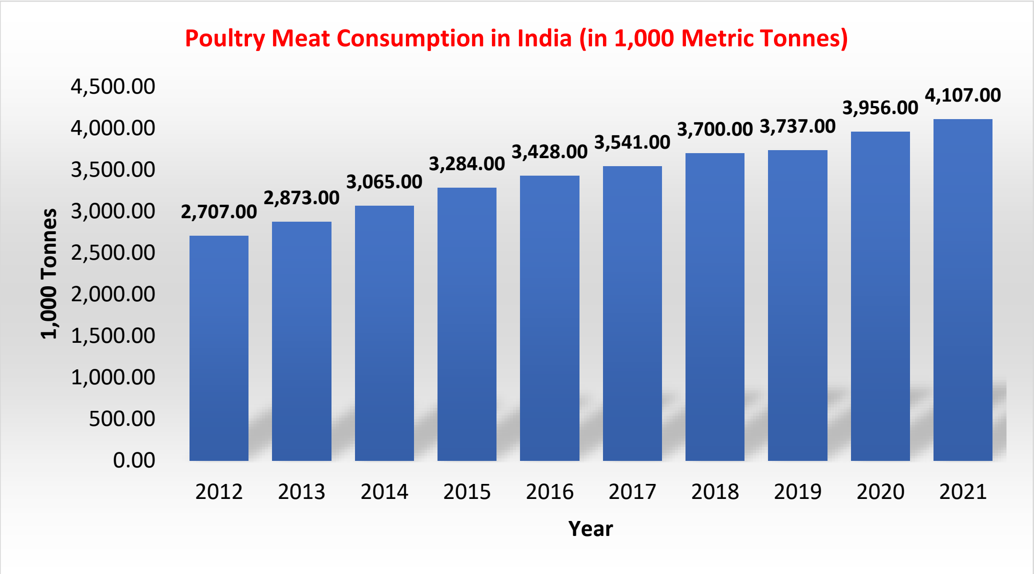


Source – OECD/FAO Agricultural Outlook 2021

6.2 Consumption of Chicken Meat

Consumption of Poultry Meat in India		
Year	**(1,000 Metric Tons)**	**% Increase Over Previous Year**
2012	2,707.00	
2013	2,873.00	6.13
2014	3,065.00	6.68
2015	3,284.00	7.14
2016	3,428.00	4.38
2017	3,541.00	3.29
2018	3,700.00	4.49
2019	3,737.00	1.00
2020	3,956.00	5.86
2021	4,107.00	3.81

Source – OECD/FAO Agricultural Outlook 2021

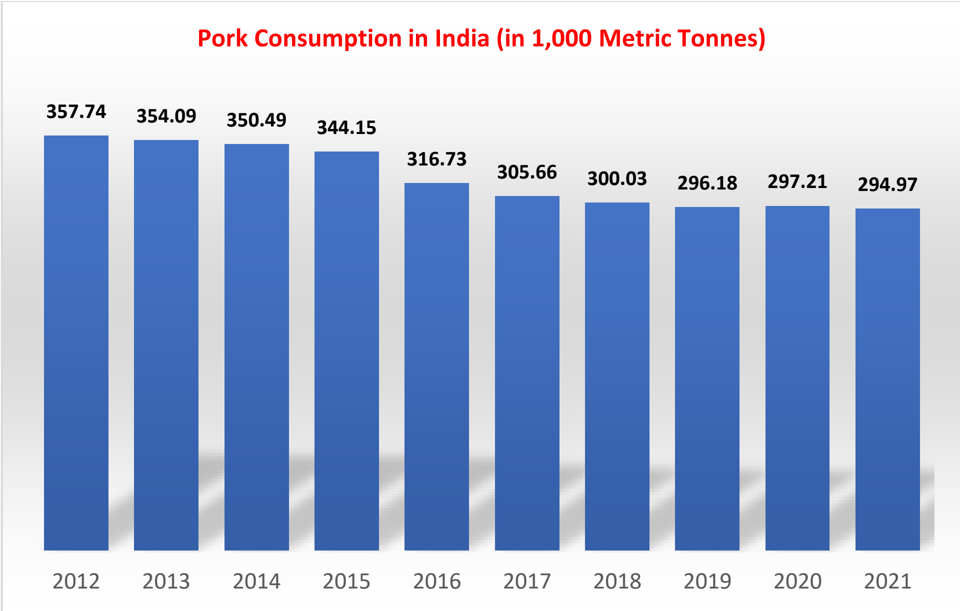


Source – OECD/FAO Agricultural Outlook 2021

6.3 Consumption of Pork

Consumption of Pork in India		
Year	**(1,000 Metric Tons)**	**% Change Over Previous Year**
2012	357.74	
2013	354.09	-1.02
2014	350.49	-1.01
2015	344.15	-1.80
2016	316.73	-7.96
2017	305.66	-3.49
2018	300.03	-1.84
2019	296.18	-1.28
2020	297.21	0.34
2021	294.97	-0.75

Source – OECD/FAO Agricultural Outlook 2021



Source – OECD/FAO Agricultural Outlook 2021

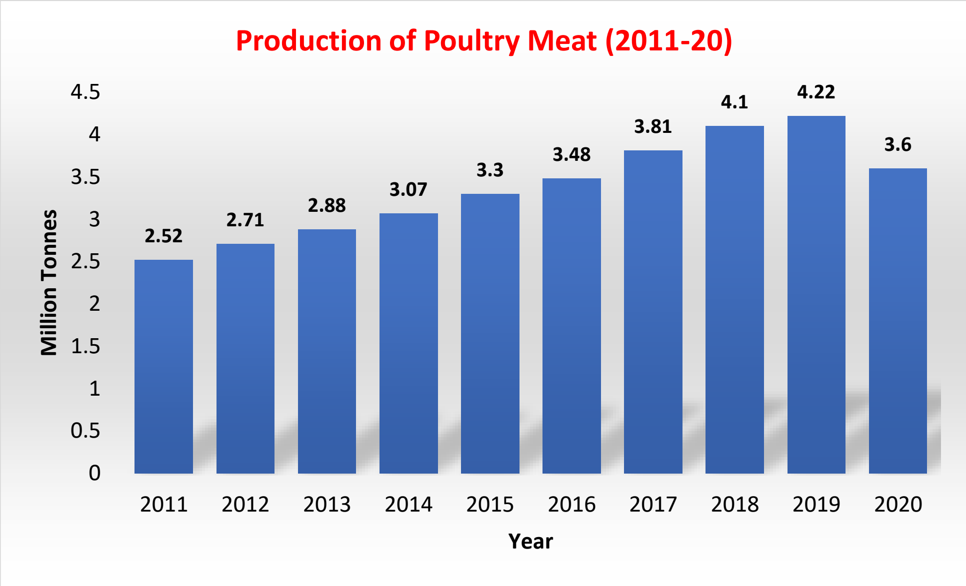
The statistics on pork consumption in India indicate a declining trend for the past 10 years except for the year 2020 when it was more or less the same as in 2019. The decline can be attributed to the following reasons:

1. As per the Livestock Census taken in 2019, the pig population in India declined by 12 % between 2012 and 2019. The total pig population declined to 9.06 million in 2019 from 10.29 million in 2012.
2. Though the demand for pork is increasing, the supply of quality pork meat is inadequate to meet local demand.

6.4 Production of Poultry Meat

Poultry Meat Production		
Year	**Million Tonnes**	**% Change**
2011	2.52	
2012	2.71	7.53
2013	2.88	6.27
2014	3.07	6.59
2015	3.30	7.49
2016	3.48	5.45
2017	3.81	9.48
2018	4.10	7.61
2019	4.22	2.92
2020	3.60	-14.69

Source – FAO/OurWorldInData.org



Source – FAO/OurWorldInData.org

6.5 Factors Affecting Poultry Meat Production

The total production of poultry in India stood at 3.60 million tonnes in 2020. This was a steep (– 14.59 %) fall in production over the previous year's performance.

The production of poultry meat in 2020 was affected due to the following factors:

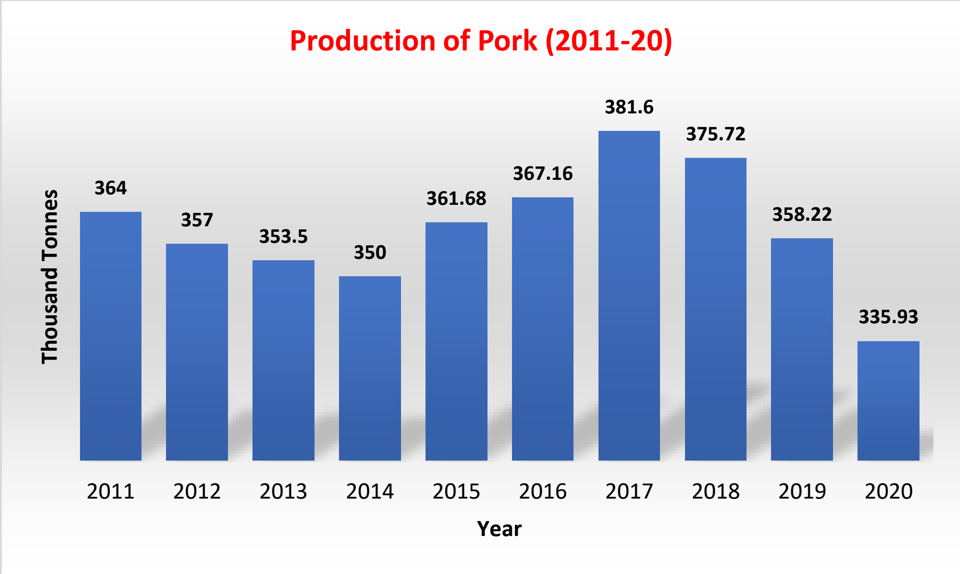
1. Due to an outbreak of H5N8 avian influenza (bird flu) in Dec 2020, thousands of birds were culled across several states.
2. The industry was also impacted by consumers refusing to buy poultry meat due to rumors of Covid being spread through the consumption of poultry meat.

The post-Covid-19 return to normalcy in the year 2022 has seen a revival of demand for chicken meat. The sector growth rate has shot up by 30%. For details see Page – 38 – 'Structure of the Indian Poultry Sector'.

6.6 Production of Pork

Pork Production		
Year	**Thousand Tonnes**	**% Change**
2011	364.00	
2012	357.00	-1.92
2013	353.50	-0.98
2014	350.00	-0.99
2015	361.68	3.33
2016	367.16	1.51
2017	381.60	3.93
2018	375.72	-1.54
2019	358.22	-4.65
2020	335.93	-6.22

Source – FAO/OurWorldInData.org



Source – FAO/OurWorldInData.org

6.7 Factors Affecting Pork Production

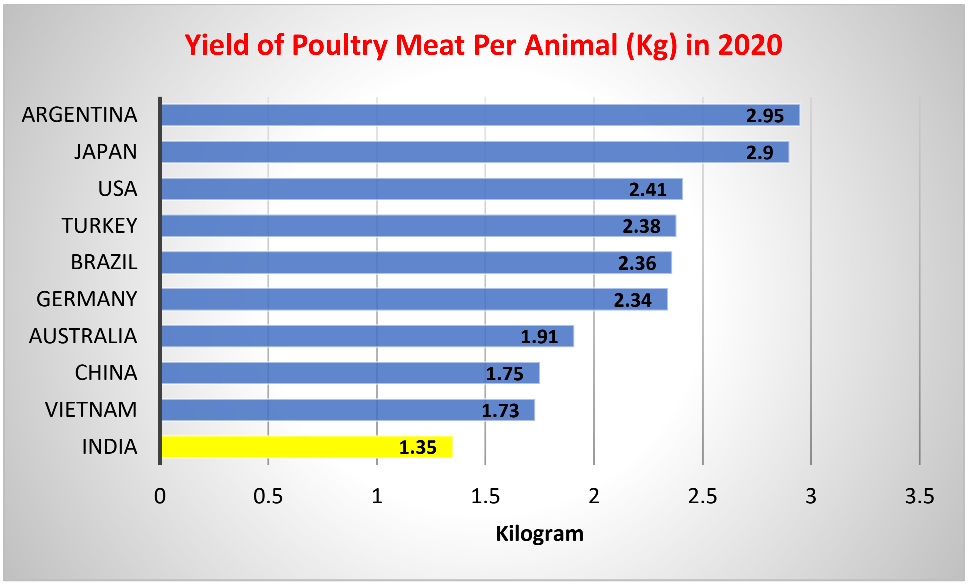
Total pork production stood at 335.93 thousand tonnes in 2020. Production of pork has been declining consistently since 2017 due to the lower availability of pigs for slaughter. The African Swine Fever (ASF) which was first reported in January 2020, has badly affected the Indian pork industry. It has led to a drastic reduction in the production of pork due to the death of pigs as well as culling. The Northeastern part of India has suffered the most because it has most of the pig population.

The factors affecting pork production in India are:

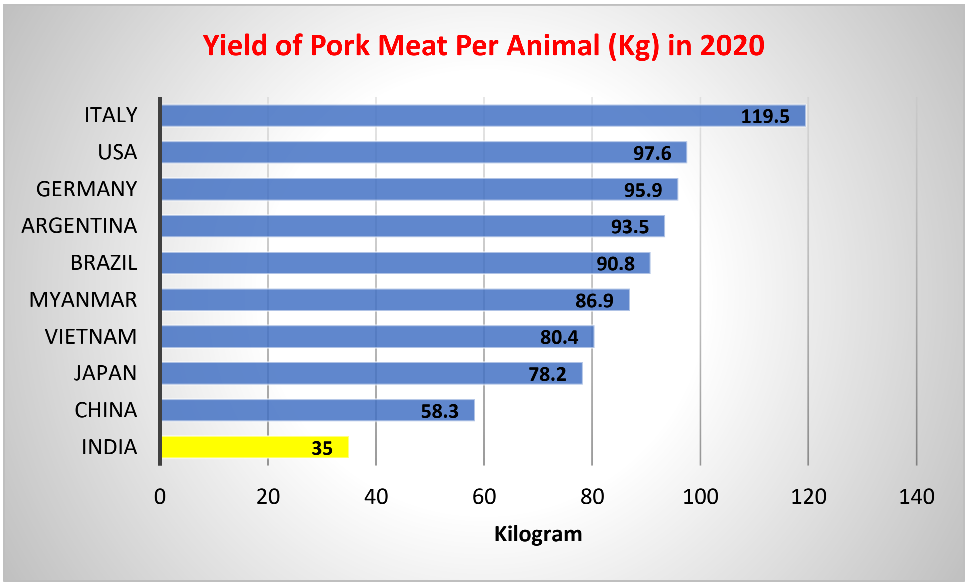
1. The onset of the ASF epidemic in India since Jan 2020.
2. The highly unorganized nature of the pork industry. In India, over 70% of the pig population is reared under traditional small-holder, low-input demand-driven production systems. There is only a limited number of commercial pig farms in India that use modern methods of pig rearing.
3. Distribution of the pig population in India is not uniform. Most of the pig population is in the Eastern and North-Eastern parts of India. A lack of marketing infrastructure including cold storage hampers the smooth movement from the production to consumption centers.
4. There is a lack of scientific and technological inputs for the breeding process of pigs in India. Breeding outcomes are way behind international standards.

7. Characteristics of the Indian Poultry and Pork Sectors

7.1 Low Meat Yield



Source – FAO/OurWorldInData.org

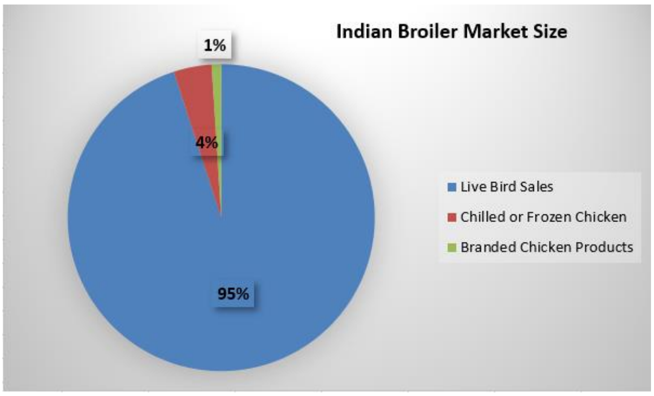


Source – FAO/OurWorldInData.org

The average yields per animal for both the poultry meat and pork sectors are very low by international standards. In the case of the poultry meat sector, it is 1.35 Kg per chicken while in the case of the pork sector, it is 35 Kg per animal.

7.2 Unorganized nature of Industry

Meat production is a largely unorganized activity in India. Modern meat processing activities including hygienic slaughterhouses, cold storage, and transportation are in a very early stage of development. Most people buy pork and chicken meat from traditional meat shops which lack basic amenities such as ventilation and water.



About 95 % of poultry meat in India is sold to consumers in the form of live birds. Only about 5 % of poultry meat is sold in processed form, of which only about 1 % undergoes processing into value-added products (such as ready-to-eat/ready-to-cook format). Poultry dressing facilities at the wholesale and most of the retail levels are done manually. The processing areas are characterized by low hygiene and sanitary standards. The market for chilled/frozen poultry products is growing due to food safety concerns among an increasing number of consumers.

However, while the poultry industry is seeing the entry of many organized players, the pork industry is still highly underdeveloped. It remains largely a backyard operation of small breeders, though some changes are taking place in a few states. Additionally, consumption of pork is highly skewed towards certain limited geographies such as the northeast Indian states, whose populations are ethnically closer to Southeast Asian countries and where pork forms part of the staple diet. The region consumes approx. 75% of the pork production in India annually.

7.3 Disease Outbreaks Affecting the Industry

The Indian poultry and pork sector suffer from regular outbreaks of diseases that affect the output of the industry. India has reported outbreaks of avian influenza A(H5N1) in poultry farms every year since it was first reported in a poultry farm in Maharashtra State in February 2006[9].

However, it is observed that the poultry sector has been able to control the spread of the disease effectively by taking prompt action to isolate the epicenters of the flu outbreaks and carry out systematic culling of the birds.

The pig industry, on the other hand, is yet to recover fully from the devastation caused by the ASF epidemic that struck India in January 2020.

[9] Source - https://www.who.int/emergencies/disease-outbreak-news/item/human-infection-with-avian-influenza-a(h5n1)-%EF%BD%B0-india

7.4 The Impact of Diseases on the Indian Poultry & Piggery Sectors

7.4.1 Avian Influenza A(H5N1) Outbreaks in India

Avian Influenza (AI) epidemics have a major impact on the Indian poultry sector.

India has reported frequent outbreaks of avian influenza A(H5N1) in poultry farms every year since it was first reported in a poultry farm in Maharashtra State on 18th February 2006. Since then, outbreaks have been reported in the States of Maharashtra, Gujarat, Madhya Pradesh, Manipur, West Bengal, Tripura, Assam, Sikkim, Odisha, Meghalaya, Karnataka, Bihar, Chhattisgarh, Kerala and Union Territory of Chandigarh.

According to official sources, the disease spreads in India mainly by migratory birds coming into India during winter months i.e., from September – October to February – March. It also states that the secondary spread by human handling (through fomites) cannot be ruled out.

AI struck India again in January 2021. Outbreaks were confirmed in 9 states among poultry birds and 12 states for other migratory and wild birds. In March 2022, Avian Influenza has been reported in a poultry farm in Maharashtra and in the duck population in Kerala.

7.4.2 The Indian Government's Role in Control of the Epidemic

The Department of Animal Husbandry and Dairying (DAHD) prepared an action plan in 2005 which has been continually revised in 2006, 2012, 2015, and 2021 respectively. This is meant as an advisory and guidance for the State Governments to prevent, control and contain avian influenza in the country. The latest updated advisory can be downloaded from this site - https://dahd.nic.in/circulars/revised-action-plan-2021-avian-influenza

The Indian government does not permit the use of any vaccine against Avian Influenza. Periodic advisories are issued to all states before the commencement of winter to keep necessary vigil, increase surveillance, and maintain reserves of critical supplies (PPE kits, etc.), to handle any contingencies.

The Integrated Disease Surveillance Programme (IDSP) under the National Centre for Disease Control(https://www.idsp.mohfw.gov.in/) is one of the major National Health Programmes under the National Health Mission for all States & Union Territories. The key objective of the program is to strengthen and maintain a decentralized laboratory-based IT-enabled disease surveillance system for epidemic-prone diseases. It is also meant to monitor disease trends and to detect and respond to outbreaks in the early rising phase through trained Rapid Response Teams (RRTs).

The Directorate of Health Service under the Ministry of Health and Family Welfare has issued - A Contingency Plan for the Management of Human Cases of Avian Influenza. This document can be downloaded from this link - https://www.idsp.nic.in/showfile.php?lid=5116

ICAR - National Institute of High-Security Animal Diseases in Bhopal (https://nihsad.nic.in/) has developed various diagnostic kits for the detection of AI in India such as:

- Indirect ELISA kit for detection of avian influenza virus (AIV) antibodies in chickens.
- Multiplex Real-Time RT-PCR Kit for Avian Influenza A virus Typing and H5 and H9 Subtyping.
- Multiplex Real-Time RT-PCR Kit for Avian Influenza A virus typing and H5N1 subtyping.
- Lateral flow test for rapid detection of H5 avian influenza virus antigen in poultry.

Integrated Biosecurity Norms for Poultry Farms: The Govt of India advocates that poultry farms should maximize the benefits achievable through effective biosecurity and be consistent with HACCP (Hazard Analysis, Critical Control Points) principles.

In 2015, the government came out with new biosecurity norms for poultry farms to prevent outbreaks of diseases and maintain basic sanitary conditions essential for healthy birds and hygienic products. The document can be viewed through this link - https://farmer.gov.in/dadf/Biosecurity/Revised_Poultry_Biosecurity_Guidelines_Aug_2015_(English_Version).pdf

In December 2022, it was announced that a private company, Hester Biosciences has signed an agreement to obtain an indigenous technology, to develop and commercialize a vaccine for poultry to prevent low pathogenic avian influence. The technology was acquired from ICAR-NIHSAD. The company plans to make the vaccine commercially available by the end of 2023.

7.4.3 Impact on the Indian Poultry Sector

The Avian Influenza that struck India in early 2006 in India had resulted in a loss of Rs. 2200 Crores (approx. $ 0.5 billion at the 2006 exchange rate) to the Indian poultry industry due to mass culling and loss and fall in demand.

The AI epidemic that struck India in Jan 2021, resulted in a loss of approx. Rs. 3400 Crores (approx. $ 420 million) to the poultry industry.

7.4.4 African Swine Fever (ASF) Epidemic in India

Prior to 2020, India did not have a history of African Swine Fever. India reported its first outbreak to the World Organisation for Animal Health (OIE) in May 2020. The first cases were reported from the northeastern states of Assam and Arunachal

Pradesh. It has since spread to several states such as Manipur, Meghalaya, Nagaland, Tripura, Sikkim, Bihar, Punjab, Haryana, Rajasthan, Madhya Pradesh, Kerala, Gujarat, Karnataka, Uttar Pradesh, and Madhya Pradesh[10].

According to an initial report by OIE in May 2020, a total of 11 outbreaks in Assam and Arunachal Pradesh were reported. It also stated that about 3700 pigs had died due to ASF. On confirmation of the disease, culling of all susceptible pigs within a 1 km radius of the epicenters was started as per the standard operating procedure. As of July 2022, the epidemic had spread to 22 out of 35 districts of Assam with 72 epicenters. About 40500 pigs have died of ASF in Assam so far which has impacted more than 14000 small pig farmers in the state[11]. Culling of pigs was also carried out in other states notably Kerala, Madhya Pradesh, and Jharkhand.

Experts have concluded that ASF in India has probably emerged through a neighbouring country[12]. The Northeastern region of India, owing to its unique geographical location while sharing international boundaries with China, Bhutan, Bangladesh, and Myanmar, bears a constant threat of transboundary diseases emerging through its porous borders.

7.4.5 Government Response to Control the ASF Epidemic

The Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009 and laid out a standard operating procedure for the control, containment, and eradication of the ASF virus. This document can be accessed from this link - https://dahd.nic.in/sites/default/filess/ASF_NAP_Booklet_0.pdf

This protocol recommends the declaration of infected regions as controlled and surveillance zones and restrictions on the transport and marketing of pigs. The protocol includes setting up of pig culling team, comprising veterinary doctors and para-veterinarians who should visit the farms to cull suspected pigs.

7.4.6 Impact on the Piggery Industry

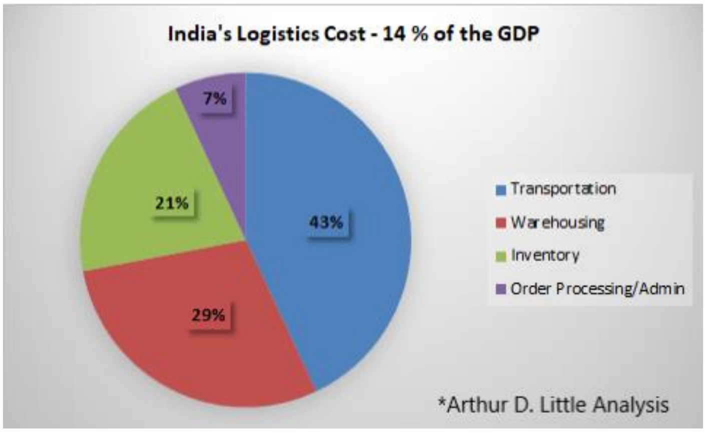
According to the President of the Northeast Progressive Pig Farmers Association, the ASF epidemic has affected 50 % of the pork production in the Northeast. As a result, the region is now dependent on other states for the supply of pork,

Prior to the epidemic, there were plans to create a pork export hub in the Northeast region by setting up pork processing plants in Nazira and Dhemaji. These plans have been put on hold. Various estimates put the loss for the pork industry in India due to ASF between $ 400 – 500 million.

[10] Source – 24 Nov 2022 – FAO Update - African swine fever (ASF) situation update in Asia & Pacific
[11] Source – 19 July 2022 - NDTV
[12] Source – Bora, Mousumi, et al – Oct 2020 - Assessment of Risk Factors of African Swine Fever in India: Perspectives on Future Outbreaks and Control Strategies

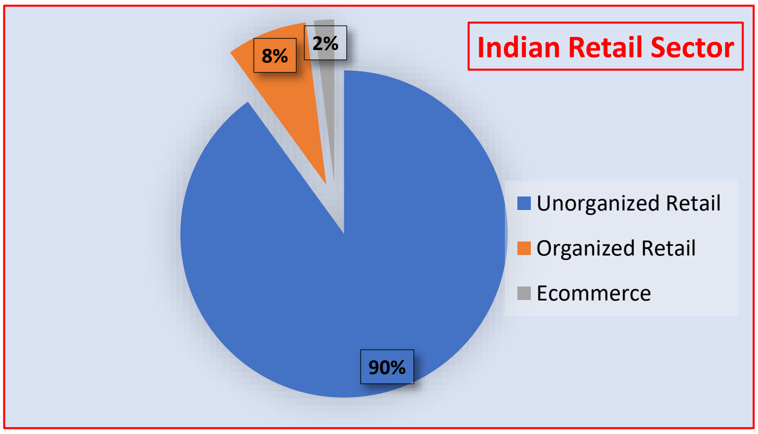
8. Logistics, Retail Chains & Distribution

8.1 Indian Logistics Sector



The Indian logistics market is estimated to be $ 250 billion in 2021 and is expected to grow to $ 380 billion by 2025. India was ranked No 44 in the World Bank's Logistics Performance Index (LPI) in 2018[13]. The cost of logistics in India is estimated to be 14 % of the GDP which is much higher than the world average of 9 %. The logistics sector remains a weak link in India's infrastructure development and supply chain management.

8.2 Indian Retail Sector



According to a report by Forrester Research, the value of India's retail sector was $ 883 billion in 2020. It is expected to increase to $ 1.3 trillion by 2024. India's retail sector is dominated by approximately 12 million mom & pop retail stores called 'Kirana' retail distribution outlets in the country. These are largely unorganized family-owned entities. The Indian FMCG sector is expected to grow at a rate of 10 to 12 % annually over the next 10 years due to an increasing middle-class consumer base. This will require a strong distribution network to meet the demand.

While the Kirana stores comprise roughly 90 % of India's retail sector, the organized retail segment as well as digital/e-commerce platforms are expanding rapidly. They presently account for only 8 and 2 % respectively of the total retail sector in India. The overall food and grocery segment (which includes fresh fruits and vegetables, loose staples, and unpackaged dairy and meat products) has a roughly 60 % share of India's retail market which is approx. $ 533 billion (in 2020).

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[13] Source - https://theprint.in/opinion/logistics-sector-estimated-to-grow-over-3-trillion-in-35-years-india-must-leverage-it/1162661/

8.3 Indian Packaged Food Sector

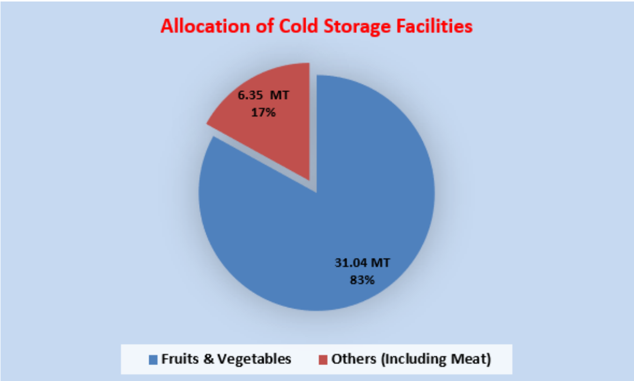
Within the food and grocery segment, the packaged food segment was estimated to be approx. $ 81 billion in 2020. Health issues and restrictions in outdoor movement due to the Covid-19 pandemic have accelerated the growth of the packaged food sector which offers consistency in quality along with convenience. As a result, as the overall food and grocery segment are expected to grow by approx. 5 - 6 % by 2025, the packaged food segment is expected to grow faster, by approx. 11 % by 2025.

8.4 Cold Chain Logistics

Cold chain including refrigerated transport is one of the weak links in the Indian logistics supply chain sector. According to a report by ISHRAE[14], the Indian cold chain market was estimated to be worth $ 19.6 billion in 2020. It is expected to reach $ 36 billion by 2024, with a CAGR of 16%.

This segment has till recently, seen only limited infrastructure investments due to various factors such as a fragmented distribution network, a lack of compliance requirements, and low awareness levels to handle perishables such as meat. Multi-commodity/multi-temperature storage facility availability was rare in India.

According to the Ministry of Agriculture & Farmers Welfare (Govt of India) approximately 83 % of the existing 8,186 cold storage facilities with a total capacity of 37.4 million tonnes, are used primarily for fruits and vegetables.



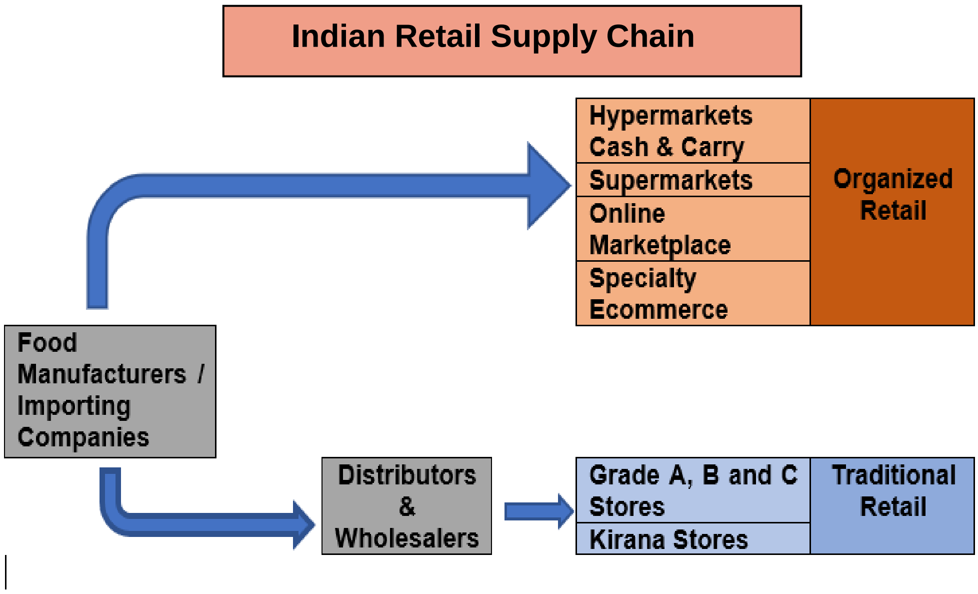
The onset of Covid-19 has changed the attitude toward cold chain logistics. Policymakers in the Government and food industry have suddenly realized its critical importance. The growth of organized QSR, retail, and e-commerce as well as changing consumption patterns induced by Covid-19 has made investments in cold chain infrastructure a necessity. Indian consumers are today demanding a large variety of fresh fruits and vegetables, dairy products, and meat and poultry products in packaged and ready-to-eat formats. There is now a growing trend toward setting up multipurpose cold storage and providing efficient end-to-end services across the value chain. The demand for quality food is spurred by the fact that a greater number of Indians have exposure to the internet and social media platforms through their smartphones.

[14] ISHRAE - Indian Society of Heating, Refrigerating and Air Conditioning Engineers

The expansion of India's organized retail outlets has also increased the demand for refrigerated reefer trucks. There is currently a shortage of reefer trucks in India. Experts estimate that India will require about 60000 reefer trucks in the coming years to bridge the gap and make perishable & temperature-sensitive food available to the target points.

8.5 The Supply Chain for Packaged Food Products in India

The supply chain in the Indian retail sector is undergoing profound structural changes. The transformation is taking place because of changing consumer behavior bought about by the impact of the Covid-19 epidemic as well other external factors such as the rapid digitalization of the Indian retail market during the past few years.



Source – IGEP Research

8.6 The Chicken Meat Supply Chain

The supply chain for chicken meat in India is characterized by the presence of both unorganized and organized components in their supply chain.

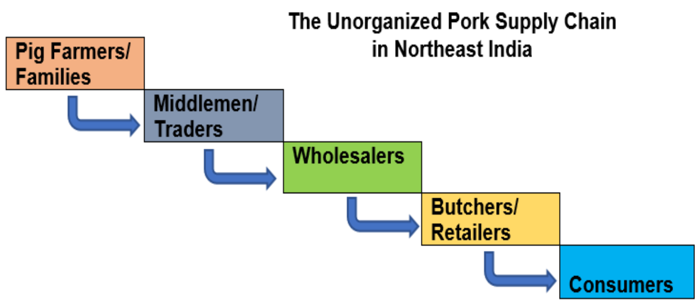
The chicken meat sector is seeing a gradual transformation toward the adoption of modern breeding and distribution processes. There are several companies such as Suguna Foods and V.H. Group who have developed both backward and forward integration supply chains. However, most of the chicken meat sold in India is through wet markets and local butcheries.

Large chicken-consuming markets such as Delhi, Mumbai, and Hyderabad are supplied by large integrated wholesale markets. These markets receive live chickens from nearby farms, process them, and are supplied to the market through various intermediaries.

Many private companies have now developed their own integrated supply chain network. They supplement the wholesale markets. Only 5 % of poultry meat in India is sold in processed form, of which only about 1 % is processed into value-added products (ready-to-eat/ready-to-cook).

8.7 The Pig Meat Supply Chain

Northeast India is the major pork-consuming region in India. The supply chain in the northeast is largely unorganized, where pigs are reared by villagers. It is predominantly a backyard activity consisting of families rearing 2 or 3 pigs. Once they become adults, the pigs are sold to middlemen who in turn supply the meat to the wholesale markets in their respective regions. In the northeastern region, more than 80% of pigs are sold to traders and butchers-cum-pork retailers who visit local villages for procuring animals. Several pork retail outlets in rural, as well as urban areas of Assam and other states in the region, can be seen in the local markets, where the fresh meat is cut and distributed to the consumers. Very few hygienic practices are followed. Due to the high demand for pork and the shortage of pigs, many entrepreneurs have emerged to bridge this demand-supply gap by starting pig farms. They procure high-quality pigs from farms in Punjab and Uttar Pradesh in North India for breeding as well as selling them in the market. The recent African Swine Fever (ASF) epidemic that has struck the region, has badly affected the business of these entrepreneurs. Many large projects in the piggery sector have been put on hold. According to estimates, ASF has caused a 50 % shortage of pork production in the northeastern region.



The organized pork supply chain in India is limited to a few major urban centers such as Mumbai, Pune, Bangalore, and Kerala. The major consumers of pig meat in India, besides the Northeast region, are the scheduled tribe population spread in various states such as Jharkhand, Bihar, Chhattisgarh, and Telangana. The Kodava community[15] in India, mainly based in the State of Karnataka also

[15] Kodavas - The Kodava people or Kodavas are an ethno-linguistic group from the region of Kodagu in the southern Indian state of Karnataka,

consumes pork. Goa and Kerala in South India are also predominantly meat-consuming states, where pork consumption and demand are increasing.

There are a few companies in Pune and Bangalore that produce value-added pork products which are sold through organized retail channels as well as directly to the HORECA segment. But due to safety issues, many of the leading hotels in the Indian metros procure imported pork from established importers and distributors.

While the demand for quality pork is increasing in India, the supply is restricted due to the inherent deficiencies in the supply chain of the pork sector.

9. Structure of the Indian Poultry Sector

9.1 Size and Growth Rate

According to a recent report by CRISIL[16], the Indian poultry industry is expected to grow by 30 % in the current financial year (1 April 2022 – 31 March 2023) to reach a turnover of approx. Rs. 2,50,000 Crores (approx. US $ 30.8 billion)[17]. The report has said that the growth will be largely due to higher prices. The industry is facing capacity constraints because several processing plants were closed or downsized during the past 2 years due to Covid-19.

The report mentions that demand will be strong due to rising population growth, higher per-capita consumption of meat, and an increasing preference for a protein-rich diet. Additionally, business is reviving in the HORECA segment. Chicken meat demand is now outstripping supply and therefore wholesale price for broiler chicken has increased by nearly 35 %.

The price of broiler meat is expected to average Rs 135-140[18] per kg (approx. $ 1.66 – 1.72) this fiscal, a 30% on-year increase from the average price of Rs 104 per kg (approx. $ 1.28) last fiscal (2021-22). It may increase further.

Prices of maize and soymeal, key poultry feeds, have shot up almost 35% due to the supply crunch and are unlikely to ease during the year. That will lead to lower margins for a second consecutive fiscal.

9.2 The Capacity of the Organized Broiler Industry in Birds Per Hour (BPH)

The organized poultry processing plant capacity consisting of a total of 136 plants in India as of mid-2022 was approximately 1,82,000 birds per hour (BPH). This can be divided as under:

Type of Processing Plant	No of Plants	Total Processing Capacity (BPH)
Integrated Processing Plants with a capacity of > 1000 BPH	56	1,54,000
Semi-organized processing plants with manual dressing, drum plucking, and partially conveyorized processing units with a capacity of < 1000 BPH	80	28,000
Total ➔	136	1,82,000

Source – IGEP Research

From a capacity of approx. 13,000 BPH in 2002, the gross processing capacity has grown to approx. 182,000 BPH in 2022. This is a growth rate of approx. **14.1** % per annum over the past 20 years.

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[16] Source – 'Poultries set to hatch 30% revenue growth this fiscal' – 28 July 2022 - CRISIL

[18] Wholesale market rate

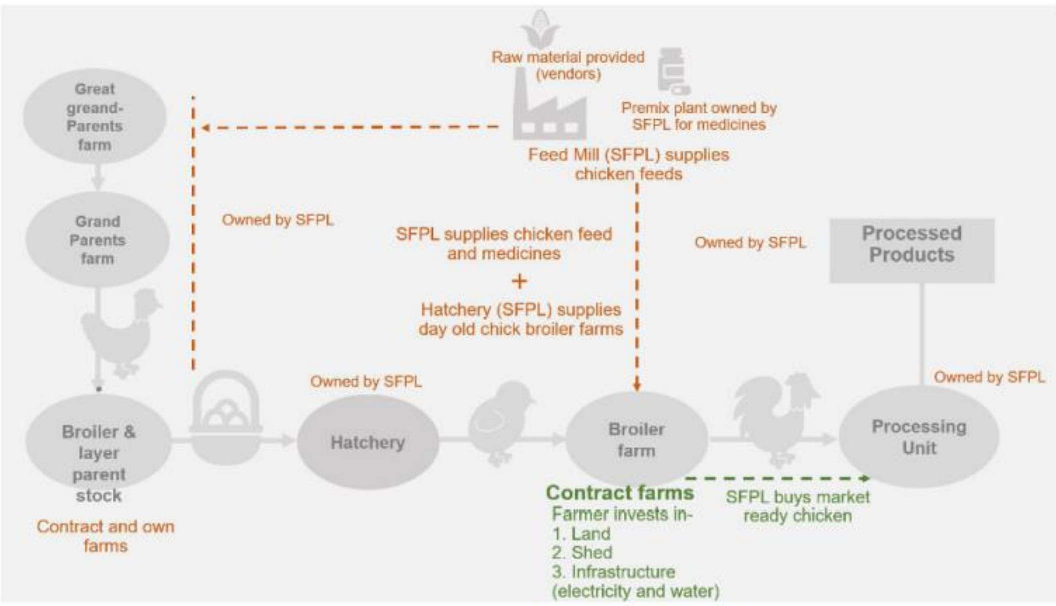
9.3 Nature of Industry

The poultry industry in India can be characterized by the presence of highly successful commercial integrators as well as independent small-scale breeders and farmers belonging to the unorganized sector. The commercial rearing of broilers and layers is dominated by private companies employing modern breeding technologies and practices. The growth of commercial poultry rearing has grown immensely in the last four decades and today, it is considered a successful model of agro-industry in India.

Fully Integrated Poultry Production: The integrated operations include all aspects of production, including raising grandparent and parent flocks, rearing day-old chicks (DOC), contract production with farmers, and providing veterinary services as well as poultry feed. Most integrated firms today have a growing presence in retail (including online retail) and wholesale markets as well.

There are regional disparities in the poultry industry's growth in India. Poultry integrators have strongly established themselves in southern India, where companies such as Suguna Foods pioneered the concept of backward integration with farmers. Suguna Foods works with 40,000 contract farmers across 19 states, particularly targeting smallholders (1 hectare or less). Today, integrators such as Suguna account for about 75 % of production and consumption in South India. The integrator model has been successfully replicated in western India as well including Pune, Nashik, and Mumbai regions. They now account for about 40 – 50 % of production and consumption in the western region. V.H. Group, Godrej Agrovet, and Vista are some of the major players in the western region market.

Suguna Foods Pvt Ltd - Integration Model



Source - ADB

In Northern and Eastern India, integration has moved more slowly accounting for only about 10 – 20 % of the market. In North India, till recently integrators have found it difficult to enlist and manage contract growers. Despite the presence of the large and affluent Delhi market, there were no major fully integrated contract growers in the region. As a result, Suguna and V.H. Group have expanded their activities in the North to fill in the gap. In recent years some regional players have emerged in the States of Haryana and Punjab such as Skylark Foods. In Eastern India, lower per capita incomes and low demand for poultry meat have contributed to the slow rate of growth.

Regional Structure of Broiler Distribution In India		
	North & Parts of East India	**South & Parts of West India**
Primary Distributors	Chicken Wholesalers (example – Ghazipur Wholesale Market in Delhi)	Major Poultry Companies (Example – Suguna Foods, V.H. Group)
Relationship with Farmer	Market Trading	Contract Farming
Boiler Distribution Mode	Live Bird	Live Bird, Processed Chicken
Boiler Supply Area Network	Can extend to 1200 Km	Limited to about 400 Km
Boiler Trade Margins	High	Low
Recent Trends	Stagnation in the wholesale market volumes. Increase of contract broiler farmers.	Increase of Broiler Processing Plants. Increase of chain stores for chicken retailing.

Source – 'Geographical Analysis of Broiler Distribution in India' – Goto, Takuya – Kochi University (Faculty of Humanities & Economics), Japan - 2017

9.4 Transformation of the Poultry Sector

The Indian poultry industry is gradually undergoing a change in structure and operation. The sector has seen the emergence of professionally managed Indian companies such as V.H. Group and Suguna Foods as well as the entry of international companies such as Tyson Inc of USA (joint venture with Godrej) and Charoen Pokphand Trading India Pvt Ltd (Subsidiary of Charoen Pokphand Group, Thailand). This has resulted in the introduction of international best practices and modern breeding concepts and technologies in the Indian poultry sector. These are gradually becoming adopted on an industry-wide scale. The growth of the industry has been further fueled by the entry of international Quick Service Restaurants (QSRs) into the Indian market such as McDonald's, Domino's, and Kentucky Fried Chicken since the 1990s. This has resulted in strong demand for local hygienic and good-quality processed chicken suppliers of international standards. The transformation of the sector can be seen in an increasing number of processed chicken meat products available in organized retail outlets in Indian cities. Additionally, the development of the e-commerce sector in India during the past few years (Flipkart, Amazon) and mushrooming social media outlets (Facebook, Instagram) are providing people with greater exposure to the availability of processed meat products. This has led to a situation where Indian consumers have a wider choice of products.

The majority of the large private-sector poultry companies in India have successfully adopted the 'Integrator Model' of business whereby the company has a presence in the entire value chain. Suguna Foods has been credited with pioneering this model in India which has also been successfully adopted by others such as V.H. Group and Srinivasa Farms.

Integrator Model: Company has a presence in the entire value chain

Pros

- Integrated model plays on the strength of both the downstream and upstream
- Control over the supply chain, which minimizes the impact of volatility
- Can also be a hybrid (asset-light) model in partnership with other players (e.g., feed manufacturing, processing, etc)

Cons

- Significant investments required to create presence across upstream and downstream links
- Risk of management not focusing on all steps in the chain

Global examples: CP Foods (Thailand), Ingham's (Australia)
Indian examples: Suguna Foods, V.H. Group

Source - Rabobank

9.5 Research & Development

The growth and transformation of the Indian poultry industry to one of the largest agri-business sectors in India can be attributed to the innovation and dynamism of some of the pioneering companies in the sector.

These private companies have invested in research and development activities and as a result, have succeeded in enhancing the productivity and profitability of their respective enterprises.

For example, Venkateshwara Research and Breeding Farm Pvt Ltd (VRB), formed a joint venture with ISA Babcock Ithaca (USA) in 1980. The JV undertakes pure line research and breeding work for egg-type chicken suited to Indian agro-climatic and market conditions.

VRB also set up a joint venture with Cobb-Vantress Inc. (USA) to breed broilers suited to Indian agro-climatic and management conditions. Their research work has resulted in the development of the best broiler and broiler breeders in India such as Vencobb 400 and 400Y. The Vencobb range enjoys a 75% market share in the broiler Industry in India. Vencobb broiler parents are also exported to Nepal, Bangladesh, Sri Lanka, and Iran.

9.6 Broiler Breeds

The prominent broiler breeds in India are

- Cobb (Vencobb 400, 400Y, etc) represented in India by V.H. Group
- Aviagen represented by Aviagen India Poultry Breeding Company and,
- Hubbard (now part of Aviagen since 2017)

Together they place approximately 30 million broiler breeders per year, out of which approx. 21 million are Cobb (including Vencobb 400 and 400 Y) and 9 million are Aviagen and Hubbard.

9.7 Supply Chain & Distribution Structure of the Indian Poultry Sector

From the 1980s till about 2010, the poultry sector consisted largely of the unorganized and organized segment. The organized segment consisted of private contract farm integrators. In the 2010s a new style of channel distribution emerged with the arrival of 'Omnichannel' or D2C (Direct to Customers) companies. Today, the Indian chicken meat supply chain looks like the exhibit below.

Indian Chicken Meat Market Supply Chain

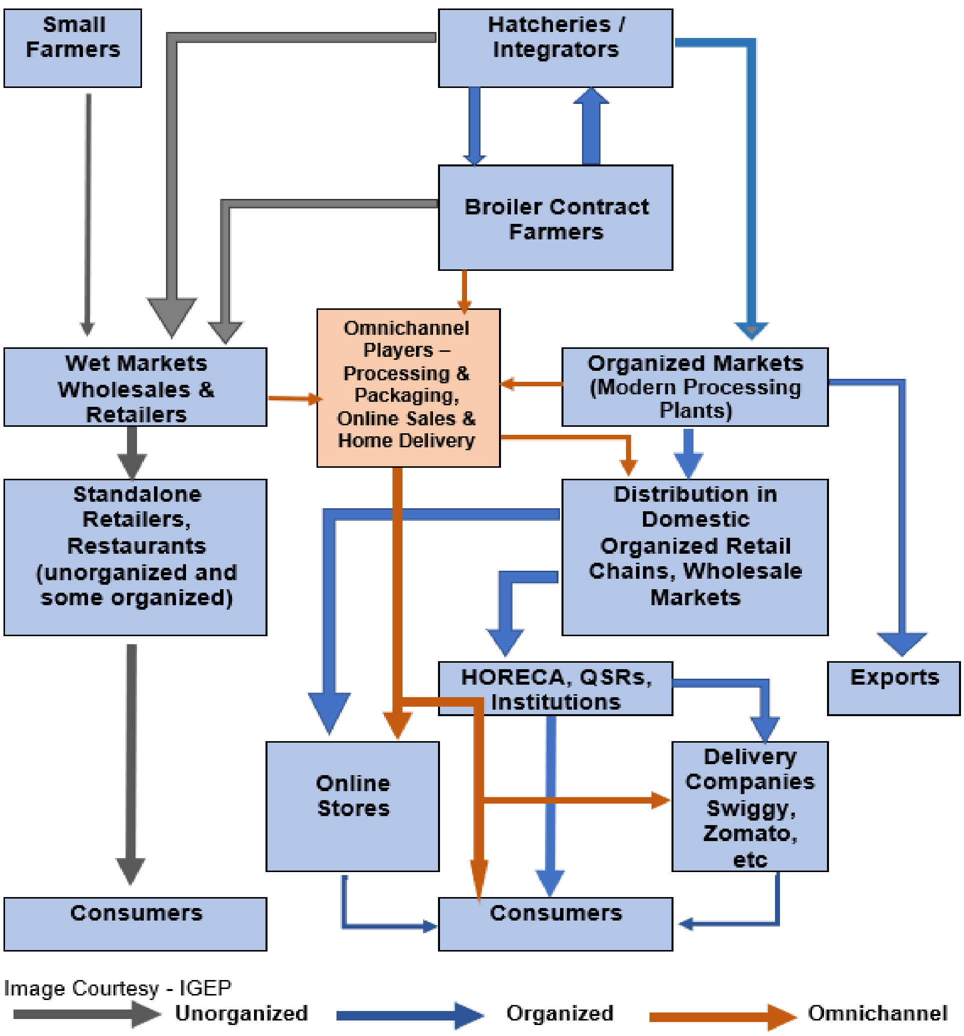


Image Courtesy - IGEP

9.8 Evolution of the Omnichannel Business Model

The development of 'omnichannel' enterprises in the Indian meat supply chain is a recent phenomenon. 'Omnichannel' refers to a multichannel approach to selling through owned online stores, physical stores, other B2C online channels, and social media sites. It owes its development due the concurrent development of the following enabling ecosystems prevailing in India:

- A vibrant startup environment
- High level of internet penetration largely through smartphone ownership
- Development of a strong digital payment infrastructure

The Covid-19 epidemic during 2020 - 21 has also played a role to push consumers toward this mode of purchasing products.

- There is greater awareness among consumers of the need for better sanitation and hygiene.
- As the Covid infection increased, awareness increased about the necessity of a protein-fortified diet which in turn led to a greater demand for processed and hygienically packed chicken.
- As the Covid induced stay-at-home and work-from-home became the new normal, there was an increasing tendency to order food online.

Backed by angel and seed investors, startups such as Licious, TenderCuts, FreshToHome, and Meatigo have seen sales volumes grow phenomenally during the Covid epidemic. Many of these companies are scaling up their infrastructure as conditions have returned to normal in 2022. Investors are happily investing more in these startups.

The current year has seen an exponential surge in demand which can be described as a pent-up demand due to two years of Covid induced lockdown. The startups have established tie-ups with chicken processing units to fulfill their growing online orders. For example, Licious and FreshToHome have tied up with ProTAC, a contract processor which supplies to the QSR segment.

Some of the companies have also set up chicken processing units to have control of both the back end and front end (farm-to-fork model) of the supply chain. For example, Delightful Gourmet Pvt Ltd (owner of Licious brand) has 5 processing centers, one each in Mumbai, Delhi-NCR, and Hyderabad, and two in Bengaluru. Products are transported in refrigerated trucks to processing centers and then to delivery centers. The product range of these companies includes fresh meat as well as Ready to Cook (RTC) and Ready to Eat (RTE) products.

These startup companies that have adopted the ‘Omnichannel’ strategy have ‘disrupted’ the existing market consisting of the traditional unorganized and organized channels. As a result of the increased competition, many established companies such as Suguna Foods, V.H. Group, Godrej Tyson, etc. are investing heavily in their online and traditional stores presence and enhancing their RTE and RTC brands.

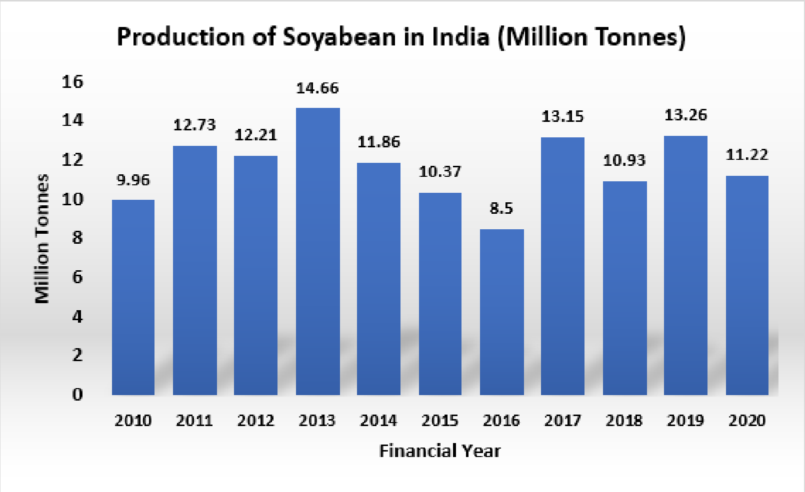
9.9 Challenges Faced by the Poultry Industry

9.9.1 Increasing Demand & Price Volatility of Poultry Feed

The cost of feed has a major impact on poultry farming as it constitutes nearly 70% of the total expenditure of poultry farming. Corn (maize) and soybean are two important ingredients used in the production of poultry feed. The production of soybean and corn (maize) was 11.22 and 30.16 million tonnes respectively in the year 2020. It is estimated that 51 % of the maize and 60 % of the soybean produced in India is used as poultry feed.

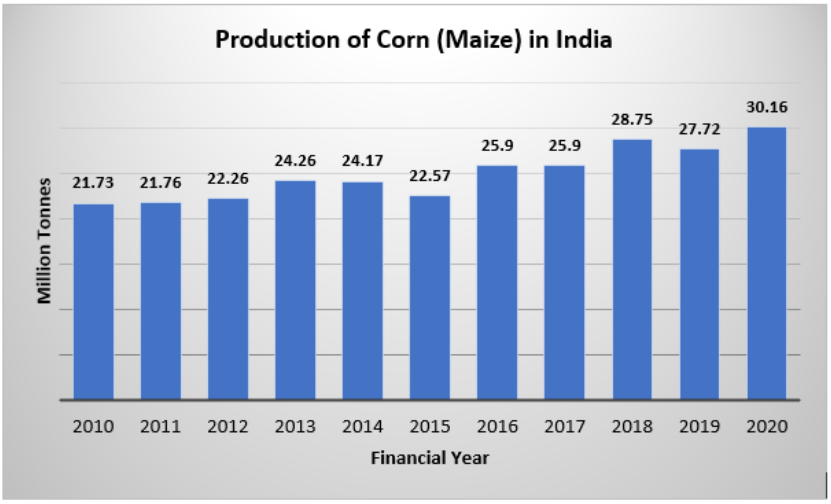
As a result of the expanding poultry sector, the demand for poultry feed is increasing. Most of the corn and soybean crops in India are grown in rain-fed regions such as the states of Karnataka, Madhya Pradesh, and Maharashtra. As a result, these crops are dependent on the monsoon rains for a good harvest. If the rainfall is erratic, it has a negative impact on production. This results in a spike in the prices of these products in the market.

Year	Production (Mill. Tonnes)
2010	9.96
2011	12.73
2012	12.21
2013	14.66
2014	11.86
2015	10.37
2016	8.5
2017	13.15
2018	10.93
2019	13.26
2020	11.22



Source - The Soyabean Processors Association of India

Year	Production (Mill. Tonnes)
2010	21.73
2011	21.76
2012	22.26
2013	24.26
2014	24.17
2015	22.57
2016	25.9
2017	25.9
2018	28.75
2019	27.72
2020	30.16



Source - Our World In Data - https://ourworldindata.org/

The Price Volatility in Poultry Feed in India can be attributed to the following causes:

- Productivity issues: In India, the productivity of soybean and maize is low by international standards. For soybean, it is about 60% of the world average which is amongst the lowest of the major soybean-producing countries of the world[19]. When it comes to maize, the difference in yield between India and the world is 130%[20].

- Dependency on monsoon rains Both soybean and maize are grown in regions that depend on the monsoon rains for irrigation. Erratic and sometimes unseasonal rains create disruption in the supply chain, which leads to volatility in feed prices.

- Competition from other crops: The cultivated area of soybean and maize has remained static. Farmers are tempted to grow other more lucrative crops. This competition with other crops in a limited farm acreage causes supply chain challenges.

- Imports of Genetically Modified (GM) soybean are prohibited in India: To ease the pressure on local demand, the Indian government in 2021, allowed the import of 1.2 million tons of GM soy meal. In 2022, a further 55000 tons were allowed to be imported. But this action has been taken only as a one-off measure and there is no policy change towards GM crops.

9.9.2 Biosecurity measures need to be Improved

Frequent occurrences of avian influenza (bird flu) cause high levels of bird deaths and illness in India's fast-growing poultry industry and lead to economic losses as it affects markets and exports of avian products and sub-products are halted.

Poultry farms in India have traditionally been exposed to diseases, which have impacted the industry. The faster adoption of environmentally controlled (EC) sheds by commercial broiler farmers can lead to greater biosecurity of the farms. Additionally, the EC sheds ensure bigger harvests and better Feed Conversion Ratio (FCR).

For constant monitoring of some important disease-causing agents, diagnostic services at the community and village levels need to be strengthened. There is also demand for simple and quick disease screening tests that can be done at the farms to take quick corrective measures.

9.9.3 Challenges of Setting Up a Poultry Processing Unit

Identification of a suitable location for setting up a poultry processing plant in India is a challenging task. This is because of the following factors:

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[19] Source – National Academy of Agricultural Science, New Delhi 2017
[20] Source – Maize Vision 2022 – A Knowledge Report (FICCI/PWC)

- Availability of water in sufficient quantity is a challenge in many parts of India, especially the peninsular region.
- Limited availability of designated slaughter zones for animals and birds.
- Limited locations that are away from population centers to avoid any local resistance.
- The ‘zero discharge’ policy of the Indian pollution authorities requires the purchase of additional land to set up the required pollution control infrastructure.
- The ‘Food Parks’ provided by the Government generally lack adequate wastewater facilities, common steam lines, and adequate space for expansion. Therefore, investors are forced to opt for greenfield sites. As a result, only about 12 – 15 % of the broiler processing units in India are in government-promoted food parks.

9.10 Poultry Processing Equipment Market in India

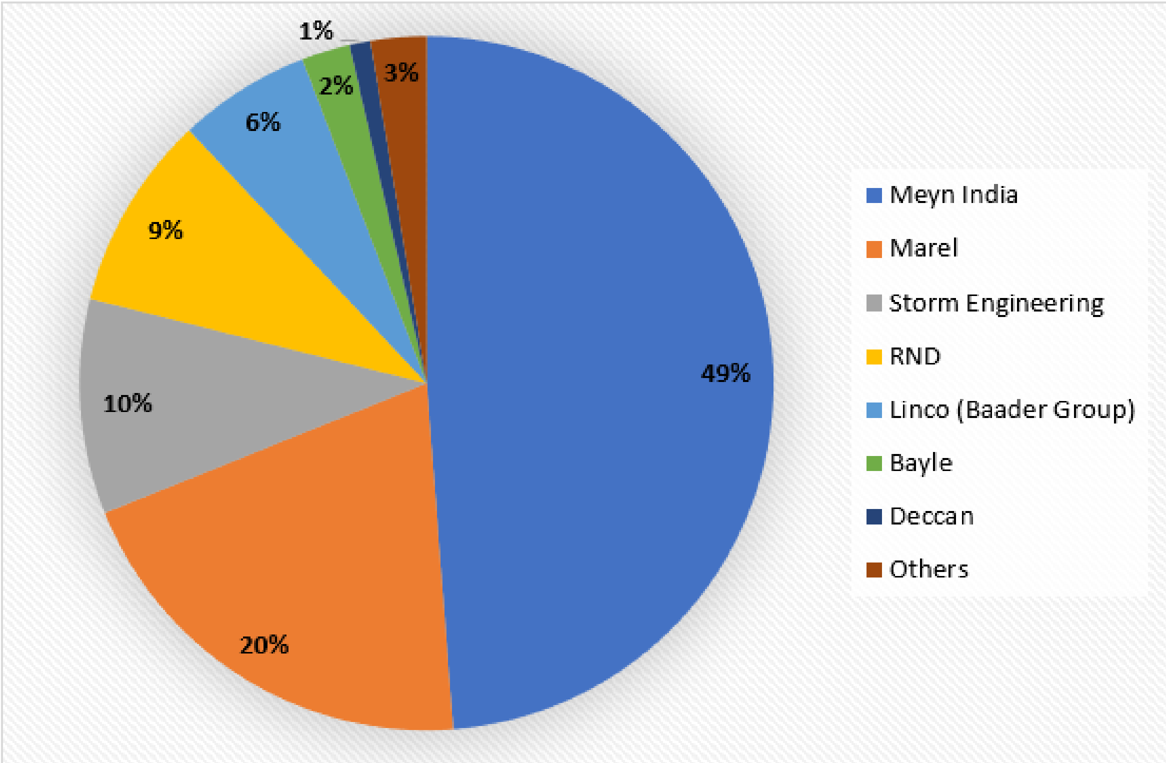
International processing equipment suppliers account for approx. 80 % of the 1,54,000 BPH integrated poultry processing capacity in India (as of mid-2022). The leading suppliers are Meyn, Marel, Linco (Baader Group), and Bayle S.A. The remaining 20 % of the market is shared by Indian companies such as Storm Engineering, RND Automation, Deccan Automation, and others.

Leading Poultry Processing Equipment Suppliers in India

Company	Installed Capacity (BPH)	Market Share (%)
Meyn India Pvt Ltd (Subsidiary of the Netherlands-based Meyn Group) Website: https://www.meyn.com/	75100	48.76
Marel India Pvt Ltd (Subsidiary of the Netherlands-based Marel Group) Website: https://marel.com/	31000	20.12
Storm Engineering India Pvt Ltd Website: https://stormengineering.tradeindia.com/	15400	10
RND Automation Pvt Ltd Website: https://rnd-automation-pvt-ltd.business.site/	14000	9.09
Linco (Part of the Baader Group, Germany) Website: https://www.linco.com.au/food-processing/poultry/	9500	6.16
Bayle S.A (France) Website: https://www.baylesa.com/	3500	2.27
Deccan Automation Technology Website: https://www.deccanautomation.in/	1500	0.97
Others	4000	2.59
Total →	154000	100

Source – IGEP Research

Market Share of Poultry Processing Equipment Suppliers



Source – IGEP Research

9.11 Future of Contract Farming Integration Model

The long-term prospects for the integration model of poultry farming in India appear positive. It is integrated into the supply chain of the rapidly expanding Indian food service industry, especially the western QSRs which demand high levels of hygiene and quality. While the model is well established in South and West India, it is gradually gaining a foothold in other regions of India. Due to Covid-19, Indian consumers' perceptions have undergone a change. They now increasingly prefer chilled and frozen chicken as they perceive them to be safer and hygienic. There is now a growing trend of consumers taking home delivery of meat products through the emergence of D2C players. These market trends are expected to further push the poultry industry towards adopting the vertical integration model of production.

The Indian government and various international aid agencies today recognize this model as having been responsible for improving the livelihoods of the farming community in India. The changes brought about by the integration model are:

Improved rural livelihoods (especially small farmers): Large poultry companies such as Suguna and V.H. Group target smallholder farmers (having 1 hectare or less). The integration model thus enables smallholder farmers to play an active part in the market supply chain. The integrator company supplies all inputs, including day-old chicks, feeds, and medicine while the contract farmers are responsible for rearing the chickens. These chickens are then bought back by the integrator and sold either to wet markets or processed into chicken meat. Apart from a fixed fee, farmers are also given productivity-linked performance bonuses. This contract between the company and farmers protects farmers from market volatility and is assured a fixed income.

Aligned with the Government of India's Policy to Double Farmers' Income: In a contract engagement, farmers can significantly increase their incomes. This aligns with the Government of India's National Action Plan of doubling farmers' incomes by 2022.

Increased gender participation: The integrator companies usually work with farms where both husband and wife are engaged in the farm activity. It has been observed that the involvement of women brings about positive outcomes such as greater productivity and lower chicken mortality. In rural India, where work opportunities for women are limited. Poultry farming provides a good avenue for participating in livelihood activities for rural women.

Positive Climate Change Impact: Poultry farming is more efficient than cattle farming in producing animal proteins because its feed conversion ratio is lower. Poultry farming also emits less Green House Gases (GHGs) than cattle because the digestion process does not emit methane. Poultry farms also consume less water per unit of protein, thereby leaving more water for irrigating crops.

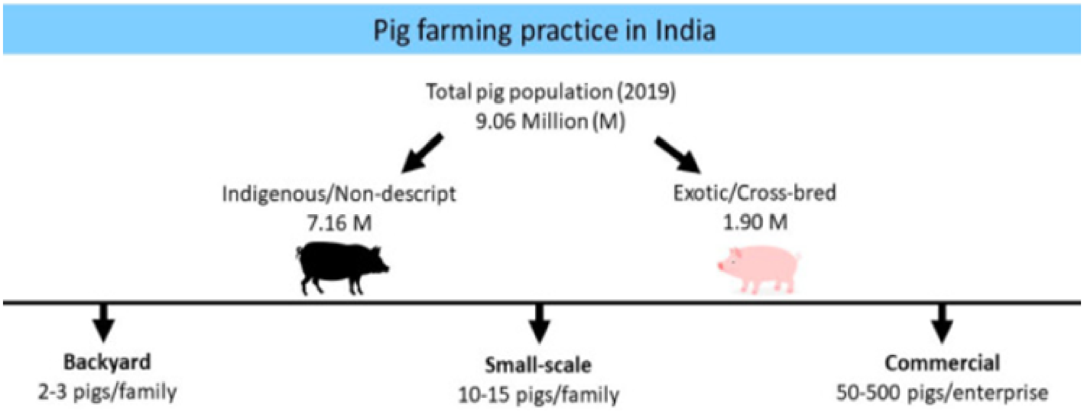
Improved nutrition security and food safety: India's per capita consumption of broiler meat is increasing but is still just 2.58 kilograms per annum, much lower than the world average (14.85 kilograms). India is home to the largest number of malnourished children in the world and about 40% of Indian children are undernourished. The development of poultry production can help address these issues as poultry is one of the cheapest sources of animal protein and contains essential vitamins and minerals

Lower Chicken Meat Prices: The emergence of vertically integrated poultry producers has helped to reduce consumer prices by lowering production and marketing costs in the price-sensitive Indian market.

10. Structure of the Indian Piggery Sector

10.1 Unorganized Structure & Declining Pig Population

The piggery sector in India is highly unorganized. More than 70 % of the pig population is reared under traditional family-oriented smallholder farms. There are some commercial farms in Punjab, Uttar Pradesh, Rajasthan, Haryana, Karnataka, Maharashtra, Kerala, and Goa. However, they are all quite small and many of them are solely for breeding purposes. Northeast India, where there is a shortage of pigs, is supplied by the pig farms in North India, especially from Punjab and Uttar Pradesh. Most of the pig stock (76 %) in India consists of indigenous varieties while the rest belong to crossbreeds.



Source - National Centre for Biotechnology Information

10.1.1 Processed Pork: The market for processed pork in India is small but growing. Most high-end markets such as hotels and gourmet food outlets have been, till recently, supplied through imports. Today, however, many major national retailers and online food grocery stores offer both imported as well as Indian-made pork products.

The supply of western style processed pork products such as bacon, sausages, ribs, belly, etc are now increasingly available through online stores of both the organized retail chains as well as the new 'omnichannel' players such as Meatigo, TenderCuts, and Licious.

The States of Goa, Karnataka, and Kerala in South India are some of the States where the local populations have historically consumed pork. Many of the old family-run single-store sales outlets in cities like Bangalore have transformed themselves into new-age online stores offering a wide variety of pork products as well as home delivery options. They have developed themselves as strong regional brands boosting their historical legacies. Big Meat Mart and New Karnataka Ham Shop are good examples.

10.1.2 Declining Pig Population: The pig stock in India is showing a declining trend.

Livestock and Poultry Population in India
(20th Livestock Census 2019)

S. No.	Species	19thLivestock Census 2012 (no. in millions)	20thLivestock Census 2019(no. in millions)	Growth Rate (%) 2012-19
1	Cattle	190.90	193.46	1.34
2	Buffalo	108.70	109.85	1.06
3	Yaks	0.08	0.06	-25.00
4	Mithun	0.30	0.39	30.00
	Total Bovines	299.98	303.76	1.26
5	Sheep	65.07	74.26	14.12
6	Goat	135.17	148.88	10.14
7	Pigs	10.29	9.06	-11.95
8	Other animals	1.54	0.80	-48.05
	Total Livestock	512.06	536.76	4.82
9	Poultry	729.21	851.81	16.81

Source – DAHD Annual Report 2020-21

According to the 20th Livestock Census 2019, the pig population in India is 9.06 million in 2019. This was an 11.95 % decline from the 10.29 million recorded in the 19th Livestock Census in 2012.

The decline in the pig population in India can be attributed to the following causes:

1. Low Productivity of Indian Indigenous Pigs: The Indigenous pig varieties (See Annex 2 - Page 109, for a list of Indigenous Pigs) are poor performers in terms of body weight and prolificacy, and therefore unsuitable for commercial rearing.

2. Shortage of Pig Feed: The Indian poultry industry, which is better organized, consumes the bulk of the maize and soybean (the most important feed ingredient) that is produced in India, leaving very little for the pig sector. Also, not much attention has been given to the production and supply of other feed ingredients including locally availably low-cost feeds. In the Northeast region, which has the highest concentration of pigs in India, there are no commercial feed manufacturing plants. Therefore, pig feeds are typically 30 – 40 % costlier than in other regions.

3. Lack of healthcare for Pigs: About 45 % of India's pig population is in the Northeast region. There is a lack of facilities for the diagnosis, treatment, and tracking of infectious and metabolic diseases in this region. There is also a big shortage of trained veterinarians and para-veterinary staff. The pig farms in

this region are also vulnerable due to a lack of proper infrastructure to ensure biosecurity and quarantine measures to prevent the ingress of diseases across state and international boundaries.

10.2 Uneven Distribution of Pig Population & Consumption Centres

About 82 % of the total pig population in India is concentrated in the Central, East, and Northeastern parts of India. The Northeast (consisting of 7 states) alone has 45.89 % of the total pig population in India. Economically, these regions are less developed than North, South, and West India. The per capita incomes of these regions also tend to be lower than the national Indian average.

The State of Assam has the highest pig population in India with a total count of 2.09 million. The State of Jharkhand comes next with a total count of 1.27 million.

Distribution of Pig Population in India

States	Pig Population	% of Pig Population in each Region
North-East India		
Arunachal Pradesh	271463	**45.89 %**
Assam	2099000	
Manipur	235255	
Meghalaya	706364	
Mizoram	292465	
Nagaland	404695	
Tripura	206035	
Total →	4215277	
Central & East India		
Bihar	343434	**35.18 %**
Chhattisgarh	526901	
Jharkhand	1276973	
Odisha	135162	
Uttar Pradesh	408678	
West Bengal	540356	
Total →	3231504	
Rest of India		
Rest of India	1738258	**18.92 %**
Total India →	9185039	

Source – DAHD Livestock Census 2019

10.3 The Impact of ASF + Covid-19 on the Northeast Piggery Farms

The first cases of African Swine Fever (ASF) outbreak were reported in the Northeast (Assam and Arunachal Pradesh) in January 2020. Three months later, in April 2020, the Indian government imposed a strict nationwide lockdown to prevent the spread of Covid-19 that was spreading throughout the world.

As both these viruses hit India within the space of 3 months, the news of Covid-19 completely overshadowed the spread of the ASF. Therefore, no immediate and effective preventive action to tackle and isolate ASF took place. Vaccination drives to tackle the outbreak were restricted due to the lockdown imposed by the government. As a result, it was only in May 2020, after many pigs died, that the local authorities realized the seriousness of ASF. Many pig farmers had no choice but to cull their animals as the disease spread slowly to all the other states in the Northeast.

Today after nearly 3 years, the piggery industry in the Northeast has been severely impacted. In the absence of any reliable data, it can be assumed that nearly 15 – 20 % of the pig population in the northeast may have died. Thousands of pigs have been culled. Compensation to pig farmers has been patchy. Private farm owners have not received any compensation. ASF has also spread to other states in India notably

Kerala, Jharkhand, and Punjab. In Kerala, the state government carried out culling in all the affected pig farms. Due to the prompt action taken by the veterinary department of Punjab, the ASF spread in the state was prevented.

10.4 Major Pork Consumption Regions in India

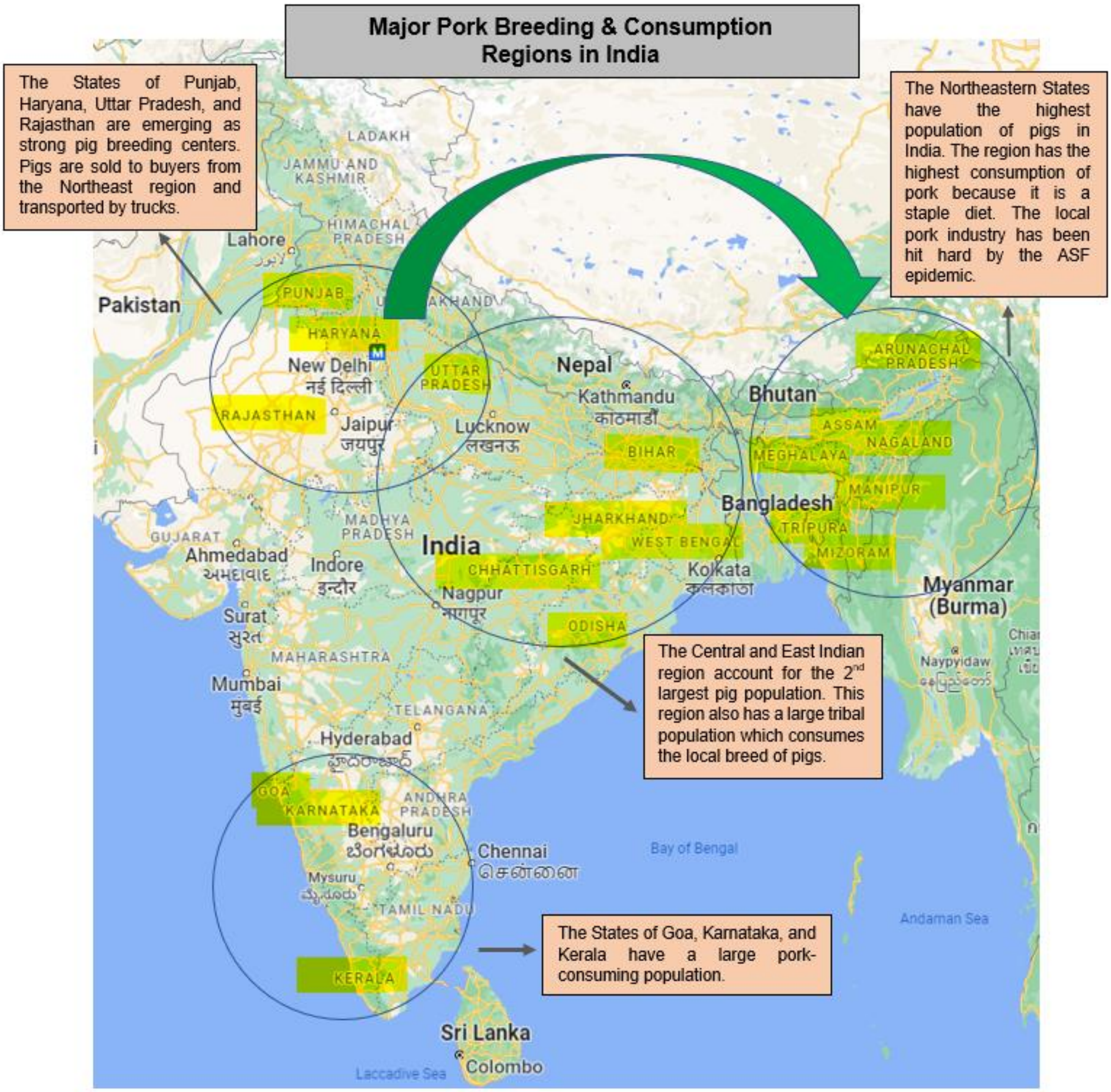


Image Credit - IGEP

Today, the Northeast faces a severe shortage of pork. Pork is a Rs. 8400 Crores (approx. $ 1.03 billion) market in the Northeast. Almost 60 % of this demand is being met by supplies coming in from Punjab, Uttar Pradesh, and Rajasthan[21]. Kerala also faces a shortage due to a ban on the sale and transport of pork to the state.

10.5 The Indian Pork Supply Chain

The Indian pork supply chain consists of a predominantly unorganized sector and a small but growing organized sector.

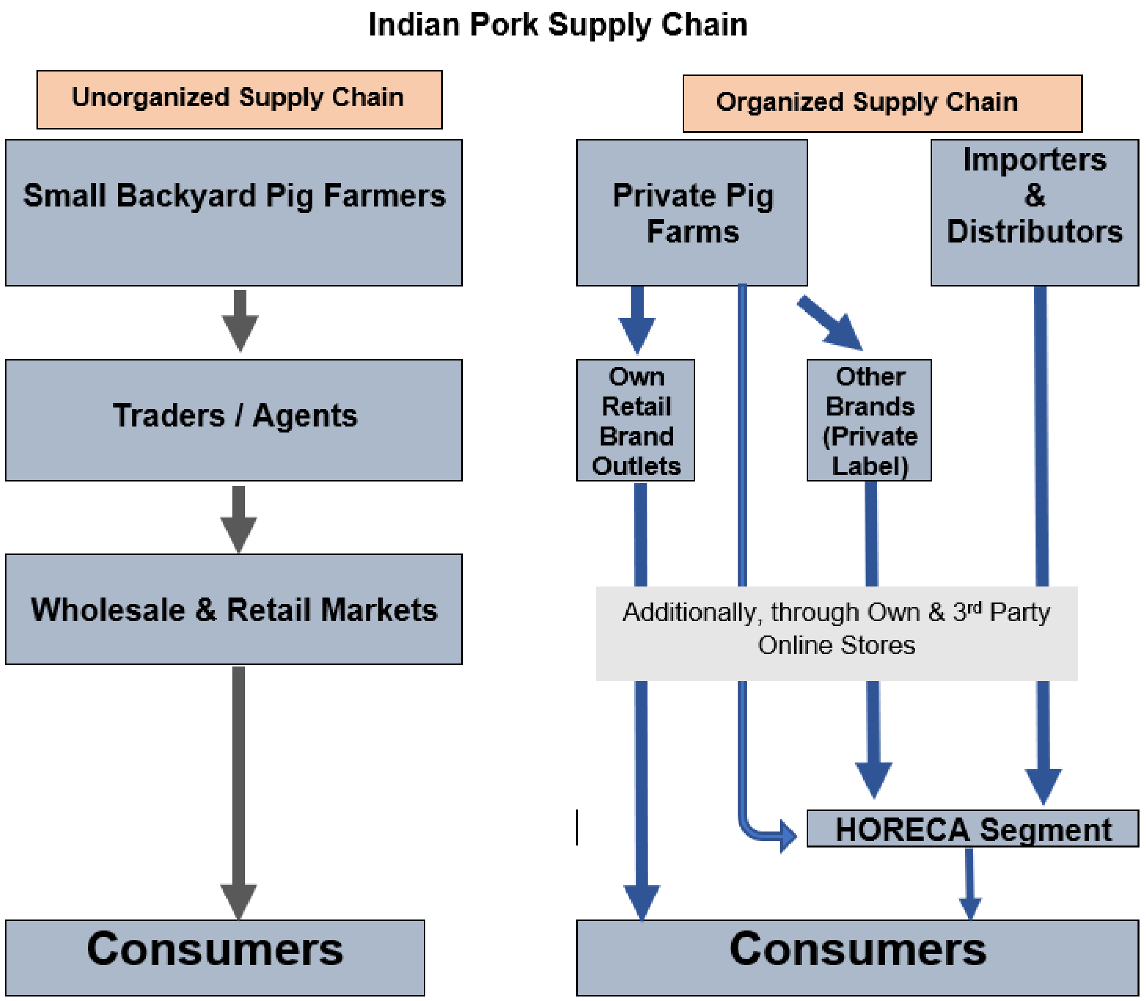


Image Courtesy: IGEP

10.6 The Unorganized Segment

This sector consists of mainly small farmers rearing pigs in their backyards. These family farms can be small (1 or 2 pigs) and larger ones with 10 – 15 pigs. Once a pig attains adult size, they are sold to the neighborhood agent or trader who in turn sells it to the wholesale market or butcher for slaughter. This is the typical supply chain in

[21] Source – 'African Swine Fever in India. The Virus Remains with No Culling' – Farhana Ahmed, Northeast Now

the predominantly pork-consuming region of Northeast India. Many small-scale pig butcheries exist all over India. The small-scale farmers in the Northeast rear indigenous breeds which are fed with local low-cost feeds as well as kitchen waste.

The tribal populations of Central and East India, also consume pork. They mostly rear indigenous breeds for their own consumption.

10.7 The Organized Segment

The organized pig sector in India is quite small. They consist of commercial farms of the size of 50 – 500 pigs, who supply pigs for slaughter and processing to various small butcher cum retail outlets in the country. They generally rear exotic pig breeds such as White Yorkshire, Landrace, Hampshire, and Duroc.

Piggery Farms: A few farms such as Mayur Farms in Pune, Suzanne's in Chennai, Polar Genetics India Pvt Ltd in Jalandhar, and DLG Farms in Bangalore are professionally run piggery enterprises. They follow strict hygiene and sanitation guidelines and comply with sanitary and phytosanitary requirements. They supply various organized retail outlets in Bangalore, Chennai, Mumbai, and NCR Delhi regions which are some of the major consumption regions in India for processed pork such as bacon and sausages. A few of them such as Mayur Farms also supply pork to various well-known meat brands sold in the country.

A cluster of pig farms of high quality is also emerging in a few states in North India such as Punjab, Haryana, Rajasthan, and Uttar Pradesh. These farms breed exotic breeds such as White Yorkshire, Landrace, Hampshire, and Duroc. Many of them are supplying pigs to pork deficit regions in India including the ASF-affected Northeastern regions.

The State of Punjab is developing a strong ecosystem for the development of the piggery industry in the state. The Punjab government is assisting about 150 progressive farmers to develop piggery farms on a scientific basis. Full infrastructure support in terms of vaccines, veterinarians, and breeding technologies has been made available within easy reach. As a result of this, the piggery sector is developing into a viable future for the farmers.

The state of Punjab has a strong agriculture tradition. The state is considered the breadbasket of India. As a result, the farmer community has a strong voice which helps them gain support from the state and central governments. Punjab also maintains strong historical links with the Punjabi community in Great Britain, the USA, and Canada, where many of them have settled for generations. These countries have offered their expertise in piggery farm technology to the state through various bilateral agreements. Further details about the Punjab pig industry can be viewed from this link - https://atariz1.icar.gov.in/pdf/PIG%20Farming%20Book--website.pdf ('Pig Farming – Promising Agri-Business in Punjab' – March 2019 - Bhadauria, Pragya, et al)

HORECA Customers: India's growing number of 5-star category hotels, and gourmet restaurants are a major segment consuming processed pork products. Some of the elite 5-star hotels source pork through imports while others procure them through importers and distributors such as Empire Foods, Framroze Deli, and Siganporia Bros.

The Oberoi Group (https://www.oberoigroup.com/) is one such hotel chain that procures pork directly through imports. It imports pork carcasses from Belgium directly to its central delicatessen center in Kolkata. There they have an in-house processing unit that produces, bacon, sausages, pork chops, ribs, and belly. From there these products are distributed to their various hotels all over India based on their specific requirements from time to time.

Growth of RTE/RTC Pork Products: India's overall frozen foods market reached a value of Rs 124.06 billion (approx. $ 1.53 billion) in 2021, according to IMARC Group. Looking forward, IMARC Group expects the market to reach Rs 306.61 billion (approx. $ 3.78 billion) by 2027, growing at a CAGR of 16.2 % during the next 5 years (2022-2027). Today, a growing number of companies are offering RTE and RTC pork products in India.

Examples: Darshan Foods Pvt Ltd's 'Uro' brand caters to gourmet imported pork products. The company (which also owns the 'Meatzza' and 'Oasis' brands) has dedicated processing facilities for the production of pork products. They cater to QSRs, retailers, flight kitchens, restaurants, as well as national and international food chains.

Arthur's Food Company Pvt Ltd is a company based in Bangalore which produces and markets a wide range of processed pork products. They have a B2B model where they supply pork products such as bacon, salami, sausages, and cold cuts to the HORECA segment. In the B2C segment, they sell their products through their online store - https://meisterwurst.com/, through other e-commerce companies (such as BigBasket, Spar, Nature's Basket, Spencer's, etc. They also have their own retail outlets called 'Bon Appetit' in Bangalore.

10.8 Challenges Faced by the Piggery Segment

10.8.1 Diminishing Stock

India's pig stock is rapidly diminishing. As per the 20th livestock taken in 2019, the total pig population stood at 9.06 million. This was a decline of 12 % over a 7-year period. The pig population is in danger of a further decline due to the African Swine Fever

(ASF) epidemic. The epidemic, which was first reported in January 2020, has decimated the pig population, especially in the Northeast and Kerala.

10.8.2 Control of ASF Epidemic & Revival of Pig Farms

The ASF epidemic is the biggest challenge faced by the Indian piggery sector. It has severely disrupted the domestic pork market and supply chain. There is a need for a national campaign to raise awareness and sensitize piggery farms to establish minimum biosecurity standards to prevent the disease as well as strict and intensive monitoring of high-risk areas. Greater coordination is needed between the state governments in the Northeastern region to develop their own ASF preparedness and response plans. As pork is a staple diet in the Northeastern region, it is important to help small farmers to re-establish their pig farms in the infected zones.

10.9 Revival of Projects & Strengthening of Piggery Ecosystem

Prior to 2020, several initiatives have been taken both by the private sector as well as the central and state governments to boost the piggery sector in India.

Some of these initiatives were:

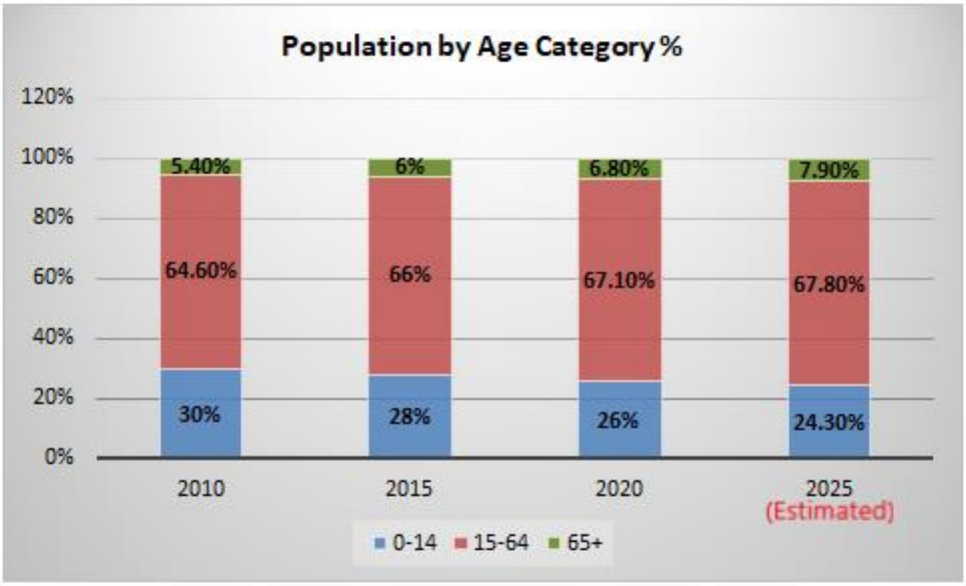
1. Cooperation agreement was signed between the Canadian firm Polar Genetics Inc. and Indian partner Polar Genetics India Pvt Ltd. (Punjab) in 2013 to supply high-quality frozen, genetically improved boar semen, technologies, and management systems. The cooperation is intended to help Indian breeders with the requisite technology and processing management to make the entire process of breeding and slaughtering of pigs hygienic and scientific.
2. Memorandum of Understanding (MoU) between the State of Alberta (Canada) and the State of Meghalaya (India) signed in Jan 2014 for the supply of swine genetics.
3. It was reported in 2019 that a Mumbai-based company, Gargi Genetics Pvt Ltd., supported by the Maharashtra government, is gearing up to create a cooperative-style piggery farm for the supply of high-quality pork in Maharashtra State.
4. It was announced in 2021 that a pork processing plant in the upper Assam town of Nazira in the Sivasagar district will be constructed under a Public Private Partnership (PPP) model of the Central government's Trade Infrastructure for Export Scheme (TIES). It will have the capacity of processing 400 pigs a day.
5. The National Hydroelectric Power Corporation (NHPC) a Govt of India entity, is building a piggery farm in the State of Arunachal Pradesh as part of its Corporate Social Responsibility (CSR) activity. The facility will have a modern slaughterhouse, feed mill, storage unit, and training center.
6. All the Northeastern states have created a strategy paper for the development of the piggery sector in their respective states. All of them have also allotted budgetary support for the development of the sector.

The State of Punjab can be considered to have the best piggery ecosystem in India. There are over 150 farmers who have taken up piggery during the past few years with the financial help and technical support of the State Government. The farmers are supported with vaccines and breeding facilities. The State Department of Animal Husbandry maintains a good web portal where all the necessary information is provided with contact numbers related to pig farming. Punjab is today a major supplier of live pigs to the Northeastern states which are suffering from the ASF epidemic.

11. Drivers of Growth

11.1 Population and Demographic Profile

India is expected to overtake China as the most populous country in the world in 2023. The country's population is estimated to be 1,375 million in 2020 and is expected to grow to 1,400 million by 2025. India has a large working-age population (including millennials) in the age category of 15 – 64. This category is set to expand further in the coming years. The median age in India was 28.7 years in 2020, in comparison to 38.4 in China and 38.1 in the USA.



Source - GlobalData Intelligence Center, Macroeconomic Indicators

11.1.1 Indian Millennials – A Strong Food-Consuming Group

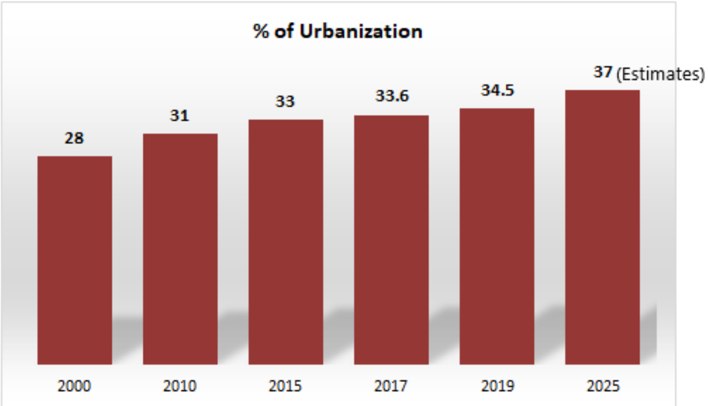
Millennials are naturally predisposed to adopting new trends and exploration due to their education profile and their exposure to media and technology. This presents an opportunity for domestic consumption in the form of brand behavior, organized retail, and product designs.

In Fiscal 2020, approximately 60% of Indians eating out were millennials[22], which represent the age group from 15 to 34 years old. The millennial population in India stood at 447 million in 2020. As India's population continues to grow, the number of millennials that form part of India's working-age population increases. As they form the largest consumer segment, food service companies in India have designed strong entry menu choices at attractive price points specially tailored for this age group. The millennials are also connected through advertising and marketing campaigns, both on

[22] As per Technopak Research

television and social media, through in-restaurant design, and messaging, as well as the packaging of products.

11.2 Increasing Urbanization



Source - World Bank

India has the second largest urban population in the world in absolute terms at 472 million in Fiscal 2019, second only to China. However, only 34.5% of India's population is classified as urban compared to a global average of 54%. The implementation of a "smart cities" initiative by the Indian government aimed at the creation of new urban clusters is expected to accelerate the growth of urban development in India. It is estimated that 37% (541 million) of India's population will be living in urban centers by Fiscal 2025, contributing between 70% and 75% of India's GDP.

According to a report by NITI Aayog[23], India's cities occupy 3 % of India's land area while contributing a massive 60 % to the country's GDP. Indian cities are also growing fast. According to an Oxford Analytica report, of the 20 cities expected to grow the most by 2035, 17 are in India.

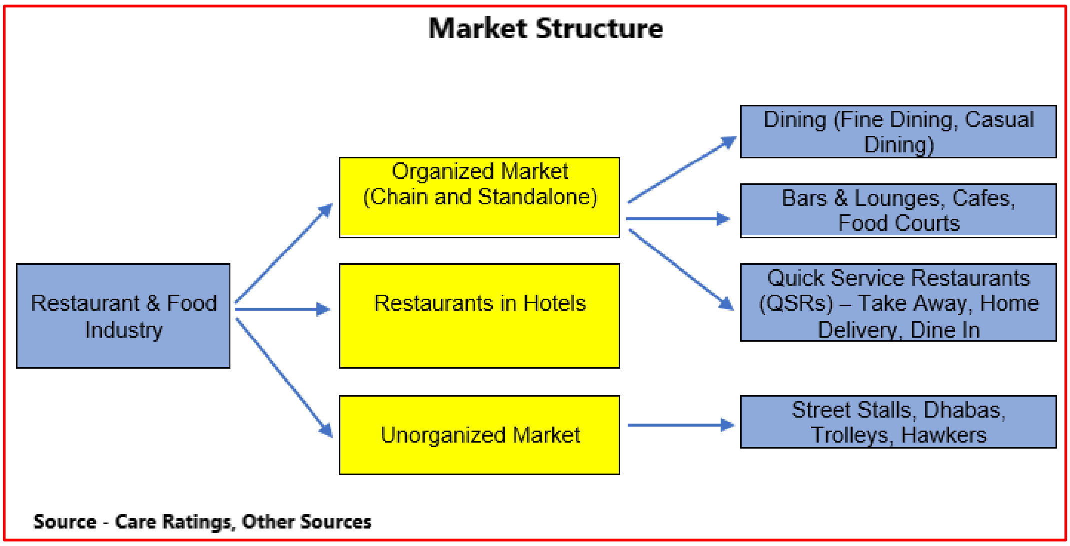
The largest 8 cities of India have been the centers for growth, for the organized food services market. Delhi NCR and Mumbai Metropolitan Region accounted for approximately 42% of the total revenue of the chain food services market in India in 2020. When combined with the next 6 cities (Kolkata, Bengaluru, Chennai, Hyderabad, Pune, and Ahmedabad) they accounted for approximately 87% of the total revenue of the chain food services market during the same period. This has been driven by increased economic activity, a shift in lifestyle pushing for a higher need for convenience, and an increase of women in the workforce.

The growing middle-class population in urban centers has higher income levels and indulges in frequent outdoor activities such as traveling and trips with friends and families. They are brand conscious, have access to the internet (usually through their smartphones) have a greater propensity to spend (including impulse buying), and are willing to experiment with new cuisines. The trends like digitalization, increasing delivery & takeaway options, the impact of social media, and contactless payment transactions are aiding the growth of the sector.

[23] The NITI Aayog serves as the apex public policy think tank of the Government of India, and the nodal agency tasked with catalyzing economic development.

11.3 India's Expanding Food Services Industry

India's food services industry has undergone a major transformation in the last three decades. The sector has seen strong growth over the years. According to reports, the market size of food services in India in 2015 was Rs. 2,86,500 Crores (approx. $ 44.7 billion) and it reached Rs. 4,23,600 Crores (approx. $ 57.2 billion) in 2020. The sector is expected to grow at a rate of 9% over the next 5 years to reach Rs. 6,50,500 Crores (approx. $ 80.3 billion). The market, which was earlier dominated by unorganized players, has also seen a structural shift toward organized players.

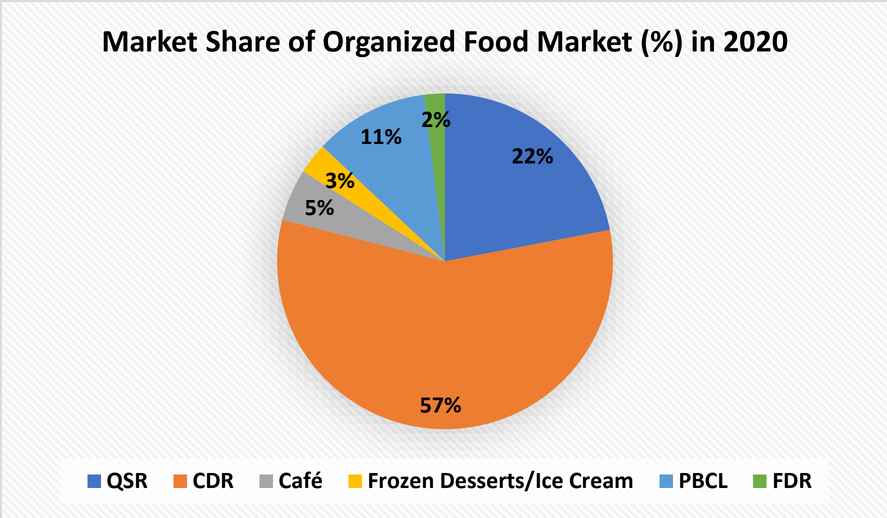


The table below shows the market share of different Indian food services markets in 2015 and 2020 and the expected market share in 2025.

Format	Market Share in India		
	2015	2020	2025 (Projected)
Unorganized Market	68.1%	59.5%	47.2%
Organized Standalone Market	23%	28.4%	35.5%
Chain Market	6.1%	9.4%	14.9%
Restaurants in Hotels	2.8%	2.7%	2.4%

*Source – Technopak Research

The organized market includes fine dining restaurants (FDR), casual dining restaurants (CDR), PBCL (pub, bar, club, and lounge), quick-service restaurants (QSR), cafes, and frozen desserts/ice creams. Their respective market share in the Indian organized food segment in 2020 is shown in the figure below.



11.4 The Rapid Growth of Quick Service Restaurants (QSRs) in India

Quick Service Restaurants (QSR) are the major drivers of growth in the organized food service industry. The fast-food cuisines offered by QSRs require less preparation time, and minimal table services to fulfill the needs of the youth (especially millennials and working professionals). These food items are delivered through quick service outlets. The prices are competitive which is one of their main attractions. QSRs generally target people from the age group of 16-35 years. The average spending of a person in QSRs in India is in the range of Rs. 75-250. The QSR format has been successful in India as they offer customers, especially the millennials the perfect mix of attractive combo packs within an affordable price range.

India is a favorable destination for the rapid growth of the QSR segment as there is plenty of cheap labour available and a growing domestic supply chain for food raw materials. As a result of these factors, many international QSRs have established their presence in India with franchise rights given to various Indian companies. The major Indian franchisees in the QSR segment are Jubilant Food Works Limited (Domino Pizza, Popeyes), Westlife Development Limited (McDonald's), Sapphire Foods India Pvt Ltd (KFC, Pizza Hut & Taco Bell), Devyani Foods Ltd (KFC, Pizza Hut & Costa Cafe) and Restaurants Brands Asia (Burger King). Subway till now operated in India through a fully owned subsidiary - Subway System India Pvt Ltd (Subway) which runs about 700 outlets. Subway aims to grow its QSR outlets to 2000 in various Indian cities. As part of this expansion plan, on 2 Nov 2022, Subway announced the appointment of the Everstone Group as master franchisee for India, Bangladesh, and

Sri Lanka[24]. Everstone also has a controlling stake in Restaurants Brands Asia which has the Burger King franchise.

The varying consumption preferences and rise in millennials provide a huge growth opportunity for the QSR Industry. Youth and working professionals are shifting more towards food that is readily available in a shorter duration. It is estimated that the Indian QSR chicken market is worth Rs. 3000 Crores (approx. $ 370 million). KFC has a 75 % share of this segment[25].

All leading QSRs have laid out aggressive expansion plans. The overall industry is poised for a 15 % CAGR with the organized QSR segment expected to grow at a robust 23% CAGR over the period 2020 – 2025[26].

Store Expansion Plans of QSR Companies in India

QSR Companies	Stores Opened in FY 21	Stores Opened in FY 22	Stores as of Q4 FY 22	Projected Store Openings in FY23-FY26
Jubilant Foodworks	134	230	1,567	900 – 950
Burger King India	5	50	315	400 – 450
Devyani International	92	246	938	400 – 450
Westlife Development	-14	25	326	180 – 200
Sapphire Foods	36	142	579	450 - 500
Subway Systems India Pvt Ltd / Everstone Group			700	2000

Source - Yes Securities / IGEP Research

11.4.1 New Entrants

Seeing the growth opportunities in the QSR segment, new players (both Indian and International) have entered the market to give competition to existing brands. All of them have ambitious operations expansion plans in the coming years. Please see the table below for details about the new QSR brands in India.

[24] Source - https://www.moneycontrol.com/news/business/companies/subway-announces-everstone-group-as-its-master-franchisee-in-india-7668401.html
[25] Source – Sahu, Ram Prasad – 26 March 2021 – Business Standard - https://www.business-standard.com/article/companies/jubilant-foodworks-doubles-its-qsr-target-market-with-popeyes-tie-up-121032501105_1.html

[26] Source – Yes Securities – 22 June 2022 – Sector Update - Organized QSR players on a strong growth wicket despite margin concerns – https://www.dsij.in/productAttachment/premarketreports/Consumer%20Discretionary_22.6.2022.pdf

New Major Entrants in the Indian QSR Segment

Brand	Main Menu Category	Expansion Plans
International Brands		
Popeyes	Fried Chicken	In Jan 2022, JFL (Jubilant Foodworks Ltd) launched the iconic US Fried Chicken brand Popeyes in India by opening its first restaurant in Bangalore. Last year, JFL entered into an exclusive master franchise and development agreement with PLK APAC Pte. Ltd (a subsidiary of Restaurant Brands International Inc.) to operate Popeyes quick-service restaurants in India, Sri Lanka, Bangladesh, and Nepal.
Wendy's	Chicken Burger	Wendy's, which entered India in 2015, has tied up with Rebel Foods, to launch 250 cloud kitchens in India. They also plan to open 150 stand-alone restaurants in the coming years.
Tim Hortons		The Canadian chain, Tim Hortons has 9 outlets in India as of Dec 2022. It plans to add another 120 outlets in the next 3 years.
Indian Brands		
Wat-a-Burger!	Chicken Burger	Wat-a-Burger was launched in 2016, it has 65 outlets in 27 cities. Their USP is 'desi' (local) recipes suiting Indian palettes.
Burger Singh	Chicken Burger	Burger Singh was first launched in 2014, it has 90 outlets in 40 cities in India. They plan to have 1000 restaurants by 2026.
Biggies Burger	Chicken Burger	Initially launched in Bangalore in 2011 as a single outlet store, Biggies Burger today has a presence across 71 outlets (47 functioning and 24 under progress) in 25 cities in India. They plan to open an additional 306 outlets by 2025.
The Burger Company	Chicken Burger	The Burger Company currently has 50 outlets in 20 cities. They plan to have 100 outlets in the coming months.

Compiled by IGEP

Growth Dynamics of the Indian QSR Sector

Value (US $ Billion)			CAGR 2015-2020	CAGR (E) 2020-2025
2015	2020	2025(E)		
34.12	40.07	65.36	3.3 %	10.3 %

Source – Devyani International Draft Red Herring Prospectus 2021

11.5 Growth of Western QSR Segment in India

QSR chains in India grew by a CAGR of 3.3 % between 2015 and 2020. The sales value of the QSR chains is expected to rise at a CAGR of 10.3 % between 2020 and 2025. Post Covid-19 economic recovery and increased capital expenditure to expand the network by western QSRs are expected to drive the growth. The organized chain space is marked by the presence of more than 100 brands with over 6,500 outlets spread across various cities in India.

Western QSRs have been able to scale their operations across the country by establishing strong supply chains and standard operating procedures, introducing global best practices, and constantly introducing innovative products to suit local consumer tastes. Players such as Domino's, KFC, McDonald's, Subway, and Burger King are today highly visible through their presence across various high-footfall destinations such as malls, high streets, office complexes, airports, city metro stations, and highways.

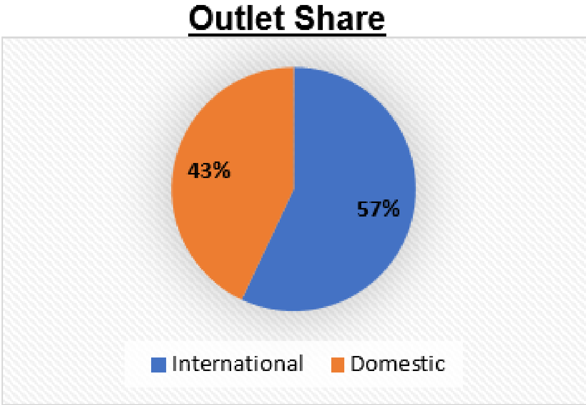
A report done by the financial securities firm Kotak Institutional Equities[27] of 541 districts in India indicates a potential for a 50 % plus growth for western QSRs store expansion covering the period 2021 – 2025. The report has indicated that the Covid-19 pandemic has led to changes in consumer behavior. This is reflected in the growth in digital adoption and ordering habits. The report says that QSRs have used the Covid-19 crisis to improve economics by optimizing their cost structures, store networks, and store designs. This will enable western QSRs to accelerate store expansion while eating into the market share of unorganized players.

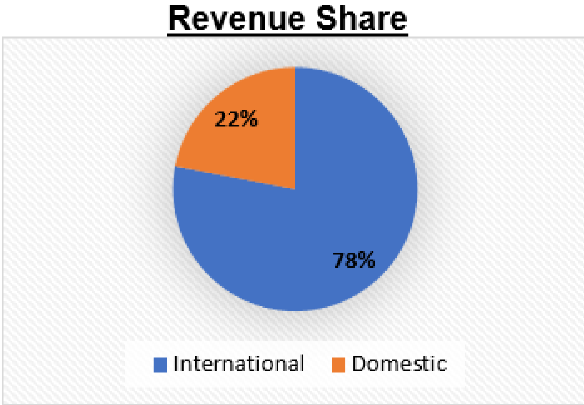
The value proposition of western QSRs versus other restaurants also improved during the Covid-19 pandemic. This was due to lower discounting and higher delivery fees charged by aggregators such as Zomato and Swiggy during the pandemic. As a result, the profit margins of standalone restaurants that had earlier thrived on aggregator promotions declined considerably.

As of October 2021, international QSRs have a 57 % share of the chain QSR market in India in terms of outlets and a 78 % share in terms of revenue[28].

[27] Kotak Institutional Equities Report – 'Hotels & Restaurants: India QSRs: Appetite for more' May 2021 - https://www.kotaksecurities.com/pdf/indiadaily/indiadaily10052021rs.pdf
[28] Source – Sapphire Foods Red Herring Prospectus – October 2021.

Contribution of International and Domestic QSRs in India (FY 2021)

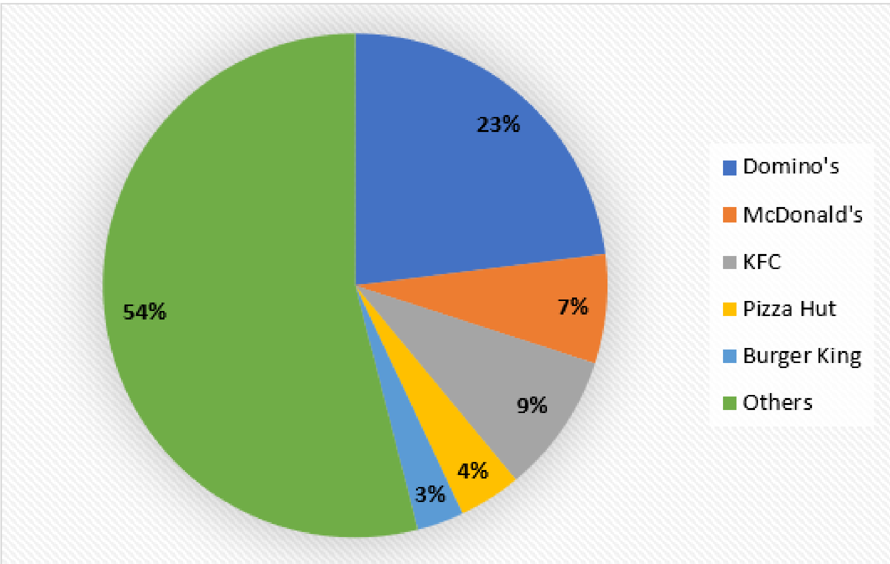




Source – Sapphire Foods Red Herring Prospectus Oct 2021

As on Oct 2021, leading international brands consisting of Domino's, McDonald's, KFC, Pizza Hut, and Burger King have a 44 % revenue share of the chain QSR segment in India. KFC is the largest QSR chain serving chicken.

Market Share of Key International QSR Brands in India by Revenue (2021)



Source – Sapphire Foods Red Herring Prospectus Oct 2021

11.6 Future Prospects for Western QSRs

The prospects for western QSRs in India are strong, due to the following factors:

Financial strength and solid supply chains: International brands, such as Domino's, Pizza Hut, KFC, and Burger King dominate the pizza, burgers, and fried chicken segments which have a strong brand pull among young Indian consumers. These western QSRs have the financial resources to deploy, at scale, excellent brand experiences to enable market and customer expansion. Many of the domestic

QSRs are more confined to a specific region and whose supply chains are still evolving. This limits their ability to grow on a pan-India size and scale to compete with western QSR chains.

Rapid Expansion of Stores: Although the expansion plans of international QSRs were disrupted due to Covid-19, brands such as Domino's, McDonald's, and KFC have resumed their pace of opening new stores in 2022. As an example, McDonald's has set an ambitious target of adding 35-40 stores in the financial year 2022-23 and thereafter 200 restaurants in the next 3 - 4 years.

Western QSRs Developing a Parallel System of Direct Delivery: Western QSRs such as McDonald's, Domino's, Pizza Hut, and KFC have utilized the Covid-19 lockdown period to strengthen their own delivery apps and concurrently argued for lower margins with 3rd party aggregators such as Zomato and Swiggy. It is expected that in the future their own delivery platforms will emerge as the core online sales channel and rely less on 3rd party aggregators.

Strengthening Consumer Engagement through Digital and Social Media: Almost 65% of the population in India is below 35 years of age, with high ownership of smartphones and disposition for the consumption of digital media. For western QSRs therefore, digital videos are an important form of digital marketing investment. Western QSRs also leverage online media such as Facebook and Twitter to offer schemes and discounts to digitally savvy Indian consumers.

11.7 The Growth of the RTE/RTC Segment in the Meat Sector

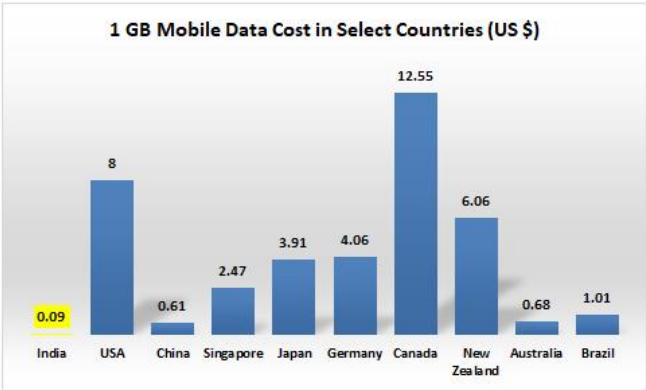
The Ready-To-Cook category includes packaged foods that must be heated or boiled before consumption. The Ready-To-Consume category contains foods that are already prepared and ready to eat. The growth of the RTE/RTC products can be attributed to the following factors:

- The changing lifestyles and demographic profiles of Indian households. Consumers are exposed to western lifestyles, cuisines, and cooking.
- Indian Consumers are becoming more health conscious and are willing to spend more on healthy and clean food (this trend has been reinforced by the Covid-19 epidemic)
- The rapid growth of QSRs is fuelling the growth of processed poultry.
- Ease and convenience of cooking, which is preferred by an increasing number of working women.
- The organized retail industry with its cold chain infrastructure is also helping growth in the retailing of chilled and frozen poultry products. The investments in the cold chain by these retailers are creating channels for the growth of processed meat products including chicken and pork.

As a result of the above trends, poultry integrators have established a new business model. They have introduced their own RTE and RTC products to the market. They are establishing integrator-owned or franchised chilled/ frozen poultry shops, opening sales counters in existing food shops, and organizing home delivery through omnichannel delivery companies such as Meatigo and Meatzza.

11.8 Increasing Internet Penetration

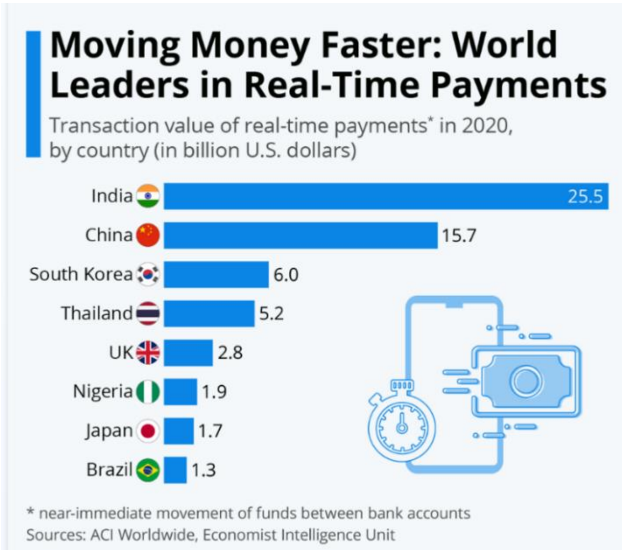
According to Kantar Group, the data analytics company, the number of monthly active internet users in India grew to 639 million in 2020. India has the 5th lowest internet data rates in the world[29]. The availability of cheap mobile data is helping internet penetration raise at a faster pace in India. As a result of having affordable internet access, Indian consumers are able to access information about various brands, trends, and new cuisines, and also connects them to food aggregators and delivery apps such as Zomato and Swiggy. The parallel rise of social media in India has allowed brands to directly communicate and engage with consumers.



Source - cable.co.uk

11.9 Growth of Digital Payment Infrastructure

The past decade has seen the digital payment space grow remarkably with the introduction of a wide array of payment modes. As a result, digital payment transactions have been consistently increasing over the last few years, as a part of the Government of India's 'Digital India' strategy to digitize the financial sector and economy. The promotion of digital payments has been accorded the highest priority by the Government of India. Pre-existing payment modes such as debit cards, and credit cards have also grown.



As a result, it has become very easy for mobile phone owners in India to transact payments. For example, India's indigenously developed United Payment Interface (UPI) has become the default payment option, even for small purchases or payments, for example dining out in a QSR or taking a ride in an e-rikshaw.

As per data released by the National Payments Corporation of India (NPCI), UPI recorded over 6.28 billion transactions in July 2022. According to ACI Worldwide,

[29] Source - Worldwide Mobile Data Pricing list

India recorded the highest transaction value of real-time payments in 2020. The UPI payment system is dominated by two apps – Walmart-owned PhonePe and Google's GPay. They account for 82 % of the total UPI transactions by volume[30].

11.10 Revival of International Tourist Traffic to India

Due to the Covid-19 pandemic, only 1.54 million tourists arrived in India in 2021. That compares with 10.93 million tourists in 2019. Tourist arrivals to India are growing again as restrictions on international travel were removed last year. It is estimated that India received 2.1 million tourists in the first six months of 2022[31].

India's tourism industry contributed $ 178 billion, or about 5.8 %, to the country's gross domestic product in 2021, according to the World Travel & Tourism Council. This will more than double to $ 512 billion by 2028, according to Invest India, an Indian government investment promotion agency.

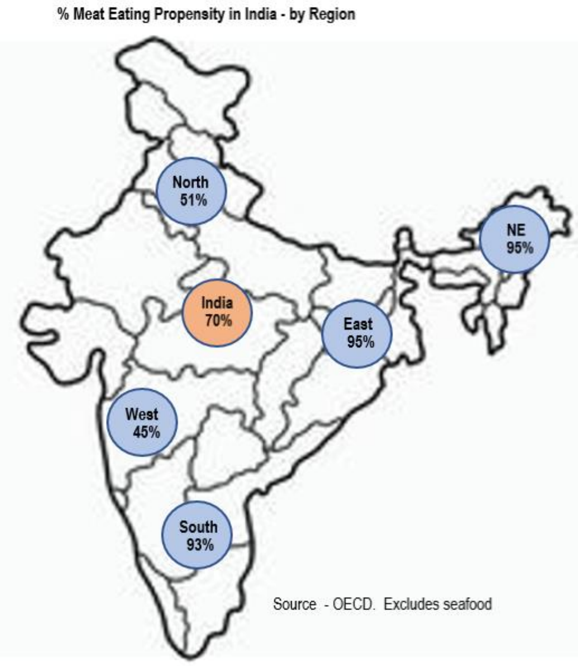
[30] Source – Business India Nov 28 – 11 Dec 2022 Issue
[31] Source – Ministry of Tourism, Govt of India

12. Trends & Future Scenario

12.1 Consumption Trends

12.1.1 Consumption of Meat Increasing

According to studies by the OECD, it is estimated that 70 % of India's population eats meat. While the current per capita consumption of both chicken meat and pork in India is low by international standards, there is ample space for growth. Studies show that meat consumption is highest in Northeast, East, and South India.

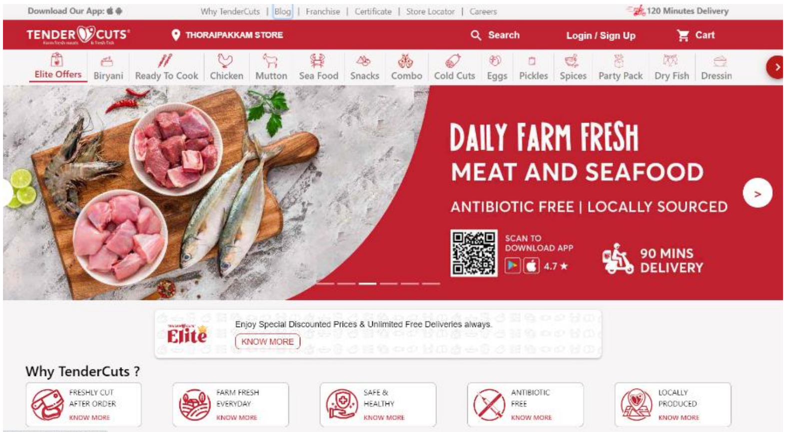


The size of India's overall meat market (both organized and unorganized) was Rs. 3,30,000 Crores (approx. $ 40.7 billion) in 2019. It is expected to reach Rs. 4,60,000 Crores (approx. $ 56.7 billion) by 2024[32]. The chicken meat sector is expected to be a major driver of this growth.

12.2 Supply Chain & Marketing Trends

12.2.1 Online Sales of Meat Increasing

While the Covid-19 pandemic pushed many Indian customers to purchase meat online due to restrictions on outdoor movement, there is a generally upward trend among consumers to order meat online. Concerns regarding safety and hygiene, the availability of various product options including pack sizes under one brand, and home delivery service were the key motivating factors for this trend. The emergence of many 'Omnichannel' or 'D2C' online companies specializing in meat products and home delivery is encouraging this trend.



[32] Source – Redseer Strategy Consultants

<u>12.2.2 1The Emergence of 'Omnichannel' or D2C (Direct to Customers) Online Companies</u>: D2C meat delivery players such as FreshToHome (https://www.freshtohome.com/) Licious (https://www.licious.in/), Zappfresh (https://www.zappfresh.com/), and TenderCuts (https://www.tendercuts.in/) are reshaping consumer behavior in India. They target the young and upwardly mobile population in urban centers.

These companies are successfully influencing young meat buyers to switch from local butchery shops to online buying by helping them overcome some of the key irritants experienced while buying meat from butchers such as unhygienic environments, long waiting periods, and fewer choices.

Additionally, the D2C companies have been successful in differentiating their product offering in terms of the wide variety of products including ready-to-eat and ready-to-cook options. Through targeted marketing, they emphasize the high quality and nutritional benefits. They prominently feature their products on social media sites such as Facebook and Instagram with high-quality images and content. This helps to gain strong product recall and also encourages impulsive buying of the products.

Reasons for Buying Meat Online

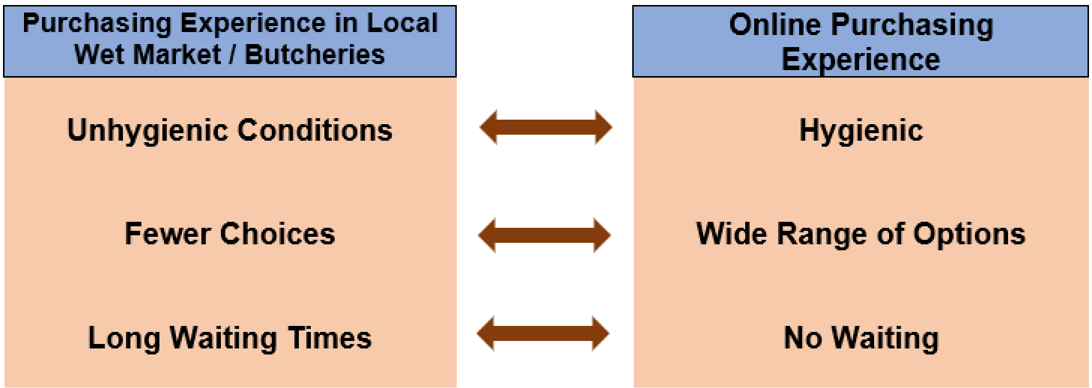


Image Courtesy - IGEP

<u>12.2.3 The Growth of the Food Order & Delivery Platforms Driving Meat Consumption</u>

The increasing penetration of internet and smartphone usage is bringing about major changes in the online food delivery market in India. The emergence of food order and delivery platforms such as **Swiggy** and **Zomato** is one such example.

Customers typically download the apps of food order and delivery platforms and use them to order food. They typically have a wide range of options to search and discover restaurants, read and write customer-generated reviews and view photos, order food delivery, book a table, and make payments while dining out at restaurants.

These platforms partner with restaurant partners and provide them with industry-specific marketing tools which enable them to acquire customers and grow their businesses. The platforms also serve as a reliable and efficient last-mile delivery service for restaurants.

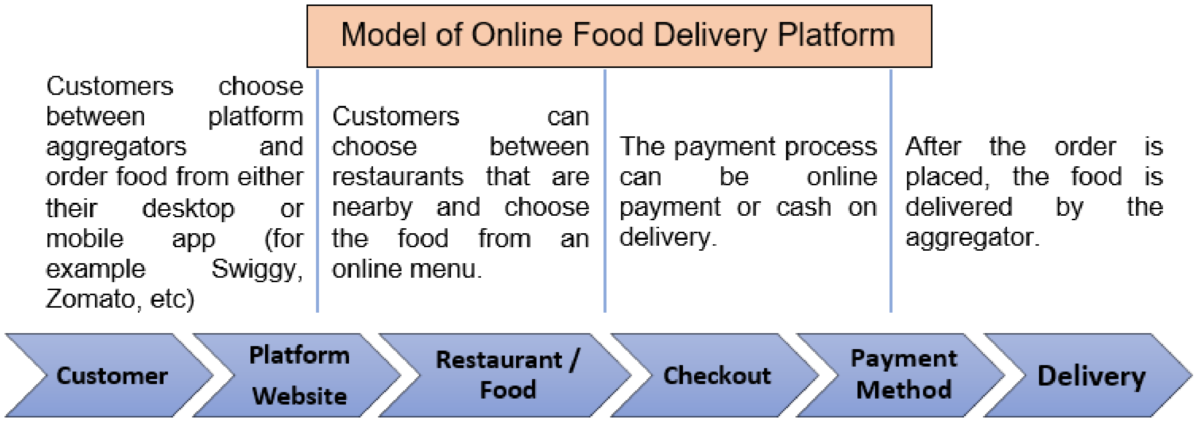


Image Courtesy: IGEP

The revenue in the online food delivery space is estimated to reach $ 13.99 billion by the end of 2022. It is estimated that the revenue will grow at an annual growth rate of 11.92%, reaching $ 21.95 billion by 2026.

Zomato Ltd (https://www.zomato.com/) and Swiggy (https://www.swiggy.com/) are the two most popular online food delivery companies in India.

As of March 31, 2021, Zomato was present in 525 cities in India, with 389,932 active restaurant listings. Zomato claims that its mobile application is the most downloaded food and drinks application in India in 2019, 2020, and 2021[33]. Zomato was launched in 2010.

Swiggy was launched in 2014 and is today present in more than 500 cities in India.

12.3 Trends in Indian Consumption Behaviour

12.3.1 Ethnic Indian Foods Retain Popularity

The early western QSR chains that entered the Indian market in the 1990s and 2000s found out that standardization of the menu (which worked in other countries) does not suit the Indian market. They had to adapt to the preferences of Indians and add an Indian touch to their menus.

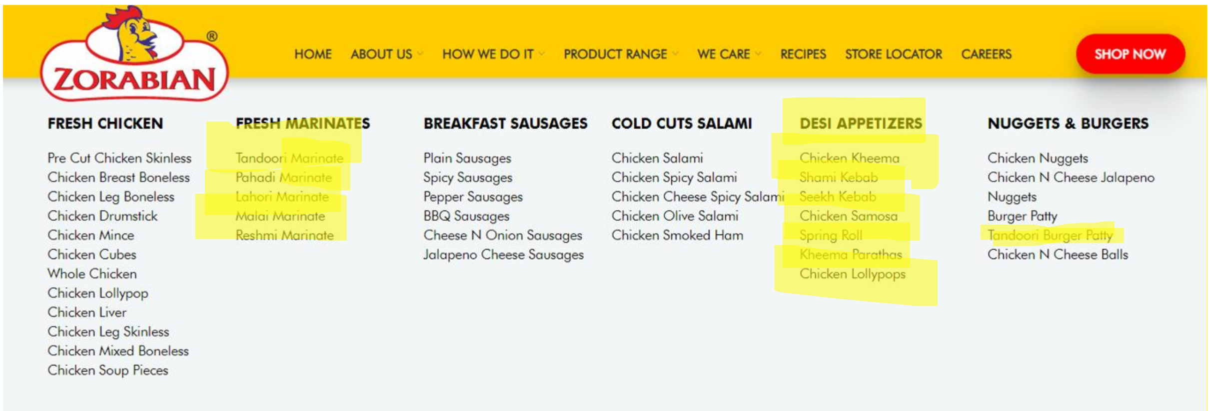
[33] Source – Zomato Ltd Red Herring Prospectus – 6 July 2021

As an example, according to a survey by Swiggy in 2021, 'chicken biryani' continues to be the consumer's favorite in India for the 6th year in a row.

Chicken biryani was also the most popular dish in the Zomato app as well. According to the company sources, 55 million orders of chicken biryanis were ordered in 2021, compared to 35 million in 2020. According to Swiggy, chicken biryani is ordered over 6 times more frequently than vegetable biryani. In a survey done in 2020 by Swiggy, chicken fried rice and mutton (lamb) biryani also made it to the top 5 dishes ordered in their app.

This indicates that the Indian consumer has a strong attachment to ethnic and traditional Indian food. It is not surprising therefore that apart from QSRs, the RTE & RTC product manufacturers in Indian produce a combination of western and ethnic Indian products to satisfy the Indian consumers' diverse tastes and preferences.

Vista Processed Foods Pvt Ltd (part of the OSI Group including McDonald's), a major supplier to McDonald's QSR in India, initially focused on producing various western chicken products like chicken patties, nuggets, grilled chicken products, chicken wings, and fingers. Later realizing the strong market for traditional Indian ethnic chicken products, diversified its product range to include kababs and curries also. A look at the product range of Zorabian Chicks Pvt Ltd, a company that produces fresh chicken as well as RTE / RTC products will show the combination of western style and ethnic Indian products in their product range.



Source – https://www.zorabian.com/

12.3.2 'Chilled vs Frozen' Chicken

The Indian consumer prefers fresh chicken to frozen. This preference has given rise to the concept of 'Fresh Chilled' chicken which was first conceptualized as a brand by Godrej Agrovet (later Godrej Tyson). Fresh chilled chicken is defined as "slaughtered poultry stored and sold at temperatures not below –1^{0}C". The shelf life of fresh chilled chicken is 3 days.

Most Indian processors today produce both - fresh chilled and frozen chicken. Fresh chilled is promoted through retail outlets within the city or region – places they can be conveniently serviced. For upcountry sales, frozen product is sent. As an example, for the company Suguna Fresh, fresh chilled chicken constitutes about 20 % of its production, while in the case of Godrej Tyson (who pioneered this concept), fresh chilled constitutes 80 % of its production.

12.4 Industry Trends

12.4.1 The emergence of Cloud Kitchens

A Cloud Kitchen or a ghost kitchen is fundamentally a restaurant kitchen that accepts customer orders online and provides no dine-in facility for customers. They only take online orders and deliver food to the customer's doorsteps.

According to Redseer Strategy Consultants, the cloud kitchen market in India was valued at $ 400 million in 2019. It is likely to expand to $ 2 billion by 2024.

Due to declining return on investments for dine-in restaurants during the Covid-19 period (2020-2021), the concept of the 'Cloud Kitchen' model gained relevance. It became a cost-effective model for existing restaurants and a business opportunity for entrepreneurs. Many Indian startups have emerged in the Indian cloud kitchen space. In 2021, total funding for cloud kitchen startups was estimated to be $ 234.2 million while in 2020 it was $ 112.4 million.

During the Covid-19 period, Wendy's (a QSR) partnered with Rebel Foods (a cloud kitchen operator) to develop and operate Wendy's cloud kitchens in the country. With this strategy, Wendy's was able to continue its business despite the lockdown. Rebel Foods is considered to be one of the most successful cloud kitchen operators in India.

Various Brands of Rebel Foods

Source - https://www.shreyanssingh.in/p/rebelfoods

12.4.2 The emergence of Contract Processors

Vista Processed foods Pvt Ltd (a part of the OSI Group Company) set up operations in India in 1995 to establish a supply chain for McDonald's QSRs in Western India. It has installed high-tech equipment for both the chicken and vegetable processing lines. The plant produces various kinds of semi-fried, formed, breaded, coated, and Individual Quick Freezing (IQF) frozen products. 80 % of its products are supplied to McDonald's while it has also become a contract or merchant processor for other RTE/RTC brands.

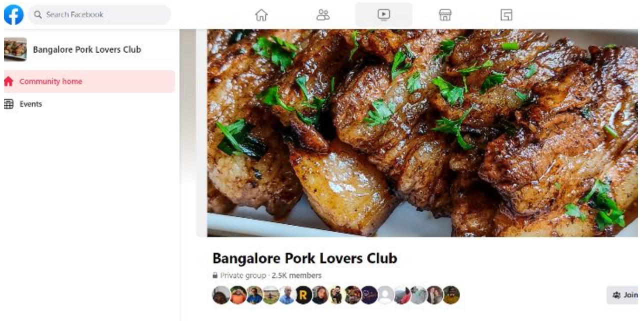
In 2016 two more contract processing units were set up – Penn Foods Pvt Ltd in Mumbai and ProTAC Foods International Pvt Ltd in Mulbagal Taluk in Karnataka. These contract or merchant processors source chicken from both organized and unorganized sources. They supply processed products including RTE and RTC products to many companies such as Nandus, Shanti, and CP including omnichannel players such as Licious and FreshToHome.

12.4.3 Role of Social Media as Consumer Influencers

According to a report, Indians, on average, spend about 2.36 hours on social media daily. The number of social media users has been growing steadily. It stood at 658 million in 2022. The increasing availability of internet connections and access in recent years, propelled by the central government's Digital India initiative can be attributed to this trend.

Social media have come to play an increasingly large role in the lives of the average Indian. An increasing number of users log in to share their experiences and thoughts with the world, build their personal brands, and learn about others through content shared by them or their peers.

The 6 most popular social media platforms (including messaging apps) in India (2022) are WhatsApp (534.30 million active users), followed by Instagram (503.37 million users), Facebook (491.53 million users), Telegram (374.40 million users), Facebook Messenger (324.39 million users) and Twitter (295.44 million users).



Social media has therefore become a fertile ground for product and service marketers, on the lookout for new ways to reach out to consumers.

All major companies in the poultry and pork meat sector use social media as a strategy to engage with customers. Social media platforms are used to give information about products, events, discounts, company news, and product updates. Invitations are also sent through social media inviting customers to celebrate a sports event, a national festival or to be part of the opening ceremony for the launch of a new outlet or product. One can also find several active WhatsApp and Facebook food groups where information is shared about recipes, hotels, and other information.

12.5 Sample Prices of Chicken/Pork Products in India

12.5.1 Chicken Meat (Wet Wholesale Prices)

Product	IND Rs. / Per Kg	US $ (approx.)
Wholesale Price (Ghazipur wholesale wet market, Delhi)		
Live Chicken	140	1.72
Dressed full Chicken (with skin)	175	2.16
Dressed full Chicken (without skin)	185	2.28
Full Chicken (boneless)	195	2.40
Dressed Chicken Parts (Ghazipur Wholesale Wet Market, Delhi)		
Thighs	250	3.08
Leg	170	2.09
Breast	210	2.59
Arms	215	2.65
Lollipop	225	2.77

Price Survey Done by IGEP in Dec 2022. Dollar $ Rate for Calculation = Rs. 81

12.5.2 Chicken Meat (Wet Retail Shop Prices)

Product	IND Rs. / Per Kg	US $ (approx.)
Full Chicken		
Live Chicken	160	1.97
Dressed full Chicken (with skin)	220	2.71
Dressed full Chicken (without skin)	240	2.96
Full Chicken (boneless)	300	3.70
Dressed Parts		
Thighs	350	4.32
Leg	340	4.19
Breast	280	3.45
Arms	300	3.70
Lollipop	320	3.95

Price Survey Done by IGEP in Dec 2022. Dollar $ Rate for Calculation = Rs. 81

12.5.3 Chicken Online Prices (Miscellaneous Brands)

Product	Brand	Weight	IND Rs.	US $ (approx.)
Boneless Chicken Breast	Meatigo	450 gm	252	3.11
Crunchy Chicken Nuggets (frozen)	ITC Master Chef	450 gm	284	3.50
Chicken Seekh Kebab Hot & Spicy	Meatzza	500 gm	310	3.82
Chicken Boneless Cubes	TenderCuts	1 Kg	455	5.61
Chicken Lollipop	TenderCuts	280- 300 gm	109	1.34
Chicken Leg	TenderCuts	2 Pieces	149	1.83
Chicken Sausages	Zorabian	250 gm	160	1.97
Chicken Breast Boneless	Godrej Real Good	300 gm	190	2.34

Price Survey Done by IGEP in Dec 2022. Dollar $ Rate for Calculation = Rs. 81

12.5.4 Pork (Wet Market) Prices

Product	IND Rs. / Per Kg	US $ (approx.)
Retail Price		
in Assam State	250 - 350	3.08 - 4.32
In Meghalaya State	400 - 500	4.93 – 6.17
In Mizoram State	400	4.93
In Nagaland State	350 - 400	4.32 - 4.93
In Manipur State	400	4.93
In Arunachal Pradesh State	350 - 400	4.32 - 4.93

Price Survey Done by IGEP in Nov 2022. Dollar $ Rate for Calculation = Rs. 81

12.5.5 Pork Online Prices (Miscellaneous Brands)

Product	Brand	Weight	IND Rs.	US $ (approx.)
Pork Milano (Edel Salami)	Meisterwurst	100 gm	275	3.39
Pork Spicy Sausage	Meisterwurst	100 gm	185	2.28
Pork Mince	Prasuma	250 gm	330	4.07
Pork Cubes	Meatigo	500 gm	399	4.92
Pork Belly Slice	Meatigo	200 gm	550	6.79
Pork Pepperoni	Meatzza	500 gm	385	4.75
Pork Bacon	Meatzza	500 gm	650	8.02
Smoked Back Bacon	Uro (Meatzza)	250 gm	395	4.87

Price Survey Done by IGEP in Dec 2022. Dollar $ Rate for Calculation = Rs. 81

13. Regulatory Framework

The business of meat processing (including chicken and pork) in India is regulated and licensed under the 'Food Safety and Standards Regulations', under the Food Safety and Standards Authority of India (FSSAI). The FSSAI is an autonomous organization set up in 2006 and falls under the administrative control of the Ministry of Health & Family Welfare, Govt of India.

These regulations set the laws that govern the sanitary and hygienic standards to be followed by slaughterhouses including setting maximum residue levels (MRLs) for meat products. The FSSAI also regulates the import and testing of food products at the port of arrival.

Poultry and Piggery product exports to India are overseen by the Department of Animal Husbandry & Dairying (DAHD) and the Directorate General of Foreign Trade (DGFT). Imports of animal and animal products are only allowed through seaports/ airports of Bangalore, Chennai, Delhi, Hyderabad, Kolkata, and Mumbai where animal quarantine and certification services are available.

13.1 Import Procedure for Import of Livestock (Live Animals)

Import of live animals falls under the category of the restricted list (it is not free to import) as per the EXIM (Export-Import) Policy for which the importer has to obtain a license from the Directorate General of Foreign Trade (DGFT).

The application for the import of live livestock for breeding or lab work must first be moved from a State DGFT office (the state where the animals are being sent to) to the central DGFT office in New Delhi. After the Central DGFT office approves the application, it is sent back to the State DGFT office. From there the file is sent to the DAHD office in New Delhi to obtain a No Objection Certificate (NOC) based on the risk analysis. The DGFT license is then issued to import the live livestock.

Please Note: Grand Parent Chicks are allowed to be imported with a SIP certificate.

13.2 Documents & Procedures for import of Live Livestock

1. Copy of a valid DGFT Licence

2. Veterinary Certificate (Official health certificate from the country of origin fulfilling all import health guidelines of India as per the notification/supplied protocol with license AQCS requirement as the case may be. The description of the Livestock product shall be mentioned in the health certificate/certified officially). Please see this link (as an example) for the format of the veterinary certificate as required in India for the import of swine for breeding purposes – **https://dahd.nic.in/sites/default/filess/Protocol%20for%20import%20of%20Live%20Breeding%20Pig%20into%20India_0.pdf**

3. Please see this link for the procedures to be followed with regard to animal quarantine requirements at the ports of entry - **https://dahd.nic.in/related-links/animal-quarantine-and-certification-services**

4. Bill of Entry with Custom Reference

5. Laboratory Reports (not mandatory in each case).

6. The name and address of the owner in the official health certificate must match with the Licence to establish ownership.

7. No additional feed, bedding, etc. be allowed during the journey without permission.

8. Undertaking and declarations as per requirement.

9. Copy of airway bill/journey details of the animal.

10. Any other document if required during the examination of the application.

11. Authorization letter if the owner is not approaching directly.

Original health documents are mandatory on arrival for provisional clearance. Advance NOC will be issued within 7 days of arrival based on the self-certified advance copies of all the above documents. The original Health certificate will be retained by AQCS (Animal Quarantine Certification Services) at the time of Provisional Clearance on arrival. Final Clearance will be issued as per the applicable post import Quarantine rule/regulation.

13.3 Import Procedure for Import of Livestock Products

The livestock products are categorized under Open General License (OGL) as per EXIM Policy. The import of livestock products is allowed after the importer obtains a SIP (Sanitary Import Permit) certificate issued by DAHD. A SIP must be obtained prior to shipping from the country of origin. The Department issues SIPs for livestock products based on import risk analysis of the livestock products. A SIP is valid for one year or six months depending upon the nature of the product and may be used for multiple consignments.

Important Note for Exporting Companies: As per a notification issued by FSSAI on Oct 22, 2022, it is mandatory for foreign food manufacturing facilities that export certain food items, such as meat, milk, and infant foods, to India to register with the FSSAI. This is mandatory from 1st Feb 2023.

Application for SIP must be made online from the DAHD website link - **https://sip.nic.in/**

Instructions for filling up the Sanitary Import Permit (SIP) Online Application can be obtained from this link - **https://sip.nic.in/Files/SIP-Online%20Application.pdf**

13.4 Documents Required for import of Livestock Products

1. Copy of valid SIP
2. Bill of entry with Custom reference.
3. Veterinary Certificate (Official health certificate from the country of origin fulfilling all import health guidelines of India)
4. Country of origin certificate.
5. Laboratory Reports (if applicable).
6. Custom sealed samples/examination/sampling as the case may be.
7. Undertaking and declarations as per requirement.
8. Copy of airway bill/cargo details/invoice/packing list of consignment.
9. The Importer should have a valid Import Export Code (IEC)
10. Any other document if required during the examination of the application.

Additional Notes

Original Health documents are mandatory on arrival for Provisional Clearance/Final clearance/Testing/Examination as the case may be. The name and address of the consignor and consignee along with other details in the official health certificate must match with the SIP. All attached documents with the application must be self-attested.

13.5 New FSSAI Notification – Mandatory Registration of Foreign Manufacturers

In a recent circular issued on October 10, 2022, the Food Safety and Standards Authority of India (FSSAI) made registrations mandatory for foreign food manufacturing facilities that export certain food items, such as meat, milk, and infant foods, to India. The new rules will be applicable from February 1, 2023.

As per the circular, the registration procedure for foreign food manufacturing facilities in five food categories that intend to export these products to India will be as per the Food Safety and Standards (Imports) First Amendment Regulations, 2021. Food manufacturing facilities exporting to India under the following five categories will be subject to registration:

- Milk and milk products
- Meat and meat products, including poultry, fish, and their products
- Egg powder
- Infant food
- Nutraceuticals

13.6 List of Leading Statutory, Research & Development, Export Promotion, and Financing Organizations

	Organization	Address / Website	Mandate
1	Food Safety Standards Authority of India (FSSAI)	3rd & 4th Floor FDA Bhawan, Kotla Road New Delhi – 110002 Website: https://www.fssai.gov.in/	FSSAI is the agency authorized to regulate the laws related to food manufacturing, storage, distribution, sale, and import. to India. FSSAI also lays down the guidelines for labeling food products in the Indian market.
2	Department of Animal Husbandry & Dairying (DAHD)	Chanderlok Building, 36, Janpath New Delhi – 110 001. Website: https://dahd.nic.in/	DAHD is a subsidiary department of the Ministry of Animal Husbandry, Dairying, and Fisheries of the Govt. of India. It is responsible for livestock production, improving their stocks, and matters related to Dairy infrastructure development.
3	Ministry of Food Processing Industries (MoFPI)	Panchsheel Bhawan, August Kranti Marg Khelgaon, New Delhi-110049 Website: https://www.mofpi.gov.in/	MoFPI is responsible for the formulation and administration of the rules and regulations and laws relating to food processing in India.
4	Directorate General of Foreign Trade (DGFT)	Udyog Bhawan, H-Wing, Gate, No.2, Maulana Azad Rd, New Delhi, Delhi 110001 Website: https://www.dgft.gov.in/	DGFT comes under the Ministry of Commerce & Industry, Govt of India. It is responsible for formulating and implementing the Foreign Trade Policy of the Govt of India. The DGFT is the agency that sanctions the DGFT license for the import of live livestock to India and the Import Export Code (IEC) for importers.
5	NITI Aayog	Sansad Marg, Sansad Marg Area, New Delhi – 110 001 Website: https://www.niti.gov.in/	The NITI Aayog serves as the apex public policy think tank of the Government of India, and the nodal agency tasked with catalyzing economic development and fostering cooperative federalism through the involvement of State Governments of India in the economic policy-making process
6	Agricultural and Processed Food Products Export Development Authority (APEDA)	3rd Floor, NCUI Building 3, Siri Institutional Area, August Kranti Marg, opp. Asiad Village, New Delhi – 110 016	APEDA is the premier body for the export promotion of fresh vegetables and fruits. It provides the crucial interface between farmers, storehouses, packers, exporters, surface

		Website: https://apeda.gov.in/apedawebsite/	transport, ports, Railways, Airways, and all others engaged in export trade.
7	National Cooperative Development Corporation (NCDC)	4, Siri Institutional Area, Hauz Khas, New Delhi - 110016 Website: https://www.ncdc.in/	The objectives of NCDC are planning and promoting programs for the production, processing, marketing, storage, export, and import of agricultural produce, foodstuffs, industrial goods, and livestock.
8	ICAR - National Institute of High-Security Animal Diseases (NIHSAD)	Indian Council of Agricultural Research, Anand Nagar, Bhopal- 462 022 Madhya Pradesh Website: https://nihsad.nic.in/	NIHSAD is a premier institute in India for research on exotic and emerging pathogens of animals. The institute has contributed significantly by detecting many animal diseases of exotic origin and preventing them from entering our country.
9	Indian Council of Agricultural Research – Agricultural Technology Application Research Institute (ICAR ATARI) – Ludhiana Center	Zone-I PAU Campus, Near Gate No.6., Ludhiana, Punjab 141004 Website: https://atariz1.icar.gov.in/ A total of 11 ICAR ATARI centers operate in various locations in India.	ICAR ATARIs are government-funded research centers and labs involved in animal production, field crops, horticulture, forestry, biotechnology, and institutional management.
10	Indian Council of Agricultural Research (ICAR, Research Complex for NEH Region) Nagaland Centre	ICAR Research Complex for NEH Region, Nagaland Centre, Medziphema- 797 106 Dimapur, Nagaland. Website: https://www.icarnagaland.nic.in/	An objective of this organization is improving productivity in the pig sector through scientific farming with a newly developed breed, the 'Rani Pig'. The Rani pig is a cross between Hampshire and Ghungroo.
11	ICAR Directorate of Poultry Research (DPR)	Rajendranagar, Hyderabad 500 030 Telangana Website: http://pdonpoultry.org/pdpnew/	The objective of DPR is to conduct research on developing and improving chicken lines for commercial and rural poultry production.
12	National Bank for Agriculture & Rural Development (NABARD)	Plot C-24, G Block, Bandra Kurla Complex, BKC Road, Bandra East, Mumbai, Maharashtra 400051 Website: https://www.nabard.org/	The bank has been entrusted with the responsibilities concerning policy, planning, and operations in the field of credit for agriculture and other economic activities in rural areas in India.

Compiled by IGEP

13.7 Labeling Rules and Regulations for Food Products in India

The Food Safety & Standards Authority of India (FSSAI) is the Indian organization that lays down the rules and regulations with regard to the product labeling requirements in India including imported food products.

Labeling Elements Required on the Principal Display Panel Prior to Import			
S. No.	**Prefix on Label**	**Information on Label**	**Further Information**
1	Product	Chicken Meat or Pork	The name of the food shall include a trade name or description of the food contained in the package. FSSAI Reference - *
2	Origin	Brazil	Country of origin for imported food: (A) The country of origin of the food shall be declared on the label of the food imported into India. (B) When a food undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purposes of labeling. FSSAI Reference - *
3	Ingredients	Chicken or Pork	Except for single-ingredient foods, a list of ingredients shall be declared on the label, in descending order of their composition by weight or volume. FSSAI Reference - *
4	Producer or Produced by (Change prepared by to produced by) (or Manufacturer or Manufactured by)	Name & Actual Detailed Address	The label shall carry the name and address of the manufacturing or packing or bottling unit and the name and address of the manufacturer or company for and on whose behalf, it is manufactured or packed, or bottled. (i). Where an article of food is imported into India, the package of food shall also carry the name and complete address of the importer in India. (ii). Provided further that where any food article manufactured outside India is packed or bottled in India, the package containing such food article shall also bear on the label, the name of the country of origin of the food article and the name and complete address of the importer and the premises of packing or bottling in India. FSSAI Reference - *
5	Net Weight Kg	Actual Weight in Kg	By weight or volume or number, shall be declared on every package of food. FSSAI Reference - *
6	Lot/Batch No	Actual Batch as per Supplier	A mark of identification by which the food can be traced in the manufacture and identified in the distribution shall be given on the label in the event of a food safety issue. Codex recommends the inclusion of an establishment number and other information identifying information. The structure is at the discretion of the supplier (can be a lot or batch number, or time identification). Lot Code may be ink-jetted or stamped on the product label or carton or rectified with the use of a label. FSSAI Reference - *
7	Manufactured Date or Packed Date	Actual Date	The day, month, and year in which the commodity is manufactured, packed, or pre-packed, shall be given on the label. The date mark may be ink-jetted or stamped on the product label or carton or rectified with the use of a label. FSSAI Reference - *
8	Best Before	Actual Date	The day, month, and year are required. The date mark may be ink-jetted or stamped on the product label or carton or rectified with a label. FSSAI Reference - *

9	Storage Conditions	Keep Frozen - -18 Degrees C	Linked with the "Best Before Date", the storage conditions are to be clearly stated on the original label. FSSAI Reference – *
10	Nutritional Requirements	Nutrition Per 100g: Energy: [XXX]Kcal Total Fat: [XX]g Protein: [XX]g	All nutritional facts per 100 gram or 100 ml or per serving of the product shall be given on the label containing: (i). Energy value in Kcal; (ii). The amount of protein, carbohydrates (specify the quantity of sugar), and fat in grams or milliliters; (iii). The amount of any other nutrient for which a nutritional or health claim is made. FSSAI Reference - *
Labeling Elements That May be Rectified by a Label located in the Principal Display Panel After Import			
11	Non-Vegetarian Alert	Non-Vegetarian Logo	Non-vegetarian food (any food which contains whole or part of any animal including birds, marine animals, eggs, or products of any animal origin as an ingredient, excluding milk or milk products), must have a symbol of a brown color-filled triangle inside a square with a brown outline (may or may not contain the words "NON-VEG" within the square), prominently displayed on the package, contrasting against the background on the principal display panel, in close proximity to the name or brand name of the food. Must be included on a sticker if not part of the original label. FSSAI Reference - *
12	Imported By	Indian Importer's Name and Full Address	Where an article of food is imported into India, the package of food shall also carry the name and complete address of the importer in India. Information may be included on a sticker. FSSAI Reference - *
13	Customer Care India	Contact No in India where Consumers can have their Grievances Attended to	Contact information in India to address consumer complaints. If the name and address are the same as the importer (number 12 above), include the importer's phone number and/or email address (if available). If the contact information is different from the importer, the name, address and phone number, and/or email address of the contact should be included. Reference - The Legal Metrology (Packaged Commodities) Rule, 2011 - **
14	FSSAI FBO (Food Business Operator) No	Indian Importer's Licence No and FSSAI Logo	For imported products, the importer's business license number shall be displayed on the principal display panel in the following format (image below). Information shall be included on a sticker if not on the original label. Amendment Reference - *
15	MRP (Maximum Retail Price) Or For Institutional Use Only	MRP Inclusive of All Taxes (or For Institutional Use)	The maximum retail price (MRP) at which the commodity, in packaged form, may be sold to the ultimate consumer. This price shall include all taxes, local or otherwise, freight, transport charges, commission payable to dealers, and all charges towards advertising, delivery, packing, forwarding, and any other relevant charges. This is applicable for packages intended for retail sale. It is not applicable for packaged commodities meant for industrial or institutional consumers. (Definitions: 'Industrial Consumer' who is buying packaged commodities directly from the manufacturer for use by that industry; 'Institutional Consumer' includes transportation, Airways, Railways, Hotels, Hospitals, or any other service institutions who buy packaged commodities directly from the manufacturer for use by that institution). Reference - The Legal Metrology (Packaged Commodities) Rule, 2011 - **

Source – USDA / IGEP Research

* Refer to - https://www.fssai.gov.in/upload/uploadfiles/files/Compendium_Labelling_Display_23_09_2021.pdf

** Refer to - https://consumeraffairs.nic.in/en/legalmetrologyactsandrules/legal-metrology-packaged-commodities-rules-2011

13.8 Additional FSSAI Labelling Rules

- Wholesale-intended products are exempted from the retail-level requirement (retail-level requirement that the smallest unit of packaging is wrapped). As an example, for a 20-foot container with 1,000 10 kg cartons of Chicken Breasts, each small carton must be labeled. In accordance with FSSAI Packaging and Labeling Regulation, 2011, and the wholesale requirement, each 10 kg carton needs to be labeled, but individually wrapped chicken parts do not need to be.

- Rectifiable labeling shall be addressed by a single non-detachable sticker applied on the principal display panel. If two labels are affixed, the name on the product printed on both labels must match exactly (i.e., “poultry meat”, "chicken leg quarters", etc.). If the product arrives without India-specific information, such as the vegetarian/non-vegetarian logos, name, and address of the importer, FSSAI logo, or license number, those are considered “rectifiable labeling deficiencies”, to which non-detachable labels can be affixed in the custom bonded warehouse at the port in India. Other information, such as the best-before date, packaging date, or lot code, must be included on the principal display panel prior to the import of the product. FSSAI Regulations permit an Authorized Officer to issue an order for directing the food importer or his authorized agent to carry out permissible labeling rectifications, within a prescribed time in the Customs bonded area without altering or masking the original labeling information in any manner.

14. Major Companies in India in the Chicken Meat and Pork Sector

S. No.	Company / Website	Logo / Brands	Company Details
Chicken Meat – Leading Companies			
1	Sneha Foods Ltd https://www.snehagroup.in/	SNEHA Fresh Chicken	The company breeds broiler chicken in their own 'bio-secure' broiler farms but also as integrators with farmers in the states of Telangana, Andhra Pradesh, and Karnataka. The company is a leading broiler supplier in these States and delivers chicken meat directly to customers through its own App.
2	Srinivasa Farms Pvt Ltd. https://www.srinivasafarms.com/	Srinivasa Farms Srinivasa Hy-Line	Srinivasa Farms entered into a partnership with Hy-Line International (USA) and is the sole franchisee for the Hy-Line International breeder based in the USA. Srinivasa Farms is permitted to add the brand name Srinivasa Hy-Line in India. The company is also setting up a Mega Food Park in Andhra Pradesh.
3	V.H. Group (Venky's) https://venkys.com/ http://xprs.venkysxprs.co.in/	Venky's Venky's xprs	The V.H. Group is one of the major players in the Indian poultry sector. It is a leading supplier of chicken products to the QSR segment (KFC, Pizza Hut, Burger King, and McDonald's). The Group has production plants in India, Vietnam, Bangladesh, the United States, and Switzerland, and exports to 35 countries across the world. In 2010, the group launched Venky's Xprs in Pune (State of Maharashtra), a fast-food restaurant specializing in chicken-based products. They currently have 14 outlets in Pune.

4	Suguna Foods Pvt Ltd https://sugunafoods.com/ https://www.delfrez.com/		Suguna is based in Coimbatore and operates in over 22 states. It is known as the pioneer of contract farming in India. It has a group sales turnover of $ 1.34 billion in the financial year 2021-22. The company acts as an integrator with over 40000 farmers in 19 states. They have introduced their own branded chicken brand and outlets called 'Delfrez'. They have over 250 stores in 7 states.
5	Skylark Foods https://www.skylarkfoods.com/		Skylark is the largest broiler chicken producer in North India. It is a highly diversified company with operations in hatcheries, feed milling, broiler contract farming, poultry equipment, poultry processing, and retail marketing. Skylark markets fresh chilled and frozen chicken in institutions and retail segments under the brand name "Nutrich".
6	I.B. Group https://www.ibgroup.co.in/		IB Group runs a diversified business comprising the poultry, FMCG, diary, livestock feed, solvent, specialized pet food, and hospitality segments. Apart from commercial broiler farms, the company also runs a chain of 130 retail outlets in four states selling broiler chicken directly to customers.
7	Daulat Farms https://daulatfarms.co.in/		The company claims to be India's first organic poultry breeding company with its own R&D center, hatchery, and feed plant. The company specializes in 'Desi' or local breeds of chicken such as 'Kadaknath'. It is famous for its meat quality, texture, taste, and medicinal value.

8	Zorabian Chicks Pvt Ltd https://www.zorabian.com/		The company specializes in ready-to-eat organic chicken products which it claims to be anti-biotic free. The company supplies to both general and modern trade outlets. It also supplies directly to customers through its online partners.
9	SKM Porna Chicken https://www.pornachicken.com/		The company operates a state-of-the-art automated chicken processing unit with a capacity of 8000 live broiler birds per hour and 2700 Metric tons of processed finished poultry meat per month in frozen and chilled forms under the 'Porna' brand. The plant is located in Dindigul (State of Tamil Nadu in South India). The company is fully integrated with its own hatcheries and feed mills.
10	Godrej Tyson Foods https://www.godrejagrovet.com/		Godrej signed a joint venture agreement with Tyson Foods of the USA in 2008 to market processed chicken and vegetarian products in India. The company's plants are in Bangalore and Mumbai with integrated breeding and hatchery operations. The Bangalore plant also produces cold cuts and breaded products. The company also produces ready-to-cook marinated chicken products.
11	Baramati Agro https://eliciousforyou.com/		A fully back and front integrated company with sales outlets all over India. Sell their chicken products with the brand name 'Elicious'. The company has a state-of-the-art plant at Baramati (near Pune) with an IQF freezing facility.

12	Arthur's Food Company Pvt Ltd https://www.arthursfood.com/ https://www.meisterwurstindia.com/ https://bonappetitindia.com/		The company supplies products to the B2B segment consisting of the HORECA segment, and D2C through their online store MeisterWurst and via the B2C segment also. They have distributors in select cities in all regions of India for the B2B segment. They also have an RTE line in their plant which produced their chicken RTE products under the brand name 'Bon Appetit' which retails through all the major organized retail chains in India.
13	Amalgam Foods Innovative Foods Ltd https://amalgamfoods.com/ https://www.sumeru.net/ https://buffetfoods.in/		The company is based in Kochi, State of Kerala. They do not have a primary processing plant. They have 2 units where secondary processing is carried out such as breading, battering, frying, and IQF. Chicken and Pork are sourced from nearby processors. They also import chicken and pork from Cargill's Quality Foods (Sri Lanka) and market it under the Buffet Brand. Their other RTE brand is Sumeru which is widely distributed all over India.
14	CPF India Pvt Ltd (Subsidiary of CP Thailand) www.cpbrandindia.com https://fivestarchicken.com/		CP's processing plant was commissioned in 2016. It is the only air-chilling processing plant in India. As they are unable to expand due to lack of space, they get contract processing done by ProTAC and Penn Foods. Their RTE brand 'Five Star Chicken' is sold in Five Start franchised outlets.
15	Japfa Comfeeds Pvt Ltd (Subsidiary of Japfa, Singapore) https://www.japfaindia.com/		The company is setting up a 3000 – 6000 BPH (Birds Per Hour) plant near Pune. It is expected to be completed by end of 2023. Currently, they are operating a leased plant in Talegaon.

16	Shalimar Group https://totalfoods.in/		Shalimar Group is one of the largest producers of chicken and poultry products in Eastern India. To expand its horizons in quick snacks, fresh-packed chicken, farm-fresh eggs, and cold cuts, the group started its brand under the name 'Total'. The company also operates a 5000 metric tons capacity refrigerated warehouse in Patna (State of Bihar).
Merchant / Contract Chicken Processors			
1	Penn Food Pvt Ltd (Clucky's Products LLP, Mumbai)		This company set up its plant in 2016. It is a contract processor for CP, McDonald's, and Licious. They also sell their brand Clucky's through Amazon, Metro Cash & Carry, Walmart (Flipkart), and others.
2	ProTAC Foods International Pvt Ltd http://www.protacfoods.com/		Currently operate a 2000 BPH plant set up in 2016. They are contract suppliers to Nandus, Licious, Fresh to Home, and CP. They plan to expand to 4000 BPH by 2023 due to growing demand.
3	Vista Processed Foods Pvt Ltd https://www.vistaosigroup.com/		Vista Processed foods Pvt Ltd is a part of the OSI Group Company, which is an international group of companies that has been developing innovative food concepts and solutions for its customers worldwide. Major Supplier of Chicken Patty to McDonald's and RTE products for ITC Group and Godrej.

Breeder Research Farms			
1	Venkateshwara Research and Breeding Farm Pvt Limited (VRB) http://venkys.com/group-profile/vrb/ http://venkys.com/vencobb-400y/		A Joint Venture between ISA Babcock Ithaca, N.Y. USA, and Venkateshwara Hatcheries Limited. It was established in 1980, for undertaking pure-line research and breeding work for egg-type chicken and broilers.
2	Aviagen India Poultry Breeding Company Pvt Ltd. https://ap.aviagen.com/		The Indian subsidiary of Aviagen Group. It supplies day-old grandparent and parent-stock chicks to customers in India and other specialty breeding stocks.
Pork – Leading Companies – Processors & Retailers			
1	Mayur Piggery Farm http://mayurfarm.com/		Mayur Piggery is engaged in manufacturing and selling slaughtered and processed pork in India. The company has HACCP certification for primary processing and exports. They sell products through their brands – 'Farmer's Choice' and 'Honesty Foods' through their own outlets as well as online. They also do private labeling for other companies. They supply raw pork to companies such as Arthur's Food Company. Mayur also has a distribution company in Goa called 'Honesty Foods Goa'. For the Mumbai market, they have appointed Suved Enterprises & Distributors as their distributors.
2	Arthur's Food Company Pvt Ltd https://www.arthursfood.com/		Apart from chicken the company also supplies processed pork products. They source raw pork from Mayur Farm.

3	Innovative Foods Ltd (Amalgam Foods Group Company) https://www.sumeru.net/		Innovative Foods Ltd market the Sumeru brand of pork products in India. The pork is imported from Cargill's Quality Foods Sri Lanka and marketed by Innovative Foods Ltd in India.
4	DLG Farms http://dlg.com/farming/		DLG claims to be largest scientifically managed swine breeding company in India, with exotic breeds with genetic superiority. The farm-to-fork company has established its own brand of animal feed, raw & frozen Pork Products, Ready to Eat Pork, etc. under the brand name 'RANCH'. DLG has an ISO 22000 Certification.
5	Primo Foods Pvt Ltd http://www.primofoodsindia.com/		A major supplier to the HORECA segment. Also claims to export its products. Their brand "La Carne Cuts' is positioned as a premium gourmet brand.
6	Farm Suzanne Pvt Ltd http://www.farmsuzanne.com/		The company has its main production plant in Kanchipuram (near Chennai) in the State of Tamil Nadu. They have their own butchery, processing, cooking, chilling, smoking, freezing, and cold storage facilities. Their plant is FSSAI, HACCP, and ISO 22000 certified.
7	Ample Foods Pvt Ltd https://www.prasuma.com/		The company has its processing center in Manesar in Gurgaon. They sell their 'Prasuma' brand through all major retail outlets in the country.

8.	Bamburies http://bamburies.com/		This company sells pork products through their dedicated outlet in Bangalore. Besides sourcing from India, they also stock some imported pork products. They have a strong brand image in the pork market in Bangalore.
9	New Frosty's https://newfrostysonline.com/		New Frosty's is a well-known brand in Bangalore (State of Karnataka). They have their own outlets in Bangalore and also sell via the outlets of chain stores of Nilgiri's, Reliance Fresh, and Value Mart. They also sell through their online stores as well as BigBasket. The products are processed in their plant – Kam's Meat Food Products.
Leading Importers / Distributors			
1	Suresh Kumar & Co. (Impex) Pvt Ltd https://www.skco.in/		SKCO is an old family business with 4th generation involved in the operations. Imports Tulip & Dak Brand of products from Denmark. They supply all leading retailers in India.
2	Resources International Pvt Ltd https://freshnfrozen.com/		The company imports meat products and supplies to hotels and restaurants in India. They have established their brand called "Fresh' N' Frozen" and sell products through their online store as well as from social media platforms like Facebook.
3	Framroze Deli https://framrozedeli.com/		Mumbai-based importer and wholesale distributor of international brands in India (Ford Farm, Morelli, Le Superbe, Salumificio Trentino, John Ross Jr, Cabo De Peñas, Westzaner, Munkebo, Coquet, Tulip, Dak). They also stock bulk blocks of meat, for slicing by restaurants, caterers, or retail deli counters.

4	Siganporia Bros https://www.siganporiabros.com/		An importer of pork products from leading brands in Europe and distributor to various hotel chains in India.
5	Empire Foods http://empirefoods.co.in/imports/		Importer of pork from Spain and Brazil. The company has its own logistics and storage distribution network and bonded warehouse from where products are distributed to all its major hotel clients.
6	Amalgam Foods https://amalgamfoods.com/		Import and distribute Cargill's Quality Foods Ltd (Sri Lanka) pork products and distribute in India through their brands 'Buffet' and 'Sumeru'.
7	Chenab Impex Pvt Ltd https://www.chenabimpex.com/		Imports and distributes Henaff Pork Liver brand from France. They distribute their products through national retail chains, specialized gourmet chains, and online stores (including their own).
8	Fortune Gourmet Specialities Pvt Ltd https://fortunegourmet.com/		Importer of well-known international brands such as Cassanova, Theo Bauwens, and D'Autore.
9	Sweet Stuff https://sweetstuff.in/		Sweet Stuff is one of the leading importers and distributors of leading international brands of meats and chilled meats in India with a pan-India distribution network.
10	Impresario Entertainment & Hospitality Pvt Ltd http://impresario.in		A cloud kitchen company that has several brands in its portfolio. They import gourmet meat products to supply to their gourmet restaurants.

11	Ocean 21 Enterprise https://ocean21gourmet.com/		The company imports pork cold cults from Italy, Spain, and Belgium.
12	Genex Marketing http://www.genexmarketing.co.in/		The company is an importer of Sant Dalmai pork products from Spain and a distributor to their HORECA customers all over India.
13	Foodsmith International Pvt Ltd https://www.indiamart.com/foodsmithinternational/		Delhi-based Importer and wholesale distributor of a whole range of pork, lamb, and seafood.
Poultry/ Pig Feed Companies			
1	Japfa Comfeed India Private Limited https://www.japfaindia.com/		JCIPL is a subsidiary of the Singapore-based Japfa Group, one of Asia's largest integrated poultry players. They operate 7 feed mills in India.
2	CPF India Pvt Ltd https://cpbrandindia.com/		A Subsidiary of CP Group (Thailand). Their feed mill plant is in Devangare in the State of Karnataka.
3	Sampoorna Feeds Pvt Ltd http://sampoornafeeds.com/index.php		Sampoorna Feed Plant is the largest feed plant in the State of Punjab for livestock and poultry. They have 3 plants with a combined capacity of 1000 tonnes per day.

4	CBS Agrivet https://csbagrivet.in/		CSB Agrivet Pvt Ltd is an ISO 9001:2015 and HACCP Certified company based in Kolkata (State of West Bengal). They produce cattle, poultry and pig feeds.
5	De Heus India Pvt Ltd https://www.deheus.co.in/		De Heus setup its first plant in Rajpura, (State of Punjab) in 2017. Their major operations are in northern and western parts of India. The company has recorded good growth and now plans to expand to new locations.
6	Godrej Agrovet https://www.godrejagrovet.com/		The company is one of the biggest players in the animal feed business in India. They operate 15 feed plants in India.
Food Delivery Companies (aggregators)			
1	Zomato https://www.zomato.com/		Zomato is an Indian online food ordering and delivery company founded in 2008. Zomato provides information, menus, and user reviews of restaurants as well as food delivery options from partner restaurants in cities. They are present in more than 500 Indian cities.
2	Swiggy https://www.swiggy.com/		Swiggy is an Indian online food ordering and delivery platform. Founded in 2014, Swiggy is based in Bangalore and operates in over 500 Indian cities. Besides food delivery, Swiggy also provides on-demand grocery deliveries under the name Instamart, and a same-day package delivery service called Swiggy Genie.
Omnichannel (Also called D2C)			

1	Meatigo https://meatigo.com/		Meatigo is an online meat and seafood delivery company that delivers fresh products directly to customer doorsteps. They have a strategic supply partnership with Ample Foods, the company which owns the ‘Prasuma’ brand.
2	Meatzza https://www.meatzza.com/		They have an RTE plant (operated by Darshan Foods Pvt Ltd). It started operations in 1996 which processes chicken, pork, and lamb products. They source chicken meat from both the wholesale market as well as other integrators. Their products are sold through retailers as well as well as through various online channel partners. They also have an imported pork range called ‘Uro’.
3	Licious https://www.licious.in/ (Delightful Gourmet Pvt Ltd)		The company is a startup started in 2015 with the financial assistance of venture capitalists. It controls the whole supply chain of its products and has its own processing plants. The company claims to have more than 1 million customers and has operations in 16 cities.
4	TenderCuts https://www.tendercuts.in/		TenderCuts is a Chennai-based startup that claims to be the first omnichannel meat startup in India. The company also has a ready-to-eat (RTE) and ready-to-cook (RTC) product range comprising sausages, kebabs, shawarmas, pickles, etc. Through its omnichannel distribution strategy, TenderCuts currently serves its customers across Chennai, Hyderabad and Bangalore and plans a pan-India presence.

5	FreshToHome https://www.freshtohome.com/		FreshToHome is one of the leading direct-to-consumer online meat brands in India, focused on providing a wide variety of fresh and hygienic seafood and meat at the convenience of doorstep delivery to the consumer. It manages the entire supply chain for seafood and meat from direct procurement from fishermen and farmers.
6	Big Meat Mart (https://bigmeatmart.com/)		A company with a strong legacy and history in Bangalore. It sources chicken and pork from local farms and processes them in their own processing unit. The company has a strong reputation and sell their products through their online website.
7	New Karnataka Ham Shop https://newkarnatakahamshop.com/home		A well-known supplier of meat products in Bangalore. They sell their products online and to the HORECA segment in Bangalore.
Leading Retailers B2B (Wholesale)			
1	Metro Cash & Carry India Pvt Ltd https://www.metro.co.in/		METRO AG started operations in India in 2003. On 22nd Dec 2022, it was announced that Reliance Retail has acquired Metro Cash & Carry India.
2	Flipkart Wholesale https://www.flipkartwholesale.com/		Flipkart acquired Walmart Cash and Carry in 2020. Flipkart's wholesale business also has an online format. The kirana segment and smaller shops are major customers.
3	LOTS Wholesale https://www.lotswholesale.com/		Established in India in January 2017, LOTS Wholesale Solutions is a wholly owned subsidiary of Siam Makro Public Company Limited, Thailand's leading Cash & Carry operator. Siam Makro is part of the CP Group.

4	Reliance Market https://relianceretail.com/reliance-market.html		Reliance Market is the wholesale cash and carry store chain of the Reliance Group.
Retailers B2C (Retail)			
1	Spencer's Retail http://www.spencersretail.com/		Spencer's Retail is an Indian chain of retail stores headquartered in Kolkata, West Bengal. It has presence in over 35 cities. Spencer's is based on the 'Food First' Format.
2	Nature's Basket https://www.naturesbasket.co.in/		Nature's Basket is an Indian grocery delivery chain of retail stores focused on gourmet food. It has a range of organic food, imported ingredients and exotic foods. The company is headquartered in Mumbai
3	Le Marche https://www.lemarcheretail.com/		Le Marche is a complete food store with a wide range of products. The stores stocks an exotic range of meat from across the globe, along with a "BUCHERIE" offering fresh cuts of meats & seafood, palatable cold-cuts, and Chef's special marinated range.
4	Big Basket https://www.bigbasket.com/		Big Basket is India's largest e-commerce player in the Food & Grocery segment. It was acquired by the Tata Group in 2021.
5	Food Hall India https://www.foodhallonline.com/		In 2011, Future Group launched Foodhall, a premium lifestyle food superstore. Currently Foodhall has six stores present in Mumbai, Bengaluru, New Delhi and Gurgaon.

Compiled by IGEP. Note: This is not an exhaustive list

15. Opportunities for Brazilian Companies and Organizations

15.1 Opportunities in the Indian Chicken Meat Sector

According to this report, India imports negligible quantities of processed chicken products. Almost the entire Indian chicken meat demand is met from locally available sources.

The demand for chicken meat is growing due to various market dynamics including a young population, urbanization, growth of the QSR segment, and the presence of technology-driven marketing channels. Chicken meat is the biggest meat consumption sector in India and has no religious taboos attached to it. Therefore, it is consumed by all sections of the population.

While the poultry industry is well established in India and growing steadily, it faces a lot of challenges such as the cost of poultry feed, the presence of both the unorganized and organized segment in the supply chain, and the challenges faced in setting up a modern chicken processing plant in India.

India is one of the fastest-growing chicken meat markets in the world. Therefore, it can be concluded that there exists good scope and opportunities for Brazilian companies to enter the Indian market at various stages of the supply chain

15.1.1 Poultry Feed

India has one of the highest feed costs per kg in the organized poultry sector. Poultry feed costs approx. 65 % of the cost of production for broiler birds. The cost of feed has risen to Rs. 47,000 (approx.$ 580) per tonne in 2022 from Rs. 42000 (approx. $ 518) per tonne in 2021. As a result, the inflation of chicken meat was recorded at 20.74 % in March 2022 while in the meat and fish category it was around 9.63 %[34].

Despite the low labour costs in India, poultry feed is not cost-competitive due to the low yields of soybean and corn (maize) crops. Import duties for these feed ingredients are also high. ***There is a clear opportunity for improved low-cost varieties of poultry feed using lower-cost ingredients which does not compromise the nutritional value.***

15.1.2 Processed Chicken Products

The processed chicken market (RTE and RTC) has picked up pace in 2022 and is expanding at a rate of over 16 % due to the rapid expansion of QSRs (such as KFC, and McDonald's) and online meat delivery platforms (such as Licious, TenderCuts, Meatigo, etc).

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[34] Source - https://www.financialexpress.com/market/commodities/higher-feed-cost-pushes-up-broiler-chicken-prices/2517906/

Due to the anticipated strong demand for processed chicken meat in the coming years, Brazilian companies can explore various opportunities in this sector. They could decide to either make a full-scale investment of setting up a greenfield processing plant (like CP Foods of Thailand) with backend sourcing of chicken (contract farming) and establishing associated infrastructures such as waste treatment plants and feed mills. Another option could be to enter the value end of the supply chain by introducing RTE/RTC brands in the market by the adoption of an 'omnichannel model'. They could enter the market either by establishing a subsidiary in India or through a joint venture route with an Indian partner. This option has fewer capital risks and offers a quicker entry to the market. Additionally, they could also explore funding options for the project from startup venture capital sources. In this manner, financial risks can be shared.

In the 2nd option, one could initially source broilers from existing processors or contract processors. They could either set up a new processing plant or have a tie-up (contractual agreement) with any existing processing company to utilize their facility by installing or refurbishing existing RTE/RTC production lines. Tying up with an existing company with a readymade infrastructure can save time and money to get clearances from various government departments. They could then set up their online store and establish business relations with aggregators like Zomato and Swiggy (Omnichannel strategy). They could also partner with other B2C online stores such as BigBasket, Nature Basket, etc. Later if the business goes well, they could explore options to set up their own greenfield primary processing plant. They could also have a B2B vertical to sell directly to the HORECA segment (like Arthur's Food Company Pvt Ltd).

For the 1st option, identification of the location for setting up the plant and logistics planning is crucial. For the 2nd option, the identification of a suitable and experienced partner for a joint venture is extremely important. The joint venture partner is expected to bring to the table their experience in market channel development utilizing their industry network.

15.1.3 Disease Control, Biosecurity Technologies and Training for Contract Farmers

The contract farming integration model has been successful in India. It has not only transformed the lives of thousands of farmers but also help the poultry sector gradually transition from the unorganized to the organized sector. However, the production facilities and methodologies followed by most poultry farmers in India are still well short of international standards and best practices. An indication of this is the low productivity of chicken meat which at 1.35 Kg per bird is much lower than compared to other countries. Most of the poultry farms in India are open buildings with no climate control or quarantine mechanisms in place, which exposes the birds to various climate variations as well as potential diseases and epidemics. ***Worldwide, the use of Environmentally Controlled (EC) chicken houses is the standard. In India, while some of the leading integrators are adopting (EC) sheds in some of the farms,***

most farms in India use open sheds. It has been proven that the use of modern farming technologies such as climate-controlled chicken houses, automated feed lines, etc. can help improve the productivity in poultry farms. This is an area of opportunity for Brazilian companies.

15.1.4 Cold Chain Infrastructure and Technology

Over 60% of the chicken broiler production in India takes place in 6 states (Andhra Pradesh, Tamil Nadu, Telangana, Karnataka, Maharashtra, and Punjab). Birds are transported alive between the states in inhumane and sometimes unhygienic conditions. As a result, many birds die during transport. Logistical issues such as a lack of dry processing and cold chain facilities hinder the transportation of good quality poultry produce within India. ***The transportation segment consisting of refrigerated trucks and other specialized equipment used for packing or transporting poultry produce is not yet fully developed in India. This is an opportunity for Brazilian companies that can offer expertise in the field of cold chain logistics for the Indian poultry industry.***

15.1.5 Export Potential

India's agriculture and processed food exports did well in 2021-22 by exporting products worth $ 50.2 billion (20 % higher than the previous year). However, the share of poultry products in the export basket is negligible. India has a major locational advantage in being near the Middle East, Africa, Central Asia, and Southeast Asia. However, due to inadequacies in its supply chain, India is unable to exploit the international market for poultry products. For example, the Russian-Ukrainian war has disrupted Ukraine's exports of poultry products to the Middle East. This has created an opportunity for exporters from other countries including India to fill the void. In December 2021, the United Arab Emirates (UAE) lifted a 5-year ban on poultry imports from India. The ban was lifted when assurance was given by Indian authorities that it would follow biosafety norms set by the World Organisation for Animal Health to prevent infection from bird flu. As a result, India is now allowed to export eggs, hatching eggs, and day-old chicks to the UAE.

For the export of international quality broilers from India, there is a need for modern and efficient processing units that follow international safety standards. This could enable India to export to some of the biggest consumption regions near India such as the Middle East and Southeast Asia. The existing broiler processing units in India are primarily focused to serve the Indian market. This is an opportunity for Brazilian companies to consider India as a hub for exports of high-quality broilers.

15.2 Opportunities in the Indian Piggery Sector

The demand for high quality processed pork in India is met through imports. Belgium, Spain, and Italy are the major exporters of premium pork products to India. There are a few farms and pig processing units in India that supply a few regional niche segments.

While the Northeast is the major consuming region for pork, there is also a big market for processed pork products in large cities such as Mumbai, Delhi, and Bangalore and states such as Goa, Karnataka, and Tamil Nadu.

15.2.1 Exports of Pork Products to India

The Indian hospitality sector (mainly 5-star category hotels) is the major consumer of imported pork. Belgium, Spain, and Italy are the major sourcing countries. Some 5-star hotels import pig carcasses and process them in-house in their central processing facilities. The processed pork products are then distributed to their various chains within India.

Other hotels import pork through specialized importers based in cities such as Mumbai and Delhi. Some of these importers have custom bonded warehouses where they stock imported pork products. These are sold to hotels and other establishments duty-free if they have Service Export from India Scheme (SEIS) certificates. Hotels generate foreign exchange from international tourists in India. they are given an incentive by the Govt of India in the form of a SEIS certificate. Using this certificate, they are allowed to import a certain percentage of their foreign exchange income to import certain products duty-free.

As per the research done by this report, some of these 5-star hotels are ready to explore sourcing pork products from Brazil. This market category – Indian premium 5-start hotels is an opportunity for Brazilian companies. Apart from pork carcass, other processed pork products such as ham, sausages, belly, ribs, etc can also be explored.

15.2.2 Setting up a Commercial Piggery Farm and Processing Unit

Unlike the poultry sector, the Indian piggery sector has not seen any major private sector success stories like Suguna Foods or Venky's Chicken. These private-sector ventures have transformed the Indian poultry sector into a vibrant agro-processing industry. The piggery sector also requires similar private ventures to play an active role to help the sector become resilient and develop its potential. During the past few years, a few companies announced plans to bring technology and expertise from abroad (for example from Canada and the UK) to set up breeding and commercial enterprises. However, none of these proved successful.

According to this report, only one company – Arthur's Food Company Pvt Ltd (https://www.arthursfood.com/) has ventured directly into the processed pork segment in 2017. A few other prominent farm cum processing units in India are Mayur Farms, DLG, and Suzanne's Food. However, they are not very large and focus their business on a few limited geographies. This is an area of opportunity for Brazilian companies. The competition is limited, and the scope is enormous. This report has identified some companies that have shown interest to partner with Brazilian companies to venture into this sector. Partnership through a Joint Venture (JV) could be beneficial as the Indian partner has existing facilities and a readymade marketing network (through distributors and e-commerce companies). If quality standards are maintained, the venture can be enormously successful in the long term.

15.2.3 Setting up Breeding Farms

The development of the Indian piggery sector will involve the development of a strong breeding farm ecosystem to help sustain the sector. The indigenous Indian pig breeds do not conform to the genetic standards required to develop commercially viable pig farms. According to experts contacted by the research team, Large White Yorkshire, Landrace, and Duroc are the best exotic varieties suited for breeding farms in India. This has also been established by many research labs and farms over the past few years in India. These breeds have adapted well to the Indian environment.

A few state governments such as Maharashtra, Telangana, Meghalaya, and Assam are offering incentives to private enterprises to set up breeding centers to help develop 'nuclear herds' with superior genetic qualities. These are then to be distributed to small farmers for rearing. While a few private entities have come forward, they lack the long-term financial resources to sustain these ventures. The state governments are only willing to offer financial support, provided there is an equal financial share and risk put in by the private ventures.

Under the National Livestock Mission (NLM) of the Govt. of India (Website - https://dahd.nic.in/schemes/programmes/national_livestock_mission) a 50 % capital subsidy can be availed of for setting up pig breeding farms. The maximum ceiling subsidy for different components varies from Rs.25 lakhs[35] (approx. $ 31000) to Rs.50 lakhs (approx. $ 62000).

This report has identified some Indian private ventures who are interested to collaborate with Brazil to develop breeding farms in India. This is a good investment opportunity for Brazilian organizations to offer their technology for swine breeding and be part of the long-term growth story of the Indian piggery sector. This venture will have the support of the state as well as the central government.

[35] Lakh = 100000

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Annexure – 1
List of Prominent Persons Contacted for Primary Research Information

S. No.	Person	Designation / Organization
Government Departments / Institutions		
1	Bidyut Kumar Baruah	Dy General Manager, Agriculture & Processed Food Products Export Development Authority (APEDA), New Delhi
2	Rajiv Santoki	Consultant, Agriculture & Processed Food Products Export Development Authority (APEDA), New Delhi
3	Nadeem Ahmed Shaikh	Assistant Director, Ministry of Food Processing Industries, Govt of India, Delhi
4	Dr. Aruna Sharma	Dy Commissioner (LH), Dept of Animal Husbandry & Dairying, Govt of India, Delhi
5	Dr. Surinder Pal	Dy Commissioner (DC), Dept of Animal Husbandry & Dairying, Govt of India, Delhi
6	Dr. Pragya Bhadauria	Scientist, Indian Council of Agricultural Research, Agricultural Technology Application Research Institute (ICAR ATARI), Ludhiana
7	Rajnish Tuli	Asst General Manager (Projects), Punjab Agro Industries Corporation Limited, Chandigarh
8	Indira R. Kalita	Director, Directorate of AH & Veterinary (Govt of Assam), Guwahati, Assam
9	Dr. (Mrs.) Arwaka Laloo	Director, Directorate of Animal Husbandry and Veterinary, Animal Husbandry and Veterinary Department, Government of Meghalaya, Shillong, Meghalaya
10	Miren Verma	Manager, National Hydroelectric Power Corporation (NHPC) Ltd, Kolkata
Private Sector Companies & Organizations		
11	Arindom Hazarika	Founder & Partner, Arohan Foods Pvt Ltd, Guwahati, Assam
12	Puneet Singh Thind	Founder & Director, Northern Farmers Mega FPO, Ambala, Haryana
13	Sambaran Mitra	Executive Chef and founder, Meathead
14	Mohammed Hassan	Director, Fresh n Frozen Food Tech Pvt Ltd
15	Dr. Nitin Malekar	Gargi Genetics, Pune
Farms		
16	Rohit Jadhav	National Head, Business Development Mayur Farms, Pune, Maharashtra
17	Tajinderpal Singh	Polar Genetics India Pvt Ltd, Punjab
18	Pepe Keithellakpam	Keithellakpam Piggery Farm, Manipur
Hotels/Chefs		
19	Arun Mathur	Executive Chef, Trident Gurgaon
20	Rohit Gambhir	Executive Chef, The Oberoi, New Delhi
21	Yakub Khan	Master Chef, J.W. Marriott Group, Delhi

Compiled by IGEP

Annexure 2 - List of Prominent Indigenous Pig Breeds & Exotic Breeds (used for Crossbreeding) In India

S. No.	Pig Breed	Description	Image
Prominent Indigenous Breeds			
1	Ghoongroo	Origin: Indian state of West Bengal and parts of Nepal Characteristic: Colour – black. Thick coarse and long hair coat, long tail, straight top line, upwardly curved snout, broad and flattened face with large and heart-shaped ears resembling those of an elephant. High adaptability to low input production system. The litter size consists of 6-12 piglets, individually weighing about 1 kg at birth and 7 – 10 kg at weaning. Both sexes are docile and easy to handle.	
2	Niang Megha	Origin: Indian state of Meghalaya Characteristic: Colour - black, star-shaped white patches at the forehead and sometimes shock joint. Long tapering snout, partially white at the nostril, long bristle on midline but uniform in other places, short ears. White patches on legs. Adult body weight is between 50 – 60 kg. Has a litter size of 5-6 piglets.	
3	Agonda Goan	Origin: Indian State of Goa Characteristic: Colour - black, with white patches on legs and face. Small body size, medium and rough bristle slightly concave top line. The breed is well adapted to the local coastal environment. Adult male – 50 – 60 Kg, female – 30 – 100 kg. Has a litter size of 6 -7.	

4	Tenyi Vo	Origin: State of Nagaland Characteristics: Colour – black. These are potbellied animals with a sagging back and pendulous belly touching the ground in females. White-coloured legs, white markings. The average litter size is 4 – 6 piglets. Adult body weight is 40 – 60 Kg.	
5	Nicobari	Origin: Union Territory of Andaman and Nicobar Islands Characteristic: Black, grey, brown or blackish brown colour. Marked bristle crest (mane) on the back extending from mid-head/shoulder to base of the tail. They are fast runners. The average adult body weight is 45-55 kg. The average litter size is 6 – 10 piglets.	
6	Doom	Origin: State of Assam Characteristic: Black in colour. Top line is straight with long bristles extending up to the thoracolumbar area. The average adult body weight is about 35 to 45 kg. The average litter size is 4 – 7.	

7	Zovawk	Origin: State of Mizoram Characteristics: Black with white spot on the forehead, white patches on the belly and white boots. Long bristles on mid-line. Average adult body weight – 54 – 59 kg.	
8	Ghurrah	Origin: State of Uttar Pradesh Characteristics: They are predominately black with a white stripe below the hock joint. Their body size is medium with an angular body and long straight snout with a flat belly. Average body weight is 46 – 48 Kg. Litter size is 6 – 7 piglets.	
9	Mali	Origin: State of Tripura Characteristics: Black in colour, thick coarse long hair. Short legs and a long tail. The average weight is 68 – 71 Kg. The litter size is 5 – 6.	

10	Purnea	Origin: State of Bihar Characteristics: The body is medium-sized. The average adult weight is 42 – 44 Kg. They are predominately black in colour with a potbelly. There is no specific distinct marking. Average litter size is 5 – 6.	
Exotic Breeds used for Crossbreeding in India			
1	Large White Yorkshire	Origin: UK Characteristics: Most extensively used exotic breed in India. Adult weight – 350 – 400 Kg.	
2	Landrace	Origin: Denmark Characteristics: Large, long body. The breed is white in colour Some have black skin spots. White bristles in the body. Used for crossbreeding in India. Adult Weight – 270 – 360 Kg (boar)	

3	Hampshire	Origin: UK Characteristics: One of the exotic breeds used for crossbreeding purposes in India. Weight: Adult Boar – 300 Kg. Adult Sow – 250 Kg	
4	Duroc	Origin: USA Characteristics: One of the exotic breeds used for crossbreeding purposes in India.	
5	Large Black	Origin: UK Characteristics: One of the exotic breeds used for crossbreeding purposes in India.	

Compiled by IGEP. Note: This is not an exhaustive list

DISCLAIMER

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