



FOOD PROCESSING

Towards Sustainable Growth Opportunities

SECTOR PROFILE

MEAT & POULTRY



National Event Partner



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TABLE OF CONTENT

| | |
|--|--------------|
| 1. INTRODUCTION | 01-02 |
| 2. GLOBAL TRENDS: MEAT AND POULTRY | 03-05 |
| Global Consumption | |
| Global Trade Scenario | |
| Global Trends | |
| 3. OVERVIEW OF MEAT AND POULTRY SECTOR IN INDIA | 06-13 |
| Market Overview | |
| Statewise Production and processing | |
| Key Growth Drivers | |
| Key Processed Dairy Products in Domestic Market | |
| Key Industry Players | |
| 4. GOVERNMENT INITIATIVES FOR MEAT AND POULTRY SECTOR | 14-16 |
| Government Policies | |
| Government Schemes | |
| 5. GOVERNANCE & REGULATORY LANDSCAPE | 17-21 |
| Ministry of Food Processing Industries (MOFPI) | |
| Food Safety and Standards Authority of India (FSSAI) | |
| Bureau of Indian Standards Act, 1986 | |
| AGMARK | |
| Standards of Weights and Measures in India | |
| Export Inspection Council | |
| 6. R&D AND SKILL DEVELOPMENT ECOSYSTEM FOR MEAT AND POULTRY | 22-23 |
| 7. UNLOCKING POTENTIAL IN MEAT AND POULTRY PROCESSING SECTOR IN INDIA | 24-27 |
| Dairy Processing Technology and Machinery | |
| Sustainable Packaging Solutions | |
| High Potential Products | |
| 8. CONCLUSION | 28 |

ABSTRACT

The Indian food processing sector has witnessed remarkable growth, surpassing a 9% average annual growth rate since 2014-15. The Gross Value Addition (GVA) in the food processing sector has shown a Compound Annual Growth Rate (CAGR) of 7.27% in the past five years. The sector contributes approximately 20% to the overall GVA at basic prices, highlighting its competitiveness and ability to cater to international markets. India's processed food exports have experienced a significant surge, reaching US\$13.07 billion in 2022-23. The Ministry of Food Processing Industries has provided support and incentives to the sector through its flagship schemes, such as the Pradhan Mantri - Kisan Sampada Yojana, Pradhan Mantri Formalisation Micro Food Processing Enterprises, and the Production Linked Incentive Scheme.

India is home to the world's largest bovine population and has witnessed significant growth in meat and poultry production. With the country ranking third in egg production and eighth in meat production globally, the sector plays a crucial role in meeting India's nutritional security aspirations and establishing itself as a dominant player in the global meat processing industry. Moreover, India ranks as a major producer of buffalo meat and is the second-largest producer of goat meat. The meat and poultry processing sector in India offers a wide range of products, including cold cuts, sausages, ready-to-cook/frozen products, and fortified and organic certified eggs.

The meat and poultry processing sector in India is experiencing a favourable outlook, as there is a growing demand for meat and poultry products, both within the country and globally. Factors such as increasing consumer base, rising health awareness, shift towards convenience foods, rising disposable incomes, and improvements in innovation and infrastructure are key drivers contributing to the growth of the sector. The growth of the meat and poultry processing sector in India is supported by a strong regulatory framework, research and development initiatives, and government schemes focused on the sector's development.

The document also provides insights into the global trends in the sector highlighting, there is a growing demand for processed meat and poultry products, driven by increasing trends towards healthy and convenient options. The consumption of meat products is estimated to increase by 14% over the next decade, with a shift towards poultry meat. Poultry meat is experiencing significant growth, given affordable prices of poultry compared to other meat products, higher protein and lower fat content. Processed products offer convenience and longer shelf life, and various processing methods which can enhance their taste and texture, offering a range of options such as sausages, bacon, ham, chicken nuggets, salami, meatballs, canned meat, and omelette mix.

Overall, the meat and poultry processing sector in India has witnessed significant growth and presents promising opportunities for further expansion. With abundant livestock resources and favourable market conditions, India can capitalize on the immense potential in the meat and poultry processing sector.

01. INTRODUCTION

India hosts the world's largest bovine population, and it has been placed third in terms of egg production and eighth in terms of meat production on a global scale¹. The production of meat and poultry products has experienced substantial growth over the years, and it is a crucial aspect of meeting India's nutritional security aspirations as well as establishing itself as a dominant player in the global meat processing industry.

Poultry production in India has taken a quantum leap in the last few decades, emerging from conventional farming practices to commercial production system with state-of-the-art technological interventions. On similar lines, meat production across the country has also grown over the years.

India's egg production in 2021-22 stood at 129.6 billion eggs with per capita availability of eggs reaching 95 eggs per annum². Meat production in India has also grown to touch 9.29 million tonnes in 2021-22³.

TABLE 1

GROWTH IN ANNUAL MEAT AND EGGS PRODUCTION OVER THE YEARS

INDIA'S EGG PRODUCTION (IN BILLIONS)

2011-12
66.45

2016-17
88.14

2021-22
129.6

INDIA'S MEAT PRODUCTION (MMT)

2011-12
5.51

2016-17
7.39

2021-22
9.29

¹ Economic Survey 2022-23

² Department of Animal Husbandry & Dairying

³ Ibid.

The top five meat-producing states are Maharashtra, Uttar Pradesh, West Bengal, Andhra Pradesh, and Telangana, which together account for 57.86% of the nation's total meat production.

As people's dietary preferences evolve and their awareness of the diverse nutritional benefits, including protein, iodine, zinc, vitamins, etc., present in meat and poultry-based products increases, the demand for processed products is anticipated to surge in the future. Additionally, Processed meat and poultry products can offer several benefits, such as convenience and longer shelf life. Processing can involve various methods, including curing, smoking, or adding preservatives or flavourings, which can enhance the taste and texture of the products.

Some of the key processed Meat and Poultry Products in India:

- Processed meat: Cold cuts, treated and cured items
- Sausages and similar products made from meat, meat offal
- Ready to cook and frozen products including nuggets, strips, nuggets
- Frozen and packed meat and poultry products with specialised cuts, gillards etc
- Dried egg yolks, Egg powder, Calcium extracts
- Fortified and organic certified eggs

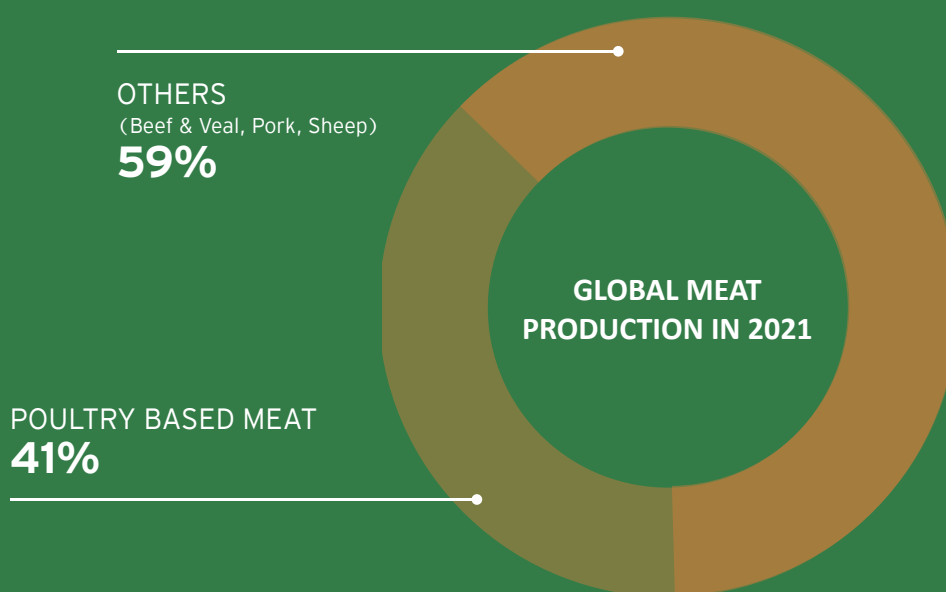
Globally, the demand for processed meat and poultry products has witnessed growth and is expected to grow substantially. The demand will shift to poultry meat from other forms of processed meat in high income countries as well as emerging economies.

This sector profile will examine the global trends in meat and poultry processing, overview of meat processing in India, high potential products, R&D and skill development ecosystem, regulatory landscape, key initiatives undertaken by the government etc.

02. GLOBAL OVERVIEW: MEAT AND POULTRY

Meat and poultry are nutritionally rich and are an important source of nutrition to many and supports millions of livelihoods across the globe. In 2021, world meat production remained stable at an estimated 339 Mt output with total poultry meat production comprising of 134 Mt.⁴ Poultry meat formed major share of total meat production, contributing about 41% of total production. The eggs production across the globe also shot to 93 million tonnes⁵.

The figure below indicates break up of global meat production in 2021.



2.1 GLOBAL CONSUMPTION

Global consumption of processed meat and poultry products are driven by numerous factors like demographics, level of urbanisation, incomes, food prices, traditions and cultural norms, ethical and health concerns etc. However, economic growth can be considered a very important factor in driving meat consumption as processed forms of meat are more expensive source of proteins and calories.

⁴ OECD-FAO Agricultural Outlook 2022-2031

⁵ FAO World Food and Agriculture Statistical Year Book 2022

Consumption of meat products is estimated to increase by 14% over the next decade, driven largely by rising disposable incomes and demand from rising population. However, in high income countries changes in consumer preferences, ageing population will increase demand for leaner meat like poultry as well as higher valued meat cuts. Some key projections with respect to demand projects over the next decade is given below;

Poultry products are appealing to consumers because of their lower prices, consistent quality, versatility, and lower fat content/higher protein content. It is anticipated that the global consumption of poultry meat will rise to 152 million metric tons.

Global pork consumption is projected to increase to 127 Mt over the next ten years and to account for 33% of the total increase in meat consumption. Global per capita beef consumption, which has declined since 2007, is projected to fall by a further 5% by 2030.

Global sheep meat consumption, a niche market in some countries and considered a premium component of diets in many others, is projected to increase to 18 Mt.

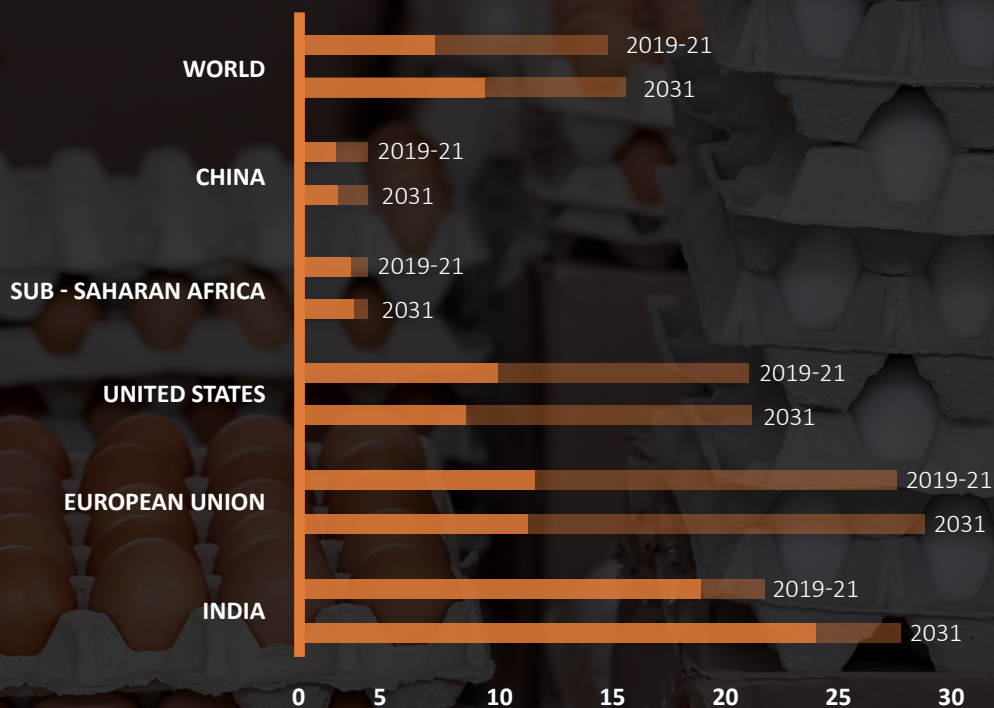


FIGURE 1: PER CAPITA CONSUMPTION OF PROCESSED AND FRESH DAIRY PRODUCTS IN 2019-21 AND EXPECTED CONSUMPTION FOR 2031⁸.

■ FRESH DAIRY PRODUCTS
■ PROCESSED DAIRY PRODUCTS

2.2 GLOBAL TRADE SCENARIO

In terms of global trade, China holds the largest market share for egg production in the world, accounting for 38%, followed by the United States and India. Asia is the largest region for egg production, with over 64% of global output. As for meat production, China is the largest producer in the world, followed by the United States, Brazil and India.

International meat and poultry trade has been steadily increasing in response to growing demand arising out of high per-capita income in Asian economies. This is also supplemented by demand from a growing population in African countries. Consumer preferences also has shifted towards diets with more animal protein. Poultry meat is one of the major product category witnessing growth, given affordable prices of poultry compared to other meat products, product adaptability to various global cuisines and higher protein / lower fat content.

Global exports of meat are met by two major countries, viz, USA and Brazil. By 2030, highest demand for processed meat and poultry products will arise from China, South Korea, Indonesia and Philippines in Asia as well as emerging economies in Africa.

2.3 GLOBAL TRENDS

In many countries, there has been changing dietary preferences, arising out of a growing awareness about ethical / animal welfare concerns in meat processing systems. This clubbed with sustainability concerns and GHG emissions from the livestock sector can have lasting impact on the sector. Similarly, animal disease outbreaks and zoonotic diseases impacting human health, like the Bovine Encephalopathy, recent African Swine Fever outbreak in China puts immense pressure on meat supply chains globally disrupting trade.

Given abundant availability of feed grains and leveraging favourable exchange rates, India has high potential to become a major player in meat processing globally.

03. OVERVIEW OF MEAT AND POULTRY SECTOR IN INDIA

Meat and poultry products are an important part of India's food industry and play a significant role in the country's economy. India is one of the largest producers of meat and poultry products in the world and has a diverse range of products that are consumed domestically and exported internationally.

3.1 MARKET OVERVIEW

India has the largest number of livestock in the world and its annual meat production is approximately 5.3 million MT while egg production is 75 billion. India is the foremost producer of buffalo meat and the second-largest producer of goat meat. The current processing levels for poultry and meat are estimated to be 6%⁶ and 34.18%⁷ respectively. The poultry industry in India is highly vertically integrated and operates at similar efficiency levels to many western countries. The value of output from processed meat and poultry industry in India was estimated at ₹ 19,57,472 lakhs generating a net income of ₹ 1,67,727 lakhs in 2019-20⁸.

3.2 STATE WISE PRODUCTION AND PROCESSING

In India, there has been a significant increase in the production of both eggs and meat over the years. Specifically, during FY 2021-22, the meat and egg industries experienced growth rates of 6.19% and 5.62%, respectively⁹.

The top five states in India for meat production are Maharashtra (12.25%), Uttar Pradesh (12.14%), West Bengal (11.63%), Andhra Pradesh (11.04%), and Telangana (10.82%).

⁶ National Action Plan for Egg and Poultry 2022, DAHD&F

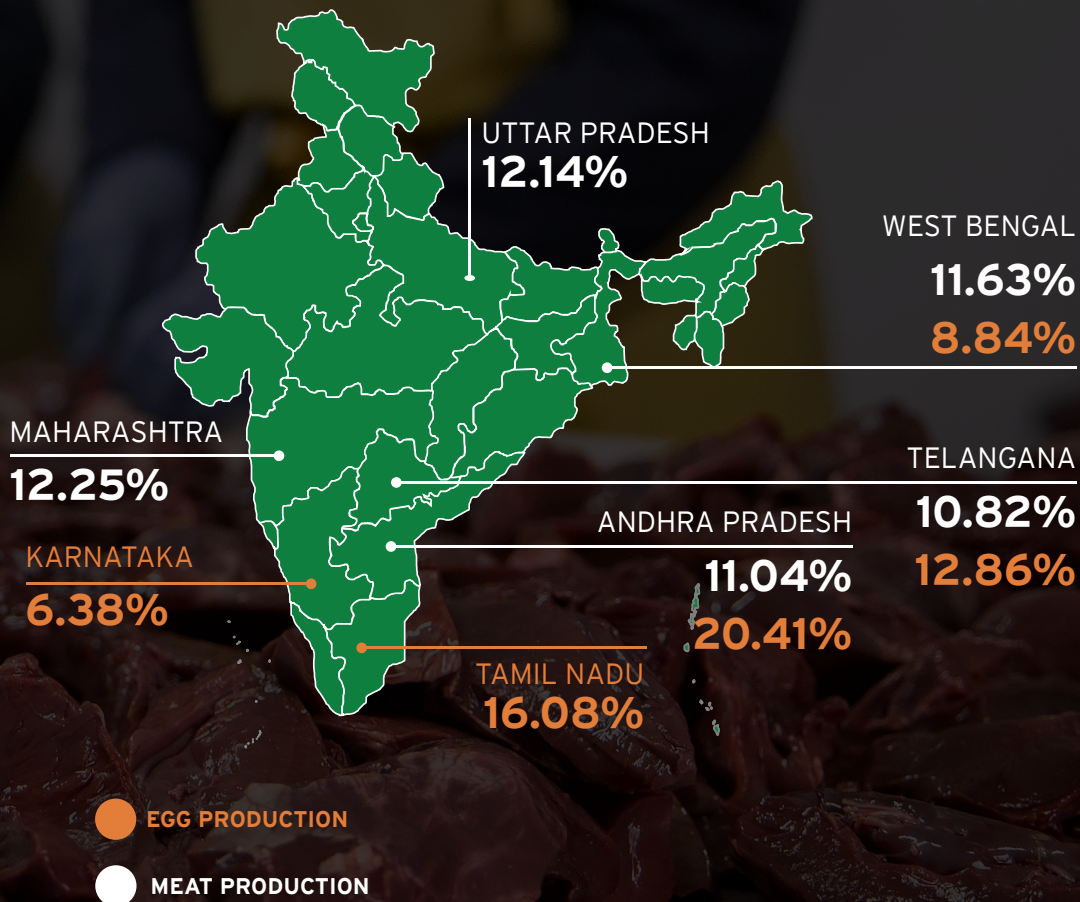
⁷ Study to Determine the Level of Food Processing of India, MoFPI

⁸ Annual Survey of Industries, Estimates of Factory Sector by 4-digit industry class (NIC-2008)

⁹ <https://dahd.nic.in/sites/default/files/updatedBAHS2022.pdf>

The top five states in India for egg production are Andhra Pradesh (20.41%), Tamil Nadu (16.08%), Telangana (12.86%), West Bengal (8.84%), and Karnataka (6.38%).

A study commissioned by the Ministry of Food Processing Industries estimates the top 5 meat processing states as Uttar Pradesh, Maharashtra, New Delhi, Andhra Pradesh and Rajasthan.



3.3 KEY GROWTH DRIVERS

Growth of meat and poultry processing sector is driven by the following key drivers:

DEMOGRAPHICS:

India's huge consumer base by virtue of its population size and predominance of young citizens in the population pool creates huge demand for alternative sources of protein. This is one of the most important growth drivers for the sector.

RISING DISPOSABLE INCOMES:

There is an increasing adoption of poultry products, such as eggs and meat, in diet due to the rising health consciousness among the masses. There is an increasing popularity of protein-rich and vegetarian diets among fitness enthusiasts to improve their fitness levels which will help to the market to grow.

STRUCTURAL SHIFT IN CONSUMPTION PATTERN:

Convenience is one of the main reasons why processed meat and poultry products have become so popular in the modern world. With busy schedules and fast-paced lifestyles, people are often looking for quick and easy meal options that require little preparation time.

Processed meat and poultry products are convenient in many ways. They are pre-cooked and often pre-sliced, which makes them easy to use in a variety of recipes. They are also available in a range of flavours and textures, so consumers can choose products that suit their taste preferences.



SAUSAGES

Sausages are a popular breakfast food in India and are available in a variety of flavours such as chicken, pork, and beef.



BACON

Bacon is another popular breakfast food in India, often served with eggs.



HAM

Ham is a popular processed meat product that is often used in sandwiches and salads.



CHICKEN NUGGETS

Chicken nuggets are a popular snack food among children in India and are often served with sauces like ketchup or mayonnaise.



SALAMI

Salami is a type of cured sausage that is commonly used as a topping on pizzas and sandwiches.



MEATBALLS

Meatballs are a popular ingredient in pasta dishes and are also served as a snack food in India.



CANNED MEAT

Canned meat products like tuna and chicken are commonly used in sandwiches and salads.



OMELETTE MIX

Omelette mix is a popular product used to make quick and easy omelettes.

Rising disposable incomes:

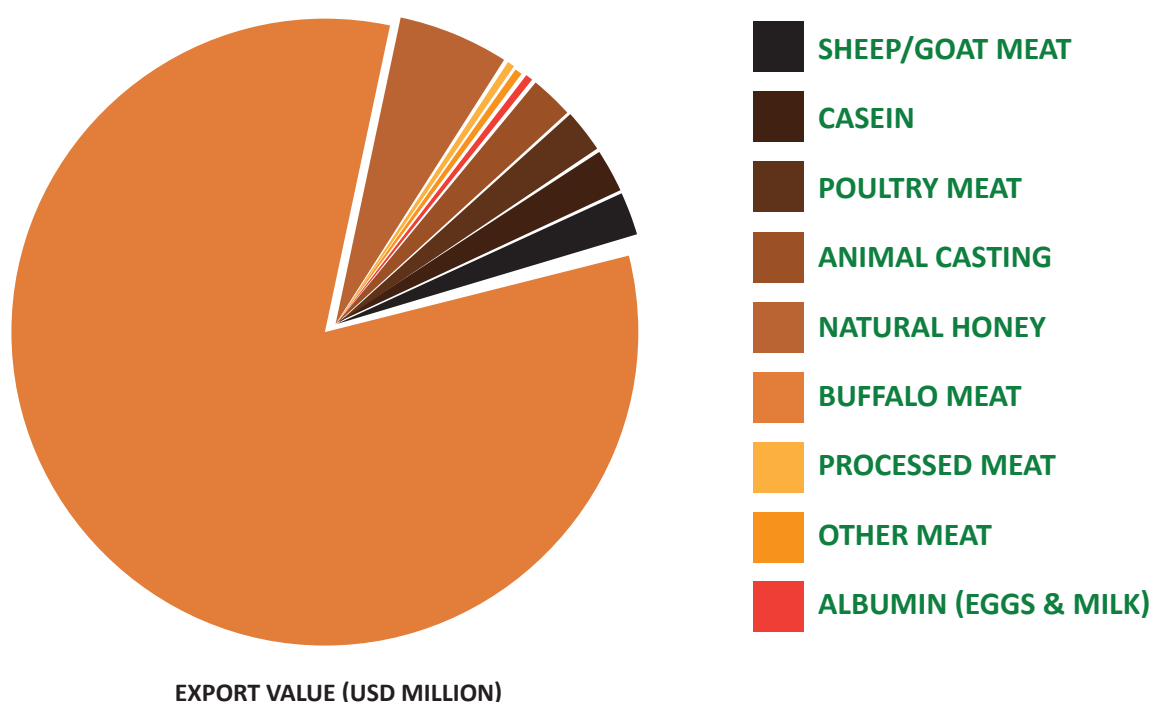
With economic growth and more than one member in the household participating in labour force, the household level disposable income has increased over the years. FAO establishes a positive correlation between rising incomes and meat consumption, as meat is typically considered an expensive source of dietary protein.

Improving Innovation and Infrastructure:

Over the years with enhancements in the packaging solutions and developing physical infrastructure such as cold chain, logistics, etc. there has been an increased demand for frozen/chilled products. Such improvements have also resulted in access to larger market size. Also, there has been a developing new category for plant-based meats in the world, complemented by a booming online retail sector.

3.4 MAJOR TRADED COMMODITIES

In terms of trade, India exported animal products worth ₹30,953.29 Crores/4,152.25 USD Millions in 2021-22. These exports included major products such as Buffalo Meat (₹24,613.24 Crores/3,303.34 USD Millions), Sheep/Goat Meat (₹447.58 Crores/60.03 USD Millions), Other Meat (₹45.52 Crores/6.11 USD Million), Poultry Products (₹529.80 Crores/71.03 USD Millions), and Processed Meat (₹10.56 Crores/1.42 USD Millions), among others¹⁰.

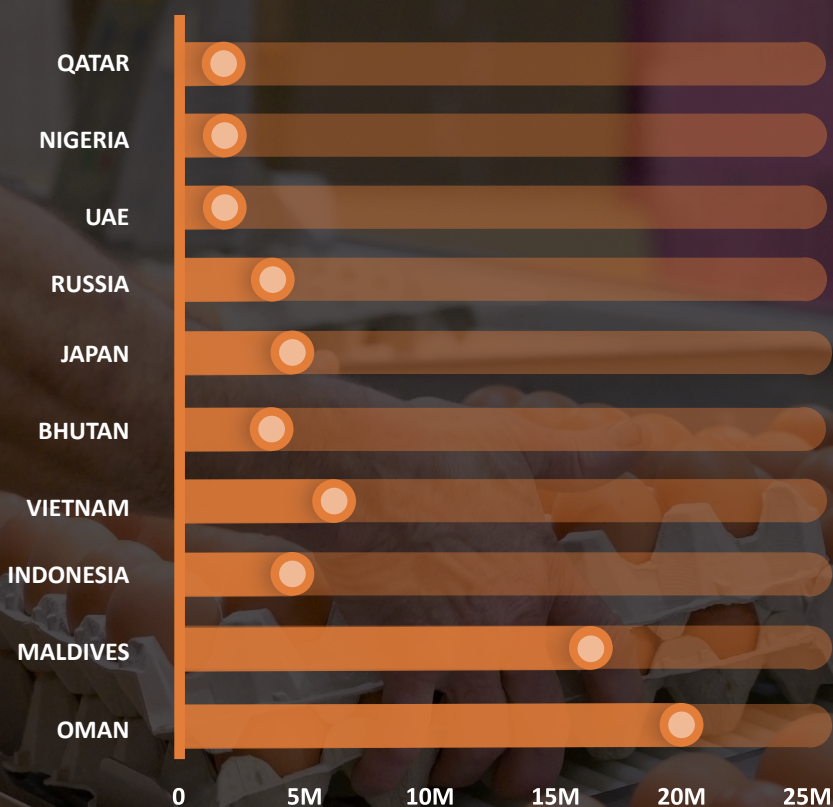


¹⁰ https://apeda.gov.in/apedawebsite/six_head_product/animal.htm

3.5 MAJOR EXPORT MARKETS

Oman is the largest importer of Indian poultry products, with a quantity of 1,17,389.40. Maldives is the second-largest importer with a quantity of 1,47,375.63. Other countries in the list include Indonesia, Vietnam Soc Rep, Bhutan, U Arab Emirates, Qatar, Kuwait, Bahrain Is, and Comoros, with quantities ranging from 1,657.64 to 23,660.35. India has a notable poultry product export market, with numerous nations in Southeast Asia and the Middle East as prominent buyers. This information implies that there is a considerable scope for expansion in the Indian poultry industry and it has the ability to make a significant contribution to the country's economy.

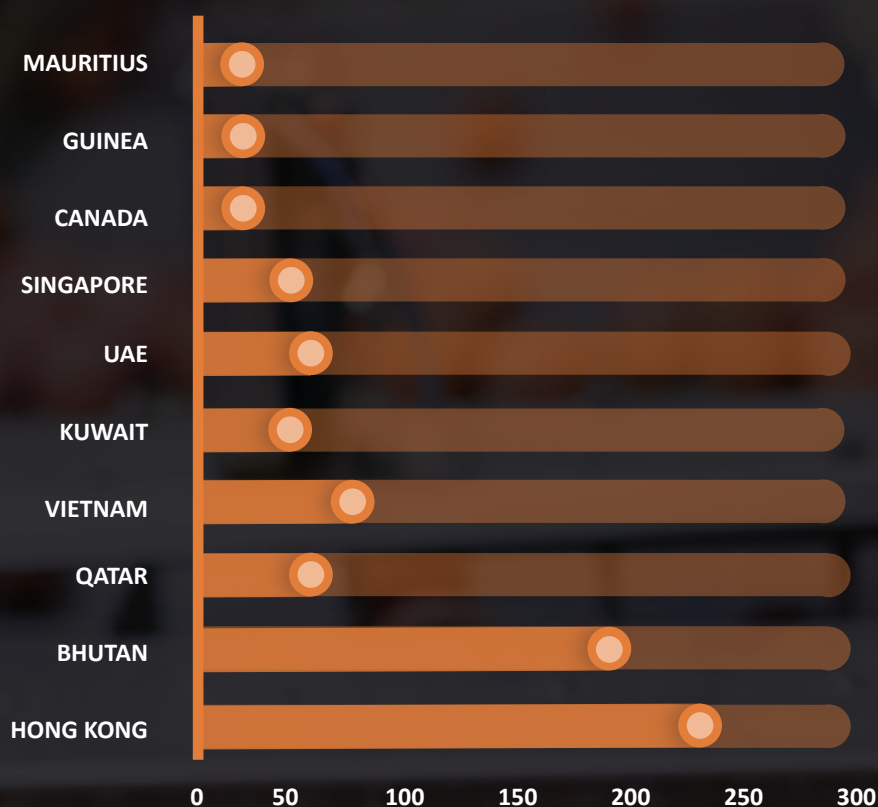
**TOP 10 IMPORTERS OF POULTRY PRODUCTS
VALUE IN US\$ (2021-2022) ¹¹**



In the 2021-22 period, Hong Kong was the largest consumer of processed meat, importing 208.63 units worth \$475,469. Bhutan and Qatar followed closely, importing 106.76 and 41.89 units respectively. The largest importers from outside Asia were Canada and Guinea, with just one and 0.02 units respectively. Mauritius imported the least amount of processed meat, with just 0.03 units.

¹¹ https://agriexchange.apeda.gov.in/indexp/Product_description_32head.aspx?gcode=0406

**TOP 10
IMPORTERS OF
PROCESSED MEAT
IN QUANTITY
(2021-22) ¹²**



3.5 KEY PROCESSED MEAT AND POULTRY PRODUCTS IN DOMESTIC MARKET

Meats and poultry products are an essential ingredient of diets for many people. India's meat and poultry consumption patterns vary across the states. The production of eggs and meat in India has been growing significantly over the years. The meat and egg industry grew at 6.19% and 5.62% respectively during FY 2021-22¹³.

The following are the potential meat and egg products widely used in Indian market:

- Sausages and Canned Meat
- Homogenized Meat Preparations
- Preserved Meats
- Other Poultry Meat
- Preserved Meat of Bovine Animals
- Meat Extracts and Meat Juices
- Egg crepes, rolls and waffles

¹² https://agriexchange.apeda.gov.in/indexp/prdgrp_prdwise.aspx?ctrycode=and gcode=0404and val=1and gvalue=2

¹³ Ibid

3.6 KEY INDUSTRY PLAYERS

With India being an economy having large number of livestock and poultry population, it poses a huge capacity for production of such products in the country.

The millet crops production in India has majorly been unorganised with farmers engaged in the poultry and meat sector. However, the country has seen emergence of various players from organised sectors such as Venky's India Ltd., Al Kabeer Exports Pvt. Ltd. etc.

Further, various entities such as Venky's India Ltd, Simran Farms etc have been engaged in producing poultry-based products in India. Table 2 lists major players engaged in meat and poultry sector.

KEY PLAYERS

MEAT PRODUCTION

VENKY'S INDIA LTD.
MEAT PRODUCTS OF INDIA LTD.
AL KABEER EXPORTS PVT. LTD.
NIPPON MEAT PACKERS INDIA PVT. LTD.
ALLANASONS PRIVATE LIMITED

POULTRY PRODUCTION

VENKY'S INDIA LTD. (VH GROUP)
SIMRAN FARMS
OLABEL FARMS
FRESH TO HOME
LICIOUS

04. GOVERNMENT INTERVENTIONS FOR DAIRY PROCESSING SECTOR

Government of India has taken up various initiatives to boost the meat and poultry:

4.1 GOVERNMENT POLICIES

Government of India has from time to time adopted policies that benefit the meat and poultry sector directly. Some of the prominent policies are listed below:

| POLICIES | DETAILS |
|-----------------------------------|---|
| Easing FDI regulations | The government of India has allowed 100% FDI in the food processing industry through the automatic route, to promote investments in the sector. |
| Infrastructure development | The government has been focusing on development of infrastructure facilities like training institutes, logistics facilities, cold chain facilities and various other institutes (as discussed in earlier sections) to promote and support the meat and poultry industry in India. |
| Income Tax exemptions | <p>The government supports the sector through 100% exemption of Income Tax on profits and gains for new Food Processing Units for initial 5 assessment years.</p> <p>Corporate tax has been substantially reduced in the budget announcement of 2019, making India among the countries with lowest corporate tax. where new companies</p> <p>Corporate tax slab</p> <ul style="list-style-type: none"> ■ New companies: 15% ■ Existing companies: 22% + cess |

4.2 GOVERNMENT SCHEMES

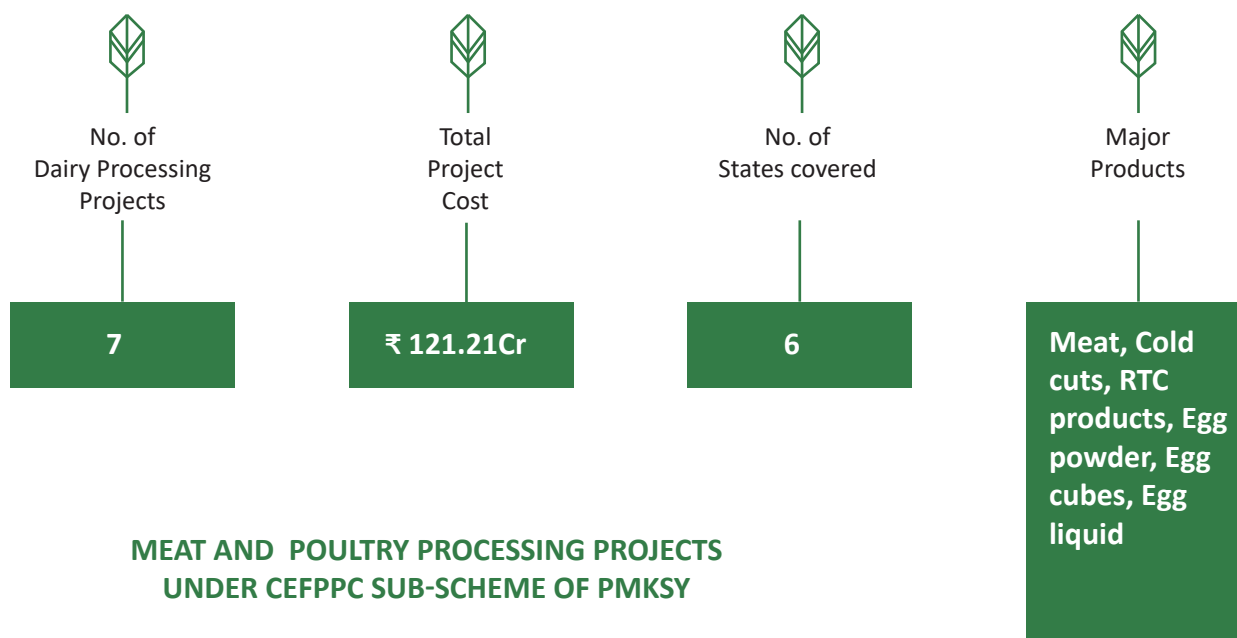
THE FOLLOWING SCHEMES BY VARIOUS MINISTRIES SUPPORT THE MEAT AND POULTRY SECTOR IN INDIA

A. PRADHAN MANTRI KISAN SAMPADA YOJANA (PMKSY):

PMKSY is a comprehensive scheme implemented by MoFPI which aims to create modern infrastructure with efficient supply chain management from farm gate to retail outlet. The key objectives of PMKSY are:

- Creation of modern infrastructure for food processing mega food parks/ clusters and individual units
- To create effective backward and forward linkages - linking farmers, processors and markets
- To create robust supply chain infrastructure for perishables

Under PMKSY, the sub-scheme titled Creation/Expansion of Food Processing and Preservation Capacities (CEFPPC) is being implemented. The progress of CEFPPC scheme in dairy processing sector is listed below.



B.**PRODUCT LINKED INCENTIVES FOR FOOD PROCESSING INDUSTRIES (PLIFPI):**

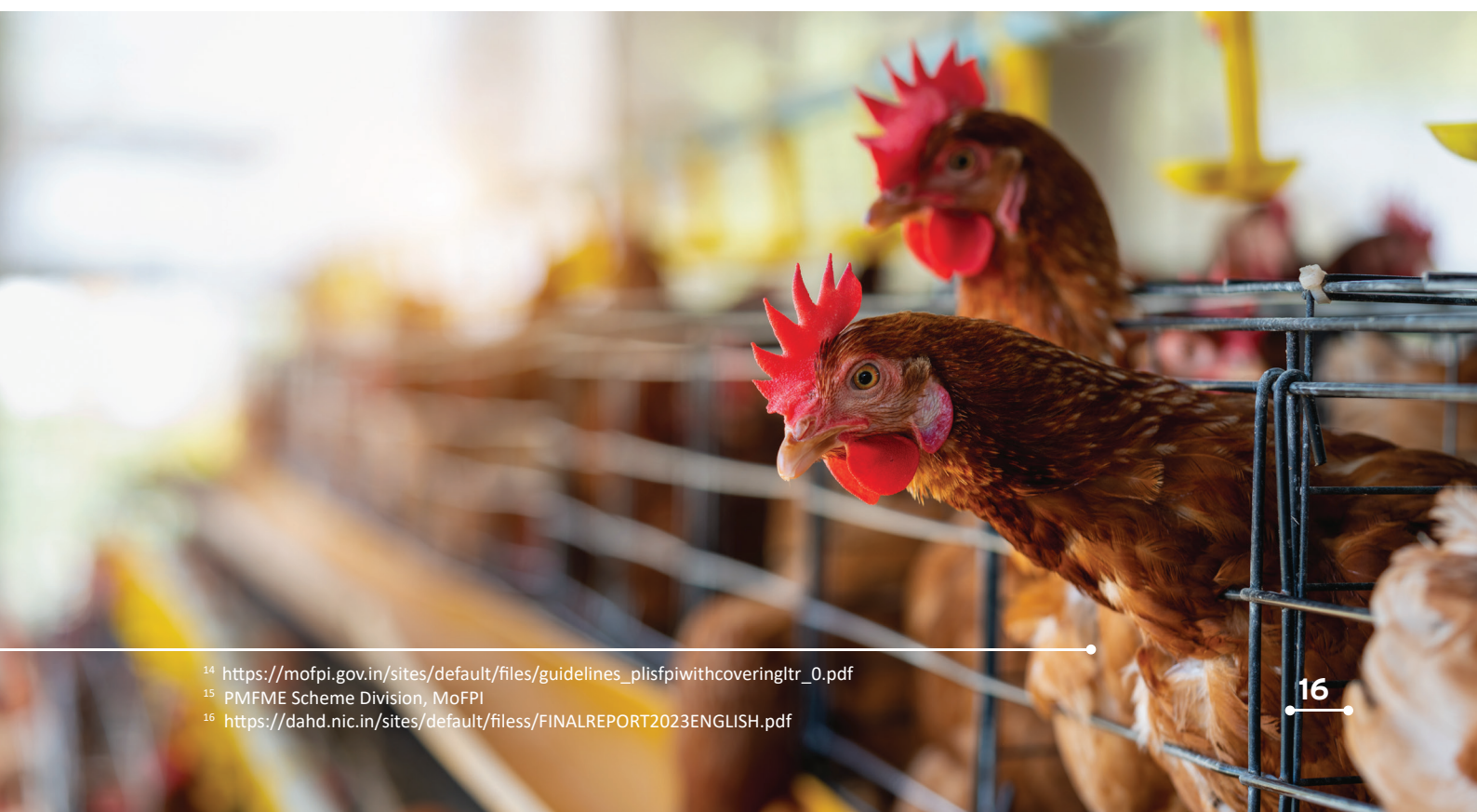
Government of India approved Production Linked Incentive Scheme for Food processing Industries. Under the scheme ₹ 10,900 crore incentive will be distributed during 2021-22 to 2026-27 focusing on infrastructural and technical development of the industry. Eggs, Poultry Meat and Egg Products are specifically covered under Second component of the scheme¹⁴.

C.**PM FORMALIZATION OF MICRO FOOD PROCESSING ENTERPRISES (PMFME):**

The PMFME is a centrally sponsored scheme with an outlay of ₹ 10,000 Cr to be implemented over a period of five years from 2020-21 to 2024-25. The scheme provides financial, technical and business support for existing micro food processing enterprises. As of 2023, a total of 247 meat and poultry processing units got support from the scheme to the tune of ₹ 28 Cr across the country¹⁵.

D.**ANIMAL HUSBANDRY INFRASTRUCTURE DEVELOPMENT FUND (AHIDF):**

The scheme is being popularised by the government for funding of eligible projects. for their investment for processing and value addition in animal husbandry sector by scheduled banks. Under the scheme, credit facilities are to be made available for establishment of meat processing and value addition infrastructure. To help increasing of milk and meat processing capacity and product diversification thereby providing greater access for unorganized rural meat producers to organized meat market¹⁶.



¹⁴ https://mofpi.gov.in/sites/default/files/guidelines_plisfpewithcoveringltr_0.pdf

¹⁵ PMFME Scheme Division, MoFPI

¹⁶ <https://dahd.nic.in/sites/default/files/FINALREPORT2023ENGLISH.pdf>

05. GOVERNANCE AND REGULATORY LANDSCAPE

The regulatory landscape for meat and poultry sector in India comprises of guidelines and regulations mandated by AEPDA, FSSAI, BIS, AGMARK. The details of all the regulatory bodies are given below.

5.1 AGRICULTURAL AND PROCESSED FOOD PRODUCTS EXPORT DEVELOPMENT AUTHORITY

The Agricultural and Processed Food Products Export Development Authority (APEDA) was established by the Government of India under the Agricultural and Processed Food Products Export Development Authority Act passed by the Parliament in December 1985. The functions of APEDA are broadly involves guiding and helping the industry and creating a conducive environment for its healthy growth. The major aims of APEDA are¹⁷:

- Development of industries by way of providing financial assistance or otherwise for undertaking surveys and feasibility studies and other reliefs and subsidy schemes
- Fixing of standards and specifications for the scheduled products for the purpose of exports
- Improving of packaging of the Scheduled products
- Improving of marketing of the Scheduled products outside India
- Promotion of export-oriented production and development of the Scheduled products
- Training in various aspects of the industries connected with the scheduled products

¹⁷ https://apeda.gov.in/apedawebsite/about_apeda/About_apeda.htm

5.2 FOOD SAFETY AND STANDARDS AUTHORITY OF INDIA

In 2008, FSSAI was established under the aegis of the Ministry of Health and Family Welfare (MoHFW) to enforce the provisions of the Food Safety and Standards Act 2006.

Some of the key functions of FSSAI under the Food Safety and Standards Act include:

- Framing regulations to lay down food standards and guidelines
- Laying down procedure and guidelines for accreditation of laboratories for food testing
- Providing scientific advice and technical support to the Government in areas that have a direct or indirect bearing of food safety and nutrition
- Collating data regarding food consumption, contamination, identification of emerging risks, introduction of a rapid alert system etc.
- Disseminating information and promoting awareness about food safety and nutrition in India
- Contributing to the development of international technical standards for food, sanitary and phytosanitary standards



To further enable it to meet its objectives, FSSAI enacted the Food Safety and Standards Rules, along with several other regulations as listed below

FOOD SAFETY AND STANDARDS REGULATIONS IN INDIA

PROCEDURAL REGULATIONS

Food Safety and Standards (Licensing and Registration of Food Businesses) Regulation, 2011

Food Safety and Standards (Prohibition and Restriction on Sales) Regulation, 2011

Food Safety and Standards (Laboratory and Sampling Analysis) Regulation, 2011

Food Safety and Standards (Food Recall Procedure) Regulation, 2017

Food Safety and Standards (Import) Regulation, 2017

FOOD STANDARDS

Food Safety and Standards (Food Product Standards and Food Additives) Regulation, 2011

Food Safety and Standards (Packaging and Labelling) Regulation, 2011

Food Safety and Standards (Contaminants, Toxins and Residues) Regulation, 2011

Food Safety and Standards (Food or Health Supplements, Nutraceuticals, Foods for Special Dietary Uses, Foods for Special Medical Purpose, Functional Foods and Novel Food) Regulation, 2016

Food Safety and Standards (Fortification of Food) Regulation, 2016

Food Safety and Standards (Organic Foods) Regulation, 2017

5.3 BUREAU OF INDIAN STANDARDS

The Bureau of Indian Standards, empowered by the Bureau of Indian Standards Act, 1986, operates a product certification scheme by which it grants licenses to manufacturers covering practically every industrial discipline from agriculture and textiles to electronics.

The certification allows the licensees to use the popular ISI mark, which has become synonymous with quality products for the Indian and neighbouring markets for over 55 years. While the scheme itself is voluntary in nature, the Indian Government has, in public interest, enforced mandatory certification on various products through various quality control orders issued from time to time, under various acts.

The act prescribes various standards for meat and poultry industry. Also, all the animal feed providers are required to comply with the BIS to ensure quality production of meat.



5.4 AGRICULTURAL MARKETING INFORMATION AND REGULATION

AGMARK is a certification mark for agricultural products in India, assuring that they conform to a set of standards approved by the Directorate of Marketing and Inspection, an agency of the Indian Government. AGMARK is legally enforced in India by the Agricultural Produce (Grading and Marking) Act of 1937 (amended in 1986).

The present AGMARK standards cover quality guidelines for 222 different commodities spanning a variety of animal casings, raw meat(chilled/ frozen), table eggs etc.¹⁸ The AGMARK certification is employed through fully state-owned laboratories located across the nation that act as testing and certifying centres.

5.5 STANDARDS OF WEIGHTS AND MEASURES IN INDIA

The Standard of Weights and Measures Act, 1976 was enacted primarily to establish standards of weights and measures, to regulate trade or commerce in weights, measures and other goods that are sold or distributed by weight, measure or number.

Further, the Legal Metrology Act, 2009 was passed by the Indian Parliament with the aim of protecting consumer interests. Consequently, The Legal Metrology (Packaged Commodities) Rules, 2011 were prescribed in order to regulate pre-packaged commodities which are mandatory to comply with labelling requirements.

5.6 EXPORT INSPECTION COUNCIL

The Export Inspection Council (EIC) is the official export –certification body of India which ensures quality and safety of products exported from India. EIC was set up by the Government of India under Section 3 of the Export (Quality Control and Inspection) Act, 1963 to ensure sound development of export trade of India through quality control and inspection and matters connected therewith.

Export Inspection Council assures the quality and safety of the products through either quality assurance or food safety management-based certification or a consignment wise inspection. The council al`so provides Quality Certification for export goods by installing quality assurance procedures as well as Quality Certification for exportable food items by installing Food Safety Management Systems (FSMS) in the food dispensation units, that are on par with international guidelines.

¹⁸ https://dmi.gov.in/Documents/listcommodity1937_New.pdf

06. R&D AND SKILL DEVELOPMENT ECOSYSTEM FOR DAIRY PROCESSING

R&D is at the core of a promoting the meat and poultry sector in India. India hosts numerous technical institutes, universities, centres of excellence etc to support the meat and poultry in adopting latest processing technologies, promoting products as well as process, ensure skill development etc. Some of the key institutions forming the backbone of R&D ecosystem in India are listed below.

| INSTITUTIONS | HIGHLIGHTS |
|---|---|
| ICAR-National Research Centre on Meat (NRCM) ¹⁹ | <ul style="list-style-type: none"> NRCM is a premier institution of meat research to solve the problems and face challenges of meat and allied sectors development It focuses on development of modern organized meat sector through meat production, processing, and utilization technologies to serve the cause of meat animal producers, processors and consumers It has following mandates regarding the meat industry: <ol style="list-style-type: none"> Basic and applied research in meat science and technology for meat production, processing, value addition and utilization Capacity development for different levels of personnel in meat sector National repository of information in meat and allied sectors |
| ICAR- Directorate of Poultry research ²⁰ | <ul style="list-style-type: none"> The institute is an autonomous organization under the Department of Agriculture Research and Education, Ministry of Agriculture and Farmers Welfare, Government of India. The Directorate was set up as a coordinating unit of All India Coordinated Research Project (AICRP) on Poultry in 1970. The objectives of the Directorate are to coordinate research at AICRP centres located across the country and conduct research on the development and improvement of chicken lines for commercial and rural poultry production. |
| Institute of Good Manufacturing Practices India (IGPMI) ²¹ | <ul style="list-style-type: none"> IGPMI is an accredited Vocational Institution of Ministry of Education, Government of India and approved by Food Safety and Standards Authority of India (FSSAI) presents unique, friendly and interactive platform to get rid of all your GMP related glitches. IGPMI has designed a programme of Meat and Poultry Processing. This is undertaken through theoretical knowledge and practical skill as both are essential to master the field of meat industry. |

¹⁹ <https://nrcmeat.icar.gov.in/>

²⁰ <https://cftri.res.in/csir>

²¹ <https://www.igmpiindia.org/Industry-Certificate-in-Meat-and-Poultry-Processing.html>

| INSTITUTIONS | HIGHLIGHTS |
|---|---|
| Agricultural and Processed Food Products Export Development Authority (APEDA) | <ul style="list-style-type: none"> • AEPDA was established in 1985 • Provides technical assistance in product/process development, equipment design, packaging solutions to the sector • Conducts training in various aspects of the industries and engages in Promotion of export-oriented production. • APEDA promotes high-quality animal products such as milk, meat and eggs. |
| National Cooperative Development Corporation (NCDC) ²² | <ul style="list-style-type: none"> • NCDC was established by an Act of Parliament in 1963 as a statutory Corporation under the Ministry of Cooperation. • The corporation supports planning, promoting and financing programmes for production, processing, marketing, storage, export and import of agricultural produce, food stuffs, certain other notified commodities. • NCDC supports the promotion of infrastructure such as cold chain etc. which aids the meat and poultry industry. • NCDC also supports establishment of cluster of poultry units, assistance to societies for incubators, hatcheries etc. |
| Central Poultry Development Organisation and Training Institute ²³ | <ul style="list-style-type: none"> • CPDO&TI is established with a vision of being a knowledge centre for poultry development in India and abroad. This organization is envisaged with a mandate of production and supply of rural chicken and duck varieties of both egg and meat type across the country. • This institute imparts advanced and Specialised training to the technical officers of the central/state govt. Organisations, agricultural universities, bank and insurance corporations, Cooperative sector, poultry and meat corporations and private sector poultry Organisations of the country. |



²² <https://www.ncdc.in/index.jsp?page=genesis-functions=en>

²³ https://www.cpdoti.org/mandate_objectives.html

07. UNLOCKING POTENTIAL IN MEAT AND POULTRY PROCESSING SECTOR IN INDIA

The global trends in meat and poultry products and processing and overview of the sector in India discussed in earlier sections, analysed parallelly brings into light immense opportunities the sector beholds. Increased demand projections both in domestic and global markets, impacts meat and poultry sector positively. The following sectors within the sector show promising potential.



7.1 PROCESSING TECHNOLOGY AND MACHINERY

India has the potential to be the global hub of technology and processing machinery related to meat and poultry. Technologies incorporating agronomic practices for enhanced productivity, standardisation, deep preservation, automation of pre and post slaughter process can revolutionise sector's production and processing landscape. Processing machinery and equipment for cold chain infrastructure, hot deboning, etc. will also hold immense growth potential. Further, post-harvest technologies and hatchery mechanisms to adopt eco-friendly practices in value chain will enhancing the economic value of processed products.



7.2 SUSTAINABLE PACKAGING SOLUTIONS

With a growing market for processed and frozen meats and poultry products, demand for packaging products is also increasing. The industry has been looking for innovations and creativity in packaging which can improve the shelf life of the products, improve sustainability, reduce plastic and cost-effective innovative packaging solutions. Thus, packaging industry with sustainable eco-friendly solutions exhibits great potential for large scale adoption in India.



7.3 HIGH POTENTIAL PRODUCTS

Processed meat and poultry products are expected to witness a growing demand both globally and in domestic market.

7.3.1

EXPANSION OF DOMESTIC MARKET:

Owing to strong growth drivers like increasing health awareness, increasing disposable incomes, the demand for processed meat and poultry products is expected to increase in the upcoming years. The following products have immense potential in domestic market.

- Sausages and Canned Meat
- Homogenized Meat Preparations
- Preserved Meats
- Other Poultry Meat
- Preserved Meat of Bovine Animals
- Meat Extracts and Meat Juices
- Egg crepes, rolls and waffles

7.3.2

EXPANSION OF EXPORT MARKETS:

The processed meat and poultry product sector is expected to witness sustained global demand in the long term. With India being one of the largest producers of such products in the world, it would be looking to further strengthen its position as a leader in the global markets. With demand expected to increase substantially in almost all continents over the next decade, some of the potential processed meat and poultry products from India can include:

Processed meat products:

Products such as sausages, salami, and ham are in high demand in many countries, and India has the capacity to produce these products to international standards.

Ready-to-eat products:

Ready-to-eat products such as chicken nuggets, chicken wings, and other value-added products are also potential exports from India.

Organic meat and poultry products:

With a growing demand for organic and natural products, India has the potential to export high-quality organic meat and poultry products to global markets.

CONCLUSION

There is substantial room for expansion and development in the Indian meat and poultry processing business. India's demand for processed meat and poultry products is increasing as a result of changing customer preferences and a growing population. The government's initiatives and assistance are essential in fostering the expansion of the processing sector.

The Government of India aggressively encourages investment, offers infrastructure support, and eases market access for meat and poultry processing through programmes like the Ministry of Food Processing Industries (MOFPI) and the creation of food parks. These measures have boosted hygiene and safety standards, promoted value addition, and created job possibilities in the industry.

The quality control, safety, and hygienic standards of meat and poultry processing operations are ensured by the governance and regulatory environment, which is led by organisations like the Food Safety and Standards Authority of India (FSSAI) and the Agricultural and Processed Food Products Export Development Authority (APEDA). This regulatory system fosters the export of high-quality goods and instils customer confidence both domestically and abroad.

It will take ongoing government backing, investments in technology and infrastructure, and an emphasis on product diversification to fully realise the future potential of the Indian meat and poultry processing business. Products may be made better, have longer shelf lives, and meet changing customer demands by expanding processing capabilities, adopting cutting-edge packaging techniques, and strengthening cold chain logistics.

Additionally, encouraging traceability systems, certifications, and ethical animal husbandry and meat processing practises can increase customer confidence and open opportunities to markets abroad with strict quality standards.

The Indian meat and poultry processing market may reach its full potential by utilising government interventions, maintaining a favourable regulatory framework, and embracing innovation. The industry has the potential to greatly improve food security, create jobs, strengthen rural economies, and establish India as a major player in the processed meat and poultry products market.

In conclusion, government backing, regulatory governance, and strategic initiatives are paving the way for the Indian meat and poultry processing business to expand. India can realise its full potential with ongoing efforts and cooperation from industrial stakeholders and farmers.

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