INSTITUTE TECHNOLOGY MANAGEMENT UNIT

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CENTRAL INSTITUTE OF FISHERIES TECHNOLOGY

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

Matsyapuri, P.O, W.Island, Kochi 682029, Kerala

MISSION

To develop designs for fuel efficient fishing crafts and conservational fishing gear for eco-friendly and responsible fishing.

To develop technologies for:

- Value addition in processed fishery products
- Ensuring food safety in processed fishery products
- Isolation of bioactive and industrially important compounds from fish and fishery wastes
- Minimizing post harvest losses and ensuring economic utilization of bycatches and fishery wastes

VISION

- To develop into an internationally recognized centre of excellence in fishing and fish processing technologies.

ABOUT THE INSTITUTE

The Central Fisheries Technological Research Station established at Cochin on 29th April 1957, and upgraded as a National institute **Central Institute of Fisheries Technology**, popularly known as CIFT, came in to the administrative control of Indian Council of Agricultural Research (ICAR), New Delhi on 1st October 1967. With headquarters at Cochin, CIFT has Research Centres at Veraval (Gujarat) and Mumbai on the west coast and at Visakhapatanam (Andhra Pradesh) on the east coast, besides one inland Centre at Burla (Orissa) for solving the regional specific problems.

The research activities of the Institute are undertaken by the following major divisions of the Institute:

- Fishing Technology
- Fish Processing
- Biochemistry & Nutrition
- Microbiology, Fermentation & Biotechnology
- Quality Aassurance & Management
- Engineering
- Extension, Information & Statistics

MANDATE OF CIFT

- To conduct basic, strategic and applied research in fishing and fish processing.
- To develop designs for fuel efficient fishing vessels and fishing gear for responsible fishing.
- To develop technologies for commercial isolation of bioactive compounds and industrially important products from fish and fishery wastes.
- To design innovative implements and machineries for fishing and fish processing and pilot plants for facilitating commer-cialization of technologies developed.
- To do advanced research in food safety in fish and fishery products.
- To provide training and consultancy services in fishing and fish processing.

GOVERNING INTELLECTUAL ASSETS

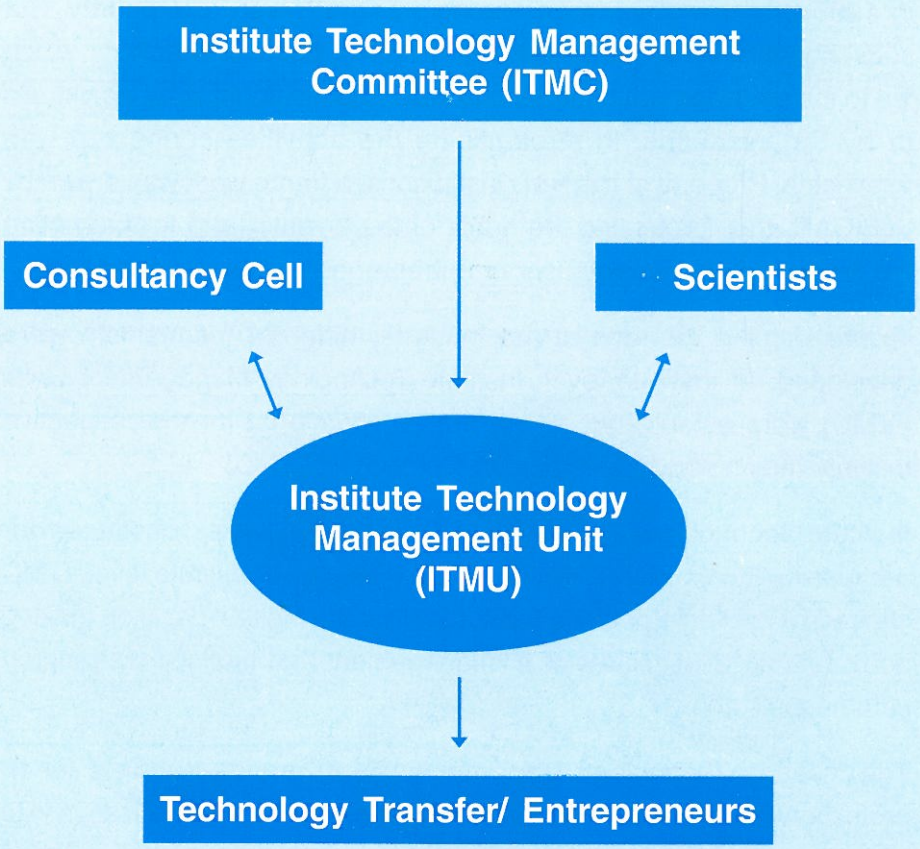
Indian Council of Agricultural Research (ICAR) is an apex body for planning, promoting, coordinating and undertaking research and its application in agriculture and allied sciences in the country. Prior to WTO in 1995 protecting research finding was not given any priority. But subsequent developments led to a series of plans and actions which led to the development of protecting R&D and the findings by individuals or by organisations. In streamlining the activities connected with Intellectual Property of the R&D institutions, a frame work was drawn by the ICAR, thus protecting the rights of the inventor and for promoting the technology to the end user or entrepreneurs without any hassle.

To accomplish the task at the Institute, different mechanism were developed. At Institute level, Institute Technology Management Units (ITMU) were established, which act as secretariat for the respective Institute Technology Management Committee (ITMC).

Institute Technology Management Committees were constituted for addressing the IP related matters of the Institute. At Institute level, ITMC chaired by the Director of the Institute will be the highest decision making body relating to all issues of IP management and technology transfer/ commercialization.

The Institute Technology Management Units are responsible for IP protection/ management and technology transfer/ commercialization with internal capabilities as well as external legal and business experts wherever required. The ITMU is designated for management of the Institute IP and transfer/ commercialization of technologies.

ORGANOGRAM OF IP MANAGEMENT BODIES AT INSTITUTE LEVEL



ACHIEVEMENTS OF ITMU

- Thirteen patent applications filed at Patent Office, Chennai
- Follow up for the eight patent applications filed at New Delhi Patent Office
- Two applications for Trademarks filed ('Fifers'- a ready to fry fish/ prawn meat based wafers and 'Maricream' - a squid protein based ice cream)
- Seven patent applications are ready to file with Patent Office, Chennai.
- Documentation and project preparation of CIFT developed technologies
- Preparation of project profiles of entrepreneur-ready technologies for commercialization
- Facilitating scientists in the preparation and filling of IPR related documents

Status of IP assets at the Institute level

Sl. No	Details	Number
1.	Patents obtained	2
2	Patents filed	21
3.	Patents ready for filing	7

CHITIN AND CHITOSAN - A NATURAL WEIGHT REDUCING AGENT

Chitin and chitosan are important byproducts form the shell of shellfishes. Chitin is the most important organic constituent of the exoskeletal material of invertebrates and the important economical source of this material is the shrimp processing industry.

Chitin and its derivative, chitosan find industrial application in various fields. CIFT developed technology is simple and non expensive.

GLUCOSAMINE HYDROCHLORIDE - NATURES WAY FOR TREATING ARTHRITIS

Glucosamine hydrochloride, is a popular supplemental form of the joint nutrient glucosamine. Glucosamine is the most important building block of joint cartilage.

CIFT has developed a method for preparation of glucosamine from the shells of shrimp, lobster, or crab. Glucosamine also fight joint inflammation and inhibit the production of enzymes that destroy cartilage, although more studies are needed to identify the mechanism.

It plays a major role in lubricating joints, increasing their mobility and strengthening of cartilage. Glucosamine hydrochloride is commonly used in the treatment of osteoarthritis.

FISH CURRY - ANY WHERE, ANY TIME

Fish curry in retortable pouches is the technology of the time. Flexible pouches are an ideal alternative to metal cans. The most common form of retortable pouch consist of a three ply laminated material - polyester / aluminium foil / cast polypropylene. The ready-to-serve fish curry is thermal processed and do not require any further processing before consumption.

The thermal processing conditions have been standardized for this product in order to make it safe for consumers. Shelf life of the product is more than one year.

FISH KURE - A HEALTHY PROTEIN RICH SNACK FOOD

Fish Kure is a fish based extruded food product and is suitable as snack food. Usually, extruded products are prepared using cereal flour, which have less protein content and are limited in some essential amino acid.

By incorporating protein-rich fish mince instead of cereal, the product is protein based snack food.

ENERGY EFFICIENT LOW COST EFFLUENT TREATMENT PLANT

EFFLUENT TREATMENT PLANT

Wastewaters from fish processing plants are usually high in proteinaceous compounds and oils and hence have high biochemical oxygen demand (BOD). This sizable effluent is discharged to the surrounding receiving waters generaly. The primary waste load in operating a frozen fish factory is directly related to handling considerations in pre-processing activities and other process practices followed in the factory. CIFT has developed designs for an Effluent Treatment System to handle processing effluents.

Advantages

The treated effluent conforms to the norms of Central and State Pollution Control Boards. Treated water suitable for reuse in the plant / Small land requirement for installation/ Zero pollution atmosphere / Eco-friendly / Less power consumption (only 1-2 HP motor is required) / Ease of operation / Low cost of construction / Low maintenance and small footprint.

FUTURE PROMISES

- Turtle Excluder Device (TED) for conservation of marine turtles.
- Designs of dryers such as tunnel dryer, rotary fish meal dryer and electrical fish dryer and solar dryer with LPG / electrical back-up.
- Methods for the production of quality dried fish products with attractive packaging and extended shelf life.
- Methods for production of value added products such as wafers, pickles and soup powder from fish / shell fish.
- Pilot plant for production of Chitosan.
- Squalene from shark liver oil for use in cosmetics.
- Production of retort pouch packed fish products.
- Chlorine level indicator paper for instant reading of chlorine level in water used in fish processing plants.
- Procedure for implementation of HACCP.
- Method for preparation of n-3 poly unsaturated fatty acid (PUFA) concentrates from fish oils.

CONSTITUTION OF ITMC OF THE INSTITUTE

Dr. T. K. Srinivasa Gopal Director, CIFT	:	Chairman
Dr. Leela Edwin, Head, Division of Fishing Technology	:	Member
Dr. P.N. Joshi, Head, Division of Engineering	:	Member
Dr. P.K. Vijayan, Head, Division of Fish Processing	:	Member
Dr. M. R. Bhoopendranath, Principal Scientist, Division of Fishing Technology	:	Member
Member Secretary, ITMU, CMFRI, Cochin	:	Member
Dr. T.V. Sankar, Head, Division of Quality Assurance and Management & OIC,ITMU,CIFT	:	Member Secretary

CONSTITUTION OF ITMU OF THE INSTITUTE

Dr. T.V. Sankar, Head, Division of Quality Assurance and Management	:	Office In Charge
Dr. C.N.Ravishankar, Principal Scientist, Division of Fish Processing	:	Member
Dr. K. Ashok Kumar, Senior Scientist, Division of Quality Assurance and Management	:	Member
Dr. Nikita Gopal, Senior Scientist, Extension Information and Statistic Division	:	Member
Dr. A.R.S. Menon, Technical Officer, T-9	:	Member

FOR FURTHER DETAILS, PLEASE CONTACT

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