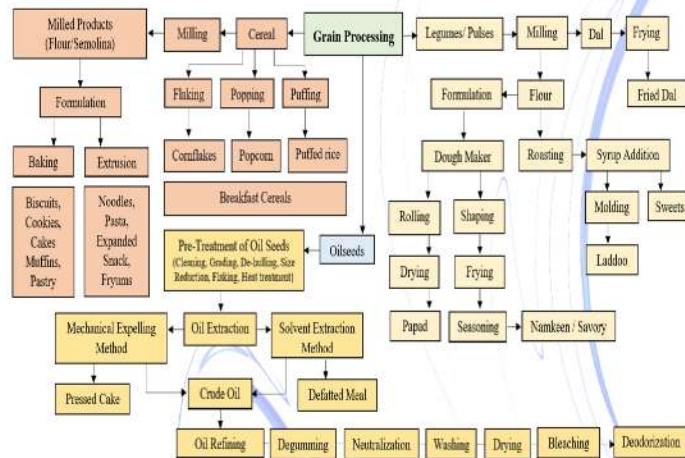


## GRAIN BASED PROCESSING

- Grains, commonly referred to as cereals (maize, wheat, rice, millets), pulses (beans, peas, cowpeas), oilseeds (soybean, sunflower, linseed), which are nutritionally superior edible seeds.
- The cereals are rich in carbohydrate, pulses are rich in protein and oilseeds are rich source of oil.
- The products are Breakfast cereals, pasta, savoury, laddu, pastry, muffins, etc.



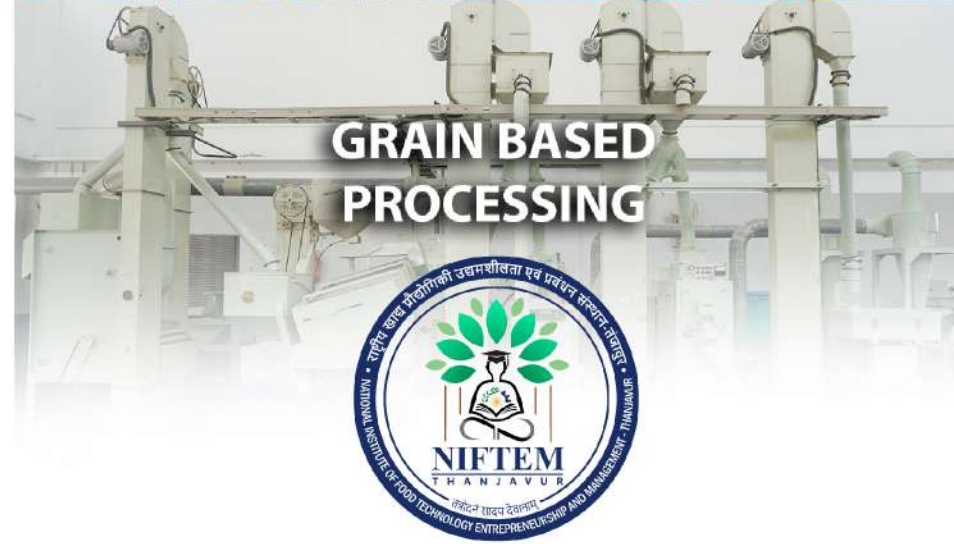
FRUITS PROCESSING



MEAT & MEAT BASED PRODUCTS PROCESSING



MILK BASED PROCESSING



GRAIN BASED PROCESSING



National Institute of Food Technology,  
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## Module - 7 Food Domain: Knowledge Base

Introduction to the different domains  
of Food Industry

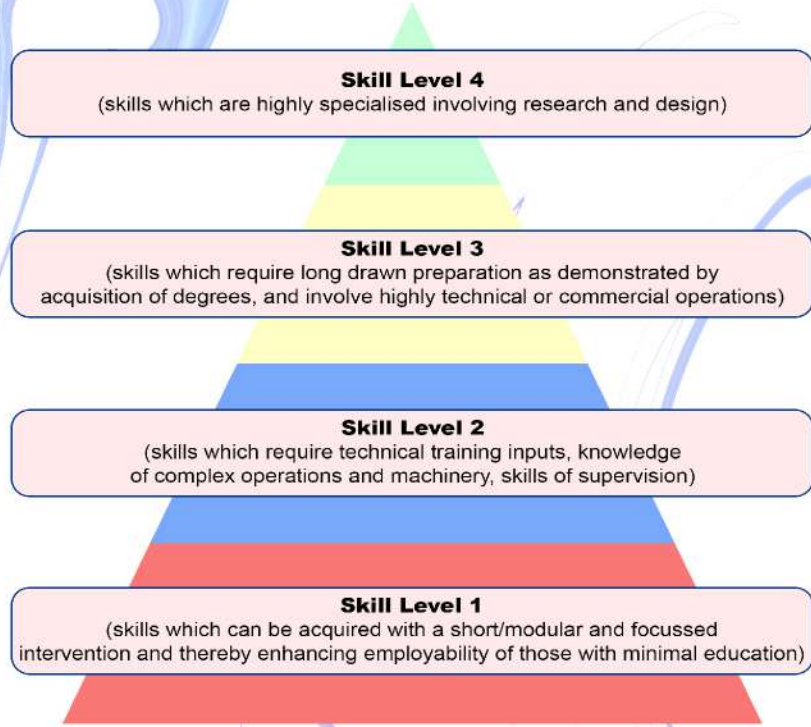


सूक्ष्म उद्यमों का संबल

PM Formalisation of Micro food processing  
Enterprises Scheme (PMFME Scheme)

# INTRODUCTION

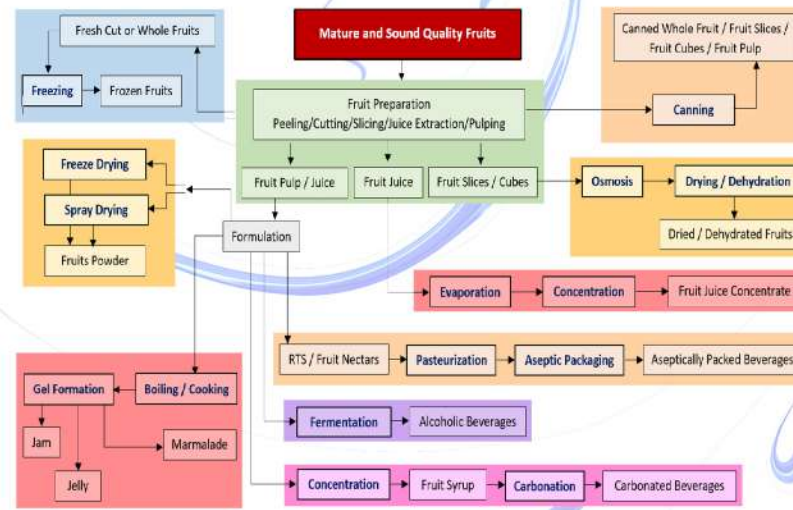
- Food Processing is the transformation of agricultural products into food or of one form of food into other forms.
- Technology and advancements in food processing has helped in transforming Indian food processing industry but the technologies used are not up to date due to which the demand is greater in unorganized sector rather than organized sector of food processing.
- The Skill Pyramid reflects the Skills at a particular level of job role.



It is therefore very much necessary to fill the skill gap in food processing industry, by imparting domain based knowledge to the human resources of unorganized food processing sectors.

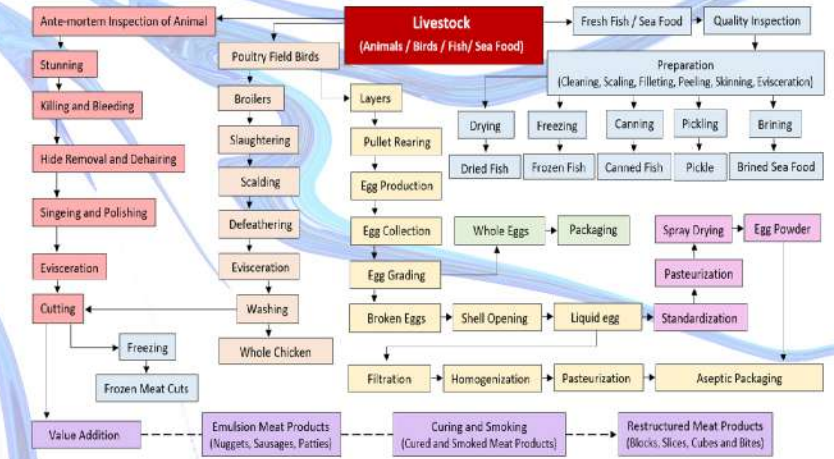
# FRUITS PROCESSING

- Fruit can go through numerous types of processing including Canning, Freezing, Freeze Drying, Spray Drying, Osmosis, Drying, Dehydration, Fermentation, Pasteurization, Aseptic Packaging, etc.
- The method used to convert the fruit into a more usable form for processing and to obtain an edible portion from fruits is called as fruit preparation.
- Some types of processed fruit are fruit preserves, canned fruit and fruit juices.



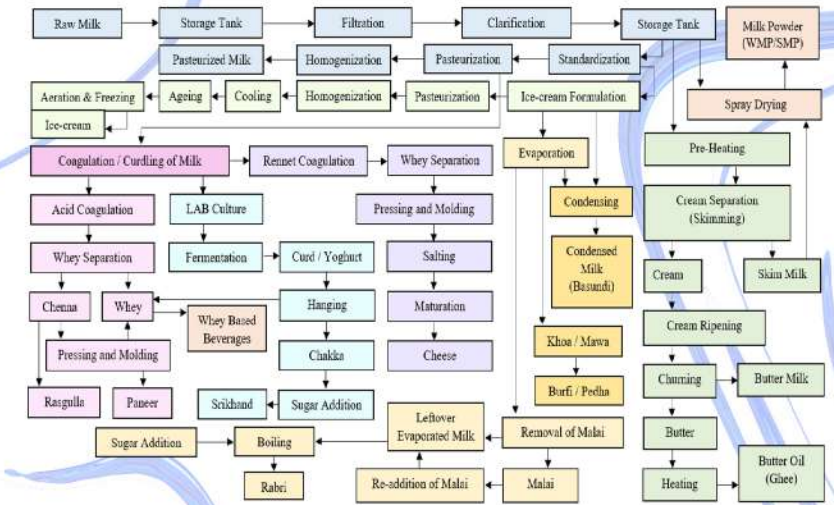
# MEAT AND MEAT BASED PRODUCTS PROCESSING

- The products are rich source of animal protein and other nutrients.
- Being highly perishable in nature, care has to be taken while handling and processing of these products.
- Necessary for any personnel working in animal product processing industry to have a basic knowledge of processing steps and operations in order to maintain hygiene and safety.

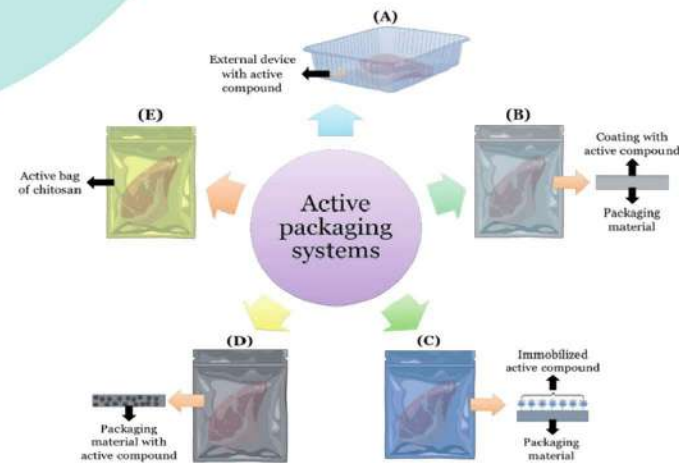


# MILK BASED PROCESSING

- It involves processing of raw milk into market milk having low bacterial count, good flavor and sufficient keeping quality as per Food Safety Standards
- It involves the basic processes of storage, separation, homogenization, curdling and pasteurization. the products are yogurt, butter, cheese, khoa, etc.



## Active Packaging Systems



## Biodegradable Packaging



## TESTING OF PACKAGING MATERIALS

There are various agencies that provide standards or testing methods of packaging materials.



## METHODS OF TESTING PACKAGING MATERIALS

- Physical properties
- Chemical Testing of Packaging Material
- Analysis of Mechanical Properties
- Biodegradability Testing
- Microbiological Degradation Test
- Compost Method
- Enzymatic Degradation Test
- Thermal Analysis Techniques



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## Module - 7 Food Domain: Knowledge Base

Packaging Aspects for  
Micro food processing Enterprises



सूक्ष्म उद्यमों का संबल

PM Formalisation of Micro food processing  
Enterprises Scheme (PMFME Scheme)

# Packaging Aspects for micro food processing enterprises

## WHAT IS FOOD PACKAGING?

- Packaging is the process of enclosing the product in order to identify the brand and also ensures its safety for storage and transport.
- The main objective of packaging is to provide safety and preserve the quality and freshness of food, to add appeal to the food to attract consumers, and to facilitate its storage and distribution.
- The basic functions of packaging are:
  - Containment
  - Protection
  - Preservation
  - Convenience
  - Communication

## TYPES OF FOOD PACKAGING

- Primary Packaging: It is the material that first envelops the product and holds it. It should be complementary to the type of product being packed inside it.
- Secondary Packaging: It is the immediate outside packaging system to the primary packaging and provides additional protection to the primarily packed food product.
- Tertiary Packaging: It is used for bulk handling, warehouse storage and transport shipping purpose.



## TYPES OF PACKAGING MATERIAL

The most commonly used industrial materials are:



PAPER



CARDBOARD



METALS



GLASS



FLEXIBLE PLASTIC FILMS



WOOD

## PACKAGING SYSTEM

Form, Fill and Seal System



Aseptic Packaging System



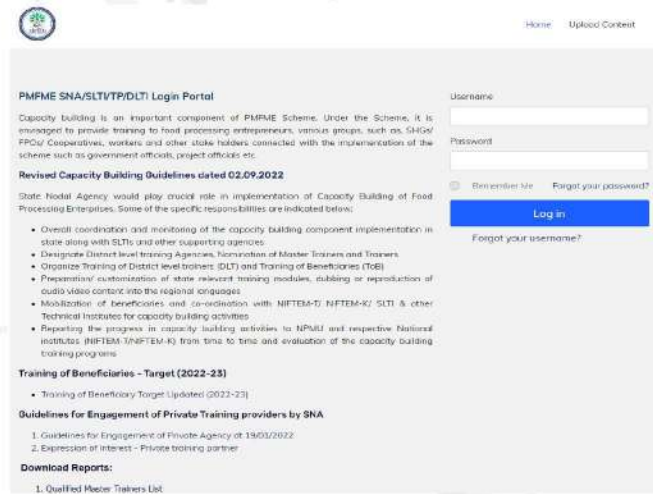
Modified Atmosphere Packaging



Intelligent Packaging Systems



- Capacity building component under which various training is conducted for beneficiaries, Master Trainers and District Resource Persons for upgrading their technical knowledge and obtaining clarification of their queries related to the scheme.



- National ODOP webinars are conducted on Processing & Value addition of different products such as citrus, Mango, etc which serves as a common platform to share the technical information to establish a small scale / micro food processing plant on specific products.



- Under the PMFME Scheme the main objective of incubation centre is to support the establishment of Incubation Center for ODOP and other products so that it can be utilize on commercial basis and provide training to the beneficiaries based on National Skill Framework.



For more details :  
<http://niftem-t.ac.in/olapp/pmfme/web/capacity1.php>

- Other Institutes like CFTRI, DFRL, ICAR institutes, etc are playing a key role in the transformation of the food processing industry to be internationally competitive with particular reference to product safety, quality and presentation.



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## Module - 7 Food Domain: Knowledge Base

Technology Solutions for Food Processing and Showcase of Existing Product Specific Training Material & Domain Knowledge Developed by Indian Food Research Institutes



सूक्ष्म उद्यमों का संबल

PM Formalisation of Micro food processing Enterprises Scheme (PMFME Scheme)

## Introduction

- Ministry of Food Processing Industry (MoFPI) has launched the PM FME scheme under the Aatmanirbhar Bharat Abhiyan.
- The aim to enhance the competitiveness of existing individual micro-enterprises in the unorganized segment of the food processing industry and promote formalization of the sector.
- Under Capacity building component, NIFTEM Thanjavur and NIFTEM Kundli have developed various training materials and knowledge modules concerning the technical need in food processing.
- Through MOFPI-PMFME portal, people can also access the scheme guidelines, mandatory requirements for availing the subsidy of the scheme, ODOP products allotted for each district and training materials uploaded to provide basic technical knowledge on the processing of different commodities.

**PRADHAN MANTRI FORMALISATION OF MICRO FOOD PROCESSING ENTERPRISES SCHEME**

**PM FORMALISATION OF MICRO FOOD PROCESSING ENTERPRISES SCHEME (PMFME)**

**SALIENT FEATURES OF THE SCHEME**

- Micro-enterprises to get **Credit Linked Subsidy (CLS)** of the total eligible project cost with ceiling of **Rs. 10 lakhs** for upgradation of infrastructure and capacity addition
- SHGs to get **Seed Capital** for giving loans to members for working capital and small tools
- On site **Skill Training & Handholding**
- Special focus on **Women Entrepreneurs & Aspirational districts**
- Transition from the **Unorganized sector to the Formal sector**

**Statistics:**

- TOTAL APPLICANTS REGISTERED: 60680
- TOTAL DDP APPLICATIONS SUBMITTED: 23354
- TOTAL DDPs APPROVED: 37314

## NIFTEM-K

(National Institute of Food Technology, Entrepreneurship and Management, Kundli)

NIFTEM Kundli has developed the domain wise training materials for both ODOP and EDP domain.

**Launch of PM FME Scheme under Aatmanirbhar Bharat Abhiyan**

**PM FORMALISATION OF MICRO FOOD PROCESSING ENTERPRISES SCHEME**

Ministry of Food Processing Industries, Government of India

**PM FME Scheme**

The state of the world today teaches us that a (Atmanirbhar Bharat) "Self-reliant India" is the only path. Ministry of Food Processing Industry (MoFPI) has launched the PM FME scheme under the Aatmanirbhar Bharat Abhiyan with the aim to enhance the competitiveness of existing individual micro-enterprises in the unorganized segment of the food processing industry and promote formalization of the sector. The scheme to be implemented over a period of five years from 2020-21 to 2024-25 with a total outlay of Rupees 10,000 crore.

The scheme has a special focus on supporting Groups engaged in Agri-food processing such as Farmer Producer Organizations (FPOs), Self Help Groups (SHGs) and Producers' Cooperatives along their entire value chain. Ministry of Food Processing Industries (MoFPI), in partnership with the State/UT Governments, will provide financial, technical and business support for upgradation of existing micro food processing enterprises.

As a part of Entrepreneurship Development Domain, resource materials such as learning materials, videos are available for providing specific technical knowledge on Marketing & branding aspects of new products, Opportunity, Constraints & Feasibility of Micro Enterprises, FSSAI standards and other compliances required for starting an enterprise, IPR issues for entrepreneurs, Criteria to be considered in the preparation of DPR. Moreover, this serves as a technical platform to get access to the knowledge on micro food business management to the micro level entrepreneurs.

**NIFTEM**  
KNOWLEDGE • INNOVATION • OUTREACH

<http://niftem.ac.in/newsite/pmfmf>

## NIFTEM-T

(National Institute of Food Technology, Entrepreneurship and Management, Thanjavur)

NIFTEM Thanjavur has developed the portal and handling the portal management with different component of the scheme.

**Launch of PM FME Scheme under Aatmanirbhar Bharat Abhiyan**

**PM FORMALISATION OF MICRO FOOD PROCESSING ENTERPRISES SCHEME**

Ministry of Food Processing Industries, Government of India

**Under the PMFME Scheme:**  
Training materials are uploaded ●

**Model Detailed Project Report**

**GUAVA BEVERAGE PROCESSING UNIT**  
Under the Formalisation of Micro Food Processing Enterprises Scheme (Ministry of Food Processing Industries, Government of India)

Prepared by:  
**Indian Institute of Food Processing Technology (IIFPT)**  
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Ministry of Food Processing Industries, Government of India