



Module - 7

FOOD DOMAIN:

KNOWLEDGE BASE

AATMANIRBHAR BHARAT

PM Formalisation of Micro Food Processing
Enterprises Scheme (PM FME Scheme)



CONTENT

- 01 Introduction to the Different domains of Food Industry**
- 02 Packaging aspects for micro-food processing enterprises**
- 03 Technology Solutions for Food Processing and Showcase of Existing Product Specific Training Material**
- 04 Domain Knowledge Developed by Indian Food Research Institutes**
- 05 PMFME Overview**

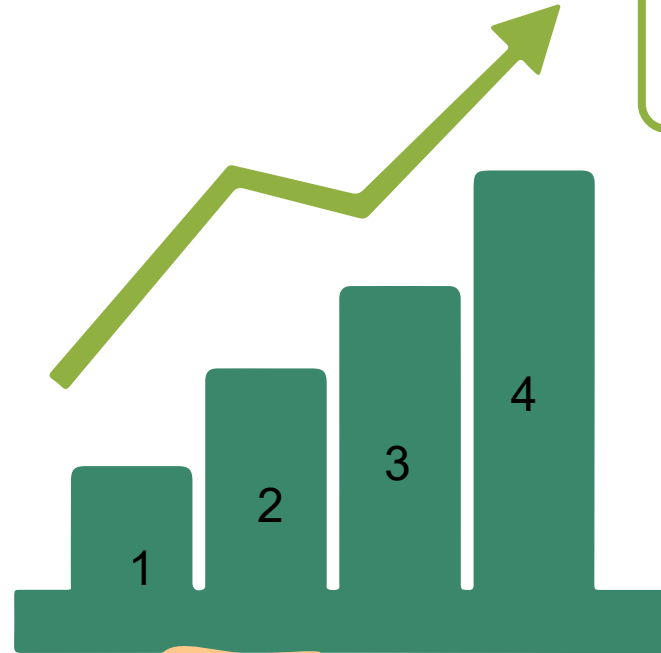
INTRODUCTION

- 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 have helped in transforming the Indian food processing industry but the technologies used are not up to date due to which the demand is greater in the unorganized sector rather than the organized sector of food processing.



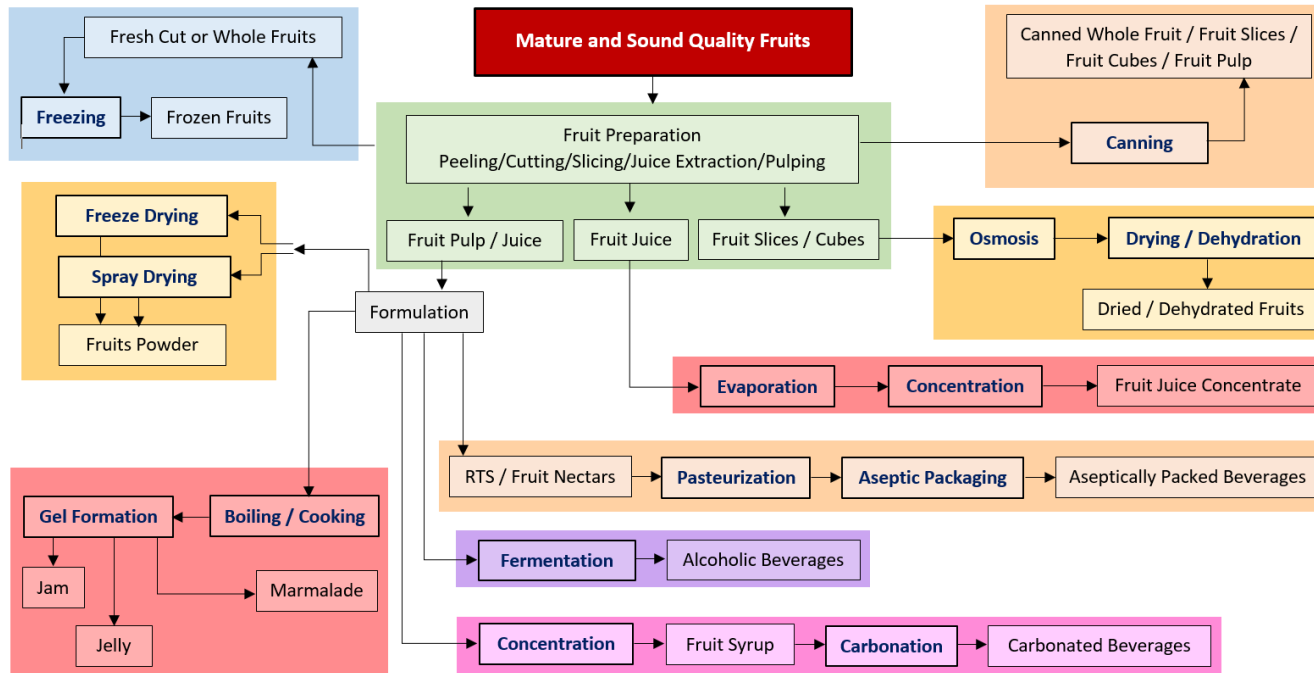


It is very much necessary to fill the skill gap in the food processing industry, by imparting domain-based knowledge to the human resources of unorganized food processing sectors.



- Skill Level 1:** Skills that can be acquired with a short/modular and focused intervention thereby enhancing the employability of those with minimal education.
- Skill Level 2:** Skills that require technical training inputs, knowledge of complex operations and machinery, skills of supervision
- Skill Level 3:** Skills that require long-drawn preparation as demonstrated by the acquisition of degrees and involve highly technical or commercial operations
- Skill Level 4:** Skills that are highly specialized and involve research and design.

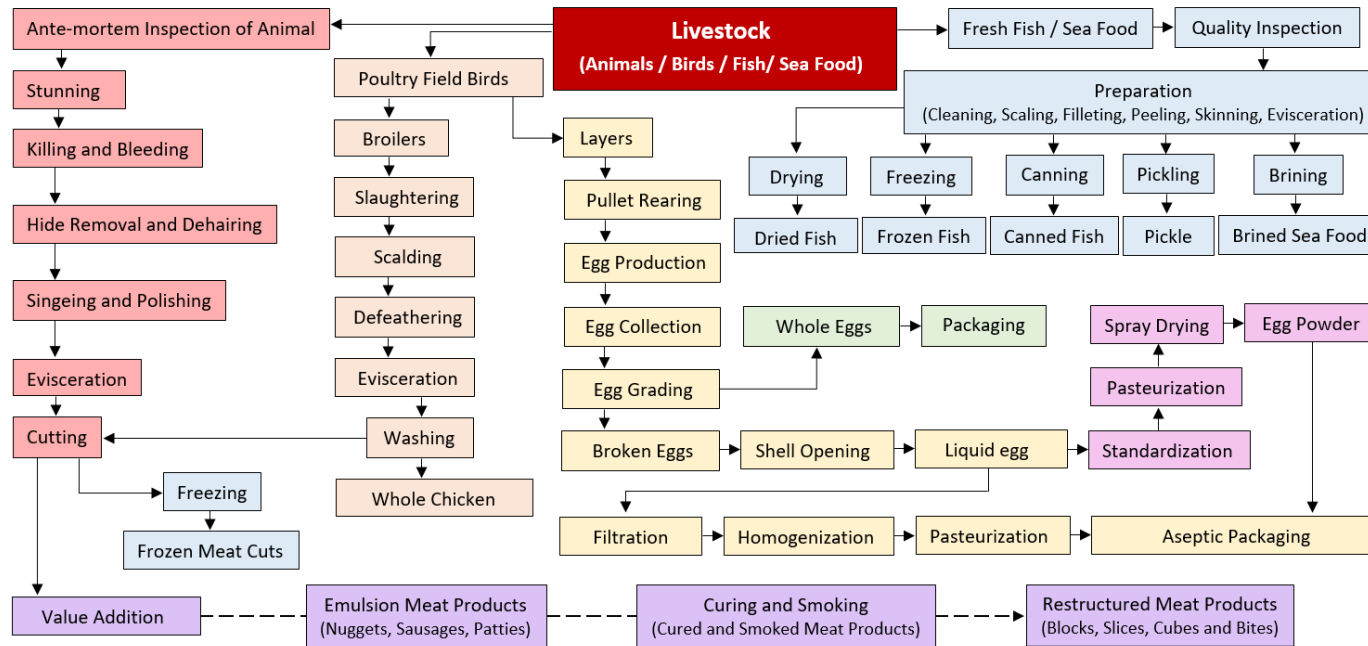
FRUIT PROCESSING



FLOW CHART OF FRUIT 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 **FRUIT PREPARATION**.
- ❖ Some types of processed fruit are fruit preserves, canned fruit, and fruit juices.

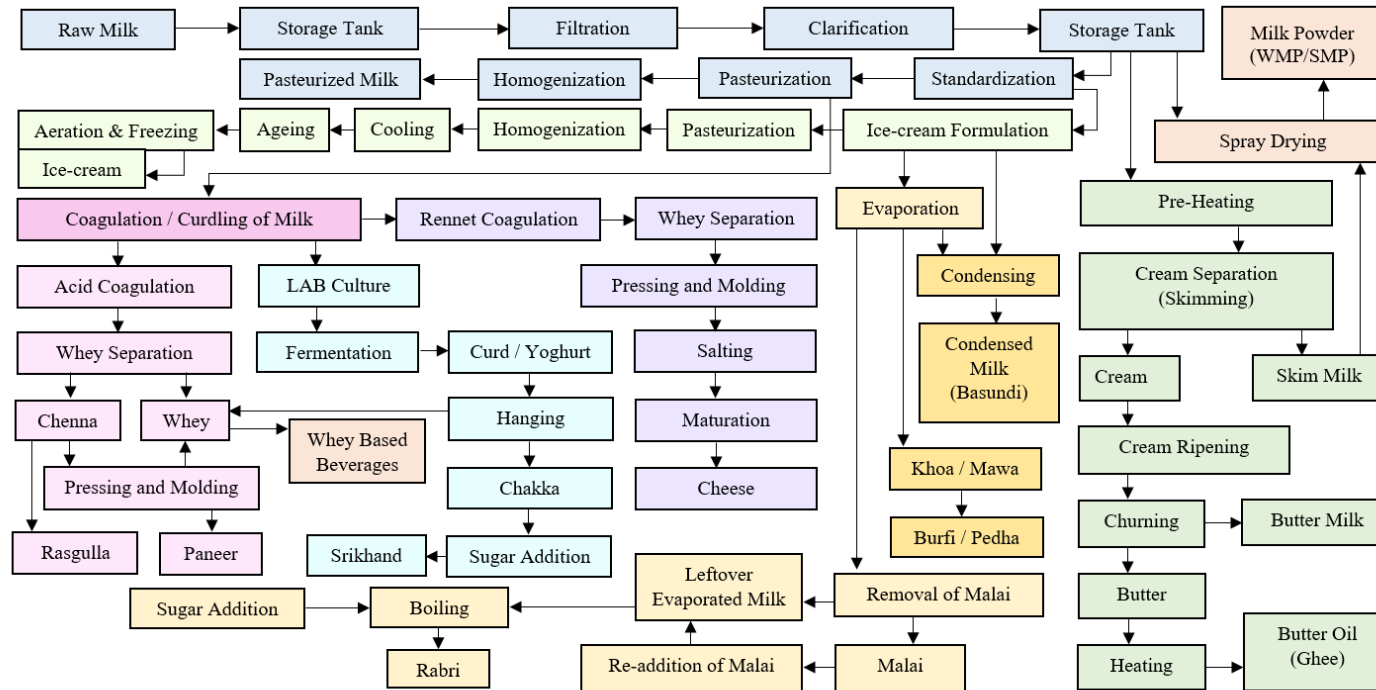
MEAT AND MEAT BASED PRODUCTS PROCESSING



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

FLOW CHART OF MEAT AND MEAT BASED PRODUCTS PROCESSING

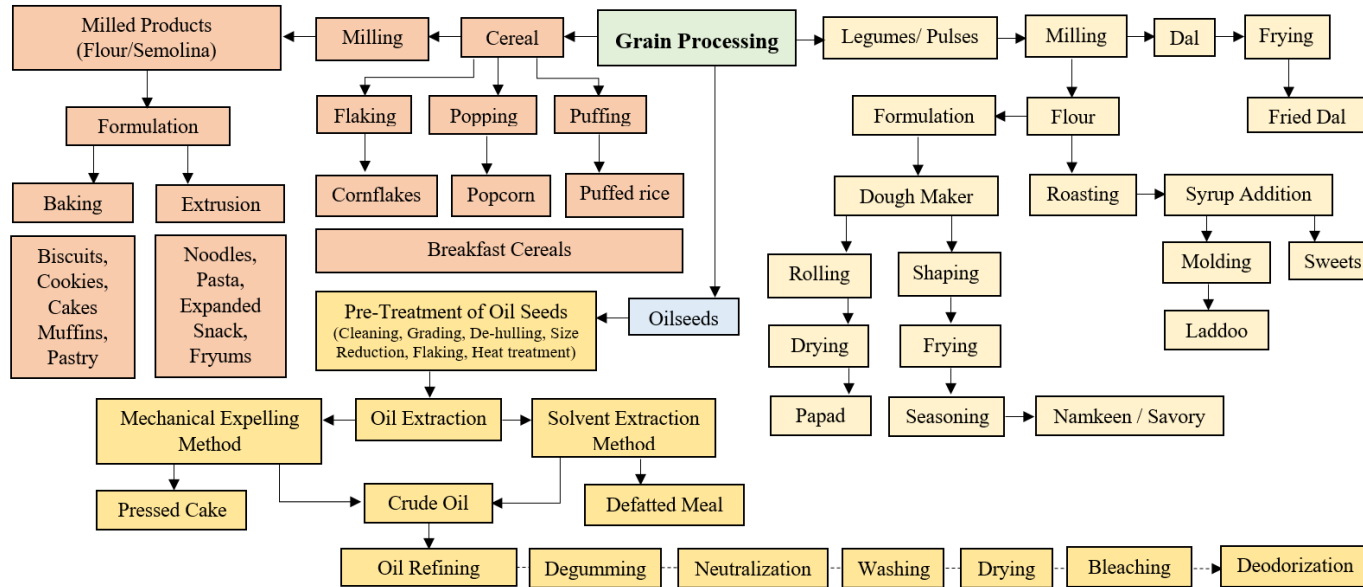
MILK BASED PROCESSING



- ❖ It involves processing 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.

FLOW CHART OF MILK-BASED PROCESSING

GRAIN BASED PROCESSING



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

FLOW CHART OF GRAIN BASED PROCESSING

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 ensure 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.



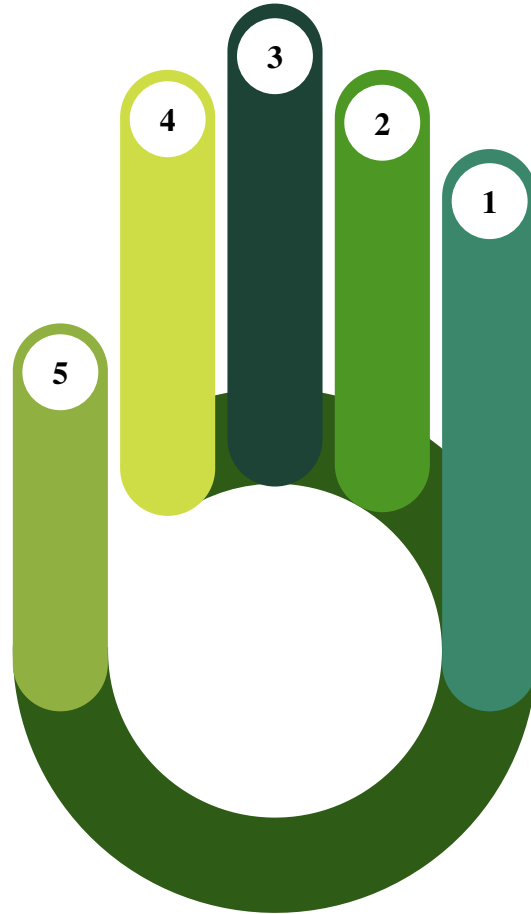
BASIC FUNCTIONS OF PACKAGING

CONTAINMENT

5

PROTECTION

4



1

PRESERVATION

2

CONVENIENCE

3

COMMUNICATION

TYPES OF FOOD PACKAGING

PRIMARY PACKAGING

It is the material that first envelopes the product and holds it. It should be complementary to the type of product being packed inside it.



SECONDARY PACKAGING

It is an immediate outside packaging system to the primary packaging and provides additional protection to the primarily packed food product.

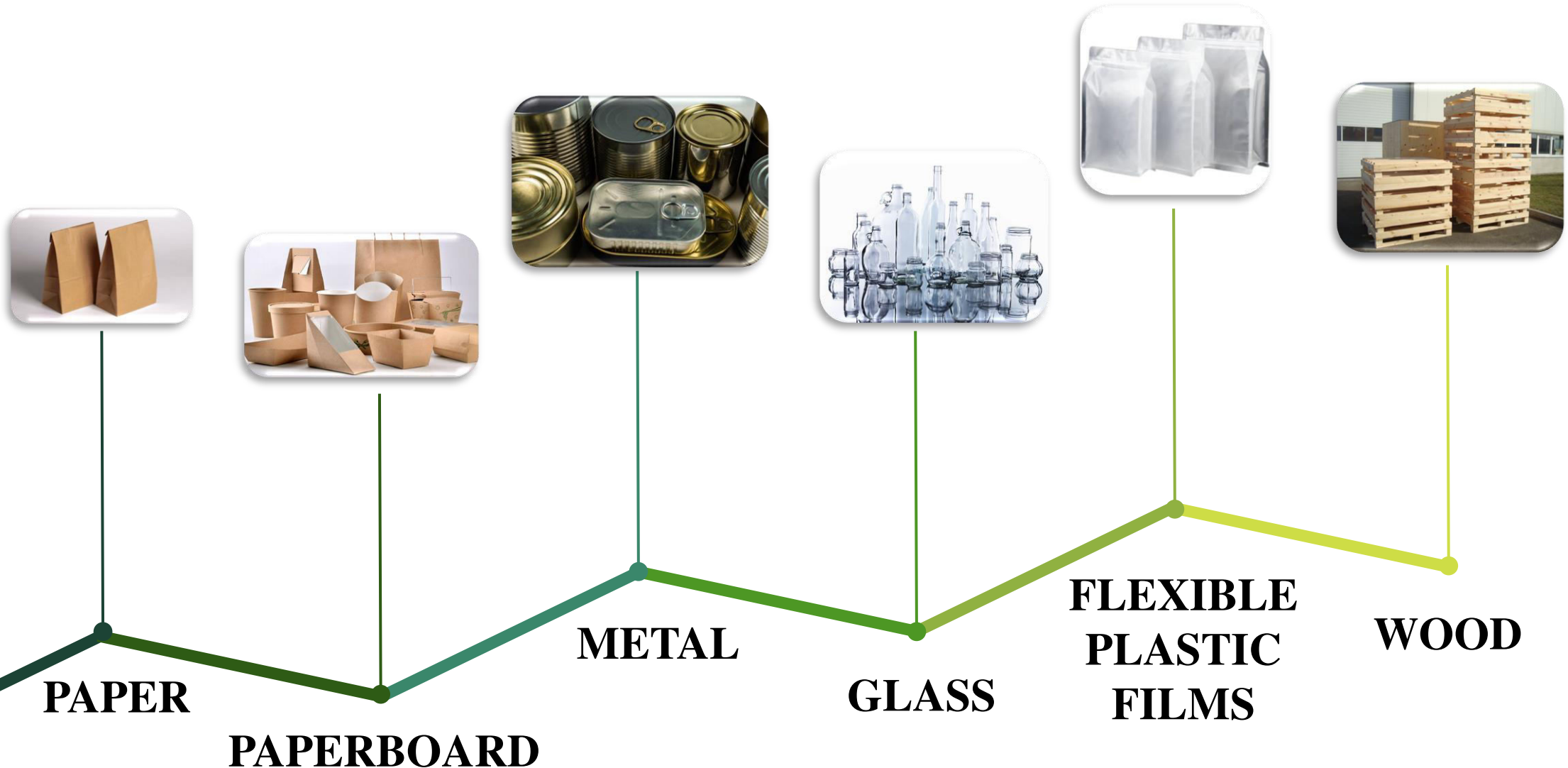


TERTIARY PACKAGING

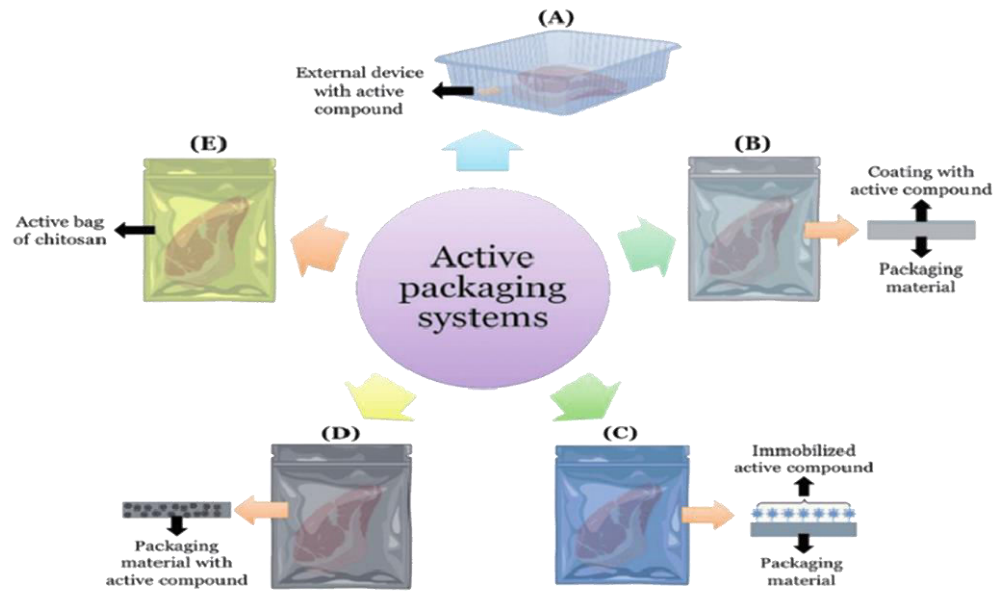
It is used for bulk handling, warehouse storage and transport shipping purpose.



TYPES OF PACKAGING MATERIAL



PACKAGING SYSTEM



ACTIVE PACKAGING SYSTEMS



INTELLIGENT PACKAGING SYSTEMS

PACKAGING SYSTEM



ASEPTIC PACKAGING SYSTEM



MODIFIED ATMOSPHERIC PACKAGING

PACKAGING SYSTEM

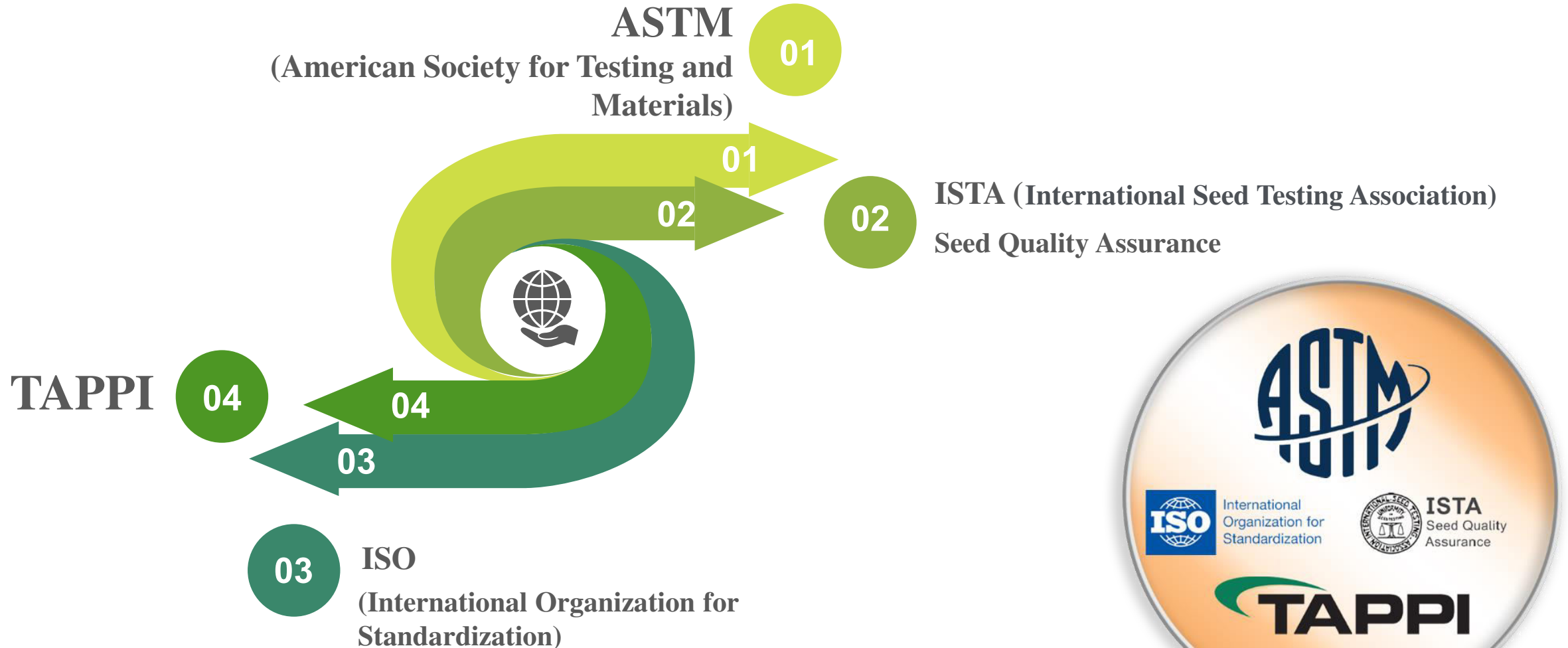


FORM, FILL AND SEAL SYSTEM



BIODEGRADABLE PACKAGING

CERTIFYING AGENCIES



METHODS OF TESTING PACKAGING MATERIALS

PHYSICAL PROPERTIES

**BIODEGRADABILITY
TESTING**

**MICROBIOLOGICAL
DEGRADATION TEST**

**ENZYMATIC
DEGRADATION TEST**



**THERMAL ANALYSIS
TECHNIQUES**

**CHEMICAL TESTING OF
PACKAGING MATERIALS**

**ANALYSIS OF
MECHANICAL PROPERTIES**

COMPOST METHOD

TECHNOLOGY SOLUTIONS FOR FOOD PROCESSING AND SHOWCASE OF EXISTING PRODUCT-SPECIFIC TRAINING MATERIAL

MOFPI (Ministry of Food Processing Industries)

The Ministry of Food Processing Industries (MoFPI) has launched the PMFME Scheme under the Aatmanirbhar Bharat Abhiyan.

The aim is to enhance the competitiveness of existing individual micro-enterprises in the unorganized segment of the food processing industry and promote the formalization of the sector.

Under the Capacity building component, NIFTEM Thanjavur and NIFTEM Kundli have developed various training materials uploaded to provide basic technical knowledge on the processing of different commodities.

<https://pmfme.mofpi.gov.in/pmfme/#/Home-Page>



The screenshot shows the official website for the Pradhan Mantri Formalisation of Micro Food Processing Enterprises Scheme (PMFME). The page features the MoFPI logo and the PMFME logo. The main heading is "PRADHAN MANTRI FORMALISATION OF MICRO FOOD PROCESSING ENTERPRISES SCHEME". Below this, there is a navigation menu with options like "About Us", "PMFME", "Notification", "Media", "GuideLines", "SLUPs", "Downloads", "Capacity Building & LMS", "Login", and "Track Application". The central content area is titled "PM FORMALISATION OF MICRO FOOD PROCESSING ENTERPRISES SCHEME (PMFME) SALIENT FEATURES OF THE SCHEME". It lists four key features: 1. Micro-enterprises to get Credit-Linked Subsidy @35% of the total eligible project cost with ceiling of Rs. 10 lakh for upgradation of infrastructure and capacity addition. 2. SHGs to get Seed Capital for giving loans to members for working capital and small tools. 3. On site Skill Training & Handholding. 4. Special focus on Women Entrepreneurs & Aspirational districts. 5. Transition from the Unorganized sector to the Formal sector. At the bottom, there is a "WHAT'S NEW" section with a notice about hiring young professionals for NPMU of the PMFME Scheme. A footer bar displays three statistics: "TOTAL APPLICATIONS SUBMITTED: 156100", "TOTAL ODOP APPLICATIONS SUBMITTED: 25802", and "TOTAL NON-ODOP APPLICATIONS SUBMITTED: 130297".

National Institute of Food Technology Entrepreneurship and Management-KUNDLI (NIFTEM-K)



<https://niftem.ac.in/newsite/pmfme/>



Home Training Materials Scheme Guidelines PMFME MOFPI PMFME IIFPT Login English

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

Hon'ble Union Minister for
Food Processing Industries

Hon'ble Minister of State for
Food Processing Industries

PM FME Scheme

The state of the world today teaches us that a (Aatmanirbhar 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

NIFTEM- K has developed the domain-wise training materials for both ODOP and EDP domains.

As a part of the Entrepreneurship Development Domain, resource materials such as learning materials, and videos are available for providing specific technical knowledge on marketing and branding aspects of new products, opportunities, constraints & and feasibility of Micro Enterprises, FSSAI standards, and other compliances required for starting an enterprise, 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.

National Institute of Food Technology Entrepreneurship and Management-Thanjavur (NIFTEM-T)



<http://www.niftem-t.ac.in/>

National Institute of Food Technology, Entrepreneurship and Management (NIFTEM), Thanjavur
राष्ट्रीय खाद्य प्रौद्योगिकी, उद्यमशीलता एवं प्रबंधन संस्थान, तंजावुर
(An Institute of National Importance, formerly Indian Institute of Food Processing Technology - IIFPT)
Ministry of Food Processing Industries, Government of India

HOME CAPACITY BUILDING INCUBATION TRAINING MATERIAL - ODOP ODOP WEBINAR MATERIALS SCHEME GUIDELINES REPORTS

खाद्य प्रसंस्करण उद्योग मंत्रालय
MINISTRY OF FOOD PROCESSING INDUSTRIES

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

Hon'ble Union Minister for Food Processing Industries

Hon'ble Minister of State for Food Processing Industries

Click here to know more

<p>No. of Active Qualified Master Trainers - 480</p> <p>Food Domain - 374</p> <p>EDP - 118</p> <p>Details here</p>	<p>No. of Qualified Active District Level Trainers - 1008</p> <p>Food Domain - 660</p> <p>EDP - 348</p> <p>Details here</p>	<p>Nominations for District Resource Persons - 3566</p> <p>Total No. of States Covered - 32</p> <p>Total No. of Districts Covered - 530</p> <p>No. of Qualified District Resource Persons In-Position - 1478</p> <p>Details here</p>	<p>Total no of DLC Recommended Beneficiaries Trained - 9901</p> <p>Total no of Seed Capital Beneficiaries Trained - 18993</p> <p>Total no of Beneficiaries category 2 Trained - 6687</p> <p>Grand Total - 35581</p> <p>Details here</p>
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NIFTEM-Thanjavur has developed the portal and handled the portal management with different components of the scheme.

Under the PMFME Scheme:

National Institute of Food Technology, Entrepreneurship and Management (NIFTEM), Thanjavur
राष्ट्रीय खाद्य प्रौद्योगिकी, उद्यमशीलता एवं प्रबंधन संस्थान, तंजावुर
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Ministry of Food Processing Industries, Government of India

HOME CAPACITY BUILDING INCUBATION TRAINING MATERIAL - ODOF ODOF WEBINAR MATERIALS SCHEME GUIDELINES REPORTS

STATE LEVEL TRAINING

- STATE LEVEL TRAINING
- TRAINING OF TRAINERS
- TRAINING OF BENEFICIARIES
- ASSESSMENT & RESULTS

STATE LEVEL TRAINING

- SNA/SLTI/TP/DLTI Login Portal [CLICK HERE](#)
- Revised Capacity Building Handbook [CLICK HERE](#)
- Training Material [CLICK HERE](#)

© Indian Institute of Food Processing Technology

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.

CAPACITY BUILDING

Under the PMFME Scheme:

National Institute of Food Technology, Entrepreneurship and Management (NIFTEM), Thanjavur
राष्ट्रीय खाद्य प्रौद्योगिकी, उद्यमशीलता एवं प्रबंधन संस्थान, तंजावुर
(An Institute of National Importance, formerly Indian Institute of Food Processing Technology - IIPT)
Ministry of Food Processing Industries, Government of India

HOME CAPACITY BUILDING **INCUBATION** TRAINING MATERIAL - ODOP ODOP WEBINAR MATERIALS SCHEME GUIDELINES REPORTS

Incubation Centres Approved
76

States & U.Ts Appraised
25

Outlay of approved Incubation Center
Rs 205.95 cr

LOGIN FOR ALREADY
SUBMITTED DPR
[CLICK HERE](#)

[Admin Login](#)

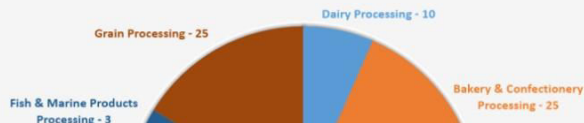
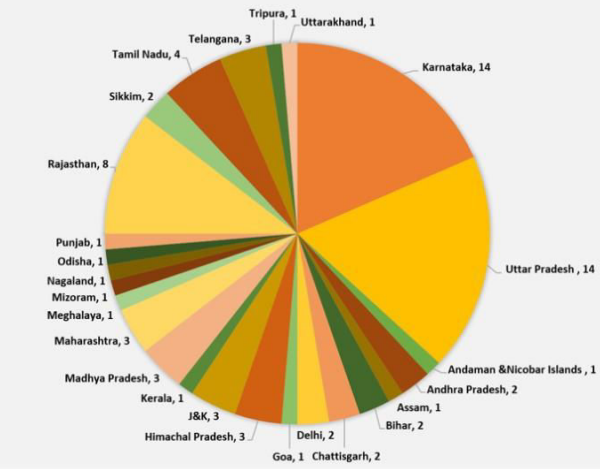
[SNA Login](#)

[Host Institute Login](#)

[Mentor Institute Login](#)

[Blog](#)

STATES APPRAISED FOR INCUBATION CENTRE TILL DATE



[Revised Guidelines for Establishment of Common Incubation Centres](#)

[CLICK HERE](#)

[Revised Cost Norms for the Establishment of Common Incubation Centres](#)

[CLICK HERE](#)

[Model Tender Document for Supply, Installation, Commissioning of Food Processing Lines for Incubation Centres on Turnkey Basis.](#)

[CLICK HERE](#)

[Model Tender for Selection of Operation and Management.](#)

[CLICK HERE](#)

[Tripartite Agreement between SNA, Host Institute and Mentor Institute.](#)

[CLICK HERE](#)

[Model DPR for Minor Forestry Produces](#)

[CLICK HERE](#)

Under the PMFME Scheme, the main objective of the Incubation Centre is to support the establishment of an Incubation Centre for ODOP and other products so that it can be utilized on a commercial basis and provide training to the beneficiaries based on a National Skill Framework.

INCUBATION CENTRE

Under the PMFME Scheme:

National Institute of Food Technology, Entrepreneurship and Management (NIFTEM), Thanjavur
राष्ट्रीय खाद्य प्रौद्योगिकी, उद्यमशीलता एवं प्रबंधन संस्थान, तंजावुर
(An Institute of National Importance; formerly Indian Institute of Food Processing Technology - IIFPT)
Ministry of Food Processing Industries, Government of India

HOME CAPACITY BUILDING INCUBATION **TRAINING MATERIAL - ODOP** ODOP WEBINAR MATERIALS SCHEME GUIDELINES REPORTS

FOOD DOMAIN WISE - TRAINING MATERIAL

FRUITS AND VEGETABLES PROCESSING	CLICK HERE
DAIRY PROCESSING	CLICK HERE
BAKERY AND CONFECTIONARY	CLICK HERE
GRAIN PROCESSING	CLICK HERE
SPICES AND PLANTATION CROP PROCESSING	CLICK HERE
FISH AND MARINE PRODUCTS PROCESSING	CLICK HERE
FAT AND OIL SEED PROCESSING	CLICK HERE
MEAT AND POULTRY PROCESSING	CLICK HERE
MINOR FOREST PRODUCTS PROCESSING	CLICK HERE

TRAINING MATERIALS ARE UPLOADED

Under the PMFME Scheme:

National Institute of Food Technology, Entrepreneurship and Management (NIFTEM), Thanjavur
राष्ट्रीय खाद्य प्रौद्योगिकी, उद्यमशीलता एवं प्रबंधन संस्थान, तंजावुर
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HOME CAPACITY BUILDING INCUBATION TRAINING MATERIAL - ODOP **ODOP WEBINAR MATERIALS** SCHEME GUIDELINES REPORTS

RECORDINGS OF ODOP WEBINARS

Odop Webinar on Plantation Crops Processing & Value Addition	CLICK HERE
ODOP WEBINAR On Rice Processing & Value Addition	CLICK HERE
ODOP Webinar on Oilseeds Processing & Value Addition	CLICK HERE
ODOP Webinar on Minor Forest Produce Processing & Value Addition	CLICK HERE
ODOP Webinar on Citrus Fruits Processing & Value Addition	CLICK HERE
General Awareness Program on PMFME Scheme Hybrid Webinar	CLICK HERE
ODOP Webinar on Mango Processing & Value Addition	CLICK HERE
Webinar on Business Opportunities in Millet Processing	CLICK HERE
ODOP Webinar on Pulse Processing & Value Addition	CLICK HERE
ODOP Webinar on Jaggery Processing & Value Addition	CLICK HERE
ODOP Webinar on Rice Processing & Value Addition in Malayalam	CLICK HERE
ODOP Webinar on Vegetables Processing & Value Addition in Telugu	CLICK HERE
ODOP Webinar on Potato Processing & Value Addition	CLICK HERE
ODOP Webinar on Millet Processing & Value Addition	CLICK HERE
ODOP Webinar on Milk Processing & Value Addition	CLICK HERE
ODOP Webinar on Tomato Processing & Value Addition	CLICK HERE
ODOP Webinar on Spice (Turmeric, Ginger, Chilli) Processing & Value Addition	CLICK HERE
ODOP Webinar on Fish Processing & Value Addition	CLICK HERE

National ODOP webinars are conducted on the Processing and 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.

ODOP WEBINAR MATERIALS

DOMAIN KNOWLEDGE DEVELOPED BY THE INDIAN FOOD RESEARCH INSTITUTES

OBJECTIVE

- Generate and apply knowledge of food science and food technology for optimal conservation and utilization of the nation's food resources.
- Integrate scientific and technological knowledge into conventional systems.
- Add value and utility to agro resources through research and development thereby, contributing to sustained development, food security, and food safety.

MAJOR INDIAN FOOD RESEARCH INSTITUTES

- Indian food research institutes are primarily working to build knowledge on different sectors of food processing, from cultivation, harvesting, processing, and preservation, and helping in sustainable development.
- These Food Research Institutes have a vision of 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.



CFTRI



DFRL



NIIST

OVERVIEW OF THE PMFME SCHEME



PMFME SCHEME

PMFME is a centrally sponsored scheme and is implemented in close collaboration with State Nodal Agencies of respective States. All the States/UTs have appointed Nodal Agencies for the implementation of the scheme. The MIS portal for PMFME Scheme is receiving individual applications for credit-linked subsidies for the upgradation of food processing units.

The Scheme is to be implemented for a period of five years from 2020-21 to 2024-25 with an outlay of Rs.10,000 Crore. The main theme of the Scheme is the One District One Product (ODOP) approach, a part of a broader strategy of concentrated agro and industrial development focused on each district.

AIM

Enhance the competitiveness of existing individual micro-enterprises in the unorganized segment of the food processing industry

Support Farmer Producer Organizations (FPOs), Self Help Groups (SHGs) and Producers Cooperatives along their entire value chain

Promote Formalization of the sector

OBJECTIVE

Integration with an organized supply chain by strengthening branding & marketing.

Increased access to credit to exiting micro food processing entrepreneurs for technology upgradation.

Capacity building of entrepreneurs through technical knowledge, skill training, and hand-holding support services.

Support for the transition of existing enterprises into a formal framework for registration under regulatory framework and compliance.

Support to Farmer Producer Organizations (FPOs), Self Help Groups (SHGs) and Producers Cooperatives & cooperative societies along their entire value chain to enable microenterprises to avail common services.

SCHEME COMPONENTS AND BENEFITS of PMFME SCHEME

- Upgradation of Existing micro units and new micro food processing enterprises - Credit linked subsidy @ 35% to max Rs. 10 lakhs
- Seed capital support to SHGs- Support up to Rs, 40,000 as working capital to SHG members.
- Support for FPOs/SHGs/ Cooperatives – Credit-linked capital investment grant @ 35%.
- Support for establishing common infrastructure
- Support for marketing & branding - 50% grant



FOR MORE INFORMATION:

Helpline Number: +91 9254997101 ,
+91- 9254997102

Email ids: support-pmfme@mofpi.gov.in
pmfme-fpi@gov.in

Weblinks:

- <https://pmfme.mofpi.gov.in/pmfme/#/Home-Page>
- <http://niftem-t.ac.in/olapp/pmfme/web/index.php>
- <http://niftem-t.ac.in/olapp/pmfme/web/material.php>

Online application portal (MoFPI): <https://pmfme.mofpi.gov.in/pmfme/#/Login>

THANK YOU

