

SELF-STUDY REPORT

for Masters Programme in
Fish Processing Technology



Submitted to

National Agricultural Education Accreditation Board



College of Fisheries

CENTRAL AGRICULTURAL UNIVERSITY, IMPHAL

Lembucherra, Agartala, Tripura

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6.4. Self-Study Report for Masters Programme in Fish Processing Technology

6.4.1. Brief history of the degree program

Since inception of the college the Department of Fish Nutrition and Food Technology, later renamed as Department of Fish Processing Technology, and thereafter Department of Fish Processing Technology & Engineering (FPTE) is growing steadily with the following mandates.

Objective of the degree programme

- Teaching postgraduate curriculum including doctoral program in the field of Fish Processing Technology for manpower generation
- Research activities on post-harvest management and value addition of fish
- Technology evaluation, valorisation and upscaling of the indigenous fish products of the northeast region
- Extension activities for livelihood improvement and employment generation

The department has been offering “Master of Fisheries Science (Fish Processing Technology)” programme w.e.f. 2007 (Intake: 05) as per the model PG syllabus of ICAR, New Delhi.

Accomplishments

As of 2020, 33 students have completed the M.F.Sc. (FPT). A systematic table of the pass-out scholars with their current position is annexed below.

Scientist/ Faculty	State Department/Technical	NGO/Project	Pursuing Ph.D.
3	19	6	5

6.4.2. Faculty strength

Sl No.	Sanctioned faculty	Faculty in place	Vacant position	Faculty recommended by ICAR/UGC/VCI/other regulatory bodies
1	Professor 1	-	1	1
2	Associate Professor 2	1*	1	3
3	Assistant Professor 4	4	-	5
	Total 7	5	2	9**

* Promoted to Professor under CAS

** As the Department is handling two disciplines

6.4.3. Technical and supporting staff

The administrative and accounts supporting staff are centralized in the college and are operating under the direct control of the Dean as part of Dean's office. The dedicated technical staff and supporting staff allotted to the department are as below:

S. No.	Designation	Staff in place
Technical staff		
1	Field cum Laboratory Assistant	01
Supporting staff		
2	Multi-Tasking Staff	01

In addition to the above staff, Skilled and Unskilled labours are hired on contractual basis.

6.4.4. Classrooms and laboratories

Apart from the common laboratory facilities of the college such as Central Instrumental Facility, Central Molecular Biology laboratory etc. the main laboratory and other facilities available for PG research of the department are as under:

Name of the laboratory	Major Equipment available/Particulars
1. PG Research laboratory for biochemistry	<ul style="list-style-type: none">• TS Extruder• Muscle Texture Analyzer
2. PG Research laboratory for microbiology	<ul style="list-style-type: none">• Silent cutter• Complete canning line• Airblast Freezer
3. Ph.D. Research laboratory	<ul style="list-style-type: none">• Ellab thermal validation system
4. UG Laboratory for Fishery Microbiology & Quality Control	<ul style="list-style-type: none">• Overpressure retort• Rotary vac. Evaporator• Spectrocolorimeter
5. Laboratory for fish processing and value addition	<ul style="list-style-type: none">• Laminar airflow• Gradient thermal PCR
6. Laboratory for sophisticated instruments	<ul style="list-style-type: none">• Gel Documentation System• Soxtec• Microcentrifuge• Electrophoresis unit (Vertical and horizontal)• Muffle Furnace

6.4.5. Conduct of Practical and Hands-on Training:

Practical classes are conducted in different laboratories as mentioned above. Hands-on trainings are conducted in the laboratory for fish processing and value addition as well as in the retail outlet for Experiential Learning Program (ELP).

6.4.6. Supervision of students in PG programs:

Sl. No.	No. of eligible faculty for guidance	Intake capacity	Faculty/Student ratio
1.	04	05	0.8

The department has started the postgraduate programme since 2007 and Ph.D. programme recently (2018). The number of scholars enrolled for the postgraduate programme is 05 including the ICAR seats. Four (4) faculties in the department have Ph.D. and are well qualified and eligible (Annexed below) for guiding the students as per the ICAR norms.

S. No	Name of Faculty	Designation	Qualification	Area of specialization
1	Dr. Ranendra Kumar Majumdar	Professor & Head	M.Sc., Ph.D.	Fermented fish products of NE India, Fish waste valorization, Value addition
2	Dr. M. Bhargavi Priyadarshini	Assistant Professor	B.F.Sc., M.F.Sc.(FPT), Ph.D.	Fish Processing Technology
3	Ms. Bahni Dhar	Assistant Professor	B.F.Sc., M.F.Sc.(FPT)	Fish processing including traditional ITK, value addition of fish and fish microbiology
4	Dr. Sudhansu Shekhar Mahanand	Assistant Professor	M.Tech., Ph.D.	Aquaculture Engineering
5	Dr. Naresh Kumar Mehta	Assistant Professor	B.F.Sc., M.F.Sc.(FPT), Ph.D.	Fish Processing Technology, fish Protein functionality

Sl. No	Name of faculty	Post held	Highest qualification received	Teaching/ Work experience	Honors and awards	No. of students guided (PG/Ph.D. separately)	Publication
1	Dr. Ranendra Kumar Majumdar	Professor & Head	Ph.D.	>22 years	-	PG-05	Research papers – 63

2	Dr. M. Bhargavi Priyadarshini	Assistant Professor	Ph.D.	12 years	01	PG-01	Research Paper – 15
3	Ms. Bahni Dhar	Assistant Professor	M.F.Sc.	12 years	02	PG-01	Research Paper – 21
4	Dr. Sudhansu Shekhar Mahanand	Assistant Professor	Ph.D.	9 years	05	PG-05	Research Paper – 12
5	Dr. Naresh Kumar Mehta	Assistant Professor	Ph.D.	4 years	02	PG-03	Research Paper – 18

List of Students Awarded M.F.Sc. (Fish Processing Technology) Degree (2016-2020)

S. No.	Name	Title of Thesis	Year
1.	Mr. Shubham Gupta	Isolation and characterization of predominant bacteria associated with few fermented fish products of northeast India	2016
2.	Ms. Priyanka Sahu	Effects of bioactive phenolics from spices during frozen storage of emulsion sausage from pangasius (<i>Pangasianodon hypophthalmus</i>)	2016
3.	Mr. Sanjay Kumar Chandravanshi	Development of shelf stable fish paneer from low-cost fish through retort pouch processing technology	2016
4.	Ms. Anisha kar	Development of fish protein isolate enriched extruded snacks	2016
5.	Mr. Sanjeev Sharma	Studies on the Effect of Carrot (<i>Daucus carota</i>) Concentrated Protein on Stability of Surimi during Frozen Storage	2017
6.	Mr. Siddhnath	Screening of Carps from Various Sources for Isolation and Molecular Characterization of <i>Escherichia coli</i> (STEC and EPEC)	2017
7.	Ms. Hidangmayum Dhaneshwori devi	Development of Fish Protein Enriched Noodles	2017
8.	Mr. Wangkheirakpam Romen Mangang	Optimization and Functional Characterization of Protein Hydrolysate from Freshwater Shark (<i>Wallago attu</i>) Waste using Bromelain Enzyme	2017
9.	Ms. Seema Netam	Effect of Fruit Peel Extracts on Rohu (<i>Labeo rohita</i> Hamilton, 1822) Steaks during Refrigeration Storage	2017

10. Ms. Upasana Mohanty	Optimization of Enzymatic Hydrolysis of Visceral Waste Proteins of <i>Labeo rohita</i>	2018
11. Mr. Biswajit Mohanty	Isolation, Purification and Characterization of Proteases from Fish Visceral Wastes	2018
12. Ms. Rupali Das	Evaluation of Seasonal Variation in Physicochemical and Microbiological Quality of Selected Dried Fishes Available in Tripura Market	2018
13. Ms. Ankeeta Nayak	Isolation and Characterization of Collagenolytic Proteases from Freshwater Fish Waste	2019
14. Ms. Swapnarani Samantaray	Effect of Multiple Freezing-Thawing Cycles on Quality of Indian Major Carps	2019
15. Mr. Jagadish Bbarik	Effect of Essential Oil Incorporated Gelatin Coating on the Quality and Shelf Life of Oven Dried Fish (<i>Puntius sophore</i>)	2020
16. Ms. Banalata Rout	Characterization of Freshwater Mollusc (<i>Brotia costula</i>) Meat and It's <i>in vitro</i> Studies for Bioactivity	2020
17. Ms. Uma Buda	Effect of soluble fibers in improving gelling capacity and frozen storage stability of silver carp (<i>Hypophthalmichthys molitrix</i>) Surimi	2020

6.4.7. Feedback of stakeholders (Students, parents, industries, employers, farmers etc.)

The student alumni of the department, parents, industry people, employers and farmers have expressed their satisfaction regarding various theoretical as well as practical knowledge the students gained during their degree programme.


6.4.8. Student intake and attrition in the programme for the last five years

Name of the degree programme	Actual student admitted in the last five years					Attrition (%)				
	2016-17	2017-18	2018-19	2019-20	2020-21	2016-17	2017-18	2018-19	2019-20	2020-21
M.F.Sc. (Fish Processing Technology)	03	05	03	05	05	0%	60%	0%	20%	20%

6.4.9. ICT application in curricula delivery

The department has a dedicated classroom with modern tools. Lectures are delivered using computer projected PPTs. ICT application are applied in form of online classes delivered via media like G-Meet, Skype are taken. The students are provided online materials for self-preparation.

I, **Prof. Ratan Kumar Saha** the Dean, **College of Fisheries, Lembucherra**, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.


Dean
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Signature of Dean of the College with Date & Seal